

Exhibit E

EXHIBIT E
Threatened and Endangered Species Assessment
Project Fifi
Section 132.18, Block 1, Lot 2
Section 146.05, Block 1, Lot 9
Section 146.06, Block 1, Lots 1 & 2
Town of Niagara, Niagara County, New York

Existing Conditions

The Site totals approximately 216 acres, much of which is currently utilized for agriculture (corn). Those areas not utilized for agriculture are generally limited to the southwestern to east-central portions of the Site. These areas comprise herbaceous and scrub-shrub uplands and wetlands generally bisected by the former Niagara Drag Strip. According to historic aerial photographs and topographic maps, the drag strip was constructed in 1961 and remained in operation until 1974. The paved surface of the drag strip and remnants of the supporting infrastructure are still present today.

Based on a response from the New York State Department of Environmental Conservation (NYSDEC) Natural Heritage Program (NHP) (see attached), there are no documented occurrences of rare or state-listed animals, plants or significant natural communities on the project Site. The response indicates that short-eared owl (*Asio flammeus*), a New York State endangered species, has been documented within 0.25 miles of the Site. The devil crawfish (*Lacunicambarus diogenes*), a New York State imperiled, but not state-listed species, has been documented within 50 yards south of the Site on the Niagara Falls Air Force Reserve Base.

An Official Species List was generated for the Site in January 2022 using the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) tool (see attached). The Official Species List does not identify any threatened or endangered species of concern for the Site; however, monarch butterfly (*Danaus plexippus*) is identified as a candidate species. Candidate species are not afforded statutory protection under the Endangered Species Act.

Threatened and Endangered Species Evaluation

An evaluation of each of the species and communities identified by the NHP and USFWS is included below based on available literature and various Site observations completed by Langan in November and December 2021.

Short-eared Owl

According to the NHP, a nonbreeding – winter sighting of the short-eared owl was documented in the vicinity of the Site. The short-eared owl prefers expansive, open areas such as grasslands and marshes. The U.S. Fish and Wildlife Service Short-Eared Owl Habitat Model¹ states that the greatest potential for breeding and wintering for this species occurs in open land 50 hectares (ha) (~125 acres) or larger; however, patches as small as 8 ha may be used in winter. Nesting sites are also typically located in upland grassland habitat. The short-eared owl are typically sensitive to disturbance and developed areas.

The Site contains large open areas; however, these areas are devoid of grasslands and marshes and occupied entirely by agricultural land utilized for row crops (corn). The Site may afford

1. USFWS; Gulf of Maine Program. 2001. Short-eared Owl Habitat in the Gulf of Maine.
https://www.fws.gov/r5gomp/gom/habitatstudy/metadata/short-eared_owl_model.htm

transient individuals an opportunity for foraging on passing rodents; however, the presence of row crops and absence of grassland and/or herbaceous cover significantly diminishes the potential value of the Site as suitable habitat for short-eared owl. In addition the adjacent airport traffic and associated noise and road traffic along the northern, eastern and southern boundaries of the Site further decreases the quality of any potential habitat onsite.

Based on the above, the Site is unlikely to be frequently utilized by any local populations of short-eared owl. Furthermore, based on the land use and character of the region, particularly to the north and east, significant tracts of open land more suitable for use by this species is available. As such, the Project is not expected to adversely impact this species.

Devil Crawfish

According to the NHP, devil crawfish, a New York State imperiled, but not state-listed species has been documented within 50 yards south of the Site on the Niagara Falls Air Force Reserve Base. Based on the NYSDEC State Wildlife Action Plan (SWAP) Species of Conservation Need (SPCN), the devil crawfish is a burrower which utilizes freshwater habitat including wet meadows, river/stream banks and other wetlands.

The Project will not directly or indirectly impact wetlands or waterways that may provide habitat for devil crawfish on the nearby Niagara Falls Air Force Base. The Project will generally maintain the Site hydrology and will include substantial stormwater management facilities that will provide water treatment (replacing the existing, untreated agricultural runoff) and preclude any considerable changes to the contributing watershed of the wetlands/waters on the Niagara Falls Air Force Reserve Base.

Areas of wetland impacts onsite are limited to the north/north-central portion of the Site and are generally limited to drainage ditches and/or actively disturbed/managed wetlands currently utilized for agriculture. Ongoing farming practices in these areas would preclude their use as habitat for devil crawfish.

Based on the above, the Project is not expected to adversely impact this species.

Monarch Butterfly

The USFWS has identified monarch butterfly as a candidate species that may occur onsite. According to the USFWS, the monarch butterfly lives in a variety of habitat throughout North America. Monarchs are typically found in open grass areas during the breeding seas and need milkweed (*Asclepias* spp.) for breeding. The Site contains large open areas; however, these areas are devoid of grasslands and occupied entirely by agricultural land utilized for row crops (corn). The Site lacks any notable areas of wildflowers or other herbaceous species crucial to monarch habitat.

Based on the above, the Project is not expected to adversely impact this species.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Fish and Wildlife, New York Natural Heritage Program

625 Broadway, Fifth Floor, Albany, NY 12233-4757

P: (518) 402-8935 | F: (518) 402-8925

www.dec.ny.gov

November 3, 2021

Sarah Parks
Langan
300 Kimball Drive, 4th floor
Parsippany, NJ 07054-217

Re: 8995 Lockport Rd
County: Niagara Town/City: Niagara

Dear Sarah Parks:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the above project.

Enclosed is a report of rare or state-listed animals and plants, and significant natural communities that our database indicates occur in the vicinity of the project site.

For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our database. We cannot provide a definitive statement as to the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

The presence of the plants and animals identified in the enclosed report may result in this project requiring additional review or permit conditions. For further guidance, and for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the NYS DEC Region 9 Office, Division of Environmental Permits, at dep.r9@dec.ny.gov.

Sincerely,



Heidi Kraehling
Environmental Review Specialist
New York Natural Heritage Program



The following state-listed animals have been documented in the vicinity of the project site.

The following list includes animals that are listed by NYS as Endangered, Threatened, or Special Concern; and/or that are federally listed.

For information about any permit considerations for your project, please contact the Permits staff at the NYSDEC Region 9 Office at dep.r9@dec.ny.gov, (716) 851-7165.

The following species has been documented within 1/4 mile of the project site.

<i>COMMON NAME</i>	<i>SCIENTIFIC NAME</i>	<i>NY STATE LISTING</i>	<i>FEDERAL LISTING</i>
Birds			
Short-eared Owl <i>Nonbreeding -- Wintering Areas</i>	<i>Asio flammeus</i>	Endangered	14570

This report only includes records from the NY Natural Heritage database.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the listed animals in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage’s Conservation Guides at www.guides.nynhp.org, and from NYSDEC at www.dec.ny.gov/animals/7494.html.



The following rare plants, rare animals, and significant natural communities have been documented at the project site, or in its vicinity.

We recommend that potential impacts of the proposed project on these species or communities be addressed as part of any environmental assessment or review conducted as part of the planning, permitting and approval process, such as reviews conducted under SEQRA. Field surveys of the project site may be necessary to determine the status of a species at the site, particularly for sites that are currently undeveloped and may still contain suitable habitat. Final requirements of the project to avoid, minimize, or mitigate potential impacts are determined by the lead permitting agency or the government body approving the project.

The following animal, while not listed by New York State as Endangered or Threatened, is rare in New York and is of conservation concern.

<i>COMMON NAME</i>	<i>SCIENTIFIC NAME</i>	<i>NY STATE LISTING</i>	<i>HERITAGE CONSERVATION STATUS</i>
Crustaceans			
Devil Crawfish	<i>Lacunicambarus diogenes</i>	Unlisted	Imperiled in NYS

Documented within 50 yards south of the project site at the Niagara Falls Air Force Reserve Base. 2000-11-03: The crawfish were observed in a ditch with cattails, purple loosestrife, watercress, water plantain, curly dock, and duckweed. There is a mowed meadow on both sides of the ditch.

11179

This report only includes records from the NY Natural Heritage database. For most sites, comprehensive field surveys have not been conducted, and we cannot provide a definitive statement as to the presence or absence of all rare or state-listed species. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the rare animals and plants in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, from NatureServe Explorer at www.natureserve.org/explorer, and from USDA's Plants Database at <http://plants.usda.gov/index.html> (for plants).



United States Department of the Interior



FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385

Phone: (607) 753-9334 Fax: (607) 753-9699

<http://www.fws.gov/northeast/nyfo/es/section7.htm>

In Reply Refer To:

January 04, 2022

Consultation Code: 05E1NY00-2022-SLI-0268

Event Code: 05E1NY00-2022-E-03271

Project Name: Niagara

Subject: Updated list of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*). This list can also be used to determine whether listed species may be present for projects without federal agency involvement. New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list.

Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC site at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list. If listed, proposed, or candidate species were identified as potentially occurring in the project area, coordination with our office is encouraged. Information on the steps involved with assessing potential impacts from projects can be found at: <http://www.fws.gov/northeast/nyfo/es/section7.htm>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the Services wind

energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the ESA. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New York Ecological Services Field Office

3817 Luker Road

Cortland, NY 13045-9385

(607) 753-9334

Project Summary

Consultation Code: 05E1NY00-2022-SLI-0268

Event Code: Some(05E1NY00-2022-E-03271)

Project Name: Niagara

Project Type: ** OTHER **

Project Description: due diligence

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@43.1166705,-78.9594529637188,14z>



Counties: Niagara County, New York

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Exhibit F

EXHIBIT F
Visual Impact Assessment
Project Fifi Proposed Warehouse and Distribution Facility
Town of Niagara, New York

As part of a review under the State Environmental Quality Review Act, agencies are required to evaluate “aesthetic impacts” to the environment, meaning the consequence of a visual impact on the public’s use and enjoyment of the appearance or qualities of a listed resource. It is not the size of the structure alone that determines adverse impact. The setting of a proposed building or structure and its impact on a designated resource is what needs to be determined.

The Project Fifi site rendering shows a south facing view of the Project Site, with the site boundaries delineated to provide perspective on the setbacks provided for the proposed warehouse and the substantial section of the Project Site that remains undeveloped. South of the Project Site is Niagara Falls International Airport and Niagara Falls Air Reserve Station is located east of the Project Site.

As demonstrated in the Visual Assessment, despite the scale of the Facility, the Facility is generally not visible from surrounding areas. While the Facility has a proposed footprint of approximately 649,653 square feet and a proposed height of 107 feet, due to the Facility location on the Site, the size of the overall Site where the Facility will be developed, setbacks from surrounding lot lines, the distance from surrounding development, such that there are no significant adverse impacts to the surrounding community. The north side building width, closer to Lockport Road is 1,093.7 feet. The façade includes a substantial number of offsets to enhance the front building façade.

The minimum front yard setback provided is at least 923.3 feet from the lot frontage, more than nine times the minimum required 100 foot setback. The warehouse is setback at least 912 feet from the side lot lines and 849.5 feet from the rear lot line. As noted on the Site Rendering exhibit, there is a substantial amount of Site area that remains undeveloped.

In addition to the Site Rendering, Exhibit D provides architectural plans with the elevations and the proposed façade of the Facility to demonstrate what the Facility will look like. The Project proposes a substantial landscape plan for the Site along the interior roadway, parking areas, stormwater ponds, detention basin and access driveway roads. The landscape plan includes improvements include 318 shade trees, 582 evergreen trees, 89 evergreen shrubs, 121 deciduous shrubs, and 176 ornamental grasses. to further enhance the Site design. A landscape berm is proposed along the lot frontage at Lockport Road. The landscape plan complies with the applicable landscape ordinance requirements of the Town Zoning Code.

For the reasons noted above, any potential adverse aesthetic impacts from the Project have been sufficiently mitigated, and the Project will not have significant adverse impact on views the surrounding area, including residential areas.

In addition, the Project will not have a significant adverse visual impact on State and local aesthetic resources such as parks, parkways, and scenic byways. The Scenic Resources figure, which identifies resources within five miles of the Project Site, indicates that parks to the south and east have significant development between the respective parks and the Project Site, including Niagara Falls International Airport.

As noted on the Scenic Resources Figure, the following facilities are within the five mile radius but are not significantly impacted based on distance, location, and surrounding development between the Project Site and the park and/or scenic site.

- Veterans Memorial Park (Town of Niagara): the eastern end of the park is approximately 4,000 feet northwest of the Site. Between the park and the site is a relatively flat topography with a utility right-of-way, railroad right-of-way, industrial and residential uses. The Project will not impact this resource.

- Five Sense Nature Park (Town of Wheatfield): located 3.5 miles southeast of the Site, Niagara Air Reserve Station and Niagara Falls International Airport, along with other development, are located between this park and the Site. The Project will not impact this resource.
- Fairmount Park (Town of Wheatfield): located 4.5 miles southeast of the Site, Niagara Air Reserve Station and Niagara Falls International Airport, along with other development, are located between this park and the Site. The Project will not impact this resource.
- Oppenheim County Park (Niagara County): located 2.8 miles southeast of the Site, Niagara Air Reserve Station and Niagara Falls International Airport, along with other development, are located between this park and the Site. The Project will not impact this resource.
- Marios Park (Town of Wheatfield): located 2.5 miles southeast of the Site, Niagara Air Reserve Station and Niagara Falls International Airport, along with other development, are located between this park and the Site. The Project will not impact this resource.
- Ninety First Street Park (City of Niagara Falls): located 2.4 miles south of the Site, development in the City of Niagara Falls in addition to Niagara Falls International Airport are located between this park and the Site. The Project will not impact this resource.
- Griffon Park (City of Niagara Falls): located 2.8 miles south of the Site, development in the City of Niagara Falls in addition to Niagara Falls International Airport are located between this park and the Site. The Project will not impact this resource.
- Veterans Park (Town of Grand Island): located 4.8 miles south of the Site, development north of the park, the Niagara River, development in the City of Niagara Falls, and Niagara Falls International Airport are located between this park and the Site. The Project will not impact this resource.
- Buckhorn State Park: located 3.8 miles south of the Site, development north of the park, the Niagara River, development in the City of Niagara Falls, and Niagara Falls International Airport are located between this park and the Site. The Project will not impact this resource.
- Henepin Park (City of Niagara Falls): located 2.1 miles southwest of the Site, development in the City of Niagara Falls in addition to Niagara Falls International Airport are located between this park and the Site. The Project will not impact this resource.

- 70th Street Park (City of Niagara Falls): located 2.5 miles southwest of the Site, development in the City of Niagara Falls in addition to Niagara Falls International Airport are located between this park and the Site. The Project will not impact this resource.
- Hyde Park (City of Niagara Falls): located 2.1 miles west of the Site, development in the City of Niagara Falls, Town of Niagara, and Interstate Highway 190 are located between this park and the Site. The Project will not impact this resource.
- Devils Hole State Park: located 4.2 miles west of the Site, development in the City of Niagara Falls, Town of Niagara, and Interstate Highway 190 are located between this park and the Site. The Project will not impact this resource.
- Bond Lake Park (Niagara County): located 4.5 miles north of the Site in the Town of Lewiston, development in the Towns of Lewiston and Niagara are located between the park and Site. The project will not impact this resource.

The Project Site location does not create any potential adverse visual impacts from the parks and scenic resources to the west of the Project Site.

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Project Fifi
Site Rendering

Exhibit G



**New York State Office of Parks,
Recreation and Historic Preservation**

Historic Preservation Field Services Bureau • Peebles Island, PO Box 189, Waterford, New York 12188-0189

518-237-8643

www.nysparks.com

David A. Paterson
Governor

Carol Ash
Commissioner

May 25, 2010

RECEIVED
URS

MAY 28 2010

JOB# 11176193-00000

Randy S. Pekarski
URS Corporation
77 Goodell Street
Buffalo, New York 14203

Re: CORPS PERMITS, DEC
Town of Niagara High Technology
Manufacturing Site
Packard, Lockport, Tuscarora Roads & Haseley
Drive/NIAGARA, Niagara County
10PR03007

Dear Mr. Pekarski:

Thank you for requesting the comments of the State Historic Preservation Office (SHPO). We have reviewed the project in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the National Environmental Policy Act and/or the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8).

Based upon this review, it is the SHPO's opinion that your project will have No Effect upon cultural resources in or eligible for inclusion in the National Registers of Historic Places.

If further correspondence is required regarding this project, please be sure to refer to the OPRHP Project Review (PR) number noted above.

Sincerely,

Ruth L. Pierpont
Director

Exhibit H

Traffic Impact Study

for the proposed

Proposed Distribution Facility Project

**Town of Niagara
Niagara County, New York**

Project No. 41095

February 2022

Prepared For:

LANGAN

300 Kimball Drive, 4th Floor
Parsippany, NJ 07054-2172
Attn: Mike Finan, P.E., LEED AP

Prepared By:



3495 Winton Place
Building E, Suite 110
Rochester, New York 14623

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LIST OF REFERENCES

1. Highway Capacity Manual, Sixth Edition. Transportation Research Board. National Research Council, Washington, DC. 2016.
2. Trip Generation, Eleventh Edition. Institute of Transportation Engineers. Washington D.C. 2021.
3. New York State Department of Transportation Traffic Data Viewer. Retrieved from <https://www.dot.ny.gov/tdv>. 2021.
4. Trip Generation Handbook, 3rd Edition. Institute of Transportation Engineers. Washington, DC. 2017.
5. NCHRP Report 279, Intersection Channelization Design Guide. Transportation Research Board. 1985.
6. Manual on Uniform Traffic Control Devices. Federal Highway Administration (FHWA). Washington, D.C., 2009.
7. Traffic Impact Study Speedway Store #101088 Development. CESO, Co. February 26th, 2020.

EXECUTIVE SUMMARY

OVERVIEW

The purpose of this report is to identify and evaluate the potential traffic impacts with the Proposed Distribution Facility ("Facility") in the Town of Niagara, Erie County, New York. The operating characteristics of the proposed access point and impacts to the adjacent roadway network are identified and project modifications and improvements are identified to minimize potential capacity and safety concerns. To define traffic impacts, this analysis establishes existing traffic conditions, projects background traffic flow including area growth, and projects changes in traffic flow due to the Proposed Distribution Facility.

In order to ensure a comprehensive analysis of potential traffic impacts, a geographically broad study area was selected consisting of the following eleven (11) existing intersections and four (4) proposed new site driveways:

1. Packard Rd/I-190 SB On-Ramp
2. Packard Rd/I-190 NB Off-Ramp
3. Packard Rd/Porter Rd/Vacant Store Driveway
4. Packard Rd/Military Rd
5. Packard Rd/Porter Rd
6. Packard Rd/Lockport Rd
7. Lockport Rd/Tuscarora Rd (South)
8. Lockport Rd/Walmore Rd (North)
9. Lockport Road/Walmore Rd (South)
10. Niagara Falls Blvd/Niagara Rd/Walmore Rd
11. Lockport Rd/Military Rd

The peak hours for the potential project traffic are different from the actual intersection peak time periods as a result of the shift times for employees. Based upon the employee arrival and departure times for the defined shifts, the peak hours used for analysis are 6:30-7:30AM and 5:30-6:30PM. Intersection traffic volumes during these time periods are generally similar although slightly lower than traffic volumes during the actual intersection peak hours. In contrast traffic volumes expected to be generated by the facility are considerably lower during the intersection peak hours.

The proposed Project Fifi Distribution Facility project includes the development of a multistory warehouse with a footprint of approximately $\pm 649,653$ square feet to house a new distribution facility on approximately ± 218 acres of industrial property positioned approximately $\pm 1,029$ feet from the south side of Lockport Road. The facility will include ± 57 loading docks, ± 423 trailer parking stalls, and $\pm 1,848$ employee parking stalls. The site is located adjacent to many compatible users, including Niagara Falls International Airport, Broda Machine Company, Electro Mech Systems, Aavid Niagara, Air National Guard Station and US Armed Forces Reserve Center. The site is currently used for farming.

Access to the site will be provided by one new curb cut on Packard Road opposite Lockport Road, two new curb cuts on Lockport Road located to the east of the Packard Road

intersection, and one new curb cut on Tuscarora Road which will be gated and only used as an overflow truck exit.

Construction of the Project Fifi Distribution Facility Project is anticipated to span a time period of 18 to 24 months. For analysis purposes, a three (3) year time period was assumed from the time of existing conditions (2021) until the project is fully constructed and in operation (2024). Widely accepted methodology for preparing traffic impact studies requires that any projects in the study area that are currently approved and/or under construction must be considered in the traffic analysis. Projects that are contemplated but not yet approved are not included in a traffic analysis. Local municipality personnel were contacted to discuss any other specific projects that are currently approved or under construction that would generate additional traffic in the study area. The Town identified a Speedway Gas Station, a Royal Car Wash, and self-storage facility. The site trips generated by these developments added to the study area intersections.

A review of historical NYSDOT traffic volume data on the study roadways in the vicinity of the site indicates that traffic has slightly decreased between 2010 and 2019. To account for normal increases in background traffic growth, including any unforeseen developments in the project study area in addition to the projects identified, and considering the projected timeframe for full build-out of the project, a growth rate of 0.5% was applied to the existing base traffic volumes in the study area for the build-out period during the AM and PM peak hours.

The existing, background and future operating characteristics of the site access intersection and impacts to the adjacent roadway network are identified and improvements are identified which will appropriately mitigate traffic impacts associated with the facility and minimize capacity or safety concerns.

CONCLUSIONS & RECOMMENDATIONS

This Traffic Impact Study identifies and evaluates the potential traffic impacts resulting from full build-out of the proposed Project Fifi Distribution Facility Project. Based upon the comprehensive traffic analysis contained in this report, it is our firm's professional opinion that the results indicate that the proposed Project Fifi Distribution Facility Project will be reasonably accommodated by the existing roadway network with the project mitigation improvements below being in place. The following sets forth our firm's conclusions and mitigation recommendations based upon the results of the comprehensive traffic analyses that have been conducted:

1. The proposed distribution facility is expected to generate approximately 510 (831) new trips during the AM (PM) study peak hours (6:30-7:30 AM and 5:30-6:30 PM) respectively inclusive of both passenger vehicles and trucks.
2. During the time periods of 7:00-8:00 AM and 5:00-6:00 PM (the time periods that encompass the peak hours of the adjacent streets), the site generates significantly lower volumes of traffic on the order of 350(415) vph respectively. Therefore, the combination of the site peak traffic and the intersection traffic volumes during the peak hours of the site represent the most critical time period for evaluation.

3. The majority of truck traffic will travel directly to and from the Interstate 190 expressway.
4. The combination of projected traffic volumes approaching Proposed Driveway #2 (shown in Figure 8) indicate the warrant for a left-turn treatment is met during the weekday AM and PM peak hours. Therefore, left turn treatments is warranted and recommended at this site driveway intersection.
5. The combination of projected traffic volumes approaching Proposed Driveway #1 and #3 (shown in Figure 8) indicate the warrant for signal treatments are met. Therefore, a signal treatment is warranted and recommended at these site driveway intersections.
6. Signal timings at the Lockport Road/Walmore Road (South) intersections should be adjusted such that the northbound green time is increased by two seconds and the east/westbound green time is reduced by two seconds during the AM peak and the northbound green time is increased by five seconds and the east/westbound green time is reduced by five seconds during the PM peak to accommodate the additional northbound traffic.
7. The following project improvements are recommended and, if approved by review agencies, shall be constructed by the project sponsor:
 - Install a ± 350 ft long westbound left turn lane with a ± 75 ft taper on Lockport Road at Proposed Driveway #2 and #3;
 - Install a ± 350 ft long southwestbound right and left turn lane with a ± 75 ft taper on Lockport Road at Proposed Driveway #1;
 - Install a ± 350 ft long northeastbound right and left turn lane with a ± 75 ft taper on Lockport Road at Proposed Driveway #1; and
 - Install a ± 350 ft long southeastbound left turn lane with a ± 75 ft taper on Lockport Road at Proposed Driveway #1.
8. Proposed Driveway #1, #2, and #3 should be designed to provide one entering lane and two exiting lanes. Traffic exiting the site at Proposed Driveway #2 shall be stop controlled and Proposed Driveway #1 and #3 shall have a signal installed.
9. The project sponsor should have discussions with NFTA to provide transit service on-site.
10. No potential significant adverse traffic impacts are anticipated as a result of the proposed Project Fifi Distribution Facility with the recommended project highway improvements in place.

I. INTRODUCTION

SRF Associates (“SRF”) has prepared this Traffic Impact Study (“TIS”) to identify and evaluate the potential traffic impacts with the Proposed Distribution Facility in the Town of Niagara, Niagara County, New York. The TIS identifies the operating characteristics of the proposed access point and impacts to the adjacent roadway network and identifies project modifications and improvements that will appropriately mitigate traffic impacts associated with the facility and minimize to the maximum extent practical potential capacity and safety concerns.

To define traffic impacts, this TIS establishes existing traffic conditions, projects background traffic flow including area growth, and projects changes in traffic flow due to the Proposed Distribution Facility project.

II. LOCATION

The Proposed Project Fifi Distribution Facility is located north of the existing Niagara Falls International Airport and west of the Niagara Falls Air Reserve Station in the Town of Niagara, Niagara County, New York. The site is bounded by Haseley Drive and various commercial properties to the west; Packard Road, Lockport Road, and various commercial properties to the north; Tuscarora Road (south) to the east and the runways for the Niagara Falls International Airport to the south. The site is currently agricultural lands, however, the property is industrially zoned.

In order to ensure a comprehensive analysis of potential traffic impacts, a geographically broad study area was selected consisting of the following eleven (11) existing intersections and four (4) proposed new site driveways:

1. Packard Rd/I-190 SB On-Ramp
2. Packard Rd/I-190 NB Off-Ramp
3. Packard Rd/Porter Rd/Vacant Store Driveway
4. Packard Rd/Military Rd
5. Packard Rd/Porter Rd
6. Packard Rd/Lockport Rd
7. Lockport Rd/Tuscarora Rd (South)
8. Lockport Rd/Walmore Rd (North)
9. Lockport Road/Walmore Rd (South)
10. Niagara Falls Blvd/Niagara Rd/Walmore Rd
11. Lockport Rd/Military Rd

The site location and study area are shown in **Figure 1** – Site Location and Study Area (all figures are included at the end of this report).

III. EXISTING HIGHWAY SYSTEM

Details of the existing roadway network in the vicinity of the project site are summarized in **Table 1** below. The Annual Average Daily Traffic (AADT) counts referenced below were obtained based upon the most recent traffic counts collected by the New York State Department of Transportation (NYSDOT).

TABLE I: EXISTING HIGHWAY SYSTEM

ROADWAY ¹	CLASS ²	AGENCY ³	SPEED LIMIT ⁴	# OF TRAVEL LANES ⁵	TRAVEL PATTERN/DIRECTION	EST. AADT ⁶ & SOURCE ⁷
Lockport Road (CR-6)	16	NCDPW	45	2	Two-way/ East-West	5,202 NYSDOT (2017)
Walmore Road (North of Lockport Rd)	19	Town	35	2	Two-way/ North-South	3,621 NYSDOT (2019)
Tuscarora Road	19	Town	15	2	Two-way/ North-South	N/A
Packard Road (CR-82)	16	NCDPW	45	2	Two-way/ Northeast-Southwest	13,042 NYSDOT (2019)
Porter Road (NY-182)	14	NYSDOT	40	2	Two-way/ Northwest-Southeast	8,392 NYSDOT (2018)
Military Road (NY-265)	14	NYSDOOT	40	4	Two-way/ Northwest-Southeast	11,115 NYSDOT (2019)
Niagara Falls Blvd (US-62)	14	NYSDOT	50	4	Two-way/ East-West	18,490 NYSDOT (2019)
Niagara Rd (CR-25)	17	NCDPW	35	2	Two-way/ Northeast-Southwest	6,562 NYSDOT (2019)

Notes:

1. Route Name/Number: "NY" = New York, "CR" = County Road
2. State Functional Classification of Roadway (All are Urban): 14 = Principal Arterial, 16 = Minor Arterial, 17 = Major Collector, 19 = Local
3. Jurisdictional Agency of Roadway. "NYSDOT" = New York State Department of Transportation, "NCDPW" = Niagara County Department of Public Works
4. Posted or Statewide Limit in Miles per Hour (mph).
5. Excludes turning/auxiliary lanes developed at intersections.
6. Estimated AADT in Vehicles per Day (vpd).
7. AADT Source (Year).

Figure 2 illustrates the lane geometry at each of the study intersections and the AADT volumes on the study roadways.

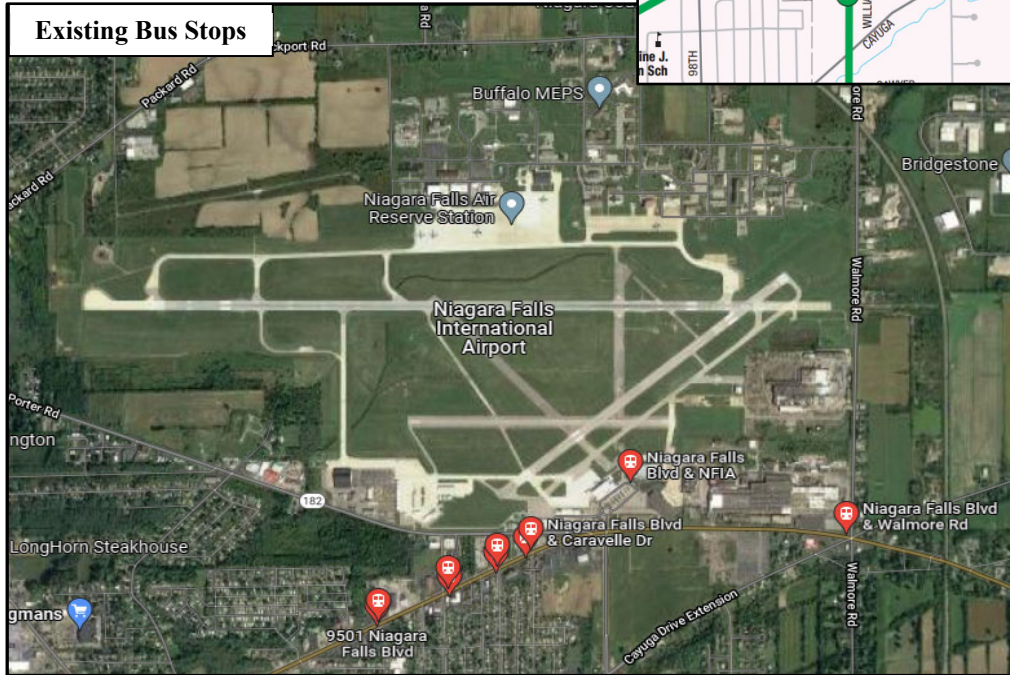
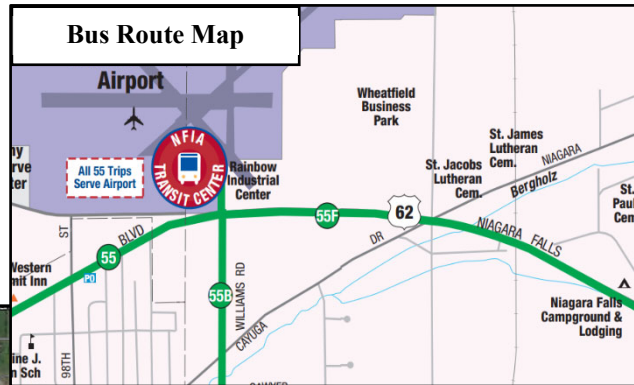
PEDESTRIAN AND BICYCLE FACILITIES

Sidewalks currently exist along both sides of Military Rd. There is a sidewalk along the north side of Packard Rd that extends to the east of the eastern Packard Rd/Porter Rd intersection to Haseley Dr. Another sidewalk is located along the south side of Niagara Falls Blvd to the east of Walmore Rd. There are no other sidewalks within the study area.

There are no dedicated bicycle facilities; however, bicyclists are permitted to share the road on all roadways within the study area, except for the I-190 ramps.

TRANSIT FACILITIES

The Niagara Frontier Transportation Authority (NFTA) provides transit service along Niagara Falls Blvd in the vicinity of the site via Route 55. There are no transit routes immediately adjacent to the site. However, the site will be designed to accommodate an on site transit stop and extension of a transit route will be



discussed with NFTA.

IV. EXISTING TRAFFIC CONDITIONS

A. Peak Intervals for Analysis

Given the functional characteristics of the proposed Project Fifi Distribution Facility Project, the peak hours selected for analysis are the AM and PM peak hours of the generator due to the proposed shift times for the majority of the employees working at the site (see Section VI.A. of this report for a detailed discussion of employee shift times). The combination of site traffic and adjacent through traffic produces the greatest demand during these time periods.

B. Existing Traffic Volume Data

Weekday AM (6:00-10:00AM) and PM (4:00-8:00PM) peak hour volumes were collected by SRF Associates (SRF) at the study area intersections listed in Section II above. Turning movement count data was collected at the study intersections on Thursday, October 14, 2021, Tuesday, November 23, 2021, Tuesday December 14, 2021 and Wednesday January 5, 2022. No historical turning movement count data was available at the study intersections.

The peak hours for project traffic are different from the actual intersection peak time periods as a result of the shift times for employees (see detailed discussion in Section VI.A. of this report). Based upon the employee arrival and departure times for the defined shifts, the peak hours used for analysis were 6:30-7:30 AM and 5:30-6:30 PM. Intersection traffic volumes during these time periods are generally similar although slightly lower than traffic volumes during the actual intersection peak hours. In contrast, traffic volumes expected to be generated by the facility are considerably lower during the intersection peak hours (see Section VI.B. of this report).

All turning movement count data was collected on a typical weekday. It is noted, however, that traffic volumes are currently impacted by the COVID-19 pandemic. The NYSDOT released a study in February 2021 that described the effect the COVID-19 pandemic had on traffic in New York State in 2020. The NYSDOT study illustrated the percent difference 2020 weekday ADTs to average weekday ADTs prior to 2020. Additionally, traffic volumes were compared to traffic data obtained in various locations in the study area before the COVID-19 pandemic by the NYSDOT. Both the NYSDOT study and historic counts in the study area were used to adjust the collected data to reflect 2021 representative traffic conditions by increasing the collected traffic volumes. This is consistent with NYSDOT and ITE methodology for adjustments related to collected traffic volumes affected by the COVID-19 pandemic. The collected traffic volumes were generally found to be equal or greater during the AM peak hour and approximately 10% lower during the PM based upon comparison to the historical data. The collected traffic volume data were increased by the respective percentages to reflect seasonally and covid adjusted current traffic volumes. The representative 2021 weekday peak hour base volumes used for analysis purposes in this study are reflected in **Figure 3B**.

C. Field Observations

The study intersections were observed during both peak intervals to assess current traffic operations. Signal timing information observed in the field were utilized to confirm peak hour phasing plans and phase durations during each interval. Signal timing information was also obtained from the NYSDOT and Niagara County. This information was used to support and/or calibrate capacity analysis models described in detail later in this report.

D. Existing Crash Investigation

The purpose of this crash analysis is to identify inherent safety issues by studying and quantifying historical crashes at the study intersections and identifying potential crash patterns and clusters.

A crash cluster is defined as an abnormal occurrence of similar crash types occurring at approximately the same location or involving the same geometric features. The severity of the crashes should also be considered. A history of crashes is an indication that further analysis is required to determine the cause(s) of the crash(es) and to identify what actions, if any, could be taken to mitigate the crashes.

A crash investigation within the study area was conducted to assess the safety history from January 1, 2017 through December 31, 2019. The data was provided by the New York State Department of Motor Vehicles (NYSDMV) through a Freedom of Information (FOIL) request.

Reportable (non-injury, injury, and fatal injury) type crashes are defined as damage to one person's property in the amount of \$1,001 or more. The Non-Reportable type crashes result in property damage of \$1,000 or less. Crash rates were computed for the study intersections and compared with New York State Department of Transportation average crash rates for similar intersections, as summarized in the following table. Intersection rates are listed as accidents (crashes) per million entering vehicle (Acc/MEV). Pertinent crash data is provided in the Appendices.

TABLE II: EXISTING ACCIDENT INVESTIGATION

INTERSECTION	TOTAL NO. OF ACCIDENTS	ACTUAL CRASH RATE	STATEWIDE AVERAGE CRASH RATE
Packard Road/I-190 SB	5	0.36	0.56
Packard Road/I-190 SB	16	0.99	0.56
Packard Road/Porter Road/Vacant Store Dwy	50	2.00	0.54
Packard Road/Military Road	83	1.90	0.54
Packard Road/Porter Road	7	0.36	0.31
Packard Road/Lockport Road	9	0.69	0.18
Lockport Road/Tuscarora Road	10	0.83	0.18
Lockport Road/Walmore Road (North)	12	0.87	0.31
Lockport Road/Walmore Road (South)	9	0.64	0.31
Niagara Road/Niagara Falls Blvd/Cayuga Drive/Walmore Road	28	1.09	0.23
Military Road/Lockport Road	15	0.75	0.54

Ten of the eleven study intersections had a crash rate higher than the statewide average. The results of these intersections with calculated rates higher than the statewide average are described in greater detail below.

Packard Road/I-190 NB

As shown in Table II, the study intersection has a crash rate that is 3.19 times higher than the statewide average crash rate for similar intersections. Of the 16 total crashes, notable crash types include rear end (7 crashes) and right angle (5 crashes). Many of the apparent factors contributing to the crashes were failure to yield right of way and following too closely.

- 6 northbound rear end collisions,
- 1 southbound rear end collision,
- 4 northbound right angle collisions, and
- 1 eastbound right angle collision

Based on the noted collisions, there are no discernible crash patterns that require mitigation. The northbound rear end collisions may be the result of the relatively short off-ramp which is approximately 500 ft long. In addition, sight distance to the left is somewhat limited by the existing bridge abutment.

Packard Rd/Porter Road/Vacant Store Driveway

As shown in Table II, the study intersection has a crash rate that is 3.70 times higher than the statewide average crash rate for similar intersections. Of the 50 total crashes, notable crash types include rear end (16 crashes), right angle (9 crashes), overtaking, (9 crashes), and left turn (7 crashes). Many of the apparent factors contributing to the crashes were failure to yield right of way, following too closely, or driver inattention. These crashes are further divided as follows:

Northbound:

- 1 left turn collision,
- 4 rear end collisions
- 1 right angle collision

Southbound:

- 2 left turn collisions
- 3 rear end collisions
- 1 overtaking collision

Eastbound:

- 2 left turn collisions
- 5 rear end collisions
- 5 overtaking collisions
- 5 right angle collisions

Westbound:

- 2 left turn collisions,
- 3 rear end collisions,
- 3 overtaking collisions
- 3 right angle collisions

Unknown Direction:

- 1 rear end collision occurred from an unknown direction

Based on the noted collisions, there are no discernible crash patterns that require mitigation. Rear end crashes are common at signalized intersections.

Packard Rd/Military Rd

As shown in Table II, the study intersection has a crash rate that is 3.52 times higher than the statewide average crash rate for similar intersections. Of the 83 total crashes, notable crash types include rear end (31 crashes), overtaking (14 crashes), and left turn (13 crashes). Many of the apparent factors contributing to the crashes were failure to yield right of way, following too closely, or driver inattention. It is noted that the frequency of rear-end crashes is characteristic of signalized intersections along moderate to heavily traveled corridors.

Northbound:

- 5 left turn collisions,
- 10 rear end collisions
- 4 overtaking collisions

Southbound:

- 2 left turn collisions
- 6 rear end collisions
- 2 overtaking collisions

Eastbound:

- 2 left turn collisions
- 5 rear end collisions
- 5 overtaking collisions

Westbound:

- 4 left turn collisions,
- 8 rear end collisions,
- 3 overtaking collisions

Unknown Direction:

- 2 rear end collisions occurred from an unknown direction

Based on the noted collisions, there are no discernible crash patterns that require mitigation. NYSDOT should consider changing the permitted left turn movements to protected only movements. However, it is noted that protected only movements may decrease the capacity and efficiency of the intersection.

Packard Rd/Porter Road

As shown in Table II, the study intersection has a crash rate that is 1.16 times higher than the statewide average crash rate for similar intersections. Of the 7 total crashes, notable crash types include rear end (3 crashes), and right angle (2 crashes). Many of the apparent factors contributing to the crashes were failure to yield right of way, following too closely, or driver inattention. No discernable crash patterns were identified, and no mitigation is warranted or recommended.

Packard Rd/Lockport Road

As shown in Table II, the study intersection has a crash rate that is 3.83 times higher than the statewide average crash rate for similar intersections. Of the 9 total crashes, notable crash types include rear end (3 crashes), and right angle (3 crashes). Many of the apparent factors contributing to the crashes were failure to yield right of way, following too closely, or driver inattention.

- 2 southbound left turn collisions, and
- 1 eastbound left turn collision

No discernable crash patterns were identified, and no mitigation is warranted or recommended.

Lockport Road/Tuscarora Road

As shown in Table II, the study intersection has a crash rate that is 4.61 times higher than the statewide average crash rate for similar intersections. Of the 10 total crashes, the only notable crash type is rear end (4 crashes). Many of the apparent factors contributing to the crashes were following too closely, or driver inattention. Of the 10 crashes, one was fixed object related and one was a collision with an animal. When discounting these crashes from the total rate, the actual crash rate decreases to 0.66 Acc/MEV.

- 1 southbound rear end collision, and
- 3 eastbound rear end collisions

No discernable crash patterns were identified, and no mitigation is warranted or recommended.

Lockport Road/Walmore Road (North)

As shown in Table II, the study intersection has a crash rate that is 2.81 times higher than the statewide average crash rate for similar intersections. Of the 12 total crashes, the only notable crash type is rear end (3 crashes). Many of the apparent factors contributing to the crashes were following too closely, or driver inattention. Of the 12 crashes, two were fixed object related and one was a collision with an animal. When discounting these crashes from the total rate, the actual crash rate decreases to 0.65 Acc/MEV.

- 2 eastbound rear end collisions, and
- 1 westbound rear end collision

No discernable crash patterns were identified, and no mitigation is warranted or recommended.

Lockport Road/Walmore Road (South)

As shown in Table II, the study intersection has a crash rate that is 2.06 times higher than the statewide average crash rate for similar intersections. Of the 9 total crashes, notable crash types include rear end (3 crashes), and right angle (3 crashes). Many of the apparent factors contributing to the crashes were failure to yield right of way, following too closely, or driver inattention.

- 1 northbound rear end collision,
- 2 westbound rear end collisions,
- 2 southbound right angle collisions, and
- 1 eastbound right angle collision

No discernable crash patterns were identified, and no mitigation is warranted or recommended.

Niagara Rd/Niagara Falls Blvd/Walmore Rd/Cayuga Drive

As shown in Table II, the study intersection has a crash rate that is 4.74 times higher than the statewide average crash rate for similar intersections. Of the 28 total crashes, the only notable crash type is rear end (15 crashes). Many of the apparent factors contributing to the crashes were following too closely, or driver inattention.

- 5 southbound rear end collisions,
- 1 northeastbound rear end collision,

- 4 northwestbound rear end collisions, and
- 5 southeastbound rear end collisions

No discernable crash patterns were identified, and no mitigation is warranted or recommended.

Military Road/Lockport Road

As shown in Table II, the study intersection has a crash rate that is 2.06 times higher than the statewide average crash rate for similar intersections. Of the 15 total crashes, the only notable crash type is rear end (10 crashes). Many of the apparent factors contributing to the crashes were following too closely, or driver inattention.

- 5 northbound rear end collisions,
- 2 rear end collisions in both the southbound and eastbound directions, and
- 1 westbound rear end collision

No discernable crash patterns were identified, and no mitigation is warranted or recommended.

The crash data identified crash rates that are generally greater than typically statewide average crash rates. However, further review of crash data at the intersections determined that there were no significant clusters of crashes that would require mitigation.

V. FUTURE AREA DEVELOPMENT AND LOCAL GROWTH

Construction of the Project Fifi Distribution Facility Project is anticipated to span a time period of 18 to 24 months. For analysis purposes, a three (3) year time period was assumed from the time of existing conditions (2021) until the project is fully constructed and in operation (2024). Widely accepted methodology for preparing traffic impact studies requires that any projects in the study area that are currently approved and/or under construction must be considered in the traffic analysis. Projects that are contemplated but not yet approved are not included in a traffic analysis. Local municipality personnel were contacted to discuss any other specific projects that are currently approved or under construction that would generate additional traffic in the study area. The Town identified a Speedway gas station, a Royal Car Wash, and a self-storage facility. The site trips generated by these developments were added to the study area intersections.

A review of historical NYSDOT traffic volume data on the study roadways in the vicinity of the site indicates that traffic has fluctuated slightly between 2010 and 2019. To account for normal increases in background traffic growth, including any unforeseen developments in the project study area in addition to the projects identified, and considering the projected timeframe for full build-out of the project, a growth rate of 0.5% was applied to the existing base traffic volumes in the study area for the build-out period during the AM and PM peak hours. The 2024 background traffic volumes are depicted in **Figure 4**.

VI. PROPOSED DEVELOPMENT

A. Description of the Proposed Project Fifi Distribution Facility Project

The application proposes the construction of a single warehouse building on approximately ± 216 acres of industrial property positioned approximately $\pm 1,029$ feet from the south side of Lockport Road. The proposed Project Fifi Distribution Facility project includes the development of a multistory warehouse with a footprint of approximately $\pm 649,653$ square feet to house a new distribution facility. The facility will include ± 57 loading docks, ± 423 trailer parking stalls, and $\pm 1,848$ employee parking stalls. The site is located adjacent to many compatible users, including Niagara Falls International Airport, Broda Machine Company, Electro Mech Systems, Aavid Niagara, Air National Guard Station and US Armed Forces Reserve Center. The site is currently used for farming.

Access to the site will be provided by one new curb cut on Packard Road opposite Lockport Road, two new curb cuts on Lockport Road located to the east of the Packard Road intersection, and one new curb cut on Tuscarora Road which will be gated and only used as an overflow truck exit. **Figure 5** illustrates the proposed concept plan.

A facility such as the one proposed is expected to operate with the shift times shown in **Table III** below. The shift structure could technically be categorized as four shifts but operationally there are two shifts. For each shift, the start and end times for employees working the receiving side of the operation (inbound employees) and employees working the shipping side of the operation (outbound employees) are staggered by 30 minutes. Operationally there is no difference between the day and night shifts. The gap between the night shift end and the day shift start allows for equipment maintenance/repair and other such work to be performed.

TABLE III: FACILITY SHIFT TIMES

SHIFT	SHIFT START TIME	SHIFT END TIME
Day Shift - Group 1	7:00 AM	5:30 PM
Day Shift - Group 2	7:30 AM	6:00 PM
Night Shift - Group 1	6:00 PM	4:30 AM
Night Shift - Group 2	6:30 PM	5:00 AM

These shift times result in the facility peak hours of 6:30-7:30 AM and 5:30-6:30 PM for employees entering and exiting the site.

B. Site Traffic Generation

The volume of traffic generated by a site is dependent on the intended land use and size of the development. Trip generation is an estimate of the number of trips generated by a specific building or land use. These trips represent the volume of traffic entering and exiting the development. Trip

Generation, 11th Edition is used as a reference for this information. The trip rate for the peak hour of the generator may or may not coincide in time or volume with the trip rate for the peak hour of adjacent street traffic. In this case, volumes generated during the peak hour of the site represent a more critical volume when analyzing the capacity of the system; those intervals will provide the basis of this analysis.

According to the Institute of Transportation Engineers (ITE), the following steps are recommended when determining trip generation for proposed land uses:

- i. *Check for the availability of local trip generation rates for comparable uses.*
- ii. *If local trip data for similar developments are not available and time and funding permit, conduct trip generation studies at sites with characteristics similar to those of the proposed development.*

Trip generation data for the proposed ROC1 Distribution Facility Project are based on the headcounts and truck volumes needed to run this type of facility. From this data, peak hour passenger car and truck trips were calculated for Full Development Conditions. The hourly distribution of entering and exiting cars (included in the Appendix) is based on 24-hour observations of traffic flow at other facilities. The trip projections are not based on counting multiple sites and then developing trip rates like the ITE published data. The hourly distribution of entering and exiting trucks is based on operational experience.

Not all employees enter and exit the facility during the peak AM and PM hours. The average number of employees working at the facility at any given time includes all employees. The shift headcounts account for all employee groups such as warehouse workers, management, administration, janitorial staff, etc. that will be inside the building. The various employee groups have differing shift times within the depicted day and night shifts. Moreover, employees of these facilities typically have flexible work schedules and can start and end their workdays to achieve the work life balance that best suits their individual needs. As a result, these facilities generate entering and exiting employee traffic throughout the day with a concentration around each shift's start and end times. Employees that are not working the designated shifts will enter and exit the site during off-peak hours (i.e., times other than those shown in Table II) in significantly lower volumes than during the peak study time periods (see Table IV and discussion below).

These types of distribution facilities typically experience carpool and transit ridership that reduces the single-occupant vehicles traveling to and from the site by approximately 19%. However, review of transit and carpool statistics for Niagara and nearby Erie Counties indicates that approximately 8% of people carpool to work and 2% of people use public transportation. In addition, 2% of people walk to work while less than 1% of people use a bicycle to commute to work. For analysis purposes, and to be conservative, it was assumed that 8% of employees will either carpool or use public transportation. Hence, the total peak hour employee trips were reduced by 8%.

Table IV summarizes the peak hour trips during the peak hour of the generator (6:30-7:30 AM and 5:30-6:30 PM) based upon the shift times identified in Table III above.

TABLE IV: SITE GENERATED TRIPS¹

LAND USE	AM PEAK HOUR		PM PEAK HOUR	
	ENTER	EXIT	ENTER	EXIT
Distribution Center Employees	443	19	392	399
Distribution Center Trucks	24	24	20	20
Total Site Generated Trips	467	43	412	419

Note:

1. Site trips generated during Facility peak hours

Under Full Development Conditions, the proposed Project Fifi Distribution Facility Project is anticipated to generate 467 entering/43 exiting vehicle trips during the AM peak hour of the generator, and 412 entering/419 exiting vehicle trips during the weekday PM peak hour of the generator; these volumes include both passenger vehicles and truck trips as noted in Table IV above.

Table V indicates the volumes of employee traffic that will enter and exit the site during the intersection peak periods that do not fall within the site peak hours. During the time periods of 7:00-8:00 AM and 5:00-6:00 PM, the site generates significantly lower volumes of traffic. Therefore, the combination of the site peak traffic and the intersection traffic volumes during the peak hours of the site represent the most critical time period for evaluation.

TABLE V: SITE GENERATED TRIPS DURING PEAK HOUR OF ADJACENT STREET

LAND USE	AM PEAK HOUR ¹		PM PEAK HOUR ²	
	ENTER	EXIT	ENTER	EXIT
Distribution Center Employees	277	17	213	162
Distribution Center Trucks	28	28	20	20
Total Site Generated Trips	305	45	233	182

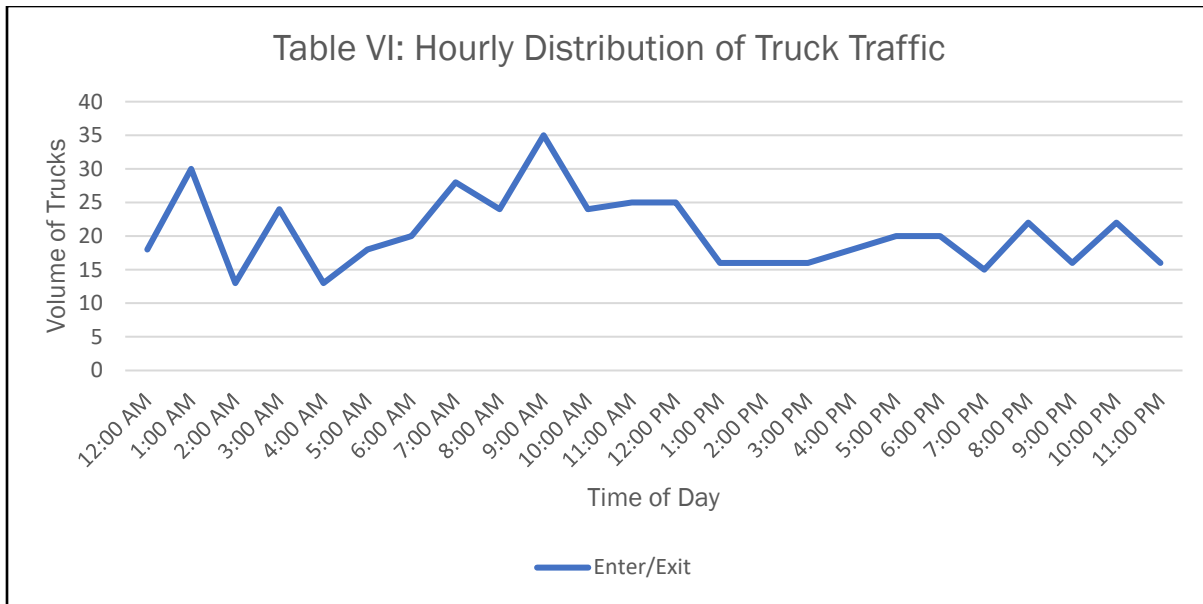
Note:

1. Morning Peak Hour of Adjacent Street: 7:00-8:00 AM
2. Evening Peak Hour of Adjacent Street: 5:00-6:00 PM

Truck Traffic

Truck traffic is deliberately low during commuter peak times and higher at other times of the day/night. **Table VI** below shows the hourly distribution of truck traffic entering and exiting the site.

All trip generation information has been included in the appendix.



C. Site Traffic Distribution

The cumulative effect of site traffic on the transportation network is dependent on the origins and destinations of that traffic and the location of the access drives serving the site. The proposed arrival/departure distribution of traffic to be generated at this site is considered a function of several parameters, including the following:

- Existing highway network;
- Proximity and access to local area highways;
- Population centers;
- Location of employee parking on the proposed site plan;
- Existing traffic patterns, traffic conditions, and controls; and
- Location of site access for employees and trucks

Nearby residential areas and demographics were used to determine likely origin and destination areas for the potential employees. In addition, existing traffic patterns were reviewed in detail to determine likely travel routes. The detailed distribution of site trips was based on a combination of population centers, existing traffic patterns, and Google map directions to and from the site.

Figure 6A shows the anticipated truck trip distribution pattern percentages and **Figure 6B** shows the anticipated employee trip distribution pattern percentages for employees at full build-out of the proposed distribution facility. The majority of truck traffic will travel directly to and from Interstate 190.

Figures 7A, 7B, and 7C show the resulting truck, employee, and total site generated traffic (including cars and trucks) as assigned to the study area intersections for the weekday AM and PM peak hour periods under full build-out conditions.

VII. FULL DEVELOPMENT VOLUMES

The projected design hour traffic volumes were developed for the weekday AM and PM peak hours by combining the future background traffic conditions (Figure 4), and projected site generated volumes for full build-out of the proposed site (Figure 7C) in order to yield the total traffic conditions expected at full development. **Figure 8** illustrates the total weekday AM and PM peak hour volumes anticipated for the proposed development under full build-out conditions.

VIII. CAPACITY ANALYSIS

A. *Description of Capacity Analysis*

Capacity analysis is a technique used for determining a measure of effectiveness for a section of roadway and/or intersection based on the number of vehicles during a specific time period. The measure of effectiveness used for the capacity analysis is referred to as a Level of Service (LOS). Levels of Service are calculated to provide an indication of the amount of delay that a motorist experiences while traveling along a roadway or through an intersection. Since the greatest delay to motorists usually occurs at intersections, capacity analysis focuses on intersections, as opposed to highway segments.

Six Levels of Service are defined for analysis purposes. They are assigned letter designations, from "A" to "F", with LOS "A" representing the conditions with little to no delay, and LOS "F" conditions with very long delays. Suggested ranges of service capacity and an explanation of Levels of Service are included in the Appendix.

The standard procedure for capacity analysis of signalized and un-signalized intersections is outlined in the Highway Capacity Manual (HCM 2016) published by the Transportation Research Board. Traffic analysis software, Synchro 11, which is based on procedures and methodologies contained in the HCM, was used to analyze operating conditions at study area intersections. The procedure yields a Level of Service based on the HCM as an indicator of how well intersections operate. This study used HCM 2000 methodology for determining operations at the unsignalized intersections in accordance with local NYSDOT Region 5 guidelines.

B. *Capacity Analysis Results*

Existing 2021 base and 2024 background operating conditions during the peak study periods are evaluated to determine a basis for comparison with the projected future conditions. The projected future traffic volumes generated by the proposed Project Fifi Distribution Facility Project were analyzed to assess the operations of the intersections in the study area.

Capacity results for existing 2021 base, 2024 background and 2024 full build conditions are listed in **Table VII**. The discussion following the table summarizes capacity conditions. All capacity analysis calculations are included in the Appendices.

TABLE VII: CAPACITY ANALYSIS RESULTS

INTERSECTION	2021 EXISTING CONDITIONS				2024 BACKGROUND CONDITIONS				2024 FULL BUILD CONDITIONS				2024 FULL BUILD CONDITIONS W/ MITIGATION	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1. Packard Road/I-190 SB On-Ramp (S)														
EB - Packard Road	A	2.8	A	4.0	A	2.9	A	4.1	A	3.0	A	4.2		
WB - Packard Road	B	15.2	C	20.0	B	16.2	C	20.5	B	16.3	C	22.8		
SE left - I-190 SB On-Ramp	D	37.2	D	37.4	D	37.1	D	37.3	D	37.1	D	37.3		
SE thru - I-190 SB On-Ramp	D	50.4	D	50.3	D	50.4	D	50.2	D	50.4	D	50.2	N/A	N/A
SE right - I-190 SB On-Ramp	A	1.0	A	0.3	A	1.0	A	0.3	A	1.0	A	0.3		
Overall LOS	B	17.9	B	19.9	B	18.4	C	20.0	B	18.0	C	21.1		
Volume-to-Capacity (v/c) Ratio	0.55	0.62	0.55	0.62	0.55	0.62	0.55	0.62	0.55	0.62	0.55	0.62		
2. Packard Road/I-190 NB Off-Ramp (S)														
EB - Packard Road	A	3.0	A	3.4	A	3.1	A	3.5	A	3.5	A	3.7		
WB - Packard Road	B	12.4	B	10.3	B	10.8	A	7.9	B	12.1	A	9.9		
NW left/thru - I-190 NB Off-Ramp	D	47.8	D	50.1	D	47.4	D	50.1	D	44.9	D	48.1	N/A	N/A
NW right - I-190 NB Off-Ramp	B	13.9	B	11.5	B	13.9	B	11.5	B	14.0	B	11.7		
Overall LOS	B	14.6	B	13.5	B	13.8	B	12.4	B	14.0	B	12.7		
Volume-to-Capacity (v/c) Ratio	0.73	0.67	0.74	0.68	0.74	0.68	0.79	0.73	0.79	0.73	0.79	0.73		
3. Packard Road/Porter Road/Vacant Store Dwy (S)														
EB - Packard Road	A	4.8	A	7.6	A	7.5	B	11.6	A	8.0	B	12.5		
WB left - Packard Road	A	0.0	A	0.0	A	6.2	A	6.6	A	6.6	A	7.3		
WB thru - Packard Road	A	3.0	A	2.3	A	7.1	A	5.4	A	7.6	A	6.6		
WB right - Packard Road	A	1.0	A	2.6	A	4.0	A	4.3	A	4.2	A	5.2		
NB left - Former Kmart	A	0.0	A	0.0	D	45.0	D	45.0	D	45.0	D	45.0	N/A	N/A
NB thru/right - Former Kmart	A	0.0	A	0.0	C	28.4	C	28.2	C	28.4	C	28.2		
SB left - Porter Road	D	43.0	D	47.8	D	43.3	D	47.1	D	44.2	D	47.2		
SB thru/right - Porter Road	A	7.4	C	22.1	C	34.9	D	47.6	D	37.1	D	47.7		
Overall LOS	B	10.1	B	12.9	B	11.6	B	15.4	B	12.3	B	15.8		
Volume-to-Capacity (v/c) Ratio	0.36	0.68	0.38	0.66	0.38	0.66	0.43	0.68	0.43	0.68	0.43	0.68		
4. Military Road/Packard Road (S)														
EB left - Packard Road	C	23.8	C	26.4	C	24.4	C	23.4	C	25.7	C	28.3		
EB thru - Packard Road	C	32.4	C	33.8	C	34.6	C	28.7	D	40.0	C	32.5		
EB right - Packard Road	A	1.4	B	10.4	A	5.2	B	10.5	A	5.5	B	11.2		
WB left - Packard Road	B	15.1	B	17.5	B	14.9	C	20.3	B	17.2	C	32.2		
WB thru/right - Packard Road	C	23.5	C	21.9	C	22.1	C	23.4	C	23.3	C	32.9		
SE left - Military Road	B	18.0	C	24.2	B	19.1	C	26.0	B	19.2	C	26.6	N/A	N/A
SE thru/right - Military Road	B	14.8	D	42.6	B	13.2	D	43.0	B	13.2	D	43.0		
NW left - Military Road	D	45.5	D	50.2	D	45.5	D	50.6	D	45.5	D	50.6		
NW thru/right - Military Road	C	23.9	D	37.1	C	26.4	D	39.5	C	23.9	D	40.0		
Overall LOS	C	23.2	C	32.1	C	23.5	C	32.4	C	25.9	D	35.3		
Volume-to-Capacity (v/c) Ratio	0.48	0.78	0.51	0.79	0.51	0.79	0.62	0.81	0.62	0.81	0.62	0.81		
5. Packard Road/Porter Road (S)														
EB thru - Packard Road	A	1.6	A	2.3	A	1.1	A	3.2	A	2.5	A	5.0		
EB right - Packard Road	A	0.2	A	0.4	A	0.2	A	0.6	A	0.1	A	0.5		
WB - Packard Road	A	2.8	A	4.3	A	3.5	A	5.2	A	3.6	A	5.6		
NB - Porter Road	D	44.5	D	44.9	D	43.8	D	44.1	D	43.6	D	43.9	N/A	N/A
Overall LOS	A	8.3	B	12.4	B	11.2	B	14.4	B	10.4	B	13.4		
Volume-to-Capacity (v/c) Ratio	0.44	0.62	0.56	0.68	0.56	0.68	0.56	0.68	0.56	0.68	0.56	0.68		

TABLE VII: CAPACITY ANALYSIS RESULTS

INTERSECTION	2021 EXISTING CONDITIONS				2024 BACKGROUND CONDITIONS				2024 FULL BUILD CONDITIONS				2024 FULL BUILD CONDITIONS W/ MITIGATION			
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM		
6. Packard Road/Lockport Road/Proposed Driveway #1 (U)																
SEB - Lockport Road	C	15.2	C	19.2	C	15.9	C	20.4	D	28.6	F	63.9				
NWB left - Proposed Driveway #1	N/A		N/A		N/A		N/A		C	20.3	F	53.4				
NWB right - Proposed Driveway #1									B	15.0	C	23.5	N/A	N/A		
NEB - Packard Road	A	0.0	A	0.1	A	0.0	A	0.1	A	0.0	A	0.1				
SWB - Lockport Road	N/A		N/A		N/A		N/A		A	0.5	A	0.4				
6. Packard Road/Lockport Road/Proposed Driveway #1 (S)																
SEB left - Lockport Road													B	11.1	B	12.9
SEB thru/right - Lockport Road													A	8.7	A	10.0
NWB left - Packard Road													A	9.1	B	13.3
NWB thru/right - Packard Road													A	8.0	B	10.2
NEB left - Proposed Driveway #1													A	0.0	A	5.5
NEB thru - Proposed Driveway #1													A	8.7	A	9.5
NEB right - Proposed Driveway #1	N/A		N/A		N/A		N/A		N/A		N/A		A	2.3	A	2.2
SWB left - Lockport Road													A	5.7	A	5.6
SWB thru - Lockport Road													A	8.2	A	9.4
SWB right - Lockport Road													A	2.3	A	2.2
Overall LOS													A	7.3	A	8.9
Volume-to-Capacity (v/c) Ratio													0.46		0.53	
7. Lockport Road/Tuscarora Road (South) (U)																
WB - Lockport Road	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0				
NB - Tuscarora Road	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	N/A	N/A		
8. Lockport Road/Walmore Road (North) (S)																
EB left - Lockport Road	A	4.0	A	4.1	A	4.0	A	4.1	A	4.6	A	4.7				
EB thru - Lockport Road	A	4.4	A	5.3	A	4.5	A	5.4	A	4.6	A	8.6				
WB thru - Lockport Road	A	6.1	A	5.0	A	5.7	A	5.2	A	9.3	A	7.6				
WB right - Lockport Road	A	2.0	A	1.8	A	3.0	A	1.8	A	2.4	A	1.8	N/A	N/A		
SB left - Walmore Road	B	15.3	B	13.1	B	15.3	B	13.2	B	15.3	B	13.2				
SB right - Walmore Road	A	7.5	A	5.8	A	7.4	A	5.8	A	7.4	A	5.8				
Overall LOS	A	5.8	A	5.5	A	5.6	A	5.6	A	7.7	A	7.8				
Volume-to-Capacity (v/c) Ratio	0.36		0.31		0.28		0.33		0.64		0.62					
9. Lockport Road/Walmore Road (South) (S)																
EB - Lockport Road	A	3.8	A	6.9	A	4.2	A	7.2	A	8.0	B	11.8	B	13.7	B	12.4
WB left - Lockport Road	A	7.1	A	4.9	A	7.2	A	5.0	A	8.8	A	8.5	B	10.1	B	14.0
WB thru - Lockport Road	A	7.7	A	4.5	A	7.9	A	4.6	B	10.8	A	5.7	B	12.2	A	8.0
NB left - Walmore Road	B	15.7	C	28.2	B	15.7	C	28.3	C	23.8	E	70.4	B	18.7	C	33.3
NB right - Walmore Road	A	4.2	A	7.5	A	4.1	A	7.5	A	3.6	A	6.8	A	3.0	A	5.3
Overall LOS	A	8.1	A	9.5	A	8.2	A	9.0	B	14.3	C	24.5	B	14.1	B	16.4
Volume-to-Capacity (v/c) Ratio	0.49		0.52		0.49		0.52		0.79		0.99		0.74		0.80	
10. Niagara Road/Niagara Falls Blvd/Walmore Road/Cayuga Drive (S)																
EB left - Niagara Falls Blvd	E	67.2	F	163.0	E	67.6	F	167.7	E	70.3	F	175.1				
EB thru/right - Niagara Falls Blvd	B	19.4	C	24.9	B	19.6	C	25.1	C	20.7	C	25.9				
WB left - Niagara Falls Blvd	E	55.2	E	65.8	E	55.4	E	66.3	E	56.8	E	67.3				
WB thru/right - Niagara Falls Blvd	C	23.7	C	27.3	C	23.9	C	27.6	C	28.9	C	32.0				
NB - Walmore Road	D	54.2	D	42.5	D	54.3	D	42.4	D	52.9	D	42.8				
SB left/thru - Walmore Road	E	59.9	E	62.9	E	60.3	E	62.9	E	62.7	E	63.9				
SB right - Walmore Road	A	5.7	B	14.2	A	5.8	B	14.4	A	5.8	B	14.4	N/A	N/A		
NEB - Cayuga Drive	E	63.0	E	65.2	E	63.5	E	65.6	E	69.6	E	69.7				
SWB right - Niagara Road	D	39.3	D	42.2	D	39.7	D	42.3	D	39.8	D	41.7				
SWB thru/left - Niagara Road	A	1.9	A	8.2	A	2.0	A	8.4	A	1.9	A	8.1				
Overall LOS	C	34.7	D	45.6	C	34.9	D	46.2	D	37.2	D	47.6				
Volume-to-Capacity (v/c) Ratio	0.79		1.16		0.79		1.17		0.85		1.19					

TABLE VII: CAPACITY ANALYSIS RESULTS

INTERSECTION	2021 EXISTING CONDITIONS		2024 BACKGROUND CONDITIONS		2024 FULL BUILD CONDITIONS		2024 FULL BUILD CONDITIONS W/ MITIGATION	
	AM	PM	AM	PM	AM	PM	AM	PM
11. Military Road/Lockport Road (S)								
EB left - Lockport Road	B 11.2	B 15.5	B 11.2	B 15.7	B 11.2	B 15.8		
EB thru/right - Lockport Road	A 7.4	A 8.5	A 7.2	A 8.5	A 9.2	B 11.1		
WB left - Lockport Road	B 11.7	B 15.9	B 11.8	B 16.2	B 11.9	B 16.5		
WB thru/right - Lockport Road	A 7.6	A 9.8	A 7.6	A 9.9	A 7.5	B 11.3		
SEB left - Military Road	A 8.4	A 7.7	A 8.5	A 7.7	A 8.6	A 8.6	N/A	N/A
SEB thru/right - Military Road	A 7.5	A 7.5	A 7.6	A 7.5	A 7.6	A 8.5		
NWB left - Military Road	A 8.8	A 9.2	A 8.9	A 9.3	A 8.9	B 10.2		
NWB thru/right - Military Road	A 7.0	A 8.0	A 6.9	A 8.0	A 6.9	A 9.3		
Overall LOS	A 7.8	A 8.4	A 7.8	A 8.5	A 8.1	A 9.8		
Volume-to-Capacity (v/c) Ratio	0.13	0.32	0.14	0.33	0.18	0.41		
12. Lockport Road/Proposed Driveway #2 (U)								
WB - Lockport Road					A 1.6	A 1.3	N/A	N/A
WB left - Lockport Road	N/A	N/A	N/A	N/A	N/A	N/A	A 8.3	A 8.5
NB left - Proposed Driveway #2					C 17.6	C 20.8	C 17.4	C 21.5
NB right - Proposed Driveway #2					B 10.7	B 12.2	B 10.6	B 12.2
13. Lockport Road/Proposed Driveway #3 (U)								
WB - Lockport Road					A 4.4	A 4.4		
NB left - Proposed Driveway #2	N/A	N/A	N/A	N/A	D 29.3	E 41.4	N/A	N/A
NB right - Proposed Driveway #2					B 10.6	B 14.9		
13. Lockport Road/Proposed Driveway #3 (S)								
EB - Lockport Road							A 6.7	A 7.7
WB left - Lockport Road							A 8.7	A 10.0
WB thru - Lockport Road							A 7.3	A 7.0
NB left - Proposed Driveway #3	N/A	N/A	N/A	N/A	N/A	N/A	B 12.0	B 16.1
NB right - Proposed Driveway #3							A 8.3	A 6.8
Overall LOS							A 7.3	A 7.8
Volume-to-Capacity (v/c) Ratio							0.51	0.57
14. Lockport Road/Tuscarora Road (South) (U)								
WB - Lockport Road	N/A	N/A	N/A	N/A	A 0.0	A 0.0	N/A	N/A
NB - Tuscarora Road					A 0.0	A 0.0		

Notes:

1. A (0.0) = Level of Service (Delay in seconds per vehicle)
2. EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound, NW = Northwest, SE = Southeast
3. (S) = Signalized; (U) = Unsignalized
4. N/A = Approach does not exist and/or was not analyzed during this condition
5. Green shaded cells indicate low delays, yellow shaded cells indicate moderate delays, red shaded cells indicate long delays.
6. The v/c ratio, also referred to as degree of saturation, represents the sufficiency of an intersection to accommodate the vehicular demand. A v/c ratio less than 0.85 generally indicates that adequate capacity is available and vehicles are not expected to experience significant queues and delays. A v/c ratio between 0.85 and 0.95 generally indicates an intersection is nearing capacity. Intersections with a v/c ratio of 1.0 or greater generally indicate conditions at or above capacity.

The peak hour capacity analysis results indicate that in general, the approaches at the study intersections will operate similarly to projected 2024 Background Conditions. Intersection numbers 1, 2, 5, 7, and 8 experience no changes in levels of service therefore detailed discussion is not provided. The remaining intersections are discussed in detail below.

Intersection #3: Packard Road/Porter Road/Vacant Store Driveway

All approaches are projected to operate at an acceptable LOS “D” or better during both peak hours under all conditions. The southbound thru/right turn movement is project to change from LOS “C” to LOS “D” during the AM peak hour. This is consistent with PM peak hour operating conditions and is considered a borderline condition as the threshold between LOS “C” and “D” is 35.0 seconds per vehicle and the actual increase in delay projected is 2.2 seconds per vehicle. It is noted that LOS “D”, which has a defined delay ranging from 35 to 55 seconds per vehicle, remains an acceptable operating condition. No mitigation is warranted or recommended at this intersection.

Intersection #4: Military Road/Packard Road

All approaches are projected to operate at LOS “D” or better during both peak hours under all conditions. The eastbound thru movement is projected to change from LOS “C” to “D” during the AM peak hour. It is noted that the background LOS “C” is 0.5 seconds below the threshold between LOS “C” and “D” and the actual increase in delay is 5.4 seconds per vehicle. No mitigation is warranted or recommended as a result of the proposed development.

Intersection #6: Packard Road/Lockport Road/Proposed Driveway #1

The southeastbound approach LOS decreases from a LOS “C” to “D” and “F” during the AM and PM peak hours, respectively. Also, the northwestbound approach at the proposed driveway operates at a LOS “F”. A signal warrant investigation was performed at this location, and it was determined that a signal is warranted. As a result of a signal being installed at this location the significant delays at this intersection can be mitigated. The southeast approach along Lockport Road should be widened to provide a left turn lane. Also, the northeast and southwest approaches along both Packard and Lockport Roads should be widened to provide separate left and right turn lanes. As a result of these mitigating measures, the signalized intersection will operate at a LOS “B” or better for all approaches. Further discussion about the signal warrants can be found in Section X.

Intersection #9: Lockport Road/Walmore Road (South)

The northbound left turn movement changes from LOS “B”(“C”) to “C”(“E”) between background and full build conditions during the AM(PM) peak hours, respectively. These decreases in LOS can be mitigated by increasing the northbound green time by two seconds and reducing the east/westbound green time by two seconds during the AM peak; and by increasing the northbound green time by five seconds and reducing the east/westbound green time by five seconds during the PM peak. As a result of these signal timing changes, the northbound left turn movement returns to operating at LOS “B”(“C”) during the AM(PM) peak hours. The eastbound and westbound approaches operate at LOS “B” or better during both peaks.

Intersection #10: Niagara Road/Niagara Falls Blvd/Walmore Road/Cayuga Drive

The eastbound thru/right turn movement changes from LOS “B” to “C” during the AM peak hour between background and full build conditions. This is considered a borderline condition as the threshold between LOS “B” and “C” is 20.0 seconds per vehicle and the actual increase in delay

projected is 1.1 seconds per vehicle. No other changes in levels of service are anticipated and no mitigation is warranted or recommended.

Intersection #11: Military Road/Lockport Road

The eastbound thru/right, westbound thru/right, and northwestbound right turn movement is projected to change from LOS "A" to "B" during the PM peak hour between background and full build conditions. Delays increase less than 2.6 seconds per vehicle. No mitigation is warranted or recommended at this intersection.

Intersection #12: Lockport Road/Driveway #2

Proposed Driveway #2 along Lockport Road is projected to operate at LOS "C" or better. A left turn treatment warrant investigation was performed at this location, and it was determined that a left turn treatment is warranted. There is no change in LOS as a result of the installation of a left turn lane. Further discussion about the left turn lane warrant can be found in Section IX.

Intersection #13: Lockport Road/Driveway #3

Proposed Driveway #3 along Lockport Road is projected to operate at LOS "E" or better. A signal warrant investigation was performed at this location, and it was determined that a signal is warranted. Also, a westbound left turn lane should be installed at this intersection. As a result of these mitigating measures, all approaches at this signalized intersection will operate at a LOS "B" or better. Further discussion about the signal warrant can be found in Section X.

Intersection #14: Tuscarora Road/Driveway #4

Proposed Driveway #4 will only be used for truck egress during times of very high demand. The analysis shows no traffic exiting this driveway as the analysis evaluates typically day to day conditions.

IX. LEFT-TURN TREATMENT WARRANT INVESTIGATION

Volume warrants for a left-turn treatment along Lockport Road at Proposed Driveway #2 was investigated using the Transportation Board's [NCHRP Report 279, Intersection Channelization Design Guide, 1985](#). Provisions for left-turn lane facilities should be established where traffic volumes are high enough and safety considerations are enough to warrant the additional lane. This investigation analyzes warrants during the weekday AM and PM peak hours under full development conditions.

The combination of projected traffic volumes approaching the driveway (shown in Figure 8) indicate warrants for left-turn treatment are met during the weekday AM and PM peak hours at Proposed Driveway #2. Therefore, installation of a left turn lane is warranted and recommended at the Lockport Road/Proposed Driveway #2 intersection.

X. SIGNAL WARRANT ANALYSIS

A traffic signal warrant analysis was completed at the Packard Road/Lockport Road/Proposed Driveway #1 and Lockport Road/Proposed Driveway #3 intersections during existing and full build conditions as part of this report. The need for a traffic signal is determined by comprehensive investigation of existing and projected traffic conditions and physical characteristics at the location. The [Standard Specifications Update for the adoption of the National MUTCD \(FHWA\)](#) and the [New York](#)

State Supplement were reviewed to investigate the need for a traffic control signal at this location under full build conditions. There are nine (9) warrants and they are as follows:

Warrant 1	Eight-Hour vehicular volume
Warrant 2	Four-Hour vehicular volume
Warrant 3	Peak Hour
Warrant 4	Pedestrian Volume
Warrant 5	School Crossing
Warrant 6	Coordinated Signal System
Warrant 7	Crash Experience
Warrant 8	Roadway Network
Warrant 9	Intersection Near a Grade Crossing

Detailed signal warrant calculations are attached. Prior to applying warrants, the MUTCD suggests consideration of the effects of right-turn volumes on the minor street approach, and a reduction taken in the number of right turning vehicles, where appropriate. A certain number of right-turn vehicles will execute a right-turn on the red indication without actuating a traffic signal (if one were in place). For purposes of being conservative, it is assumed that 0% of the minor street right-turning vehicles exiting the existing intersections will execute a right-turn on red maneuver. The posted speed limit on Lockport Road at the proposed intersections is 45 MPH, therefore, 70 percent thresholds in Table 4C-1, Figure 4C-2 and Figure 4C-4 are used as a basis for analysis.

Packard Road/Lockport Road/Proposed Driveway #1

Warrant 1 is subdivided into Condition A and Condition B. The Minimum Vehicular Volume, 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. The Interruption of Continuous Traffic, Condition B, is intended for application at locations where Condition A is not satisfied and where the traffic volume on a major street is so heavy that traffic on a minor intersecting street suffers excessive delay or conflict in entering or crossing the major street. These conditions are satisfied when, for each of any eight hours of an average day, anticipated volumes on the artery and side road exceed the minimum values presented in Tables 4C-1 in the MUTCD. **Condition A is not met under full build conditions. Condition B is not met under full build conditions.**

Warrant 2, the Four-Hour Vehicular Volume 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. This warrant stipulates that for any four hours of a day, minimum threshold volumes are met on the artery and side road. **This warrant is not met under full development conditions.**

Warrant 3 is intended for application where minor street traffic suffers undue delay in entering or crossing the major street for one hour of the day. It stipulates that the warrant shall be applied in unusual cases (high-occupancy vehicle facilities – i.e., shopping centers) where a large number of vehicles discharge over a short period of time. Based on the development, this warrant may be applicable. **This warrant is met under full build conditions.**

Warrant 4 is met when pedestrians experience excessive delay in crossing the major street (Lockport Road) because the traffic volumes are so heavy. The intersection currently has low pedestrian activity. **This warrant is not met.**

Warrant 5 is met when a sufficient number of gaps in traffic do not exist for certain size and frequency of school children to cross the major roadway. **Based on the future site conditions, this warrant is not applicable at this location and is not met.**

Warrant 6 is met when a traffic signal is needed to maintain progressive movement and vehicle platooning in a coordinated signal system. **Based on the current signal system along Lockport Road, this warrant is not met.**

Warrant 7 is 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 traffic control signal shall be considered if *all* of the following criteria are met:

- a. Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce crash frequency. **Condition A is not satisfied.**
- b. Five (5) or more reported crashes, of types susceptible to correction by a traffic signal, to have occurred within a 12-month period, each crash involving a personal injury or property damage. Four (4) crashes were documented in the crash analysis over a 36-month period. **Condition B is not satisfied.**

Given that both Conditions A and B are not satisfied, this warrant is not satisfied.

Warrant 8 is met when a traffic signal might encourage concentration and organization of traffic flow on a roadway network. This warrant primarily focuses on two major intersecting roadways, which is not the case at the study intersection. **Therefore, this warrant is not met.**

Warrant 9 is applicable when an intersection is located near an at-grade rail crossing. **This warrant is not applicable at this location.**

Lockport Road/Proposed Driveway #3

Warrant 1 is subdivided into Condition A and Condition B. The Minimum Vehicular Volume, 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. The Interruption of Continuous Traffic, Condition B, is intended for application at locations where Condition A is not satisfied and where the traffic volume on a major street is so heavy that traffic on a minor intersecting street suffers excessive delay or conflict in entering or crossing the major street. These conditions are satisfied when, for each of any eight hours of an average day, anticipated volumes on the artery and side road exceed the minimum values presented in Tables 4C-1 in the MUTCD. **Condition A is not met under full build conditions. Condition B is not met under full build conditions.**

Warrant 2, the Four-Hour Vehicular Volume 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. This warrant stipulates that for any four hours of a day, minimum threshold volumes are met on the artery and side road. **This warrant is not met under full development conditions.**

Warrant 3 is intended for application where minor street traffic suffers undue delay in entering or crossing the major street for one hour of the day. It stipulates that the warrant shall be applied in

unusual cases (high-occupancy vehicle facilities – i.e., shopping centers) where a large number of vehicles discharge over a short period of time. Based on the development, this warrant may be applicable. **This warrant is met under full build conditions.**

Warrant 4 is met when pedestrians experience excessive delay in crossing the major street (Lockport Road) because the traffic volumes are so heavy. The intersection currently has low pedestrian activity. **This warrant is not met.**

Warrant 5 is met when a sufficient number of gaps in traffic do not exist for certain size and frequency of school children to cross the major roadway. **Based on the future conditions, this warrant is not applicable at this location and is not met.**

Warrant 6 is met when a traffic signal is needed to maintain progressive movement and vehicle platooning in a coordinated signal system. **Based on the current signal system along Lockport Rd, this warrant is not met.**

Warrant 7 is 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 traffic control signal shall be considered if *all* of the following criteria are met:

- a. Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce crash frequency. **Condition A is not satisfied.**
- b. Five (5) or more reported crashes, of types susceptible to correction by a traffic signal, to have occurred within a 12-month period, each crash involving a personal injury or property damage. Four (4) crashes were documented in the crash analysis over a 36-month period. **Condition B is not satisfied.**

Given that both Conditions A and B are not satisfied, this warrant is not satisfied.

Warrant 8 is met when a traffic signal might encourage concentration and organization of traffic flow on a roadway network. This warrant primarily focuses on two major intersecting roadways, which is not the case at the study intersection. **Therefore, this warrant is not met.**

Warrant 9 is applicable when an intersection is located near an at-grade rail crossing. **This warrant is not applicable at this location.**

TABLE VIII: TRAFFIC SIGNAL WARRANT SUMMARY

WARRANT	SATISFACTION OF WARRANTS	SATISFACTION OF WARRANTS
	AT PACKARD RD/LOCKPORT RD/PROPOSED DRIVEWAY #1	AT LOCKPORT RD/PROPOSED DRIVEWAY #3
1A – Eight-Hour Condition A	NOT SATISFIED	NOT SATISFIED
1B – Eight-Hour Condition B	NOT SATISFIED	NOT SATISFIED
2 – Four-Hour	NOT SATISFIED	NOT SATISFIED
3 – Peak-Hour	SATISFIED	SATISFIED
4 – Pedestrian Volume	N/A	N/A
5 – School Crossing	N/A	N/A
6 – Coordinated Signal System	N/A	N/A
7 – Crash Experience	NOT SATISFIED	NOT SATISFIED
8 – Roadway Network	N/A	N/A
9 – Intersection Near a Grade Crossing	N/A	N/A

Table VIII summarizes each warrant and the result of the investigation. Based on the expected delays under full development conditions and the results of the Traffic Signal Warrant Analysis, a three-colored traffic signal is recommended for both intersections prior to full build out of the development.

XI. CONCLUSIONS & RECOMMENDATIONS

This Traffic Impact Study identifies and evaluates the potential traffic impacts resulting from full build-out of the proposed Project Fifi Distribution Facility Project. Based upon the comprehensive traffic analysis contained in this report, it is our firm's professional opinion that the results indicate that the proposed Project Fifi Distribution Facility Project will be reasonably accommodated by the existing roadway network with the project mitigations below being in place. The following sets forth our firm's conclusions and mitigation recommendations based upon the results of the comprehensive traffic analyses that have been conducted:

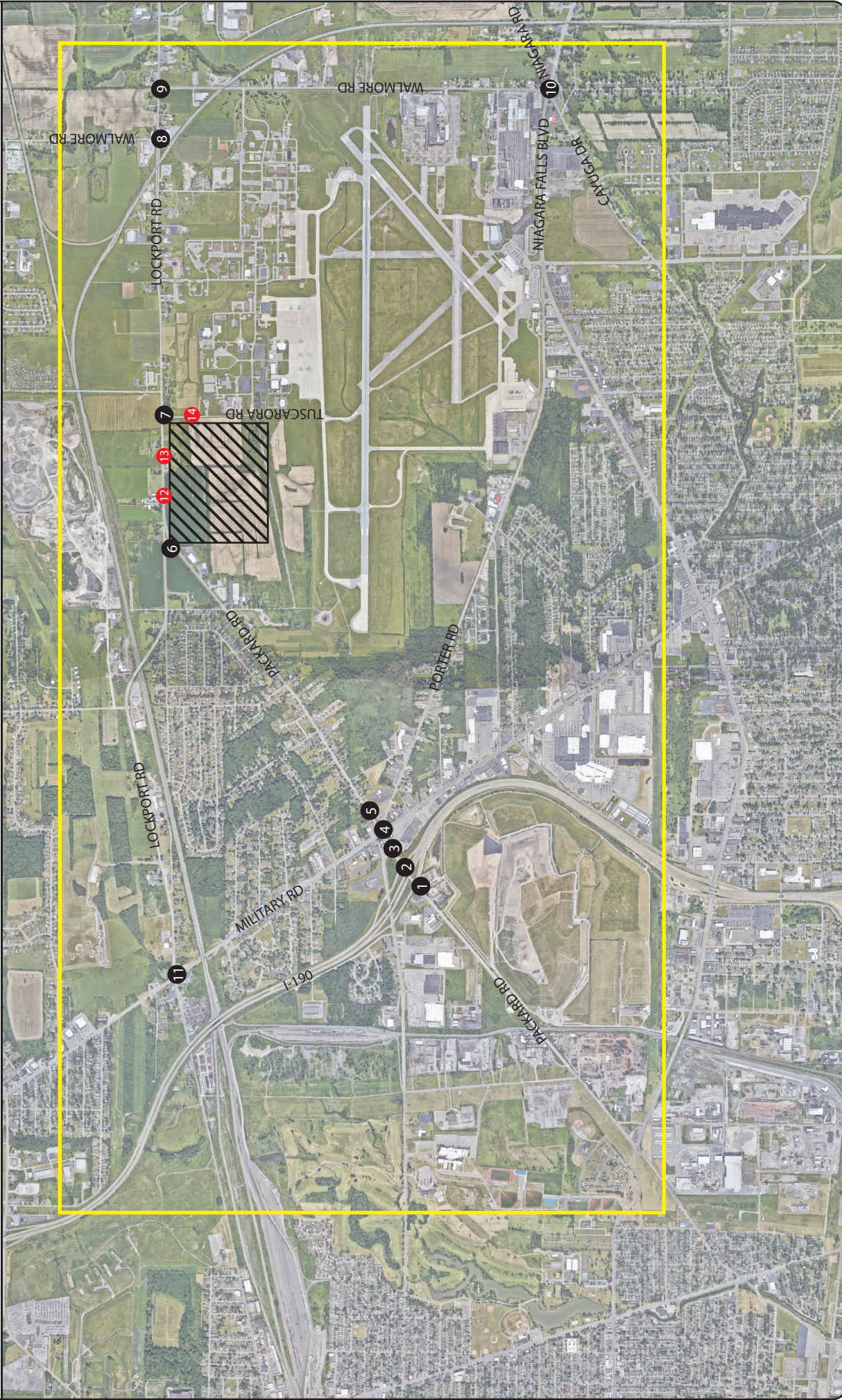
1. The proposed distribution facility is expected to generate approximately 510 (831) new trips during the AM (PM) study peak hours (6:30-7:30 AM and 5:30-6:30 PM) respectively inclusive of both passenger vehicles and trucks.
2. During the time periods of 7:00-8:00 AM and 5:00-6:00 PM (the time periods that encompass the peak hours of the adjacent streets), the site generates significantly lower volumes of traffic on the order of 350(415) vph respectively. Therefore, the combination of the site peak traffic and the intersection traffic volumes during the peak hours of the site represent the most critical time period for evaluation.
3. The majority of truck traffic will travel directly to and from the Interstate 190 expressway.

4. The combination of projected traffic volumes approaching Proposed Driveway #2 (shown in Figure 8) indicate the warrant for a left-turn treatment is met during the weekday AM and PM peak hours. Therefore, left turn treatments is warranted and recommended at this site driveway intersection.
5. The combination of projected traffic volumes approaching Proposed Driveway #1 and #3 (shown in Figure 8) indicate the warrant for signal treatments are met. Therefore, a signal treatment is warranted and recommended at these site driveway intersections.
6. Signal timings at the Lockport Road/Walmore Road (South) intersections should be adjusted such that the northbound green time is increased by two seconds and the east/westbound green time is reduced by two seconds during the AM peak and the northbound green time is increased by five seconds and the east/westbound green time is reduced by five seconds during the PM peak to accommodate the additional northbound traffic.
7. The following project improvements are recommended and, if approved by review agencies, shall be constructed by the project sponsor:
 - Install a ± 350 ft long westbound left turn lane with a ± 75 ft taper on Lockport Road at Proposed Driveways #2 and #3;
 - Install a ± 350 ft long southwestbound right and left turn lane with a ± 75 ft taper on Lockport Road at Proposed Driveway #1;
 - Install a ± 350 ft long northeastbound right and left turn lane with a ± 75 ft taper on Lockport Road at Proposed Driveway #1; and
 - Install a ± 350 ft long southeastbound left turn lane with a ± 75 ft taper on Lockport Road at Proposed Driveway #1.
8. Proposed Driveways #1, #2, and #3 should be designed to provide one entering lane and two exiting lanes. Traffic exiting the site at Proposed Driveway #2 shall be stop controlled and Proposed Driveways #1 and #3 shall have a signal installed.
9. The project sponsor should have discussions with NFTA to provide transit service on-site.
10. No potential significant adverse traffic impacts are anticipated as a result of the proposed Project Fifi Distribution Facility with the recommended project highway improvements/mitigation in place.

XII. FIGURES

Figures 1 through 8 are included on the following pages.

FIGURE 1: SITE LOCATION AND STUDY AREA



Key

- # Study Intersection
- ⊕ Proposed Intersection
- ▨ Site Location
- Study Area

PROJECT FIFI

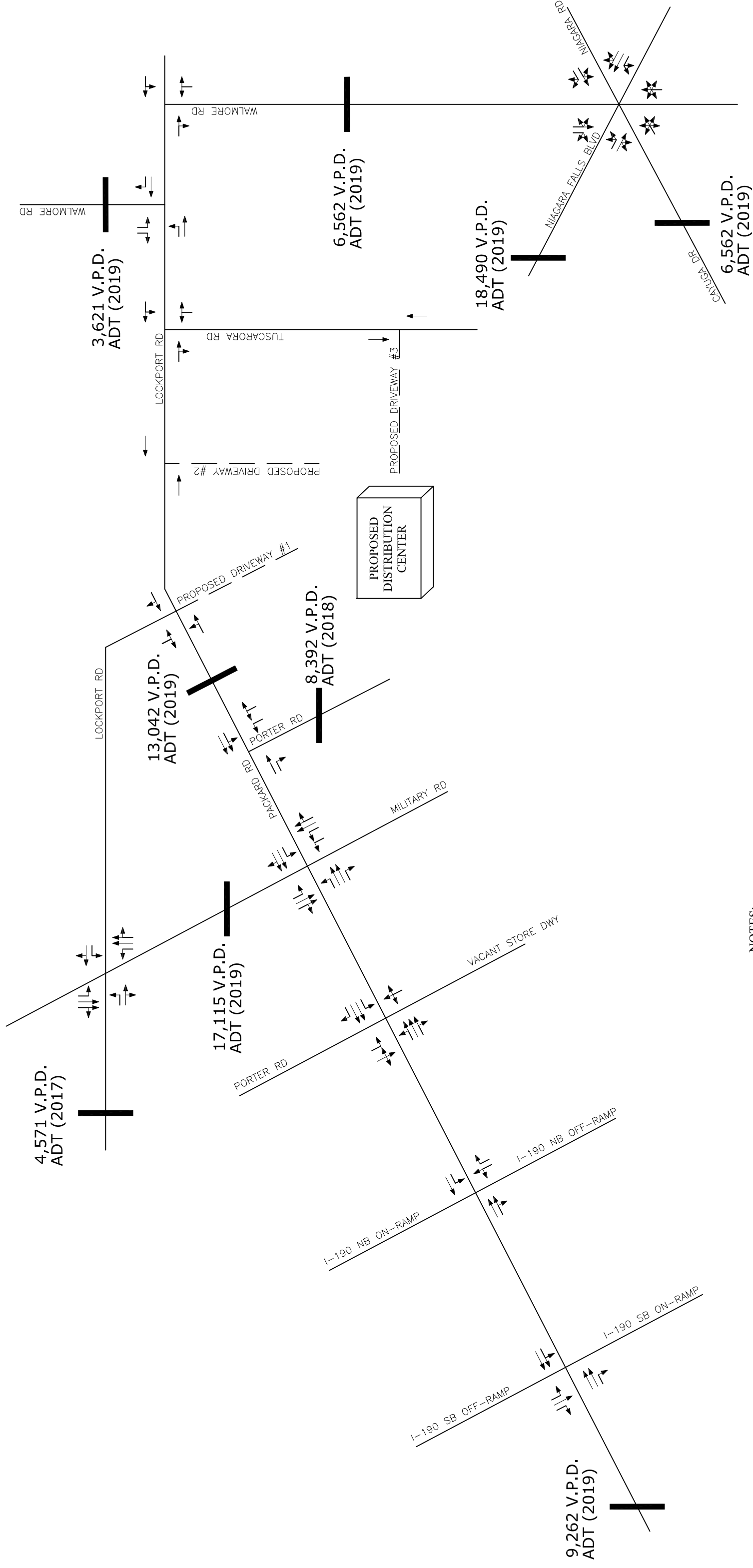
TOWN OF NIAGARA, NIAGARA COUNTY, NEW YORK



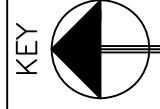
Project No: 41095



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NOTES:
 All counts by the NYS Department of Transportation
 V.P.D. = Vehicles per Day



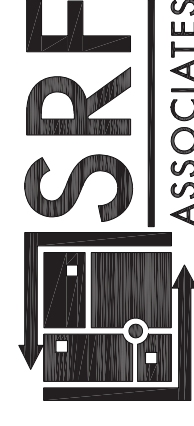
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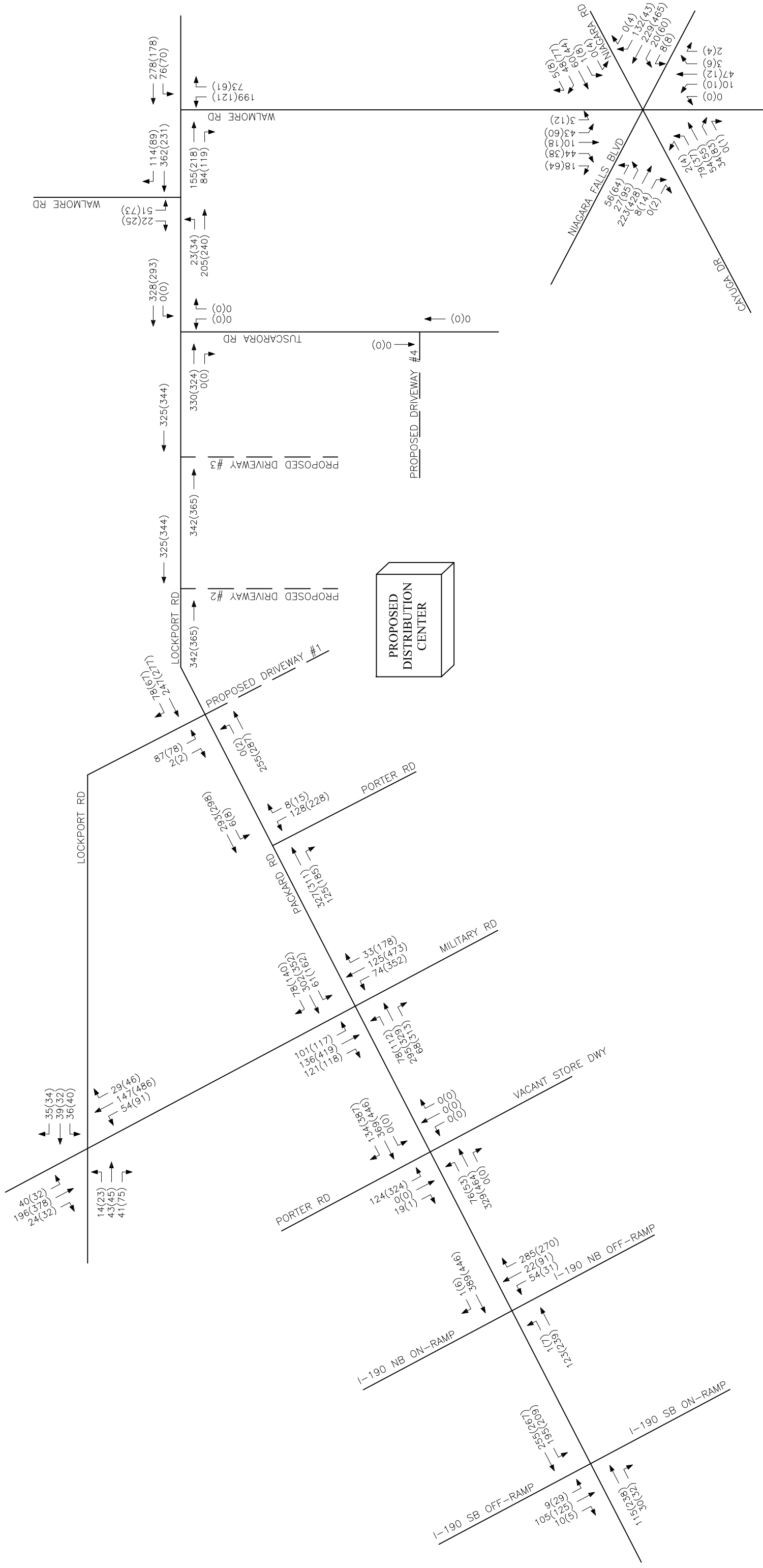
FIGURE 2

EXISTING LANE GEOMETRY
 AVERAGE DAILY TRAFFIC

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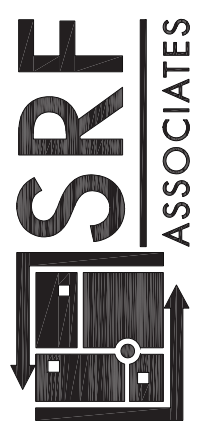
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00(00) = AM(PM)

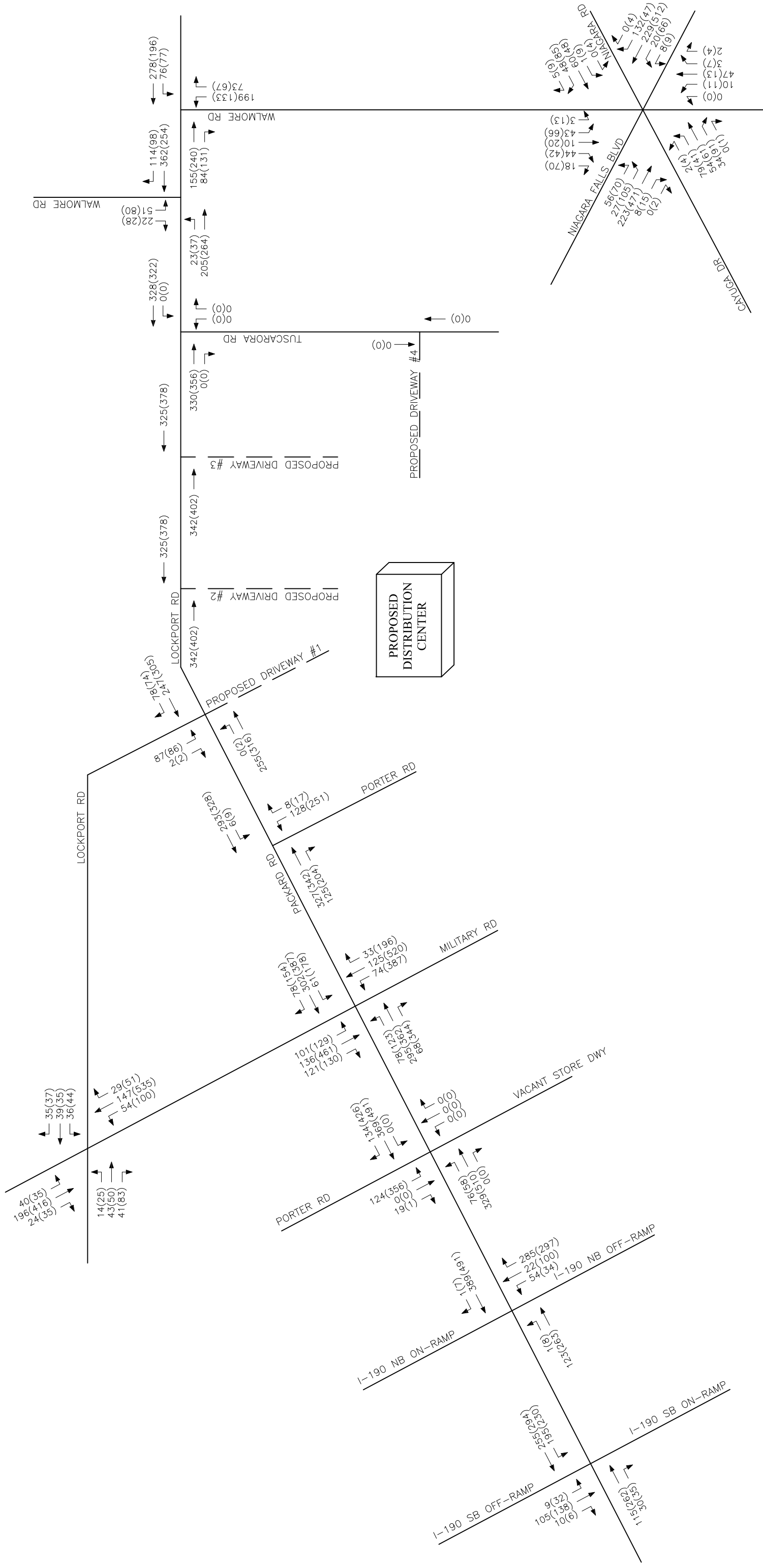
FIGURE 3A

**PEAK HOUR VOLUMES
2021 EXISTING BASE CONDITIONS**

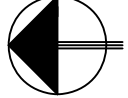
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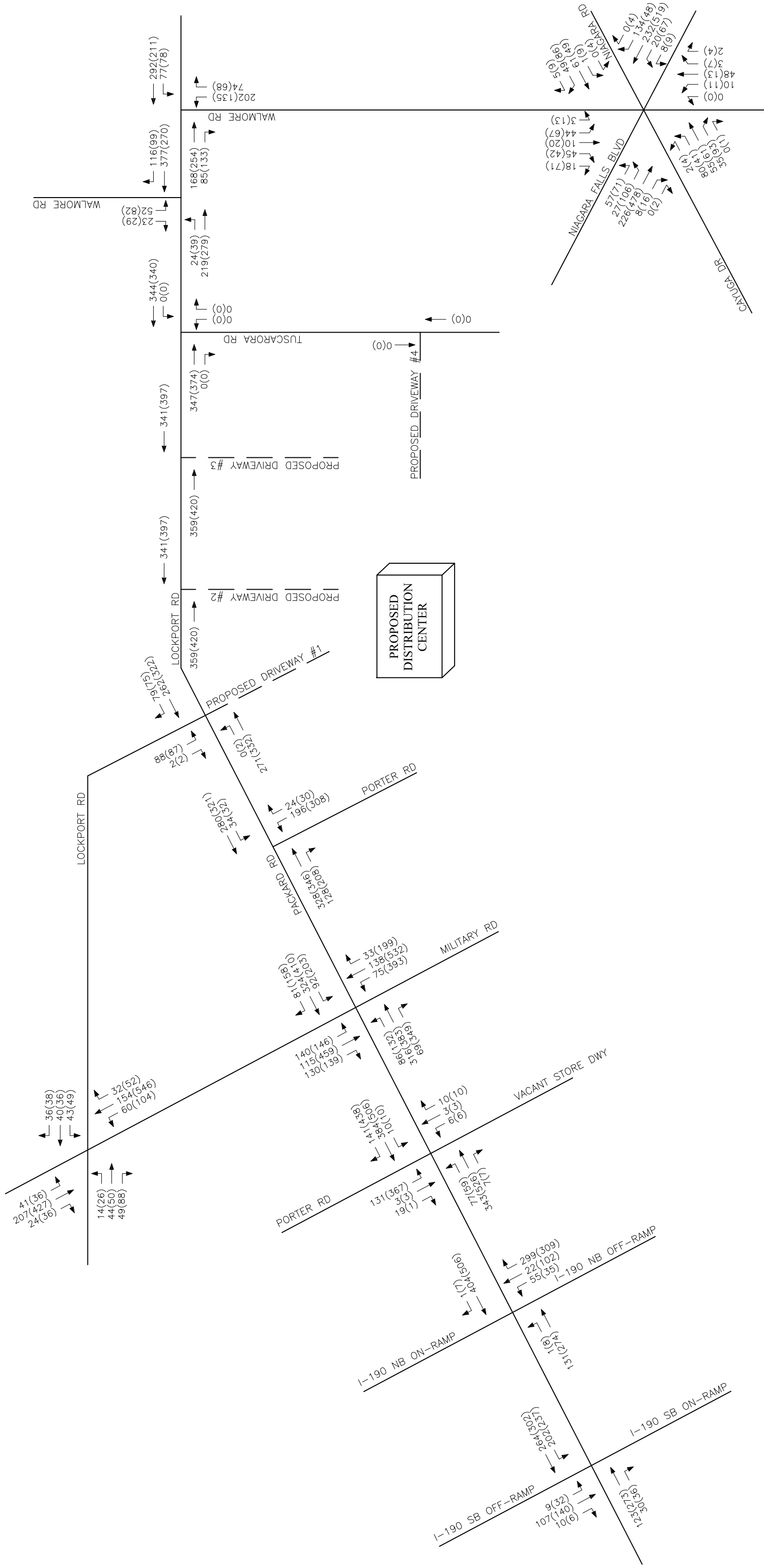
FIGURE 3B

PEAK HOUR VOLUMES
2021 ADJUSTED BASE CONDITIONS

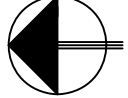
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FIGURE 4

**PEAK HOUR VOLUMES
2024 BACKGROUND CONDITIONS**

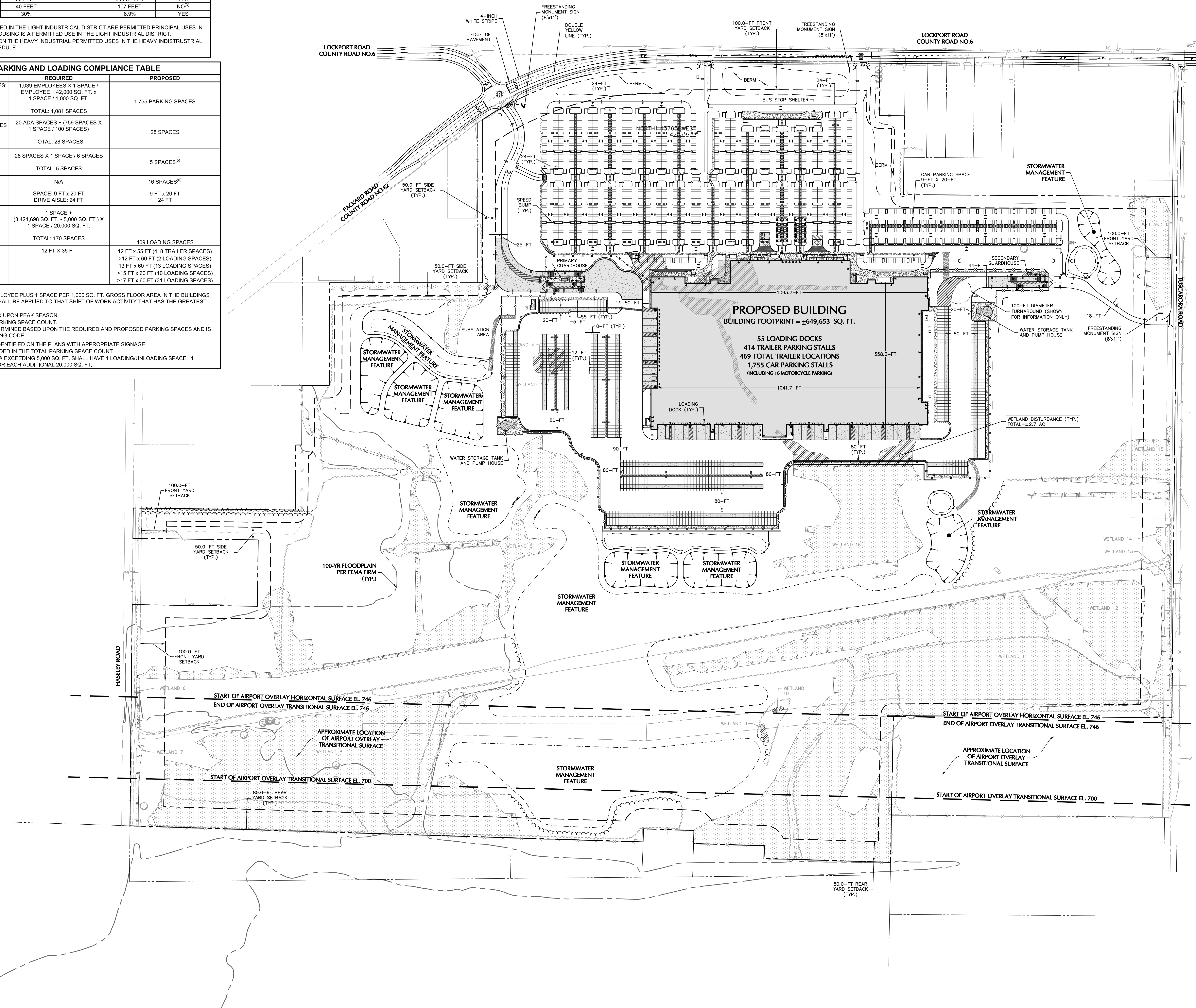
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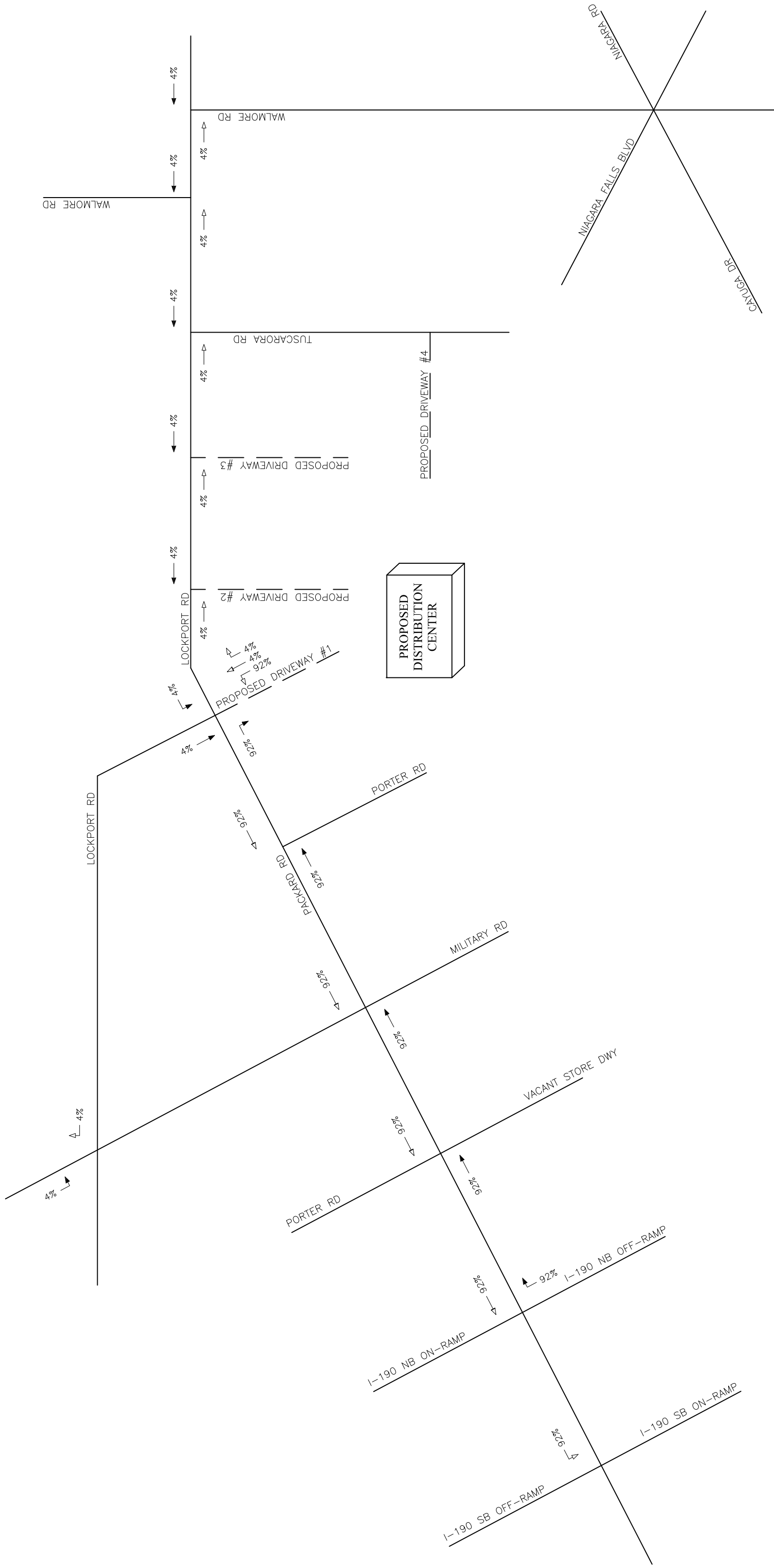
ZONING COMPLIANCE TABLE				
ZONING DISTRICT:	HI - HEAVY INDUSTRY			
TAX MAP (S):	132.18-1-2, 146.05-1-1, 146.06-1-1, 146.06-1-2			
PROPOSED USE:	WAREHOUSE ⁽¹⁾			
ITEM	REQUIRED/ PERMITTED	EXISTING	PROPOSED	COMPLIES
MINIMUM LOT AREA	1 ACRE	216.27 ACRES	216.27 ACRES	YES
MINIMUM LOT WIDTH	400 FEET	1,609.8 FEET	1,609.8 FEET	YES
PRINCIPAL BUILDING SETBACKS				
MINIMUM FRONT	100 FEET	--	923.3 FEET	YES
MINIMUM SIDE	50 FEET	--	912.0 FEET	YES
MINIMUM REAR	80 FEET	--	849.5 FEET	YES
MAXIMUM BUILDING HEIGHT	40 FEET	--	107 FEET	NO ⁽²⁾
MAXIMUM LOT COVERAGE	30%	--	6.9%	YES
NOTES:				
(1) PER SECTION 245-26, ALL USES PERMITTED IN THE LIGHT INDUSTRIAL DISTRICT ARE PERMITTED PRINCIPAL USES IN THE HEAVY INDUSTRIAL DISTRICT. WAREHOUSING IS A PERMITTED USE IN THE LIGHT INDUSTRIAL DISTRICT.				
(2) ZONING REQUIREMENTS ARE BASED UPON THE HEAVY INDUSTRIAL PERMITTED USES IN THE HEAVY INDUSTRIAL DISTRICT AS PER APPENDIX A ZONING SCHEDULE.				
(3) VARIANCE REQUIRED.				

OFF-STREET PARKING AND LOADING COMPLIANCE TABLE		
REQUIREMENTS	REQUIRED	PROPOSED
OFF-STREET PARKING FOR INDUSTRIAL USES: ^(1, 2, 3)	1,039 EMPLOYEES X 1 SPACE / EMPLOYEE + 42,000 SQ. FT. X 1 SPACE / 1,000 SQ. FT. TOTAL: 1,081 SPACES	1,755 PARKING SPACES
ADA PARKING SPACES: ⁽⁴⁾	20 ADA SPACES + (759 SPACES X 1 SPACE / 100 SPACES) TOTAL: 28 SPACES	28 SPACES
ADA VAN PARKING SPACES: ⁽⁴⁾	28 SPACES X 1 SPACE / 6 SPACES TOTAL: 5 SPACES	5 SPACES ⁽⁵⁾
MOTORCYCLE PARKING	N/A	16 SPACES ⁽⁶⁾
MIN. 90 DEGREE CAR PARKING DIMENSIONS	SPACE: 9 FT X 20 FT DRIVE AISLE: 24 FT	9 FT X 20 FT 24 FT
MIN. LOADING SPACE: ⁽⁷⁾	1 SPACE + (3,421,698 SQ. FT. + 5,000 SQ. FT.) X 1 SPACE / 20,000 SQ. FT. TOTAL: 170 SPACES	469 LOADING SPACES
MIN. LOADING SPACE DIMENSIONS:	12 FT X 35 FT	12 FT X 55 FT (418 TRAILER SPACES) >12 FT X 60 FT (2 LOADING SPACES) >13 FT X 60 FT (13 LOADING SPACES) >15 FT X 60 FT (10 LOADING SPACES) >17 FT X 60 FT (31 LOADING SPACES)
NOTES:		
1. PER SECTION 245-38.D, 1 SPACE PER EMPLOYEE PLUS 1 SPACE PER 1,000 SQ. FT. GROSS FLOOR AREA IN THE BUILDINGS FOR USE BY VISITORS. EMPLOYEE RATIO SHALL BE APPLIED TO THAT SHIFT OF WORK ACTIVITY THAT HAS THE GREATEST NUMBER OF EMPLOYEES.		
2. TOTAL NUMBER OF EMPLOYEES IS BASED UPON PEAK SEASON.		
3. ADA SPACES INCLUDED IN THE TOTAL PARKING SPACE COUNT.		
4. ADA ACCESSIBLE PARKING SPACES DETERMINED BASED UPON THE REQUIRED AND PROPOSED PARKING SPACES AND IS TAKEN FROM THE NEW YORK STATE BUILDING CODE.		
5. THE VAN ACCESSIBLE SPACES WILL BE IDENTIFIED ON THE PLANS WITH APPROPRIATE SIGNAGE.		
6. MOTORCYCLE PARKING SPACES ARE INCLUDED IN THE TOTAL PARKING SPACE COUNT.		
7. PER SECTION 245-39, GROSS FLOOR AREA EXCEEDING 5,000 SQ. FT. SHALL HAVE 1 LOADING/UNLOADING SPACE. 1 ADDITIONAL SPACE SHALL BE PROVIDED FOR EACH ADDITIONAL 20,000 SQ. FT.		

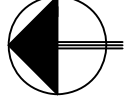


Date	Description	No.
Revisions		
150 0 75 150 SCALE IN FEET		
<small>WARNING: IT IS A VIOLATION OF THE NYS EDUCATION LAW ARTICLE 44 FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS PLAN IN ANY WAY.</small>		
Signature	MICHAEL FINAN, PE, LEED-AP PROFESSIONAL ENGINEER NY Lic. No. 081473	Date
 Langan Engineering, Environmental, Surveying, Landscape Architecture, and Geology, D.P.C. One North Broadway, Suite 910 White Plains, NY 10601 T: 914.323.7400 F: 914.323.7401 www.langan.com		
Project		
PROJECT FIFI		
TAX ID. 132.18-1-2, 146.05-1-9, 146.06-1-1, & 146.06-1-2 TOWN OF NIAGARA NIAGARA COUNTY NEW YORK		
Drawing Title		
OVERALL SITE PLAN		
Project No.	Drawing No.	
190071801	CS100	
Date	FEBRUARY 15, 2022	
Drawn By	SS	
Checked By	CZ/MF	
Sheet 4 of 61		

LANGAN Project No. 190071801



KEY

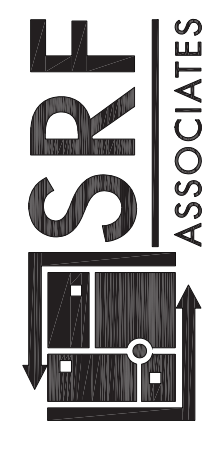


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FIGURE 6A

TRIP DISTRIBUTION - TRAILERS

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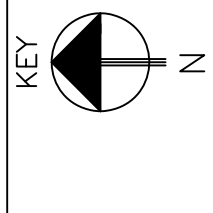
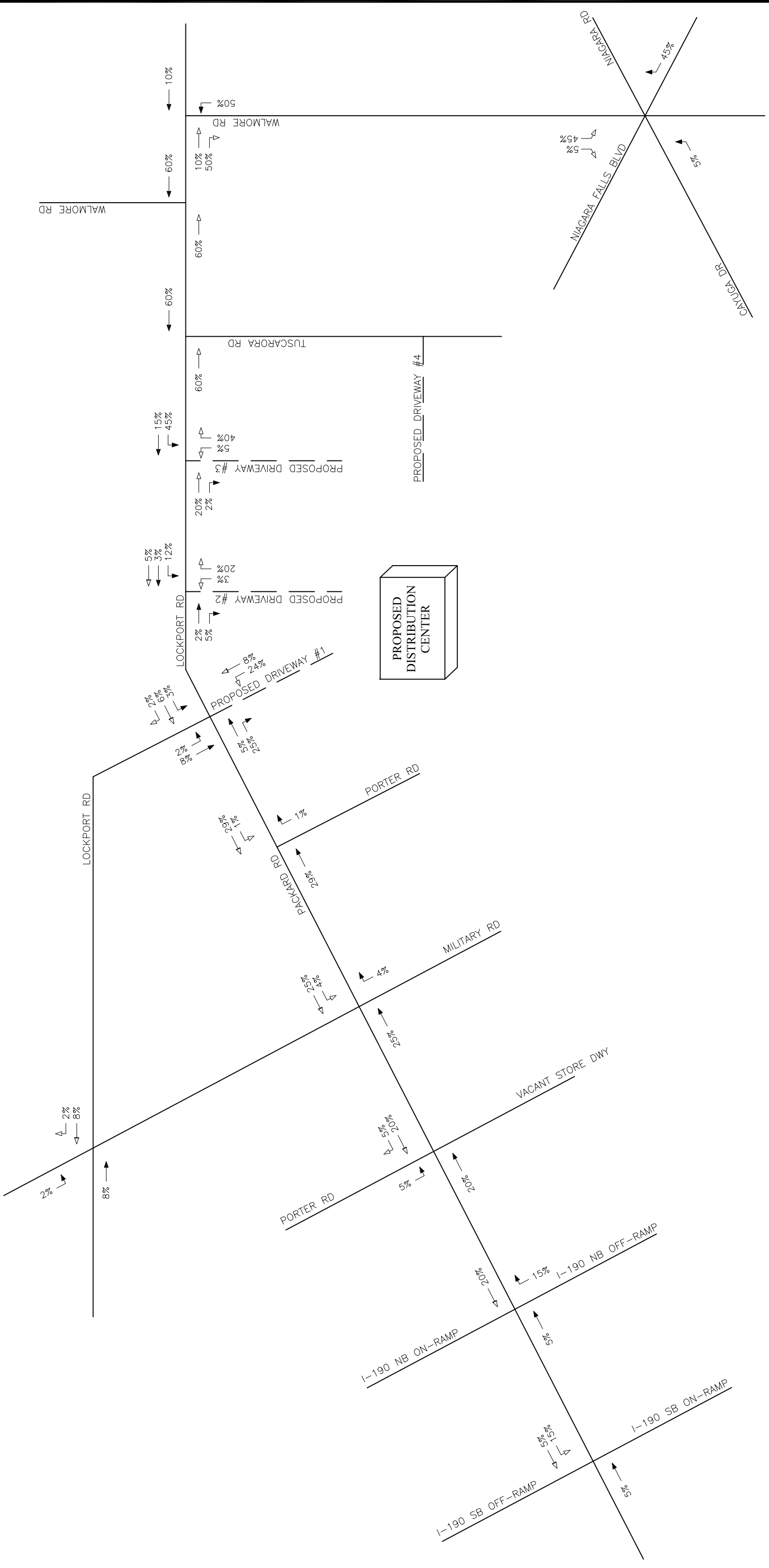
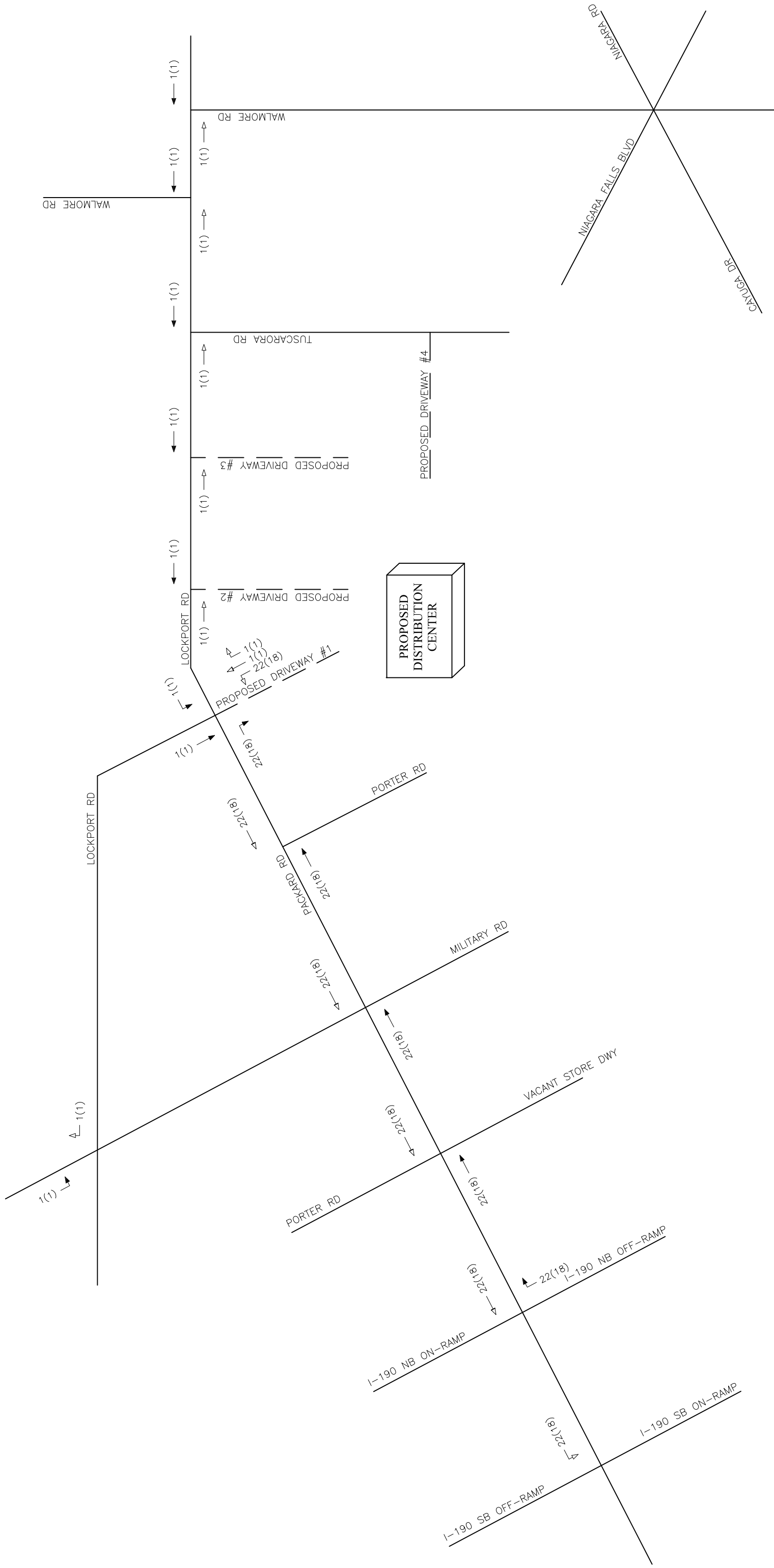


FIGURE 6B

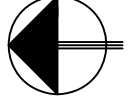
TRIP DISTRIBUTION - AUTOS

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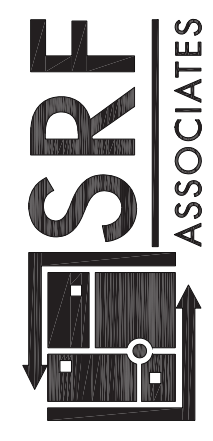


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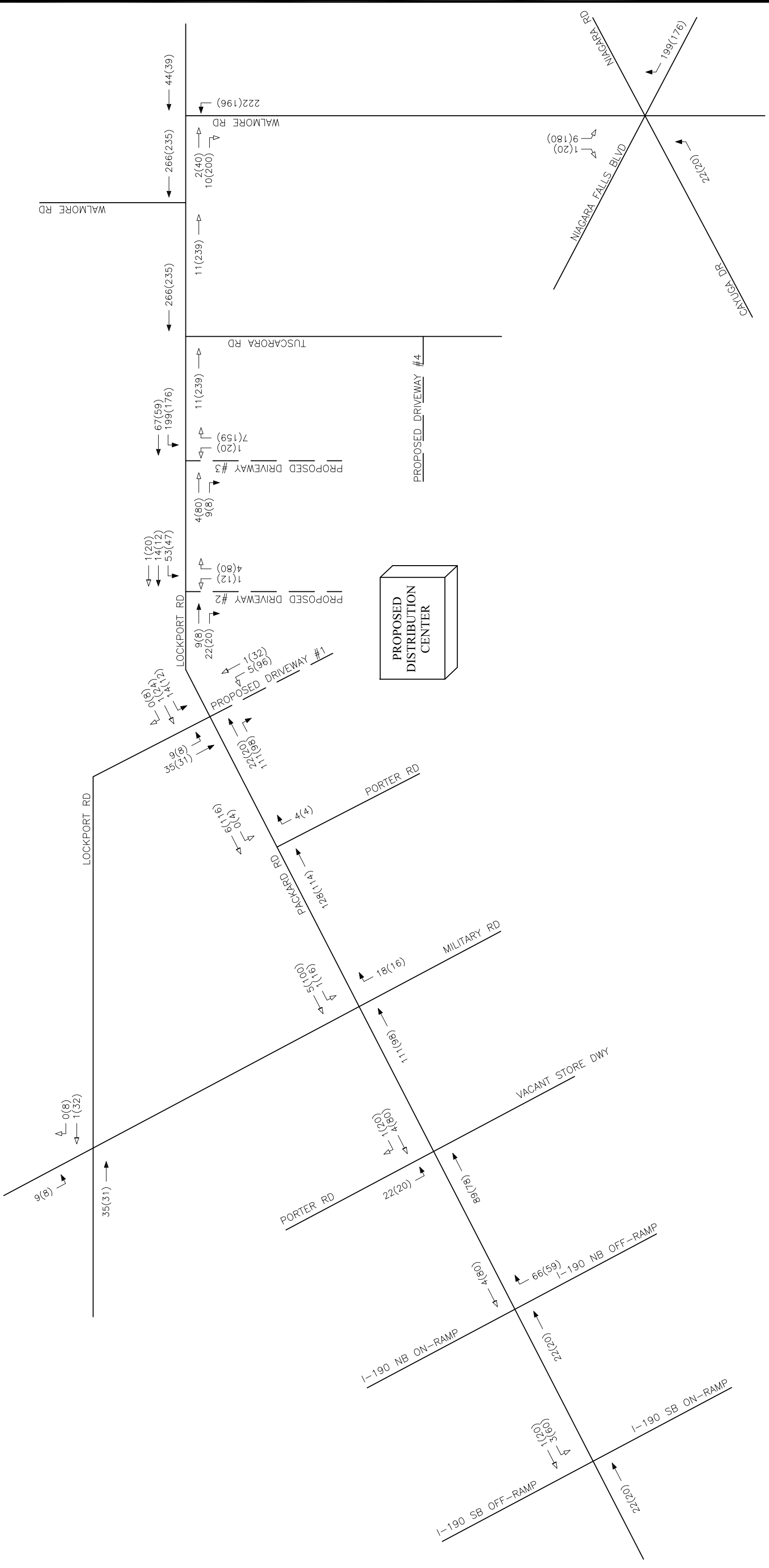
FIGURE 7A

SITE TRIPS - TRAILERS

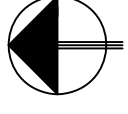
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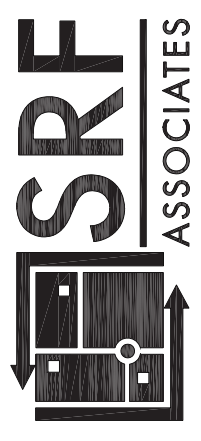


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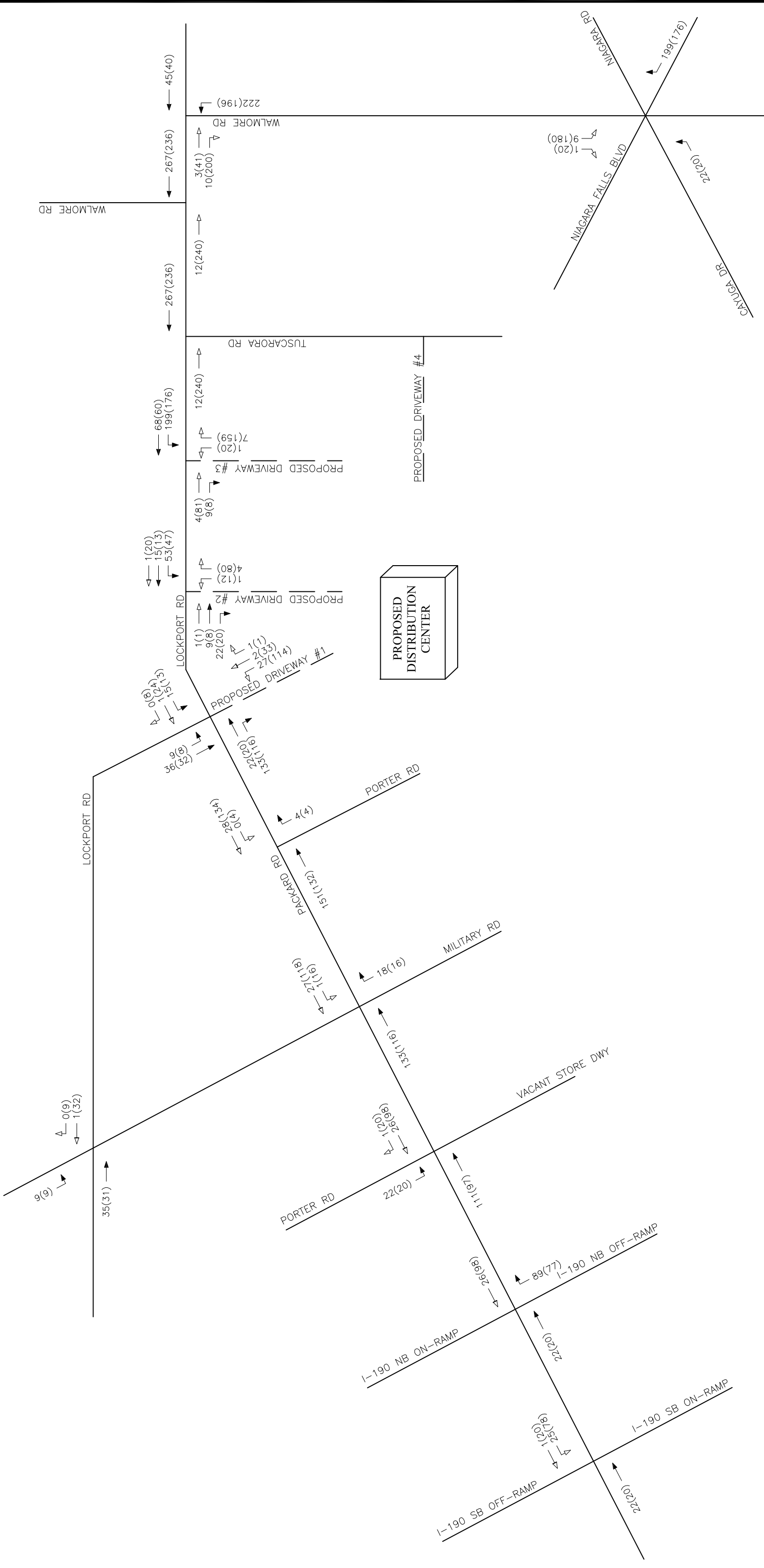
FIGURE 7B

SITE TRIPS - AUTOS

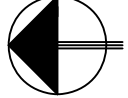
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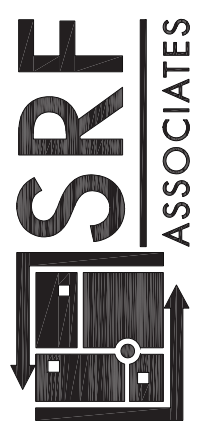


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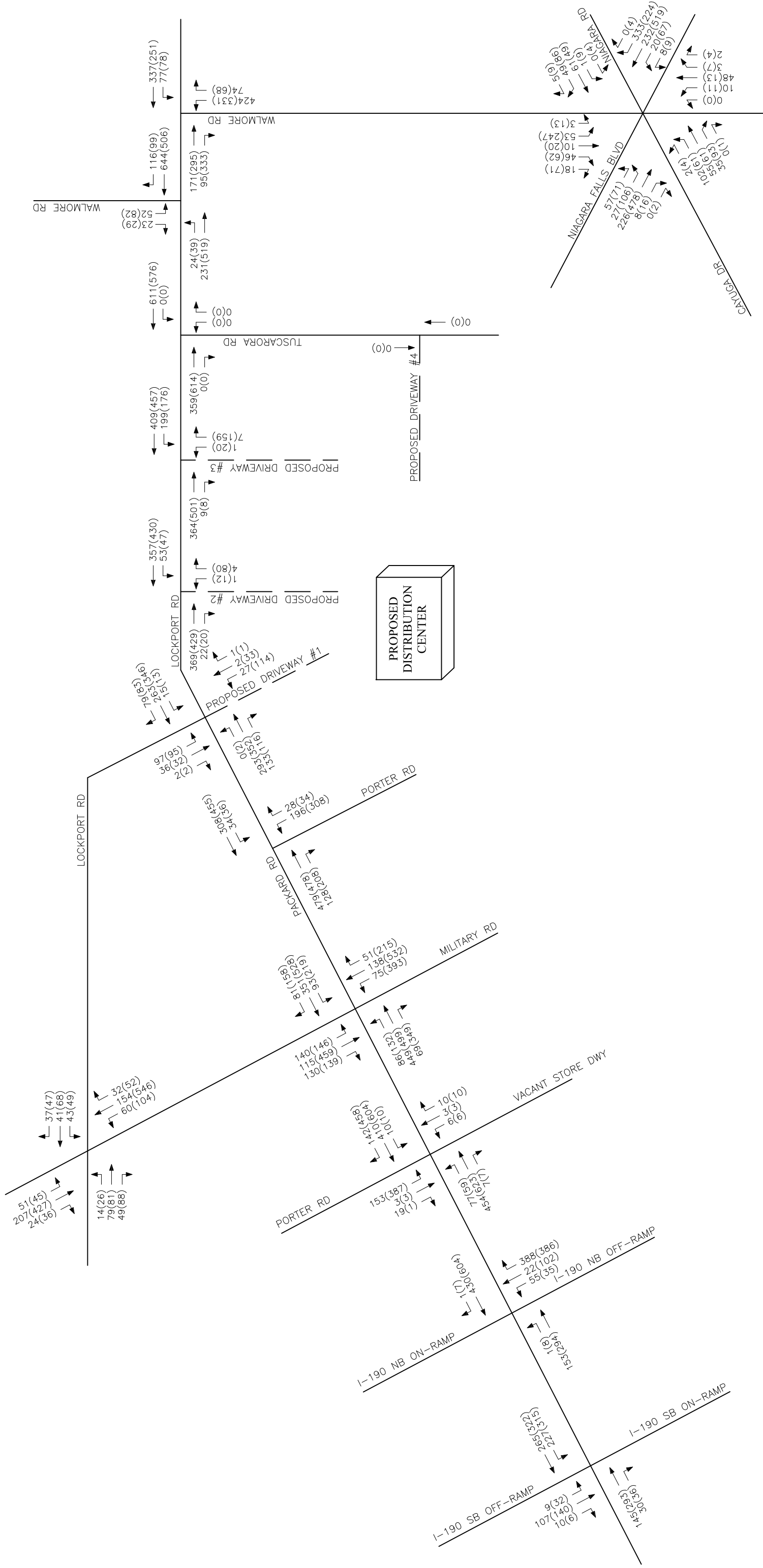
FIGURE 7C

TOTAL SITE GENERATED TRIPS

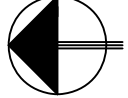
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FIGURE 8

**PEAK HOUR VOLUMES
FULL DEVELOPMENT CONDITIONS**

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APPENDICES

A1

Collected Traffic Volume Data

Lockport Rd/Military Rd - TMC

Tue Nov 23, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904523, Location: 43.120321, -78.997501



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Military Rd Southbound								Lockport Rd Westbound							
Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*		
2021-11-23 6:00AM	5	19	4	0	0	28	0	3	5	4	0	1	13	0		
6:15AM	5	36	6	0	1	48	0	4	8	6	0	5	23	0		
6:30AM	5	43	9	0	2	59	0	7	7	4	0	4	22	0		
6:45AM	3	47	10	0	2	62	0	3	11	8	0	6	28	0		
Hourly Total	18	145	29	0	5	197	0	17	31	22	0	16	86	0		
7:00AM	3	48	9	0	5	65	0	2	7	11	0	1	21	0		
7:15AM	3	58	12	0	1	74	0	9	14	13	0	3	39	0		
7:30AM	11	72	5	0	2	90	0	11	17	13	0	4	45	0		
7:45AM	6	92	13	0	2	113	0	8	16	9	0	1	34	0		
Hourly Total	23	270	39	0	10	342	0	30	54	46	0	9	139	0		
8:00AM	4	77	14	1	7	103	0	11	20	14	0	1	46	0		
8:15AM	8	77	8	0	1	94	0	3	18	12	0	1	34	0		
8:30AM	6	102	9	0	4	121	0	10	14	10	0	3	37	0		
8:45AM	8	102	13	0	2	125	0	10	7	12	0	3	32	0		
Hourly Total	26	358	44	1	14	443	0	34	59	48	0	8	149	0		
9:00AM	8	100	15	0	1	124	0	1	11	10	0	4	26	0		
9:15AM	10	98	8	0	0	116	0	6	16	11	0	2	35	0		
9:30AM	7	95	12	0	1	115	0	7	9	8	0	2	26	0		
9:45AM	6	119	8	0	1	134	0	7	11	7	0	5	30	0		
Hourly Total	31	412	43	0	3	489	0	21	47	36	0	13	117	0		
10:00AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:00PM	14	129	12	0	4	159	0	13	11	15	0	9	48	0		
4:15PM	10	116	13	0	5	144	0	10	16	13	0	3	42	0		
4:30PM	8	116	14	0	4	142	0	13	12	12	0	5	42	0		
4:45PM	5	124	5	0	2	136	0	6	12	16	0	3	37	0		
Hourly Total	37	485	44	0	15	581	0	42	51	56	0	20	169	0		
5:00PM	9	101	12	0	6	128	0	11	5	6	0	0	22	0		
5:15PM	9	107	8	0	4	128	0	8	10	22	0	2	42	0		
5:30PM	8	100	9	0	3	120	0	11	13	9	0	3	36	0		
5:45PM	5	95	7	0	5	112	0	2	3	13	0	3	21	0		
Hourly Total	31	403	36	0	18	488	0	32	31	50	0	8	121	0		
6:00PM	2	91	7	0	4	104	0	4	5	9	0	4	22	0		
6:15PM	3	92	9	0	2	106	0	7	11	9	0	0	27	0		
6:30PM	1	69	7	0	5	82	0	2	7	12	0	1	22	0		
6:45PM	2	71	4	0	1	78	0	4	6	4	0	0	14	0		
Hourly Total	8	323	27	0	12	370	0	17	29	34	0	5	85	0		
7:00PM	4	52	5	0	2	63	0	1	10	10	0	0	21	0		
7:15PM	3	52	5	0	1	61	0	0	5	6	0	5	16	0		
7:30PM	4	45	6	0	1	56	0	3	3	2	0	1	9	0		
7:45PM	1	41	10	0	2	54	0	1	6	5	0	5	17	0		
Hourly Total	12	190	26	0	6	234	0	5	24	23	0	11	63	0		
8:00PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	186	2586	288	1	83	3144	0	198	326	315	0	90	929	0		
% Approach	5.9%	82.3%	9.2%	0%	2.6%	-	-	21.3%	35.1%	33.9%	0%	9.7%	-	-		
% Total	2.1%	29.1%	3.2%	0%	0.9%	35.4%	-	2.2%	3.7%	3.5%	0%	1.0%	10.5%	-		
Motorcycles	0	0	0	0	0	0	-	0	0	0	0	0	0	-		
% Motorcycles	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	-		
Lights	178	2547	277	1	82	3085	-	183	311	294	0	85	873	-		
% Lights	95.7%	98.5%	96.2%	100%	98.8%	98.1%	-	92.4%	95.4%	93.3%	0%	94.4%	94.0%	-		
Heavy	8	39	11	0	1	59	-	15	15	21	0	5	56	-		
% Heavy	4.3%	1.5%	3.8%	0%	1.2%	1.9%	-	7.6%	4.6%	6.7%	0%	5.6%	6.0%	-		

Leg Direction	Military Rd Southbound							Lockport Rd Westbound						
Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Lockport Rd/Military Rd - TMC

Tue Nov 23, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904523, Location: 43.120321, -78.997501



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Military Rd Northbound								Lockport Rd Eastbound								Int
	Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*		
2021-11-23 6:00AM	1	17	5	0	2	25	0	6	7	2	0	1	16	0	82		
6:15AM	6	14	10	0	0	30	0	7	8	2	0	2	19	0	120		
6:30AM	4	33	16	0	5	58	0	6	10	4	0	4	24	0	163		
6:45AM	5	36	7	0	3	51	0	9	11	3	0	3	26	0	167		
Hourly Total	16	100	38	0	10	164	0	28	36	11	0	10	85	0	532		
7:00AM	7	38	14	0	1	60	0	4	11	3	0	3	21	0	167		
7:15AM	2	40	17	0	2	61	0	7	11	4	0	5	27	0	201		
7:30AM	4	52	15	0	3	74	0	7	10	9	0	5	31	0	240		
7:45AM	7	54	18	0	2	81	0	10	12	6	0	7	35	0	263		
Hourly Total	20	184	64	0	8	276	0	28	44	22	0	20	114	0	871		
8:00AM	1	43	16	0	2	62	0	8	8	5	0	5	26	0	237		
8:15AM	7	61	21	0	2	91	0	20	15	6	0	9	50	0	269		
8:30AM	8	63	17	0	3	91	0	18	10	4	0	5	37	0	286		
8:45AM	9	73	21	0	3	106	1	8	17	6	0	9	40	0	303		
Hourly Total	25	240	75	0	10	350	1	54	50	21	0	28	153	0	1095		
9:00AM	13	70	13	0	2	98	0	10	12	12	0	7	41	2	289		
9:15AM	12	73	12	0	3	100	0	19	11	5	0	8	43	0	294		
9:30AM	12	68	16	0	2	98	0	13	13	6	0	5	37	0	276		
9:45AM	8	78	21	0	2	109	0	23	11	12	0	5	51	0	324		
Hourly Total	45	289	62	0	9	405	0	65	47	35	0	25	172	2	1183		
10:00AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:00PM	13	135	21	0	3	172	0	24	20	8	0	7	59	0	438		
4:15PM	15	122	31	0	5	173	0	18	8	7	0	10	43	0	402		
4:30PM	10	132	29	0	8	179	0	28	20	15	0	18	81	0	444		
4:45PM	8	155	34	0	7	204	0	19	18	8	0	18	63	0	440		
Hourly Total	46	544	115	0	23	728	0	89	66	38	0	53	246	0	1724		
5:00PM	13	157	22	0	8	200	0	32	28	9	0	6	75	0	425		
5:15PM	13	155	21	0	3	192	0	18	14	9	0	6	47	0	409		
5:30PM	11	132	27	0	2	172	0	15	12	6	0	9	42	0	370		
5:45PM	10	137	23	0	3	173	0	9	13	7	0	7	36	0	342		
Hourly Total	47	581	93	0	16	737	0	74	67	31	0	28	200	0	1546		
6:00PM	8	126	23	1	3	161	0	6	11	5	0	9	31	0	318		
6:15PM	5	91	18	0	4	118	0	12	9	5	0	8	34	0	285		
6:30PM	6	93	27	0	5	131	0	12	9	3	0	5	29	0	264		
6:45PM	10	108	21	0	2	141	0	7	5	4	0	6	22	0	255		
Hourly Total	29	418	89	1	14	551	0	37	34	17	0	28	116	0	1122		
7:00PM	6	96	27	0	4	133	0	10	4	5	0	5	24	0	241		
7:15PM	5	76	13	0	2	96	0	7	8	4	0	2	21	0	194		
7:30PM	3	84	19	0	5	111	0	3	2	1	0	5	11	0	187		
7:45PM	9	60	15	0	6	90	0	7	4	4	0	5	20	0	181		
Hourly Total	23	316	74	0	17	430	0	27	18	14	0	17	76	0	803		
8:00PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	251	2672	610	1	107	3641	1	402	362	189	0	209	1162	2	8876		
% Approach	6.9%	73.4%	16.8%	0%	2.9%	-	-	34.6%	31.2%	16.3%	0%	18.0%	-	-	-		
% Total	2.8%	30.1%	6.9%	0%	1.2%	41.0%	-	4.5%	4.1%	2.1%	0%	2.4%	13.1%	-	-		
Motorcycles	0	0	0	0	0	0	-	1	0	0	0	0	1	-	1		
% Motorcycles	0%	0%	0%	0%	0%	0%	-	0.2%	0%	0%	0%	0%	0.1%	-	0%		
Lights	230	2629	587	1	103	3550	-	382	341	185	0	205	1113	-	8621		
% Lights	91.6%	98.4%	96.2%	100%	96.3%	97.5%	-	95.0%	94.2%	97.9%	0%	98.1%	95.8%	-	97.1%		
Heavy	21	43	23	0	4	91	-	19	21	4	0	4	48	-	254		
% Heavy	8.4%	1.6%	3.8%	0%	3.7%	2.5%	-	4.7%	5.8%	2.1%	0%	1.9%	4.1%	-	2.9%		

Leg Direction	Military Rd Northbound								Lockport Rd Eastbound								
Time	R	T	L	U	RR	App	Ped*		R	T	L	U	RR	App	Ped*	Int	
Pedestrians	-	-	-	-	-	-	1		-	-	-	-	-	-	2		
% Pedestrians	-	-	-	-	-	-	100%		-	-	-	-	-	-	100%	-	
Bicycles on Crosswalk	-	-	-	-	-	-	0		-	-	-	-	-	-	0		
% Bicycles on Crosswalk	-	-	-	-	-	-	0%		-	-	-	-	-	-	0%	-	

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

Lockport Rd/Military Rd - TMC

Tue Nov 23, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

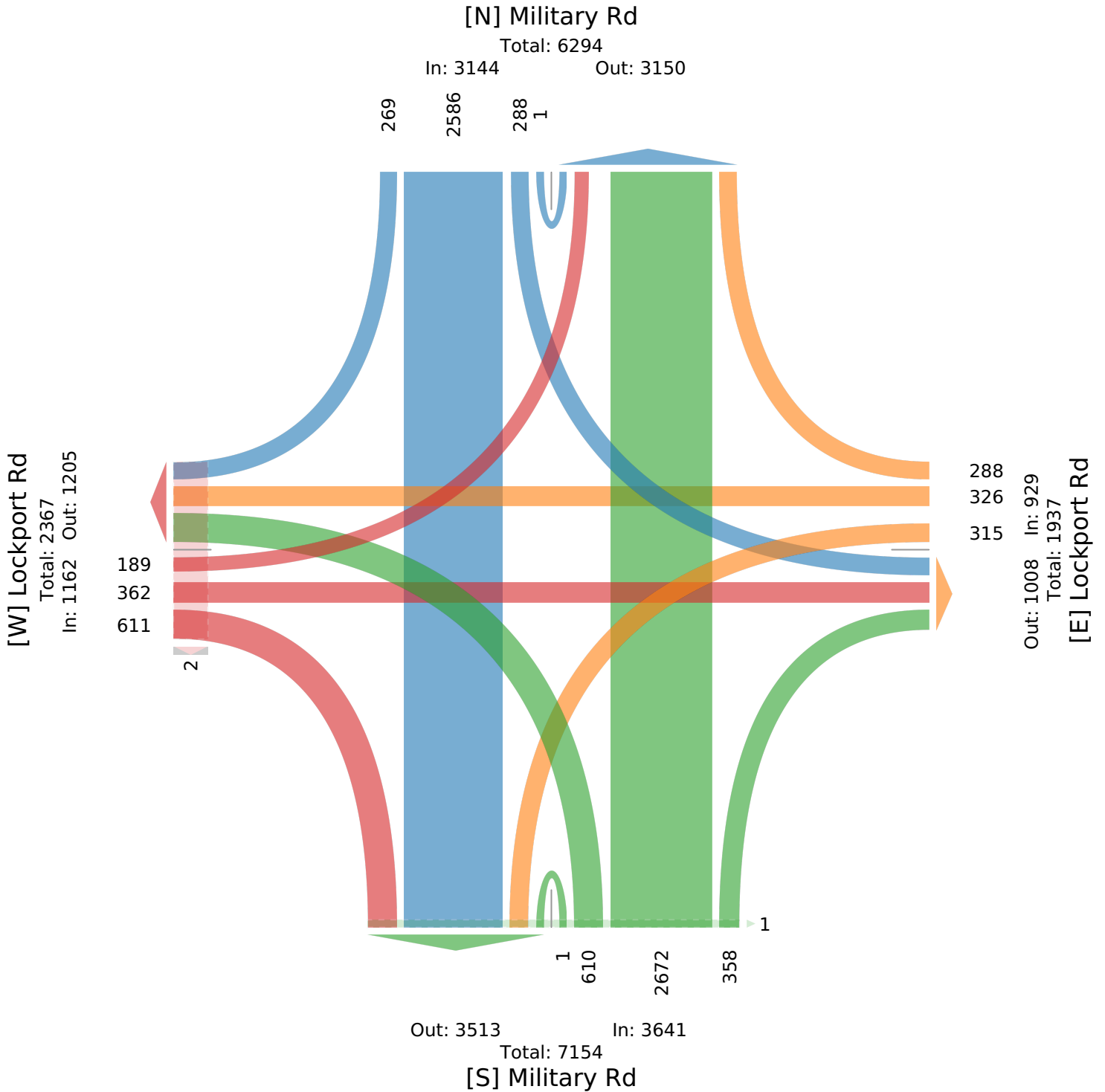
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904523, Location: 43.120321, -78.997501



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Lockport Rd/Military Rd - TMC

Tue Nov 23, 2021

Forced Peak (6:30 AM - 7:30 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904523, Location: 43.120321, -78.997501



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Military Rd Southbound							Lockport Rd Westbound						
Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*
2021-11-23 6:30AM	5	43	9	0	2	59	0	7	7	4	0	4	22	0
6:45AM	3	47	10	0	2	62	0	3	11	8	0	6	28	0
7:00AM	3	48	9	0	5	65	0	2	7	11	0	1	21	0
7:15AM	3	58	12	0	1	74	0	9	14	13	0	3	39	0
Total	14	196	40	0	10	260	0	21	39	36	0	14	110	0
% Approach	5.4%	75.4%	15.4%	0%	3.8%	-	-	19.1%	35.5%	32.7%	0%	12.7%	-	-
% Total	2.0%	28.1%	5.7%	0%	1.4%	37.2%	-	3.0%	5.6%	5.2%	0%	2.0%	15.8%	-
PHF	0.700	0.845	0.833	-	0.500	0.878	-	0.583	0.696	0.692	-	0.583	0.705	-
Motorcycles	0	0	0	0	0	0	-	0	0	0	0	0	0	-
% Motorcycles	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	-
Lights	12	191	39	0	9	251	-	16	36	31	0	13	96	-
% Lights	85.7%	97.4%	97.5%	0%	90.0%	96.5%	-	76.2%	92.3%	86.1%	0%	92.9%	87.3%	-
Heavy	2	5	1	0	1	9	-	5	3	5	0	1	14	-
% Heavy	14.3%	2.6%	2.5%	0%	10.0%	3.5%	-	23.8%	7.7%	13.9%	0%	7.1%	12.7%	-
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Lockport Rd/Military Rd - TMC

Tue Nov 23, 2021

Forced Peak (6:30 AM - 7:30 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904523, Location: 43.120321, -78.997501



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Military Rd Northbound								Lockport Rd Eastbound								
Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*	Int		
2021-11-23 6:30AM	4	33	16	0	5	58	0	6	10	4	0	4	24	0	163		
6:45AM	5	36	7	0	3	51	0	9	11	3	0	3	26	0	167		
7:00AM	7	38	14	0	1	60	0	4	11	3	0	3	21	0	167		
7:15AM	2	40	17	0	2	61	0	7	11	4	0	5	27	0	201		
Total	18	147	54	0	11	230	0	26	43	14	0	15	98	0	698		
% Approach	7.8%	63.9%	23.5%	0%	4.8%	-	-	26.5%	43.9%	14.3%	0%	15.3%	-	-	-		
% Total	2.6%	21.1%	7.7%	0%	1.6%	33.0%	-	3.7%	6.2%	2.0%	0%	2.1%	14.0%	-	-		
PHF	0.643	0.919	0.794	-	0.550	0.943	-	0.722	0.977	0.875	-	0.750	0.907	-	0.868		
Motorcycles	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0		
% Motorcycles	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	-	0%		
Lights	16	140	51	0	10	217	-	24	39	13	0	14	90	-	654		
% Lights	88.9%	95.2%	94.4%	0%	90.9%	94.3%	-	92.3%	90.7%	92.9%	0%	93.3%	91.8%	-	93.7%		
Heavy	2	7	3	0	1	13	-	2	4	1	0	1	8	-	44		
% Heavy	11.1%	4.8%	5.6%	0%	9.1%	5.7%	-	7.7%	9.3%	7.1%	0%	6.7%	8.2%	-	6.3%		
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-		
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-		
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

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

Lockport Rd/Military Rd - TMC

Tue Nov 23, 2021

Forced Peak (6:30 AM - 7:30 AM)

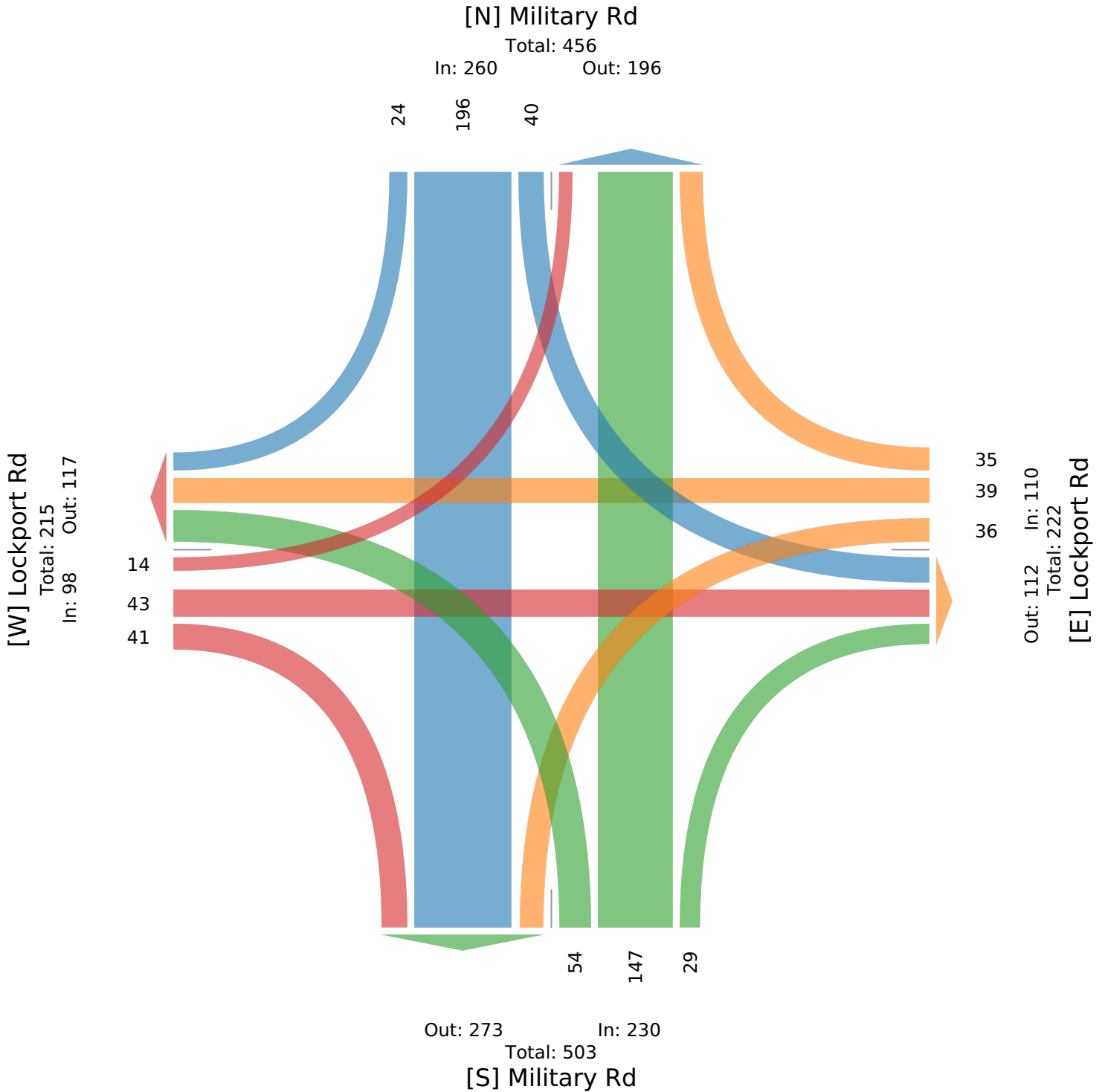
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904523, Location: 43.120321, -78.997501



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Lockport Rd/Military Rd - TMC

Tue Nov 23, 2021

AM Peak (9 AM - 10 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904523, Location: 43.120321, -78.997501



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Military Rd Southbound							Lockport Rd Westbound						
	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*
2021-11-23 9:00AM	8	100	15	0	1	124	0	1	11	10	0	4	26	0
9:15AM	10	98	8	0	0	116	0	6	16	11	0	2	35	0
9:30AM	7	95	12	0	1	115	0	7	9	8	0	2	26	0
9:45AM	6	119	8	0	1	134	0	7	11	7	0	5	30	0
Total	31	412	43	0	3	489	0	21	47	36	0	13	117	0
% Approach	6.3%	84.3%	8.8%	0%	0.6%	-	-	17.9%	40.2%	30.8%	0%	11.1%	-	-
% Total	2.6%	34.8%	3.6%	0%	0.3%	41.3%	-	1.8%	4.0%	3.0%	0%	1.1%	9.9%	-
PHF	0.775	0.866	0.717	-	0.750	0.912	-	0.750	0.734	0.818	-	0.650	0.836	-
Motorcycles	0	0	0	0	0	0	-	0	0	0	0	0	0	-
% Motorcycles	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	-
Lights	28	405	41	0	3	477	-	19	45	33	0	12	109	-
% Lights	90.3%	98.3%	95.3%	0%	100%	97.5%	-	90.5%	95.7%	91.7%	0%	92.3%	93.2%	-
Heavy	3	7	2	0	0	12	-	2	2	3	0	1	8	-
% Heavy	9.7%	1.7%	4.7%	0%	0%	2.5%	-	9.5%	4.3%	8.3%	0%	7.7%	6.8%	-
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Lockport Rd/Military Rd - TMC

Tue Nov 23, 2021

AM Peak (9 AM - 10 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904523, Location: 43.120321, -78.997501



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Military Rd Northbound								Lockport Rd Eastbound								
Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*	Int		
2021-11-23 9:00AM	13	70	13	0	2	98	0	10	12	12	0	7	41	2	289		
9:15AM	12	73	12	0	3	100	0	19	11	5	0	8	43	0	294		
9:30AM	12	68	16	0	2	98	0	13	13	6	0	5	37	0	276		
9:45AM	8	78	21	0	2	109	0	23	11	12	0	5	51	0	324		
Total	45	289	62	0	9	405	0	65	47	35	0	25	172	2	1183		
% Approach	11.1%	71.4%	15.3%	0%	2.2%	-	-	37.8%	27.3%	20.3%	0%	14.5%	-	-	-		
% Total	3.8%	24.4%	5.2%	0%	0.8%	34.2%	-	5.5%	4.0%	3.0%	0%	2.1%	14.5%	-	-		
PHF	0.865	0.926	0.738	-	0.750	0.929	-	0.707	0.904	0.729	-	0.781	0.843	-	0.913		
Motorcycles	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0		
% Motorcycles	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	-	0%		
Lights	41	279	56	0	8	384	-	58	41	35	0	25	159	-	1129		
% Lights	91.1%	96.5%	90.3%	0%	88.9%	94.8%	-	89.2%	87.2%	100%	0%	100%	92.4%	-	95.4%		
Heavy	4	10	6	0	1	21	-	7	6	0	0	0	13	-	54		
% Heavy	8.9%	3.5%	9.7%	0%	11.1%	5.2%	-	10.8%	12.8%	0%	0%	0%	7.6%	-	4.6%		
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	-	2		
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-		
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0		
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	0%	-		

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

Lockport Rd/Military Rd - TMC

Tue Nov 23, 2021

AM Peak (9 AM - 10 AM)

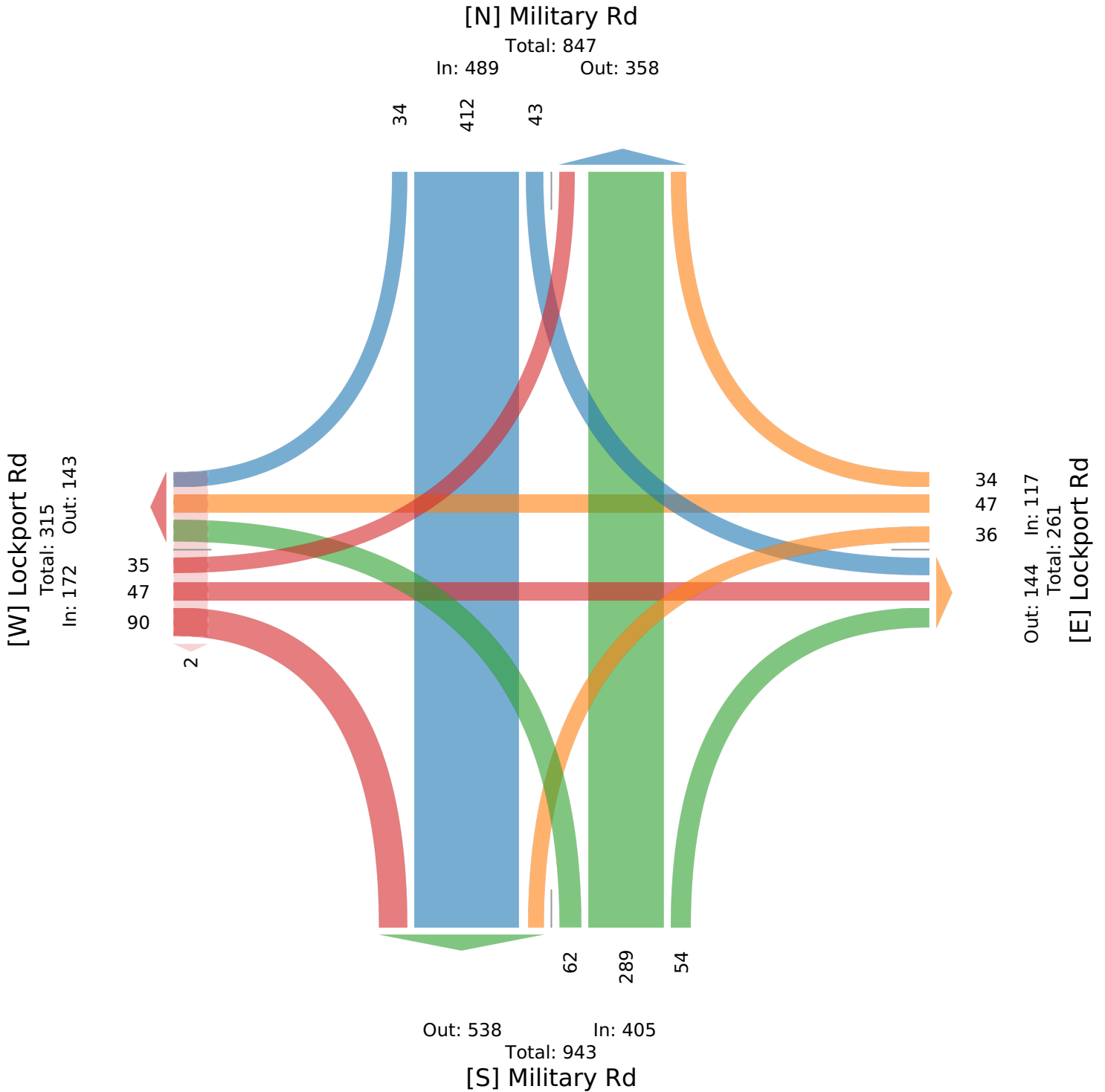
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904523, Location: 43.120321, -78.997501



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Lockport Rd/Military Rd - TMC

Tue Nov 23, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904523, Location: 43.120321, -78.997501



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Military Rd Southbound							Lockport Rd Westbound						
	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*
2021-11-23 4:00PM	14	129	12	0	4	159	0	13	11	15	0	9	48	0
4:15PM	10	116	13	0	5	144	0	10	16	13	0	3	42	0
4:30PM	8	116	14	0	4	142	0	13	12	12	0	5	42	0
4:45PM	5	124	5	0	2	136	0	6	12	16	0	3	37	0
Total	37	485	44	0	15	581	0	42	51	56	0	20	169	0
% Approach	6.4%	83.5%	7.6%	0%	2.6%	-	-	24.9%	30.2%	33.1%	0%	11.8%	-	-
% Total	2.1%	28.1%	2.6%	0%	0.9%	33.7%	-	2.4%	3.0%	3.2%	0%	1.2%	9.8%	-
PHF	0.661	0.940	0.786	-	0.750	0.914	-	0.808	0.797	0.875	-	0.556	0.880	-
Motorcycles	0	0	0	0	0	0	-	0	0	0	0	0	0	-
% Motorcycles	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	-
Lights	36	479	39	0	15	569	-	41	50	53	0	19	163	-
% Lights	97.3%	98.8%	88.6%	0%	100%	97.9%	-	97.6%	98.0%	94.6%	0%	95.0%	96.4%	-
Heavy	1	6	5	0	0	12	-	1	1	3	0	1	6	-
% Heavy	2.7%	1.2%	11.4%	0%	0%	2.1%	-	2.4%	2.0%	5.4%	0%	5.0%	3.6%	-
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Lockport Rd/Military Rd - TMC

Tue Nov 23, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904523, Location: 43.120321, -78.997501



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Military Rd Northbound								Lockport Rd Eastbound								Int
	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*			
2021-11-23 4:00PM	13	135	21	0	3	172	0	24	20	8	0	7	59	0	438		
4:15PM	15	122	31	0	5	173	0	18	8	7	0	10	43	0	402		
4:30PM	10	132	29	0	8	179	0	28	20	15	0	18	81	0	444		
4:45PM	8	155	34	0	7	204	0	19	18	8	0	18	63	0	440		
Total	46	544	115	0	23	728	0	89	66	38	0	53	246	0	1724		
% Approach	6.3%	74.7%	15.8%	0%	3.2%	-	-	36.2%	26.8%	15.4%	0%	21.5%	-	-	-		
% Total	2.7%	31.6%	6.7%	0%	1.3%	42.2%	-	5.2%	3.8%	2.2%	0%	3.1%	14.3%	-	-		
PHF	0.767	0.877	0.846	-	0.719	0.892	-	0.795	0.825	0.633	-	0.736	0.759	-	0.971		
Motorcycles	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0		
% Motorcycles	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	-	0%		
Lights	41	536	112	0	23	712	-	88	63	38	0	53	242	-	1686		
% Lights	89.1%	98.5%	97.4%	0%	100%	97.8%	-	98.9%	95.5%	100%	0%	100%	98.4%	-	97.8%		
Heavy	5	8	3	0	0	16	-	1	3	0	0	0	4	-	38		
% Heavy	10.9%	1.5%	2.6%	0%	0%	2.2%	-	1.1%	4.5%	0%	0%	0%	1.6%	-	2.2%		
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-		
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-		
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

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

Lockport Rd/Military Rd - TMC

Tue Nov 23, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

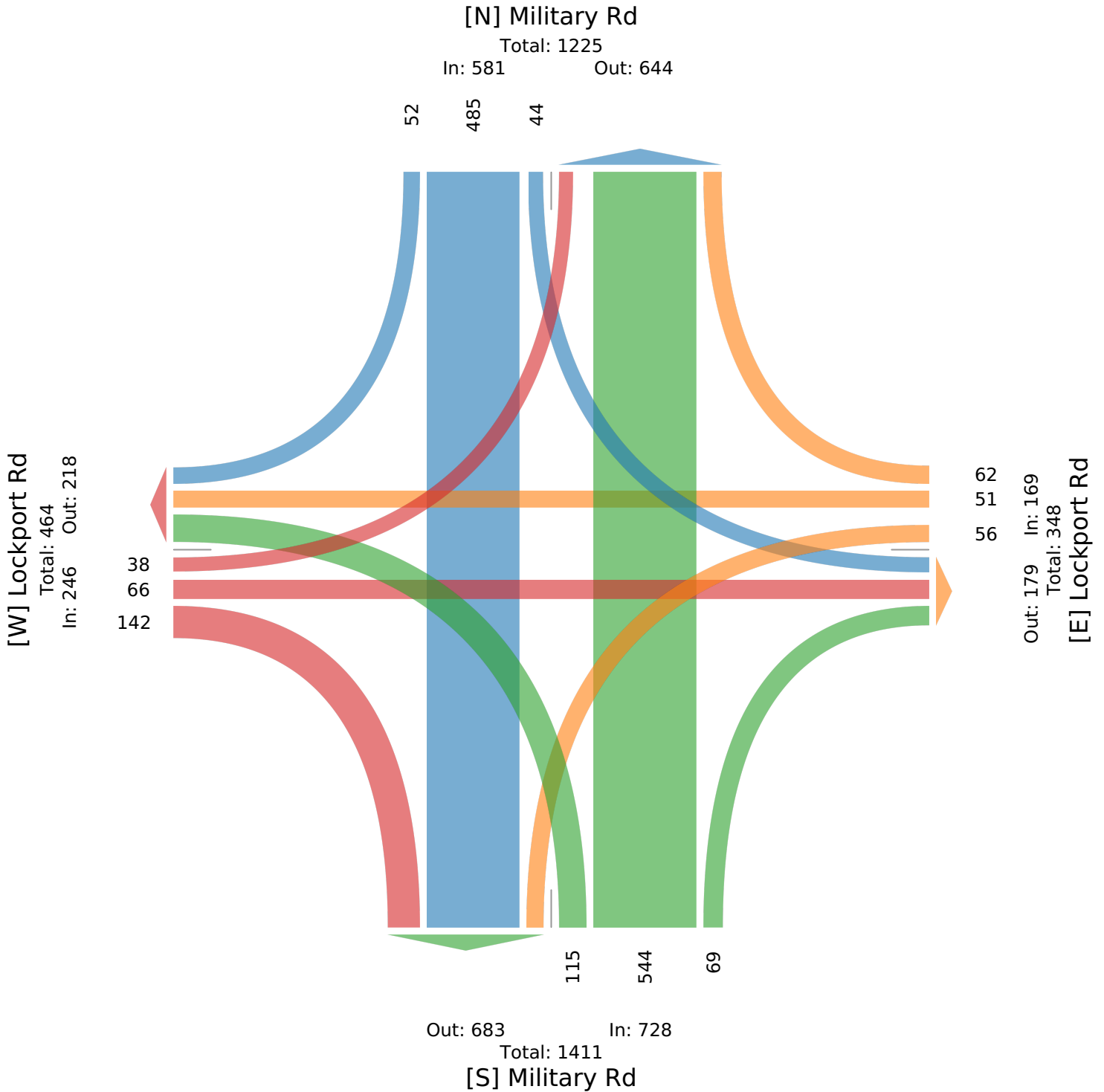
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904523, Location: 43.120321, -78.997501



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Lockport Rd/Packard Rd - TMC

Tue Nov 23, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904519, Location: 43.120551, -78.963042



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Lockport Rd Southbound					Lockport Rd Westbound					Packard Rd Eastbound					Int
	R	L	U	App	Ped*	R	T	U	App	Ped*	T	L	U	App	Ped*	
2021-11-23 6:00AM	0	10	0	10	0	4	40	0	44	0	44	0	0	44	0	98
6:15AM	0	14	0	14	0	12	56	0	68	0	51	0	0	51	0	133
6:30AM	0	17	0	17	0	18	75	0	93	0	48	0	0	48	0	158
6:45AM	2	21	0	23	0	22	60	1	83	0	62	0	0	62	0	168
Hourly Total	2	62	0	64	0	56	231	1	288	0	205	0	0	205	0	557
7:00AM	0	25	0	25	0	22	44	0	66	0	62	0	0	62	0	153
7:15AM	0	24	0	24	0	17	68	0	85	0	83	0	0	83	0	192
7:30AM	0	15	0	15	0	33	72	0	105	0	75	0	0	75	0	195
7:45AM	2	21	0	23	0	24	86	0	110	0	70	0	1	71	0	204
Hourly Total	2	85	0	87	0	96	270	0	366	0	290	0	1	291	0	744
8:00AM	0	29	0	29	0	31	68	0	99	0	54	2	1	57	0	185
8:15AM	2	35	0	37	0	22	65	2	89	0	65	0	0	65	0	191
8:30AM	0	26	0	26	0	25	74	0	99	0	68	1	0	69	0	194
8:45AM	0	34	0	34	0	16	88	0	104	0	74	1	0	75	0	213
Hourly Total	2	124	0	126	0	94	295	2	391	0	261	4	1	266	0	783
9:00AM	0	32	0	32	0	18	63	1	82	0	65	0	0	65	0	179
9:15AM	0	27	0	27	0	20	70	0	90	0	53	1	0	54	0	171
9:30AM	0	16	0	16	0	14	55	0	69	0	60	0	1	61	0	146
9:45AM	0	19	0	19	0	21	69	0	90	0	64	0	0	64	0	173
Hourly Total	0	94	0	94	0	73	257	1	331	0	242	1	1	244	0	669
4:00PM	0	27	0	27	0	36	121	0	157	0	126	2	0	128	0	312
4:15PM	0	26	0	26	0	29	107	0	136	0	126	0	0	126	0	288
4:30PM	0	36	0	36	0	29	114	0	143	0	127	0	1	128	0	307
4:45PM	0	15	0	15	0	21	95	0	116	0	97	0	0	97	0	228
Hourly Total	0	104	0	104	0	115	437	0	552	0	476	2	1	479	0	1135
5:00PM	0	41	0	41	0	24	83	0	107	0	73	0	0	73	0	221
5:15PM	0	20	0	20	0	21	70	3	94	0	97	0	1	98	0	212
5:30PM	1	25	0	26	0	17	82	2	101	0	89	0	0	89	0	216
5:45PM	0	17	0	17	0	10	67	0	77	0	61	1	0	62	0	156
Hourly Total	1	103	0	104	0	72	302	5	379	0	320	1	1	322	0	805
6:00PM	0	18	0	18	0	19	75	1	95	0	72	1	0	73	0	186
6:15PM	1	18	0	19	0	21	53	0	74	0	65	0	0	65	0	158
6:30PM	0	12	0	12	0	15	42	0	57	0	65	0	0	65	0	134
6:45PM	0	7	0	7	0	12	41	0	53	0	56	1	0	57	0	117
Hourly Total	1	55	0	56	0	67	211	1	279	0	258	2	0	260	0	595
7:00PM	1	15	0	16	0	12	40	0	52	0	65	0	1	66	0	134
7:15PM	0	11	0	11	0	10	33	0	43	0	54	1	0	55	0	109
7:30PM	0	4	0	4	0	6	45	0	51	0	52	0	0	52	0	107
7:45PM	0	13	0	13	0	8	28	1	37	0	51	0	0	51	0	101
Hourly Total	1	43	0	44	0	36	146	1	183	0	222	1	1	224	0	451
8:00PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	9	670	0	679	0	609	2149	11	2769	0	2274	11	6	2291	0	5739
% Approach	1.3%	98.7%	0%	-	-	22.0%	77.6%	0.4%	-	-	99.3%	0.5%	0.3%	-	-	-
% Total	0.2%	11.7%	0%	11.8%	-	10.6%	37.4%	0.2%	48.2%	-	39.6%	0.2%	0.1%	39.9%	-	-
Motorcycles	0	0	0	0	-	0	1	0	1	-	0	0	0	0	-	1
% Motorcycles	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Lights	6	630	0	636	-	572	2017	11	2600	-	2142	10	6	2158	-	5394
% Lights	66.7%	94.0%	0%	93.7%	-	93.9%	93.9%	100%	93.9%	-	94.2%	90.9%	100%	94.2%	-	94.0%
Heavy	3	40	0	43	-	37	131	0	168	-	132	1	0	133	-	344
% Heavy	33.3%	6.0%	0%	6.3%	-	6.1%	6.1%	0%	6.1%	-	5.8%	9.1%	0%	5.8%	-	6.0%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Leg Direction	Lockport Rd Southbound					Lockport Rd Westbound					Packard Rd Eastbound					
Time	R	L	U	App	Ped*	R	T	U	App	Ped*	T	L	U	App	Ped*	Int
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Lockport Rd/Packard Rd - TMC

Tue Nov 23, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904519, Location: 43.120551, -78.963042



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

[N] Lockport Rd

Total: 1299

In: 679 Out: 620

9
670

[W] Packard Rd

Total: 4455

In: 2291 Out: 2164

11
6

2274

609

2149

11

Out: 2955 In: 2769

Total: 5724

[E] Lockport Rd

Lockport Rd/Packard Rd - TMC

Tue Nov 23, 2021

Forced Peak (6:30 AM - 7:30 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904519, Location: 43.120551, -78.963042



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Lockport Rd Southbound					Lockport Rd Westbound					Packard Rd Eastbound					
Time	R	L	U	App	Ped*	R	T	U	App	Ped*	T	L	U	App	Ped*	Int
2021-11-23 6:30AM	0	17	0	17	0	18	75	0	93	0	48	0	0	48	0	158
6:45AM	2	21	0	23	0	22	60	1	83	0	62	0	0	62	0	168
7:00AM	0	25	0	25	0	22	44	0	66	0	62	0	0	62	0	153
7:15AM	0	24	0	24	0	17	68	0	85	0	83	0	0	83	0	192
Total	2	87	0	89	0	79	247	1	327	0	255	0	0	255	0	671
% Approach	2.2%	97.8%	0%	-	-	24.2%	75.5%	0.3%	-	-	100%	0%	0%	-	-	-
% Total	0.3%	13.0%	0%	13.3%	-	11.8%	36.8%	0.1%	48.7%	-	38.0%	0%	0%	38.0%	-	-
PHF	0.250	0.870	-	0.890	-	0.898	0.823	0.250	0.879	-	0.768	-	-	0.768	-	0.874
Motorcycles	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
% Motorcycles	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Lights	2	81	0	83	-	67	230	1	298	-	232	0	0	232	-	613
% Lights	100%	93.1%	0%	93.3%	-	84.8%	93.1%	100%	91.1%	-	91.0%	0%	0%	91.0%	-	91.4%
Heavy	0	6	0	6	-	12	17	0	29	-	23	0	0	23	-	58
% Heavy	0%	6.9%	0%	6.7%	-	15.2%	6.9%	0%	8.9%	-	9.0%	0%	0%	9.0%	-	8.6%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Lockport Rd/Packard Rd - TMC

Tue Nov 23, 2021

Forced Peak (6:30 AM - 7:30 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904519, Location: 43.120551, -78.963042



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

[N] Lockport Rd

Total: 168

In: 89 Out: 79

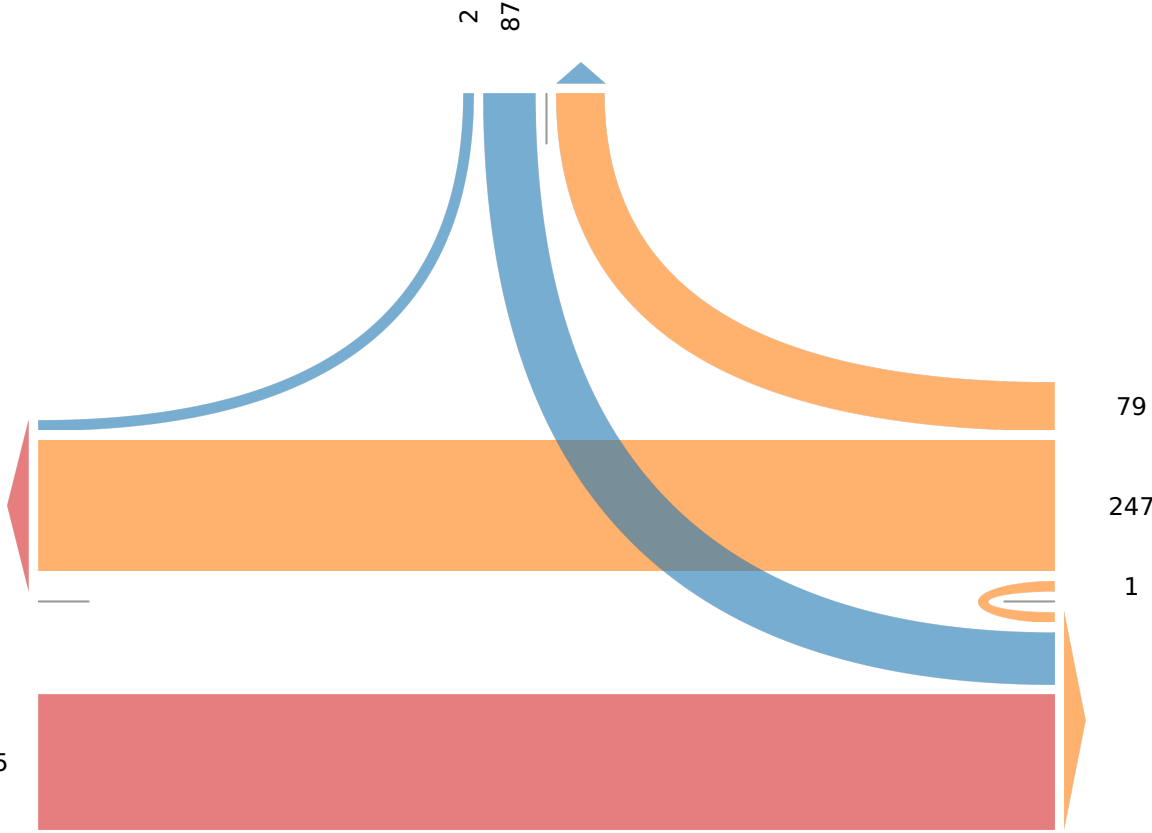
2 87

[W] Packard Rd

Total: 504

In: 255 Out: 249

255



Out: 343 In: 327

Total: 670

[E] Lockport Rd

Lockport Rd/Packard Rd - TMC

Tue Nov 23, 2021

AM Peak (8 AM - 9 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904519, Location: 43.120551, -78.963042



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Lockport Rd Southbound					Lockport Rd Westbound					Packard Rd Eastbound					Int
	R	L	U	App	Ped*	R	T	U	App	Ped*	T	L	U	App	Ped*	
2021-11-23 8:00AM	0	29	0	29	0	31	68	0	99	0	54	2	1	57	0	185
8:15AM	2	35	0	37	0	22	65	2	89	0	65	0	0	65	0	191
8:30AM	0	26	0	26	0	25	74	0	99	0	68	1	0	69	0	194
8:45AM	0	34	0	34	0	16	88	0	104	0	74	1	0	75	0	213
Total	2	124	0	126	0	94	295	2	391	0	261	4	1	266	0	783
% Approach	1.6%	98.4%	0%	-	-	24.0%	75.4%	0.5%	-	-	98.1%	1.5%	0.4%	-	-	-
% Total	0.3%	15.8%	0%	16.1%	-	12.0%	37.7%	0.3%	49.9%	-	33.3%	0.5%	0.1%	34.0%	-	-
PHF	0.250	0.886	-	0.851	-	0.758	0.838	0.250	0.940	-	0.882	0.500	0.250	0.887	-	0.919
Motorcycles	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
% Motorcycles	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Lights	2	113	0	115	-	81	260	2	343	-	228	3	1	232	-	690
% Lights	100%	91.1%	0%	91.3%	-	86.2%	88.1%	100%	87.7%	-	87.4%	75.0%	100%	87.2%	-	88.1%
Heavy	0	11	0	11	-	13	35	0	48	-	33	1	0	34	-	93
% Heavy	0%	8.9%	0%	8.7%	-	13.8%	11.9%	0%	12.3%	-	12.6%	25.0%	0%	12.8%	-	11.9%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Lockport Rd/Packard Rd - TMC

Tue Nov 23, 2021

AM Peak (8 AM - 9 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904519, Location: 43.120551, -78.963042



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

[N] Lockport Rd

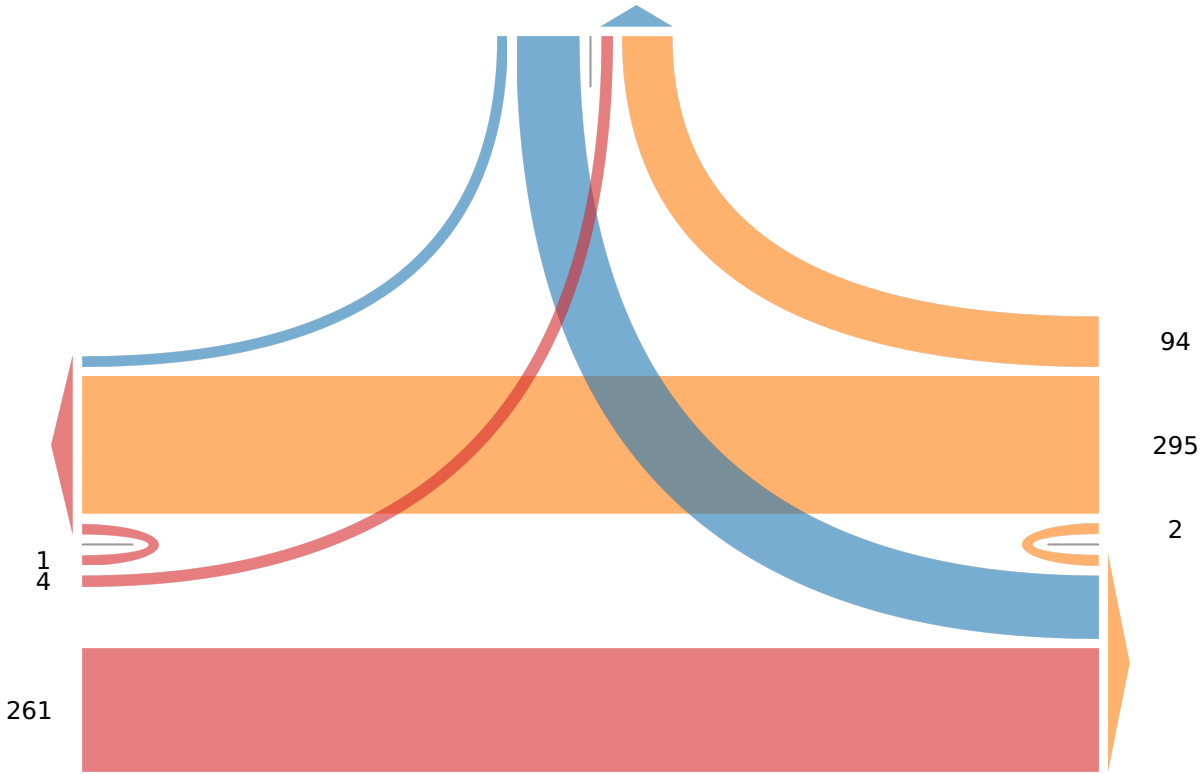
Total: 224

In: 126 Out: 98

2
124

[W] Packard Rd
Total: 564
In: 266 Out: 298

1
4
261



Out: 387
Total: 778
In: 391
[E] Lockport Rd

Lockport Rd/Packard Rd - TMC

Tue Nov 23, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904519, Location: 43.120551, -78.963042



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Lockport Rd Southbound					Lockport Rd Westbound					Packard Rd Eastbound					Int
	R	L	U	App	Ped*	R	T	U	App	Ped*	T	L	U	App	Ped*	
2021-11-23 4:00PM	0	27	0	27	0	36	121	0	157	0	126	2	0	128	0	312
4:15PM	0	26	0	26	0	29	107	0	136	0	126	0	0	126	0	288
4:30PM	0	36	0	36	0	29	114	0	143	0	127	0	1	128	0	307
4:45PM	0	15	0	15	0	21	95	0	116	0	97	0	0	97	0	228
Total	0	104	0	104	0	115	437	0	552	0	476	2	1	479	0	1135
% Approach	0%	100%	0%	-	-	20.8%	79.2%	0%	-	-	99.4%	0.4%	0.2%	-	-	-
% Total	0%	9.2%	0%	9.2%	-	10.1%	38.5%	0%	48.6%	-	41.9%	0.2%	0.1%	42.2%	-	-
PHF	-	0.722	-	0.722	-	0.799	0.903	-	0.879	-	0.937	0.250	0.250	0.936	-	0.909
Motorcycles	0	0	0	0	-	0	1	0	1	-	0	0	0	0	-	1
% Motorcycles	0%	0%	0%	0%	-	0%	0.2%	0%	0.2%	-	0%	0%	0%	0%	-	0.1%
Lights	0	94	0	94	-	113	416	0	529	-	455	2	1	458	-	1081
% Lights	0%	90.4%	0%	90.4%	-	98.3%	95.2%	0%	95.8%	-	95.6%	100%	100%	95.6%	-	95.2%
Heavy	0	10	0	10	-	2	20	0	22	-	21	0	0	21	-	53
% Heavy	0%	9.6%	0%	9.6%	-	1.7%	4.6%	0%	4.0%	-	4.4%	0%	0%	4.4%	-	4.7%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Lockport Rd/Packard Rd - TMC

Tue Nov 23, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904519, Location: 43.120551, -78.963042

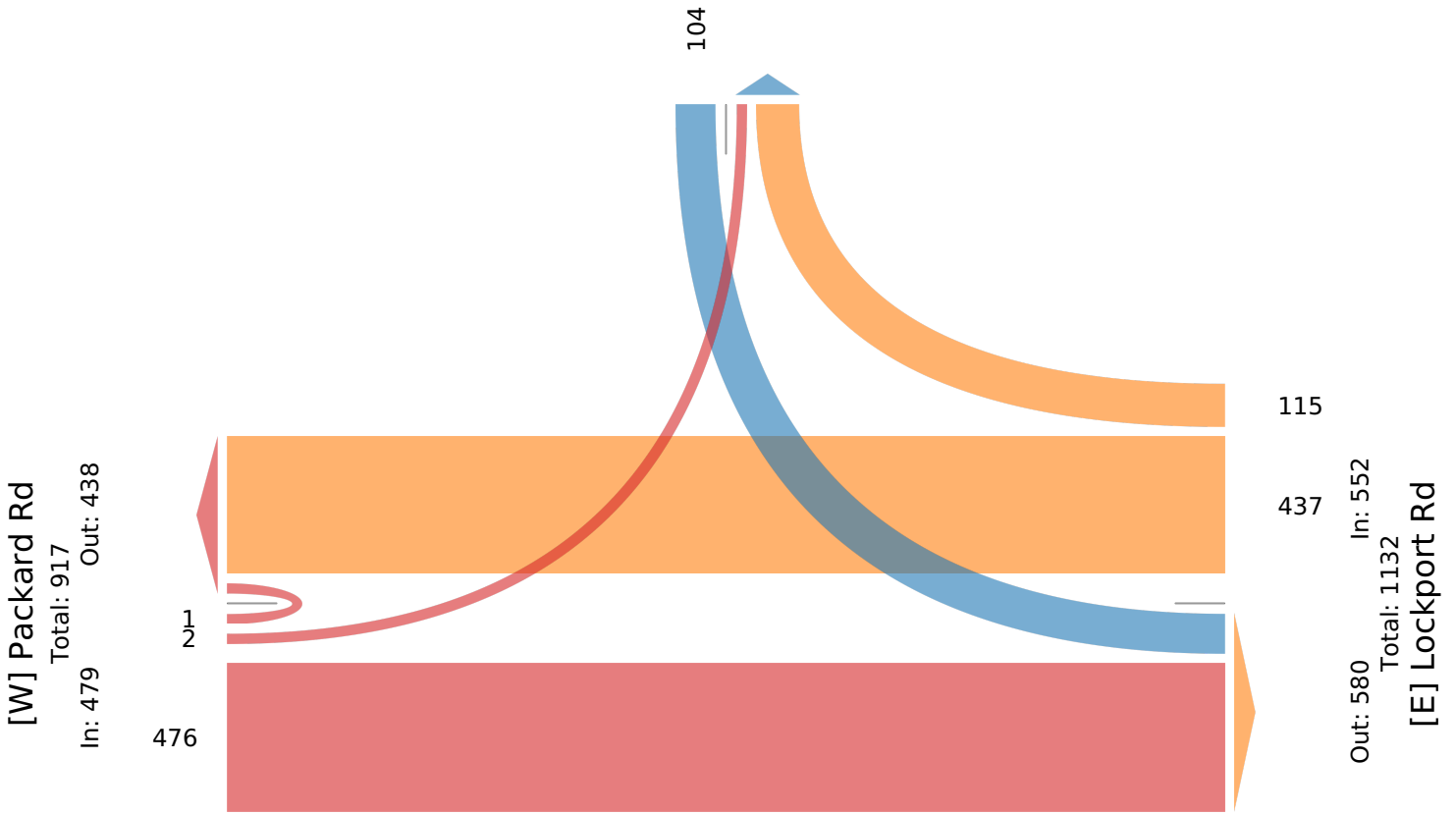


Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

[N] Lockport Rd

Total: 221

In: 104 Out: 117



Lockport Rd/Tuscarora Rd(S) - TMC

Wed Jan 5, 2022

Full Length (6 AM-10 AM, 4 PM-8 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 913955, Location: 43.121174, -78.953001



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Lockport Rd Westbound					Tuscarora Rd Northbound					Lockport Rd Eastbound					
Time	T	L	U	App	Ped*	R	L	U	App	Ped*	R	T	U	App	Ped*	Int
2022-01-05 6:00AM	41	0	0	41	0	0	0	0	0	0	0	38	0	38	0	79
6:15AM	59	0	0	59	0	0	0	0	0	0	0	63	0	63	0	122
6:30AM	99	0	0	99	0	0	0	0	0	0	0	63	0	63	0	162
6:45AM	88	0	0	88	0	0	0	0	0	0	0	91	0	91	0	179
Hourly Total	287	0	0	287	0	0	0	0	0	0	0	255	0	255	0	542
7:00AM	60	0	0	60	0	0	0	0	0	0	0	79	0	79	0	139
7:15AM	81	0	0	81	0	0	0	0	0	0	0	97	0	97	0	178
7:30AM	108	0	0	108	0	0	0	0	0	0	0	91	0	91	0	199
7:45AM	113	0	0	113	0	0	0	0	0	0	0	76	0	76	0	189
Hourly Total	362	0	0	362	0	0	0	0	0	0	0	343	0	343	0	705
8:00AM	90	0	0	90	0	0	0	0	0	0	0	83	0	83	0	173
8:15AM	86	0	0	86	0	0	0	0	0	0	1	96	0	97	0	183
8:30AM	98	0	0	98	0	0	0	0	0	0	0	83	0	83	0	181
8:45AM	103	0	0	103	0	0	0	0	0	0	0	121	0	121	0	224
Hourly Total	377	0	0	377	0	0	0	0	0	0	1	383	0	384	0	761
9:00AM	75	0	0	75	0	0	0	0	0	0	1	84	0	85	0	160
9:15AM	98	0	0	98	0	0	0	0	0	0	0	61	0	61	0	159
9:30AM	66	0	0	66	0	0	0	0	0	0	0	60	0	60	0	126
9:45AM	69	0	0	69	0	0	0	0	0	0	0	74	0	74	0	143
Hourly Total	308	0	0	308	0	0	0	0	0	0	1	279	0	280	0	588
10:00AM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1
4:00PM	134	0	0	134	0	0	0	0	0	0	0	135	0	135	0	269
4:15PM	123	0	0	123	0	0	1	0	1	0	0	123	0	123	0	247
4:30PM	134	0	0	134	0	0	0	0	0	0	0	153	0	153	0	287
4:45PM	111	0	0	111	0	0	0	0	0	0	0	135	0	135	0	246
Hourly Total	502	0	0	502	0	0	1	0	1	0	0	546	0	546	0	1049
5:00PM	101	0	0	101	0	0	0	0	0	0	0	119	0	119	0	220
5:15PM	108	1	0	109	0	1	0	0	1	0	0	112	0	112	0	222
5:30PM	76	0	0	76	0	0	0	0	0	0	0	96	0	96	0	172
5:45PM	82	0	0	82	0	0	0	0	0	0	0	95	0	95	0	177
Hourly Total	367	1	0	368	0	1	0	0	1	0	0	422	0	422	0	791
6:00PM	73	0	0	73	0	0	0	0	0	0	0	70	0	70	0	143
6:15PM	62	0	0	62	0	0	0	0	0	0	0	63	0	63	0	125
6:30PM	43	0	0	43	0	1	0	0	1	0	1	73	0	74	0	118
6:45PM	47	0	0	47	0	0	0	0	0	0	0	57	0	57	0	104
Hourly Total	225	0	0	225	0	1	0	0	1	0	1	263	0	264	0	490
7:00PM	46	0	0	46	0	0	0	0	0	0	0	47	0	47	0	93
7:15PM	34	0	0	34	0	0	0	0	0	0	0	49	0	49	0	83
7:30PM	29	0	0	29	0	0	0	0	0	0	0	53	0	53	0	82
7:45PM	24	0	0	24	0	0	0	0	0	0	0	31	0	31	0	55
Hourly Total	133	0	0	133	0	0	0	0	0	0	0	180	0	180	0	313
8:00PM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1
Total	2561	1	0	2562	0	2	1	0	3	0	3	2673	0	2676	0	5241
% Approach	100.0%	0%	0%	-	-	66.7%	33.3%	0%	-	-	0.1%	99.9%	0%	-	-	-
% Total	48.9%	0%	0%	48.9%	-	0%	0%	0%	0.1%	-	0.1%	51.0%	0%	51.1%	-	-
Motorcycles	1	0	0	1	-	0	0	0	0	-	0	0	0	0	-	1
% Motorcycles	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Lights	2437	1	0	2438	-	2	1	0	3	-	3	2533	0	2536	-	4977
% Lights	95.2%	100%	0%	95.2%	-	100%	100%	0%	100%	-	100%	94.8%	0%	94.8%	-	95.0%
Heavy	123	0	0	123	-	0	0	0	0	-	0	140	0	140	-	263
% Heavy	4.8%	0%	0%	4.8%	-	0%	0%	0%	0%	-	0%	5.2%	0%	5.2%	-	5.0%

Leg Direction	Lockport Rd Westbound					Tuscarora Rd Northbound					Lockport Rd Eastbound					
Time	T	L	U	App	Ped*	R	L	U	App	Ped*	R	T	U	App	Ped*	Int
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Lockport Rd/Tuscarora Rd(S) - TMC

Wed Jan 5, 2022

Full Length (6 AM-10 AM, 4 PM-8 PM)

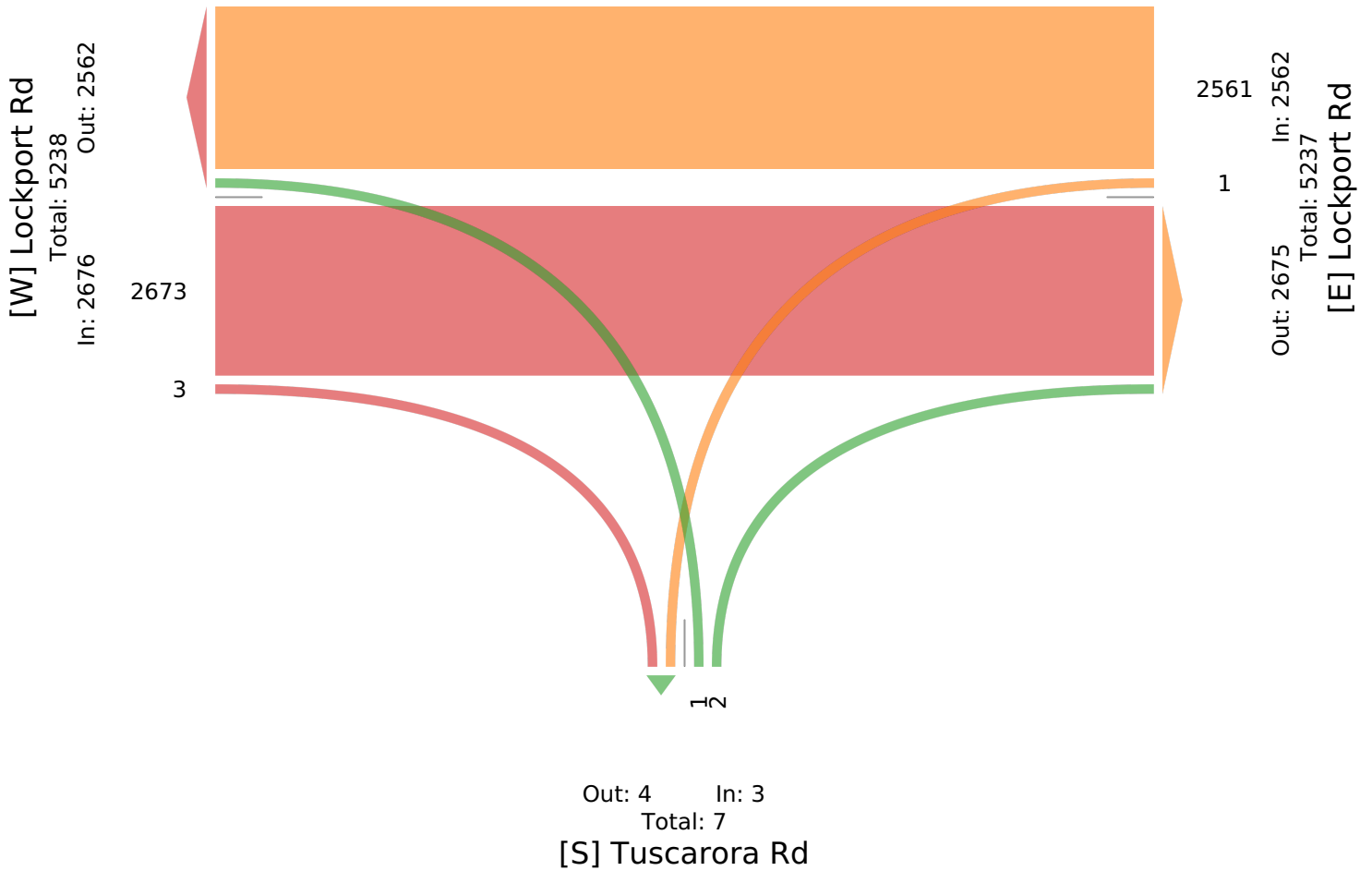
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 913955, Location: 43.121174, -78.953001



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Lockport Rd/Tuscarora Rd(S) - TMC

Wed Jan 5, 2022

Forced Peak (6:30 AM - 7:30 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 913955, Location: 43.121174, -78.953001



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Lockport Rd Westbound					Tuscarora Rd Northbound					Lockport Rd Eastbound					
Time	T	L	U	App	Ped*	R	L	U	App	Ped*	R	T	U	App	Ped*	Int
2022-01-05 6:30AM	99	0	0	99	0	0	0	0	0	0	0	63	0	63	0	162
6:45AM	88	0	0	88	0	0	0	0	0	0	0	91	0	91	0	179
7:00AM	60	0	0	60	0	0	0	0	0	0	0	79	0	79	0	139
7:15AM	81	0	0	81	0	0	0	0	0	0	0	97	0	97	0	178
Total	328	0	0	328	0	0	0	0	0	0	0	330	0	330	0	658
% Approach	100%	0%	0%	-	-	0%	0%	0%	-	-	0%	100%	0%	-	-	-
% Total	49.8%	0%	0%	49.8%	-	0%	0%	0%	0%	-	0%	50.2%	0%	50.2%	-	-
PHF	0.828	-	-	0.828	-	-	-	-	-	-	-	0.851	-	0.851	-	0.919
Motorcycles	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
% Motorcycles	0%	0%	0%	0%	-	0%	0%	0%	-	-	0%	0%	0%	0%	-	0%
Lights	301	0	0	301	-	0	0	0	0	-	0	303	0	303	-	604
% Lights	91.8%	0%	0%	91.8%	-	0%	0%	0%	-	-	0%	91.8%	0%	91.8%	-	91.8%
Heavy	27	0	0	27	-	0	0	0	0	-	0	27	0	27	-	54
% Heavy	8.2%	0%	0%	8.2%	-	0%	0%	0%	-	-	0%	8.2%	0%	8.2%	-	8.2%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Lockport Rd/Tuscarora Rd(S) - TMC

Wed Jan 5, 2022

Forced Peak (6:30 AM - 7:30 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 913955, Location: 43.121174, -78.953001



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Lockport Rd/Tuscarora Rd(S) - TMC

Wed Jan 5, 2022

AM Peak (8 AM - 9 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 913955, Location: 43.121174, -78.953001



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Lockport Rd Westbound					Tuscarora Rd Northbound					Lockport Rd Eastbound					Int
	T	L	U	App	Ped*	R	L	U	App	Ped*	R	T	U	App	Ped*	
2022-01-05 8:00AM	90	0	0	90	0	0	0	0	0	0	0	83	0	83	0	173
8:15AM	86	0	0	86	0	0	0	0	0	0	1	96	0	97	0	183
8:30AM	98	0	0	98	0	0	0	0	0	0	0	83	0	83	0	181
8:45AM	103	0	0	103	0	0	0	0	0	0	0	121	0	121	0	224
Total	377	0	0	377	0	0	0	0	0	0	1	383	0	384	0	761
% Approach	100%	0%	0%	-	-	0%	0%	0%	-	-	0.3%	99.7%	0%	-	-	-
% Total	49.5%	0%	0%	49.5%	-	0%	0%	0%	0%	-	0.1%	50.3%	0%	50.5%	-	-
PHF	0.915	-	-	0.915	-	-	-	-	-	-	0.250	0.791	-	0.793	-	0.849
Motorcycles	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
% Motorcycles	0%	0%	0%	0%	-	0%	0%	0%	-	-	0%	0%	0%	0%	-	0%
Lights	348	0	0	348	-	0	0	0	0	-	1	346	0	347	-	695
% Lights	92.3%	0%	0%	92.3%	-	0%	0%	0%	-	-	100%	90.3%	0%	90.4%	-	91.3%
Heavy	29	0	0	29	-	0	0	0	0	-	0	37	0	37	-	66
% Heavy	7.7%	0%	0%	7.7%	-	0%	0%	0%	-	-	0%	9.7%	0%	9.6%	-	8.7%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Lockport Rd/Tuscarora Rd(S) - TMC

Wed Jan 5, 2022

AM Peak (8 AM - 9 AM)

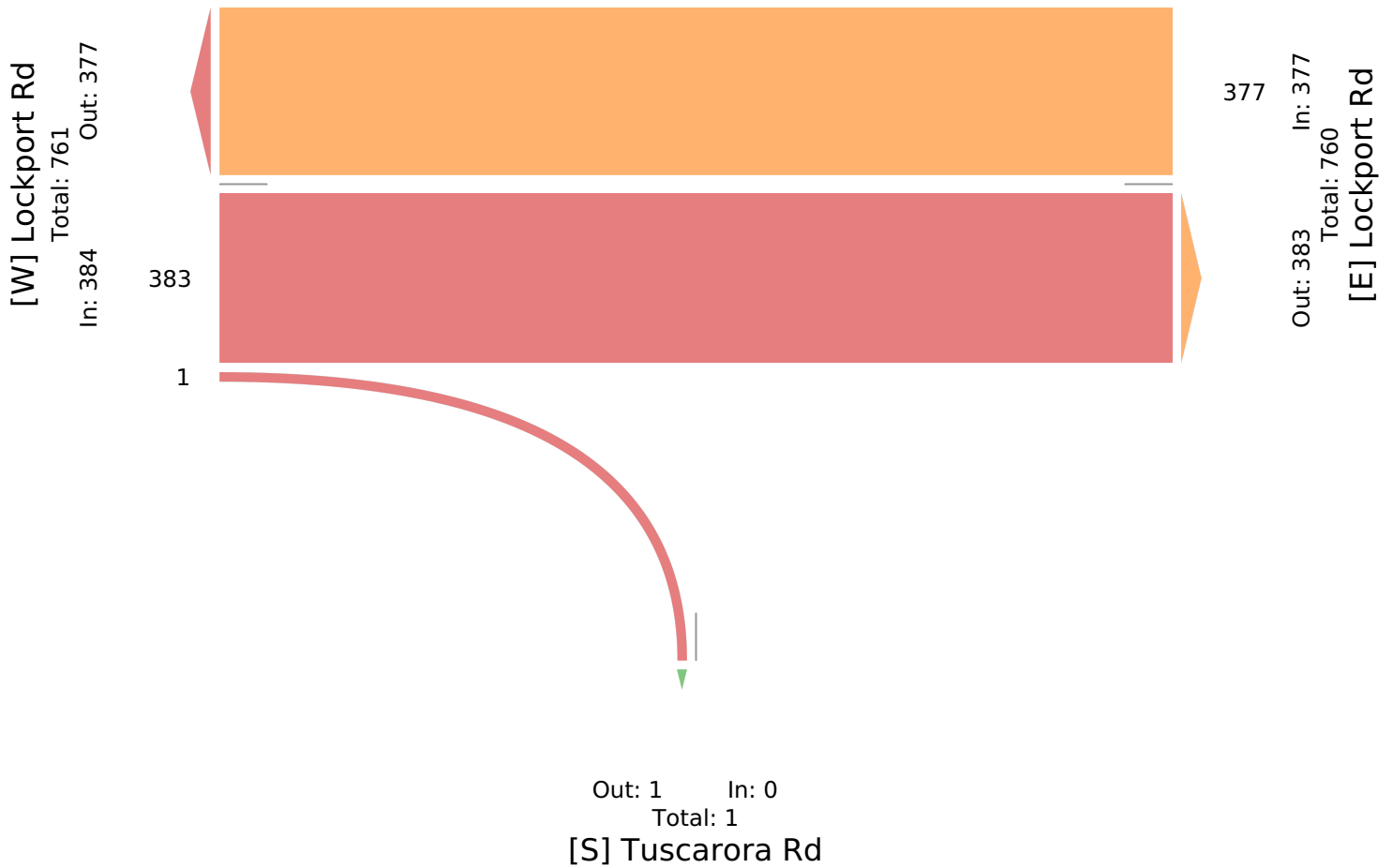
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 913955, Location: 43.121174, -78.953001



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Lockport Rd/Tuscarora Rd(S) - TMC

Wed Jan 5, 2022

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 913955, Location: 43.121174, -78.953001



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Lockport Rd Westbound					Tuscarora Rd Northbound					Lockport Rd Eastbound					Int
	T	L	U	App	Ped*	R	L	U	App	Ped*	R	T	U	App	Ped*	
2022-01-05 4:00PM	134	0	0	134	0	0	0	0	0	0	0	135	0	135	0	269
4:15PM	123	0	0	123	0	0	1	0	1	0	0	123	0	123	0	247
4:30PM	134	0	0	134	0	0	0	0	0	0	0	153	0	153	0	287
4:45PM	111	0	0	111	0	0	0	0	0	0	0	135	0	135	0	246
Total	502	0	0	502	0	0	1	0	1	0	0	546	0	546	0	1049
% Approach	100%	0%	0%	-	-	0%	100%	0%	-	-	0%	100%	0%	-	-	-
% Total	47.9%	0%	0%	47.9%	-	0%	0.1%	0%	0.1%	-	0%	52.0%	0%	52.0%	-	-
PHF	0.937	-	-	0.937	-	-	0.250	-	0.250	-	-	0.892	-	0.892	-	0.914
Motorcycles	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
% Motorcycles	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Lights	486	0	0	486	-	0	1	0	1	-	0	527	0	527	-	1014
% Lights	96.8%	0%	0%	96.8%	-	0%	100%	0%	100%	-	0%	96.5%	0%	96.5%	-	96.7%
Heavy	16	0	0	16	-	0	0	0	0	-	0	19	0	19	-	35
% Heavy	3.2%	0%	0%	3.2%	-	0%	0%	0%	0%	-	0%	3.5%	0%	3.5%	-	3.3%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Lockport Rd/Tuscarora Rd(S) - TMC

Wed Jan 5, 2022

PM Peak (4 PM - 5 PM) - Overall Peak Hour

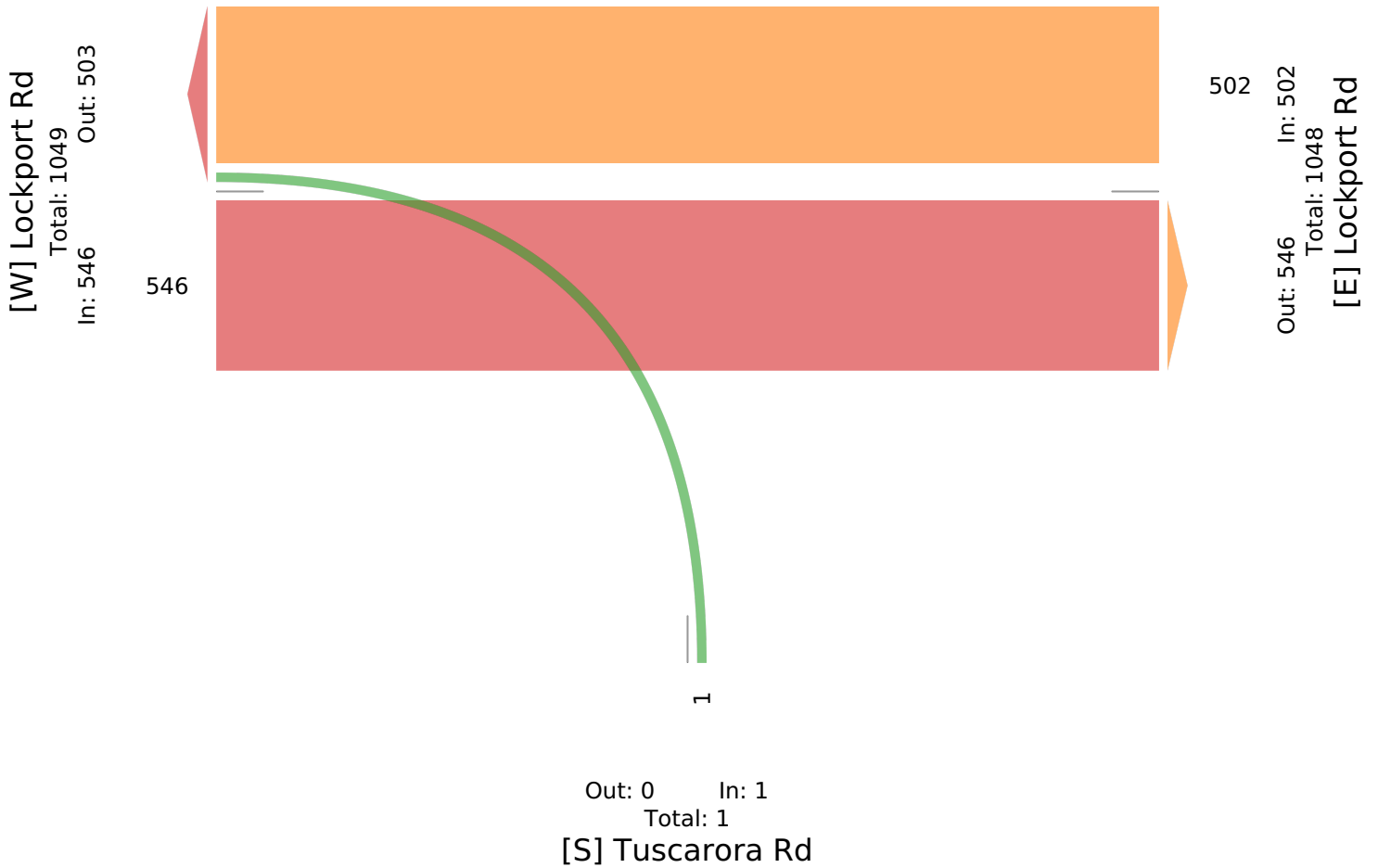
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 913955, Location: 43.121174, -78.953001



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Lockport Rd/Walmore Rd - TMC

Tue Nov 23, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904522, Location: 43.121422, -78.926878



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Lockport Rd Westbound					Walmore Rd Northbound					Lockport Rd Eastbound					Int
Time	T	L	U	App	Ped*	R	L	U	App	Ped*	R	T	U	App	Ped*	Int
2021-11-23 6:00AM	39	4	0	43	0	16	22	0	38	0	5	15	0	20	0	101
6:15AM	64	21	0	85	0	9	34	0	43	0	12	27	0	39	0	167
6:30AM	80	24	0	104	0	22	39	0	61	0	19	33	0	52	0	217
6:45AM	72	17	0	89	0	18	50	0	68	0	28	32	0	60	0	217
Hourly Total	255	66	0	321	0	65	145	0	210	0	64	107	0	171	0	702
7:00AM	62	17	2	81	0	14	37	0	51	0	18	43	0	61	0	193
7:15AM	64	18	1	83	0	19	73	0	92	0	19	47	0	66	0	241
7:30AM	83	12	1	96	0	20	48	0	68	0	41	40	0	81	0	245
7:45AM	80	22	2	104	0	13	21	0	34	0	36	55	0	91	0	229
Hourly Total	289	69	6	364	0	66	179	0	245	0	114	185	0	299	0	908
8:00AM	62	10	0	72	0	15	28	0	43	0	25	48	0	73	0	188
8:15AM	61	12	0	73	0	13	26	0	39	0	32	57	0	89	0	201
8:30AM	61	8	0	69	0	11	38	0	49	0	22	49	0	71	0	189
8:45AM	69	14	0	83	0	15	30	0	45	0	28	47	0	75	0	203
Hourly Total	253	44	0	297	0	54	122	0	176	0	107	201	0	308	0	781
9:00AM	39	12	0	51	0	23	23	0	46	0	28	55	0	83	0	180
9:15AM	50	12	0	62	0	16	22	0	38	0	24	65	0	89	0	189
9:30AM	39	19	1	59	0	12	21	1	34	0	19	32	1	52	0	145
9:45AM	53	20	0	73	0	11	28	0	39	0	16	40	0	56	0	168
Hourly Total	181	63	1	245	0	62	94	1	157	0	87	192	1	280	0	682
10:00AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00PM	67	11	1	79	0	24	52	1	77	0	53	109	0	162	0	318
4:15PM	75	25	4	104	0	26	40	0	66	0	42	98	0	140	0	310
4:30PM	72	24	0	96	0	25	37	0	62	0	61	103	1	165	0	323
4:45PM	75	18	1	94	0	16	39	0	55	0	31	92	0	123	0	272
Hourly Total	289	78	6	373	0	91	168	1	260	0	187	402	1	590	0	1223
5:00PM	73	19	0	92	0	23	37	0	60	0	34	101	1	136	0	288
5:15PM	63	19	0	82	0	24	32	0	56	0	35	64	0	99	0	237
5:30PM	42	20	0	62	0	28	37	0	65	0	33	68	0	101	0	228
5:45PM	53	19	0	72	0	14	33	0	47	0	37	56	0	93	0	212
Hourly Total	231	77	0	308	0	89	139	0	228	0	139	289	1	429	0	965
6:00PM	48	14	0	62	0	9	25	0	34	0	26	46	0	72	0	168
6:15PM	35	17	0	52	0	10	26	0	36	0	23	48	0	71	0	159
6:30PM	22	11	0	33	0	19	12	1	32	0	23	43	0	66	0	131
6:45PM	23	14	0	37	0	7	16	0	23	0	21	43	0	64	0	124
Hourly Total	128	56	0	184	0	45	79	1	125	0	93	180	0	273	0	582
7:00PM	34	5	0	39	0	17	19	0	36	0	14	46	0	60	0	135
7:15PM	23	5	0	28	0	8	11	0	19	0	20	33	0	53	0	100
7:30PM	20	12	0	32	0	8	18	0	26	0	20	26	0	46	0	104
7:45PM	24	4	0	28	0	11	12	0	23	0	12	37	0	49	0	100
Hourly Total	101	26	0	127	0	44	60	0	104	0	66	142	0	208	0	439
8:00PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1727	479	13	2219	0	516	986	3	1505	0	857	1698	3	2558	0	6282
% Approach	77.8%	21.6%	0.6%	-	-	34.3%	65.5%	0.2%	-	-	33.5%	66.4%	0.1%	-	-	-
% Total	27.5%	7.6%	0.2%	35.3%	-	8.2%	15.7%	0%	24.0%	-	13.6%	27.0%	0%	40.7%	-	-
Motorcycles	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
% Motorcycles	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Lights	1631	454	13	2098	-	490	941	3	1434	-	819	1615	3	2437	-	5969
% Lights	94.4%	94.8%	100%	94.5%	-	95.0%	95.4%	100%	95.3%	-	95.6%	95.1%	100%	95.3%	-	95.0%
Heavy	96	25	0	121	-	26	45	0	71	-	38	83	0	121	-	313
% Heavy	5.6%	5.2%	0%	5.5%	-	5.0%	4.6%	0%	4.7%	-	4.4%	4.9%	0%	4.7%	-	5.0%

Leg Direction	Lockport Rd Westbound					Walmore Rd Northbound					Lockport Rd Eastbound					
Time	T	L	U	App	Ped*	R	L	U	App	Ped*	R	T	U	App	Ped*	Int
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Lockport Rd/Walmore Rd - TMC

Tue Nov 23, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

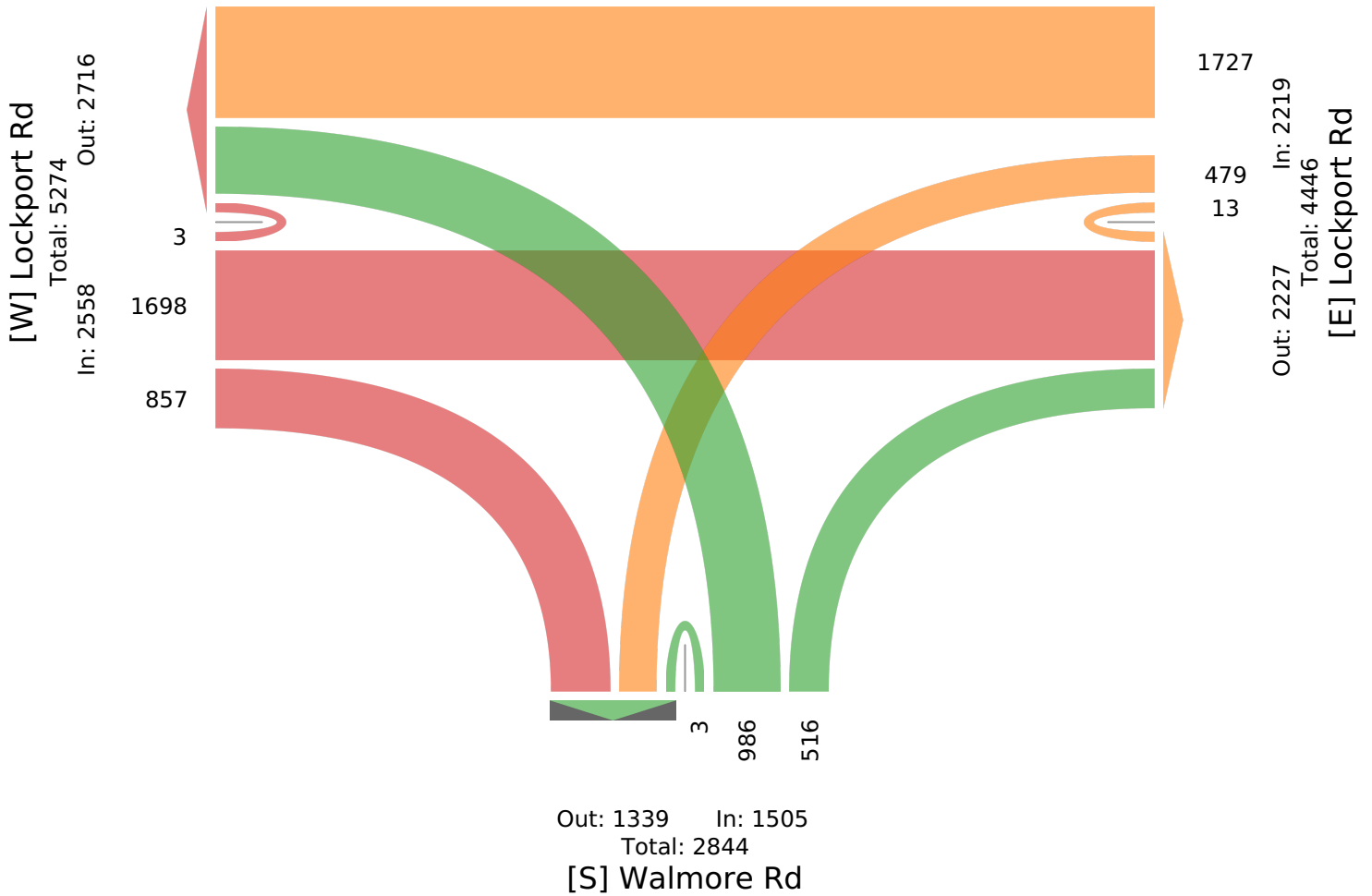
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904522, Location: 43.121422, -78.926878



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Lockport Rd/Walmore Rd - TMC

Tue Nov 23, 2021

Forced Peak (6:30 AM - 7:30 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904522, Location: 43.121422, -78.926878



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Lockport Rd Westbound					Walmore Rd Northbound					Lockport Rd Eastbound					Int
	T	L	U	App	Ped*	R	L	U	App	Ped*	R	T	U	App	Ped*	
Time																
2021-11-23 6:30AM	80	24	0	104	0	22	39	0	61	0	19	33	0	52	0	217
6:45AM	72	17	0	89	0	18	50	0	68	0	28	32	0	60	0	217
7:00AM	62	17	2	81	0	14	37	0	51	0	18	43	0	61	0	193
7:15AM	64	18	1	83	0	19	73	0	92	0	19	47	0	66	0	241
Total	278	76	3	357	0	73	199	0	272	0	84	155	0	239	0	868
% Approach	77.9%	21.3%	0.8%	-	-	26.8%	73.2%	0%	-	-	35.1%	64.9%	0%	-	-	-
% Total	32.0%	8.8%	0.3%	41.1%	-	8.4%	22.9%	0%	31.3%	-	9.7%	17.9%	0%	27.5%	-	-
PHF	0.869	0.792	0.375	0.858	-	0.830	0.682	-	0.739	-	0.750	0.824	-	0.905	-	0.900
Motorcycles	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
% Motorcycles	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Lights	261	72	3	336	-	70	186	0	256	-	74	141	0	215	-	807
% Lights	93.9%	94.7%	100%	94.1%	-	95.9%	93.5%	0%	94.1%	-	88.1%	91.0%	0%	90.0%	-	93.0%
Heavy	17	4	0	21	-	3	13	0	16	-	10	14	0	24	-	61
% Heavy	6.1%	5.3%	0%	5.9%	-	4.1%	6.5%	0%	5.9%	-	11.9%	9.0%	0%	10.0%	-	7.0%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

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

Lockport Rd/Walmore Rd - TMC

Tue Nov 23, 2021

Forced Peak (6:30 AM - 7:30 AM)

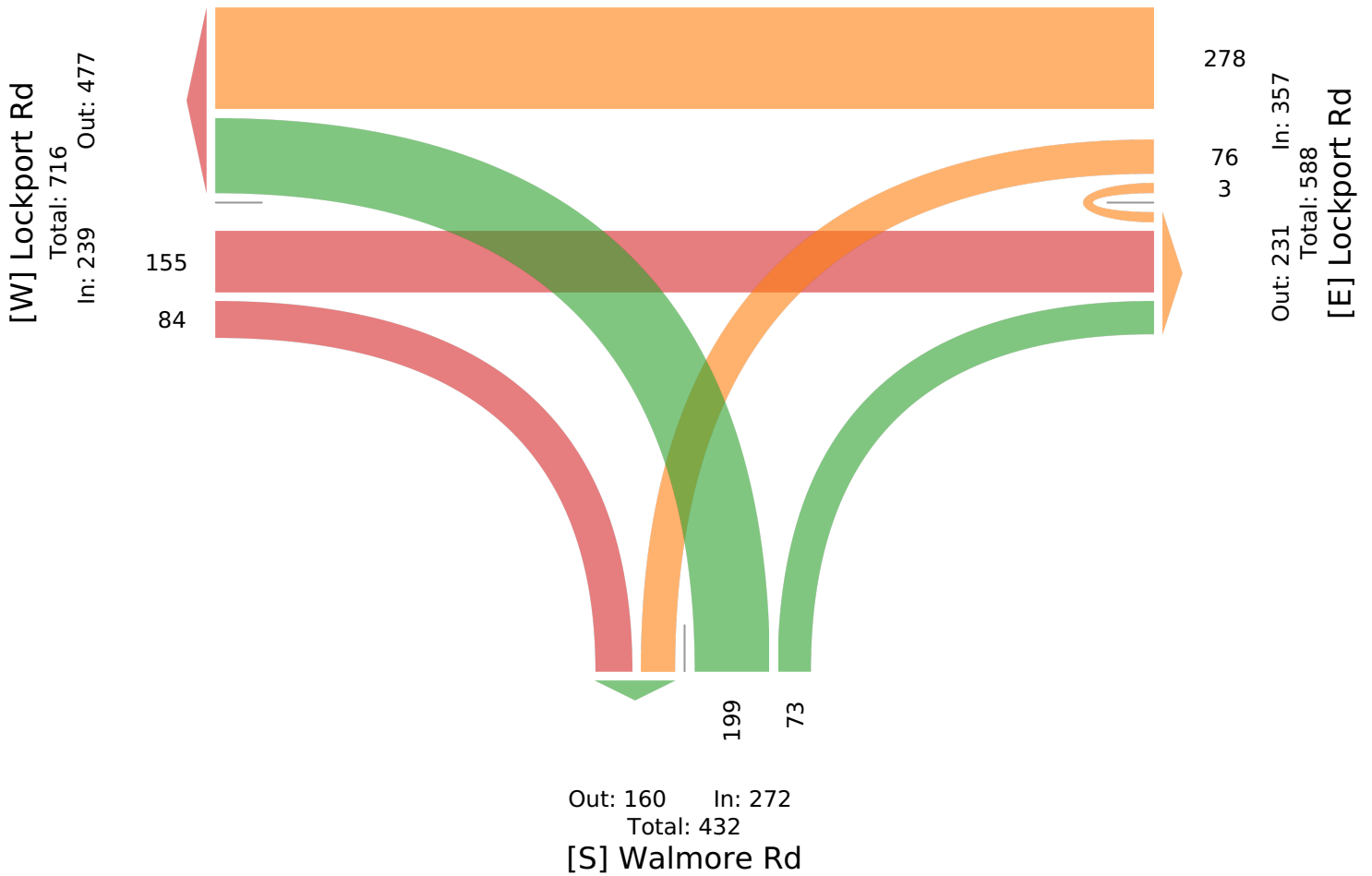
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904522, Location: 43.121422, -78.926878



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Lockport Rd/Walmore Rd - TMC

Tue Nov 23, 2021

AM Peak (7 AM - 8 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904522, Location: 43.121422, -78.926878



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Lockport Rd Westbound					Walmore Rd Northbound					Lockport Rd Eastbound					Int
	T	L	U	App	Ped*	R	L	U	App	Ped*	R	T	U	App	Ped*	
Time																
2021-11-23 7:00AM	62	17	2	81	0	14	37	0	51	0	18	43	0	61	0	193
7:15AM	64	18	1	83	0	19	73	0	92	0	19	47	0	66	0	241
7:30AM	83	12	1	96	0	20	48	0	68	0	41	40	0	81	0	245
7:45AM	80	22	2	104	0	13	21	0	34	0	36	55	0	91	0	229
Total	289	69	6	364	0	66	179	0	245	0	114	185	0	299	0	908
% Approach	79.4%	19.0%	1.6%	-	-	26.9%	73.1%	0%	-	-	38.1%	61.9%	0%	-	-	-
% Total	31.8%	7.6%	0.7%	40.1%	-	7.3%	19.7%	0%	27.0%	-	12.6%	20.4%	0%	32.9%	-	-
PHF	0.870	0.784	0.750	0.875	-	0.825	0.613	-	0.666	-	0.695	0.841	-	0.821	-	0.927
Motorcycles	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
% Motorcycles	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Lights	265	67	6	338	-	65	165	0	230	-	109	170	0	279	-	847
% Lights	91.7%	97.1%	100%	92.9%	-	98.5%	92.2%	0%	93.9%	-	95.6%	91.9%	0%	93.3%	-	93.3%
Heavy	24	2	0	26	-	1	14	0	15	-	5	15	0	20	-	61
% Heavy	8.3%	2.9%	0%	7.1%	-	1.5%	7.8%	0%	6.1%	-	4.4%	8.1%	0%	6.7%	-	6.7%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Lockport Rd/Walmore Rd - TMC

Tue Nov 23, 2021

AM Peak (7 AM - 8 AM)

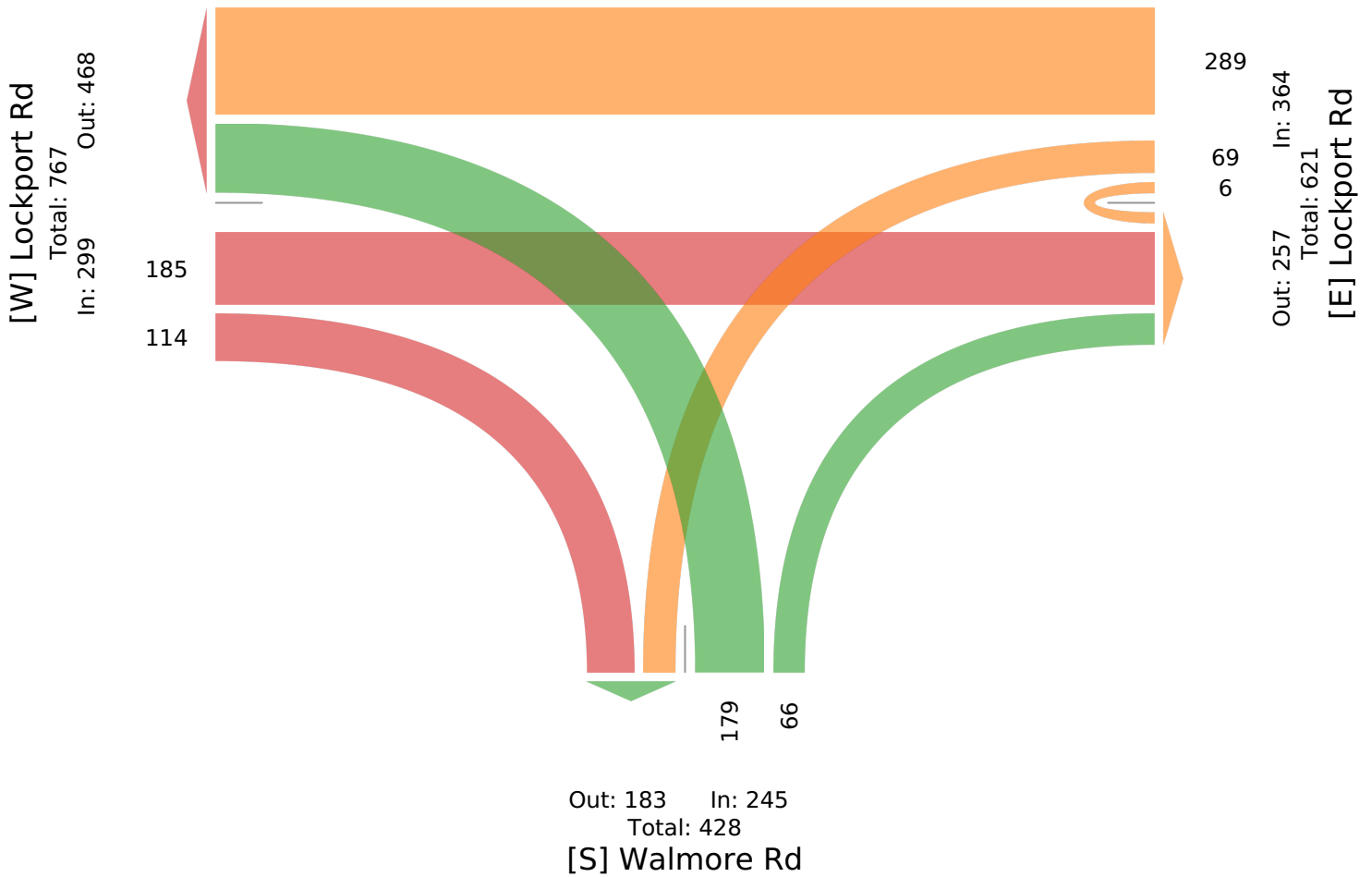
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904522, Location: 43.121422, -78.926878



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Lockport Rd/Walmore Rd - TMC

Tue Nov 23, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904522, Location: 43.121422, -78.926878



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Lockport Rd Westbound					Walmore Rd Northbound					Lockport Rd Eastbound					
Time	T	L	U	App	Ped*	R	L	U	App	Ped*	R	T	U	App	Ped*	Int
2021-11-23 4:00PM	67	11	1	79	0	24	52	1	77	0	53	109	0	162	0	318
4:15PM	75	25	4	104	0	26	40	0	66	0	42	98	0	140	0	310
4:30PM	72	24	0	96	0	25	37	0	62	0	61	103	1	165	0	323
4:45PM	75	18	1	94	0	16	39	0	55	0	31	92	0	123	0	272
Total	289	78	6	373	0	91	168	1	260	0	187	402	1	590	0	1223
% Approach	77.5%	20.9%	1.6%	-	-	35.0%	64.6%	0.4%	-	-	31.7%	68.1%	0.2%	-	-	-
% Total	23.6%	6.4%	0.5%	30.5%	-	7.4%	13.7%	0.1%	21.3%	-	15.3%	32.9%	0.1%	48.2%	-	-
PHF	0.963	0.780	0.375	0.897	-	0.875	0.808	0.250	0.844	-	0.766	0.922	0.250	0.894	-	0.947
Motorcycles	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
% Motorcycles	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Lights	274	76	6	356	-	83	155	1	239	-	186	388	1	575	-	1170
% Lights	94.8%	97.4%	100%	95.4%	-	91.2%	92.3%	100%	91.9%	-	99.5%	96.5%	100%	97.5%	-	95.7%
Heavy	15	2	0	17	-	8	13	0	21	-	1	14	0	15	-	53
% Heavy	5.2%	2.6%	0%	4.6%	-	8.8%	7.7%	0%	8.1%	-	0.5%	3.5%	0%	2.5%	-	4.3%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Lockport Rd/Walmore Rd - TMC

Tue Nov 23, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

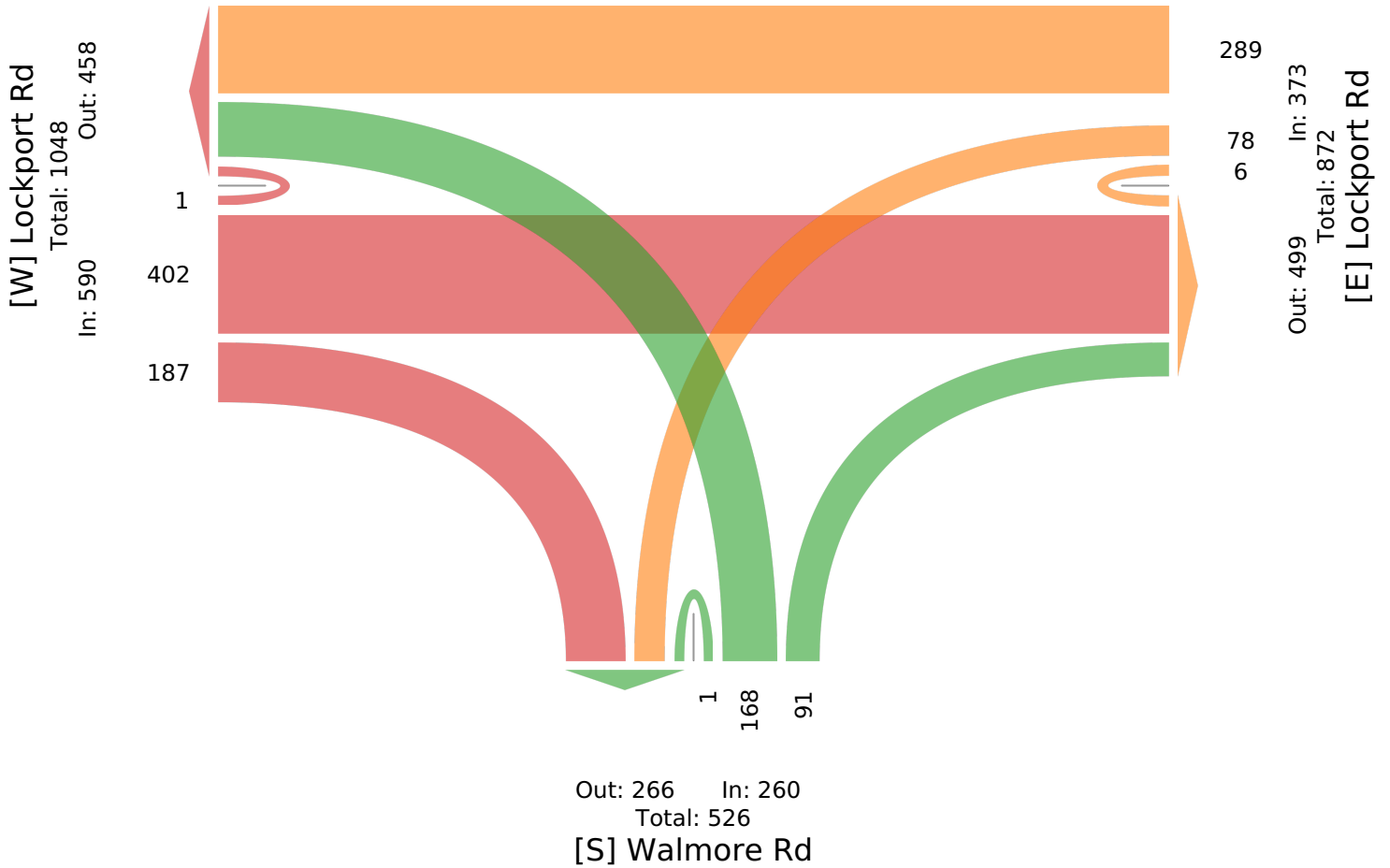
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904522, Location: 43.121422, -78.926878



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Lockport Rd/Walmore Rd - TMC

Tue Dec 14, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 911615, Location: 43.12147, -78.930911



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Walmore Rd Southbound					Lockport Rd Westbound					Lockport Rd Eastbound					Int
Time	R	L	U	App	Ped*	R	T	U	App	Ped*	T	L	U	App	Ped*	Int
2021-12-14 6:00AM	5	4	0	9	0	10	56	0	66	0	28	3	0	31	0	106
6:15AM	6	7	0	13	0	7	89	0	96	0	44	2	0	46	0	155
6:30AM	5	10	0	15	0	11	89	0	100	0	60	6	0	66	0	181
6:45AM	4	15	0	19	0	19	105	0	124	0	50	4	0	54	0	197
Hourly Total	20	36	0	56	0	47	339	0	386	0	182	15	0	197	0	639
7:00AM	7	14	0	21	0	23	83	0	106	0	50	4	0	54	0	181
7:15AM	6	12	0	18	0	61	85	0	146	0	45	9	0	54	0	218
7:30AM	15	41	0	56	0	36	97	0	133	0	59	9	0	68	0	257
7:45AM	12	23	0	35	0	11	106	0	117	0	64	4	0	68	0	220
Hourly Total	40	90	0	130	0	131	371	0	502	0	218	26	0	244	0	876
8:00AM	16	14	0	30	0	24	87	2	113	0	65	8	0	73	0	216
8:15AM	9	19	0	28	0	19	67	0	86	0	71	4	0	75	0	189
8:30AM	13	11	0	24	0	11	90	0	101	0	70	8	0	78	0	203
8:45AM	12	7	0	19	0	26	86	0	112	0	83	5	0	88	0	219
Hourly Total	50	51	0	101	0	80	330	2	412	0	289	25	0	314	0	827
9:00AM	6	17	0	23	0	13	50	0	63	0	62	3	0	65	0	151
9:15AM	11	12	0	23	0	23	79	0	102	0	60	10	1	71	0	196
9:30AM	5	19	0	24	0	17	56	1	74	0	54	8	0	62	0	160
9:45AM	12	20	0	32	0	17	60	1	78	0	53	7	1	61	0	171
Hourly Total	34	68	0	102	0	70	245	2	317	0	229	28	2	259	0	678
4:00PM	14	32	0	46	0	28	79	0	107	0	139	21	0	160	0	313
4:15PM	22	24	0	46	0	37	90	1	128	0	110	22	1	133	0	307
4:30PM	14	29	0	43	0	42	85	2	129	0	119	15	1	135	0	307
4:45PM	7	29	0	36	0	37	85	1	123	0	100	13	0	113	0	272
Hourly Total	57	114	0	171	0	144	339	4	487	0	468	71	2	541	0	1199
5:00PM	7	32	0	39	0	23	73	0	96	0	95	7	0	102	0	237
5:15PM	6	25	0	31	0	18	73	0	91	0	105	14	0	119	0	241
5:30PM	5	14	0	19	0	20	73	0	93	0	78	8	0	86	0	198
5:45PM	8	22	0	30	0	28	53	0	81	0	57	10	0	67	0	178
Hourly Total	26	93	0	119	0	89	272	0	361	0	335	39	0	374	0	854
6:00PM	7	14	0	21	0	13	58	0	71	0	50	10	0	60	0	152
6:15PM	5	23	0	28	0	28	47	0	75	0	55	6	0	61	0	164
6:30PM	3	16	0	19	0	13	58	0	71	0	56	7	0	63	0	153
6:45PM	9	13	0	22	0	12	45	0	57	0	49	3	0	52	0	131
Hourly Total	24	66	0	90	0	66	208	0	274	0	210	26	0	236	0	600
7:00PM	3	10	0	13	0	17	31	0	48	0	47	4	0	51	0	112
7:15PM	2	16	0	18	0	15	38	0	53	0	30	4	0	34	0	105
7:30PM	6	17	0	23	0	13	30	0	43	0	48	5	0	53	0	119
7:45PM	4	14	0	18	0	8	34	0	42	0	29	5	0	34	0	94
Hourly Total	15	57	0	72	0	53	133	0	186	0	154	18	0	172	0	430
8:00PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	266	575	0	841	0	680	2237	8	2925	0	2085	248	4	2337	0	6103
% Approach	31.6%	68.4%	0%	-	-	23.2%	76.5%	0.3%	-	-	89.2%	10.6%	0.2%	-	-	-
% Total	4.4%	9.4%	0%	13.8%	-	11.1%	36.7%	0.1%	47.9%	-	34.2%	4.1%	0.1%	38.3%	-	-
Motorcycles	0	2	0	2	-	0	0	0	0	-	1	0	0	1	-	3
% Motorcycles	0%	0.3%	0%	0.2%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Lights	253	536	0	789	-	641	2091	7	2739	-	1951	230	4	2185	-	5713
% Lights	95.1%	93.2%	0%	93.8%	-	94.3%	93.5%	87.5%	93.6%	-	93.6%	92.7%	100%	93.5%	-	93.6%
Heavy	13	37	0	50	-	39	146	1	186	-	133	18	0	151	-	387
% Heavy	4.9%	6.4%	0%	5.9%	-	5.7%	6.5%	12.5%	6.4%	-	6.4%	7.3%	0%	6.5%	-	6.3%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Leg Direction	Walmore Rd Southbound					Lockport Rd Westbound					Lockport Rd Eastbound					
Time	R	L	U	App	Ped*	R	T	U	App	Ped*	T	L	U	App	Ped*	Int
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Lockport Rd/Walmore Rd - TMC

Tue Dec 14, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 911615, Location: 43.12147, -78.930911



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

[N] Walmore Rd

Total: 1769

In: 841 Out: 928

266
575



Lockport Rd/Walmore Rd - TMC

Tue Dec 14, 2021

Forced Peak (6:30 AM - 7:30 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 911615, Location: 43.12147, -78.930911



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Walmore Rd Southbound					Lockport Rd Westbound					Lockport Rd Eastbound					
Time	R	L	U	App	Ped*	R	T	U	App	Ped*	T	L	U	App	Ped*	Int
2021-12-14 6:30AM	5	10	0	15	0	11	89	0	100	0	60	6	0	66	0	181
6:45AM	4	15	0	19	0	19	105	0	124	0	50	4	0	54	0	197
7:00AM	7	14	0	21	0	23	83	0	106	0	50	4	0	54	0	181
7:15AM	6	12	0	18	0	61	85	0	146	0	45	9	0	54	0	218
Total	22	51	0	73	0	114	362	0	476	0	205	23	0	228	0	777
% Approach	30.1%	69.9%	0%	-	-	23.9%	76.1%	0%	-	-	89.9%	10.1%	0%	-	-	-
% Total	2.8%	6.6%	0%	9.4%	-	14.7%	46.6%	0%	61.3%	-	26.4%	3.0%	0%	29.3%	-	-
PHF	0.786	0.850	-	0.869	-	0.467	0.862	-	0.815	-	0.854	0.639	-	0.864	-	0.891
Motorcycles	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
% Motorcycles	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Lights	21	44	0	65	-	105	349	0	454	-	193	22	0	215	-	734
% Lights	95.5%	86.3%	0%	89.0%	-	92.1%	96.4%	0%	95.4%	-	94.1%	95.7%	0%	94.3%	-	94.5%
Heavy	1	7	0	8	-	9	13	0	22	-	12	1	0	13	-	43
% Heavy	4.5%	13.7%	0%	11.0%	-	7.9%	3.6%	0%	4.6%	-	5.9%	4.3%	0%	5.7%	-	5.5%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Lockport Rd/Walmore Rd - TMC

Tue Dec 14, 2021

Forced Peak (6:30 AM - 7:30 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 911615, Location: 43.12147, -78.930911



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

[N] Walmore Rd

Total: 210

In: 73 Out: 137

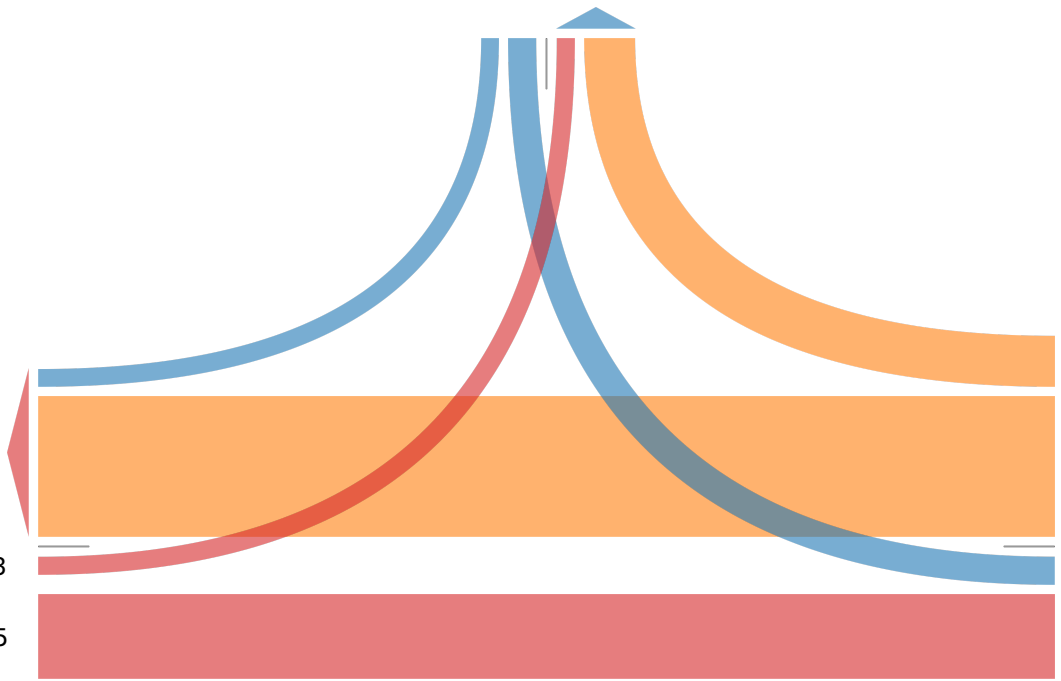
22 51

[W] Lockport Rd

Total: 612

In: 228 Out: 384

23 205



114 362

Out: 256 In: 476

Total: 732

[E] Lockport Rd

Lockport Rd/Walmore Rd - TMC

Tue Dec 14, 2021

AM Peak (7:15 AM - 8:15 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 911615, Location: 43.12147, -78.930911



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Walmore Rd Southbound					Lockport Rd Westbound					Lockport Rd Eastbound					
Time	R	L	U	App	Ped*	R	T	U	App	Ped*	T	L	U	App	Ped*	Int
2021-12-14 7:15AM	6	12	0	18	0	61	85	0	146	0	45	9	0	54	0	218
7:30AM	15	41	0	56	0	36	97	0	133	0	59	9	0	68	0	257
7:45AM	12	23	0	35	0	11	106	0	117	0	64	4	0	68	0	220
8:00AM	16	14	0	30	0	24	87	2	113	0	65	8	0	73	0	216
Total	49	90	0	139	0	132	375	2	509	0	233	30	0	263	0	911
% Approach	35.3%	64.7%	0%	-	-	25.9%	73.7%	0.4%	-	-	88.6%	11.4%	0%	-	-	-
% Total	5.4%	9.9%	0%	15.3%	-	14.5%	41.2%	0.2%	55.9%	-	25.6%	3.3%	0%	28.9%	-	-
PHF	0.766	0.549	-	0.621	-	0.541	0.884	0.250	0.872	-	0.896	0.833	-	0.901	-	0.886
Motorcycles	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
% Motorcycles	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Lights	43	80	0	123	-	120	351	2	473	-	213	28	0	241	-	837
% Lights	87.8%	88.9%	0%	88.5%	-	90.9%	93.6%	100%	92.9%	-	91.4%	93.3%	0%	91.6%	-	91.9%
Heavy	6	10	0	16	-	12	24	0	36	-	20	2	0	22	-	74
% Heavy	12.2%	11.1%	0%	11.5%	-	9.1%	6.4%	0%	7.1%	-	8.6%	6.7%	0%	8.4%	-	8.1%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Lockport Rd/Walmore Rd - TMC

Tue Dec 14, 2021

AM Peak (7:15 AM - 8:15 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 911615, Location: 43.12147, -78.930911



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

[N] Walmore Rd

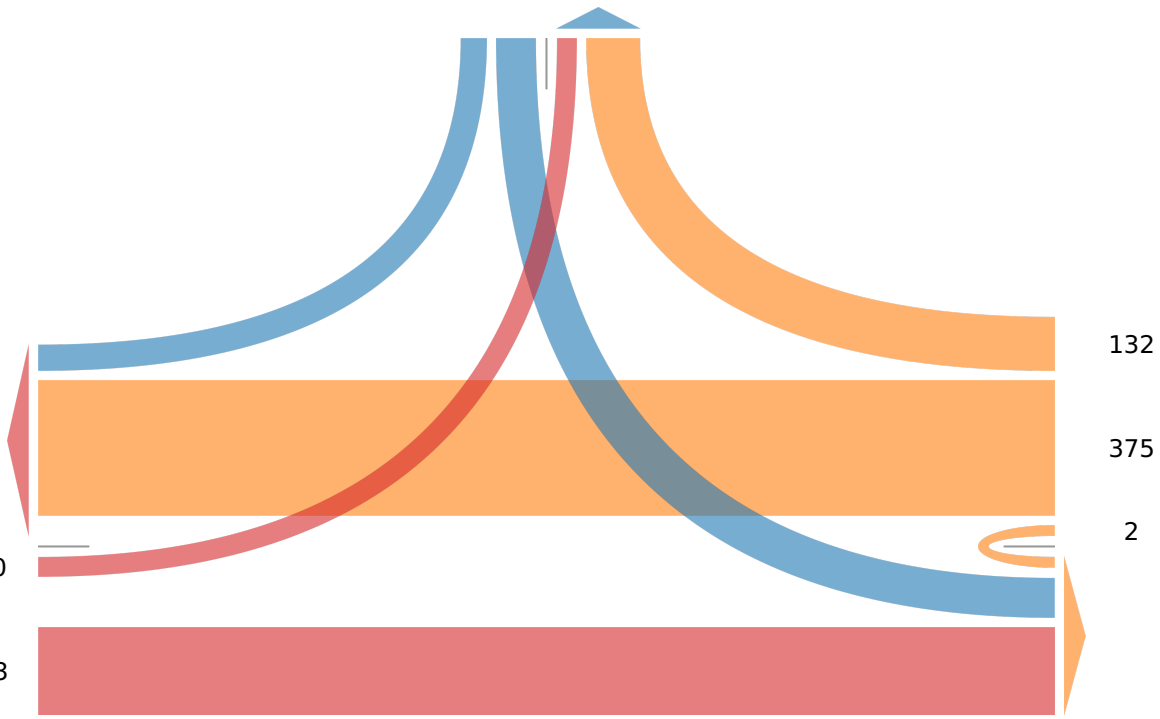
Total: 301

In: 139 Out: 162

49 90

[W] Lockport Rd
Total: 687
In: 263 Out: 424

30
233



132
375
2

Out: 325 In: 509
Total: 834
[E] Lockport Rd

Lockport Rd/Walmore Rd - TMC

Tue Dec 14, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 911615, Location: 43.12147, -78.930911



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Walmore Rd Southbound					Lockport Rd Westbound					Lockport Rd Eastbound					
Time	R	L	U	App	Ped*	R	T	U	App	Ped*	T	L	U	App	Ped*	Int
2021-12-14 4:00PM	14	32	0	46	0	28	79	0	107	0	139	21	0	160	0	313
4:15PM	22	24	0	46	0	37	90	1	128	0	110	22	1	133	0	307
4:30PM	14	29	0	43	0	42	85	2	129	0	119	15	1	135	0	307
4:45PM	7	29	0	36	0	37	85	1	123	0	100	13	0	113	0	272
Total	57	114	0	171	0	144	339	4	487	0	468	71	2	541	0	1199
% Approach	33.3%	66.7%	0%	-	-	29.6%	69.6%	0.8%	-	-	86.5%	13.1%	0.4%	-	-	-
% Total	4.8%	9.5%	0%	14.3%	-	12.0%	28.3%	0.3%	40.6%	-	39.0%	5.9%	0.2%	45.1%	-	-
PHF	0.648	0.891	-	0.929	-	0.857	0.942	0.500	0.944	-	0.842	0.807	0.500	0.845	-	0.958
Motorcycles	0	2	0	2	-	0	0	0	0	-	1	0	0	1	-	3
% Motorcycles	0%	1.8%	0%	1.2%	-	0%	0%	0%	0%	-	0.2%	0%	0%	0.2%	-	0.3%
Lights	54	103	0	157	-	132	324	3	459	-	448	65	2	515	-	1131
% Lights	94.7%	90.4%	0%	91.8%	-	91.7%	95.6%	75.0%	94.3%	-	95.7%	91.5%	100%	95.2%	-	94.3%
Heavy	3	9	0	12	-	12	15	1	28	-	19	6	0	25	-	65
% Heavy	5.3%	7.9%	0%	7.0%	-	8.3%	4.4%	25.0%	5.7%	-	4.1%	8.5%	0%	4.6%	-	5.4%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Lockport Rd/Walmore Rd - TMC

Tue Dec 14, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 911615, Location: 43.12147, -78.930911



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

[N] Walmore Rd

Total: 386

In: 171 Out: 215

57
114

[W] Lockport Rd

Total: 939

Out: 398

In: 541

2
71
468

144

339

4

Out: 586

Total: 1073

[E] Lockport Rd

In: 487

[E] Lockport Rd

Niagara Falls Blvd/Walmore Rd/Niagara Rd - TMC

Tue Nov 23, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

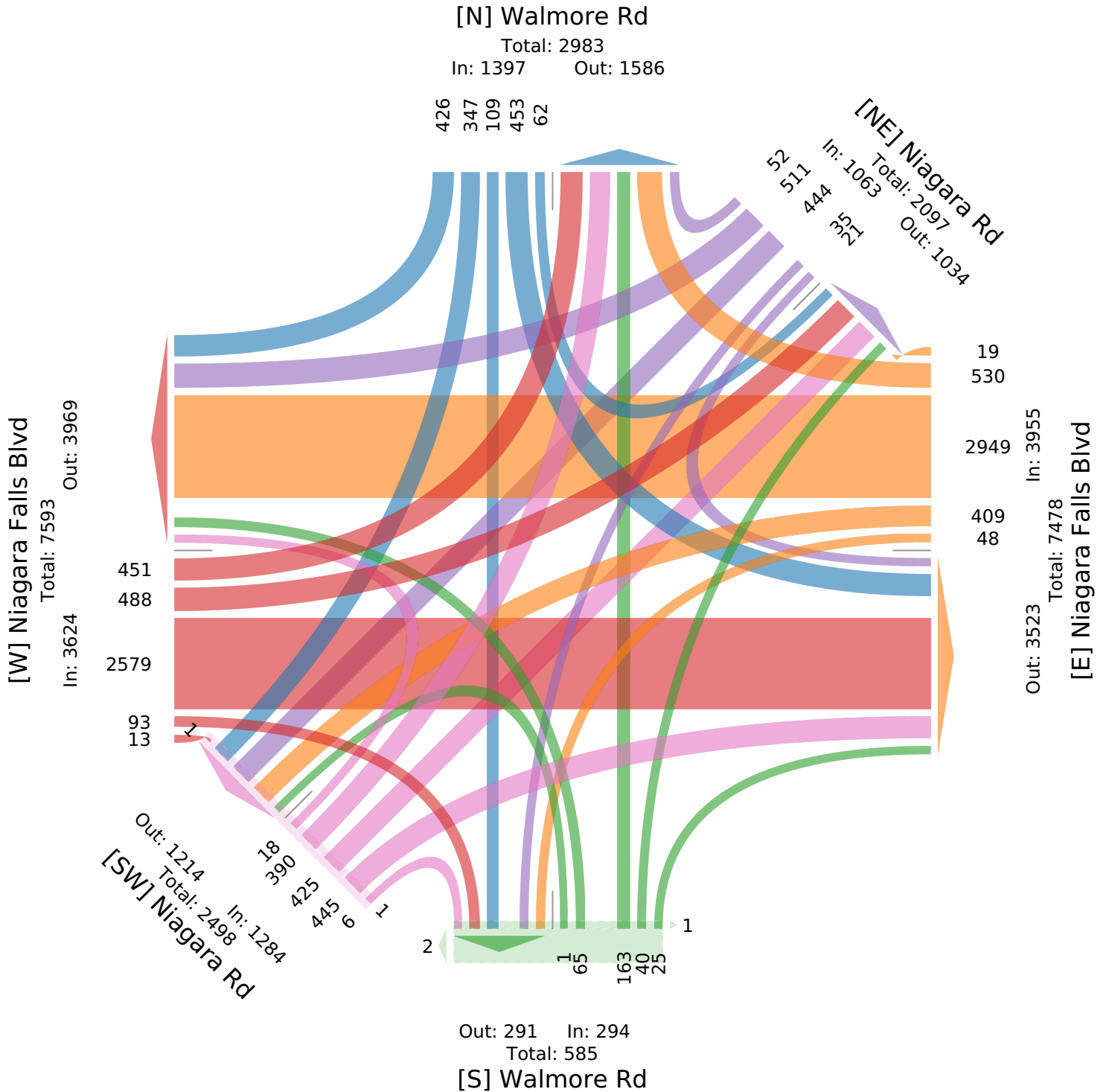
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904855, Location: 43.099149, -78.927205



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Niagara Falls Blvd/Walmore Rd/Niagara Rd - TMC

Tue Nov 23, 2021

Forced Peak (6:30 AM - 7:30 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904855, Location: 43.099149, -78.927205



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Walmore Rd Southbound							Niagara Rd Southwestbound							Niagara Falls Blvd Westbound										
Time	R	BR	T	L	HL	U	App Ped*	HR	BR	T	BL	HL	U	App Ped*	HR	R	T	BL	L	U	App Ped*				
2021-11-23 6:30AM	3	10	2	8	0	0	23	0	0	12	21	1	0	0	34	0	0	31	40	4	2	0	77	0	
6:45AM	7	10	0	12	1	0	30	0	1	10	11	0	0	0	22	0	0	44	53	4	1	0	102	0	
7:00AM	4	11	6	10	0	0	31	0	1	12	16	0	0	0	29	0	0	17	53	3	0	0	73	0	
7:15AM	4	13	2	13	2	0	34	0	3	14	12	0	0	0	29	0	0	40	83	9	5	0	137	0	
Total	18	44	10	43	3	0	118	0	5	48	60	1	0	0	114	0	0	132	229	20	8	0	389	0	
% Approach	15.3%	37.3%	8.5%	36.4%	2.5%	0%	-	-	4.4%	42.1%	52.6%	0.9%	0%	0%	-	-	0%	33.9%	58.9%	5.1%	2.1%	0%	-	-	
% Total	1.5%	3.8%	0.9%	3.7%	0.3%	0%	10.1%	-	0.4%	4.1%	5.1%	0.1%	0%	0%	9.8%	-	0%	11.3%	19.6%	1.7%	0.7%	0%	33.4%	-	
PHF	0.643	0.846	0.417	0.827	0.375	-	0.868	-	0.417	0.857	0.714	0.250	-	-	0.838	-	-	0.750	0.690	0.556	0.400	-	0.710	-	
Motorcycles	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	0	-
% Motorcycles	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	-
Lights	17	43	9	39	2	0	110	-	5	48	60	0	0	0	113	-	0	126	214	19	8	0	367	-	
% Lights	94.4%	97.7%	90.0%	90.7%	66.7%	0%	93.2%	-	100%	100%	100%	0%	0%	0%	99.1%	-	0%	95.5%	93.4%	95.0%	100%	0%	94.3%	-	
Heavy	1	1	1	4	1	0	8	-	0	0	0	1	0	0	1	-	0	6	15	1	0	0	22	-	
% Heavy	5.6%	2.3%	10.0%	9.3%	33.3%	0%	6.8%	-	0%	0%	0%	100%	0%	0%	0.9%	-	0%	4.5%	6.6%	5.0%	0%	0%	5.7%	-	
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Niagara Falls Blvd/Walmore Rd/Niagara Rd - TMC

Tue Nov 23, 2021

Forced Peak (6:30 AM - 7:30 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904855, Location: 43.099149, -78.927205



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Walmore Rd Northbound								Niagara Rd Northeastbound								Niagara Falls Blvd Eastbound								
Time	R	BR	T	L	HL	U	App	Ped*	HR	BR	T	BL	HL	U	App	Ped*	HR	R	T	BL	L	U	App	Ped*	Int
2021-11-23 6:30AM	0	1	7	3	0	0	11	0	0	12	14	20	1	0	47	0	0	3	45	7	10	0	65	0	257
6:45AM	0	1	8	2	0	0	11	1	0	5	7	18	0	0	30	1	0	3	64	4	9	0	80	0	275
7:00AM	0	0	10	3	0	0	13	0	0	11	16	23	0	0	50	0	0	2	54	5	14	0	75	0	271
7:15AM	2	1	22	2	0	0	27	0	0	6	17	18	1	0	42	0	0	0	60	11	23	0	94	0	363
Total	2	3	47	10	0	0	62	1	0	34	54	79	2	0	169	1	0	8	223	27	56	0	314	0	1166
% Approach	3.2%	4.8%	75.8%	16.1%	0%	0%	-	-	0%	20.1%	32.0%	46.7%	1.2%	0%	-	-	0%	2.5%	71.0%	8.6%	17.8%	0%	-	-	-
% Total	0.2%	0.3%	4.0%	0.9%	0%	0%	5.3%	-	0%	2.9%	4.6%	6.8%	0.2%	0%	14.5%	-	0%	0.7%	19.1%	2.3%	4.8%	0%	26.9%	-	-
PHF	0.250	0.750	0.534	0.833	-	-	0.574	-	-	0.708	0.794	0.859	0.500	-	0.845	-	-	0.667	0.871	0.614	0.609	-	0.835	-	0.803
Motorcycles	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	-	0
% Motorcycles	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	-	0%
Lights	2	3	45	9	0	0	59	-	0	32	53	75	2	0	162	-	0	8	212	26	50	0	296	-	1107
% Lights	100%	100%	95.7%	90.0%	0%	0%	95.2%	-	0%	94.1%	98.1%	94.9%	100%	0%	95.9%	-	0%	100%	95.1%	96.3%	89.3%	0%	94.3%	-	94.9%
Heavy	0	0	2	1	0	0	3	-	0	2	1	4	0	0	7	-	0	0	11	1	6	0	18	-	59
% Heavy	0%	0%	4.3%	10.0%	0%	0%	4.8%	-	0%	5.9%	1.9%	5.1%	0%	0%	4.1%	-	0%	0%	4.9%	3.7%	10.7%	0%	5.7%	-	5.1%
Pedestrians	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	0%	-	-	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-

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

Niagara Falls Blvd/Walmore Rd/Niagara Rd - TMC

Tue Nov 23, 2021

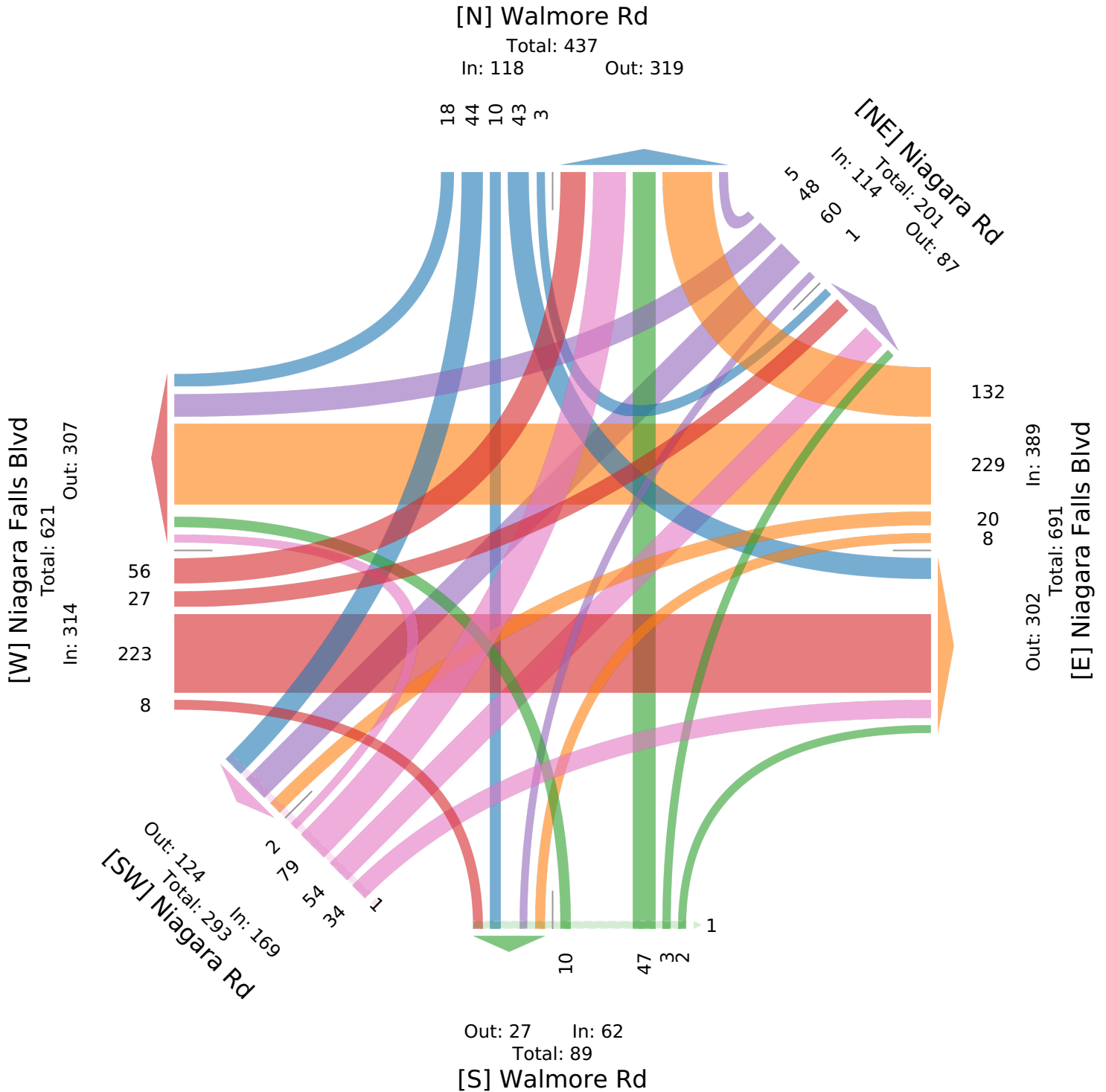
Forced Peak (6:30 AM - 7:30 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements

ID: 904855, Location: 43.099149, -78.927205



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Niagara Falls Blvd/Walmore Rd/Niagara Rd - TMC

Tue Nov 23, 2021

AM Peak (7:15 AM - 8:15 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904855, Location: 43.099149, -78.927205



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Walmore Rd Southbound							Niagara Rd Southwestbound							Niagara Falls Blvd Westbound										
	R	BR	T	L	HL	U	App Ped*	HR	BR	T	BL	HL	U	App Ped*	HR	R	T	BL	L	U	App Ped*				
2021-11-23 7:15AM	4	13	2	13	2	0	34	0	3	14	12	0	0	0	29	0	0	40	83	9	5	0	137	0	
7:30AM	11	14	7	18	1	0	51	0	3	14	29	0	0	0	46	0	0	22	93	18	3	0	136	0	
7:45AM	21	17	5	17	0	0	60	0	1	18	20	1	1	0	41	0	0	27	122	11	1	0	161	0	
8:00AM	5	6	2	15	5	0	33	0	2	12	14	0	0	0	28	0	0	30	95	20	0	0	145	0	
Total	41	50	16	63	8	0	178	0	9	58	75	1	1	0	144	0	0	119	393	58	9	0	579	0	
% Approach	23.0%	28.1%	9.0%	35.4%	4.5%	0%	-	-	6.3%	40.3%	52.1%	0.7%	0.7%	0%	-	-	0%	20.6%	67.9%	10.0%	1.6%	0%	-	-	
% Total	2.8%	3.4%	1.1%	4.2%	0.5%	0%	12.0%	-	0.6%	3.9%	5.0%	0.1%	0.1%	0%	9.7%	-	0%	8.0%	26.4%	3.9%	0.6%	0%	39.0%	-	
PHF	0.488	0.735	0.571	0.875	0.400	-	0.742	-	0.750	0.806	0.647	0.250	0.250	-	0.783	-	-	0.744	0.805	0.725	0.450	-	0.899	-	
Motorcycles	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	0	-
% Motorcycles	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	-
Lights	41	48	15	58	5	0	167	-	7	57	70	1	1	0	136	-	0	112	378	57	9	0	556	-	
% Lights	100%	96.0%	93.8%	92.1%	62.5%	0%	93.8%	-	77.8%	98.3%	93.3%	100%	100%	0%	94.4%	-	0%	94.1%	96.2%	98.3%	100%	0%	96.0%	-	
Heavy	0	2	1	5	3	0	11	-	2	1	5	0	0	0	8	-	0	7	15	1	0	0	23	-	
% Heavy	0%	4.0%	6.3%	7.9%	37.5%	0%	6.2%	-	22.2%	1.7%	6.7%	0%	0%	0%	5.6%	-	0%	5.9%	3.8%	1.7%	0%	0%	4.0%	-	
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Niagara Falls Blvd/Walmore Rd/Niagara Rd - TMC

Tue Nov 23, 2021

AM Peak (7:15 AM - 8:15 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904855, Location: 43.099149, -78.927205



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Walmore Rd Northbound								Niagara Rd Northeastbound								Niagara Falls Blvd Eastbound								
Time	R	BR	T	L	HL	U	App	Ped*	HR	BR	T	BL	HL	U	App	Ped*	HR	R	T	BL	L	U	App	Ped*	Int
2021-11-23 7:15AM	2	1	22	2	0	0	27	0	0	6	17	18	1	0	42	0	0	0	60	11	23	0	94	0	363
7:30AM	1	1	13	1	0	0	16	0	0	13	23	21	0	0	57	0	0	5	58	9	12	0	84	0	390
7:45AM	0	1	6	2	0	0	9	0	0	18	10	8	1	0	37	0	0	1	63	14	10	0	88	0	396
8:00AM	0	1	4	2	0	0	7	0	0	8	19	10	0	0	37	0	0	2	63	11	11	0	87	0	337
Total	3	4	45	7	0	0	59	0	0	45	69	57	2	0	173	0	0	8	244	45	56	0	353	0	1486
% Approach	5.1%	6.8%	76.3%	11.9%	0%	0%	-	-	0%	26.0%	39.9%	32.9%	1.2%	0%	-	-	0%	2.3%	69.1%	12.7%	15.9%	0%	-	-	-
% Total	0.2%	0.3%	3.0%	0.5%	0%	0%	4.0%	-	0%	3.0%	4.6%	3.8%	0.1%	0%	11.6%	-	0%	0.5%	16.4%	3.0%	3.8%	0%	23.8%	-	-
PHF	0.375	1.000	0.511	0.875	-	-	0.546	-	-	0.625	0.750	0.679	0.500	-	0.759	-	-	0.400	0.968	0.804	0.609	-	0.939	-	0.938
Motorcycles	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	-	0
% Motorcycles	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	-	0%
Lights	3	3	45	7	0	0	58	-	0	42	65	56	2	0	165	-	0	8	231	44	51	0	334	-	1416
% Lights	100%	75.0%	100%	100%	0%	0%	98.3%	-	0%	93.3%	94.2%	98.2%	100%	0%	95.4%	-	0%	100%	94.7%	97.8%	91.1%	0%	94.6%	-	95.3%
Heavy	0	1	0	0	0	0	1	-	0	3	4	1	0	0	8	-	0	0	13	1	5	0	19	-	70
% Heavy	0%	25.0%	0%	0%	0%	0%	1.7%	-	0%	6.7%	5.8%	1.8%	0%	0%	4.6%	-	0%	0%	5.3%	2.2%	8.9%	0%	5.4%	-	4.7%
Pedestrians	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Niagara Falls Blvd/Walmore Rd/Niagara Rd - TMC

Tue Nov 23, 2021

AM Peak (7:15 AM - 8:15 AM)

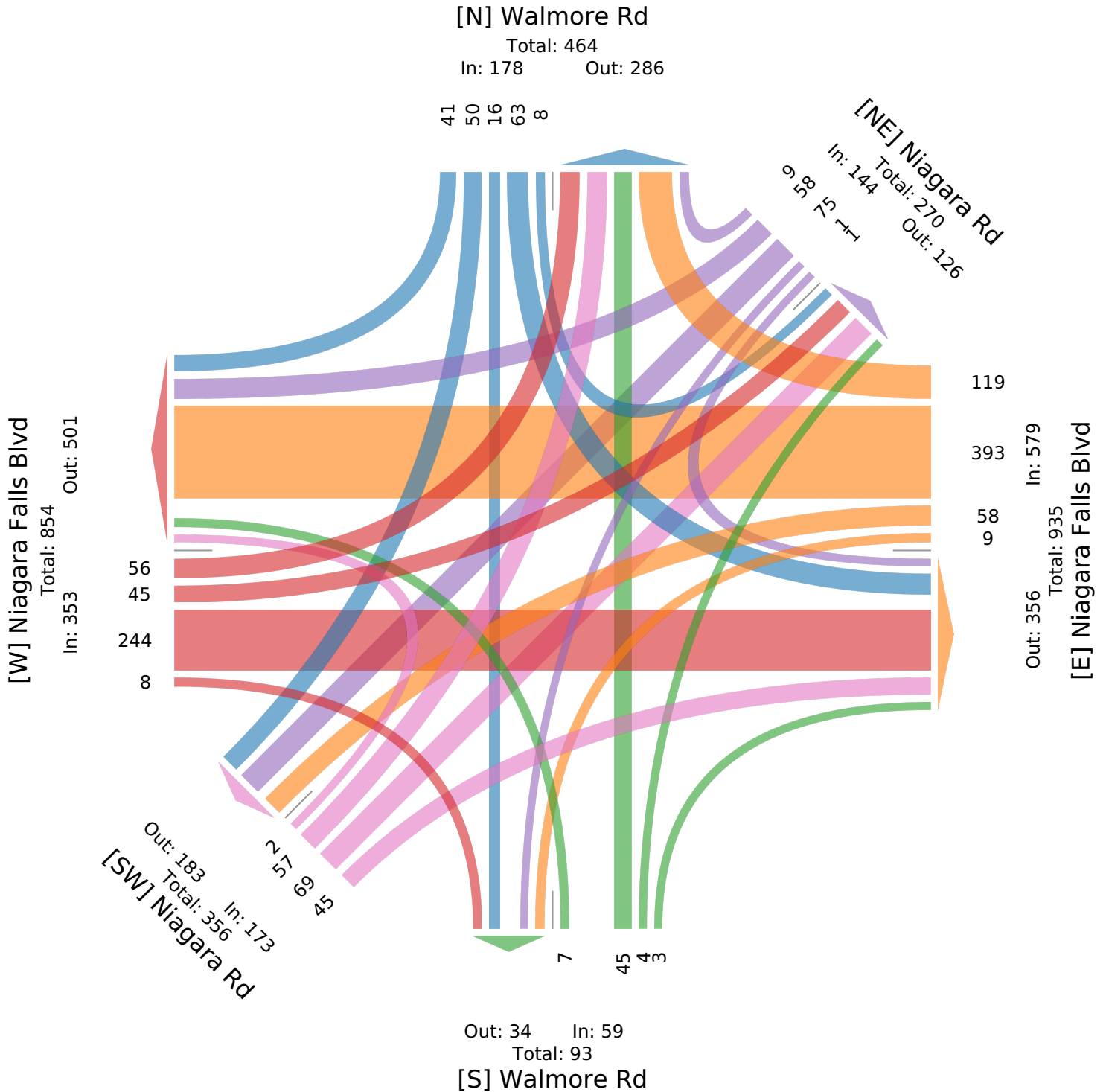
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904855, Location: 43.099149, -78.927205



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Niagara Falls Blvd/Walmore Rd/Niagara Rd - TMC

Tue Nov 23, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904855, Location: 43.099149, -78.927205



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Walmore Rd Southbound							Niagara Rd Southwestbound							Niagara Falls Blvd Westbound										
Time	R	BR	T	L	HL	U	App Ped*	HR	BR	T	BL	HL	U	App Ped*	HR	R	T	BL	L	U	App Ped*				
2021-11-23 4:00PM	27	23	8	34	3	0	95	0	0	30	21	1	2	0	54	0	0	23	127	17	1	0	168	0	
4:15PM	24	17	6	29	6	0	82	0	1	20	32	4	1	0	58	0	2	20	128	13	0	0	163	0	
4:30PM	33	24	6	29	4	0	96	0	4	18	14	0	2	0	38	0	1	16	154	23	3	0	197	0	
4:45PM	20	20	4	24	4	0	72	0	1	28	19	1	0	0	49	0	1	18	136	31	1	0	187	0	
Total	104	84	24	116	17	0	345	0	6	96	86	6	5	0	199	0	4	77	545	84	5	0	715	0	
% Approach	30.1%	24.3%	7.0%	33.6%	4.9%	0%	-	-	3.0%	48.2%	43.2%	3.0%	2.5%	0%	-	-	0.6%	10.8%	76.2%	11.7%	0.7%	0%	-	-	
% Total	4.7%	3.8%	1.1%	5.2%	0.8%	0%	15.4%	-	0.3%	4.3%	3.8%	0.3%	0.2%	0%	8.9%	-	0.2%	3.4%	24.4%	3.8%	0.2%	0%	32.0%	-	
PHF	0.788	0.875	0.750	0.853	0.708	-	0.898	-	0.375	0.800	0.672	0.375	0.625	-	0.858	-	0.500	0.837	0.885	0.677	0.417	-	0.907	-	
Motorcycles	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	0	-
% Motorcycles	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	-
Lights	101	82	24	115	17	0	339	-	6	95	86	6	4	0	197	-	4	72	541	83	5	0	705	-	
% Lights	97.1%	97.6%	100%	99.1%	100%	0%	98.3%	-	100%	99.0%	100%	100%	80.0%	0%	99.0%	-	100%	93.5%	99.3%	98.8%	100%	0%	98.6%	-	
Heavy	3	2	0	1	0	0	6	-	0	1	0	0	1	0	2	-	0	5	4	1	0	0	10	-	
% Heavy	2.9%	2.4%	0%	0.9%	0%	0%	1.7%	-	0%	1.0%	0%	0%	20.0%	0%	1.0%	-	0%	6.5%	0.7%	1.2%	0%	0%	1.4%	-	
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Niagara Falls Blvd/Walmore Rd/Niagara Rd - TMC

Tue Nov 23, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904855, Location: 43.099149, -78.927205



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Walmore Rd Northbound								Niagara Rd Northeastbound								Niagara Falls Blvd Eastbound								Int
	R	BR	T	L	HL	U	App	Ped*	HR	BR	T	BL	HL	U	App	Ped*	HR	R	T	BL	L	U	App	Ped*	
2021-11-23 4:00PM	1	4	7	0	0	0	12	0	0	18	22	19	1	0	60	0	0	2	141	21	17	0	181	0	570
4:15PM	2	0	2	1	0	0	5	0	0	19	24	18	2	0	63	0	0	3	128	19	15	0	165	0	536
4:30PM	1	1	5	7	0	0	14	0	0	15	16	16	0	0	47	0	0	9	154	31	20	0	214	0	606
4:45PM	2	2	2	2	0	0	8	0	0	21	15	16	1	0	53	0	0	3	114	25	13	0	155	0	524
Total	6	7	16	10	0	0	39	0	0	73	77	69	4	0	223	0	0	17	537	96	65	0	715	0	2236
% Approach	15.4%	17.9%	41.0%	25.6%	0%	0%	-	-	0%	32.7%	34.5%	30.9%	1.8%	0%	-	-	0%	2.4%	75.1%	13.4%	9.1%	0%	-	-	-
% Total	0.3%	0.3%	0.7%	0.4%	0%	0%	1.7%	-	0%	3.3%	3.4%	3.1%	0.2%	0%	10.0%	-	0%	0.8%	24.0%	4.3%	2.9%	0%	32.0%	-	-
PHF	0.750	0.438	0.571	0.357	-	-	0.696	-	-	0.869	0.802	0.908	0.500	-	0.885	-	-	0.472	0.872	0.774	0.813	-	0.835	-	0.922
Motorcycles	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	-	0
% Motorcycles	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	-	0%
Lights	6	7	13	10	0	0	36	-	0	72	77	63	4	0	216	-	0	17	528	96	61	0	702	-	2195
% Lights	100%	100%	81.3%	100%	0%	0%	92.3%	-	0%	98.6%	100%	91.3%	100%	0%	96.9%	-	0%	100%	98.3%	100%	93.8%	0%	98.2%	-	98.2%
Heavy	0	0	3	0	0	0	3	-	0	1	0	6	0	0	7	-	0	0	9	0	4	0	13	-	41
% Heavy	0%	0%	18.8%	0%	0%	0%	7.7%	-	0%	1.4%	0%	8.7%	0%	0%	3.1%	-	0%	0%	1.7%	0%	6.2%	0%	1.8%	-	1.8%
Pedestrians	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Niagara Falls Blvd/Walmore Rd/Niagara Rd - TMC

Tue Nov 23, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

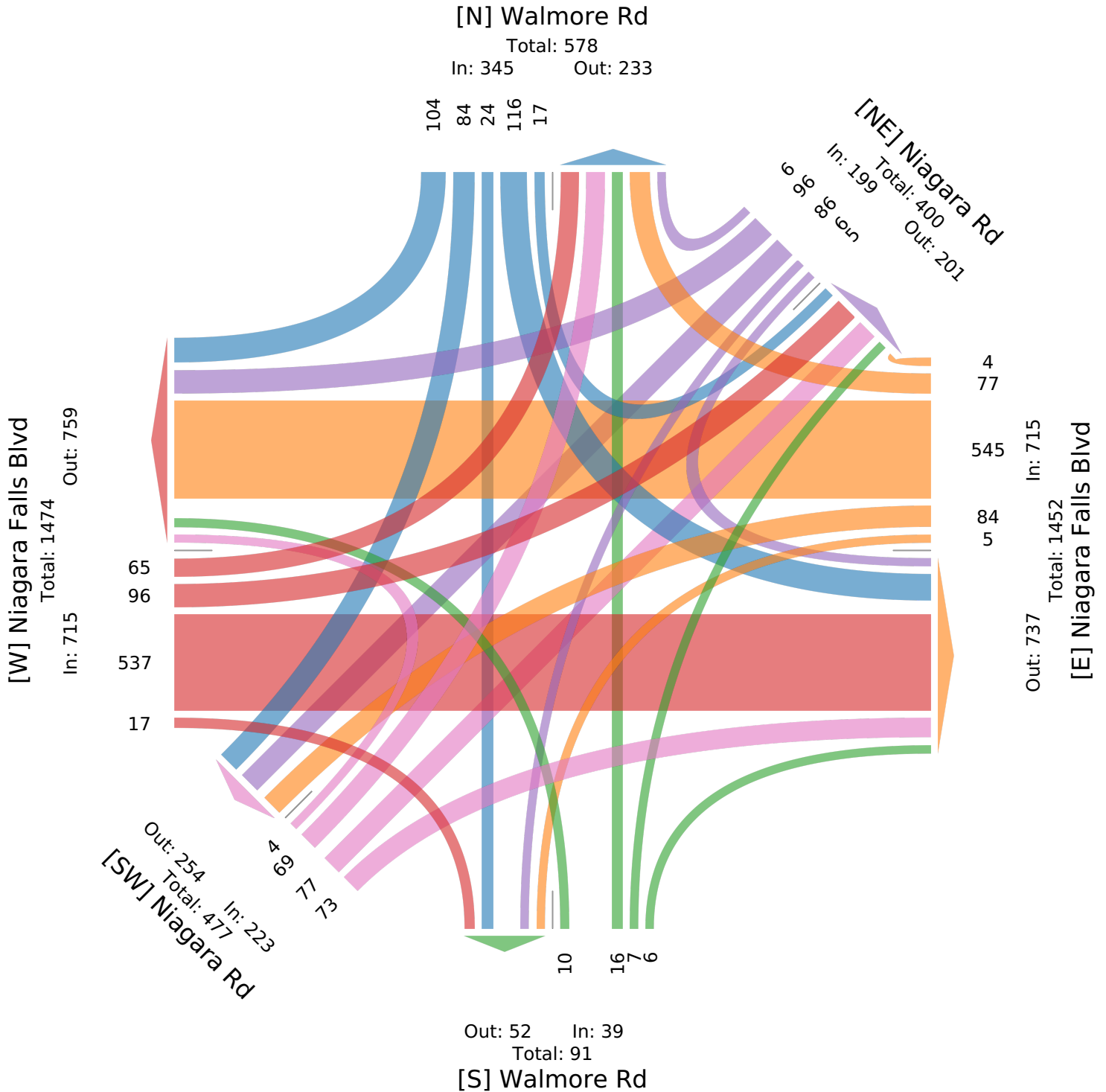
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904855, Location: 43.099149, -78.927205



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Packard Rd/I-190 NB Off Ramp - TMC

Thu Oct 14, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887500, Location: 43.10731, -78.988532



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	I-190 NB On Ramp-Porter Rd		Packard Rd						I-190 NB Off Ramp						Packard Rd						Int
	Southbound		Westbound						Northbound						Eastbound						
Time	App	Ped*	R	T	U	RR	App	Ped*	R	T	L	RR	App	Ped*	T	L	U	App	Ped*	Int	
2021-10-14 6:00AM	0	0	0	49	0	0	49	0	3	3	7	28	41	0	17	0	0	17	0	107	
6:15AM	0	0	0	70	0	0	70	0	11	3	6	48	68	0	21	0	0	21	0	159	
6:30AM	0	0	0	98	0	0	98	0	8	8	6	63	85	0	26	0	0	26	0	209	
6:45AM	0	0	0	115	0	0	115	0	18	5	21	63	107	1	41	0	0	41	0	263	
Hourly Total	0	0	0	332	0	0	332	0	40	19	40	202	301	1	105	0	0	105	0	738	
7:00AM	0	0	0	81	0	0	81	0	11	2	11	46	70	0	27	0	0	27	0	178	
7:15AM	0	0	1	95	0	0	96	0	21	7	16	55	99	0	29	1	0	30	0	225	
7:30AM	0	0	0	102	0	0	102	0	24	9	24	57	114	0	38	1	0	39	0	255	
7:45AM	0	0	0	145	0	0	145	0	21	13	23	37	94	0	27	2	0	29	0	268	
Hourly Total	0	0	1	423	0	0	424	0	77	31	74	195	377	0	121	4	0	125	0	926	
8:00AM	0	0	0	113	0	1	114	0	34	28	23	53	138	0	47	1	0	48	0	300	
8:15AM	0	0	0	96	0	0	96	0	37	18	21	74	150	0	29	2	0	31	0	277	
8:30AM	0	0	0	94	0	0	94	0	17	10	10	38	75	0	41	3	0	44	0	213	
8:45AM	0	0	0	104	0	0	104	0	11	22	9	60	102	0	67	0	0	67	0	273	
Hourly Total	0	0	0	407	0	1	408	0	99	78	63	225	465	0	184	6	0	190	0	1063	
9:00AM	0	0	0	95	0	0	95	0	30	15	15	46	106	0	46	2	0	48	0	249	
9:15AM	0	0	0	89	0	0	89	0	17	9	5	42	73	0	32	3	0	35	0	197	
9:30AM	0	0	0	83	0	0	83	0	14	10	10	38	72	0	34	4	0	38	0	193	
9:45AM	0	0	0	86	0	0	86	0	9	15	8	30	62	0	54	2	0	56	0	204	
Hourly Total	0	0	0	353	0	0	353	0	70	49	38	156	313	0	166	11	0	177	0	843	
10:00AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:00PM	0	0	2	161	0	0	163	0	33	19	14	53	119	0	110	2	0	112	0	394	
4:15PM	0	0	1	150	0	0	151	0	29	34	6	66	135	2	97	1	0	98	0	384	
4:30PM	0	0	1	133	0	0	134	0	23	18	10	46	97	0	77	2	0	79	0	310	
4:45PM	0	0	0	122	0	0	122	0	32	28	10	49	119	0	75	0	0	75	0	316	
Hourly Total	0	0	4	566	0	0	570	0	117	99	40	214	470	2	359	5	0	364	0	1404	
5:00PM	0	0	0	155	0	0	155	0	29	25	10	41	105	0	84	3	0	87	0	347	
5:15PM	0	0	1	136	0	0	137	0	32	19	7	49	107	0	69	3	0	72	0	316	
5:30PM	0	0	2	132	0	0	134	0	26	30	12	34	102	0	68	0	0	68	0	304	
5:45PM	0	0	2	111	0	0	113	0	12	27	8	54	101	0	70	1	0	71	0	285	
Hourly Total	0	0	5	534	0	0	539	0	99	101	37	178	415	0	291	7	0	298	0	1252	
6:00PM	0	0	1	121	0	0	122	0	34	15	6	31	86	0	61	5	0	66	0	274	
6:15PM	0	0	1	82	0	0	83	0	36	19	5	43	103	1	40	1	0	41	0	227	
6:30PM	0	0	1	93	0	0	94	0	12	12	6	26	56	0	52	1	0	53	0	203	
6:45PM	0	0	1	90	0	0	91	0	14	12	7	41	74	0	37	0	0	37	0	202	
Hourly Total	0	0	4	386	0	0	390	0	96	58	24	141	319	1	190	7	0	197	0	906	
7:00PM	0	0	0	83	0	0	83	0	11	14	7	35	67	0	41	1	0	42	0	192	
7:15PM	0	0	0	71	0	0	71	0	12	10	5	21	48	0	49	0	0	49	0	168	
7:30PM	0	0	0	68	0	0	68	0	6	17	4	33	60	0	42	1	0	43	0	171	
7:45PM	0	0	0	50	0	0	50	0	5	4	0	21	30	0	44	1	0	45	0	125	
Hourly Total	0	0	0	272	0	0	272	0	34	45	16	110	205	0	176	3	0	179	0	656	
Total	0	0	14	3273	0	1	3288	0	632	480	332	1421	2865	4	1592	43	0	1635	0	7788	
% Approach	-	-	0.4%	99.5%	0%	0%	-	-	22.1%	16.8%	11.6%	49.6%	-	-	97.4%	2.6%	0%	-	-	-	
% Total	0%	-	0.2%	42.0%	0%	0%	42.2%	-	8.1%	6.2%	4.3%	18.2%	36.8%	-	20.4%	0.6%	0%	21.0%	-	-	
Motorcycles	0	-	0	8	0	0	8	-	2	0	2	5	9	-	2	0	0	2	-	19	
% Motorcycles	-	-	0%	0.2%	0%	0%	0.2%	-	0.3%	0%	0.6%	0.4%	0.3%	-	0.1%	0%	0%	0.1%	-	0.2%	
Lights	0	-	14	3042	0	1	3057	-	583	465	309	1326	2683	-	1527	29	0	1556	-	7296	
% Lights	-	-	100%	92.9%	0%	100%	93.0%	-	92.2%	96.9%	93.1%	93.3%	93.6%	-	95.9%	67.4%	0%	95.2%	-	93.7%	
Heavy	0	-	0	223	0	0	223	-	47	15	21	90	173	-	63	14	0	77	-	473	
% Heavy	-	-	0%	6.8%	0%	0%	6.8%	-	7.4%	3.1%	6.3%	6.3%	6.0%	-	4.0%	32.6%	0%	4.7%	-	6.1%	
Pedestrians	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	

Leg	I-190 NB On Ramp-Porter Rd	Packard Rd	I-190 NB Off Ramp					Packard Rd												
Direction	Southbound	Westbound	Northbound					Eastbound												
Time	App	Ped*	R	T	U	RR	App	Ped*	R	T	L	RR	App	Ped*	T	L	U	App	Ped*	Int
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	0	-	-	-	-	-	0	-	-	-	-	-	4	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-

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

Packard Rd/I-190 NB Off Ramp - TMC

Thu Oct 14, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

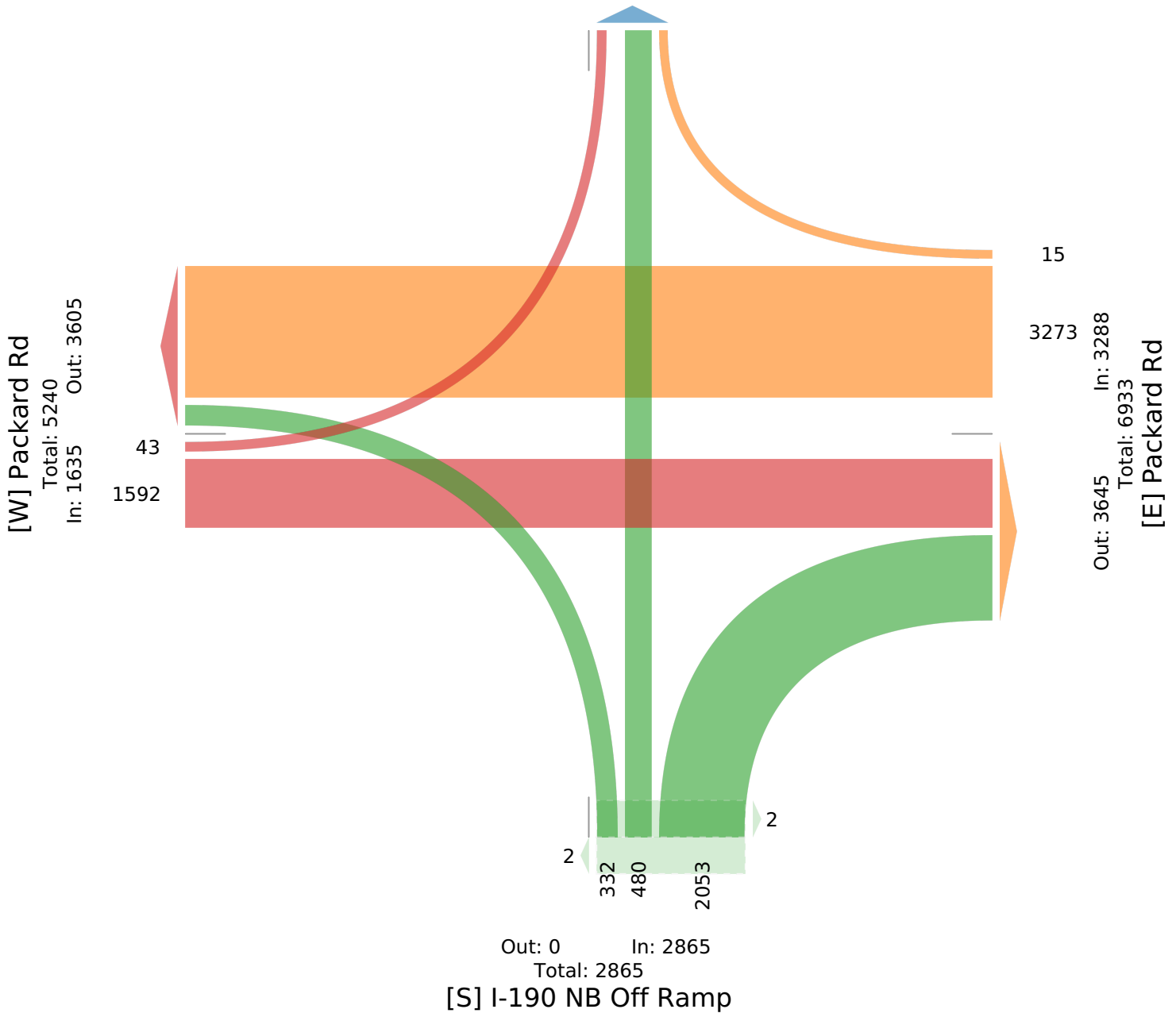
ID: 887500, Location: 43.10731, -78.988532



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

[N] I-190 NB On Ramp-Porter Rd

Total: 538
In: 0 Out: 538



Packard Rd/I-190 NB Off Ramp - TMC

Thu Oct 14, 2021

Forced Peak (6:30 AM - 7:30 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887500, Location: 43.10731, -78.988532



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	I-190 NB On Ramp-Porter Rd Southbound		Packard Rd Westbound						I-190 NB Off Ramp Northbound						Packard Rd Eastbound					
Time	App	Ped*	R	T	U	RR	App	Ped*	R	T	L	RR	App	Ped*	T	L	U	App	Ped*	Int
2021-10-14 6:30AM	0	0	0	98	0	0	98	0	8	8	6	63	85	0	26	0	0	26	0	209
6:45AM	0	0	0	115	0	0	115	0	18	5	21	63	107	1	41	0	0	41	0	263
7:00AM	0	0	0	81	0	0	81	0	11	2	11	46	70	0	27	0	0	27	0	178
7:15AM	0	0	1	95	0	0	96	0	21	7	16	55	99	0	29	1	0	30	0	225
Total	0	0	1	389	0	0	390	0	58	22	54	227	361	1	123	1	0	124	0	875
% Approach	-	-	0.3%	99.7%	0%	0%	-	-	16.1%	6.1%	15.0%	62.9%	-	-	99.2%	0.8%	0%	-	-	-
% Total	0%	-	0.1%	44.5%	0%	0%	44.6%	-	6.6%	2.5%	6.2%	25.9%	41.3%	-	14.1%	0.1%	0%	14.2%	-	-
PHF	-	-	0.250	0.846	-	-	0.848	-	0.690	0.688	0.643	0.901	0.843	-	0.750	0.250	-	0.756	-	0.832
Motorcycles	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	-	0
% Motorcycles	-	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Lights	0	-	1	370	0	0	371	-	56	22	53	218	349	-	117	1	0	118	-	838
% Lights	-	-	100%	95.1%	0%	0%	95.1%	-	96.6%	100%	98.1%	96.0%	96.7%	-	95.1%	100%	0%	95.2%	-	95.8%
Heavy	0	-	0	19	0	0	19	-	2	0	1	9	12	-	6	0	0	6	-	37
% Heavy	-	-	0%	4.9%	0%	0%	4.9%	-	3.4%	0%	1.9%	4.0%	3.3%	-	4.9%	0%	0%	4.8%	-	4.2%
Pedestrians	-	0	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	0	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-

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

Packard Rd/I-190 NB Off Ramp - TMC

Thu Oct 14, 2021

Forced Peak (6:30 AM - 7:30 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887500, Location: 43.10731, -78.988532

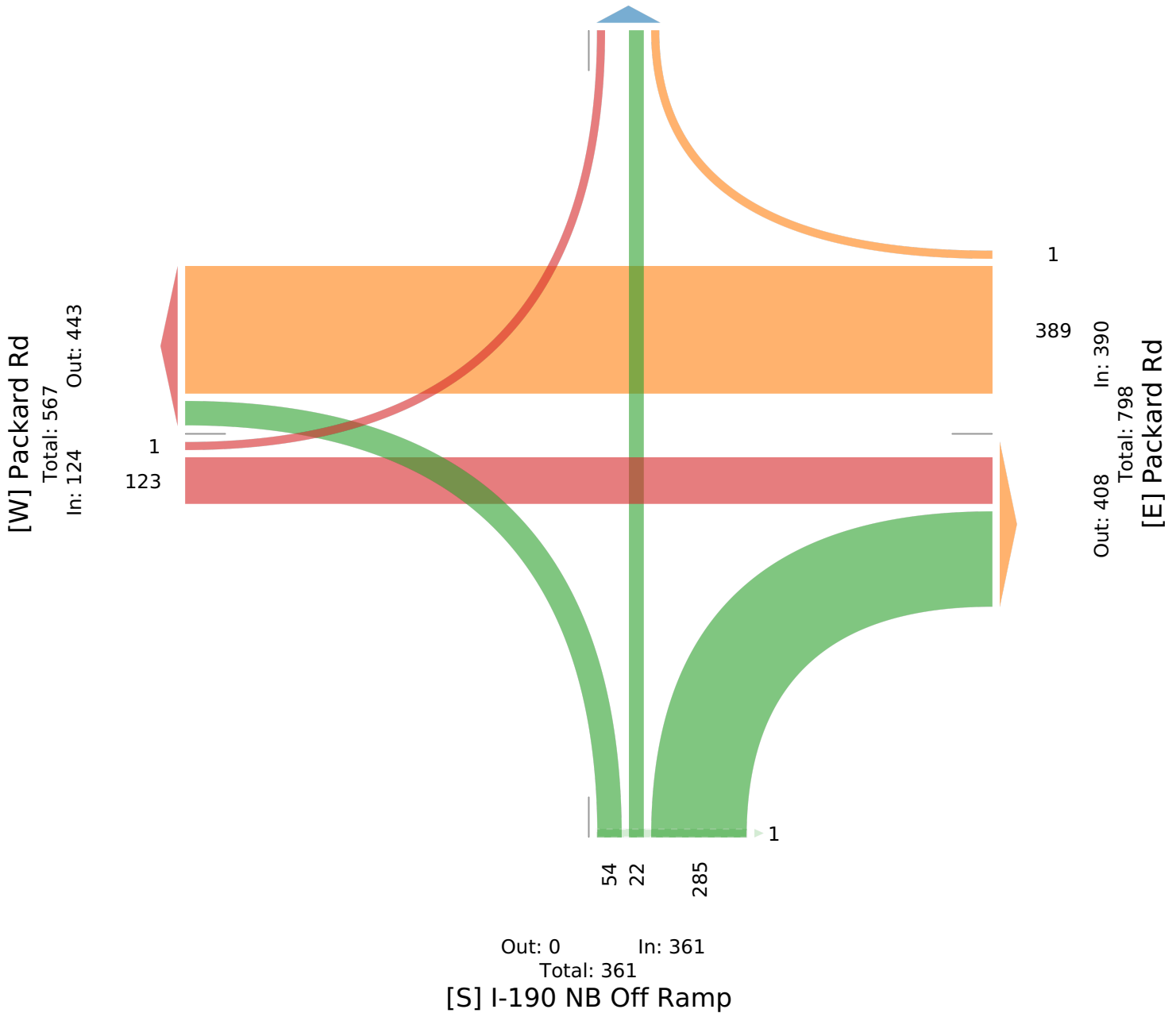


Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

[N] I-190 NB On Ramp-Porter Rd

Total: 24

In: 0 Out: 24



Packard Rd/I-190 NB Off Ramp - TMC

Thu Oct 14, 2021

AM Peak (7:30 AM - 8:30 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887500, Location: 43.10731, -78.988532



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	I-190 NB On Ramp-Porter Rd Southbound		Packard Rd Westbound						I-190 NB Off Ramp Northbound						Packard Rd Eastbound						
Time	App	Ped*	R	T	U	RR	App	Ped*	R	T	L	RR	App	Ped*	T	L	U	App	Ped*	Int	
2021-10-14 7:30AM	0	0	0	102	0	0	102	0	24	9	24	57	114	0	38	1	0	39	0	255	
7:45AM	0	0	0	145	0	0	145	0	21	13	23	37	94	0	27	2	0	29	0	268	
8:00AM	0	0	0	113	0	1	114	0	34	28	23	53	138	0	47	1	0	48	0	300	
8:15AM	0	0	0	96	0	0	96	0	37	18	21	74	150	0	29	2	0	31	0	277	
Total	0	0	0	456	0	1	457	0	116	68	91	221	496	0	141	6	0	147	0	1100	
% Approach	-	-	0%	99.8%	0%	0.2%	-	-	23.4%	13.7%	18.3%	44.6%	-	-	95.9%	4.1%	0%	-	-	-	
% Total	0%	-	0%	41.5%	0%	0.1%	41.5%	-	10.5%	6.2%	8.3%	20.1%	45.1%	-	12.8%	0.5%	0%	13.4%	-	-	
PHF	-	-	-	0.786	-	0.250	0.788	-	0.784	0.607	0.948	0.747	0.827	-	0.750	0.750	-	0.766	-	0.917	
Motorcycles	0	-	0	1	0	0	1	-	0	0	0	1	1	-	0	0	0	0	-	2	
% Motorcycles	-	-	0%	0.2%	0%	0%	0.2%	-	0%	0%	0%	0.5%	0.2%	-	0%	0%	0%	0%	-	0.2%	
Lights	0	-	0	415	0	1	416	-	103	65	89	197	454	-	127	2	0	129	-	999	
% Lights	-	-	0%	91.0%	0%	100%	91.0%	-	88.8%	95.6%	97.8%	89.1%	91.5%	-	90.1%	33.3%	0%	87.8%	-	90.8%	
Heavy	0	-	0	40	0	0	40	-	13	3	2	23	41	-	14	4	0	18	-	99	
% Heavy	-	-	0%	8.8%	0%	0%	8.8%	-	11.2%	4.4%	2.2%	10.4%	8.3%	-	9.9%	66.7%	0%	12.2%	-	9.0%	
Pedestrians	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Bicycles on Crosswalk	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

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

Packard Rd/I-190 NB Off Ramp - TMC

Thu Oct 14, 2021

AM Peak (7:30 AM - 8:30 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887500, Location: 43.10731, -78.988532

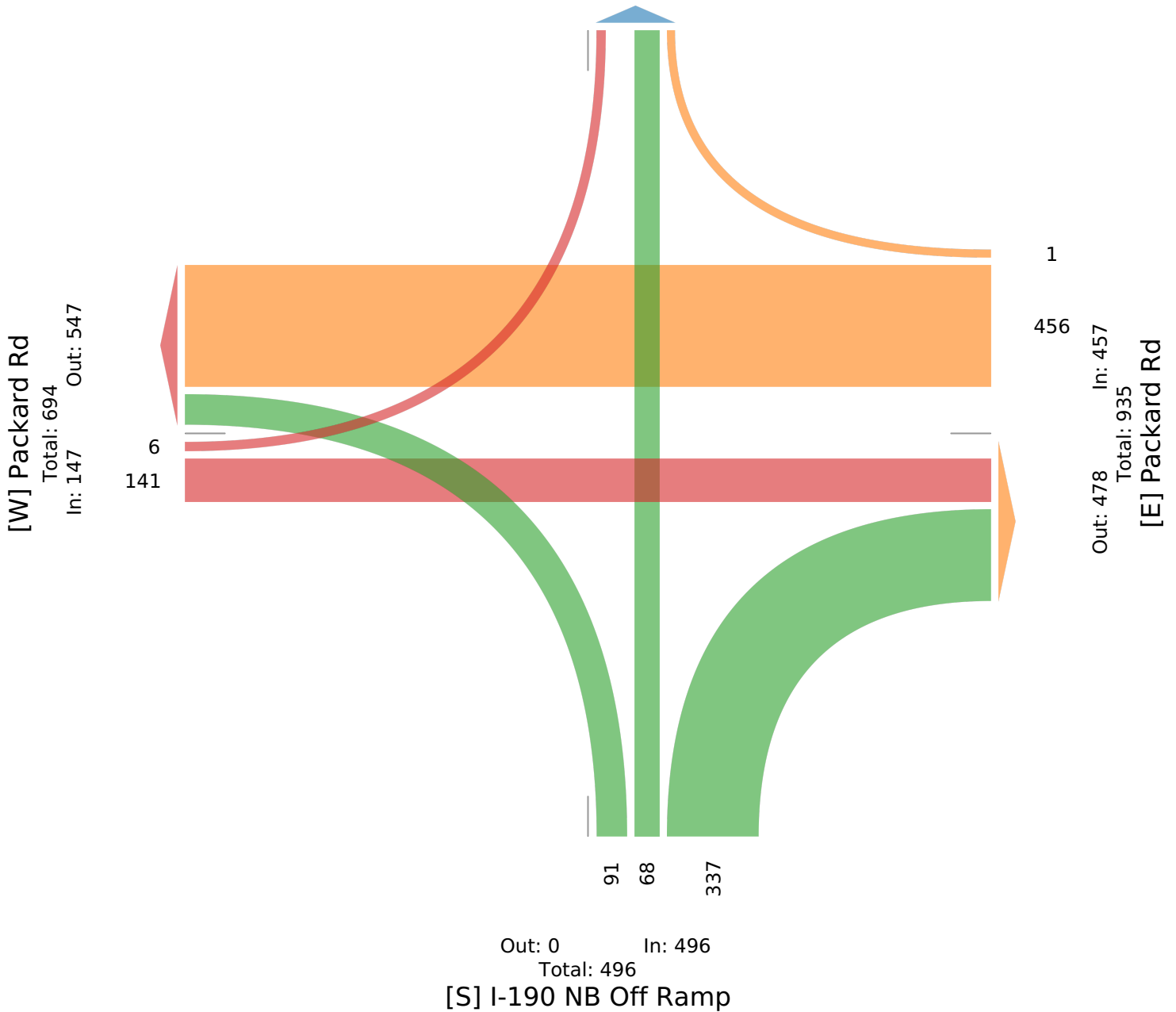


Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

[N] I-190 NB On Ramp-Porter Rd

Total: 75

In: 0 Out: 75



Packard Rd/I-190 NB Off Ramp - TMC

Thu Oct 14, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887500, Location: 43.10731, -78.988532



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	I-190 NB On Ramp-Porter Rd Southbound		Packard Rd Westbound						I-190 NB Off Ramp Northbound						Packard Rd Eastbound						
Time	App	Ped*	R	T	U	RR	App	Ped*	R	T	L	RR	App	Ped*	T	L	U	App	Ped*	Int	
2021-10-14 4:00PM	0	0	2	161	0	0	163	0	33	19	14	53	119	0	110	2	0	112	0	394	
4:15PM	0	0	1	150	0	0	151	0	29	34	6	66	135	2	97	1	0	98	0	384	
4:30PM	0	0	1	133	0	0	134	0	23	18	10	46	97	0	77	2	0	79	0	310	
4:45PM	0	0	0	122	0	0	122	0	32	28	10	49	119	0	75	0	0	75	0	316	
Total	0	0	4	566	0	0	570	0	117	99	40	214	470	2	359	5	0	364	0	1404	
% Approach	-	-	0.7%	99.3%	0%	0%	-	-	24.9%	21.1%	8.5%	45.5%	-	-	98.6%	1.4%	0%	-	-	-	
% Total	0%	-	0.3%	40.3%	0%	0%	40.6%	-	8.3%	7.1%	2.8%	15.2%	33.5%	-	25.6%	0.4%	0%	25.9%	-	-	
PHF	-	-	0.500	0.879	-	-	0.874	-	0.886	0.728	0.714	0.811	0.870	-	0.816	0.625	-	0.813	-	0.891	
Motorcycles	0	-	0	3	0	0	3	-	1	0	0	2	3	-	1	0	0	1	-	7	
% Motorcycles	-	-	0%	0.5%	0%	0%	0.5%	-	0.9%	0%	0%	0.9%	0.6%	-	0.3%	0%	0%	0.3%	-	0.5%	
Lights	0	-	4	526	0	0	530	-	109	96	37	197	439	-	352	5	0	357	-	1326	
% Lights	-	-	100%	92.9%	0%	0%	93.0%	-	93.2%	97.0%	92.5%	92.1%	93.4%	-	98.1%	100%	0%	98.1%	-	94.4%	
Heavy	0	-	0	37	0	0	37	-	7	3	3	15	28	-	6	0	0	6	-	71	
% Heavy	-	-	0%	6.5%	0%	0%	6.5%	-	6.0%	3.0%	7.5%	7.0%	6.0%	-	1.7%	0%	0%	1.6%	-	5.1%	
Pedestrians	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-	
Bicycles on Crosswalk	-	0	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	

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

Packard Rd/I-190 NB Off Ramp - TMC

Thu Oct 14, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

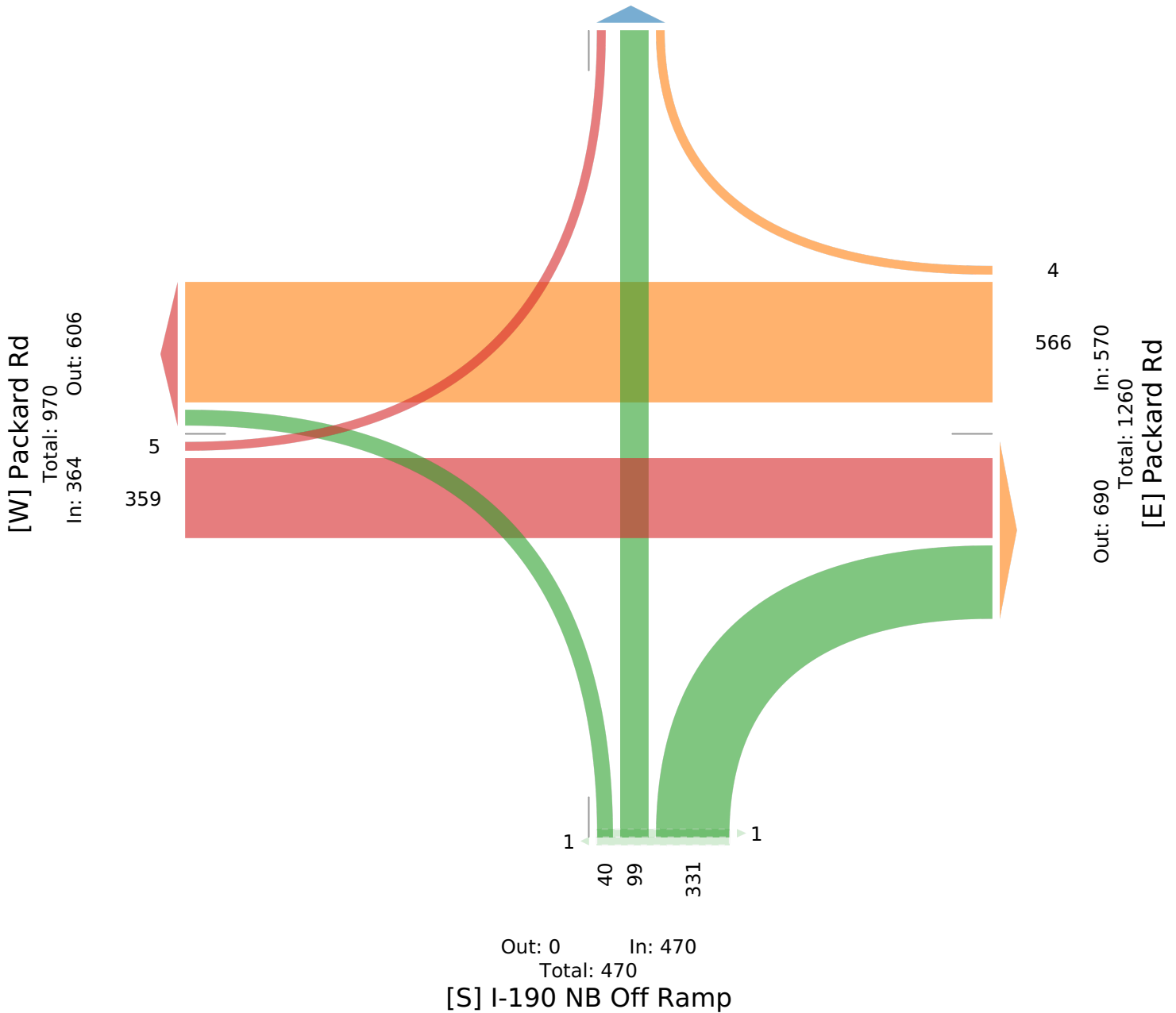
ID: 887500, Location: 43.10731, -78.988532



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

[N] I-190 NB On Ramp-Porter Rd

Total: 108
In: 0 Out: 108



Packard Rd/I-190 SB On Ramp - TMC

Thu Oct 14, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887506, Location: 43.106534, -78.990046



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Porter Rd Access Rd SB I-190 Southbound						Packard Rd Westbound					I-190 SB On Ramp Northbound		Packard Rd Eastbound						Int	
	R	T	L	RR	App	Ped*	T	L	U	App	Ped*	App	Ped*	R	T	U	RR	App	Ped*		
2021-10-14 6:00AM	0	12	2	2	16	0	29	32	0	61	0	0	0	2	17	0	1	20	0	97	
6:15AM	0	16	1	2	19	0	31	44	0	75	0	0	0	2	21	0	0	23	0	117	
6:30AM	0	26	2	4	32	0	64	51	0	115	0	0	0	8	26	0	0	34	0	181	
6:45AM	0	31	2	4	37	1	71	52	0	123	0	0	0	2	38	0	1	41	0	201	
Hourly Total	0	85	7	12	104	1	195	179	0	374	0	0	0	14	102	0	2	118	0	596	
7:00AM	0	25	0	1	26	0	47	43	0	90	0	0	0	5	24	0	1	30	0	146	
7:15AM	0	23	5	1	29	0	73	49	0	122	0	0	0	13	27	0	0	40	0	191	
7:30AM	0	35	7	1	43	0	92	40	1	133	0	0	0	3	37	0	0	40	0	216	
7:45AM	0	26	2	2	30	0	111	58	0	169	0	0	0	6	32	0	0	38	0	237	
Hourly Total	0	109	14	5	128	0	323	190	1	514	0	0	0	27	120	0	1	148	0	790	
8:00AM	0	33	2	3	38	0	74	48	0	122	0	0	0	9	42	0	0	51	0	211	
8:15AM	0	37	3	3	43	0	57	59	0	116	0	0	0	8	38	0	2	48	0	207	
8:30AM	2	36	2	2	42	0	53	48	0	101	0	0	0	6	49	0	1	56	0	199	
8:45AM	1	32	3	2	38	0	60	52	0	112	0	0	0	8	61	0	1	70	0	220	
Hourly Total	3	138	10	10	161	0	244	207	0	451	0	0	0	31	190	0	4	225	0	837	
9:00AM	1	26	1	1	29	0	73	37	0	110	0	0	0	15	54	0	0	69	0	208	
9:15AM	0	23	0	2	25	0	51	45	0	96	0	0	0	8	34	0	1	43	0	164	
9:30AM	0	25	3	0	28	0	55	39	0	94	0	0	0	6	40	0	1	47	0	169	
9:45AM	0	23	4	1	28	0	47	48	1	96	0	0	0	2	45	0	0	47	0	171	
Hourly Total	1	97	8	4	110	0	226	169	1	396	0	0	0	31	173	0	2	206	0	712	
4:00PM	2	32	6	4	44	0	89	92	0	181	0	0	0	24	106	0	1	131	0	356	
4:15PM	0	29	10	2	41	0	80	82	0	162	0	0	1	14	81	0	1	96	0	299	
4:30PM	0	42	3	2	47	0	85	65	1	151	0	0	0	12	77	0	0	89	0	287	
4:45PM	0	37	7	3	47	0	86	56	0	142	0	0	0	12	66	1	1	80	0	269	
Hourly Total	2	140	26	11	179	0	340	295	1	636	0	0	1	62	330	1	3	396	0	1211	
5:00PM	3	41	9	5	58	0	83	73	0	156	0	0	0	12	84	0	3	99	0	313	
5:15PM	0	31	4	3	38	0	77	68	0	145	0	0	0	11	78	0	0	89	0	272	
5:30PM	0	36	12	2	50	0	78	63	0	141	0	0	0	6	60	0	2	68	0	259	
5:45PM	0	31	7	1	39	0	66	60	0	126	0	0	0	11	80	0	0	91	0	256	
Hourly Total	3	139	32	11	185	0	304	264	0	568	0	0	0	40	302	0	5	347	0	1100	
6:00PM	0	25	7	0	32	0	68	54	0	122	0	0	0	6	59	0	0	65	0	219	
6:15PM	0	33	3	2	38	0	55	32	0	87	0	0	0	7	39	0	0	46	0	171	
6:30PM	1	18	4	3	26	0	44	56	0	100	0	0	0	4	48	0	0	52	0	178	
6:45PM	0	17	1	0	18	0	50	46	1	97	0	0	0	4	33	0	0	37	0	152	
Hourly Total	1	93	15	5	114	0	217	188	1	406	0	0	0	21	179	0	0	200	0	720	
7:00PM	0	21	3	1	25	0	56	32	0	88	0	0	0	5	36	0	1	42	0	155	
7:15PM	0	18	3	1	22	0	50	28	0	78	0	0	0	6	54	0	0	60	0	160	
7:30PM	0	13	2	0	15	0	29	40	0	69	0	0	0	5	43	0	0	48	0	132	
7:45PM	1	19	2	0	22	0	23	26	0	49	0	0	0	4	42	0	1	47	0	118	
Hourly Total	1	71	10	2	84	0	158	126	0	284	0	0	0	20	175	0	2	197	0	565	
Total	11	872	122	60	1065	1	2007	1618	4	3629	0	0	1	246	1571	1	19	1837	0	6531	
% Approach	1.0%	81.9%	11.5%	5.6%	-	-	55.3%	44.6%	0.1%	-	-	-	-	13.4%	85.5%	0.1%	1.0%	-	-	-	
% Total	0.2%	13.4%	1.9%	0.9%	16.3%	-	30.7%	24.8%	0.1%	55.6%	-	0%	-	3.8%	24.1%	0%	0.3%	28.1%	-	-	
Motorcycles	0	0	0	0	0	-	3	4	0	7	-	0	-	2	2	0	0	4	-	11	
% Motorcycles	0%	0%	0%	0%	0%	-	0.1%	0.2%	0%	0.2%	-	-	-	0.8%	0.1%	0%	0%	0.2%	-	0.2%	
Lights	9	837	114	43	1003	-	1909	1489	4	3402	-	0	-	208	1499	1	18	1726	-	6131	
% Lights	81.8%	96.0%	93.4%	71.7%	94.2%	-	95.1%	92.0%	100%	93.7%	-	-	-	84.6%	95.4%	100%	94.7%	94.0%	-	93.9%	
Heavy	2	35	8	17	62	-	95	125	0	220	-	0	-	36	70	0	1	107	-	389	
% Heavy	18.2%	4.0%	6.6%	28.3%	5.8%	-	4.7%	7.7%	0%	6.1%	-	-	-	14.6%	4.5%	0%	5.3%	5.8%	-	6.0%	
Pedestrians	-	-	-	-	-	0	-	-	-	-	0	-	1	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	0%	-	-	-	-	-	-	100%	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	0	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	100%	-	-	-	-	-	-	0%	-	-	-	-	-	-	-	-

Leg Direction	Porter Rd Access Rd SB I-190 Southbound	Packard Rd Westbound	I-190 SB On Ramp Northbound	Packard Rd Eastbound	
Time	R T L RR App Ped*	T L U App Ped*	App Ped*	R T U RR App Ped*	Int

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

Packard Rd/I-190 SB On Ramp - TMC

Thu Oct 14, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887506, Location: 43.106534, -78.990046



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

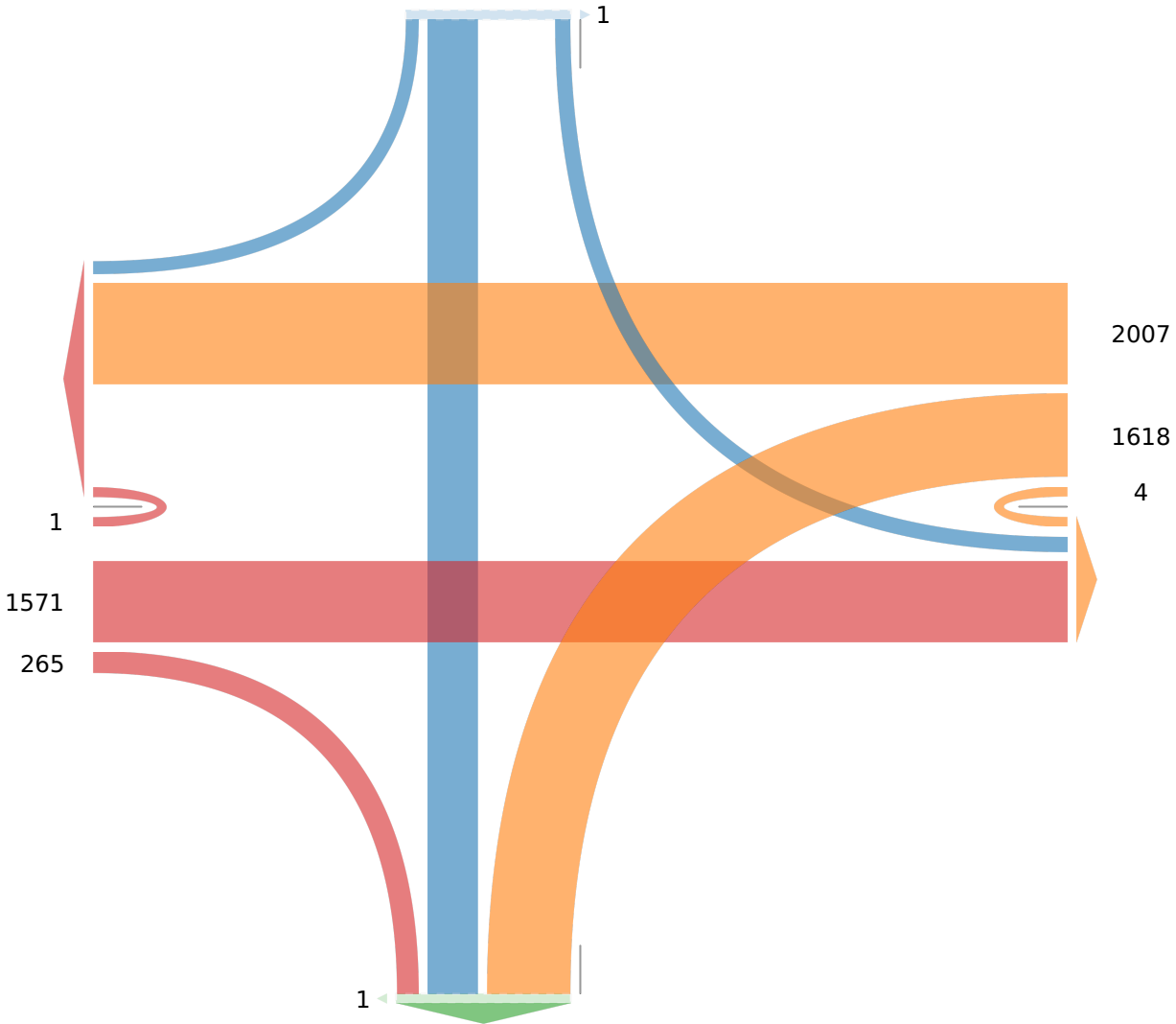
[N] Porter Rd Access Rd SB I-190

Total: 1065

In: 1065 Out: 0

71 872 122

[W] Packard Rd
Total: 3916
In: 1837 Out: 2079



Out: 1697 In: 3629
Total: 5326
[E] Packard Rd

Out: 2755 In: 0
Total: 2755

[S] I-190 SB On Ramp

Packard Rd/I-190 SB On Ramp - TMC

Thu Oct 14, 2021

Forced Peak (6:30 AM - 7:30 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887506, Location: 43.106534, -78.990046



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Porter Rd Access Rd SB I-190 Southbound						Packard Rd Westbound					I-190 SB On Ramp Northbound		Packard Rd Eastbound						Int
	R	T	L	RR	App	Ped*	T	L	U	App	Ped*	App	Ped*	R	T	U	RR	App	Ped*	
2021-10-14 6:30AM	0	26	2	4	32	0	64	51	0	115	0	0	0	8	26	0	0	34	0	181
6:45AM	0	31	2	4	37	1	71	52	0	123	0	0	0	2	38	0	1	41	0	201
7:00AM	0	25	0	1	26	0	47	43	0	90	0	0	0	5	24	0	1	30	0	146
7:15AM	0	23	5	1	29	0	73	49	0	122	0	0	0	13	27	0	0	40	0	191
Total	0	105	9	10	124	1	255	195	0	450	0	0	0	28	115	0	2	145	0	719
% Approach	0%	84.7%	7.3%	8.1%	-	-	56.7%	43.3%	0%	-	-	-	-	19.3%	79.3%	0%	1.4%	-	-	-
% Total	0%	14.6%	1.3%	1.4%	17.2%	-	35.5%	27.1%	0%	62.6%	-	0%	-	3.9%	16.0%	0%	0.3%	20.2%	-	-
PHF	-	0.847	0.450	0.625	0.838	-	0.873	0.938	-	0.915	-	-	-	0.538	0.757	-	0.500	0.884	-	0.894
Motorcycles	0	0	0	0	0	-	0	0	0	0	-	0	-	0	0	0	0	0	-	0
% Motorcycles	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	-	-	-	0%	0%	0%	0%	0%	-	0%
Lights	0	98	8	10	116	-	250	182	0	432	-	0	-	22	112	0	2	136	-	684
% Lights	0%	93.3%	88.9%	100%	93.5%	-	98.0%	93.3%	0%	96.0%	-	-	-	78.6%	97.4%	0%	100%	93.8%	-	95.1%
Heavy	0	7	1	0	8	-	5	13	0	18	-	0	-	6	3	0	0	9	-	35
% Heavy	0%	6.7%	11.1%	0%	6.5%	-	2.0%	6.7%	0%	4.0%	-	-	-	21.4%	2.6%	0%	0%	6.2%	-	4.9%
Pedestrians	-	-	-	-	-	0	-	-	-	-	0	-	0	-	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	0	-	0	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Packard Rd/I-190 SB On Ramp - TMC

Thu Oct 14, 2021

Forced Peak (6:30 AM - 7:30 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887506, Location: 43.106534, -78.990046



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

[N] Porter Rd Access Rd SB I-190

Total: 124
In: 124 Out: 0

10 105 9

[W] Packard Rd
Total: 410
In: 145 Out: 265

115
30

255
195
Out: 124 In: 450
Total: 574
[E] Packard Rd



Out: 330 In: 0
Total: 330
[S] I-190 SB On Ramp

Packard Rd/I-190 SB On Ramp - TMC

Thu Oct 14, 2021

AM Peak (7:30 AM - 8:30 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887506, Location: 43.106534, -78.990046



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Porter Rd Access Rd SB I-190 Southbound						Packard Rd Westbound					I-190 SB On Ramp Northbound		Packard Rd Eastbound						Int
	R	T	L	RR	App	Ped*	T	L	U	App	Ped*	App	Ped*	R	T	U	RR	App	Ped*	
2021-10-14 7:30AM	0	35	7	1	43	0	92	40	1	133	0	0	0	3	37	0	0	40	0	216
7:45AM	0	26	2	2	30	0	111	58	0	169	0	0	0	6	32	0	0	38	0	237
8:00AM	0	33	2	3	38	0	74	48	0	122	0	0	0	9	42	0	0	51	0	211
8:15AM	0	37	3	3	43	0	57	59	0	116	0	0	0	8	38	0	2	48	0	207
Total	0	131	14	9	154	0	334	205	1	540	0	0	0	26	149	0	2	177	0	871
% Approach	0%	85.1%	9.1%	5.8%	-	-	61.9%	38.0%	0.2%	-	-	-	-	14.7%	84.2%	0%	1.1%	-	-	-
% Total	0%	15.0%	1.6%	1.0%	17.7%	-	38.3%	23.5%	0.1%	62.0%	-	0%	-	3.0%	17.1%	0%	0.2%	20.3%	-	-
PHF	-	0.885	0.500	0.750	0.895	-	0.752	0.869	0.250	0.799	-	-	-	0.722	0.887	-	0.250	0.868	-	0.919
Motorcycles	0	0	0	0	0	-	0	0	0	0	-	0	-	0	0	0	0	0	0	0
% Motorcycles	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	-	-	-	0%	0%	0%	0%	0%	0%	0%
Lights	0	125	12	8	145	-	322	183	1	506	-	0	-	21	135	0	1	157	-	808
% Lights	0%	95.4%	85.7%	88.9%	94.2%	-	96.4%	89.3%	100%	93.7%	-	-	-	80.8%	90.6%	0%	50.0%	88.7%	-	92.8%
Heavy	0	6	2	1	9	-	12	22	0	34	-	0	-	5	14	0	1	20	-	63
% Heavy	0%	4.6%	14.3%	11.1%	5.8%	-	3.6%	10.7%	0%	6.3%	-	-	-	19.2%	9.4%	0%	50.0%	11.3%	-	7.2%
Pedestrians	-	-	-	-	-	0	-	-	-	-	0	-	0	-	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	0	-	0	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Packard Rd/I-190 SB On Ramp - TMC

Thu Oct 14, 2021

AM Peak (7:30 AM - 8:30 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887506, Location: 43.106534, -78.990046



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

[N] Porter Rd Access Rd SB I-190

Total: 154
In: 154 Out: 0

9 131 14

[W] Packard Rd
Total: 520
In: 177 Out: 343

149
28

334
205
1
Out: 164 In: 540
Total: 704

[E] Packard Rd

Out: 364 In: 0
Total: 364
[S] I-190 SB On Ramp

Packard Rd/I-190 SB On Ramp - TMC

Thu Oct 14, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887506, Location: 43.106534, -78.990046



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Porter Rd Access Rd SB I-190 Southbound						Packard Rd Westbound				I-190 SB On Ramp Northbound		Packard Rd Eastbound						Int	
	R	T	L	RR	App	Ped*	T	L	U	App	Ped*	App	Ped*	R	T	U	RR	App		Ped*
2021-10-14 4:00PM	2	32	6	4	44	0	89	92	0	181	0	0	0	24	106	0	1	131	0	356
4:15PM	0	29	10	2	41	0	80	82	0	162	0	0	1	14	81	0	1	96	0	299
4:30PM	0	42	3	2	47	0	85	65	1	151	0	0	0	12	77	0	0	89	0	287
4:45PM	0	37	7	3	47	0	86	56	0	142	0	0	0	12	66	1	1	80	0	269
Total	2	140	26	11	179	0	340	295	1	636	0	0	1	62	330	1	3	396	0	1211
% Approach	1.1%	78.2%	14.5%	6.1%	-	-	53.5%	46.4%	0.2%	-	-	-	-	15.7%	83.3%	0.3%	0.8%	-	-	-
% Total	0.2%	11.6%	2.1%	0.9%	14.8%	-	28.1%	24.4%	0.1%	52.5%	-	0%	-	5.1%	27.3%	0.1%	0.2%	32.7%	-	-
PHF	0.250	0.833	0.650	0.688	0.952	-	0.955	0.802	0.250	0.878	-	-	-	0.646	0.778	0.250	0.750	0.756	-	0.850
Motorcycles	0	0	0	0	0	-	0	3	0	3	-	0	-	1	1	0	0	2	-	5
% Motorcycles	0%	0%	0%	0%	0%	-	0%	1.0%	0%	0.5%	-	-	-	1.6%	0.3%	0%	0%	0.5%	-	0.4%
Lights	2	136	24	6	168	-	325	270	1	596	-	0	-	58	324	1	3	386	-	1150
% Lights	100%	97.1%	92.3%	54.5%	93.9%	-	95.6%	91.5%	100%	93.7%	-	-	-	93.5%	98.2%	100%	100%	97.5%	-	95.0%
Heavy	0	4	2	5	11	-	15	22	0	37	-	0	-	3	5	0	0	8	-	56
% Heavy	0%	2.9%	7.7%	45.5%	6.1%	-	4.4%	7.5%	0%	5.8%	-	-	-	4.8%	1.5%	0%	0%	2.0%	-	4.6%
Pedestrians	-	-	-	-	-	0	-	-	-	-	0	-	1	-	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	0	-	0	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-	-

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

Packard Rd/I-190 SB On Ramp - TMC

Thu Oct 14, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

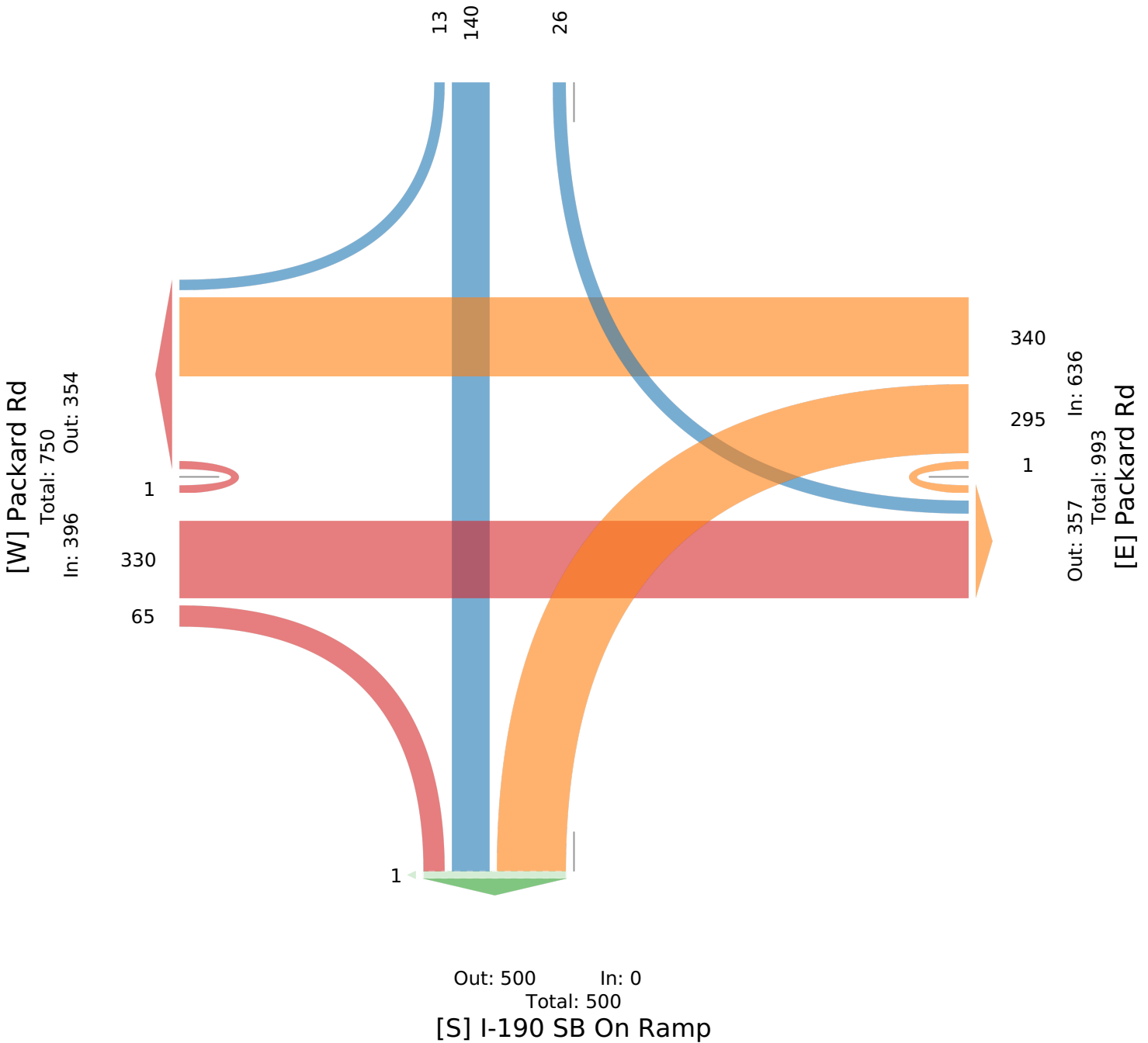
ID: 887506, Location: 43.106534, -78.990046



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

[N] Porter Rd Access Rd SB I-190

Total: 179
In: 179 Out: 0



Packard Rd/Military Rd - TMC

Thu Oct 14, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887333, Location: 43.108529, -78.985914



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Military Rd Southbound							Packard Rd Westbound						
	Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App
2021-10-14 6:00AM	10	10	14	0	12	46	0	11	32	6	0	0	49	1
6:15AM	13	16	23	0	10	62	0	19	47	8	0	3	77	0
6:30AM	16	24	30	0	11	81	0	19	68	9	0	2	98	0
6:45AM	19	41	25	0	16	101	0	21	95	17	0	2	135	0
Hourly Total	58	91	92	0	49	290	0	70	242	40	0	7	359	1
7:00AM	18	29	21	0	10	78	0	18	57	17	0	2	94	1
7:15AM	23	42	25	0	8	98	0	14	82	18	0	0	114	0
7:30AM	31	51	33	0	12	127	0	33	86	15	0	3	137	1
7:45AM	31	53	45	0	14	143	0	30	142	21	0	3	196	0
Hourly Total	103	175	124	0	44	446	0	95	367	71	0	8	541	2
8:00AM	27	50	41	0	5	123	0	17	91	13	0	3	124	0
8:15AM	34	58	47	0	9	148	0	34	85	28	0	2	149	0
8:30AM	17	50	38	0	10	115	0	46	102	30	0	3	181	0
8:45AM	22	86	40	0	12	160	0	37	97	35	0	2	171	0
Hourly Total	100	244	166	0	36	546	0	134	375	106	0	10	625	0
9:00AM	16	56	37	0	5	114	0	25	80	44	0	1	150	0
9:15AM	27	76	35	0	3	141	0	25	73	42	0	5	145	0
9:30AM	25	89	38	0	4	156	0	17	56	33	0	5	111	0
9:45AM	30	100	37	0	12	179	0	29	69	34	0	3	135	0
Hourly Total	98	321	147	0	24	590	0	96	278	153	0	14	541	0
10:00AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00PM	32	103	48	0	0	183	0	40	152	51	0	5	248	0
4:15PM	40	123	47	0	7	217	0	28	125	47	0	9	209	0
4:30PM	30	123	34	0	1	188	0	44	123	43	0	3	213	0
4:45PM	28	112	55	0	6	201	0	32	110	49	0	1	192	1
Hourly Total	130	461	184	0	14	789	0	144	510	190	0	18	862	1
5:00PM	37	129	45	0	2	213	0	42	120	49	0	3	214	0
5:15PM	18	129	29	0	3	179	0	41	125	39	0	3	208	0
5:30PM	32	108	36	0	11	187	0	33	89	34	0	8	164	0
5:45PM	23	91	30	0	4	148	0	39	99	39	0	3	180	0
Hourly Total	110	457	140	0	20	727	0	155	433	161	0	17	766	0
6:00PM	26	116	26	0	1	169	0	27	92	43	0	2	164	0
6:15PM	19	104	25	0	2	150	0	27	72	46	0	1	146	0
6:30PM	19	88	24	0	4	135	0	19	70	33	0	3	125	1
6:45PM	22	83	30	0	7	142	0	16	59	17	0	0	92	0
Hourly Total	86	391	105	0	14	596	0	89	293	139	0	6	527	1
7:00PM	14	89	18	0	2	123	0	22	61	24	0	4	111	0
7:15PM	11	84	14	0	6	115	0	16	51	24	0	3	94	0
7:30PM	6	56	15	0	9	86	0	27	55	9	0	1	92	0
7:45PM	11	65	10	0	5	91	0	21	40	18	0	3	82	0
Hourly Total	42	294	57	0	22	415	0	86	207	75	0	11	379	0
8:00PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	727	2434	1015	0	223	4399	0	869	2705	935	0	91	4600	5
% Approach	16.5%	55.3%	23.1%	0%	5.1%	-	-	18.9%	58.8%	20.3%	0%	2.0%	-	-
% Total	3.7%	12.5%	5.2%	0%	1.1%	22.5%	-	4.5%	13.9%	4.8%	0%	0.5%	23.6%	-
Motorcycles	1	5	4	0	0	10	-	3	5	3	0	0	11	-
% Motorcycles	0.1%	0.2%	0.4%	0%	0%	0.2%	-	0.3%	0.2%	0.3%	0%	0%	0.2%	-
Lights	675	2400	978	0	208	4261	-	835	2535	912	0	87	4369	-
% Lights	92.8%	98.6%	96.4%	0%	93.3%	96.9%	-	96.1%	93.7%	97.5%	0%	95.6%	95.0%	-
Heavy	51	29	33	0	15	128	-	31	165	20	0	4	220	-
% Heavy	7.0%	1.2%	3.3%	0%	6.7%	2.9%	-	3.6%	6.1%	2.1%	0%	4.4%	4.8%	-

Leg Direction	Military Rd Southbound								Packard Rd Westbound							
Time	R	T	L	U	RR	App	Ped*		R	T	L	U	RR	App	Ped*	
Pedestrians	-	-	-	-	-	-	0		-	-	-	-	-	-	4	
% Pedestrians	-	-	-	-	-	-	-		-	-	-	-	-	-	80.0%	
Bicycles on Crosswalk	-	-	-	-	-	-	0		-	-	-	-	-	-	1	
% Bicycles on Crosswalk	-	-	-	-	-	-	-		-	-	-	-	-	-	20.0%	

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

Packard Rd/Military Rd - TMC

Thu Oct 14, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887333, Location: 43.108529, -78.985914



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Military Rd Northbound								Packard Rd Eastbound								
Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*	Int		
2021-10-14 6:00AM	0	9	5	0	0	14	0	5	38	9	0	3	55	0	164		
6:15AM	1	16	5	0	3	25	0	7	58	8	0	9	82	0	246		
6:30AM	3	27	11	0	2	43	0	5	44	26	0	8	83	0	305		
6:45AM	5	29	20	0	3	57	0	10	100	23	0	12	145	0	438		
Hourly Total	9	81	41	0	8	139	0	27	240	66	0	32	365	0	1153		
7:00AM	5	30	19	0	7	61	0	2	64	14	0	15	95	0	328		
7:15AM	4	39	24	0	4	71	0	4	87	15	0	12	118	0	401		
7:30AM	6	31	14	0	7	58	0	6	93	30	0	22	151	0	473		
7:45AM	6	39	46	0	6	97	0	16	75	19	0	23	133	0	569		
Hourly Total	21	139	103	0	24	287	0	28	319	78	0	72	497	0	1771		
8:00AM	11	49	27	0	5	92	0	27	96	20	0	14	157	0	496		
8:15AM	11	34	27	0	8	80	1	27	111	34	0	24	196	0	573		
8:30AM	16	46	24	0	13	99	0	30	93	15	0	17	155	0	550		
8:45AM	28	53	38	0	6	125	0	51	94	27	0	16	188	0	644		
Hourly Total	66	182	116	0	32	396	1	135	394	96	0	71	696	0	2263		
9:00AM	10	54	43	0	7	114	0	31	81	28	0	34	174	0	552		
9:15AM	18	58	41	0	5	122	0	40	72	16	0	12	140	0	548		
9:30AM	15	62	35	0	4	116	1	32	76	22	0	27	157	1	540		
9:45AM	14	71	38	0	10	133	0	43	69	20	0	26	158	0	605		
Hourly Total	57	245	157	0	26	485	1	146	298	86	0	99	629	1	2245		
10:00AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:00PM	37	102	114	0	11	264	0	75	139	39	0	39	292	0	987		
4:15PM	41	147	88	0	10	286	0	78	129	42	0	33	282	0	994		
4:30PM	38	119	108	0	11	276	0	61	110	42	0	33	246	0	923		
4:45PM	38	111	76	0	16	241	0	69	108	43	1	40	261	0	895		
Hourly Total	154	479	386	0	48	1067	0	283	486	166	1	145	1081	0	3799		
5:00PM	35	135	118	0	7	295	0	57	103	39	0	25	224	0	946		
5:15PM	44	108	91	0	12	255	0	65	126	38	0	37	266	1	908		
5:30PM	43	123	89	0	7	262	0	45	86	22	0	39	192	0	805		
5:45PM	17	97	74	0	10	198	0	38	91	34	0	30	193	1	719		
Hourly Total	139	463	372	0	36	1010	0	205	406	133	0	131	875	2	3378		
6:00PM	42	127	107	0	11	287	0	60	65	27	0	33	185	0	805		
6:15PM	42	126	82	0	6	256	0	36	87	29	0	32	184	0	736		
6:30PM	27	125	65	0	3	220	0	25	62	22	0	38	147	0	627		
6:45PM	34	115	85	0	10	244	0	27	61	25	0	28	141	0	619		
Hourly Total	145	493	339	0	30	1007	0	148	275	103	0	131	657	0	2787		
7:00PM	38	92	66	0	9	205	0	42	58	23	0	25	148	0	587		
7:15PM	37	108	71	0	12	228	0	33	60	20	0	26	139	0	576		
7:30PM	19	91	68	0	20	198	0	36	46	15	0	33	130	0	506		
7:45PM	23	89	49	0	8	169	0	22	51	15	0	28	116	1	458		
Hourly Total	117	380	254	0	49	800	0	133	215	73	0	112	533	1	2127		
8:00PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	708	2462	1768	0	253	5191	2	1105	2633	801	1	793	5333	4	19523		
% Approach	13.6%	47.4%	34.1%	0%	4.9%	-	-	20.7%	49.4%	15.0%	0%	14.9%	-	-	-		
% Total	3.6%	12.6%	9.1%	0%	1.3%	26.6%	-	5.7%	13.5%	4.1%	0%	4.1%	27.3%	-	-		
Motorcycles	1	3	7	0	0	11	-	0	8	4	0	1	13	-	45		
% Motorcycles	0.1%	0.1%	0.4%	0%	0%	0.2%	-	0%	0.3%	0.5%	0%	0.1%	0.2%	-	0.2%		
Lights	690	2432	1731	0	245	5098	-	1082	2479	751	1	789	5102	-	18830		
% Lights	97.5%	98.8%	97.9%	0%	96.8%	98.2%	-	97.9%	94.2%	93.8%	100%	99.5%	95.7%	-	96.5%		
Heavy	17	27	30	0	8	82	-	23	146	46	0	3	218	-	648		
% Heavy	2.4%	1.1%	1.7%	0%	3.2%	1.6%	-	2.1%	5.5%	5.7%	0%	0.4%	4.1%	-	3.3%		

Leg Direction	Military Rd Northbound							Packard Rd Eastbound							
Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*	Int
Pedestrians	-	-	-	-	-	-	2	-	-	-	-	-	-	3	
% Pedestrians	-	-	-	-	-	-	100%	-	-	-	-	-	-	75.0%	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	1	
% Bicycles on Crosswalk	-	-	-	-	-	-	0%	-	-	-	-	-	-	25.0%	-

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

Packard Rd/Military Rd - TMC

Thu Oct 14, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

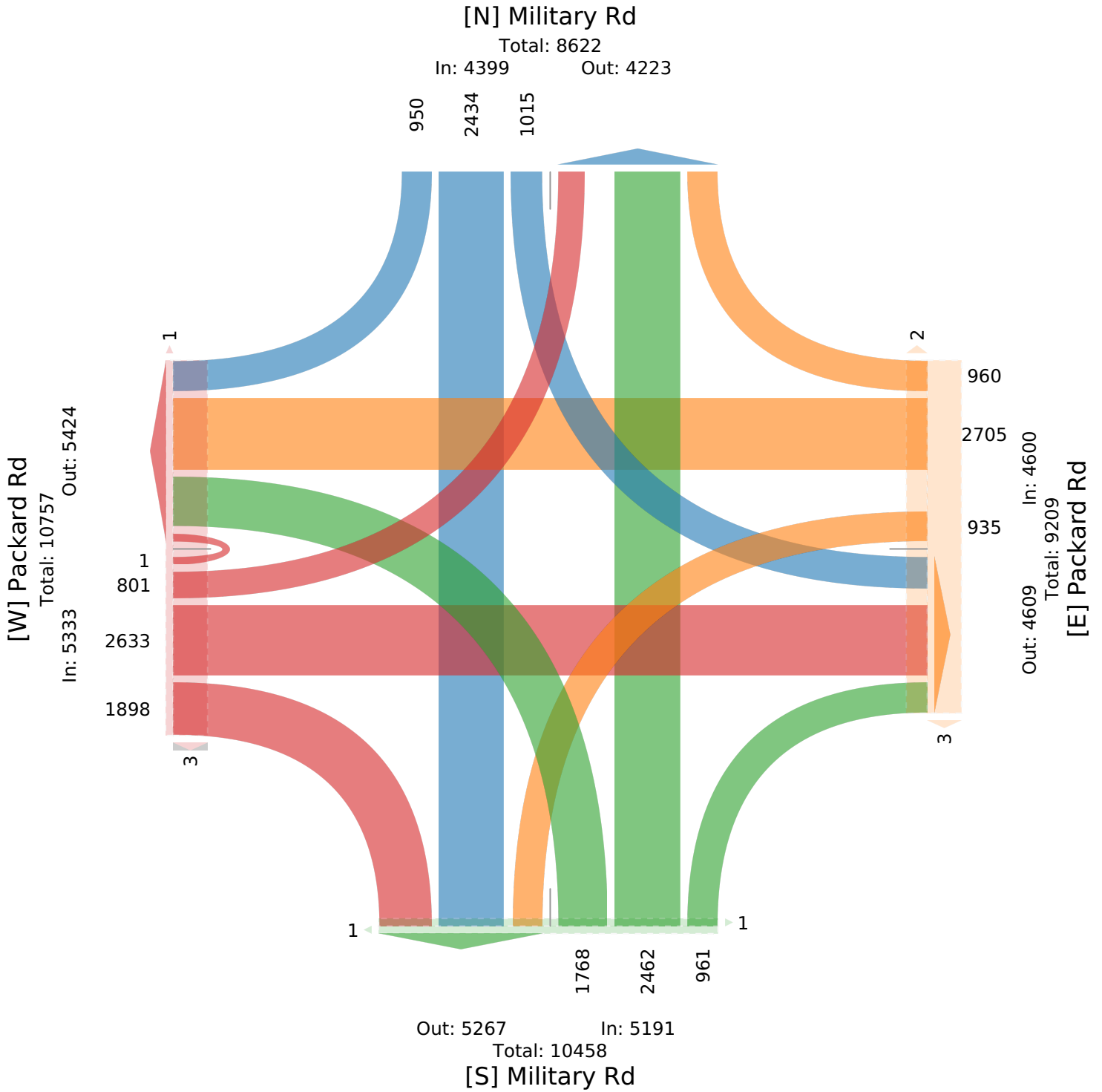
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887333, Location: 43.108529, -78.985914



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Packard Rd/Military Rd - TMC

Thu Oct 14, 2021

Forced Peak (6:30 AM - 7:30 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887333, Location: 43.108529, -78.985914



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Military Rd Southbound							Packard Rd Westbound						
Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*
2021-10-14 6:30AM	16	24	30	0	11	81	0	19	68	9	0	2	98	0
6:45AM	19	41	25	0	16	101	0	21	95	17	0	2	135	0
7:00AM	18	29	21	0	10	78	0	18	57	17	0	2	94	1
7:15AM	23	42	25	0	8	98	0	14	82	18	0	0	114	0
Total	76	136	101	0	45	358	0	72	302	61	0	6	441	1
% Approach	21.2%	38.0%	28.2%	0%	12.6%	-	-	16.3%	68.5%	13.8%	0%	1.4%	-	-
% Total	5.2%	9.2%	6.9%	0%	3.1%	24.3%	-	4.9%	20.5%	4.1%	0%	0.4%	30.0%	-
PHF	0.826	0.810	0.842	-	0.703	0.886	-	0.857	0.795	0.847	-	0.750	0.817	-
Motorcycles	0	1	1	0	0	2	-	0	0	0	0	0	0	-
% Motorcycles	0%	0.7%	1.0%	0%	0%	0.6%	-	0%	0%	0%	0%	0%	0%	-
Lights	70	128	95	0	41	334	-	64	290	58	0	5	417	-
% Lights	92.1%	94.1%	94.1%	0%	91.1%	93.3%	-	88.9%	96.0%	95.1%	0%	83.3%	94.6%	-
Heavy	6	7	5	0	4	22	-	8	12	3	0	1	24	-
% Heavy	7.9%	5.1%	5.0%	0%	8.9%	6.1%	-	11.1%	4.0%	4.9%	0%	16.7%	5.4%	-
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	1
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	100%
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	0%

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

Packard Rd/Military Rd - TMC

Thu Oct 14, 2021

Forced Peak (6:30 AM - 7:30 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887333, Location: 43.108529, -78.985914



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Military Rd Northbound								Packard Rd Eastbound								Int
	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*			
2021-10-14 6:30AM	3	27	11	0	2	43	0	5	44	26	0	8	83	0	305		
6:45AM	5	29	20	0	3	57	0	10	100	23	0	12	145	0	438		
7:00AM	5	30	19	0	7	61	0	2	64	14	0	15	95	0	328		
7:15AM	4	39	24	0	4	71	0	4	87	15	0	12	118	0	401		
Total	17	125	74	0	16	232	0	21	295	78	0	47	441	0	1472		
% Approach	7.3%	53.9%	31.9%	0%	6.9%	-	-	4.8%	66.9%	17.7%	0%	10.7%	-	-	-		
% Total	1.2%	8.5%	5.0%	0%	1.1%	15.8%	-	1.4%	20.0%	5.3%	0%	3.2%	30.0%	-	-		
PHF	0.850	0.801	0.771	-	0.571	0.817	-	0.525	0.738	0.750	-	0.783	0.760	-	0.840		
Motorcycles	0	0	1	0	0	1	-	0	2	0	0	0	2	-	5		
% Motorcycles	0%	0%	1.4%	0%	0%	0.4%	-	0%	0.7%	0%	0%	0%	0.5%	-	0.3%		
Lights	15	122	70	0	16	223	-	20	276	75	0	46	417	-	1391		
% Lights	88.2%	97.6%	94.6%	0%	100%	96.1%	-	95.2%	93.6%	96.2%	0%	97.9%	94.6%	-	94.5%		
Heavy	2	3	3	0	0	8	-	1	17	3	0	1	22	-	76		
% Heavy	11.8%	2.4%	4.1%	0%	0%	3.4%	-	4.8%	5.8%	3.8%	0%	2.1%	5.0%	-	5.2%		
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-		
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-		
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

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

Packard Rd/Military Rd - TMC

Thu Oct 14, 2021

Forced Peak (6:30 AM - 7:30 AM)

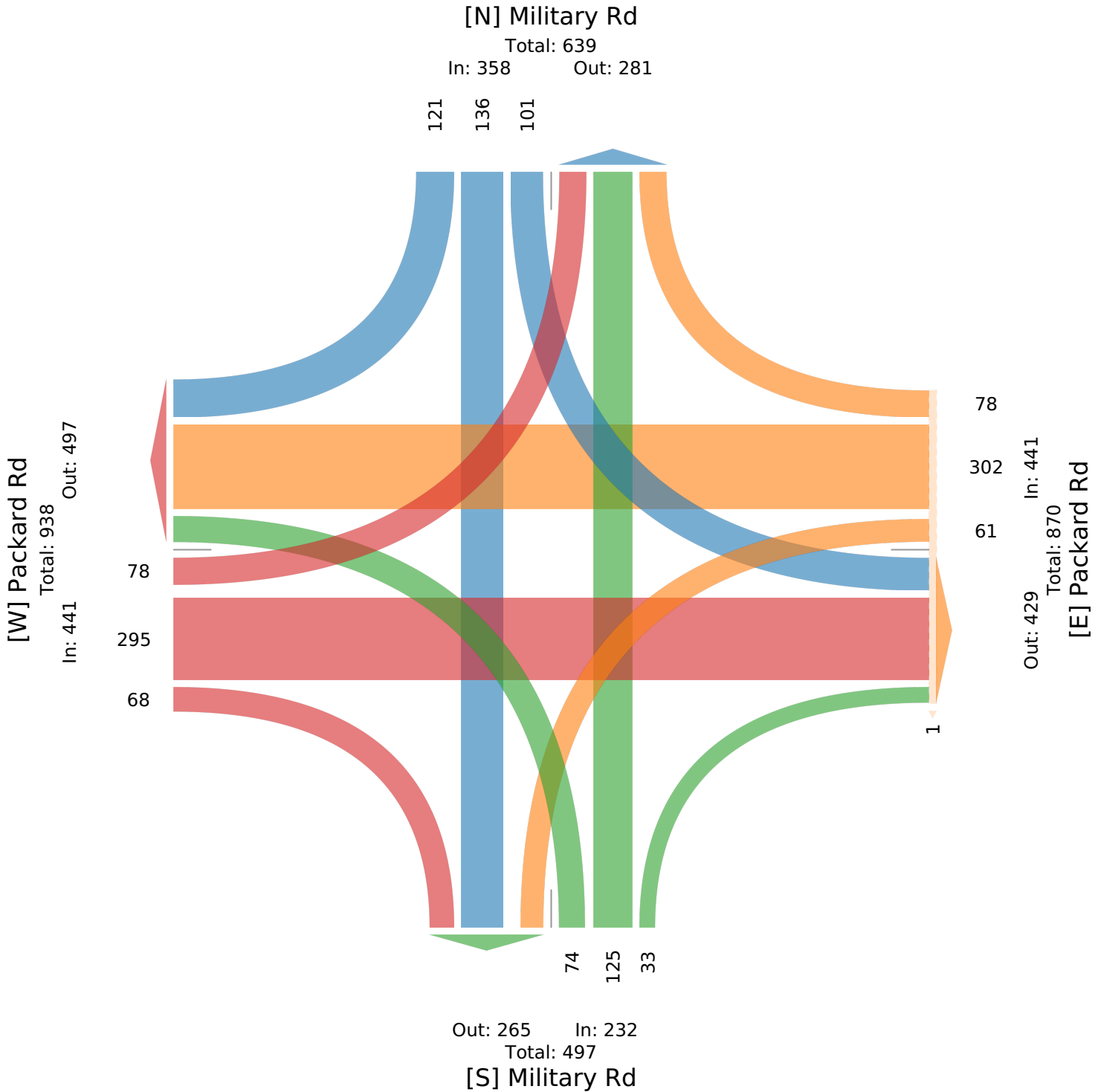
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887333, Location: 43.108529, -78.985914



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Packard Rd/Military Rd - TMC

Thu Oct 14, 2021

AM Peak (8:15 AM - 9:15 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887333, Location: 43.108529, -78.985914



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Military Rd Southbound							Packard Rd Westbound						
Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*
2021-10-14 8:15AM	34	58	47	0	9	148	0	34	85	28	0	2	149	0
8:30AM	17	50	38	0	10	115	0	46	102	30	0	3	181	0
8:45AM	22	86	40	0	12	160	0	37	97	35	0	2	171	0
9:00AM	16	56	37	0	5	114	0	25	80	44	0	1	150	0
Total	89	250	162	0	36	537	0	142	364	137	0	8	651	0
% Approach	16.6%	46.6%	30.2%	0%	6.7%	-	-	21.8%	55.9%	21.0%	0%	1.2%	-	-
% Total	3.8%	10.8%	7.0%	0%	1.6%	23.2%	-	6.1%	15.7%	5.9%	0%	0.3%	28.1%	-
PHF	0.654	0.727	0.862	-	0.750	0.839	-	0.772	0.892	0.778	-	0.667	0.899	-
Motorcycles	0	0	0	0	0	0	-	0	0	1	0	0	1	-
% Motorcycles	0%	0%	0%	0%	0%	0%	-	0%	0%	0.7%	0%	0%	0.2%	-
Lights	74	245	155	0	33	507	-	135	311	128	0	7	581	-
% Lights	83.1%	98.0%	95.7%	0%	91.7%	94.4%	-	95.1%	85.4%	93.4%	0%	87.5%	89.2%	-
Heavy	15	5	7	0	3	30	-	7	53	8	0	1	69	-
% Heavy	16.9%	2.0%	4.3%	0%	8.3%	5.6%	-	4.9%	14.6%	5.8%	0%	12.5%	10.6%	-
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Packard Rd/Military Rd - TMC

Thu Oct 14, 2021

AM Peak (8:15 AM - 9:15 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887333, Location: 43.108529, -78.985914



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Military Rd Northbound								Packard Rd Eastbound								
Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*	Int		
2021-10-14 8:15AM	11	34	27	0	8	80	1	27	111	34	0	24	196	0	573		
8:30AM	16	46	24	0	13	99	0	30	93	15	0	17	155	0	550		
8:45AM	28	53	38	0	6	125	0	51	94	27	0	16	188	0	644		
9:00AM	10	54	43	0	7	114	0	31	81	28	0	34	174	0	552		
Total	65	187	132	0	34	418	1	139	379	104	0	91	713	0	2319		
% Approach	15.6%	44.7%	31.6%	0%	8.1%	-	-	19.5%	53.2%	14.6%	0%	12.8%	-	-	-		
% Total	2.8%	8.1%	5.7%	0%	1.5%	18.0%	-	6.0%	16.3%	4.5%	0%	3.9%	30.7%	-	-		
PHF	0.580	0.866	0.767	-	0.654	0.836	-	0.681	0.854	0.765	-	0.669	0.909	-	0.900		
Motorcycles	0	0	0	0	0	0	-	0	0	0	0	0	0	-	1		
% Motorcycles	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	-	0%		
Lights	57	177	130	0	31	395	-	132	337	93	0	91	653	-	2136		
% Lights	87.7%	94.7%	98.5%	0%	91.2%	94.5%	-	95.0%	88.9%	89.4%	0%	100%	91.6%	-	92.1%		
Heavy	8	10	2	0	3	23	-	7	42	11	0	0	60	-	182		
% Heavy	12.3%	5.3%	1.5%	0%	8.8%	5.5%	-	5.0%	11.1%	10.6%	0%	0%	8.4%	-	7.8%		
Pedestrians	-	-	-	-	-	-	1	-	-	-	-	-	-	0	-		
% Pedestrians	-	-	-	-	-	-	100%	-	-	-	-	-	-	-	-		
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-		
% Bicycles on Crosswalk	-	-	-	-	-	-	0%	-	-	-	-	-	-	-	-		

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

Packard Rd/Military Rd - TMC

Thu Oct 14, 2021

AM Peak (8:15 AM - 9:15 AM)

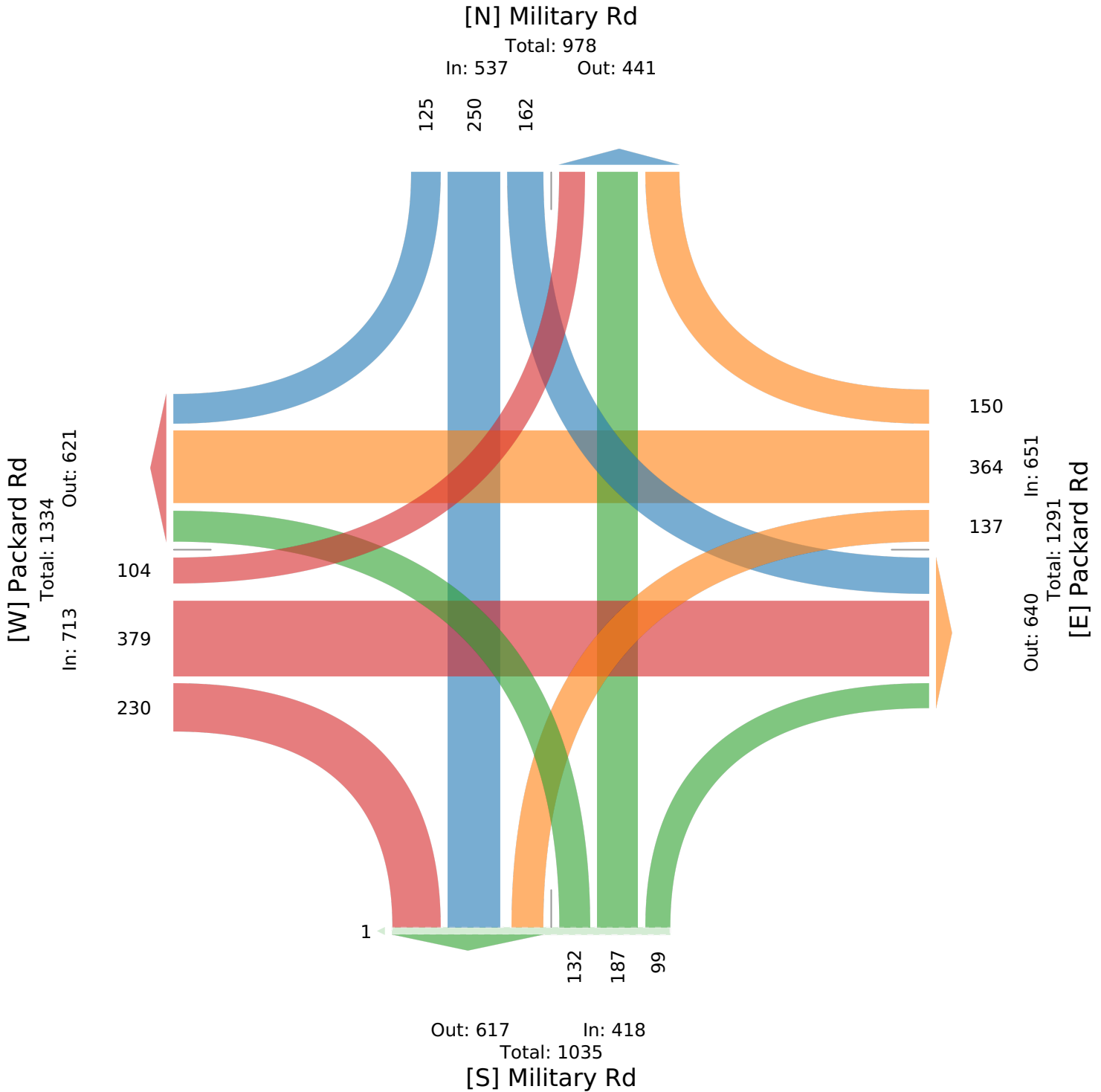
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887333, Location: 43.108529, -78.985914



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Packard Rd/Military Rd - TMC

Thu Oct 14, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887333, Location: 43.108529, -78.985914



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Military Rd Southbound							Packard Rd Westbound						
Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*
2021-10-14 4:00PM	32	103	48	0	0	183	0	40	152	51	0	5	248	0
4:15PM	40	123	47	0	7	217	0	28	125	47	0	9	209	0
4:30PM	30	123	34	0	1	188	0	44	123	43	0	3	213	0
4:45PM	28	112	55	0	6	201	0	32	110	49	0	1	192	1
Total	130	461	184	0	14	789	0	144	510	190	0	18	862	1
% Approach	16.5%	58.4%	23.3%	0%	1.8%	-	-	16.7%	59.2%	22.0%	0%	2.1%	-	-
% Total	3.4%	12.1%	4.8%	0%	0.4%	20.8%	-	3.8%	13.4%	5.0%	0%	0.5%	22.7%	-
PHF	0.813	0.937	0.836	-	0.500	0.909	-	0.818	0.839	0.931	-	0.500	0.869	-
Motorcycles	0	0	0	0	0	0	-	0	3	0	0	0	3	-
% Motorcycles	0%	0%	0%	0%	0%	0%	-	0%	0.6%	0%	0%	0%	0.3%	-
Lights	120	458	181	0	12	771	-	142	485	186	0	18	831	-
% Lights	92.3%	99.3%	98.4%	0%	85.7%	97.7%	-	98.6%	95.1%	97.9%	0%	100%	96.4%	-
Heavy	10	3	3	0	2	18	-	2	22	4	0	0	28	-
% Heavy	7.7%	0.7%	1.6%	0%	14.3%	2.3%	-	1.4%	4.3%	2.1%	0%	0%	3.2%	-
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	1
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	100%
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	0%

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

Packard Rd/Military Rd - TMC

Thu Oct 14, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887333, Location: 43.108529, -78.985914



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Military Rd Northbound								Packard Rd Eastbound								
Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*	Int		
2021-10-14 4:00PM	37	102	114	0	11	264	0	75	139	39	0	39	292	0	987		
4:15PM	41	147	88	0	10	286	0	78	129	42	0	33	282	0	994		
4:30PM	38	119	108	0	11	276	0	61	110	42	0	33	246	0	923		
4:45PM	38	111	76	0	16	241	0	69	108	43	1	40	261	0	895		
Total	154	479	386	0	48	1067	0	283	486	166	1	145	1081	0	3799		
% Approach	14.4%	44.9%	36.2%	0%	4.5%	-	-	26.2%	45.0%	15.4%	0.1%	13.4%	-	-	-		
% Total	4.1%	12.6%	10.2%	0%	1.3%	28.1%	-	7.4%	12.8%	4.4%	0%	3.8%	28.5%	-	-		
PHF	0.939	0.815	0.846	-	0.750	0.933	-	0.907	0.874	0.965	0.250	0.906	0.926	-	0.955		
Motorcycles	0	0	2	0	0	2	-	0	2	1	0	1	4	-	9		
% Motorcycles	0%	0%	0.5%	0%	0%	0.2%	-	0%	0.4%	0.6%	0%	0.7%	0.4%	-	0.2%		
Lights	151	477	380	0	47	1055	-	280	466	158	1	143	1048	-	3705		
% Lights	98.1%	99.6%	98.4%	0%	97.9%	98.9%	-	98.9%	95.9%	95.2%	100%	98.6%	96.9%	-	97.5%		
Heavy	3	2	4	0	1	10	-	3	18	7	0	1	29	-	85		
% Heavy	1.9%	0.4%	1.0%	0%	2.1%	0.9%	-	1.1%	3.7%	4.2%	0%	0.7%	2.7%	-	2.2%		
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-		
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-		
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

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

Packard Rd/Military Rd - TMC

Thu Oct 14, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

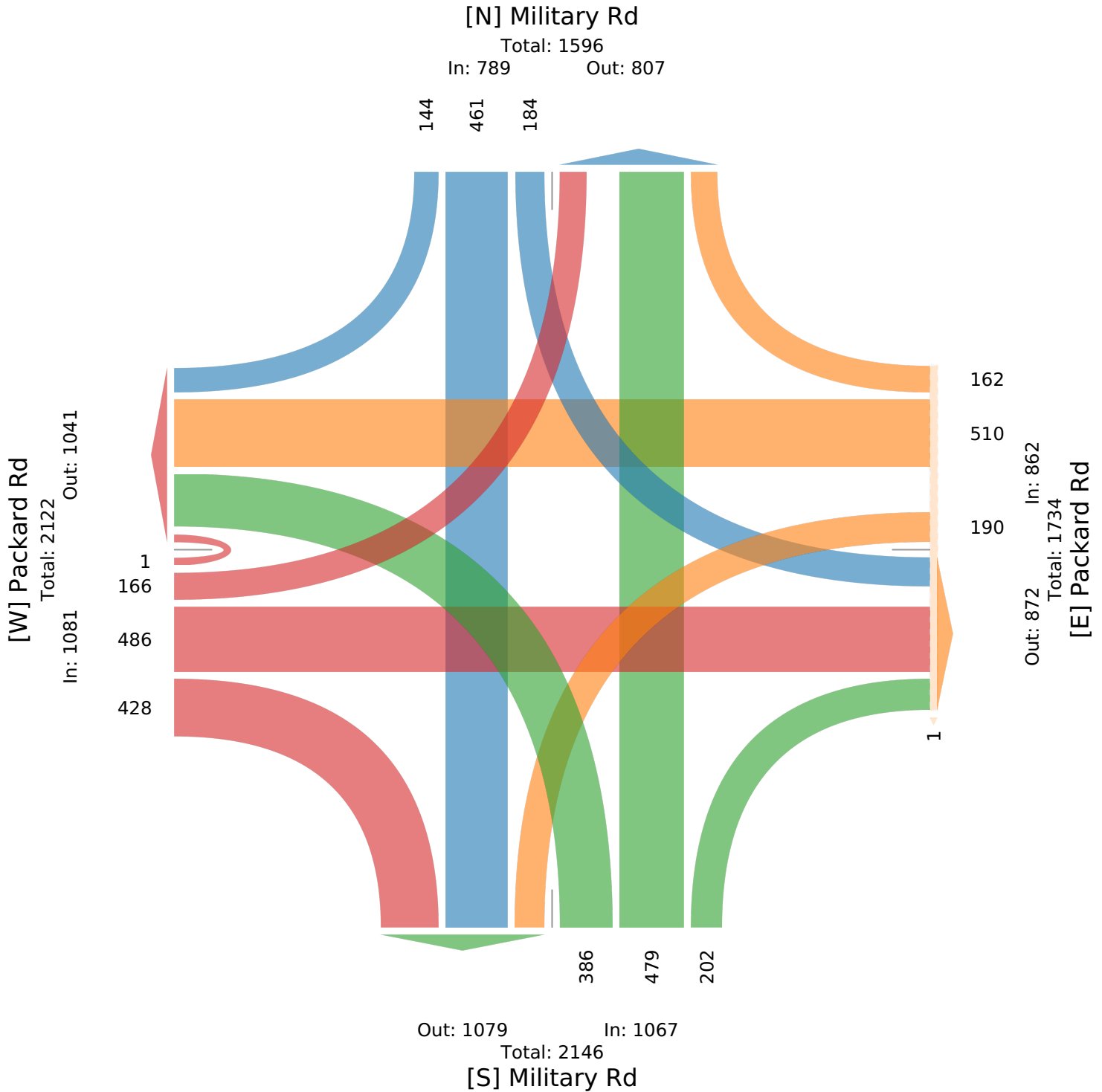
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887333, Location: 43.108529, -78.985914



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Packard Rd/Porter Rd - TMC

Thu Oct 14, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887334, Location: 43.107838, -78.987461



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Porter Rd Southbound							Packard Rd Westbound						
Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*
2021-10-14 6:00AM	2	0	14	0	0	16	0	11	49	0	0	1	61	0
6:15AM	5	0	17	0	0	22	0	16	68	0	0	4	88	0
6:30AM	3	0	18	0	0	21	0	20	94	0	0	5	119	0
6:45AM	7	0	38	0	0	45	0	26	108	0	0	8	142	0
Hourly Total	17	0	87	0	0	104	0	73	319	0	0	18	410	0
7:00AM	1	0	31	0	4	36	0	17	75	0	0	11	103	0
7:15AM	1	0	37	0	3	41	0	35	92	0	0	12	139	0
7:30AM	3	0	43	0	1	47	0	32	95	0	0	7	134	0
7:45AM	3	0	77	0	1	81	0	55	142	0	0	21	218	0
Hourly Total	8	0	188	0	9	205	0	139	404	0	0	51	594	0
8:00AM	2	0	45	0	2	49	0	34	102	0	0	16	152	0
8:15AM	1	0	79	0	1	81	0	45	93	0	0	28	166	0
8:30AM	5	0	58	0	1	64	0	50	86	0	0	12	148	0
8:45AM	2	0	76	0	0	78	0	41	104	0	0	24	169	0
Hourly Total	10	0	258	0	4	272	0	170	385	0	0	80	635	0
9:00AM	2	0	76	0	0	78	0	27	91	0	0	21	139	0
9:15AM	1	0	70	0	0	71	0	27	87	0	0	25	139	0
9:30AM	4	0	79	0	1	84	0	29	76	0	0	21	126	0
9:45AM	1	0	63	0	1	65	0	36	84	0	0	24	144	0
Hourly Total	8	0	288	0	2	298	0	119	338	0	0	91	548	0
10:00AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00PM	1	0	109	0	1	111	0	68	166	0	0	59	293	0
4:15PM	1	0	112	0	2	115	0	66	146	0	0	56	268	0
4:30PM	3	0	108	0	0	111	0	78	131	0	0	44	253	0
4:45PM	0	0	113	0	1	114	0	65	115	0	0	42	222	0
Hourly Total	5	0	442	0	4	451	0	277	558	0	0	201	1036	0
5:00PM	0	0	98	0	0	98	0	59	148	0	0	60	267	0
5:15PM	0	0	113	0	5	118	0	61	132	0	0	39	232	0
5:30PM	1	0	97	0	0	98	0	54	132	0	0	47	233	0
5:45PM	0	0	60	0	0	60	0	52	114	0	0	37	203	0
Hourly Total	1	0	368	0	5	374	0	226	526	0	0	183	935	0
6:00PM	0	0	76	0	0	76	0	65	117	0	0	41	223	0
6:15PM	0	0	91	0	0	91	0	52	83	0	0	39	174	0
6:30PM	0	0	53	0	0	53	0	54	94	0	0	14	162	0
6:45PM	0	0	72	0	0	72	0	62	82	0	0	23	167	0
Hourly Total	0	0	292	0	0	292	0	233	376	0	0	117	726	0
7:00PM	0	0	57	0	0	57	0	38	84	0	0	19	141	0
7:15PM	0	0	66	0	0	66	0	52	70	0	0	19	141	0
7:30PM	0	0	55	0	0	55	0	50	67	0	0	23	140	0
7:45PM	0	0	47	0	0	47	0	35	50	0	0	17	102	0
Hourly Total	0	0	225	0	0	225	0	175	271	0	0	78	524	0
Total	49	0	2148	0	24	2221	0	1412	3177	0	0	819	5408	0
% Approach	2.2%	0%	96.7%	0%	1.1%	-	-	26.1%	58.7%	0%	0%	15.1%	-	-
% Total	0.4%	0%	19.0%	0%	0.2%	19.6%	-	12.5%	28.1%	0%	0%	7.2%	47.8%	-
Motorcycles	0	0	4	0	0	4	-	3	7	0	0	3	13	-
% Motorcycles	0%	0%	0.2%	0%	0%	0.2%	-	0.2%	0.2%	0%	0%	0.4%	0.2%	-
Lights	46	0	2106	0	24	2176	-	1367	2956	0	0	810	5133	-
% Lights	93.9%	0%	98.0%	0%	100%	98.0%	-	96.8%	93.0%	0%	0%	98.9%	94.9%	-
Heavy	3	0	38	0	0	41	-	42	214	0	0	6	262	-
% Heavy	6.1%	0%	1.8%	0%	0%	1.8%	-	3.0%	6.7%	0%	0%	0.7%	4.8%	-
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Leg Direction	Porter Rd Southbound								Packard Rd Westbound							
Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*		
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0		
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

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

Packard Rd/Porter Rd - TMC

Thu Oct 14, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887334, Location: 43.107838, -78.987461



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	South Northbound							Packard Rd Eastbound							Int
	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*	
Time															
2021-10-14 6:00AM	0	0	0	0	0	0	0	0	45	9	0	0	54	0	131
6:15AM	0	0	0	0	0	0	0	0	74	6	0	0	80	0	190
6:30AM	0	0	0	0	0	0	0	0	76	18	0	0	94	0	234
6:45AM	0	0	0	0	0	0	0	0	103	24	0	0	127	0	314
Hourly Total	0	0	0	0	0	0	0	0	298	57	0	0	355	0	869
7:00AM	0	0	0	0	0	0	0	0	68	16	0	0	84	0	223
7:15AM	0	0	0	0	0	0	0	0	82	18	0	0	100	0	280
7:30AM	0	0	0	0	0	0	0	0	106	15	0	0	121	0	302
7:45AM	0	0	0	0	0	0	0	0	72	13	0	0	85	0	384
Hourly Total	0	0	0	0	0	0	0	0	328	62	0	0	390	0	1189
8:00AM	0	0	0	0	0	0	0	0	107	21	0	0	128	0	329
8:15AM	0	0	0	0	0	0	0	0	119	28	0	0	147	0	394
8:30AM	0	0	0	0	0	0	0	0	86	15	0	0	101	0	313
8:45AM	0	0	0	0	0	0	0	0	121	18	0	0	139	0	386
Hourly Total	0	0	0	0	0	0	0	0	433	82	0	0	515	0	1422
9:00AM	0	0	0	0	0	0	0	0	111	11	0	0	122	0	339
9:15AM	0	0	0	0	0	0	0	0	80	15	0	0	95	0	305
9:30AM	0	0	0	0	0	0	0	0	80	6	0	0	86	0	296
9:45AM	0	0	0	0	0	0	0	0	83	9	0	0	92	0	301
Hourly Total	0	0	0	0	0	0	0	0	354	41	0	0	395	0	1241
10:00AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00PM	0	0	0	0	0	0	0	0	184	9	0	0	193	0	597
4:15PM	0	0	0	0	0	0	0	0	179	10	0	0	189	0	572
4:30PM	0	0	0	0	0	0	0	0	130	13	0	0	143	0	507
4:45PM	0	0	0	0	0	0	0	0	148	11	0	0	159	0	495
Hourly Total	0	0	0	0	0	0	0	0	641	43	0	0	684	0	2171
5:00PM	0	0	0	0	0	0	0	0	134	15	0	0	149	0	514
5:15PM	0	0	0	0	0	0	0	0	145	8	0	0	153	0	503
5:30PM	0	0	0	0	0	0	0	0	118	18	0	0	136	0	467
5:45PM	0	0	0	0	0	0	0	0	131	10	0	0	141	0	404
Hourly Total	0	0	0	0	0	0	0	0	528	51	0	0	579	0	1888
6:00PM	0	0	0	0	0	0	0	0	120	10	0	0	130	0	429
6:15PM	0	0	0	0	0	0	0	0	95	15	0	0	110	0	375
6:30PM	0	0	0	0	0	0	0	0	85	13	0	0	98	0	313
6:45PM	0	0	0	0	0	0	0	0	88	11	0	0	99	0	338
Hourly Total	0	0	0	0	0	0	0	0	388	49	0	0	437	0	1455
7:00PM	0	0	0	0	0	0	0	0	77	8	0	0	85	0	283
7:15PM	0	0	0	0	0	0	0	0	77	6	0	0	83	0	290
7:30PM	0	0	0	0	0	0	0	0	76	7	0	0	83	0	278
7:45PM	0	0	0	0	0	0	0	0	67	5	0	0	72	0	221
Hourly Total	0	0	0	0	0	0	0	0	297	26	0	0	323	0	1072
Total	0	0	0	0	0	0	0	0	3267	411	0	0	3678	0	11307
% Approach	0%	0%	0%	0%	0%	-	-	0%	88.8%	11.2%	0%	0%	-	-	-
% Total	0%	0%	0%	0%	0%	0%	-	0%	28.9%	3.6%	0%	0%	32.5%	-	-
Motorcycles	0	0	0	0	0	0	-	0	7	1	0	0	8	-	25
% Motorcycles	0%	0%	0%	0%	0%	-	-	0%	0.2%	0.2%	0%	0%	0.2%	-	0.2%
Lights	0	0	0	0	0	0	-	0	3081	395	0	0	3476	-	10785
% Lights	0%	0%	0%	0%	0%	-	-	0%	94.3%	96.1%	0%	0%	94.5%	-	95.4%
Heavy	0	0	0	0	0	0	-	0	179	15	0	0	194	-	497
% Heavy	0%	0%	0%	0%	0%	-	-	0%	5.5%	3.6%	0%	0%	5.3%	-	4.4%
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Leg Direction	South Northbound							Packard Rd Eastbound							
Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*	Int
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Packard Rd/Porter Rd - TMC

Thu Oct 14, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887334, Location: 43.107838, -78.987461



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

[N] Porter Rd

Total: 4863

In: 2221 Out: 2642

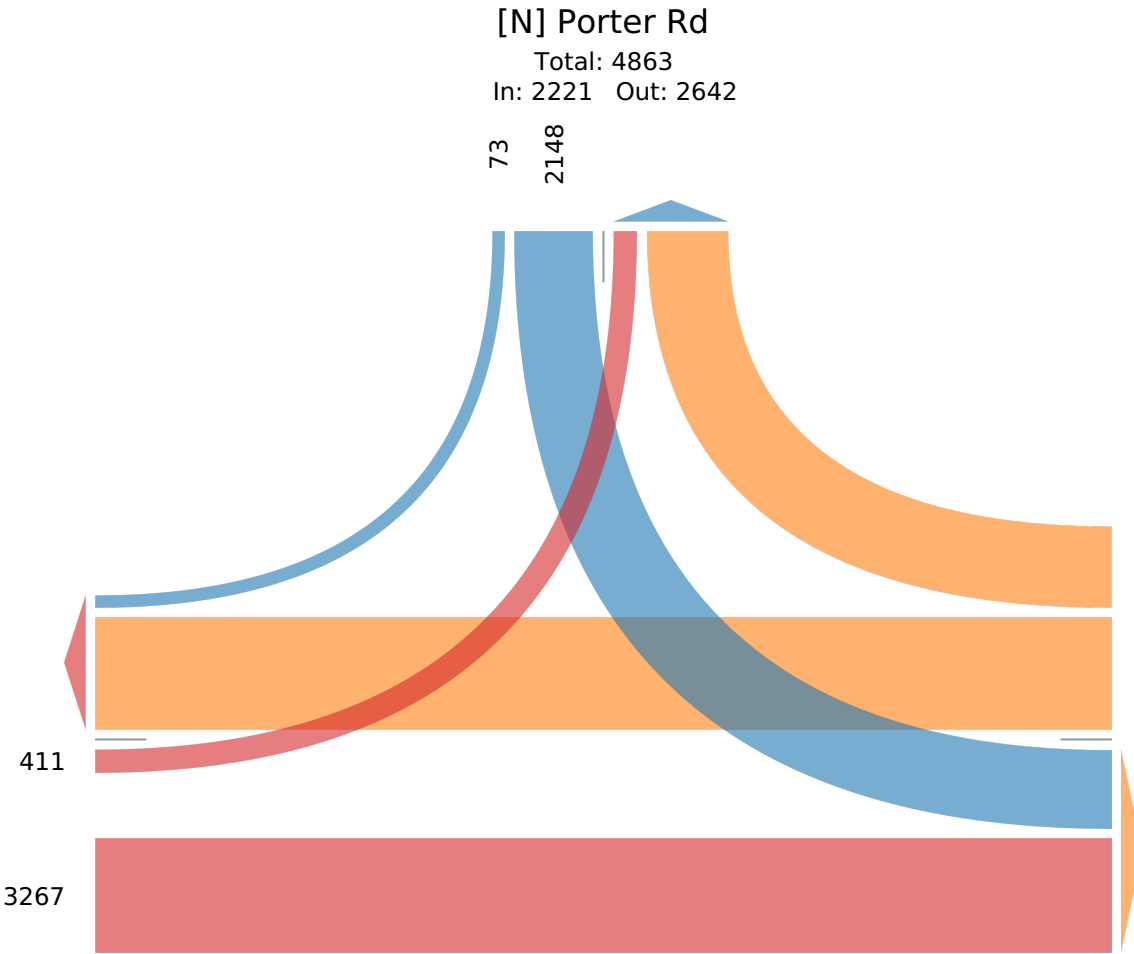
73
2148

[W] Packard Rd

Total: 6928
In: 3678 Out: 3250

411
3267

2231
3177
Out: 5415 In: 5408
Total: 10823
[E] Packard Rd



Packard Rd/Porter Rd - TMC

Thu Oct 14, 2021

Forced Peak (6:30 AM - 7:30 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887334, Location: 43.107838, -78.987461



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Porter Rd Southbound								Packard Rd Westbound							
	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*		
Time																
2021-10-14 6:30AM	3	0	18	0	0	21	0	20	94	0	0	5	119	0		
6:45AM	7	0	38	0	0	45	0	26	108	0	0	8	142	0		
7:00AM	1	0	31	0	4	36	0	17	75	0	0	11	103	0		
7:15AM	1	0	37	0	3	41	0	35	92	0	0	12	139	0		
Total	12	0	124	0	7	143	0	98	369	0	0	36	503	0		
% Approach	8.4%	0%	86.7%	0%	4.9%	-	-	19.5%	73.4%	0%	0%	7.2%	-	-		
% Total	1.1%	0%	11.8%	0%	0.7%	13.6%	-	9.3%	35.1%	0%	0%	3.4%	47.9%	-		
PHF	0.429	-	0.816	-	0.438	0.794	-	0.700	0.854	-	-	0.750	0.886	-		
Motorcycles	0	0	1	0	0	1	-	1	0	0	0	0	1	-		
% Motorcycles	0%	0%	0.8%	0%	0%	0.7%	-	1.0%	0%	0%	0%	0%	0.2%	-		
Lights	12	0	117	0	7	136	-	92	352	0	0	36	480	-		
% Lights	100%	0%	94.4%	0%	100%	95.1%	-	93.9%	95.4%	0%	0%	100%	95.4%	-		
Heavy	0	0	6	0	0	6	-	5	17	0	0	0	22	-		
% Heavy	0%	0%	4.8%	0%	0%	4.2%	-	5.1%	4.6%	0%	0%	0%	4.4%	-		
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0		
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0		
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

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

Packard Rd/Porter Rd - TMC

Thu Oct 14, 2021

Forced Peak (6:30 AM - 7:30 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887334, Location: 43.107838, -78.987461



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	South Northbound							Packard Rd Eastbound							Int
	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*	
Time															
2021-10-14 6:30AM	0	0	0	0	0	0	0	0	76	18	0	0	94	0	234
6:45AM	0	0	0	0	0	0	0	0	103	24	0	0	127	0	314
7:00AM	0	0	0	0	0	0	0	0	68	16	0	0	84	0	223
7:15AM	0	0	0	0	0	0	0	0	82	18	0	0	100	0	280
Total	0	0	0	0	0	0	0	0	329	76	0	0	405	0	1051
% Approach	0%	0%	0%	0%	0%	-	-	0%	81.2%	18.8%	0%	0%	-	-	-
% Total	0%	0%	0%	0%	0%	0%	0%	0%	31.3%	7.2%	0%	0%	38.5%	-	-
PHF	-	-	-	-	-	-	-	-	0.799	0.792	-	-	0.797	-	0.837
Motorcycles	0	0	0	0	0	0	-	0	0	0	0	0	0	-	2
% Motorcycles	0%	0%	0%	0%	0%	-	-	0%	0%	0%	0%	0%	0%	-	0.2%
Lights	0	0	0	0	0	0	-	0	313	74	0	0	387	-	1003
% Lights	0%	0%	0%	0%	0%	-	-	0%	95.1%	97.4%	0%	0%	95.6%	-	95.4%
Heavy	0	0	0	0	0	0	-	0	16	2	0	0	18	-	46
% Heavy	0%	0%	0%	0%	0%	-	-	0%	4.9%	2.6%	0%	0%	4.4%	-	4.4%
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Packard Rd/Porter Rd - TMC

Thu Oct 14, 2021

Forced Peak (6:30 AM - 7:30 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887334, Location: 43.107838, -78.987461



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

[N] Porter Rd

Total: 353

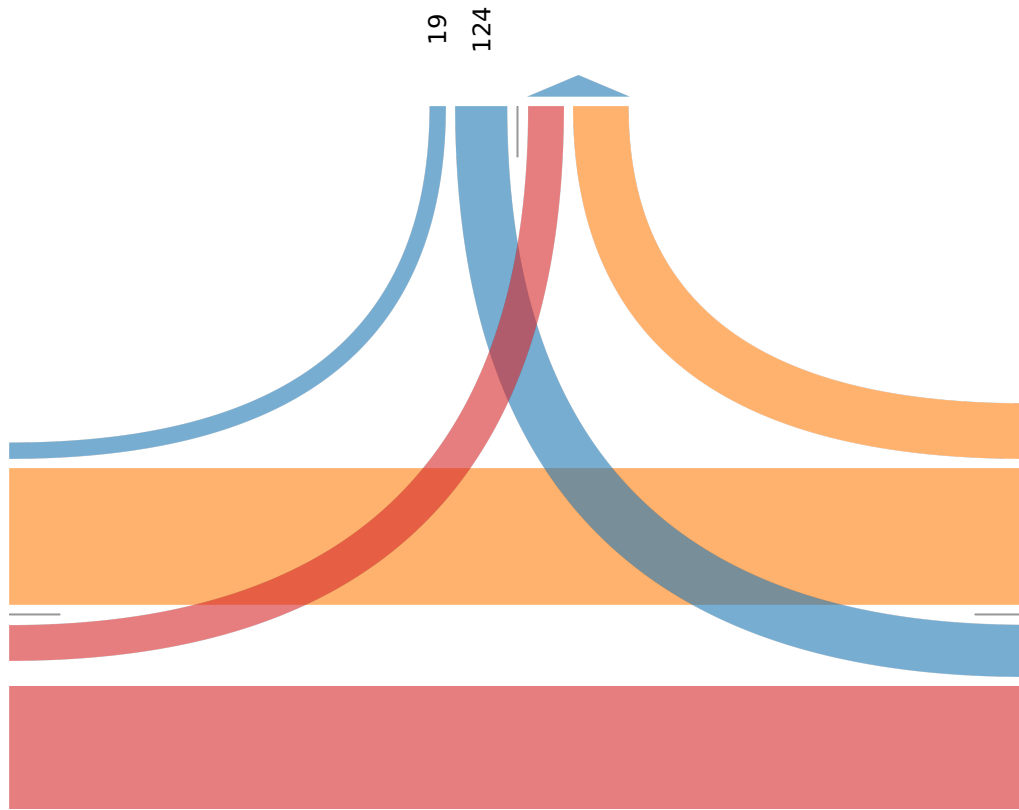
In: 143 Out: 210

19
124

[W] Packard Rd

Total: 793
In: 405 Out: 388

76
329



134
369

Out: 453 In: 503
Total: 956
[E] Packard Rd

Packard Rd/Porter Rd - TMC

Thu Oct 14, 2021

AM Peak (8:15 AM - 9:15 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887334, Location: 43.107838, -78.987461



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Porter Rd Southbound							Packard Rd Westbound						
Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*
2021-10-14 8:15AM	1	0	79	0	1	81	0	45	93	0	0	28	166	0
8:30AM	5	0	58	0	1	64	0	50	86	0	0	12	148	0
8:45AM	2	0	76	0	0	78	0	41	104	0	0	24	169	0
9:00AM	2	0	76	0	0	78	0	27	91	0	0	21	139	0
Total	10	0	289	0	2	301	0	163	374	0	0	85	622	0
% Approach	3.3%	0%	96.0%	0%	0.7%	-	-	26.2%	60.1%	0%	0%	13.7%	-	-
% Total	0.7%	0%	20.2%	0%	0.1%	21.0%	-	11.4%	26.1%	0%	0%	5.9%	43.4%	-
PHF	0.500	-	0.915	-	0.500	0.929	-	0.815	0.899	-	-	0.759	0.920	-
Motorcycles	0	0	0	0	0	0	-	0	0	0	0	0	0	-
% Motorcycles	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	-
Lights	9	0	274	0	2	285	-	149	312	0	0	85	546	-
% Lights	90.0%	0%	94.8%	0%	100%	94.7%	-	91.4%	83.4%	0%	0%	100%	87.8%	-
Heavy	1	0	15	0	0	16	-	14	62	0	0	0	76	-
% Heavy	10.0%	0%	5.2%	0%	0%	5.3%	-	8.6%	16.6%	0%	0%	0%	12.2%	-
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Packard Rd/Porter Rd - TMC

Thu Oct 14, 2021

AM Peak (8:15 AM - 9:15 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887334, Location: 43.107838, -78.987461



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	South Northbound							Packard Rd Eastbound							Int
	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*	
Time															
2021-10-14 8:15AM	0	0	0	0	0	0	0	0	119	28	0	0	147	0	394
8:30AM	0	0	0	0	0	0	0	0	86	15	0	0	101	0	313
8:45AM	0	0	0	0	0	0	0	0	121	18	0	0	139	0	386
9:00AM	0	0	0	0	0	0	0	0	111	11	0	0	122	0	339
Total	0	0	0	0	0	0	0	0	437	72	0	0	509	0	1432
% Approach	0%	0%	0%	0%	0%	-	-	0%	85.9%	14.1%	0%	0%	-	-	-
% Total	0%	0%	0%	0%	0%	0%	0%	0%	30.5%	5.0%	0%	0%	35.5%	-	-
PHF	-	-	-	-	-	-	-	-	0.903	0.643	-	-	0.866	-	0.909
Motorcycles	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0
% Motorcycles	0%	0%	0%	0%	0%	-	-	0%	0%	0%	0%	0%	0%	-	0%
Lights	0	0	0	0	0	0	-	0	394	67	0	0	461	-	1292
% Lights	0%	0%	0%	0%	0%	-	-	0%	90.2%	93.1%	0%	0%	90.6%	-	90.2%
Heavy	0	0	0	0	0	0	-	0	43	5	0	0	48	-	140
% Heavy	0%	0%	0%	0%	0%	-	-	0%	9.8%	6.9%	0%	0%	9.4%	-	9.8%
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Packard Rd/Porter Rd - TMC

Thu Oct 14, 2021

AM Peak (8:15 AM - 9:15 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887334, Location: 43.107838, -78.987461



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

[N] Porter Rd

Total: 621

In: 301 Out: 320

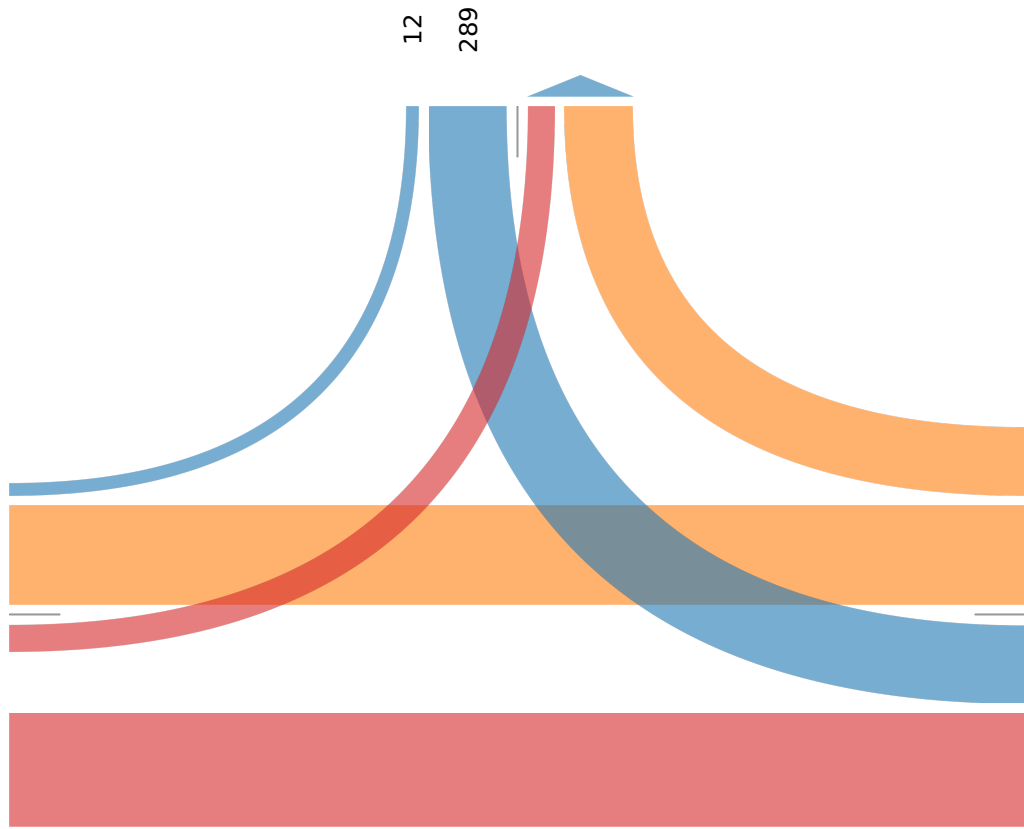
12
289

[W] Packard Rd

Total: 895

In: 509 Out: 386

72
437



248
374

Out: 726 In: 622
Total: 1348
[E] Packard Rd

Packard Rd/Porter Rd - TMC

Thu Oct 14, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887334, Location: 43.107838, -78.987461



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Porter Rd Southbound							Packard Rd Westbound						
	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*
Time														
2021-10-14 4:00PM	1	0	109	0	1	111	0	68	166	0	0	59	293	0
4:15PM	1	0	112	0	2	115	0	66	146	0	0	56	268	0
4:30PM	3	0	108	0	0	111	0	78	131	0	0	44	253	0
4:45PM	0	0	113	0	1	114	0	65	115	0	0	42	222	0
Total	5	0	442	0	4	451	0	277	558	0	0	201	1036	0
% Approach	1.1%	0%	98.0%	0%	0.9%	-	-	26.7%	53.9%	0%	0%	19.4%	-	-
% Total	0.2%	0%	20.4%	0%	0.2%	20.8%	-	12.8%	25.7%	0%	0%	9.3%	47.7%	-
PHF	0.417	-	0.978	-	0.500	0.980	-	0.888	0.840	-	-	0.852	0.884	-
Motorcycles	0	0	1	0	0	1	-	1	3	0	0	1	5	-
% Motorcycles	0%	0%	0.2%	0%	0%	0.2%	-	0.4%	0.5%	0%	0%	0.5%	0.5%	-
Lights	5	0	440	0	4	449	-	272	522	0	0	199	993	-
% Lights	100%	0%	99.5%	0%	100%	99.6%	-	98.2%	93.5%	0%	0%	99.0%	95.8%	-
Heavy	0	0	1	0	0	1	-	4	33	0	0	1	38	-
% Heavy	0%	0%	0.2%	0%	0%	0.2%	-	1.4%	5.9%	0%	0%	0.5%	3.7%	-
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Packard Rd/Porter Rd - TMC

Thu Oct 14, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887334, Location: 43.107838, -78.987461



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	South Northbound								Packard Rd Eastbound								Int
	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*			
2021-10-14 4:00PM	0	0	0	0	0	0	0	0	184	9	0	0	193	0	597		
4:15PM	0	0	0	0	0	0	0	0	179	10	0	0	189	0	572		
4:30PM	0	0	0	0	0	0	0	0	130	13	0	0	143	0	507		
4:45PM	0	0	0	0	0	0	0	0	148	11	0	0	159	0	495		
Total	0	0	0	0	0	0	0	0	641	43	0	0	684	0	2171		
% Approach	0%	0%	0%	0%	0%	-	-	0%	93.7%	6.3%	0%	0%	-	-	-		
% Total	0%	0%	0%	0%	0%	0%	-	0%	29.5%	2.0%	0%	0%	31.5%	-	-		
PHF	-	-	-	-	-	-	-	-	0.871	0.827	-	-	0.886	-	0.909		
Motorcycles	0	0	0	0	0	0	-	0	4	0	0	0	4	-	10		
% Motorcycles	0%	0%	0%	0%	0%	-	-	0%	0.6%	0%	0%	0%	0.6%	-	0.5%		
Lights	0	0	0	0	0	0	-	0	608	43	0	0	651	-	2093		
% Lights	0%	0%	0%	0%	0%	-	-	0%	94.9%	100%	0%	0%	95.2%	-	96.4%		
Heavy	0	0	0	0	0	0	-	0	29	0	0	0	29	-	68		
% Heavy	0%	0%	0%	0%	0%	-	-	0%	4.5%	0%	0%	0%	4.2%	-	3.1%		
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-		
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-		
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

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

Packard Rd/Porter Rd - TMC

Thu Oct 14, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887334, Location: 43.107838, -78.987461



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

[N] Porter Rd

Total: 972

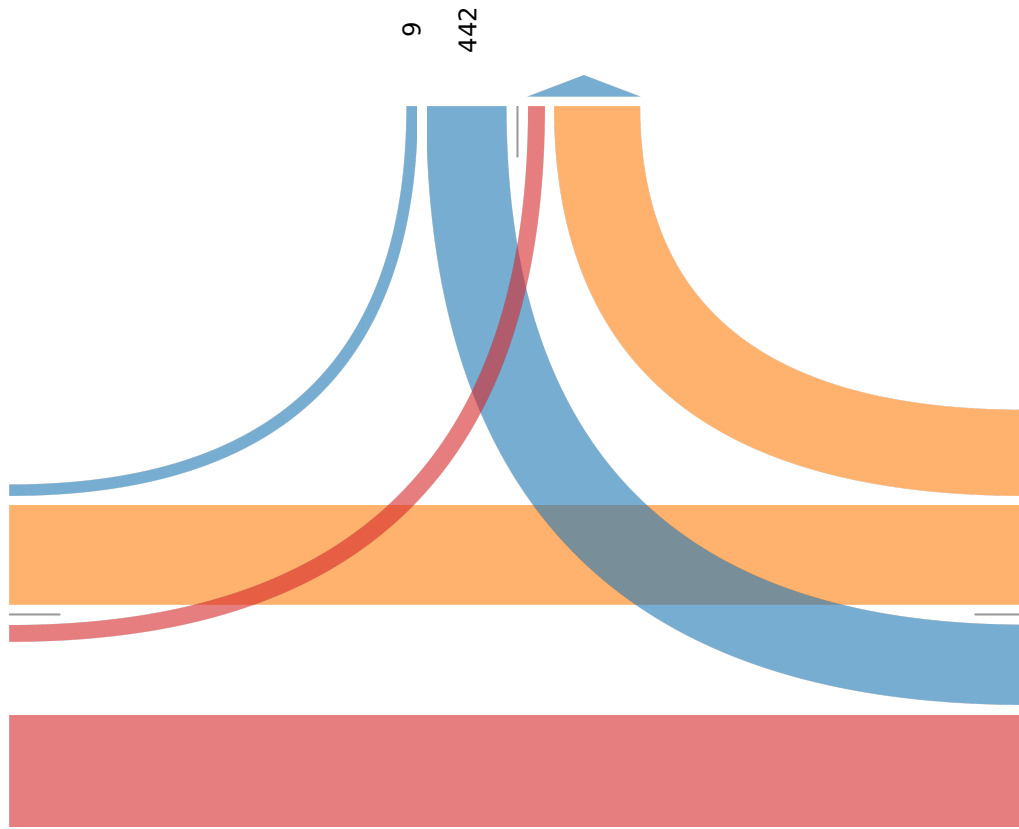
In: 451 Out: 521

9
442

[W] Packard Rd
Total: 1251
In: 684 Out: 567

43

641



478

558

Out: 1083 In: 1036
Total: 2119
[E] Packard Rd

Porter Rd/Packard Rd (east) - TMC

Tue Dec 14, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 911616, Location: 43.109264, -78.984311



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	North Southbound						Packard Rd Westbound					
	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*
Time												
2021-12-14 6:00AM	0	0	0	0	0	0	0	36	0	0	36	0
6:15AM	0	0	0	0	0	0	0	54	1	0	55	0
6:30AM	0	0	0	0	0	0	0	73	1	0	74	0
6:45AM	0	0	0	0	0	0	0	64	1	0	65	0
Hourly Total	0	0	0	0	0	0	0	227	3	0	230	0
7:00AM	0	0	0	0	0	0	0	75	2	0	77	0
7:15AM	0	0	0	0	0	0	0	81	2	0	83	0
7:30AM	1	0	0	0	1	0	0	90	4	0	94	0
7:45AM	0	0	0	0	0	0	0	92	1	0	93	0
Hourly Total	1	0	0	0	1	0	0	338	9	0	347	0
8:00AM	0	0	0	0	0	0	0	73	0	0	73	0
8:15AM	0	0	0	0	0	0	0	91	1	0	92	0
8:30AM	0	0	0	0	0	0	0	68	4	0	72	0
8:45AM	0	0	0	0	0	0	0	81	3	0	84	0
Hourly Total	0	0	0	0	0	0	0	313	8	0	321	0
9:00AM	0	0	0	0	0	0	0	95	0	0	95	0
9:15AM	0	0	0	0	0	0	0	90	3	0	93	0
9:30AM	0	0	0	0	0	0	0	82	0	0	82	0
9:45AM	0	0	0	0	0	0	0	92	1	0	93	0
Hourly Total	0	0	0	0	0	0	0	359	4	0	363	0
10:00AM	0	0	0	0	0	0	0	3	0	0	3	0
Hourly Total	0	0	0	0	0	0	0	3	0	0	3	0
4:00PM	0	0	0	0	0	0	0	116	4	0	120	0
4:15PM	0	0	0	0	0	0	0	116	7	0	123	0
4:30PM	0	1	0	0	1	0	0	136	4	0	140	0
4:45PM	0	0	0	0	0	0	0	86	2	0	88	0
Hourly Total	0	1	0	0	1	0	0	454	17	0	471	0
5:00PM	0	0	0	0	0	0	0	105	2	0	107	0
5:15PM	1	0	0	0	1	0	0	99	2	0	101	0
5:30PM	0	0	0	0	0	0	0	79	3	0	82	0
5:45PM	0	0	0	0	0	0	0	88	2	0	90	0
Hourly Total	1	0	0	0	1	0	0	371	9	0	380	0
6:00PM	0	0	0	0	0	0	0	51	2	0	53	0
6:15PM	0	0	0	0	0	0	0	80	1	0	81	0
6:30PM	0	0	0	0	0	0	0	65	4	0	69	0
6:45PM	0	0	0	0	0	0	0	48	2	0	50	0
Hourly Total	0	0	0	0	0	0	0	244	9	0	253	0
7:00PM	0	0	0	0	0	0	0	52	1	0	53	0
7:15PM	0	0	0	0	0	0	0	49	4	0	53	0
7:30PM	0	0	0	0	0	0	0	55	4	0	59	0
7:45PM	0	0	0	0	0	0	0	35	2	0	37	0
Hourly Total	0	0	0	0	0	0	0	191	11	0	202	0
8:00PM	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	1	0	0	3	0	0	2500	70	0	2570	0
% Approach	66.7%	33.3%	0%	0%	-	-	0%	97.3%	2.7%	0%	-	-
% Total	0%	0%	0%	0%	0%	-	0%	28.9%	0.8%	0%	29.7%	-
Motorcycles	1	0	0	0	1	-	0	2	0	0	2	-
% Motorcycles	50.0%	0%	0%	0%	33.3%	-	0%	0.1%	0%	0%	0.1%	-
Lights	1	1	0	0	2	-	0	2338	69	0	2407	-
% Lights	50.0%	100%	0%	0%	66.7%	-	0%	93.5%	98.6%	0%	93.7%	-
Heavy	0	0	0	0	0	-	0	160	1	0	161	-
% Heavy	0%	0%	0%	0%	0%	-	0%	6.4%	1.4%	0%	6.3%	-

Leg Direction	North Southbound						Packard Rd Westbound					
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-

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

Porter Rd/Packard Rd (east) - TMC

Tue Dec 14, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 911616, Location: 43.109264, -78.984311



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Porter Rd Northbound								Packard Rd Eastbound								Int
	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*			
Time																	
2021-12-14 6:00AM	0	0	15	0	0	15	0	14	46	0	0	4	64	0	115		
6:15AM	1	0	16	0	0	17	0	27	59	0	0	4	90	0	162		
6:30AM	1	0	33	0	1	35	0	23	91	0	0	7	121	0	230		
6:45AM	0	0	36	0	1	37	0	19	84	0	0	14	117	0	219		
Hourly Total	2	0	100	0	2	104	0	83	280	0	0	29	392	0	726		
7:00AM	0	0	27	0	0	27	0	26	76	0	0	3	105	0	209		
7:15AM	3	0	32	0	2	37	0	24	76	0	0	9	109	0	229		
7:30AM	3	0	39	0	0	42	0	56	72	1	0	5	134	0	271		
7:45AM	0	0	61	0	0	61	0	61	83	0	0	14	158	0	312		
Hourly Total	6	0	159	0	2	167	0	167	307	1	0	31	506	0	1021		
8:00AM	0	0	59	0	0	59	0	45	82	0	0	7	134	0	266		
8:15AM	1	0	51	0	0	52	0	51	74	0	0	19	144	0	288		
8:30AM	3	0	66	0	0	69	0	51	84	0	1	24	160	0	301		
8:45AM	2	0	63	0	0	65	0	49	91	0	0	14	154	0	303		
Hourly Total	6	0	239	0	0	245	0	196	331	0	1	64	592	0	1158		
9:00AM	1	0	52	0	1	54	0	60	70	0	0	10	140	0	289		
9:15AM	1	0	67	0	1	69	0	52	70	0	0	13	135	0	297		
9:30AM	2	0	46	0	0	48	0	46	65	0	0	24	135	0	265		
9:45AM	3	0	50	0	0	53	0	58	51	0	0	10	119	0	265		
Hourly Total	7	0	215	0	2	224	0	216	256	0	0	57	529	0	1116		
10:00AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3		
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3		
4:00PM	5	0	95	0	1	101	1	35	119	0	0	37	191	0	412		
4:15PM	5	0	91	0	2	98	0	81	120	1	0	28	230	0	451		
4:30PM	4	0	106	0	2	112	0	67	133	0	0	32	232	1	485		
4:45PM	8	0	87	0	1	96	0	54	99	0	0	25	178	0	362		
Hourly Total	22	0	379	0	6	407	1	237	471	1	0	122	831	1	1710		
5:00PM	4	0	74	0	1	79	0	54	143	0	1	11	209	0	395		
5:15PM	0	0	66	0	2	68	0	62	102	0	0	14	178	0	348		
5:30PM	5	0	67	0	0	72	0	42	94	0	0	8	144	0	298		
5:45PM	3	0	52	0	1	56	0	43	68	0	0	5	116	0	262		
Hourly Total	12	0	259	0	4	275	0	201	407	0	1	38	647	0	1303		
6:00PM	5	0	54	0	0	59	0	31	69	1	0	19	120	0	232		
6:15PM	1	0	55	0	0	56	0	34	80	0	0	3	117	0	254		
6:30PM	1	0	61	0	1	63	0	28	80	0	0	3	111	0	243		
6:45PM	2	0	35	0	0	37	0	26	53	0	0	1	80	0	167		
Hourly Total	9	0	205	0	1	215	0	119	282	1	0	26	428	0	896		
7:00PM	1	0	39	0	0	40	0	30	62	0	0	7	99	0	192		
7:15PM	2	0	28	0	2	32	0	24	70	0	0	3	97	0	182		
7:30PM	0	0	36	0	0	36	0	22	79	0	0	2	103	0	198		
7:45PM	1	0	29	0	1	31	0	25	54	0	0	3	82	0	150		
Hourly Total	4	0	132	0	3	139	0	101	265	0	0	15	381	0	722		
8:00PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	68	0	1688	0	20	1776	1	1320	2599	3	2	382	4306	1	8655		
% Approach	3.8%	0%	95.0%	0%	1.1%	-	-	30.7%	60.4%	0.1%	0%	8.9%	-	-	-		
% Total	0.8%	0%	19.5%	0%	0.2%	20.5%	-	15.3%	30.0%	0%	0%	4.4%	49.8%	-	-		
Motorcycles	0	0	1	0	0	1	-	2	1	0	0	0	3	-	7		
% Motorcycles	0%	0%	0.1%	0%	0%	0.1%	-	0.2%	0%	0%	0%	0%	0.1%	-	0.1%		
Lights	63	0	1625	0	18	1706	-	1272	2468	3	2	371	4116	-	8231		
% Lights	92.6%	0%	96.3%	0%	90.0%	96.1%	-	96.4%	95.0%	100%	100%	97.1%	95.6%	-	95.1%		
Heavy	5	0	62	0	2	69	-	46	130	0	0	11	187	-	417		
% Heavy	7.4%	0%	3.7%	0%	10.0%	3.9%	-	3.5%	5.0%	0%	0%	2.9%	4.3%	-	4.8%		

Leg Direction	Porter Rd Northbound							Packard Rd Eastbound							
Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*	Int
Pedestrians	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
% Pedestrians	-	-	-	-	-	-	100%	-	-	-	-	-	-	-	100%
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	0%	-	-	-	-	-	-	-	0%

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

Porter Rd/Packard Rd (east) - TMC

Tue Dec 14, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

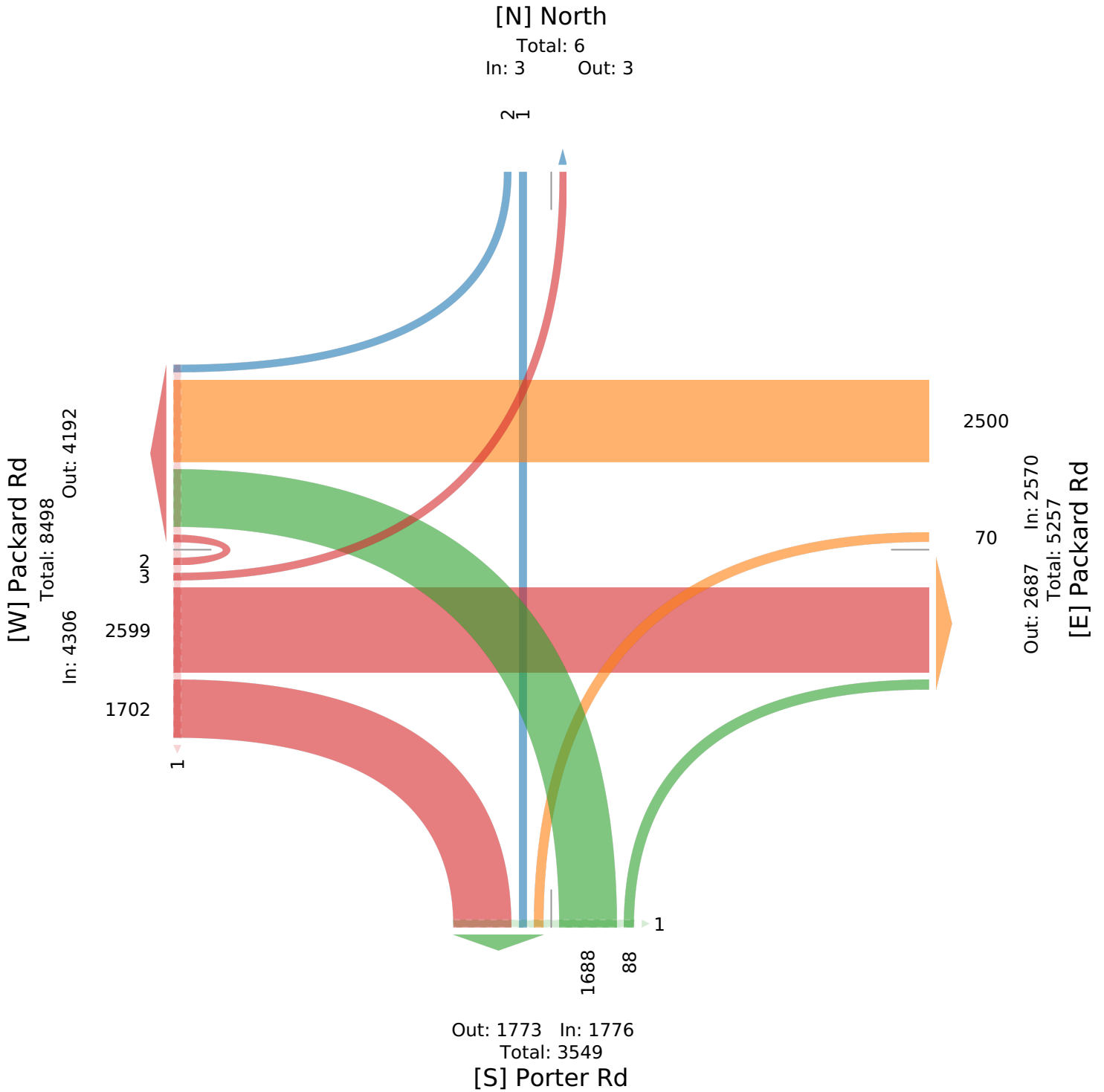
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 911616, Location: 43.109264, -78.984311



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Porter Rd/Packard Rd (east) - TMC

Tue Dec 14, 2021

Forced Peak (6:30 AM - 7:30 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 911616, Location: 43.109264, -78.984311



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	North Southbound						Packard Rd Westbound					
	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*
Time												
2021-12-14 6:30AM	0	0	0	0	0	0	0	73	1	0	74	0
6:45AM	0	0	0	0	0	0	0	64	1	0	65	0
7:00AM	0	0	0	0	0	0	0	75	2	0	77	0
7:15AM	0	0	0	0	0	0	0	81	2	0	83	0
Total	0	0	0	0	0	0	0	293	6	0	299	0
% Approach	0%	0%	0%	0%	-	-	0%	98.0%	2.0%	0%	-	-
% Total	0%	0%	0%	0%	0%	-	0%	33.0%	0.7%	0%	33.7%	-
PHF	-	-	-	-	-	-	-	0.904	0.750	-	0.901	-
Motorcycles	0	0	0	0	0	-	0	0	0	0	0	-
% Motorcycles	0%	0%	0%	0%	-	-	0%	0%	0%	0%	0%	-
Lights	0	0	0	0	0	-	0	278	5	0	283	-
% Lights	0%	0%	0%	0%	-	-	0%	94.9%	83.3%	0%	94.6%	-
Heavy	0	0	0	0	0	-	0	15	1	0	16	-
% Heavy	0%	0%	0%	0%	-	-	0%	5.1%	16.7%	0%	5.4%	-
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-

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

Porter Rd/Packard Rd (east) - TMC

Tue Dec 14, 2021

Forced Peak (6:30 AM - 7:30 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 911616, Location: 43.109264, -78.984311



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Porter Rd Northbound								Packard Rd Eastbound								Int
	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*			
Time																	
2021-12-14 6:30AM	1	0	33	0	1	35	0	23	91	0	0	7	121	0	230		
6:45AM	0	0	36	0	1	37	0	19	84	0	0	14	117	0	219		
7:00AM	0	0	27	0	0	27	0	26	76	0	0	3	105	0	209		
7:15AM	3	0	32	0	2	37	0	24	76	0	0	9	109	0	229		
Total	4	0	128	0	4	136	0	92	327	0	0	33	452	0	887		
% Approach	2.9%	0%	94.1%	0%	2.9%	-	-	20.4%	72.3%	0%	0%	7.3%	-	-	-		
% Total	0.5%	0%	14.4%	0%	0.5%	15.3%	-	10.4%	36.9%	0%	0%	3.7%	51.0%	-	-		
PHF	0.333	-	0.889	-	0.500	0.919	-	0.885	0.898	-	-	0.589	0.934	-	0.964		
Motorcycles	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0		
% Motorcycles	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	-	0%		
Lights	3	0	118	0	3	124	-	86	303	0	0	30	419	-	826		
% Lights	75.0%	0%	92.2%	0%	75.0%	91.2%	-	93.5%	92.7%	0%	0%	90.9%	92.7%	-	93.1%		
Heavy	1	0	10	0	1	12	-	6	24	0	0	3	33	-	61		
% Heavy	25.0%	0%	7.8%	0%	25.0%	8.8%	-	6.5%	7.3%	0%	0%	9.1%	7.3%	-	6.9%		
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-		
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-		
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

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

Porter Rd/Packard Rd (east) - TMC

Tue Dec 14, 2021

Forced Peak (6:30 AM - 7:30 AM)

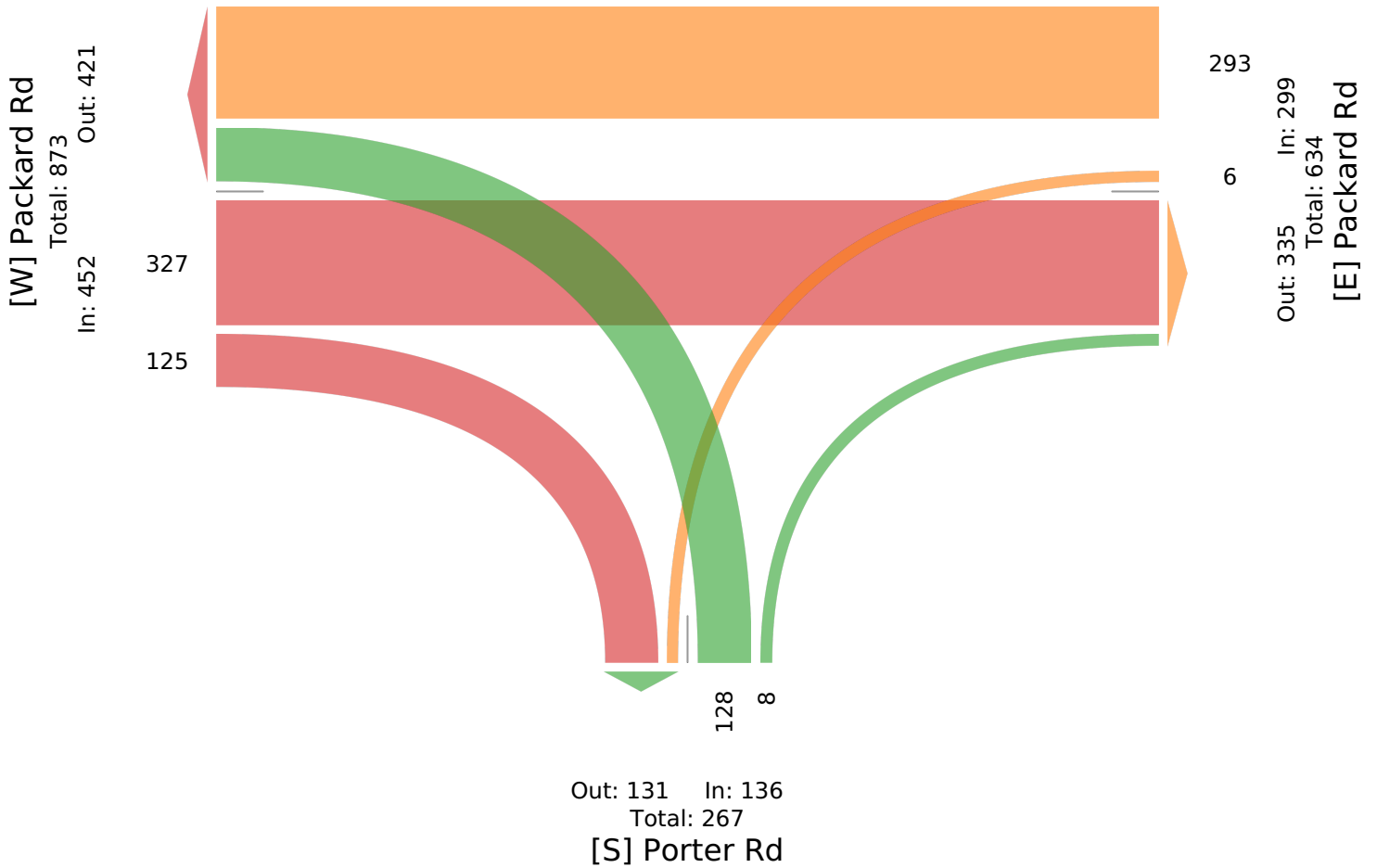
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 911616, Location: 43.109264, -78.984311



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Porter Rd/Packard Rd (east) - TMC

Tue Dec 14, 2021

AM Peak (8:30 AM - 9:30 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 911616, Location: 43.109264, -78.984311



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	North Southbound						Packard Rd Westbound					
	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*
Time												
2021-12-14 8:30AM	0	0	0	0	0	0	0	68	4	0	72	0
8:45AM	0	0	0	0	0	0	0	81	3	0	84	0
9:00AM	0	0	0	0	0	0	0	95	0	0	95	0
9:15AM	0	0	0	0	0	0	0	90	3	0	93	0
Total	0	0	0	0	0	0	0	334	10	0	344	0
% Approach	0%	0%	0%	0%	-	-	0%	97.1%	2.9%	0%	-	-
% Total	0%	0%	0%	0%	0%	-	0%	28.1%	0.8%	0%	28.9%	-
PHF	-	-	-	-	-	-	-	0.879	0.625	-	0.905	-
Motorcycles	0	0	0	0	0	-	0	0	0	0	0	-
% Motorcycles	0%	0%	0%	0%	-	-	0%	0%	0%	0%	0%	-
Lights	0	0	0	0	0	-	0	303	10	0	313	-
% Lights	0%	0%	0%	0%	-	-	0%	90.7%	100%	0%	91.0%	-
Heavy	0	0	0	0	0	-	0	31	0	0	31	-
% Heavy	0%	0%	0%	0%	-	-	0%	9.3%	0%	0%	9.0%	-
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-

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

Porter Rd/Packard Rd (east) - TMC

Tue Dec 14, 2021

AM Peak (8:30 AM - 9:30 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 911616, Location: 43.109264, -78.984311



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Porter Rd Northbound								Packard Rd Eastbound								
Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*	Int		
2021-12-14 8:30AM	3	0	66	0	0	69	0	51	84	0	1	24	160	0	301		
8:45AM	2	0	63	0	0	65	0	49	91	0	0	14	154	0	303		
9:00AM	1	0	52	0	1	54	0	60	70	0	0	10	140	0	289		
9:15AM	1	0	67	0	1	69	0	52	70	0	0	13	135	0	297		
Total	7	0	248	0	2	257	0	212	315	0	1	61	589	0	1190		
% Approach	2.7%	0%	96.5%	0%	0.8%	-	-	36.0%	53.5%	0%	0.2%	10.4%	-	-	-		
% Total	0.6%	0%	20.8%	0%	0.2%	21.6%	-	17.8%	26.5%	0%	0.1%	5.1%	49.5%	-	-		
PHF	0.583	-	0.925	-	0.500	0.931	-	0.883	0.865	-	0.250	0.635	0.920	-	0.982		
Motorcycles	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0		
% Motorcycles	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	-	0%		
Lights	6	0	237	0	1	244	-	199	279	0	1	60	539	-	1096		
% Lights	85.7%	0%	95.6%	0%	50.0%	94.9%	-	93.9%	88.6%	0%	100%	98.4%	91.5%	-	92.1%		
Heavy	1	0	11	0	1	13	-	13	36	0	0	1	50	-	94		
% Heavy	14.3%	0%	4.4%	0%	50.0%	5.1%	-	6.1%	11.4%	0%	0%	1.6%	8.5%	-	7.9%		
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0		
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0		
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

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

Porter Rd/Packard Rd (east) - TMC

Tue Dec 14, 2021

AM Peak (8:30 AM - 9:30 AM)

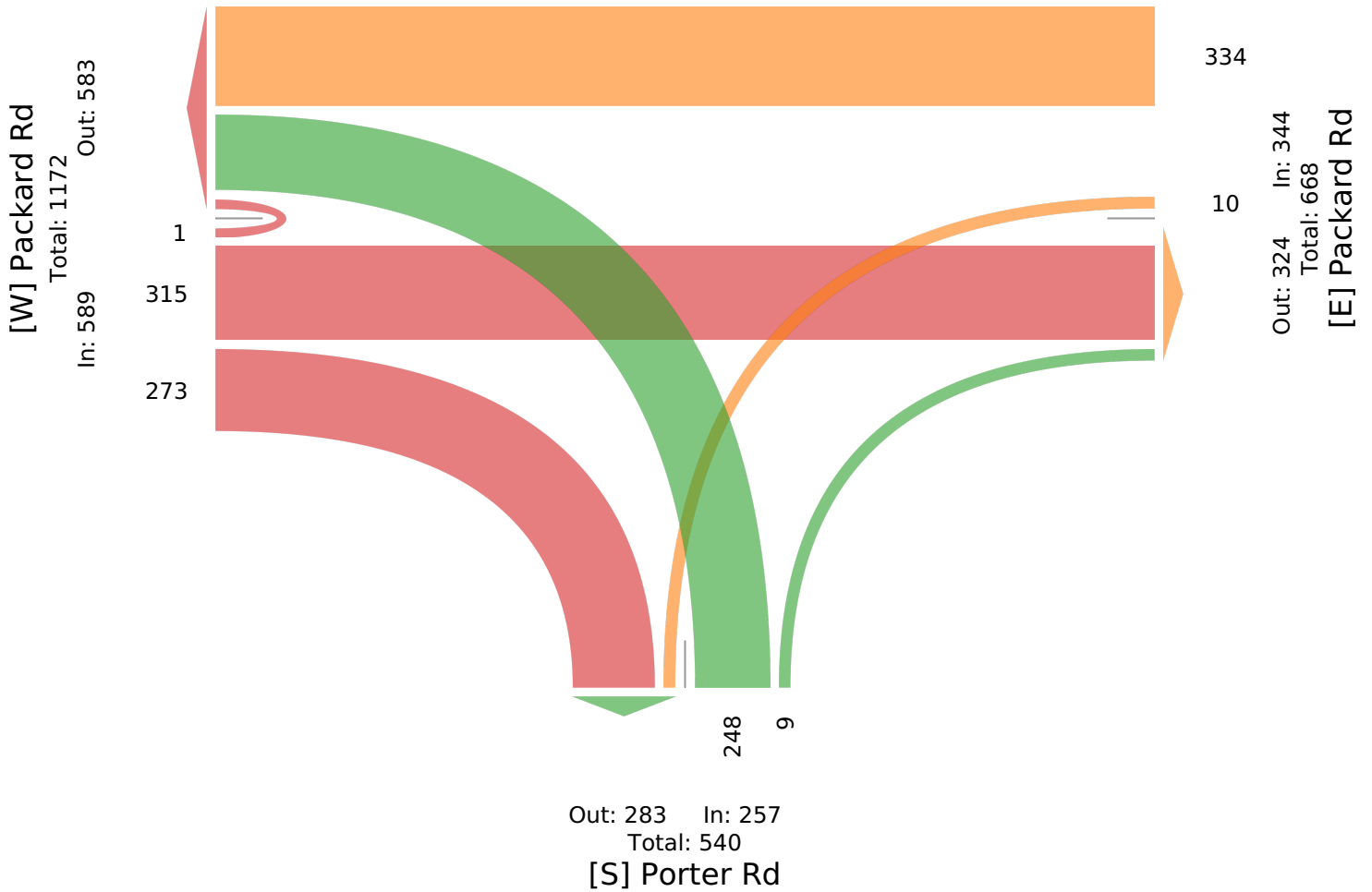
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 911616, Location: 43.109264, -78.984311



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Porter Rd/Packard Rd (east) - TMC

Tue Dec 14, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 911616, Location: 43.109264, -78.984311



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	North Southbound						Packard Rd Westbound					
	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*
Time												
2021-12-14 4:00PM	0	0	0	0	0	0	0	116	4	0	120	0
4:15PM	0	0	0	0	0	0	0	116	7	0	123	0
4:30PM	0	1	0	0	1	0	0	136	4	0	140	0
4:45PM	0	0	0	0	0	0	0	86	2	0	88	0
Total	0	1	0	0	1	0	0	454	17	0	471	0
% Approach	0%	100%	0%	0%	-	-	0%	96.4%	3.6%	0%	-	-
% Total	0%	0.1%	0%	0%	0.1%	-	0%	26.5%	1.0%	0%	27.5%	-
PHF	-	0.250	-	-	0.250	-	-	0.835	0.607	-	0.841	-
Motorcycles	0	0	0	0	0	-	0	0	0	0	0	-
% Motorcycles	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-
Lights	0	1	0	0	1	-	0	432	17	0	449	-
% Lights	0%	100%	0%	0%	100%	-	0%	95.2%	100%	0%	95.3%	-
Heavy	0	0	0	0	0	-	0	22	0	0	22	-
% Heavy	0%	0%	0%	0%	0%	-	0%	4.8%	0%	0%	4.7%	-
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-

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

Porter Rd/Packard Rd (east) - TMC

Tue Dec 14, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 911616, Location: 43.109264, -78.984311



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Porter Rd Northbound							Packard Rd Eastbound							Int
	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*	
Time															
2021-12-14 4:00PM	5	0	95	0	1	101	1	35	119	0	0	37	191	0	
4:15PM	5	0	91	0	2	98	0	81	120	1	0	28	230	0	
4:30PM	4	0	106	0	2	112	0	67	133	0	0	32	232	1	
4:45PM	8	0	87	0	1	96	0	54	99	0	0	25	178	0	
Total	22	0	379	0	6	407	1	237	471	1	0	122	831	1	
% Approach	5.4%	0%	93.1%	0%	1.5%	-	-	28.5%	56.7%	0.1%	0%	14.7%	-	-	
% Total	1.3%	0%	22.2%	0%	0.4%	23.8%	-	13.9%	27.5%	0.1%	0%	7.1%	48.6%	-	
PHF	0.688	-	0.894	-	0.750	0.908	-	0.731	0.885	0.250	-	0.824	0.895	-	
Motorcycles	0	0	0	0	0	0	-	0	1	0	0	0	1	-	
% Motorcycles	0%	0%	0%	0%	0%	0%	-	0%	0.2%	0%	0%	0%	0.1%	-	
Lights	22	0	365	0	6	393	-	232	454	1	0	121	808	-	
% Lights	100%	0%	96.3%	0%	100%	96.6%	-	97.9%	96.4%	100%	0%	99.2%	97.2%	-	
Heavy	0	0	14	0	0	14	-	5	16	0	0	1	22	-	
% Heavy	0%	0%	3.7%	0%	0%	3.4%	-	2.1%	3.4%	0%	0%	0.8%	2.6%	-	
Pedestrians	-	-	-	-	-	-	1	-	-	-	-	-	-	1	
% Pedestrians	-	-	-	-	-	-	100%	-	-	-	-	-	-	100%	
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	0%	-	-	-	-	-	-	0%	

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

Porter Rd/Packard Rd (east) - TMC

Tue Dec 14, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

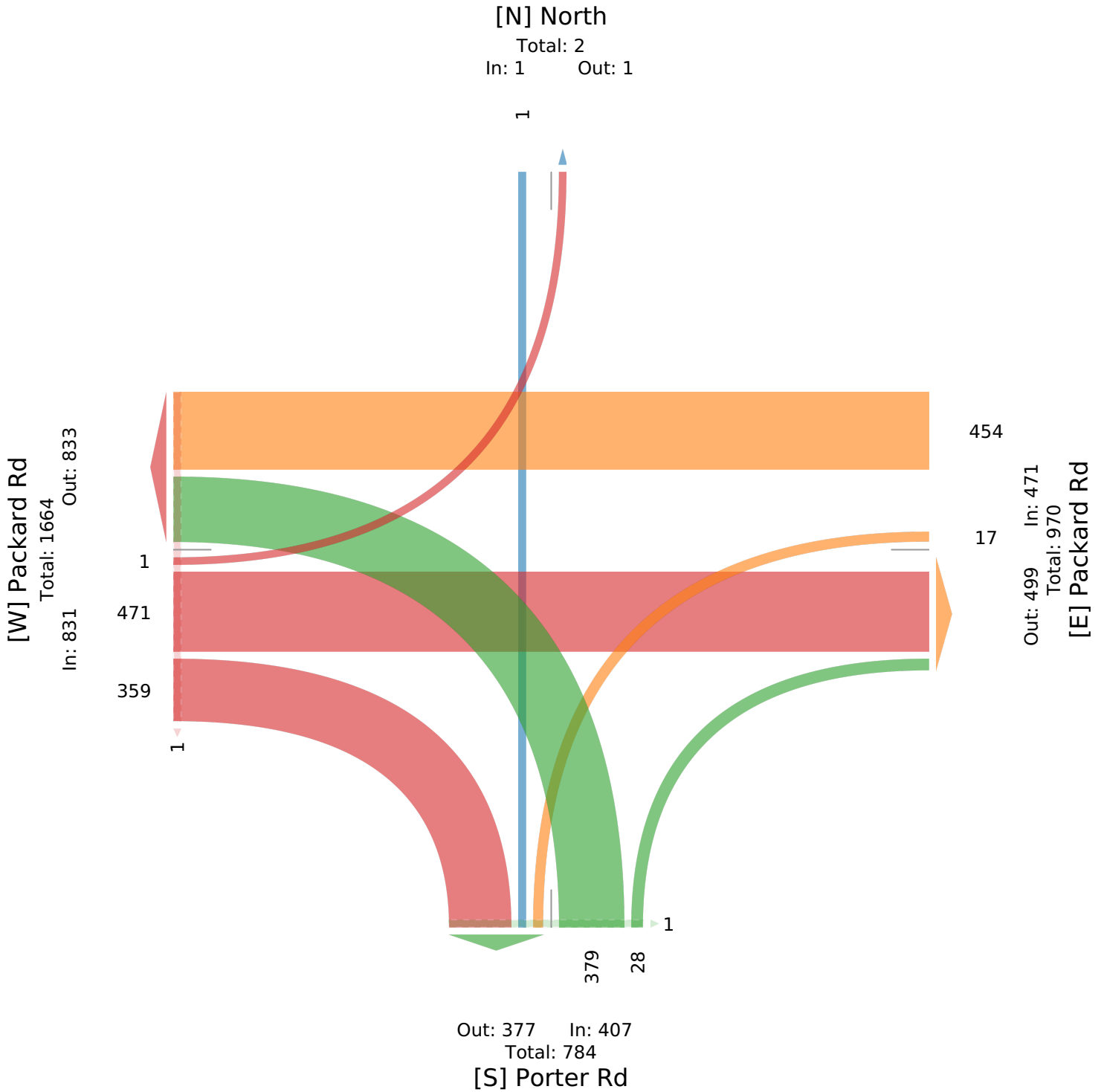
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 911616, Location: 43.109264, -78.984311



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Lockport Rd/Military Rd - TMC

Tue Nov 23, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904523, Location: 43.120321, -78.997501



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Military Rd Southbound								Lockport Rd Westbound							
Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*		
2021-11-23 6:00AM	5	19	4	0	0	28	0	3	5	4	0	1	13	0		
6:15AM	5	36	6	0	1	48	0	4	8	6	0	5	23	0		
6:30AM	5	43	9	0	2	59	0	7	7	4	0	4	22	0		
6:45AM	3	47	10	0	2	62	0	3	11	8	0	6	28	0		
Hourly Total	18	145	29	0	5	197	0	17	31	22	0	16	86	0		
7:00AM	3	48	9	0	5	65	0	2	7	11	0	1	21	0		
7:15AM	3	58	12	0	1	74	0	9	14	13	0	3	39	0		
7:30AM	11	72	5	0	2	90	0	11	17	13	0	4	45	0		
7:45AM	6	92	13	0	2	113	0	8	16	9	0	1	34	0		
Hourly Total	23	270	39	0	10	342	0	30	54	46	0	9	139	0		
8:00AM	4	77	14	1	7	103	0	11	20	14	0	1	46	0		
8:15AM	8	77	8	0	1	94	0	3	18	12	0	1	34	0		
8:30AM	6	102	9	0	4	121	0	10	14	10	0	3	37	0		
8:45AM	8	102	13	0	2	125	0	10	7	12	0	3	32	0		
Hourly Total	26	358	44	1	14	443	0	34	59	48	0	8	149	0		
9:00AM	8	100	15	0	1	124	0	1	11	10	0	4	26	0		
9:15AM	10	98	8	0	0	116	0	6	16	11	0	2	35	0		
9:30AM	7	95	12	0	1	115	0	7	9	8	0	2	26	0		
9:45AM	6	119	8	0	1	134	0	7	11	7	0	5	30	0		
Hourly Total	31	412	43	0	3	489	0	21	47	36	0	13	117	0		
10:00AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:00PM	14	129	12	0	4	159	0	13	11	15	0	9	48	0		
4:15PM	10	116	13	0	5	144	0	10	16	13	0	3	42	0		
4:30PM	8	116	14	0	4	142	0	13	12	12	0	5	42	0		
4:45PM	5	124	5	0	2	136	0	6	12	16	0	3	37	0		
Hourly Total	37	485	44	0	15	581	0	42	51	56	0	20	169	0		
5:00PM	9	101	12	0	6	128	0	11	5	6	0	0	22	0		
5:15PM	9	107	8	0	4	128	0	8	10	22	0	2	42	0		
5:30PM	8	100	9	0	3	120	0	11	13	9	0	3	36	0		
5:45PM	5	95	7	0	5	112	0	2	3	13	0	3	21	0		
Hourly Total	31	403	36	0	18	488	0	32	31	50	0	8	121	0		
6:00PM	2	91	7	0	4	104	0	4	5	9	0	4	22	0		
6:15PM	3	92	9	0	2	106	0	7	11	9	0	0	27	0		
6:30PM	1	69	7	0	5	82	0	2	7	12	0	1	22	0		
6:45PM	2	71	4	0	1	78	0	4	6	4	0	0	14	0		
Hourly Total	8	323	27	0	12	370	0	17	29	34	0	5	85	0		
7:00PM	4	52	5	0	2	63	0	1	10	10	0	0	21	0		
7:15PM	3	52	5	0	1	61	0	0	5	6	0	5	16	0		
7:30PM	4	45	6	0	1	56	0	3	3	2	0	1	9	0		
7:45PM	1	41	10	0	2	54	0	1	6	5	0	5	17	0		
Hourly Total	12	190	26	0	6	234	0	5	24	23	0	11	63	0		
8:00PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	186	2586	288	1	83	3144	0	198	326	315	0	90	929	0		
% Approach	5.9%	82.3%	9.2%	0%	2.6%	-	-	21.3%	35.1%	33.9%	0%	9.7%	-	-		
% Total	2.1%	29.1%	3.2%	0%	0.9%	35.4%	-	2.2%	3.7%	3.5%	0%	1.0%	10.5%	-		
Motorcycles	0	0	0	0	0	0	-	0	0	0	0	0	0	-		
% Motorcycles	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	-		
Lights	178	2547	277	1	82	3085	-	183	311	294	0	85	873	-		
% Lights	95.7%	98.5%	96.2%	100%	98.8%	98.1%	-	92.4%	95.4%	93.3%	0%	94.4%	94.0%	-		
Heavy	8	39	11	0	1	59	-	15	15	21	0	5	56	-		
% Heavy	4.3%	1.5%	3.8%	0%	1.2%	1.9%	-	7.6%	4.6%	6.7%	0%	5.6%	6.0%	-		

Leg Direction	Military Rd Southbound							Lockport Rd Westbound						
Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Lockport Rd/Military Rd - TMC

Tue Nov 23, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904523, Location: 43.120321, -78.997501



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Military Rd Northbound								Lockport Rd Eastbound								Int
	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*			
Time																	
2021-11-23 6:00AM	1	17	5	0	2	25	0	6	7	2	0	1	16	0	82		
6:15AM	6	14	10	0	0	30	0	7	8	2	0	2	19	0	120		
6:30AM	4	33	16	0	5	58	0	6	10	4	0	4	24	0	163		
6:45AM	5	36	7	0	3	51	0	9	11	3	0	3	26	0	167		
Hourly Total	16	100	38	0	10	164	0	28	36	11	0	10	85	0	532		
7:00AM	7	38	14	0	1	60	0	4	11	3	0	3	21	0	167		
7:15AM	2	40	17	0	2	61	0	7	11	4	0	5	27	0	201		
7:30AM	4	52	15	0	3	74	0	7	10	9	0	5	31	0	240		
7:45AM	7	54	18	0	2	81	0	10	12	6	0	7	35	0	263		
Hourly Total	20	184	64	0	8	276	0	28	44	22	0	20	114	0	871		
8:00AM	1	43	16	0	2	62	0	8	8	5	0	5	26	0	237		
8:15AM	7	61	21	0	2	91	0	20	15	6	0	9	50	0	269		
8:30AM	8	63	17	0	3	91	0	18	10	4	0	5	37	0	286		
8:45AM	9	73	21	0	3	106	1	8	17	6	0	9	40	0	303		
Hourly Total	25	240	75	0	10	350	1	54	50	21	0	28	153	0	1095		
9:00AM	13	70	13	0	2	98	0	10	12	12	0	7	41	2	289		
9:15AM	12	73	12	0	3	100	0	19	11	5	0	8	43	0	294		
9:30AM	12	68	16	0	2	98	0	13	13	6	0	5	37	0	276		
9:45AM	8	78	21	0	2	109	0	23	11	12	0	5	51	0	324		
Hourly Total	45	289	62	0	9	405	0	65	47	35	0	25	172	2	1183		
10:00AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:00PM	13	135	21	0	3	172	0	24	20	8	0	7	59	0	438		
4:15PM	15	122	31	0	5	173	0	18	8	7	0	10	43	0	402		
4:30PM	10	132	29	0	8	179	0	28	20	15	0	18	81	0	444		
4:45PM	8	155	34	0	7	204	0	19	18	8	0	18	63	0	440		
Hourly Total	46	544	115	0	23	728	0	89	66	38	0	53	246	0	1724		
5:00PM	13	157	22	0	8	200	0	32	28	9	0	6	75	0	425		
5:15PM	13	155	21	0	3	192	0	18	14	9	0	6	47	0	409		
5:30PM	11	132	27	0	2	172	0	15	12	6	0	9	42	0	370		
5:45PM	10	137	23	0	3	173	0	9	13	7	0	7	36	0	342		
Hourly Total	47	581	93	0	16	737	0	74	67	31	0	28	200	0	1546		
6:00PM	8	126	23	1	3	161	0	6	11	5	0	9	31	0	318		
6:15PM	5	91	18	0	4	118	0	12	9	5	0	8	34	0	285		
6:30PM	6	93	27	0	5	131	0	12	9	3	0	5	29	0	264		
6:45PM	10	108	21	0	2	141	0	7	5	4	0	6	22	0	255		
Hourly Total	29	418	89	1	14	551	0	37	34	17	0	28	116	0	1122		
7:00PM	6	96	27	0	4	133	0	10	4	5	0	5	24	0	241		
7:15PM	5	76	13	0	2	96	0	7	8	4	0	2	21	0	194		
7:30PM	3	84	19	0	5	111	0	3	2	1	0	5	11	0	187		
7:45PM	9	60	15	0	6	90	0	7	4	4	0	5	20	0	181		
Hourly Total	23	316	74	0	17	430	0	27	18	14	0	17	76	0	803		
8:00PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	251	2672	610	1	107	3641	1	402	362	189	0	209	1162	2	8876		
% Approach	6.9%	73.4%	16.8%	0%	2.9%	-	-	34.6%	31.2%	16.3%	0%	18.0%	-	-	-		
% Total	2.8%	30.1%	6.9%	0%	1.2%	41.0%	-	4.5%	4.1%	2.1%	0%	2.4%	13.1%	-	-		
Motorcycles	0	0	0	0	0	0	-	1	0	0	0	0	1	-	1		
% Motorcycles	0%	0%	0%	0%	0%	0%	-	0.2%	0%	0%	0%	0%	0.1%	-	0%		
Lights	230	2629	587	1	103	3550	-	382	341	185	0	205	1113	-	8621		
% Lights	91.6%	98.4%	96.2%	100%	96.3%	97.5%	-	95.0%	94.2%	97.9%	0%	98.1%	95.8%	-	97.1%		
Heavy	21	43	23	0	4	91	-	19	21	4	0	4	48	-	254		
% Heavy	8.4%	1.6%	3.8%	0%	3.7%	2.5%	-	4.7%	5.8%	2.1%	0%	1.9%	4.1%	-	2.9%		

Leg Direction	Military Rd Northbound								Lockport Rd Eastbound								
Time	R	T	L	U	RR	App	Ped*		R	T	L	U	RR	App	Ped*	Int	
Pedestrians	-	-	-	-	-	-	1		-	-	-	-	-	-	2		
% Pedestrians	-	-	-	-	-	-	100%		-	-	-	-	-	-	100%	-	
Bicycles on Crosswalk	-	-	-	-	-	-	0		-	-	-	-	-	-	0		
% Bicycles on Crosswalk	-	-	-	-	-	-	0%		-	-	-	-	-	-	0%	-	

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

Lockport Rd/Military Rd - TMC

Tue Nov 23, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

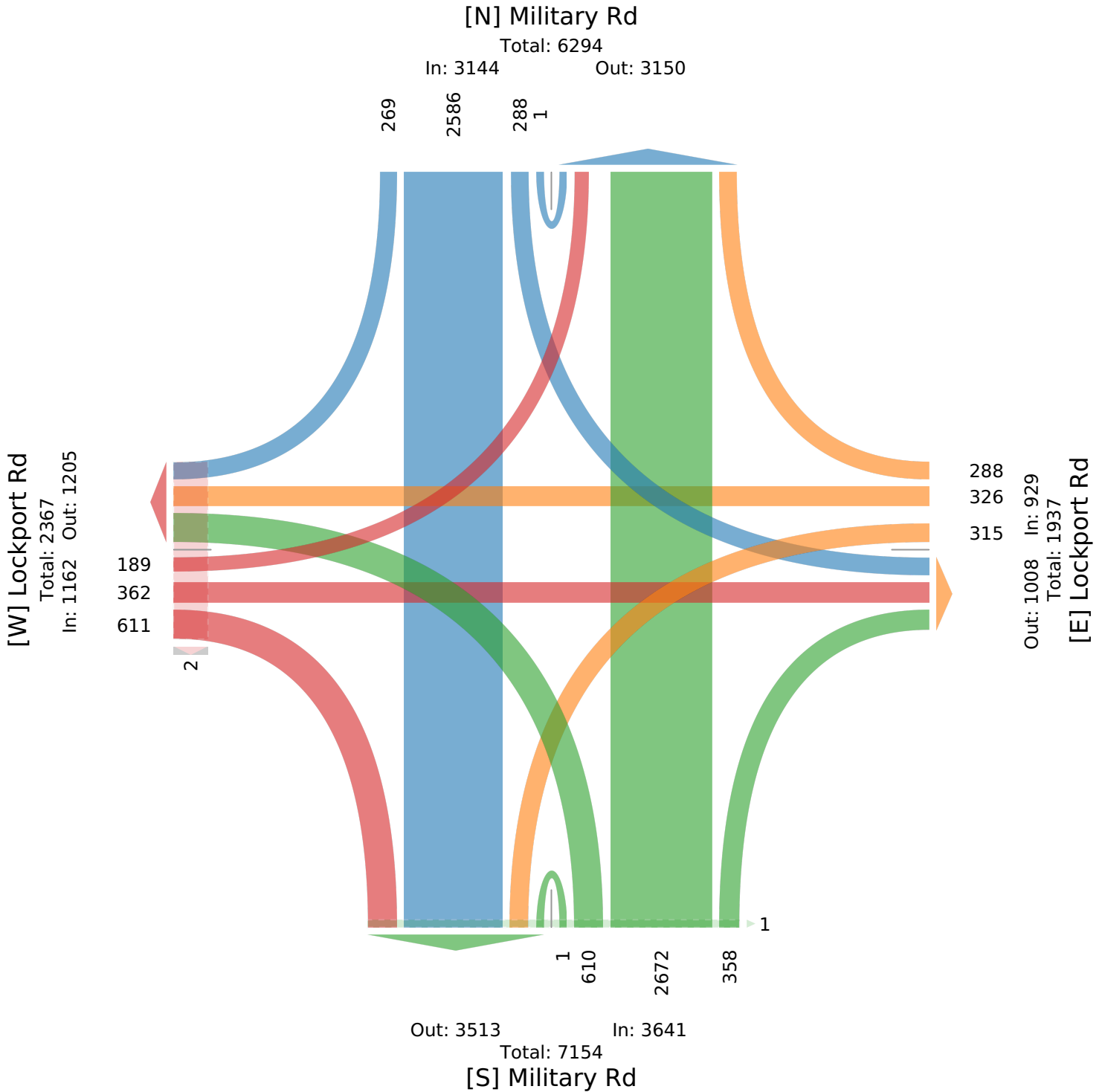
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904523, Location: 43.120321, -78.997501



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Lockport Rd/Military Rd - TMC

Tue Nov 23, 2021

AM Peak (9 AM - 10 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904523, Location: 43.120321, -78.997501



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Military Rd Southbound							Lockport Rd Westbound						
Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*
2021-11-23 9:00AM	8	100	15	0	1	124	0	1	11	10	0	4	26	0
9:15AM	10	98	8	0	0	116	0	6	16	11	0	2	35	0
9:30AM	7	95	12	0	1	115	0	7	9	8	0	2	26	0
9:45AM	6	119	8	0	1	134	0	7	11	7	0	5	30	0
Total	31	412	43	0	3	489	0	21	47	36	0	13	117	0
% Approach	6.3%	84.3%	8.8%	0%	0.6%	-	-	17.9%	40.2%	30.8%	0%	11.1%	-	-
% Total	2.6%	34.8%	3.6%	0%	0.3%	41.3%	-	1.8%	4.0%	3.0%	0%	1.1%	9.9%	-
PHF	0.775	0.866	0.717	-	0.750	0.912	-	0.750	0.734	0.818	-	0.650	0.836	-
Motorcycles	0	0	0	0	0	0	-	0	0	0	0	0	0	-
% Motorcycles	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	-
Lights	28	405	41	0	3	477	-	19	45	33	0	12	109	-
% Lights	90.3%	98.3%	95.3%	0%	100%	97.5%	-	90.5%	95.7%	91.7%	0%	92.3%	93.2%	-
Heavy	3	7	2	0	0	12	-	2	2	3	0	1	8	-
% Heavy	9.7%	1.7%	4.7%	0%	0%	2.5%	-	9.5%	4.3%	8.3%	0%	7.7%	6.8%	-
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Lockport Rd/Military Rd - TMC

Tue Nov 23, 2021

AM Peak (9 AM - 10 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904523, Location: 43.120321, -78.997501



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Military Rd Northbound								Lockport Rd Eastbound								
Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*	Int		
2021-11-23 9:00AM	13	70	13	0	2	98	0	10	12	12	0	7	41	2	289		
9:15AM	12	73	12	0	3	100	0	19	11	5	0	8	43	0	294		
9:30AM	12	68	16	0	2	98	0	13	13	6	0	5	37	0	276		
9:45AM	8	78	21	0	2	109	0	23	11	12	0	5	51	0	324		
Total	45	289	62	0	9	405	0	65	47	35	0	25	172	2	1183		
% Approach	11.1%	71.4%	15.3%	0%	2.2%	-	-	37.8%	27.3%	20.3%	0%	14.5%	-	-	-		
% Total	3.8%	24.4%	5.2%	0%	0.8%	34.2%	-	5.5%	4.0%	3.0%	0%	2.1%	14.5%	-	-		
PHF	0.865	0.926	0.738	-	0.750	0.929	-	0.707	0.904	0.729	-	0.781	0.843	-	0.913		
Motorcycles	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0		
% Motorcycles	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	-	0%		
Lights	41	279	56	0	8	384	-	58	41	35	0	25	159	-	1129		
% Lights	91.1%	96.5%	90.3%	0%	88.9%	94.8%	-	89.2%	87.2%	100%	0%	100%	92.4%	-	95.4%		
Heavy	4	10	6	0	1	21	-	7	6	0	0	0	13	-	54		
% Heavy	8.9%	3.5%	9.7%	0%	11.1%	5.2%	-	10.8%	12.8%	0%	0%	0%	7.6%	-	4.6%		
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	2	-		
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-		
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-		
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	0%	-		

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

Lockport Rd/Military Rd - TMC

Tue Nov 23, 2021

AM Peak (9 AM - 10 AM)

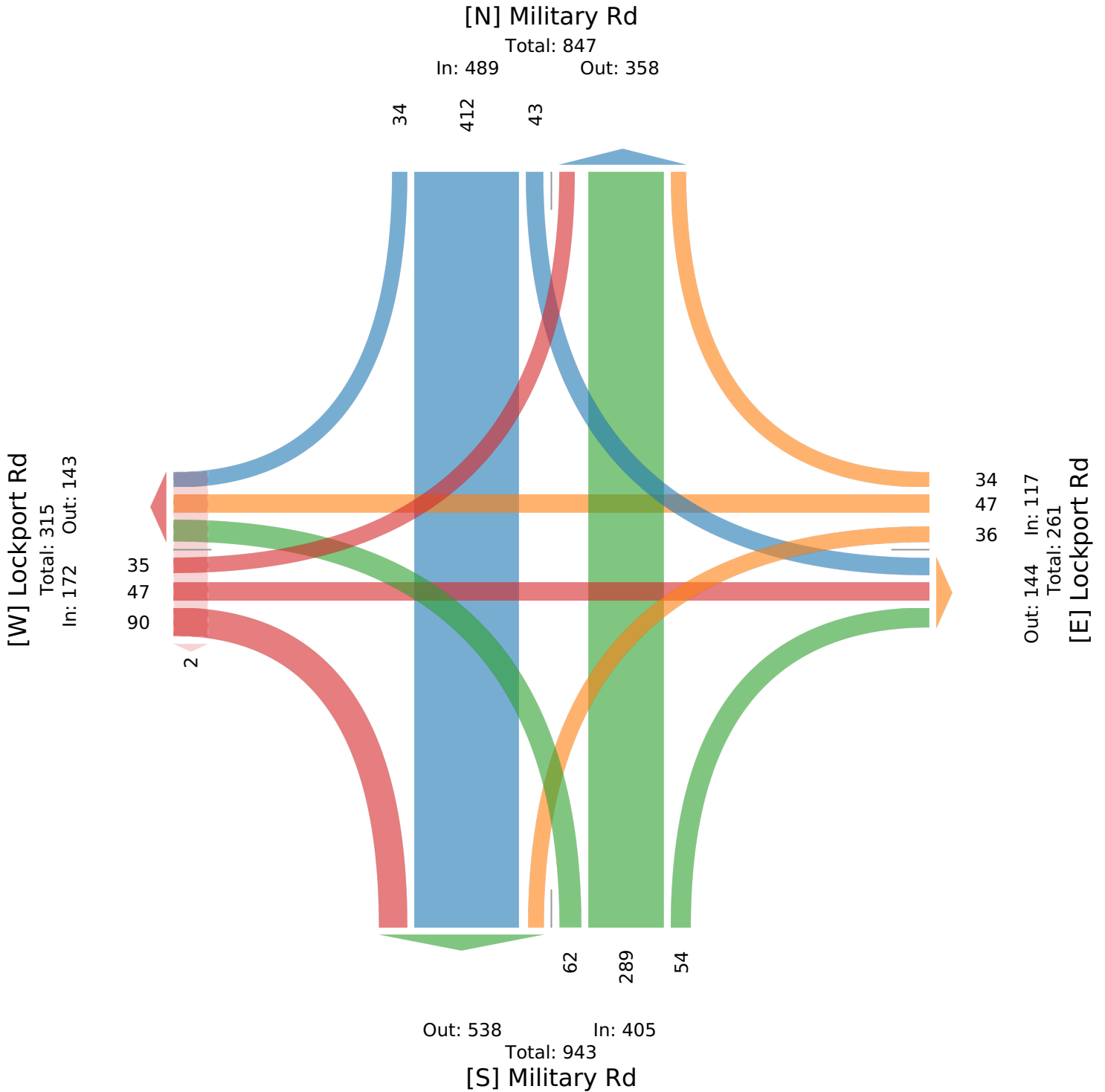
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904523, Location: 43.120321, -78.997501



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Lockport Rd/Military Rd - TMC

Tue Nov 23, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904523, Location: 43.120321, -78.997501



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Military Rd Southbound							Lockport Rd Westbound						
	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*
2021-11-23 4:00PM	14	129	12	0	4	159	0	13	11	15	0	9	48	0
4:15PM	10	116	13	0	5	144	0	10	16	13	0	3	42	0
4:30PM	8	116	14	0	4	142	0	13	12	12	0	5	42	0
4:45PM	5	124	5	0	2	136	0	6	12	16	0	3	37	0
Total	37	485	44	0	15	581	0	42	51	56	0	20	169	0
% Approach	6.4%	83.5%	7.6%	0%	2.6%	-	-	24.9%	30.2%	33.1%	0%	11.8%	-	-
% Total	2.1%	28.1%	2.6%	0%	0.9%	33.7%	-	2.4%	3.0%	3.2%	0%	1.2%	9.8%	-
PHF	0.661	0.940	0.786	-	0.750	0.914	-	0.808	0.797	0.875	-	0.556	0.880	-
Motorcycles	0	0	0	0	0	0	-	0	0	0	0	0	0	-
% Motorcycles	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	-
Lights	36	479	39	0	15	569	-	41	50	53	0	19	163	-
% Lights	97.3%	98.8%	88.6%	0%	100%	97.9%	-	97.6%	98.0%	94.6%	0%	95.0%	96.4%	-
Heavy	1	6	5	0	0	12	-	1	1	3	0	1	6	-
% Heavy	2.7%	1.2%	11.4%	0%	0%	2.1%	-	2.4%	2.0%	5.4%	0%	5.0%	3.6%	-
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Lockport Rd/Military Rd - TMC

Tue Nov 23, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904523, Location: 43.120321, -78.997501



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Military Rd Northbound								Lockport Rd Eastbound								Int
	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*			
2021-11-23 4:00PM	13	135	21	0	3	172	0	24	20	8	0	7	59	0	438		
4:15PM	15	122	31	0	5	173	0	18	8	7	0	10	43	0	402		
4:30PM	10	132	29	0	8	179	0	28	20	15	0	18	81	0	444		
4:45PM	8	155	34	0	7	204	0	19	18	8	0	18	63	0	440		
Total	46	544	115	0	23	728	0	89	66	38	0	53	246	0	1724		
% Approach	6.3%	74.7%	15.8%	0%	3.2%	-	-	36.2%	26.8%	15.4%	0%	21.5%	-	-	-		
% Total	2.7%	31.6%	6.7%	0%	1.3%	42.2%	-	5.2%	3.8%	2.2%	0%	3.1%	14.3%	-	-		
PHF	0.767	0.877	0.846	-	0.719	0.892	-	0.795	0.825	0.633	-	0.736	0.759	-	0.971		
Motorcycles	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0		
% Motorcycles	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	-	0%		
Lights	41	536	112	0	23	712	-	88	63	38	0	53	242	-	1686		
% Lights	89.1%	98.5%	97.4%	0%	100%	97.8%	-	98.9%	95.5%	100%	0%	100%	98.4%	-	97.8%		
Heavy	5	8	3	0	0	16	-	1	3	0	0	0	4	-	38		
% Heavy	10.9%	1.5%	2.6%	0%	0%	2.2%	-	1.1%	4.5%	0%	0%	0%	1.6%	-	2.2%		
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-		
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-		
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

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

Lockport Rd/Military Rd - TMC

Tue Nov 23, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

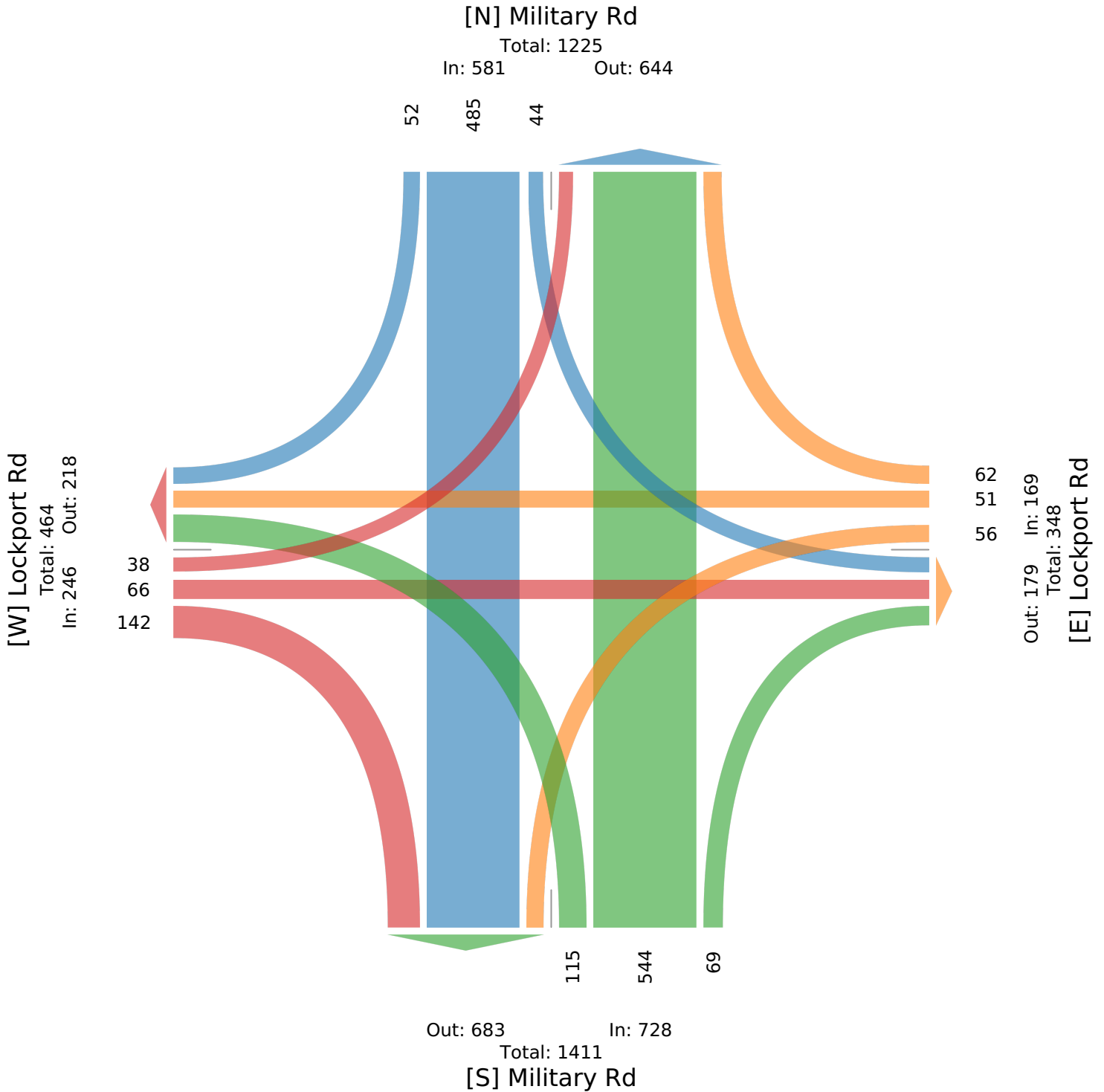
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904523, Location: 43.120321, -78.997501



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Lockport Rd/Military Rd - TMC

Tue Nov 23, 2021

Forced Peak (5:30 PM - 6:30 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904523, Location: 43.120321, -78.997501



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Military Rd Southbound							Lockport Rd Westbound						
Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*
2021-11-23 5:30PM	8	100	9	0	3	120	0	11	13	9	0	3	36	0
5:45PM	5	95	7	0	5	112	0	2	3	13	0	3	21	0
6:00PM	2	91	7	0	4	104	0	4	5	9	0	4	22	0
6:15PM	3	92	9	0	2	106	0	7	11	9	0	0	27	0
Total	18	378	32	0	14	442	0	24	32	40	0	10	106	0
% Approach	4.1%	85.5%	7.2%	0%	3.2%	-	-	22.6%	30.2%	37.7%	0%	9.4%	-	-
% Total	1.4%	28.7%	2.4%	0%	1.1%	33.6%	-	1.8%	2.4%	3.0%	0%	0.8%	8.1%	-
PHF	0.563	0.945	0.889	-	0.700	0.921	-	0.545	0.615	0.769	-	0.625	0.736	-
Motorcycles	0	0	0	0	0	0	-	0	0	0	0	0	0	-
% Motorcycles	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	-
Lights	18	376	31	0	14	439	-	24	31	38	0	10	103	-
% Lights	100%	99.5%	96.9%	0%	100%	99.3%	-	100%	96.9%	95.0%	0%	100%	97.2%	-
Heavy	0	2	1	0	0	3	-	0	1	2	0	0	3	-
% Heavy	0%	0.5%	3.1%	0%	0%	0.7%	-	0%	3.1%	5.0%	0%	0%	2.8%	-
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Lockport Rd/Military Rd - TMC

Tue Nov 23, 2021

Forced Peak (5:30 PM - 6:30 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904523, Location: 43.120321, -78.997501



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Military Rd Northbound								Lockport Rd Eastbound								
Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*	Int		
2021-11-23 5:30PM	11	132	27	0	2	172	0	15	12	6	0	9	42	0	370		
5:45PM	10	137	23	0	3	173	0	9	13	7	0	7	36	0	342		
6:00PM	8	126	23	1	3	161	0	6	11	5	0	9	31	0	318		
6:15PM	5	91	18	0	4	118	0	12	9	5	0	8	34	0	285		
Total	34	486	91	1	12	624	0	42	45	23	0	33	143	0	1315		
% Approach	5.4%	77.9%	14.6%	0.2%	1.9%	-	-	29.4%	31.5%	16.1%	0%	23.1%	-	-	-		
% Total	2.6%	37.0%	6.9%	0.1%	0.9%	47.5%	-	3.2%	3.4%	1.7%	0%	2.5%	10.9%	-	-		
PHF	0.773	0.887	0.843	0.250	0.750	0.902	-	0.700	0.865	0.821	-	0.917	0.851	-	0.889		
Motorcycles	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0		
% Motorcycles	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	-	0%		
Lights	32	485	89	1	12	619	-	41	45	22	0	33	141	-	1302		
% Lights	94.1%	99.8%	97.8%	100%	100%	99.2%	-	97.6%	100%	95.7%	0%	100%	98.6%	-	99.0%		
Heavy	2	1	2	0	0	5	-	1	0	1	0	0	2	-	13		
% Heavy	5.9%	0.2%	2.2%	0%	0%	0.8%	-	2.4%	0%	4.3%	0%	0%	1.4%	-	1.0%		
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-		
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-		
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

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

Lockport Rd/Military Rd - TMC

Tue Nov 23, 2021

Forced Peak (5:30 PM - 6:30 PM)

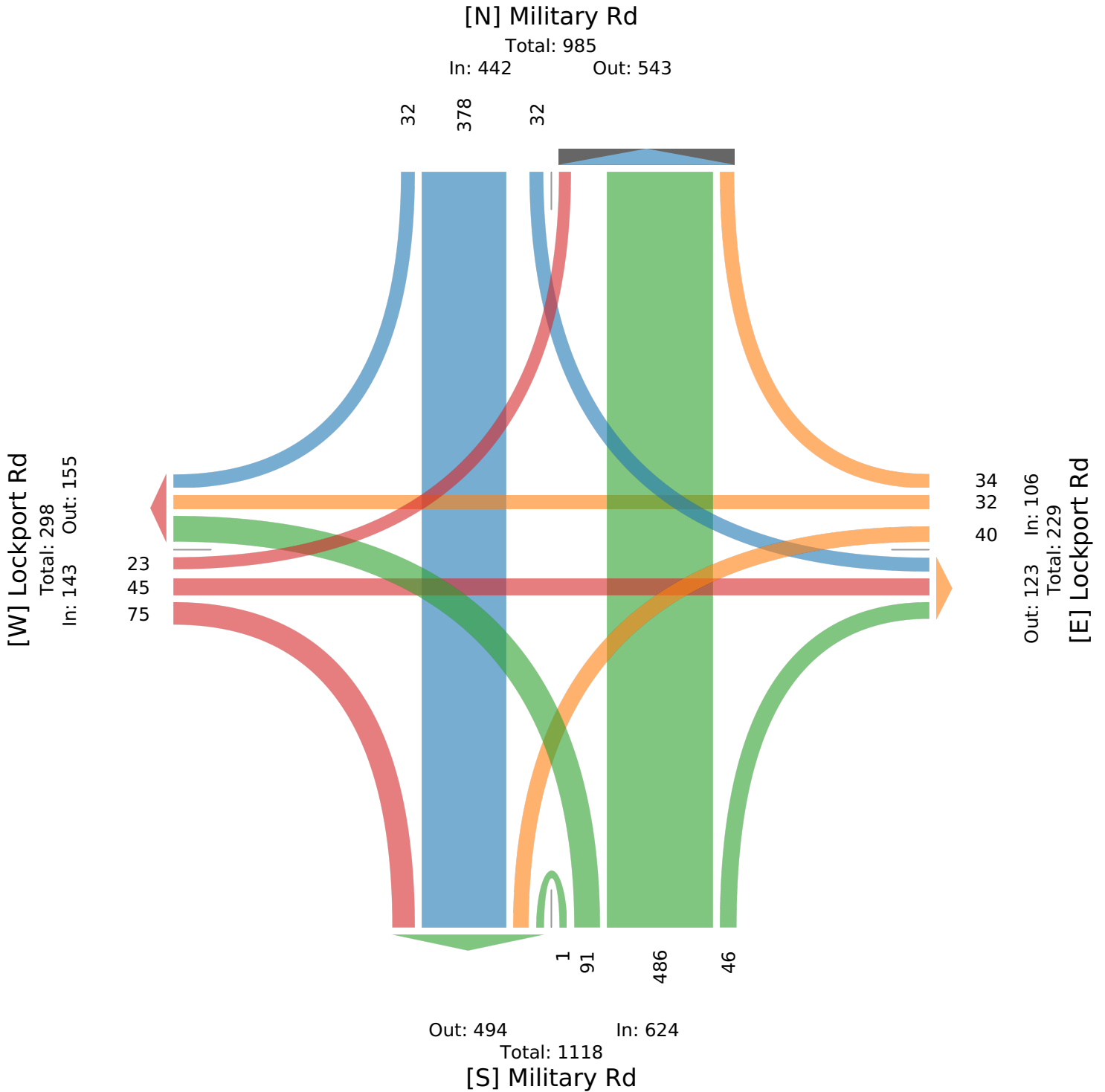
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904523, Location: 43.120321, -78.997501



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Lockport Rd/Packard Rd - TMC

Tue Nov 23, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904519, Location: 43.120551, -78.963042



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Lockport Rd Southbound					Lockport Rd Westbound					Packard Rd Eastbound					
Time	R	L	U	App	Ped*	R	T	U	App	Ped*	T	L	U	App	Ped*	Int
2021-11-23 6:00AM	0	10	0	10	0	4	40	0	44	0	44	0	0	44	0	98
6:15AM	0	14	0	14	0	12	56	0	68	0	51	0	0	51	0	133
6:30AM	0	17	0	17	0	18	75	0	93	0	48	0	0	48	0	158
6:45AM	2	21	0	23	0	22	60	1	83	0	62	0	0	62	0	168
Hourly Total	2	62	0	64	0	56	231	1	288	0	205	0	0	205	0	557
7:00AM	0	25	0	25	0	22	44	0	66	0	62	0	0	62	0	153
7:15AM	0	24	0	24	0	17	68	0	85	0	83	0	0	83	0	192
7:30AM	0	15	0	15	0	33	72	0	105	0	75	0	0	75	0	195
7:45AM	2	21	0	23	0	24	86	0	110	0	70	0	1	71	0	204
Hourly Total	2	85	0	87	0	96	270	0	366	0	290	0	1	291	0	744
8:00AM	0	29	0	29	0	31	68	0	99	0	54	2	1	57	0	185
8:15AM	2	35	0	37	0	22	65	2	89	0	65	0	0	65	0	191
8:30AM	0	26	0	26	0	25	74	0	99	0	68	1	0	69	0	194
8:45AM	0	34	0	34	0	16	88	0	104	0	74	1	0	75	0	213
Hourly Total	2	124	0	126	0	94	295	2	391	0	261	4	1	266	0	783
9:00AM	0	32	0	32	0	18	63	1	82	0	65	0	0	65	0	179
9:15AM	0	27	0	27	0	20	70	0	90	0	53	1	0	54	0	171
9:30AM	0	16	0	16	0	14	55	0	69	0	60	0	1	61	0	146
9:45AM	0	19	0	19	0	21	69	0	90	0	64	0	0	64	0	173
Hourly Total	0	94	0	94	0	73	257	1	331	0	242	1	1	244	0	669
4:00PM	0	27	0	27	0	36	121	0	157	0	126	2	0	128	0	312
4:15PM	0	26	0	26	0	29	107	0	136	0	126	0	0	126	0	288
4:30PM	0	36	0	36	0	29	114	0	143	0	127	0	1	128	0	307
4:45PM	0	15	0	15	0	21	95	0	116	0	97	0	0	97	0	228
Hourly Total	0	104	0	104	0	115	437	0	552	0	476	2	1	479	0	1135
5:00PM	0	41	0	41	0	24	83	0	107	0	73	0	0	73	0	221
5:15PM	0	20	0	20	0	21	70	3	94	0	97	0	1	98	0	212
5:30PM	1	25	0	26	0	17	82	2	101	0	89	0	0	89	0	216
5:45PM	0	17	0	17	0	10	67	0	77	0	61	1	0	62	0	156
Hourly Total	1	103	0	104	0	72	302	5	379	0	320	1	1	322	0	805
6:00PM	0	18	0	18	0	19	75	1	95	0	72	1	0	73	0	186
6:15PM	1	18	0	19	0	21	53	0	74	0	65	0	0	65	0	158
6:30PM	0	12	0	12	0	15	42	0	57	0	65	0	0	65	0	134
6:45PM	0	7	0	7	0	12	41	0	53	0	56	1	0	57	0	117
Hourly Total	1	55	0	56	0	67	211	1	279	0	258	2	0	260	0	595
7:00PM	1	15	0	16	0	12	40	0	52	0	65	0	1	66	0	134
7:15PM	0	11	0	11	0	10	33	0	43	0	54	1	0	55	0	109
7:30PM	0	4	0	4	0	6	45	0	51	0	52	0	0	52	0	107
7:45PM	0	13	0	13	0	8	28	1	37	0	51	0	0	51	0	101
Hourly Total	1	43	0	44	0	36	146	1	183	0	222	1	1	224	0	451
8:00PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	9	670	0	679	0	609	2149	11	2769	0	2274	11	6	2291	0	5739
% Approach	1.3%	98.7%	0%	-	-	22.0%	77.6%	0.4%	-	-	99.3%	0.5%	0.3%	-	-	-
% Total	0.2%	11.7%	0%	11.8%	-	10.6%	37.4%	0.2%	48.2%	-	39.6%	0.2%	0.1%	39.9%	-	-
Motorcycles	0	0	0	0	-	0	1	0	1	-	0	0	0	0	-	1
% Motorcycles	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Lights	6	630	0	636	-	572	2017	11	2600	-	2142	10	6	2158	-	5394
% Lights	66.7%	94.0%	0%	93.7%	-	93.9%	93.9%	100%	93.9%	-	94.2%	90.9%	100%	94.2%	-	94.0%
Heavy	3	40	0	43	-	37	131	0	168	-	132	1	0	133	-	344
% Heavy	33.3%	6.0%	0%	6.3%	-	6.1%	6.1%	0%	6.1%	-	5.8%	9.1%	0%	5.8%	-	6.0%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Leg Direction	Lockport Rd Southbound					Lockport Rd Westbound					Packard Rd Eastbound					
Time	R	L	U	App	Ped*	R	T	U	App	Ped*	T	L	U	App	Ped*	Int
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Lockport Rd/Packard Rd - TMC

Tue Nov 23, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904519, Location: 43.120551, -78.963042



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

[N] Lockport Rd

Total: 1299

In: 679 Out: 620

9
670

[W] Packard Rd

Total: 4455

In: 2291 Out: 2164

11
6

2274

609

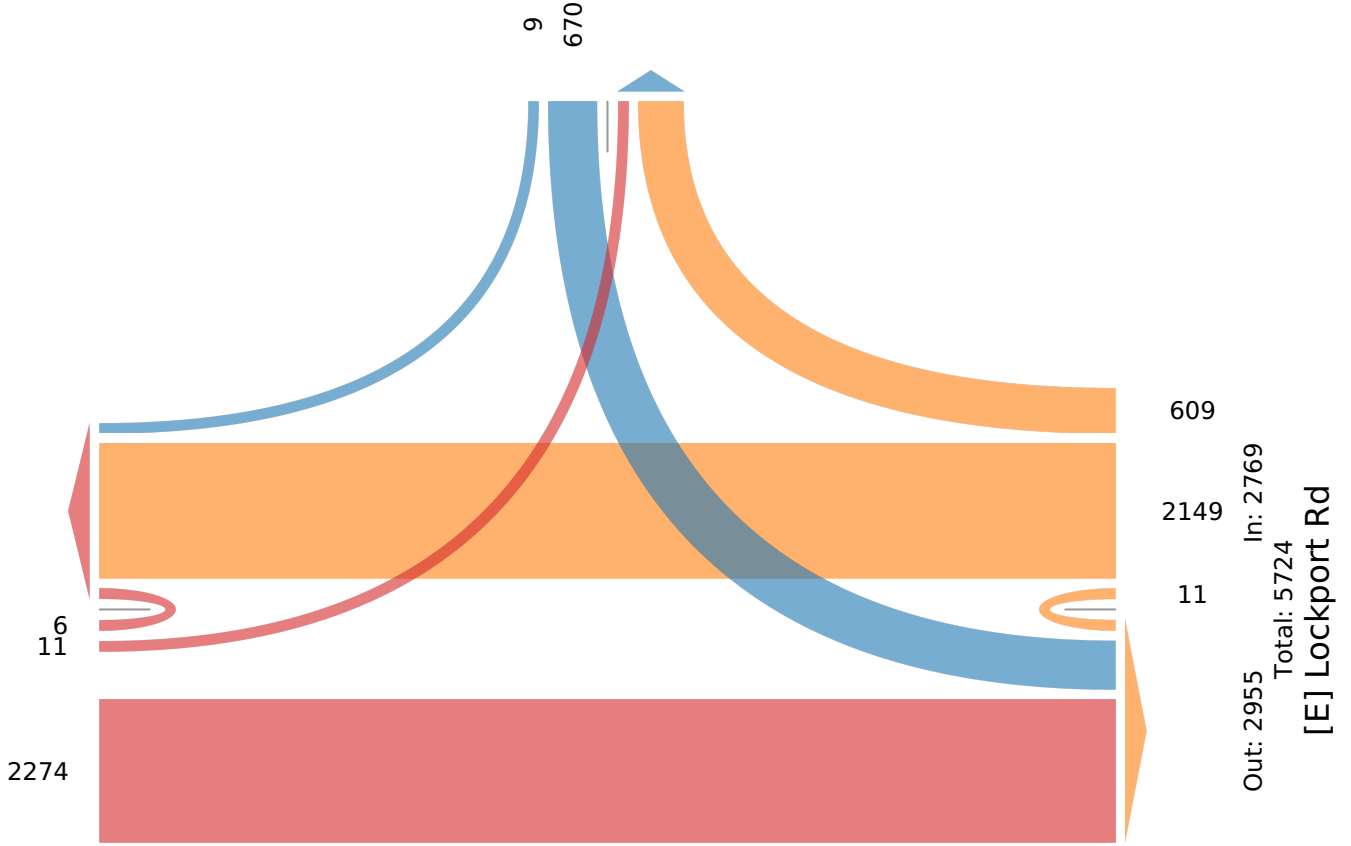
2149

11

Out: 2955 In: 2769

Total: 5724

[E] Lockport Rd



Lockport Rd/Packard Rd - TMC

Tue Nov 23, 2021

AM Peak (8 AM - 9 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904519, Location: 43.120551, -78.963042



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Lockport Rd Southbound					Lockport Rd Westbound					Packard Rd Eastbound					Int
	R	L	U	App	Ped*	R	T	U	App	Ped*	T	L	U	App	Ped*	
2021-11-23 8:00AM	0	29	0	29	0	31	68	0	99	0	54	2	1	57	0	185
8:15AM	2	35	0	37	0	22	65	2	89	0	65	0	0	65	0	191
8:30AM	0	26	0	26	0	25	74	0	99	0	68	1	0	69	0	194
8:45AM	0	34	0	34	0	16	88	0	104	0	74	1	0	75	0	213
Total	2	124	0	126	0	94	295	2	391	0	261	4	1	266	0	783
% Approach	1.6%	98.4%	0%	-	-	24.0%	75.4%	0.5%	-	-	98.1%	1.5%	0.4%	-	-	-
% Total	0.3%	15.8%	0%	16.1%	-	12.0%	37.7%	0.3%	49.9%	-	33.3%	0.5%	0.1%	34.0%	-	-
PHF	0.250	0.886	-	0.851	-	0.758	0.838	0.250	0.940	-	0.882	0.500	0.250	0.887	-	0.919
Motorcycles	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
% Motorcycles	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Lights	2	113	0	115	-	81	260	2	343	-	228	3	1	232	-	690
% Lights	100%	91.1%	0%	91.3%	-	86.2%	88.1%	100%	87.7%	-	87.4%	75.0%	100%	87.2%	-	88.1%
Heavy	0	11	0	11	-	13	35	0	48	-	33	1	0	34	-	93
% Heavy	0%	8.9%	0%	8.7%	-	13.8%	11.9%	0%	12.3%	-	12.6%	25.0%	0%	12.8%	-	11.9%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Lockport Rd/Packard Rd - TMC

Tue Nov 23, 2021

AM Peak (8 AM - 9 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904519, Location: 43.120551, -78.963042



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

[N] Lockport Rd

Total: 224

In: 126 Out: 98

2
124

[W] Packard Rd
Total: 564
In: 266 Out: 298



Lockport Rd/Packard Rd - TMC

Tue Nov 23, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904519, Location: 43.120551, -78.963042



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Lockport Rd Southbound					Lockport Rd Westbound					Packard Rd Eastbound					Int
	R	L	U	App	Ped*	R	T	U	App	Ped*	T	L	U	App	Ped*	
2021-11-23 4:00PM	0	27	0	27	0	36	121	0	157	0	126	2	0	128	0	312
4:15PM	0	26	0	26	0	29	107	0	136	0	126	0	0	126	0	288
4:30PM	0	36	0	36	0	29	114	0	143	0	127	0	1	128	0	307
4:45PM	0	15	0	15	0	21	95	0	116	0	97	0	0	97	0	228
Total	0	104	0	104	0	115	437	0	552	0	476	2	1	479	0	1135
% Approach	0%	100%	0%	-	-	20.8%	79.2%	0%	-	-	99.4%	0.4%	0.2%	-	-	-
% Total	0%	9.2%	0%	9.2%	-	10.1%	38.5%	0%	48.6%	-	41.9%	0.2%	0.1%	42.2%	-	-
PHF	-	0.722	-	0.722	-	0.799	0.903	-	0.879	-	0.937	0.250	0.250	0.936	-	0.909
Motorcycles	0	0	0	0	-	0	1	0	1	-	0	0	0	0	-	1
% Motorcycles	0%	0%	0%	0%	-	0%	0.2%	0%	0.2%	-	0%	0%	0%	0%	-	0.1%
Lights	0	94	0	94	-	113	416	0	529	-	455	2	1	458	-	1081
% Lights	0%	90.4%	0%	90.4%	-	98.3%	95.2%	0%	95.8%	-	95.6%	100%	100%	95.6%	-	95.2%
Heavy	0	10	0	10	-	2	20	0	22	-	21	0	0	21	-	53
% Heavy	0%	9.6%	0%	9.6%	-	1.7%	4.6%	0%	4.0%	-	4.4%	0%	0%	4.4%	-	4.7%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Lockport Rd/Packard Rd - TMC

Tue Nov 23, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904519, Location: 43.120551, -78.963042

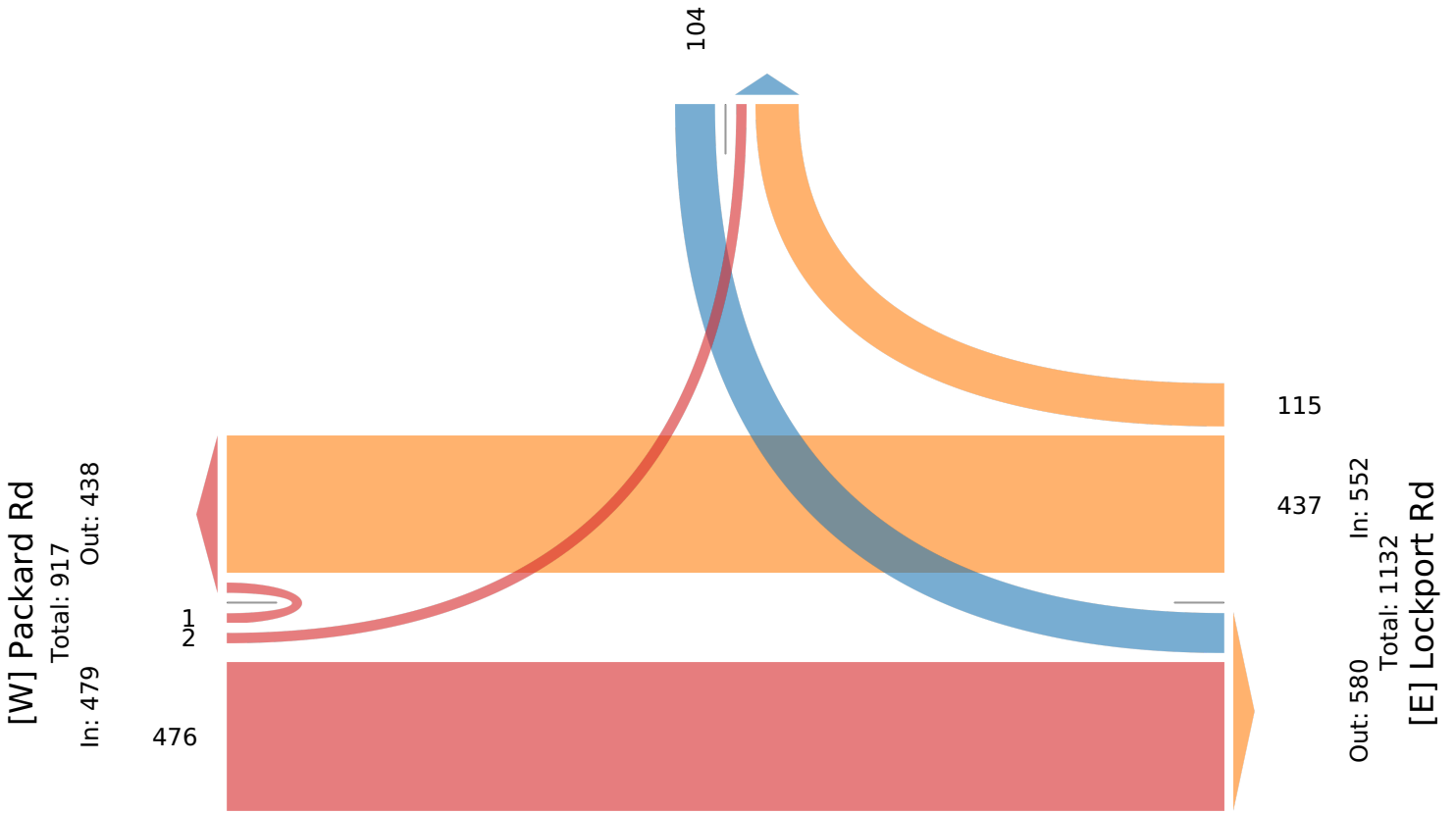


Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

[N] Lockport Rd

Total: 221

In: 104 Out: 117



Lockport Rd/Packard Rd - TMC

Tue Nov 23, 2021

Forced Peak (5:30 PM - 6:30 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904519, Location: 43.120551, -78.963042



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Lockport Rd Southbound					Lockport Rd Westbound					Packard Rd Eastbound					
Time	R	L	U	App	Ped*	R	T	U	App	Ped*	T	L	U	App	Ped*	Int
2021-11-23 5:30PM	1	25	0	26	0	17	82	2	101	0	89	0	0	89	0	216
5:45PM	0	17	0	17	0	10	67	0	77	0	61	1	0	62	0	156
6:00PM	0	18	0	18	0	19	75	1	95	0	72	1	0	73	0	186
6:15PM	1	18	0	19	0	21	53	0	74	0	65	0	0	65	0	158
Total	2	78	0	80	0	67	277	3	347	0	287	2	0	289	0	716
% Approach	2.5%	97.5%	0%	-	-	19.3%	79.8%	0.9%	-	-	99.3%	0.7%	0%	-	-	-
% Total	0.3%	10.9%	0%	11.2%	-	9.4%	38.7%	0.4%	48.5%	-	40.1%	0.3%	0%	40.4%	-	-
PHF	0.500	0.780	-	0.769	-	0.798	0.845	0.375	0.859	-	0.806	0.500	-	0.812	-	0.829
Motorcycles	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
% Motorcycles	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Lights	0	77	0	77	-	65	270	3	338	-	283	2	0	285	-	700
% Lights	0%	98.7%	0%	96.3%	-	97.0%	97.5%	100%	97.4%	-	98.6%	100%	0%	98.6%	-	97.8%
Heavy	2	1	0	3	-	2	7	0	9	-	4	0	0	4	-	16
% Heavy	100%	1.3%	0%	3.8%	-	3.0%	2.5%	0%	2.6%	-	1.4%	0%	0%	1.4%	-	2.2%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Lockport Rd/Packard Rd - TMC

Tue Nov 23, 2021

Forced Peak (5:30 PM - 6:30 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904519, Location: 43.120551, -78.963042



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

[N] Lockport Rd

Total: 149

In: 80 Out: 69

2 78

[W] Packard Rd

Total: 568

In: 289 Out: 279

287

2

67

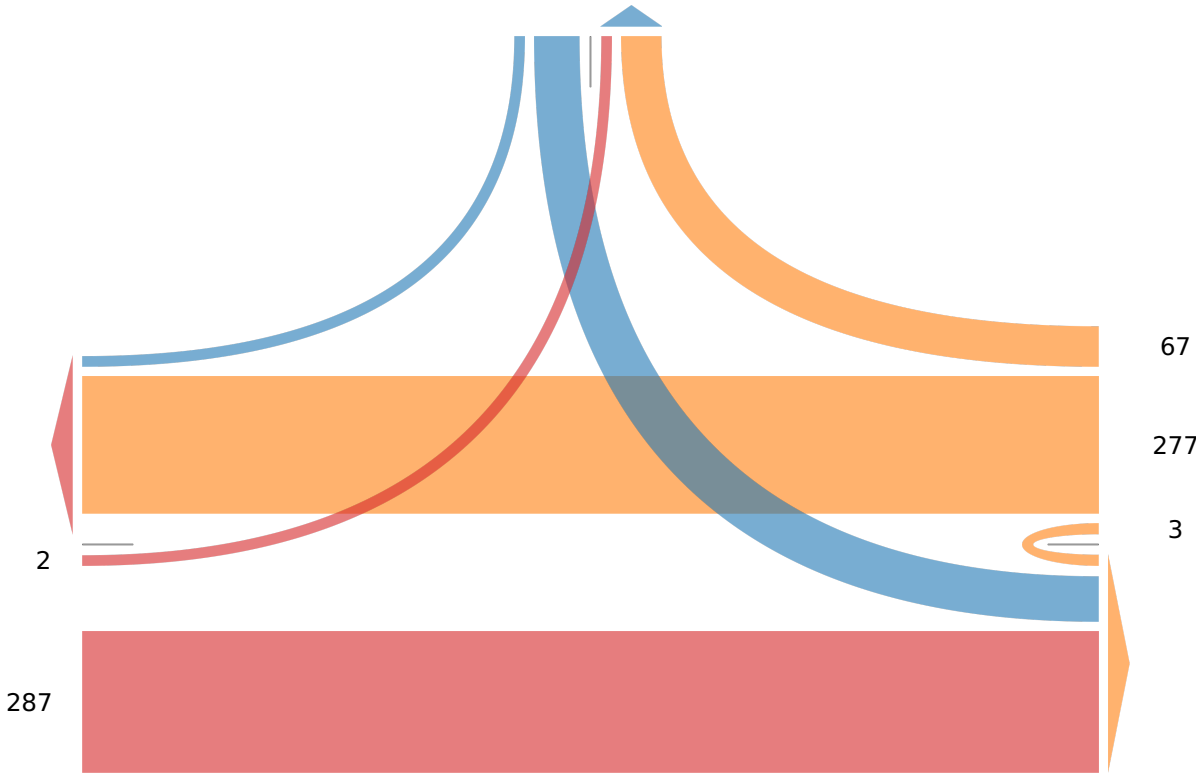
277

3

Out: 368 In: 347

Total: 715

[E] Lockport Rd



Lockport Rd/Tuscarora Rd(S) - TMC

Wed Jan 5, 2022

Full Length (6 AM-10 AM, 4 PM-8 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 913955, Location: 43.121174, -78.953001



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Lockport Rd Westbound					Tuscarora Rd Northbound					Lockport Rd Eastbound					Int
	T	L	U	App	Ped*	R	L	U	App	Ped*	R	T	U	App	Ped*	
Time																
2022-01-05 6:00AM	41	0	0	41	0	0	0	0	0	0	0	38	0	38	0	79
6:15AM	59	0	0	59	0	0	0	0	0	0	0	63	0	63	0	122
6:30AM	99	0	0	99	0	0	0	0	0	0	0	63	0	63	0	162
6:45AM	88	0	0	88	0	0	0	0	0	0	0	91	0	91	0	179
Hourly Total	287	0	0	287	0	0	0	0	0	0	0	255	0	255	0	542
7:00AM	60	0	0	60	0	0	0	0	0	0	0	79	0	79	0	139
7:15AM	81	0	0	81	0	0	0	0	0	0	0	97	0	97	0	178
7:30AM	108	0	0	108	0	0	0	0	0	0	0	91	0	91	0	199
7:45AM	113	0	0	113	0	0	0	0	0	0	0	76	0	76	0	189
Hourly Total	362	0	0	362	0	0	0	0	0	0	0	343	0	343	0	705
8:00AM	90	0	0	90	0	0	0	0	0	0	0	83	0	83	0	173
8:15AM	86	0	0	86	0	0	0	0	0	0	1	96	0	97	0	183
8:30AM	98	0	0	98	0	0	0	0	0	0	0	83	0	83	0	181
8:45AM	103	0	0	103	0	0	0	0	0	0	0	121	0	121	0	224
Hourly Total	377	0	0	377	0	0	0	0	0	0	1	383	0	384	0	761
9:00AM	75	0	0	75	0	0	0	0	0	0	1	84	0	85	0	160
9:15AM	98	0	0	98	0	0	0	0	0	0	0	61	0	61	0	159
9:30AM	66	0	0	66	0	0	0	0	0	0	0	60	0	60	0	126
9:45AM	69	0	0	69	0	0	0	0	0	0	0	74	0	74	0	143
Hourly Total	308	0	0	308	0	0	0	0	0	0	1	279	0	280	0	588
10:00AM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1
4:00PM	134	0	0	134	0	0	0	0	0	0	0	135	0	135	0	269
4:15PM	123	0	0	123	0	0	1	0	1	0	0	123	0	123	0	247
4:30PM	134	0	0	134	0	0	0	0	0	0	0	153	0	153	0	287
4:45PM	111	0	0	111	0	0	0	0	0	0	0	135	0	135	0	246
Hourly Total	502	0	0	502	0	0	1	0	1	0	0	546	0	546	0	1049
5:00PM	101	0	0	101	0	0	0	0	0	0	0	119	0	119	0	220
5:15PM	108	1	0	109	0	1	0	0	1	0	0	112	0	112	0	222
5:30PM	76	0	0	76	0	0	0	0	0	0	0	96	0	96	0	172
5:45PM	82	0	0	82	0	0	0	0	0	0	0	95	0	95	0	177
Hourly Total	367	1	0	368	0	1	0	0	1	0	0	422	0	422	0	791
6:00PM	73	0	0	73	0	0	0	0	0	0	0	70	0	70	0	143
6:15PM	62	0	0	62	0	0	0	0	0	0	0	63	0	63	0	125
6:30PM	43	0	0	43	0	1	0	0	1	0	1	73	0	74	0	118
6:45PM	47	0	0	47	0	0	0	0	0	0	0	57	0	57	0	104
Hourly Total	225	0	0	225	0	1	0	0	1	0	1	263	0	264	0	490
7:00PM	46	0	0	46	0	0	0	0	0	0	0	47	0	47	0	93
7:15PM	34	0	0	34	0	0	0	0	0	0	0	49	0	49	0	83
7:30PM	29	0	0	29	0	0	0	0	0	0	0	53	0	53	0	82
7:45PM	24	0	0	24	0	0	0	0	0	0	0	31	0	31	0	55
Hourly Total	133	0	0	133	0	0	0	0	0	0	0	180	0	180	0	313
8:00PM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1
Total	2561	1	0	2562	0	2	1	0	3	0	3	2673	0	2676	0	5241
% Approach	100.0%	0%	0%	-	-	66.7%	33.3%	0%	-	-	0.1%	99.9%	0%	-	-	-
% Total	48.9%	0%	0%	48.9%	-	0%	0%	0%	0.1%	-	0.1%	51.0%	0%	51.1%	-	-
Motorcycles	1	0	0	1	-	0	0	0	0	-	0	0	0	0	-	1
% Motorcycles	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Lights	2437	1	0	2438	-	2	1	0	3	-	3	2533	0	2536	-	4977
% Lights	95.2%	100%	0%	95.2%	-	100%	100%	0%	100%	-	100%	94.8%	0%	94.8%	-	95.0%
Heavy	123	0	0	123	-	0	0	0	0	-	0	140	0	140	-	263
% Heavy	4.8%	0%	0%	4.8%	-	0%	0%	0%	0%	-	0%	5.2%	0%	5.2%	-	5.0%

Leg Direction	Lockport Rd Westbound					Tuscarora Rd Northbound					Lockport Rd Eastbound					
Time	T	L	U	App	Ped*	R	L	U	App	Ped*	R	T	U	App	Ped*	Int
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Lockport Rd/Tuscarora Rd(S) - TMC

Wed Jan 5, 2022

Full Length (6 AM-10 AM, 4 PM-8 PM)

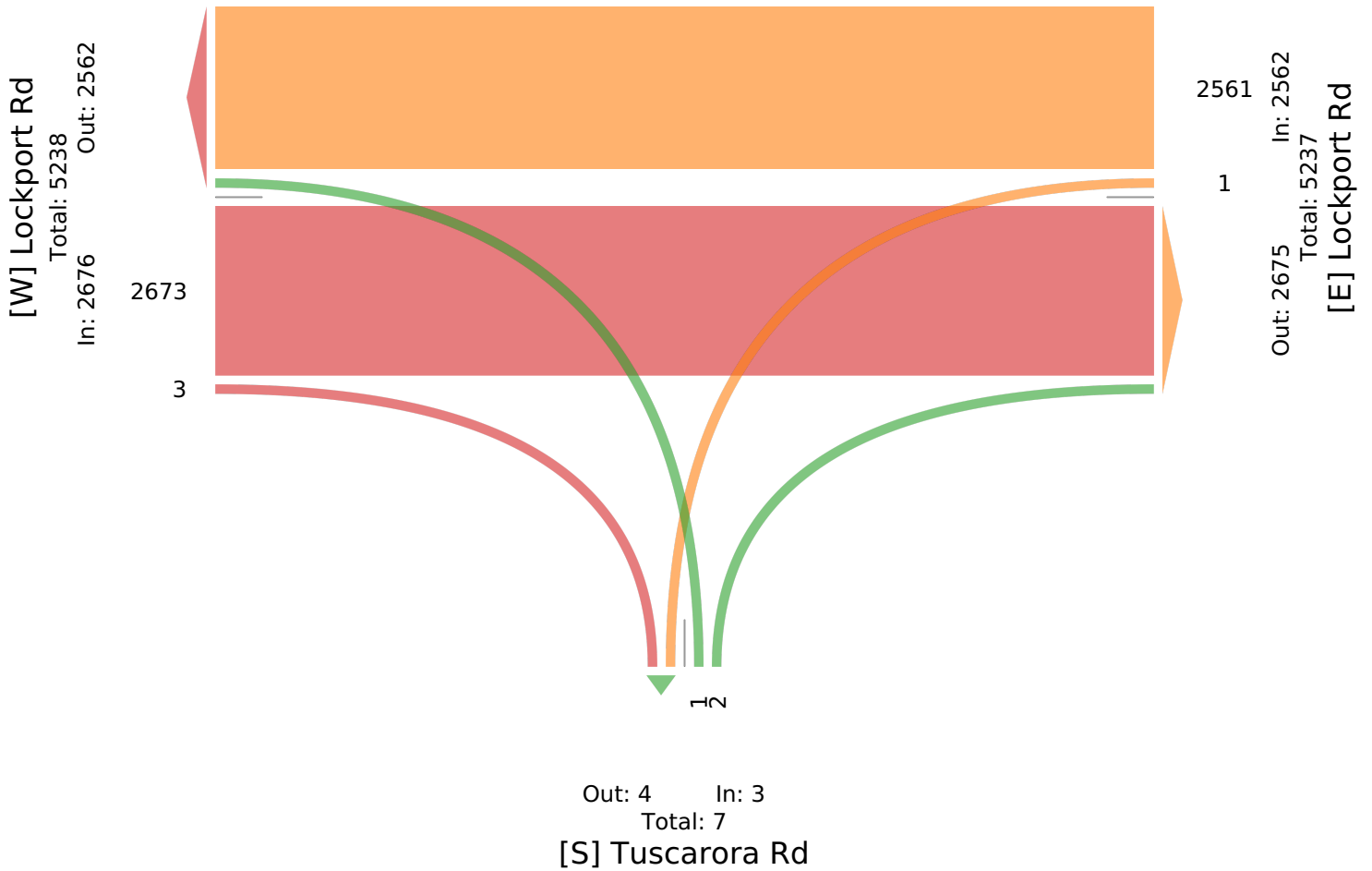
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 913955, Location: 43.121174, -78.953001



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Lockport Rd/Tuscarora Rd(S) - TMC

Wed Jan 5, 2022

AM Peak (8 AM - 9 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 913955, Location: 43.121174, -78.953001



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Lockport Rd Westbound					Tuscarora Rd Northbound					Lockport Rd Eastbound					
Time	T	L	U	App	Ped*	R	L	U	App	Ped*	R	T	U	App	Ped*	Int
2022-01-05 8:00AM	90	0	0	90	0	0	0	0	0	0	0	83	0	83	0	173
8:15AM	86	0	0	86	0	0	0	0	0	0	1	96	0	97	0	183
8:30AM	98	0	0	98	0	0	0	0	0	0	0	83	0	83	0	181
8:45AM	103	0	0	103	0	0	0	0	0	0	0	121	0	121	0	224
Total	377	0	0	377	0	0	0	0	0	0	1	383	0	384	0	761
% Approach	100%	0%	0%	-	-	0%	0%	0%	-	-	0.3%	99.7%	0%	-	-	-
% Total	49.5%	0%	0%	49.5%	-	0%	0%	0%	0%	-	0.1%	50.3%	0%	50.5%	-	-
PHF	0.915	-	-	0.915	-	-	-	-	-	-	0.250	0.791	-	0.793	-	0.849
Motorcycles	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
% Motorcycles	0%	0%	0%	0%	-	0%	0%	0%	-	-	0%	0%	0%	0%	-	0%
Lights	348	0	0	348	-	0	0	0	0	-	1	346	0	347	-	695
% Lights	92.3%	0%	0%	92.3%	-	0%	0%	0%	-	-	100%	90.3%	0%	90.4%	-	91.3%
Heavy	29	0	0	29	-	0	0	0	0	-	0	37	0	37	-	66
% Heavy	7.7%	0%	0%	7.7%	-	0%	0%	0%	-	-	0%	9.7%	0%	9.6%	-	8.7%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Lockport Rd/Tuscarora Rd(S) - TMC

Wed Jan 5, 2022

AM Peak (8 AM - 9 AM)

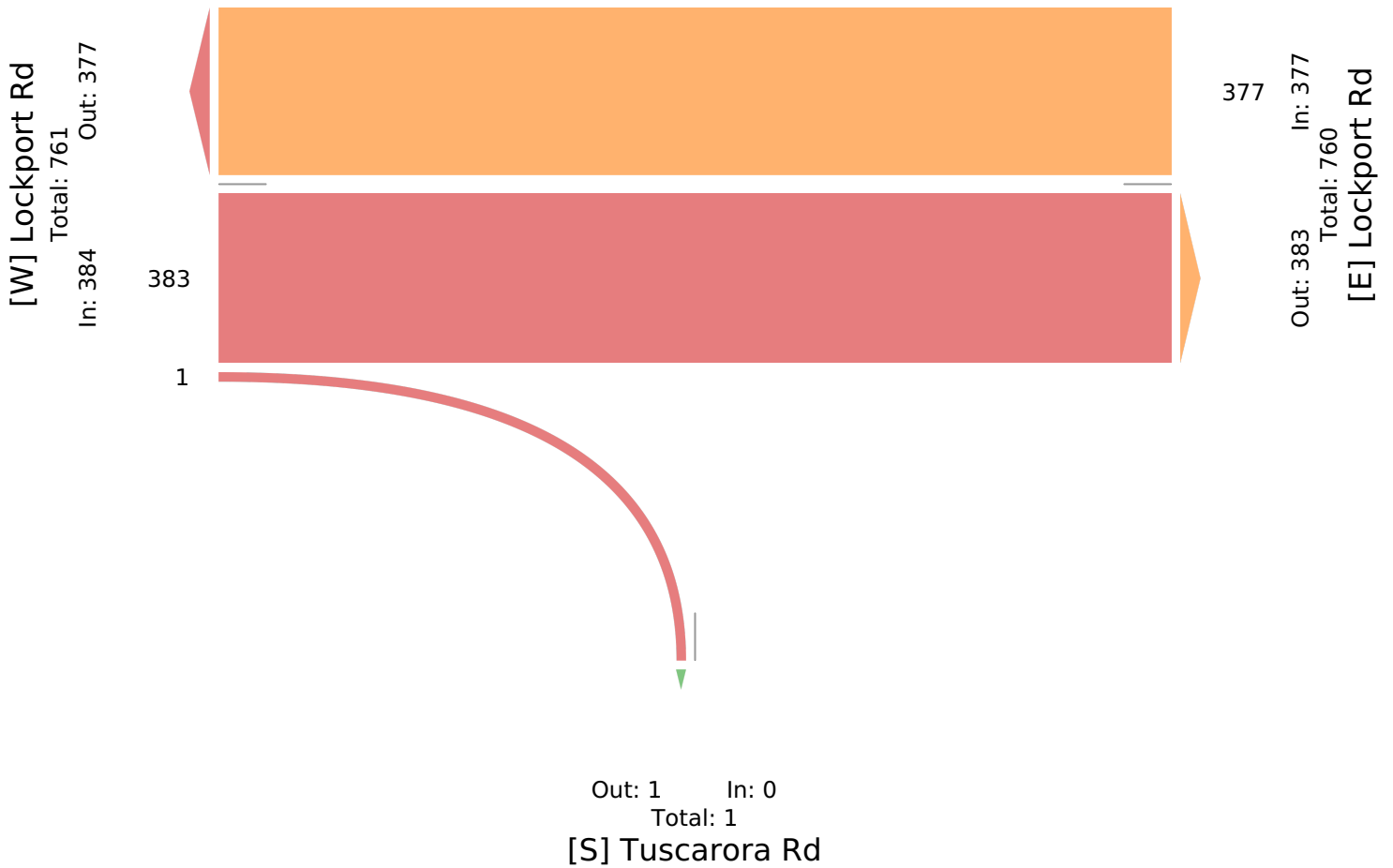
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 913955, Location: 43.121174, -78.953001



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Lockport Rd/Tuscarora Rd(S) - TMC

Wed Jan 5, 2022

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 913955, Location: 43.121174, -78.953001



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Lockport Rd Westbound					Tuscarora Rd Northbound					Lockport Rd Eastbound					Int
	T	L	U	App	Ped*	R	L	U	App	Ped*	R	T	U	App	Ped*	
2022-01-05 4:00PM	134	0	0	134	0	0	0	0	0	0	0	135	0	135	0	269
4:15PM	123	0	0	123	0	0	1	0	1	0	0	123	0	123	0	247
4:30PM	134	0	0	134	0	0	0	0	0	0	0	153	0	153	0	287
4:45PM	111	0	0	111	0	0	0	0	0	0	0	135	0	135	0	246
Total	502	0	0	502	0	0	1	0	1	0	0	546	0	546	0	1049
% Approach	100%	0%	0%	-	-	0%	100%	0%	-	-	0%	100%	0%	-	-	-
% Total	47.9%	0%	0%	47.9%	-	0%	0.1%	0%	0.1%	-	0%	52.0%	0%	52.0%	-	-
PHF	0.937	-	-	0.937	-	-	0.250	-	0.250	-	-	0.892	-	0.892	-	0.914
Motorcycles	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
% Motorcycles	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Lights	486	0	0	486	-	0	1	0	1	-	0	527	0	527	-	1014
% Lights	96.8%	0%	0%	96.8%	-	0%	100%	0%	100%	-	0%	96.5%	0%	96.5%	-	96.7%
Heavy	16	0	0	16	-	0	0	0	0	-	0	19	0	19	-	35
% Heavy	3.2%	0%	0%	3.2%	-	0%	0%	0%	0%	-	0%	3.5%	0%	3.5%	-	3.3%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Lockport Rd/Tuscarora Rd(S) - TMC

Wed Jan 5, 2022

PM Peak (4 PM - 5 PM) - Overall Peak Hour

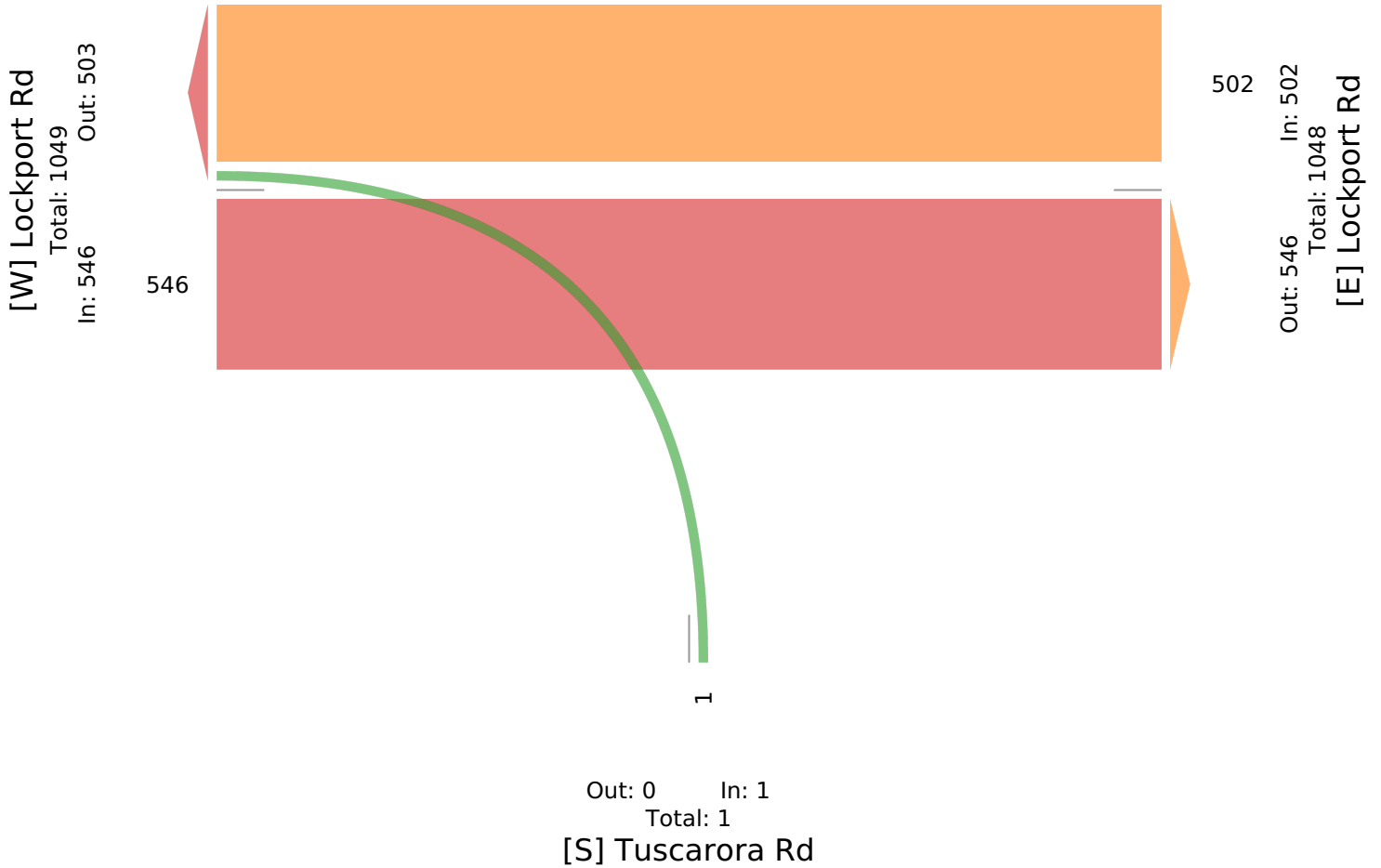
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 913955, Location: 43.121174, -78.953001



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Lockport Rd/Tuscarora Rd(S) - TMC

Wed Jan 5, 2022

Forced Peak (5:30 PM - 6:30 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 913955, Location: 43.121174, -78.953001



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Lockport Rd Westbound					Tuscarora Rd Northbound					Lockport Rd Eastbound					
Time	T	L	U	App	Ped*	R	L	U	App	Ped*	R	T	U	App	Ped*	Int
2022-01-05 5:30PM	76	0	0	76	0	0	0	0	0	0	0	96	0	96	0	172
5:45PM	82	0	0	82	0	0	0	0	0	0	0	95	0	95	0	177
6:00PM	73	0	0	73	0	0	0	0	0	0	0	70	0	70	0	143
6:15PM	62	0	0	62	0	0	0	0	0	0	0	63	0	63	0	125
Total	293	0	0	293	0	0	0	0	0	0	0	324	0	324	0	617
% Approach	100%	0%	0%	-	-	0%	0%	0%	-	-	0%	100%	0%	-	-	-
% Total	47.5%	0%	0%	47.5%	-	0%	0%	0%	0%	-	0%	52.5%	0%	52.5%	-	-
PHF	0.893	-	-	0.893	-	-	-	-	-	-	-	0.844	-	0.844	-	0.871
Motorcycles	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
% Motorcycles	0%	0%	0%	0%	-	0%	0%	0%	-	-	0%	0%	0%	0%	-	0%
Lights	288	0	0	288	-	0	0	0	0	-	0	316	0	316	-	604
% Lights	98.3%	0%	0%	98.3%	-	0%	0%	0%	-	-	0%	97.5%	0%	97.5%	-	97.9%
Heavy	5	0	0	5	-	0	0	0	0	-	0	8	0	8	-	13
% Heavy	1.7%	0%	0%	1.7%	-	0%	0%	0%	-	-	0%	2.5%	0%	2.5%	-	2.1%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Lockport Rd/Tuscarora Rd(S) - TMC

Wed Jan 5, 2022

Forced Peak (5:30 PM - 6:30 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 913955, Location: 43.121174, -78.953001



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Lockport Rd/Walmore Rd - TMC

Tue Nov 23, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904522, Location: 43.121422, -78.926878



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Lockport Rd Westbound					Walmore Rd Northbound					Lockport Rd Eastbound					Int
	T	L	U	App	Ped*	R	L	U	App	Ped*	R	T	U	App	Ped*	
2021-11-23 6:00AM	39	4	0	43	0	16	22	0	38	0	5	15	0	20	0	101
6:15AM	64	21	0	85	0	9	34	0	43	0	12	27	0	39	0	167
6:30AM	80	24	0	104	0	22	39	0	61	0	19	33	0	52	0	217
6:45AM	72	17	0	89	0	18	50	0	68	0	28	32	0	60	0	217
Hourly Total	255	66	0	321	0	65	145	0	210	0	64	107	0	171	0	702
7:00AM	62	17	2	81	0	14	37	0	51	0	18	43	0	61	0	193
7:15AM	64	18	1	83	0	19	73	0	92	0	19	47	0	66	0	241
7:30AM	83	12	1	96	0	20	48	0	68	0	41	40	0	81	0	245
7:45AM	80	22	2	104	0	13	21	0	34	0	36	55	0	91	0	229
Hourly Total	289	69	6	364	0	66	179	0	245	0	114	185	0	299	0	908
8:00AM	62	10	0	72	0	15	28	0	43	0	25	48	0	73	0	188
8:15AM	61	12	0	73	0	13	26	0	39	0	32	57	0	89	0	201
8:30AM	61	8	0	69	0	11	38	0	49	0	22	49	0	71	0	189
8:45AM	69	14	0	83	0	15	30	0	45	0	28	47	0	75	0	203
Hourly Total	253	44	0	297	0	54	122	0	176	0	107	201	0	308	0	781
9:00AM	39	12	0	51	0	23	23	0	46	0	28	55	0	83	0	180
9:15AM	50	12	0	62	0	16	22	0	38	0	24	65	0	89	0	189
9:30AM	39	19	1	59	0	12	21	1	34	0	19	32	1	52	0	145
9:45AM	53	20	0	73	0	11	28	0	39	0	16	40	0	56	0	168
Hourly Total	181	63	1	245	0	62	94	1	157	0	87	192	1	280	0	682
10:00AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00PM	67	11	1	79	0	24	52	1	77	0	53	109	0	162	0	318
4:15PM	75	25	4	104	0	26	40	0	66	0	42	98	0	140	0	310
4:30PM	72	24	0	96	0	25	37	0	62	0	61	103	1	165	0	323
4:45PM	75	18	1	94	0	16	39	0	55	0	31	92	0	123	0	272
Hourly Total	289	78	6	373	0	91	168	1	260	0	187	402	1	590	0	1223
5:00PM	73	19	0	92	0	23	37	0	60	0	34	101	1	136	0	288
5:15PM	63	19	0	82	0	24	32	0	56	0	35	64	0	99	0	237
5:30PM	42	20	0	62	0	28	37	0	65	0	33	68	0	101	0	228
5:45PM	53	19	0	72	0	14	33	0	47	0	37	56	0	93	0	212
Hourly Total	231	77	0	308	0	89	139	0	228	0	139	289	1	429	0	965
6:00PM	48	14	0	62	0	9	25	0	34	0	26	46	0	72	0	168
6:15PM	35	17	0	52	0	10	26	0	36	0	23	48	0	71	0	159
6:30PM	22	11	0	33	0	19	12	1	32	0	23	43	0	66	0	131
6:45PM	23	14	0	37	0	7	16	0	23	0	21	43	0	64	0	124
Hourly Total	128	56	0	184	0	45	79	1	125	0	93	180	0	273	0	582
7:00PM	34	5	0	39	0	17	19	0	36	0	14	46	0	60	0	135
7:15PM	23	5	0	28	0	8	11	0	19	0	20	33	0	53	0	100
7:30PM	20	12	0	32	0	8	18	0	26	0	20	26	0	46	0	104
7:45PM	24	4	0	28	0	11	12	0	23	0	12	37	0	49	0	100
Hourly Total	101	26	0	127	0	44	60	0	104	0	66	142	0	208	0	439
8:00PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1727	479	13	2219	0	516	986	3	1505	0	857	1698	3	2558	0	6282
% Approach	77.8%	21.6%	0.6%	-	-	34.3%	65.5%	0.2%	-	-	33.5%	66.4%	0.1%	-	-	-
% Total	27.5%	7.6%	0.2%	35.3%	-	8.2%	15.7%	0%	24.0%	-	13.6%	27.0%	0%	40.7%	-	-
Motorcycles	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
% Motorcycles	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Lights	1631	454	13	2098	-	490	941	3	1434	-	819	1615	3	2437	-	5969
% Lights	94.4%	94.8%	100%	94.5%	-	95.0%	95.4%	100%	95.3%	-	95.6%	95.1%	100%	95.3%	-	95.0%
Heavy	96	25	0	121	-	26	45	0	71	-	38	83	0	121	-	313
% Heavy	5.6%	5.2%	0%	5.5%	-	5.0%	4.6%	0%	4.7%	-	4.4%	4.9%	0%	4.7%	-	5.0%

Leg Direction	Lockport Rd Westbound					Walmore Rd Northbound					Lockport Rd Eastbound					
Time	T	L	U	App	Ped*	R	L	U	App	Ped*	R	T	U	App	Ped*	Int
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Lockport Rd/Walmore Rd - TMC

Tue Nov 23, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

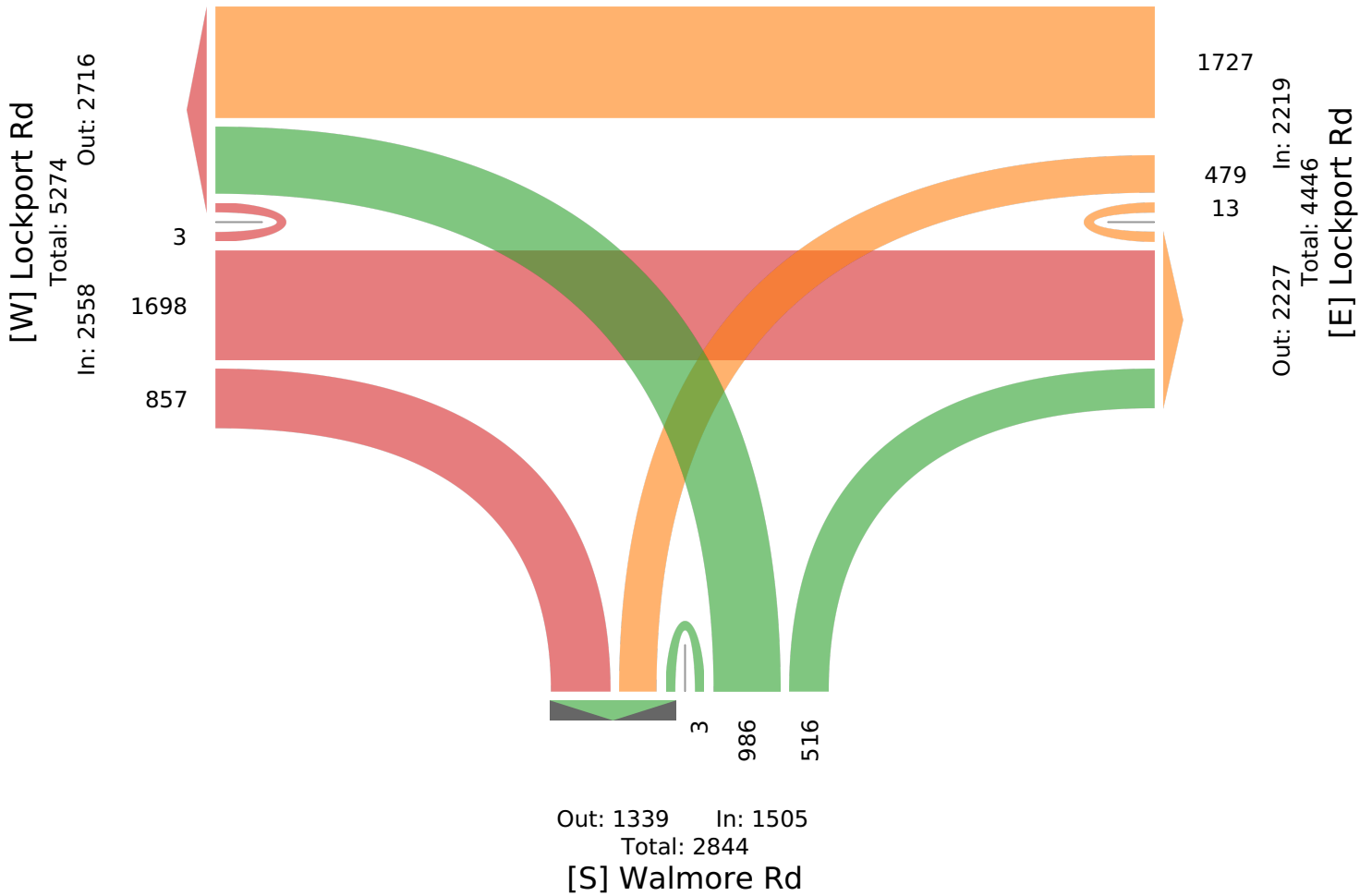
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904522, Location: 43.121422, -78.926878



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Lockport Rd/Walmore Rd - TMC

Tue Nov 23, 2021

AM Peak (7 AM - 8 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904522, Location: 43.121422, -78.926878



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Lockport Rd Westbound					Walmore Rd Northbound					Lockport Rd Eastbound					Int
	T	L	U	App	Ped*	R	L	U	App	Ped*	R	T	U	App	Ped*	
Time																
2021-11-23 7:00AM	62	17	2	81	0	14	37	0	51	0	18	43	0	61	0	193
7:15AM	64	18	1	83	0	19	73	0	92	0	19	47	0	66	0	241
7:30AM	83	12	1	96	0	20	48	0	68	0	41	40	0	81	0	245
7:45AM	80	22	2	104	0	13	21	0	34	0	36	55	0	91	0	229
Total	289	69	6	364	0	66	179	0	245	0	114	185	0	299	0	908
% Approach	79.4%	19.0%	1.6%	-	-	26.9%	73.1%	0%	-	-	38.1%	61.9%	0%	-	-	-
% Total	31.8%	7.6%	0.7%	40.1%	-	7.3%	19.7%	0%	27.0%	-	12.6%	20.4%	0%	32.9%	-	-
PHF	0.870	0.784	0.750	0.875	-	0.825	0.613	-	0.666	-	0.695	0.841	-	0.821	-	0.927
Motorcycles	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
% Motorcycles	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Lights	265	67	6	338	-	65	165	0	230	-	109	170	0	279	-	847
% Lights	91.7%	97.1%	100%	92.9%	-	98.5%	92.2%	0%	93.9%	-	95.6%	91.9%	0%	93.3%	-	93.3%
Heavy	24	2	0	26	-	1	14	0	15	-	5	15	0	20	-	61
% Heavy	8.3%	2.9%	0%	7.1%	-	1.5%	7.8%	0%	6.1%	-	4.4%	8.1%	0%	6.7%	-	6.7%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Lockport Rd/Walmore Rd - TMC

Tue Nov 23, 2021

AM Peak (7 AM - 8 AM)

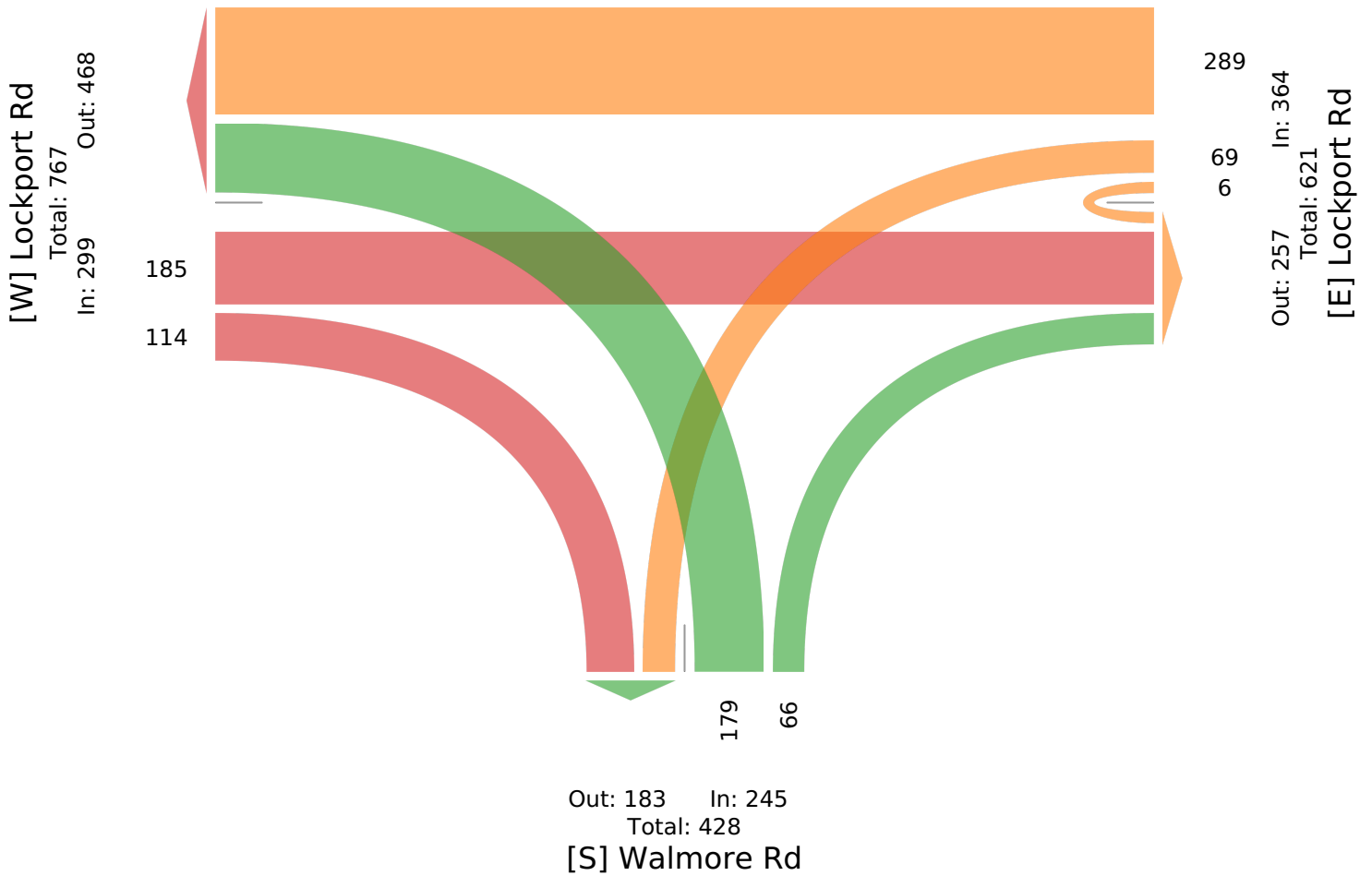
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904522, Location: 43.121422, -78.926878



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Lockport Rd/Walmore Rd - TMC

Tue Nov 23, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904522, Location: 43.121422, -78.926878



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Lockport Rd Westbound					Walmore Rd Northbound					Lockport Rd Eastbound					
Time	T	L	U	App	Ped*	R	L	U	App	Ped*	R	T	U	App	Ped*	Int
2021-11-23 4:00PM	67	11	1	79	0	24	52	1	77	0	53	109	0	162	0	318
4:15PM	75	25	4	104	0	26	40	0	66	0	42	98	0	140	0	310
4:30PM	72	24	0	96	0	25	37	0	62	0	61	103	1	165	0	323
4:45PM	75	18	1	94	0	16	39	0	55	0	31	92	0	123	0	272
Total	289	78	6	373	0	91	168	1	260	0	187	402	1	590	0	1223
% Approach	77.5%	20.9%	1.6%	-	-	35.0%	64.6%	0.4%	-	-	31.7%	68.1%	0.2%	-	-	-
% Total	23.6%	6.4%	0.5%	30.5%	-	7.4%	13.7%	0.1%	21.3%	-	15.3%	32.9%	0.1%	48.2%	-	-
PHF	0.963	0.780	0.375	0.897	-	0.875	0.808	0.250	0.844	-	0.766	0.922	0.250	0.894	-	0.947
Motorcycles	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
% Motorcycles	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Lights	274	76	6	356	-	83	155	1	239	-	186	388	1	575	-	1170
% Lights	94.8%	97.4%	100%	95.4%	-	91.2%	92.3%	100%	91.9%	-	99.5%	96.5%	100%	97.5%	-	95.7%
Heavy	15	2	0	17	-	8	13	0	21	-	1	14	0	15	-	53
% Heavy	5.2%	2.6%	0%	4.6%	-	8.8%	7.7%	0%	8.1%	-	0.5%	3.5%	0%	2.5%	-	4.3%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Lockport Rd/Walmore Rd - TMC

Tue Nov 23, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

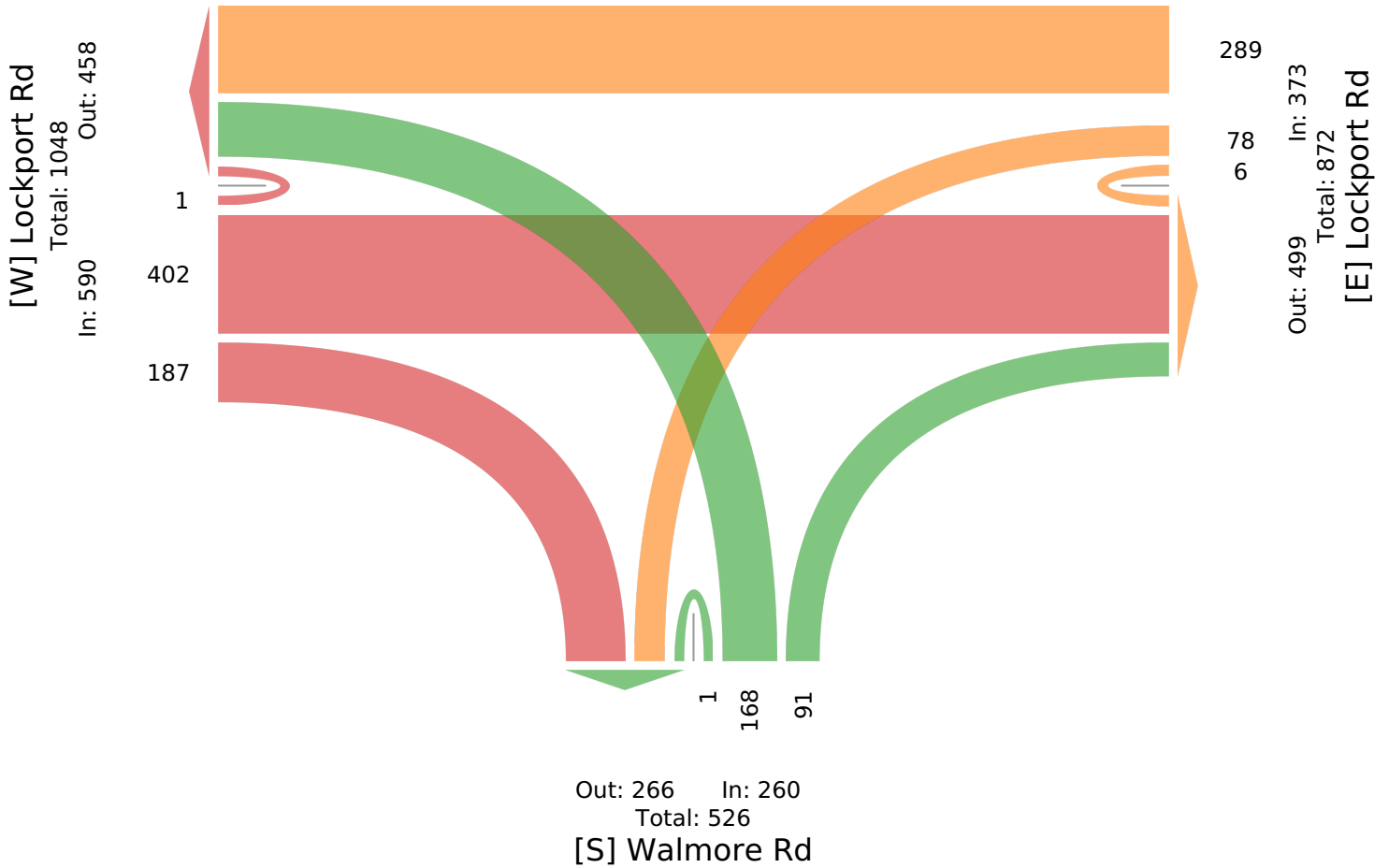
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904522, Location: 43.121422, -78.926878



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Lockport Rd/Walmore Rd - TMC

Tue Nov 23, 2021

Forced Peak (5:30 PM - 6:30 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904522, Location: 43.121422, -78.926878



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Lockport Rd Westbound					Walmore Rd Northbound					Lockport Rd Eastbound					
Time	T	L	U	App	Ped*	R	L	U	App	Ped*	R	T	U	App	Ped*	Int
2021-11-23 5:30PM	42	20	0	62	0	28	37	0	65	0	33	68	0	101	0	228
5:45PM	53	19	0	72	0	14	33	0	47	0	37	56	0	93	0	212
6:00PM	48	14	0	62	0	9	25	0	34	0	26	46	0	72	0	168
6:15PM	35	17	0	52	0	10	26	0	36	0	23	48	0	71	0	159
Total	178	70	0	248	0	61	121	0	182	0	119	218	0	337	0	767
% Approach	71.8%	28.2%	0%	-	-	33.5%	66.5%	0%	-	-	35.3%	64.7%	0%	-	-	-
% Total	23.2%	9.1%	0%	32.3%	-	8.0%	15.8%	0%	23.7%	-	15.5%	28.4%	0%	43.9%	-	-
PHF	0.840	0.875	-	0.861	-	0.545	0.818	-	0.700	-	0.804	0.801	-	0.834	-	0.841
Motorcycles	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
% Motorcycles	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Lights	175	70	0	245	-	61	120	0	181	-	119	213	0	332	-	758
% Lights	98.3%	100%	0%	98.8%	-	100%	99.2%	0%	99.5%	-	100%	97.7%	0%	98.5%	-	98.8%
Heavy	3	0	0	3	-	0	1	0	1	-	0	5	0	5	-	9
% Heavy	1.7%	0%	0%	1.2%	-	0%	0.8%	0%	0.5%	-	0%	2.3%	0%	1.5%	-	1.2%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Lockport Rd/Walmore Rd - TMC

Tue Nov 23, 2021

Forced Peak (5:30 PM - 6:30 PM)

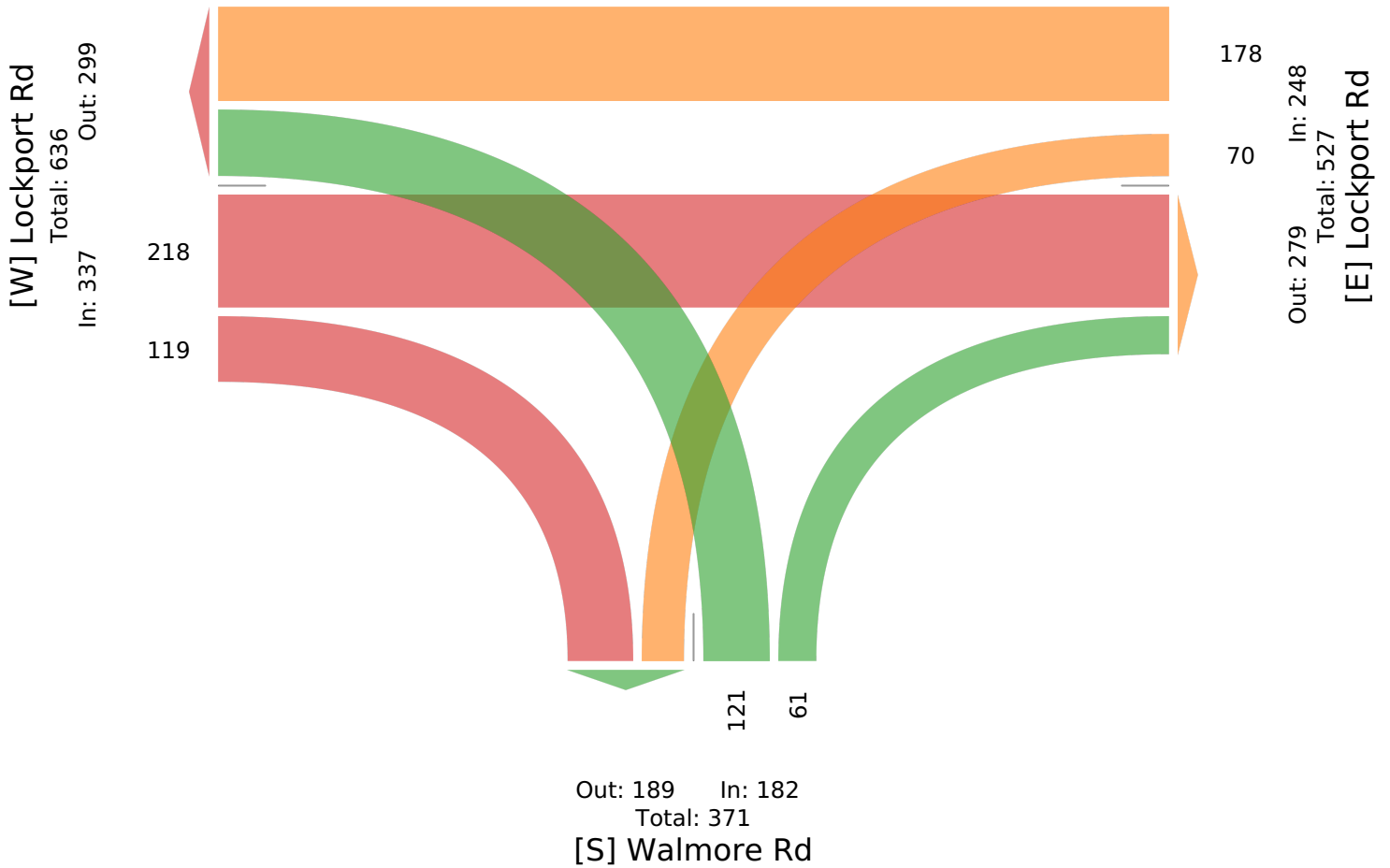
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904522, Location: 43.121422, -78.926878



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Lockport Rd/Walmore Rd - TMC

Tue Dec 14, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 911615, Location: 43.12147, -78.930911



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Walmore Rd Southbound					Lockport Rd Westbound					Lockport Rd Eastbound					Int
	R	L	U	App	Ped*	R	T	U	App	Ped*	T	L	U	App	Ped*	
Time																
2021-12-14 6:00AM	5	4	0	9	0	10	56	0	66	0	28	3	0	31	0	106
6:15AM	6	7	0	13	0	7	89	0	96	0	44	2	0	46	0	155
6:30AM	5	10	0	15	0	11	89	0	100	0	60	6	0	66	0	181
6:45AM	4	15	0	19	0	19	105	0	124	0	50	4	0	54	0	197
Hourly Total	20	36	0	56	0	47	339	0	386	0	182	15	0	197	0	639
7:00AM	7	14	0	21	0	23	83	0	106	0	50	4	0	54	0	181
7:15AM	6	12	0	18	0	61	85	0	146	0	45	9	0	54	0	218
7:30AM	15	41	0	56	0	36	97	0	133	0	59	9	0	68	0	257
7:45AM	12	23	0	35	0	11	106	0	117	0	64	4	0	68	0	220
Hourly Total	40	90	0	130	0	131	371	0	502	0	218	26	0	244	0	876
8:00AM	16	14	0	30	0	24	87	2	113	0	65	8	0	73	0	216
8:15AM	9	19	0	28	0	19	67	0	86	0	71	4	0	75	0	189
8:30AM	13	11	0	24	0	11	90	0	101	0	70	8	0	78	0	203
8:45AM	12	7	0	19	0	26	86	0	112	0	83	5	0	88	0	219
Hourly Total	50	51	0	101	0	80	330	2	412	0	289	25	0	314	0	827
9:00AM	6	17	0	23	0	13	50	0	63	0	62	3	0	65	0	151
9:15AM	11	12	0	23	0	23	79	0	102	0	60	10	1	71	0	196
9:30AM	5	19	0	24	0	17	56	1	74	0	54	8	0	62	0	160
9:45AM	12	20	0	32	0	17	60	1	78	0	53	7	1	61	0	171
Hourly Total	34	68	0	102	0	70	245	2	317	0	229	28	2	259	0	678
4:00PM	14	32	0	46	0	28	79	0	107	0	139	21	0	160	0	313
4:15PM	22	24	0	46	0	37	90	1	128	0	110	22	1	133	0	307
4:30PM	14	29	0	43	0	42	85	2	129	0	119	15	1	135	0	307
4:45PM	7	29	0	36	0	37	85	1	123	0	100	13	0	113	0	272
Hourly Total	57	114	0	171	0	144	339	4	487	0	468	71	2	541	0	1199
5:00PM	7	32	0	39	0	23	73	0	96	0	95	7	0	102	0	237
5:15PM	6	25	0	31	0	18	73	0	91	0	105	14	0	119	0	241
5:30PM	5	14	0	19	0	20	73	0	93	0	78	8	0	86	0	198
5:45PM	8	22	0	30	0	28	53	0	81	0	57	10	0	67	0	178
Hourly Total	26	93	0	119	0	89	272	0	361	0	335	39	0	374	0	854
6:00PM	7	14	0	21	0	13	58	0	71	0	50	10	0	60	0	152
6:15PM	5	23	0	28	0	28	47	0	75	0	55	6	0	61	0	164
6:30PM	3	16	0	19	0	13	58	0	71	0	56	7	0	63	0	153
6:45PM	9	13	0	22	0	12	45	0	57	0	49	3	0	52	0	131
Hourly Total	24	66	0	90	0	66	208	0	274	0	210	26	0	236	0	600
7:00PM	3	10	0	13	0	17	31	0	48	0	47	4	0	51	0	112
7:15PM	2	16	0	18	0	15	38	0	53	0	30	4	0	34	0	105
7:30PM	6	17	0	23	0	13	30	0	43	0	48	5	0	53	0	119
7:45PM	4	14	0	18	0	8	34	0	42	0	29	5	0	34	0	94
Hourly Total	15	57	0	72	0	53	133	0	186	0	154	18	0	172	0	430
8:00PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	266	575	0	841	0	680	2237	8	2925	0	2085	248	4	2337	0	6103
% Approach	31.6%	68.4%	0%	-	-	23.2%	76.5%	0.3%	-	-	89.2%	10.6%	0.2%	-	-	-
% Total	4.4%	9.4%	0%	13.8%	-	11.1%	36.7%	0.1%	47.9%	-	34.2%	4.1%	0.1%	38.3%	-	-
Motorcycles	0	2	0	2	-	0	0	0	0	-	1	0	0	1	-	3
% Motorcycles	0%	0.3%	0%	0.2%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Lights	253	536	0	789	-	641	2091	7	2739	-	1951	230	4	2185	-	5713
% Lights	95.1%	93.2%	0%	93.8%	-	94.3%	93.5%	87.5%	93.6%	-	93.6%	92.7%	100%	93.5%	-	93.6%
Heavy	13	37	0	50	-	39	146	1	186	-	133	18	0	151	-	387
% Heavy	4.9%	6.4%	0%	5.9%	-	5.7%	6.5%	12.5%	6.4%	-	6.4%	7.3%	0%	6.5%	-	6.3%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Leg Direction	Walmore Rd Southbound					Lockport Rd Westbound					Lockport Rd Eastbound					
Time	R	L	U	App	Ped*	R	T	U	App	Ped*	T	L	U	App	Ped*	Int
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Lockport Rd/Walmore Rd - TMC

Tue Dec 14, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 911615, Location: 43.12147, -78.930911



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

[N] Walmore Rd

Total: 1769

In: 841 Out: 928

266
575



Lockport Rd/Walmore Rd - TMC

Tue Dec 14, 2021

AM Peak (7:15 AM - 8:15 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 911615, Location: 43.12147, -78.930911



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Walmore Rd Southbound					Lockport Rd Westbound					Lockport Rd Eastbound					
Time	R	L	U	App	Ped*	R	T	U	App	Ped*	T	L	U	App	Ped*	Int
2021-12-14 7:15AM	6	12	0	18	0	61	85	0	146	0	45	9	0	54	0	218
7:30AM	15	41	0	56	0	36	97	0	133	0	59	9	0	68	0	257
7:45AM	12	23	0	35	0	11	106	0	117	0	64	4	0	68	0	220
8:00AM	16	14	0	30	0	24	87	2	113	0	65	8	0	73	0	216
Total	49	90	0	139	0	132	375	2	509	0	233	30	0	263	0	911
% Approach	35.3%	64.7%	0%	-	-	25.9%	73.7%	0.4%	-	-	88.6%	11.4%	0%	-	-	-
% Total	5.4%	9.9%	0%	15.3%	-	14.5%	41.2%	0.2%	55.9%	-	25.6%	3.3%	0%	28.9%	-	-
PHF	0.766	0.549	-	0.621	-	0.541	0.884	0.250	0.872	-	0.896	0.833	-	0.901	-	0.886
Motorcycles	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
% Motorcycles	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Lights	43	80	0	123	-	120	351	2	473	-	213	28	0	241	-	837
% Lights	87.8%	88.9%	0%	88.5%	-	90.9%	93.6%	100%	92.9%	-	91.4%	93.3%	0%	91.6%	-	91.9%
Heavy	6	10	0	16	-	12	24	0	36	-	20	2	0	22	-	74
% Heavy	12.2%	11.1%	0%	11.5%	-	9.1%	6.4%	0%	7.1%	-	8.6%	6.7%	0%	8.4%	-	8.1%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Lockport Rd/Walmore Rd - TMC

Tue Dec 14, 2021

AM Peak (7:15 AM - 8:15 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 911615, Location: 43.12147, -78.930911



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

[N] Walmore Rd

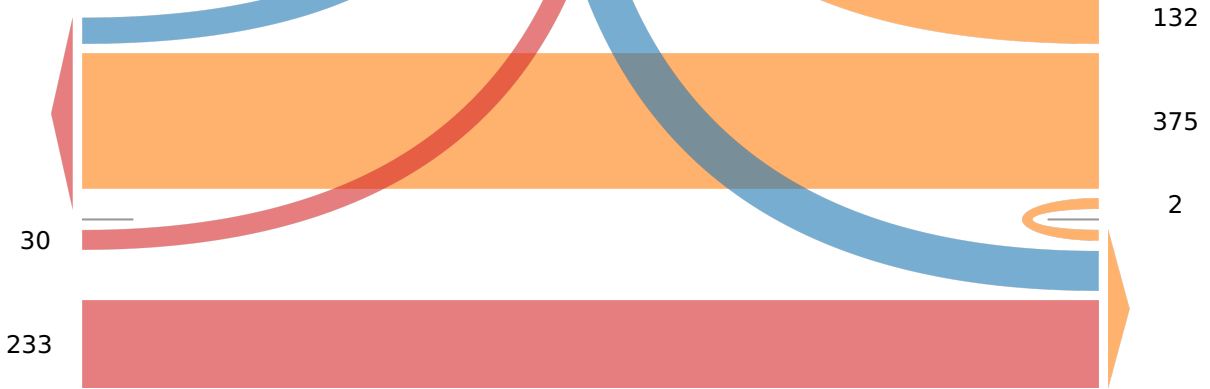
Total: 301

In: 139 Out: 162

49 90

[W] Lockport Rd
Total: 687
In: 263 Out: 424

30
233



Out: 325 In: 509
Total: 834
[E] Lockport Rd

Lockport Rd/Walmore Rd - TMC

Tue Dec 14, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 911615, Location: 43.12147, -78.930911



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Walmore Rd Southbound					Lockport Rd Westbound					Lockport Rd Eastbound					
Time	R	L	U	App	Ped*	R	T	U	App	Ped*	T	L	U	App	Ped*	Int
2021-12-14 4:00PM	14	32	0	46	0	28	79	0	107	0	139	21	0	160	0	313
4:15PM	22	24	0	46	0	37	90	1	128	0	110	22	1	133	0	307
4:30PM	14	29	0	43	0	42	85	2	129	0	119	15	1	135	0	307
4:45PM	7	29	0	36	0	37	85	1	123	0	100	13	0	113	0	272
Total	57	114	0	171	0	144	339	4	487	0	468	71	2	541	0	1199
% Approach	33.3%	66.7%	0%	-	-	29.6%	69.6%	0.8%	-	-	86.5%	13.1%	0.4%	-	-	-
% Total	4.8%	9.5%	0%	14.3%	-	12.0%	28.3%	0.3%	40.6%	-	39.0%	5.9%	0.2%	45.1%	-	-
PHF	0.648	0.891	-	0.929	-	0.857	0.942	0.500	0.944	-	0.842	0.807	0.500	0.845	-	0.958
Motorcycles	0	2	0	2	-	0	0	0	0	-	1	0	0	1	-	3
% Motorcycles	0%	1.8%	0%	1.2%	-	0%	0%	0%	0%	-	0.2%	0%	0%	0.2%	-	0.3%
Lights	54	103	0	157	-	132	324	3	459	-	448	65	2	515	-	1131
% Lights	94.7%	90.4%	0%	91.8%	-	91.7%	95.6%	75.0%	94.3%	-	95.7%	91.5%	100%	95.2%	-	94.3%
Heavy	3	9	0	12	-	12	15	1	28	-	19	6	0	25	-	65
% Heavy	5.3%	7.9%	0%	7.0%	-	8.3%	4.4%	25.0%	5.7%	-	4.1%	8.5%	0%	4.6%	-	5.4%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Lockport Rd/Walmore Rd - TMC

Tue Dec 14, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 911615, Location: 43.12147, -78.930911



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

[N] Walmore Rd

Total: 386

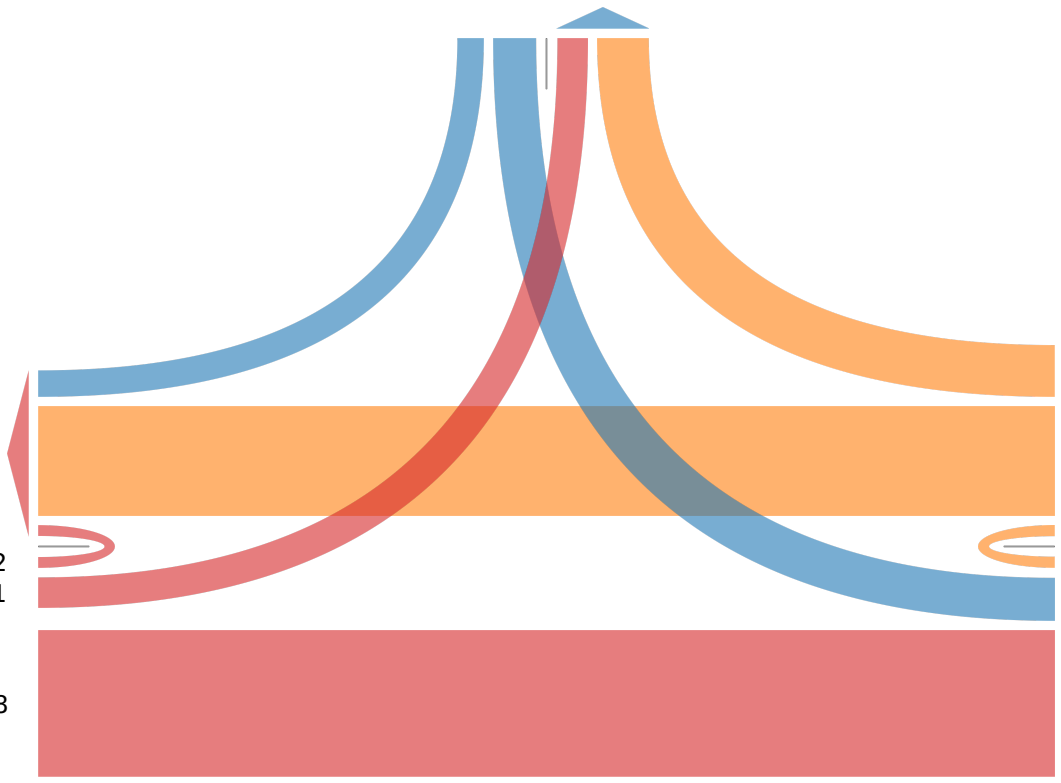
In: 171 Out: 215

57
114

[W] Lockport Rd

Total: 939
In: 541 Out: 398

2
71
468



144

339

4

Out: 586 In: 487

Total: 1073

[E] Lockport Rd

Lockport Rd/Walmore Rd - TMC

Tue Dec 14, 2021

Forced Peak (5:30 PM - 6:30 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 911615, Location: 43.12147, -78.930911



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Walmore Rd Southbound					Lockport Rd Westbound					Lockport Rd Eastbound					Int
	R	L	U	App	Ped*	R	T	U	App	Ped*	T	L	U	App	Ped*	
Time																
2021-12-14 5:30PM	5	14	0	19	0	20	73	0	93	0	78	8	0	86	0	198
5:45PM	8	22	0	30	0	28	53	0	81	0	57	10	0	67	0	178
6:00PM	7	14	0	21	0	13	58	0	71	0	50	10	0	60	0	152
6:15PM	5	23	0	28	0	28	47	0	75	0	55	6	0	61	0	164
Total	25	73	0	98	0	89	231	0	320	0	240	34	0	274	0	692
% Approach	25.5%	74.5%	0%	-	-	27.8%	72.2%	0%	-	-	87.6%	12.4%	0%	-	-	-
% Total	3.6%	10.5%	0%	14.2%	-	12.9%	33.4%	0%	46.2%	-	34.7%	4.9%	0%	39.6%	-	-
PHF	0.781	0.793	-	0.817	-	0.795	0.791	-	0.860	-	0.769	0.850	-	0.797	-	0.874
Motorcycles	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
% Motorcycles	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Lights	25	73	0	98	-	88	222	0	310	-	238	33	0	271	-	679
% Lights	100%	100%	0%	100%	-	98.9%	96.1%	0%	96.9%	-	99.2%	97.1%	0%	98.9%	-	98.1%
Heavy	0	0	0	0	-	1	9	0	10	-	2	1	0	3	-	13
% Heavy	0%	0%	0%	0%	-	1.1%	3.9%	0%	3.1%	-	0.8%	2.9%	0%	1.1%	-	1.9%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Lockport Rd/Walmore Rd - TMC

Tue Dec 14, 2021

Forced Peak (5:30 PM - 6:30 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 911615, Location: 43.12147, -78.930911



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

[N] Walmore Rd

Total: 221

In: 98 Out: 123

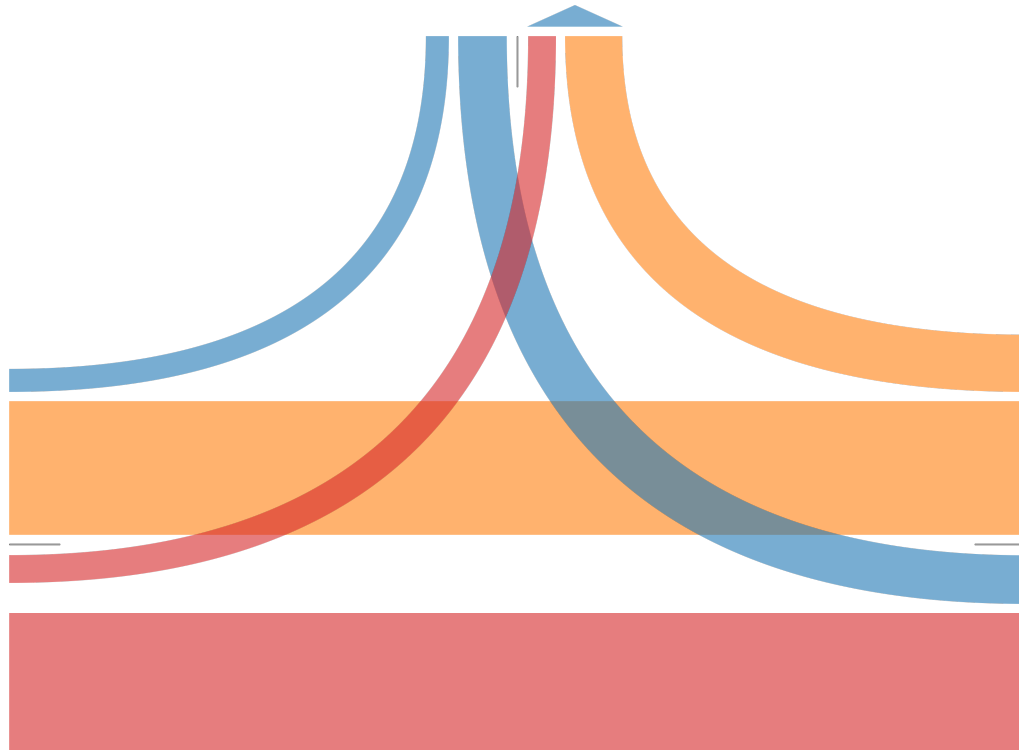
25 73

[W] Lockport Rd

Total: 530

In: 274 Out: 256

34 240



89 231

Out: 313 In: 320

Total: 633

[E] Lockport Rd

Niagara Falls Blvd/Walmore Rd/Niagara Rd - TMC

Tue Nov 23, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

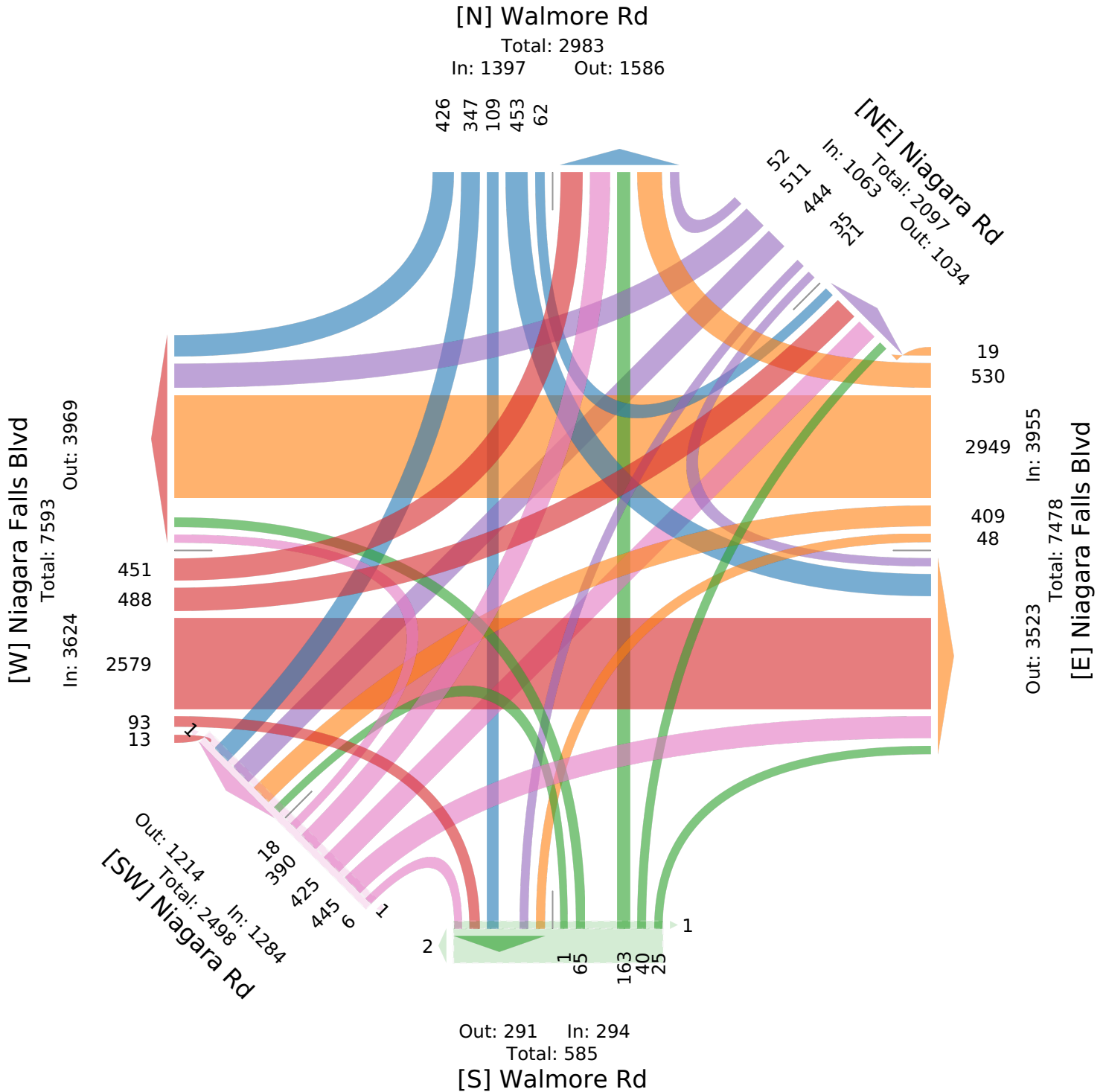
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904855, Location: 43.099149, -78.927205



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Niagara Falls Blvd/Walmore Rd/Niagara Rd - TMC

Tue Nov 23, 2021

AM Peak (7:15 AM - 8:15 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904855, Location: 43.099149, -78.927205



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Walmore Rd Southbound							Niagara Rd Southwestbound							Niagara Falls Blvd Westbound									
	R	BR	T	L	HL	U	App Ped*	HR	BR	T	BL	HL	U	App Ped*	HR	R	T	BL	L	U	App Ped*			
2021-11-23 7:15AM	4	13	2	13	2	0	34	0	3	14	12	0	0	0	29	0	0	40	83	9	5	0	137	0
7:30AM	11	14	7	18	1	0	51	0	3	14	29	0	0	0	46	0	0	22	93	18	3	0	136	0
7:45AM	21	17	5	17	0	0	60	0	1	18	20	1	1	0	41	0	0	27	122	11	1	0	161	0
8:00AM	5	6	2	15	5	0	33	0	2	12	14	0	0	0	28	0	0	30	95	20	0	0	145	0
Total	41	50	16	63	8	0	178	0	9	58	75	1	1	0	144	0	0	119	393	58	9	0	579	0
% Approach	23.0%	28.1%	9.0%	35.4%	4.5%	0%	-	-	6.3%	40.3%	52.1%	0.7%	0.7%	0%	-	-	0%	20.6%	67.9%	10.0%	1.6%	0%	-	-
% Total	2.8%	3.4%	1.1%	4.2%	0.5%	0%	12.0%	-	0.6%	3.9%	5.0%	0.1%	0.1%	0%	9.7%	-	0%	8.0%	26.4%	3.9%	0.6%	0%	39.0%	-
PHF	0.488	0.735	0.571	0.875	0.400	-	0.742	-	0.750	0.806	0.647	0.250	0.250	-	0.783	-	-	0.744	0.805	0.725	0.450	-	0.899	-
Motorcycles	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	0
% Motorcycles	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%
Lights	41	48	15	58	5	0	167	-	7	57	70	1	1	0	136	-	0	112	378	57	9	0	556	-
% Lights	100%	96.0%	93.8%	92.1%	62.5%	0%	93.8%	-	77.8%	98.3%	93.3%	100%	100%	0%	94.4%	-	0%	94.1%	96.2%	98.3%	100%	0%	96.0%	-
Heavy	0	2	1	5	3	0	11	-	2	1	5	0	0	0	8	-	0	7	15	1	0	0	23	-
% Heavy	0%	4.0%	6.3%	7.9%	37.5%	0%	6.2%	-	22.2%	1.7%	6.7%	0%	0%	0%	5.6%	-	0%	5.9%	3.8%	1.7%	0%	0%	4.0%	-
Pedestrians	-	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Niagara Falls Blvd/Walmore Rd/Niagara Rd - TMC

Tue Nov 23, 2021

AM Peak (7:15 AM - 8:15 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904855, Location: 43.099149, -78.927205



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Walmore Rd Northbound								Niagara Rd Northeastbound								Niagara Falls Blvd Eastbound								
Time	R	BR	T	L	HL	U	App	Ped*	HR	BR	T	BL	HL	U	App	Ped*	HR	R	T	BL	L	U	App	Ped*	Int
2021-11-23 7:15AM	2	1	22	2	0	0	27	0	0	6	17	18	1	0	42	0	0	0	60	11	23	0	94	0	363
7:30AM	1	1	13	1	0	0	16	0	0	13	23	21	0	0	57	0	0	5	58	9	12	0	84	0	390
7:45AM	0	1	6	2	0	0	9	0	0	18	10	8	1	0	37	0	0	1	63	14	10	0	88	0	396
8:00AM	0	1	4	2	0	0	7	0	0	8	19	10	0	0	37	0	0	2	63	11	11	0	87	0	337
Total	3	4	45	7	0	0	59	0	0	45	69	57	2	0	173	0	0	8	244	45	56	0	353	0	1486
% Approach	5.1%	6.8%	76.3%	11.9%	0%	0%	-	-	0%	26.0%	39.9%	32.9%	1.2%	0%	-	-	0%	2.3%	69.1%	12.7%	15.9%	0%	-	-	-
% Total	0.2%	0.3%	3.0%	0.5%	0%	0%	4.0%	-	0%	3.0%	4.6%	3.8%	0.1%	0%	11.6%	-	0%	0.5%	16.4%	3.0%	3.8%	0%	23.8%	-	-
PHF	0.375	1.000	0.511	0.875	-	-	0.546	-	-	0.625	0.750	0.679	0.500	-	0.759	-	-	0.400	0.968	0.804	0.609	-	0.939	-	0.938
Motorcycles	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	-	0
% Motorcycles	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	-	0%
Lights	3	3	45	7	0	0	58	-	0	42	65	56	2	0	165	-	0	8	231	44	51	0	334	-	1416
% Lights	100%	75.0%	100%	100%	0%	0%	98.3%	-	0%	93.3%	94.2%	98.2%	100%	0%	95.4%	-	0%	100%	94.7%	97.8%	91.1%	0%	94.6%	-	95.3%
Heavy	0	1	0	0	0	0	1	-	0	3	4	1	0	0	8	-	0	0	13	1	5	0	19	-	70
% Heavy	0%	25.0%	0%	0%	0%	0%	1.7%	-	0%	6.7%	5.8%	1.8%	0%	0%	4.6%	-	0%	0%	5.3%	2.2%	8.9%	0%	5.4%	-	4.7%
Pedestrians	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Niagara Falls Blvd/Walmore Rd/Niagara Rd - TMC

Tue Nov 23, 2021

AM Peak (7:15 AM - 8:15 AM)

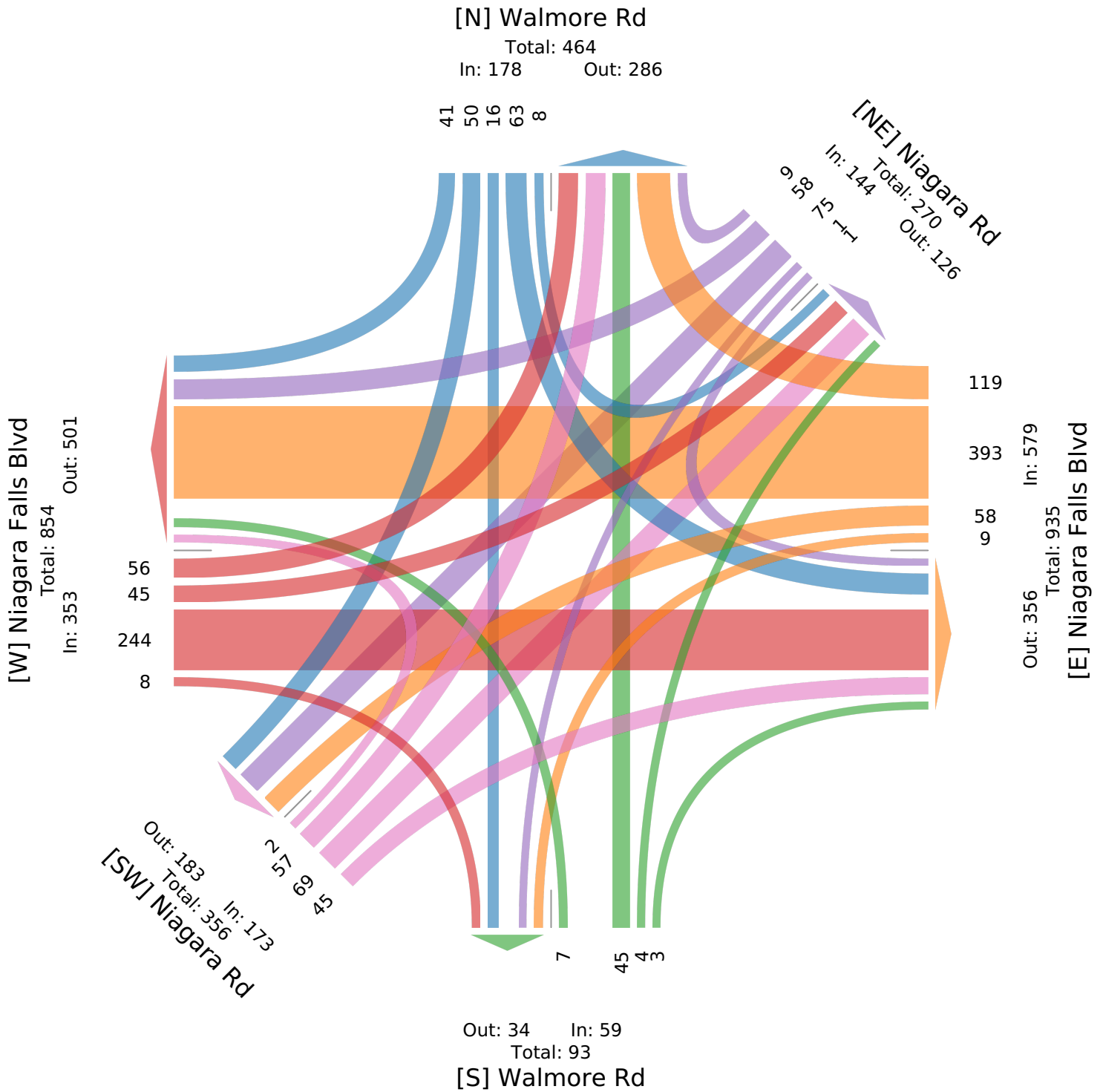
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904855, Location: 43.099149, -78.927205



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Niagara Falls Blvd/Walmore Rd/Niagara Rd - TMC

Tue Nov 23, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904855, Location: 43.099149, -78.927205



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Walmore Rd Southbound								Niagara Rd Southwestbound								Niagara Falls Blvd Westbound							
Time	R	BR	T	L	HL	U	App	Ped*	HR	BR	T	BL	HL	U	App	Ped*	HR	R	T	BL	L	U	App	Ped*
2021-11-23 4:00PM	27	23	8	34	3	0	95	0	0	30	21	1	2	0	54	0	0	23	127	17	1	0	168	0
4:15PM	24	17	6	29	6	0	82	0	1	20	32	4	1	0	58	0	2	20	128	13	0	0	163	0
4:30PM	33	24	6	29	4	0	96	0	4	18	14	0	2	0	38	0	1	16	154	23	3	0	197	0
4:45PM	20	20	4	24	4	0	72	0	1	28	19	1	0	0	49	0	1	18	136	31	1	0	187	0
Total	104	84	24	116	17	0	345	0	6	96	86	6	5	0	199	0	4	77	545	84	5	0	715	0
% Approach	30.1%	24.3%	7.0%	33.6%	4.9%	0%	-	-	3.0%	48.2%	43.2%	3.0%	2.5%	0%	-	-	0.6%	10.8%	76.2%	11.7%	0.7%	0%	-	-
% Total	4.7%	3.8%	1.1%	5.2%	0.8%	0%	15.4%	-	0.3%	4.3%	3.8%	0.3%	0.2%	0%	8.9%	-	0.2%	3.4%	24.4%	3.8%	0.2%	0%	32.0%	-
PHF	0.788	0.875	0.750	0.853	0.708	-	0.898	-	0.375	0.800	0.672	0.375	0.625	-	0.858	-	0.500	0.837	0.885	0.677	0.417	-	0.907	-
Motorcycles	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	-
% Motorcycles	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	-
Lights	101	82	24	115	17	0	339	-	6	95	86	6	4	0	197	-	4	72	541	83	5	0	705	-
% Lights	97.1%	97.6%	100%	99.1%	100%	0%	98.3%	-	100%	99.0%	100%	100%	80.0%	0%	99.0%	-	100%	93.5%	99.3%	98.8%	100%	0%	98.6%	-
Heavy	3	2	0	1	0	0	6	-	0	1	0	0	1	0	2	-	0	5	4	1	0	0	10	-
% Heavy	2.9%	2.4%	0%	0.9%	0%	0%	1.7%	-	0%	1.0%	0%	0%	20.0%	0%	1.0%	-	0%	6.5%	0.7%	1.2%	0%	0%	1.4%	-
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Niagara Falls Blvd/Walmore Rd/Niagara Rd - TMC

Tue Nov 23, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904855, Location: 43.099149, -78.927205



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Walmore Rd Northbound								Niagara Rd Northeastbound								Niagara Falls Blvd Eastbound								Int
	R	BR	T	L	HL	U	App	Ped*	HR	BR	T	BL	HL	U	App	Ped*	HR	R	T	BL	L	U	App	Ped*	
2021-11-23 4:00PM	1	4	7	0	0	0	12	0	0	18	22	19	1	0	60	0	0	2	141	21	17	0	181	0	570
4:15PM	2	0	2	1	0	0	5	0	0	19	24	18	2	0	63	0	0	3	128	19	15	0	165	0	536
4:30PM	1	1	5	7	0	0	14	0	0	15	16	16	0	0	47	0	0	9	154	31	20	0	214	0	606
4:45PM	2	2	2	2	0	0	8	0	0	21	15	16	1	0	53	0	0	3	114	25	13	0	155	0	524
Total	6	7	16	10	0	0	39	0	0	73	77	69	4	0	223	0	0	17	537	96	65	0	715	0	2236
% Approach	15.4%	17.9%	41.0%	25.6%	0%	0%	-	-	0%	32.7%	34.5%	30.9%	1.8%	0%	-	-	0%	2.4%	75.1%	13.4%	9.1%	0%	-	-	-
% Total	0.3%	0.3%	0.7%	0.4%	0%	0%	1.7%	-	0%	3.3%	3.4%	3.1%	0.2%	0%	10.0%	-	0%	0.8%	24.0%	4.3%	2.9%	0%	32.0%	-	-
PHF	0.750	0.438	0.571	0.357	-	-	0.696	-	-	0.869	0.802	0.908	0.500	-	0.885	-	-	0.472	0.872	0.774	0.813	-	0.835	-	0.922
Motorcycles	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	-	0
% Motorcycles	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	-	0%
Lights	6	7	13	10	0	0	36	-	0	72	77	63	4	0	216	-	0	17	528	96	61	0	702	-	2195
% Lights	100%	100%	81.3%	100%	0%	0%	92.3%	-	0%	98.6%	100%	91.3%	100%	0%	96.9%	-	0%	100%	98.3%	100%	93.8%	0%	98.2%	-	98.2%
Heavy	0	0	3	0	0	0	3	-	0	1	0	6	0	0	7	-	0	0	9	0	4	0	13	-	41
% Heavy	0%	0%	18.8%	0%	0%	0%	7.7%	-	0%	1.4%	0%	8.7%	0%	0%	3.1%	-	0%	0%	1.7%	0%	6.2%	0%	1.8%	-	1.8%
Pedestrians	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Niagara Falls Blvd/Walmore Rd/Niagara Rd - TMC

Tue Nov 23, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

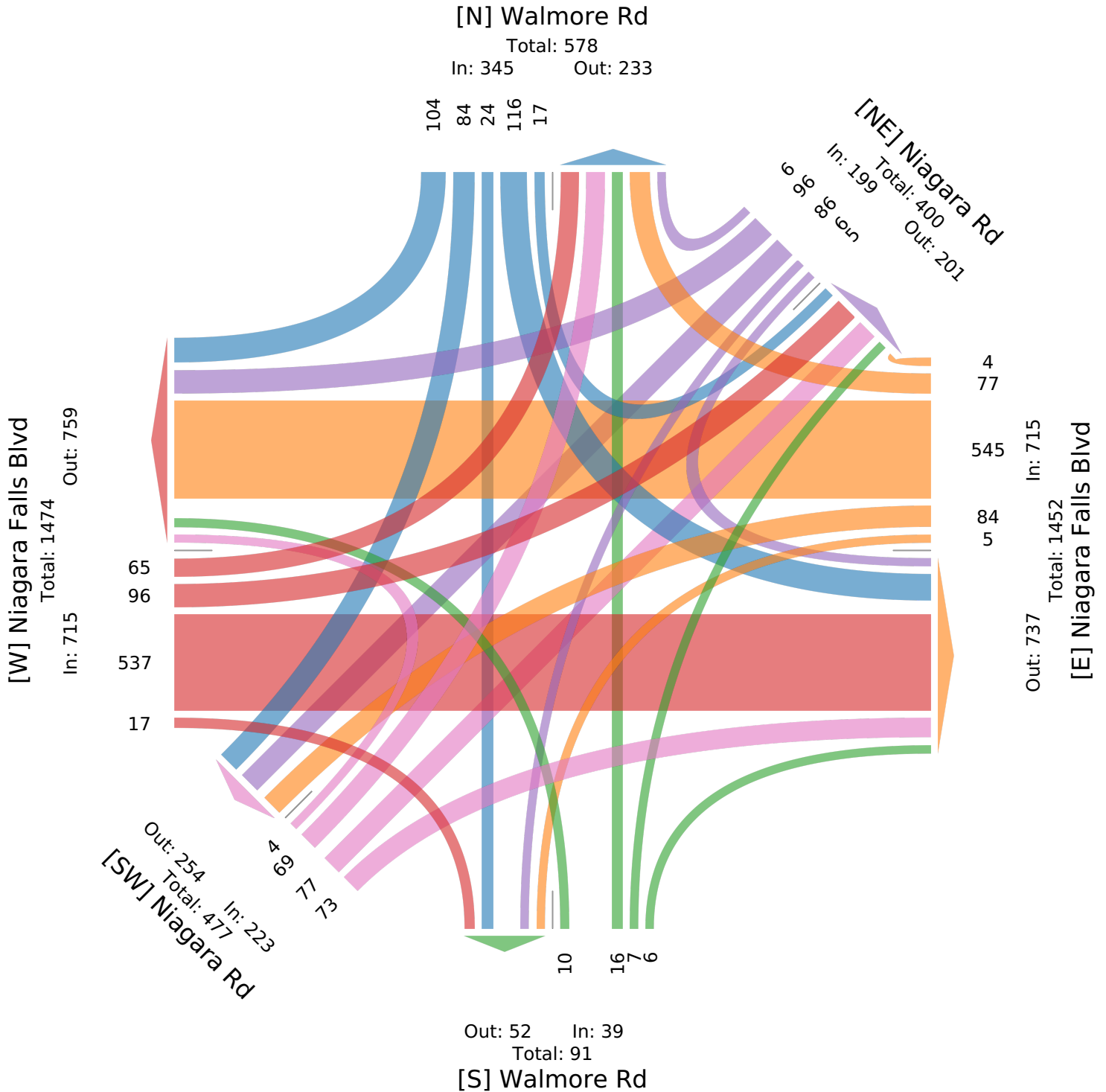
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904855, Location: 43.099149, -78.927205



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Niagara Falls Blvd/Walmore Rd/Niagara Rd - TMC

Tue Nov 23, 2021

Forced Peak (5:30 PM - 6:30 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904855, Location: 43.099149, -78.927205



Provided by: Tri-State Traffic Data: New York Division

1016 Hoosick Rd, Troy, NY, 12180, US

Leg	Walmore Rd							Niagara Rd							Niagara Falls Blvd										
Direction	Southbound							Southwestbound							Westbound										
Time	R	BR	T	L	HL	U	App Ped*	HR	BR	T	BL	HL	U	App Ped*	HR	R	T	BL	L	U	App Ped*				
2021-11-23 5:30PM	19	11	4	19	3	0	56	0	0	15	9	1	3	0	28	0	1	13	129	22	2	0	167	0	
5:45PM	13	11	10	11	3	0	48	0	4	30	18	5	0	0	57	0	3	11	120	15	3	0	152	0	
6:00PM	17	8	3	20	4	0	52	0	2	16	11	0	0	0	29	0	0	13	108	10	1	0	132	0	
6:15PM	15	8	1	10	2	0	36	0	2	16	6	2	1	0	27	0	0	6	108	13	2	0	129	0	
Total	64	38	18	60	12	0	192	0	8	77	44	8	4	0	141	0	4	43	465	60	8	0	580	0	
% Approach	33.3%	19.8%	9.4%	31.3%	6.3%	0%	-	-	5.7%	54.6%	31.2%	5.7%	2.8%	0%	-	-	0.7%	7.4%	80.2%	10.3%	1.4%	0%	-	-	
% Total	3.7%	2.2%	1.0%	3.5%	0.7%	0%	11.1%	-	0.5%	4.5%	2.5%	0.5%	0.2%	0%	8.2%	-	0.2%	2.5%	26.9%	3.5%	0.5%	0%	33.6%	-	
PHF	0.842	0.864	0.450	0.750	0.750	-	0.857	-	0.500	0.642	0.611	0.400	0.333	-	0.618	-	0.333	0.827	0.901	0.682	0.667	-	0.868	-	
Motorcycles	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	0	-
% Motorcycles	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	-
Lights	63	38	18	60	12	0	191	-	8	77	44	8	4	0	141	-	4	43	465	59	8	0	579	-	
% Lights	98.4%	100%	100%	100%	100%	0%	99.5%	-	100%	100%	100%	100%	100%	0%	100%	-	100%	100%	100%	98.3%	100%	0%	99.8%	-	
Heavy	1	0	0	0	0	0	1	-	0	0	0	0	0	0	0	-	0	0	0	1	0	0	1	-	
% Heavy	1.6%	0%	0%	0%	0%	0%	0.5%	-	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	1.7%	0%	0%	0.2%	-	
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Niagara Falls Blvd/Walmore Rd/Niagara Rd - TMC

Tue Nov 23, 2021

Forced Peak (5:30 PM - 6:30 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904855, Location: 43.099149, -78.927205



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Walmore Rd Northbound								Niagara Rd Northeastbound								Niagara Falls Blvd Eastbound								
Time	R	BR	T	L	HL	U	App	Ped*	HR	BR	T	BL	HL	U	App	Ped*	HR	R	T	BL	L	U	App	Ped*	Int
2021-11-23 5:30PM	0	2	3	3	0	0	8	0	1	21	18	10	1	0	51	0	0	1	116	23	23	0	163	0	473
5:45PM	1	2	3	2	0	0	8	0	0	22	16	7	1	0	46	0	1	4	129	23	17	0	174	0	485
6:00PM	2	2	2	1	0	0	7	0	0	18	13	8	0	0	39	0	1	4	86	35	13	0	139	0	398
6:15PM	1	0	4	4	0	0	9	0	0	22	8	12	2	0	44	0	0	5	97	14	11	0	127	0	372
Total	4	6	12	10	0	0	32	0	1	83	55	37	4	0	180	0	2	14	428	95	64	0	603	0	1728
% Approach	12.5%	18.8%	37.5%	31.3%	0%	0%	-	-	0.6%	46.1%	30.6%	20.6%	2.2%	0%	-	-	0.3%	2.3%	71.0%	15.8%	10.6%	0%	-	-	-
% Total	0.2%	0.3%	0.7%	0.6%	0%	0%	1.9%	-	0.1%	4.8%	3.2%	2.1%	0.2%	0%	10.4%	-	0.1%	0.8%	24.8%	5.5%	3.7%	0%	34.9%	-	-
PHF	0.500	0.750	0.750	0.625	-	-	0.889	-	0.250	0.943	0.764	0.771	0.500	-	0.882	-	0.500	0.700	0.829	0.679	0.696	-	0.866	-	0.891
Motorcycles	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	-	0
% Motorcycles	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	-	0%
Lights	4	6	12	10	0	0	32	-	1	83	55	36	4	0	179	-	2	14	424	95	64	0	599	-	1721
% Lights	100%	100%	100%	100%	0%	0%	100%	-	100%	100%	100%	97.3%	100%	0%	99.4%	-	100%	100%	99.1%	100%	100%	0%	99.3%	-	99.6%
Heavy	0	0	0	0	0	0	0	-	0	0	0	1	0	0	1	-	0	0	4	0	0	0	4	-	7
% Heavy	0%	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	2.7%	0%	0%	0.6%	-	0%	0%	0.9%	0%	0%	0%	0.7%	-	0.4%
Pedestrians	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Niagara Falls Blvd/Walmore Rd/Niagara Rd - TMC

Tue Nov 23, 2021

Forced Peak (5:30 PM - 6:30 PM)

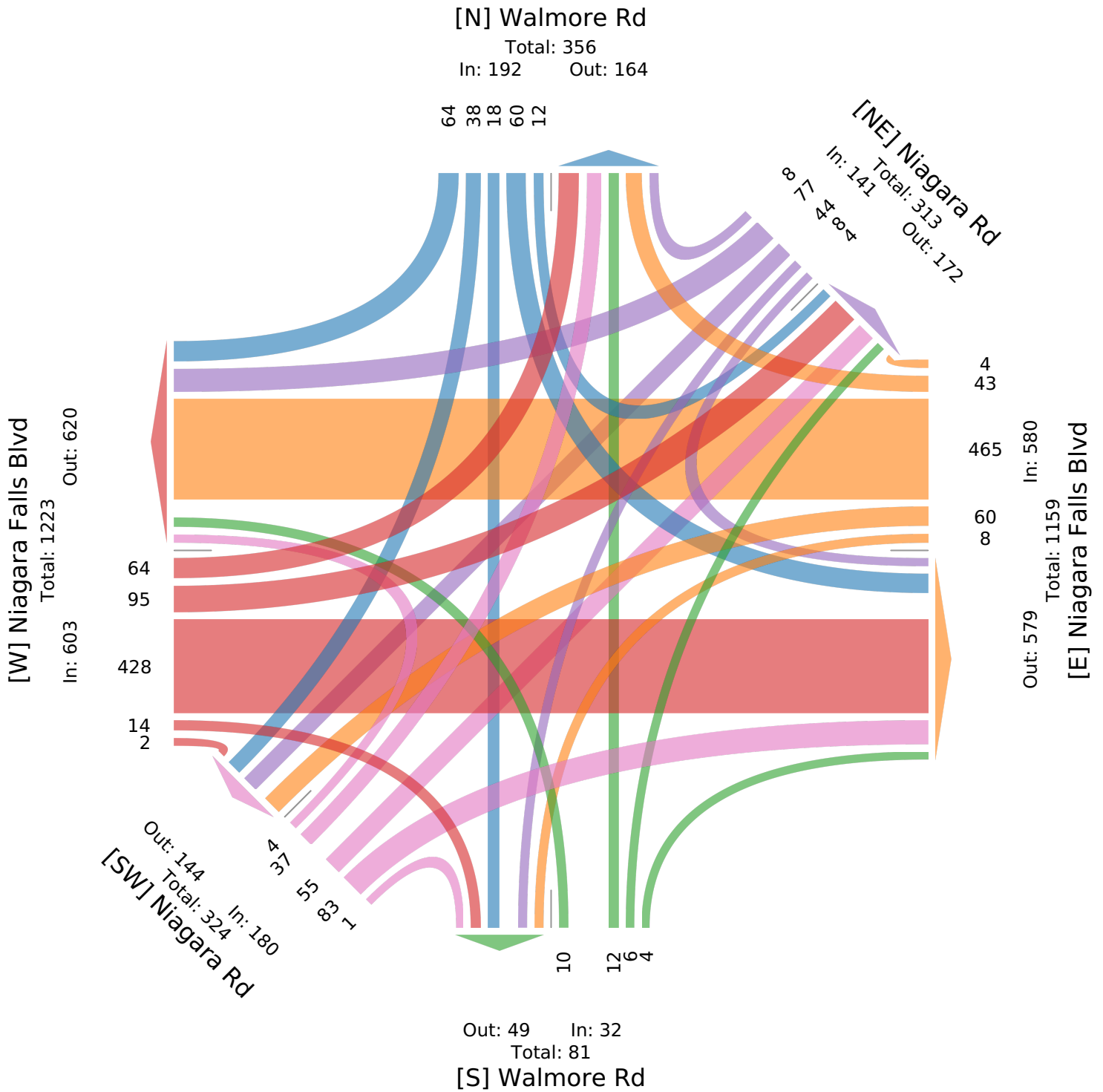
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 904855, Location: 43.099149, -78.927205



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Leg	I-190 NB On Ramp-Porter Rd	Packard Rd	I-190 NB Off Ramp					Packard Rd												
Direction	Southbound	Westbound	Northbound					Eastbound												
Time	App	Ped*	R	T	U	RR	App	Ped*	R	T	L	RR	App	Ped*	T	L	U	App	Ped*	Int
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	0	-	-	-	-	-	0	-	-	-	-	-	4	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-

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

Packard Rd/I-190 NB Off Ramp - TMC

Thu Oct 14, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

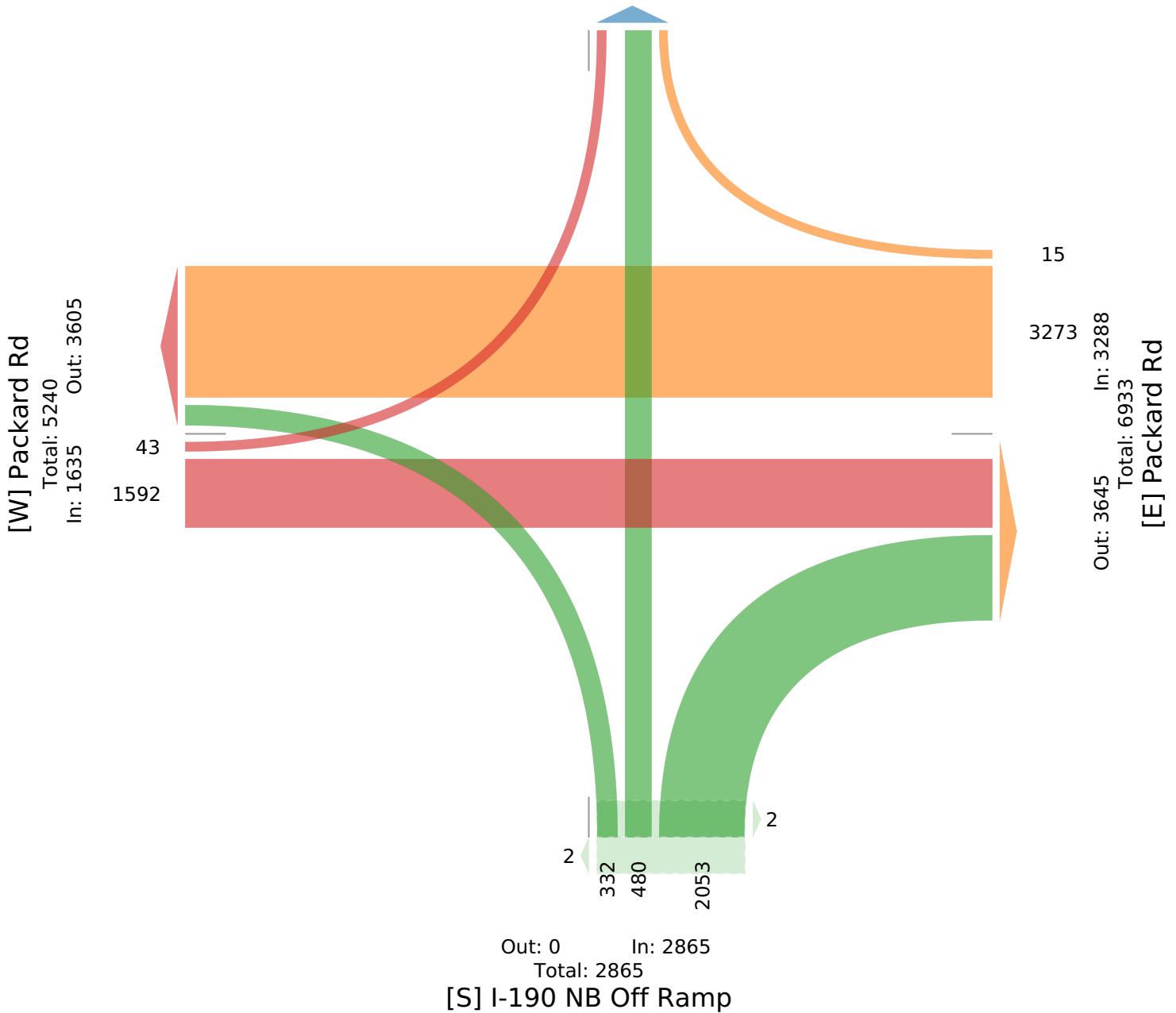
ID: 887500, Location: 43.10731, -78.988532



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

[N] I-190 NB On Ramp-Porter Rd

Total: 538
In: 0 Out: 538



Packard Rd/I-190 NB Off Ramp - TMC

Thu Oct 14, 2021

AM Peak (7:30 AM - 8:30 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887500, Location: 43.10731, -78.988532



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	I-190 NB On Ramp-Porter Rd Southbound		Packard Rd Westbound						I-190 NB Off Ramp Northbound						Packard Rd Eastbound						
Time	App	Ped*	R	T	U	RR	App	Ped*	R	T	L	RR	App	Ped*	T	L	U	App	Ped*	Int	
2021-10-14 7:30AM	0	0	0	102	0	0	102	0	24	9	24	57	114	0	38	1	0	39	0	255	
7:45AM	0	0	0	145	0	0	145	0	21	13	23	37	94	0	27	2	0	29	0	268	
8:00AM	0	0	0	113	0	1	114	0	34	28	23	53	138	0	47	1	0	48	0	300	
8:15AM	0	0	0	96	0	0	96	0	37	18	21	74	150	0	29	2	0	31	0	277	
Total	0	0	0	456	0	1	457	0	116	68	91	221	496	0	141	6	0	147	0	1100	
% Approach	-	-	0%	99.8%	0%	0.2%	-	-	23.4%	13.7%	18.3%	44.6%	-	-	95.9%	4.1%	0%	-	-	-	
% Total	0%	-	0%	41.5%	0%	0.1%	41.5%	-	10.5%	6.2%	8.3%	20.1%	45.1%	-	12.8%	0.5%	0%	13.4%	-	-	
PHF	-	-	-	0.786	-	0.250	0.788	-	0.784	0.607	0.948	0.747	0.827	-	0.750	0.750	-	0.766	-	0.917	
Motorcycles	0	-	0	1	0	0	1	-	0	0	0	1	1	-	0	0	0	0	-	2	
% Motorcycles	-	-	0%	0.2%	0%	0%	0.2%	-	0%	0%	0%	0.5%	0.2%	-	0%	0%	0%	0%	-	0.2%	
Lights	0	-	0	415	0	1	416	-	103	65	89	197	454	-	127	2	0	129	-	999	
% Lights	-	-	0%	91.0%	0%	100%	91.0%	-	88.8%	95.6%	97.8%	89.1%	91.5%	-	90.1%	33.3%	0%	87.8%	-	90.8%	
Heavy	0	-	0	40	0	0	40	-	13	3	2	23	41	-	14	4	0	18	-	99	
% Heavy	-	-	0%	8.8%	0%	0%	8.8%	-	11.2%	4.4%	2.2%	10.4%	8.3%	-	9.9%	66.7%	0%	12.2%	-	9.0%	
Pedestrians	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Bicycles on Crosswalk	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

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

Packard Rd/I-190 NB Off Ramp - TMC

Thu Oct 14, 2021

AM Peak (7:30 AM - 8:30 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

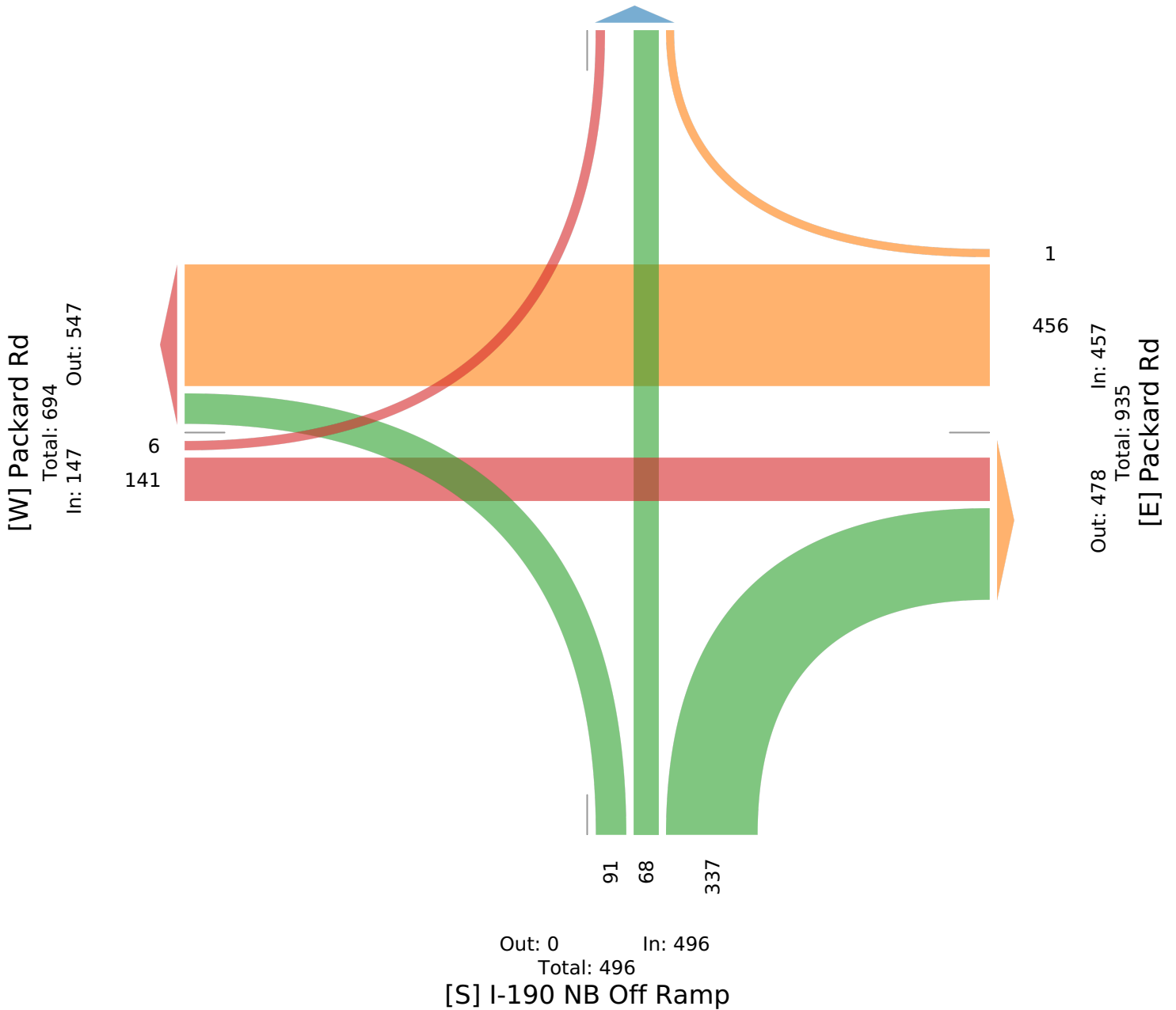
ID: 887500, Location: 43.10731, -78.988532



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

[N] I-190 NB On Ramp-Porter Rd

Total: 75
In: 0 Out: 75



Packard Rd/I-190 NB Off Ramp - TMC

Thu Oct 14, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887500, Location: 43.10731, -78.988532



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	I-190 NB On Ramp-Porter Rd Southbound		Packard Rd Westbound						I-190 NB Off Ramp Northbound						Packard Rd Eastbound						
Time	App	Ped*	R	T	U	RR	App	Ped*	R	T	L	RR	App	Ped*	T	L	U	App	Ped*	Int	
2021-10-14 4:00PM	0	0	2	161	0	0	163	0	33	19	14	53	119	0	110	2	0	112	0	394	
4:15PM	0	0	1	150	0	0	151	0	29	34	6	66	135	2	97	1	0	98	0	384	
4:30PM	0	0	1	133	0	0	134	0	23	18	10	46	97	0	77	2	0	79	0	310	
4:45PM	0	0	0	122	0	0	122	0	32	28	10	49	119	0	75	0	0	75	0	316	
Total	0	0	4	566	0	0	570	0	117	99	40	214	470	2	359	5	0	364	0	1404	
% Approach	-	-	0.7%	99.3%	0%	0%	-	-	24.9%	21.1%	8.5%	45.5%	-	-	98.6%	1.4%	0%	-	-	-	
% Total	0%	-	0.3%	40.3%	0%	0%	40.6%	-	8.3%	7.1%	2.8%	15.2%	33.5%	-	25.6%	0.4%	0%	25.9%	-	-	
PHF	-	-	0.500	0.879	-	-	0.874	-	0.886	0.728	0.714	0.811	0.870	-	0.816	0.625	-	0.813	-	0.891	
Motorcycles	0	-	0	3	0	0	3	-	1	0	0	2	3	-	1	0	0	1	-	7	
% Motorcycles	-	-	0%	0.5%	0%	0%	0.5%	-	0.9%	0%	0%	0.9%	0.6%	-	0.3%	0%	0%	0.3%	-	0.5%	
Lights	0	-	4	526	0	0	530	-	109	96	37	197	439	-	352	5	0	357	-	1326	
% Lights	-	-	100%	92.9%	0%	0%	93.0%	-	93.2%	97.0%	92.5%	92.1%	93.4%	-	98.1%	100%	0%	98.1%	-	94.4%	
Heavy	0	-	0	37	0	0	37	-	7	3	3	15	28	-	6	0	0	6	-	71	
% Heavy	-	-	0%	6.5%	0%	0%	6.5%	-	6.0%	3.0%	7.5%	7.0%	6.0%	-	1.7%	0%	0%	1.6%	-	5.1%	
Pedestrians	-	0	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-	-	
Bicycles on Crosswalk	-	0	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-	

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

Packard Rd/I-190 NB Off Ramp - TMC

Thu Oct 14, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

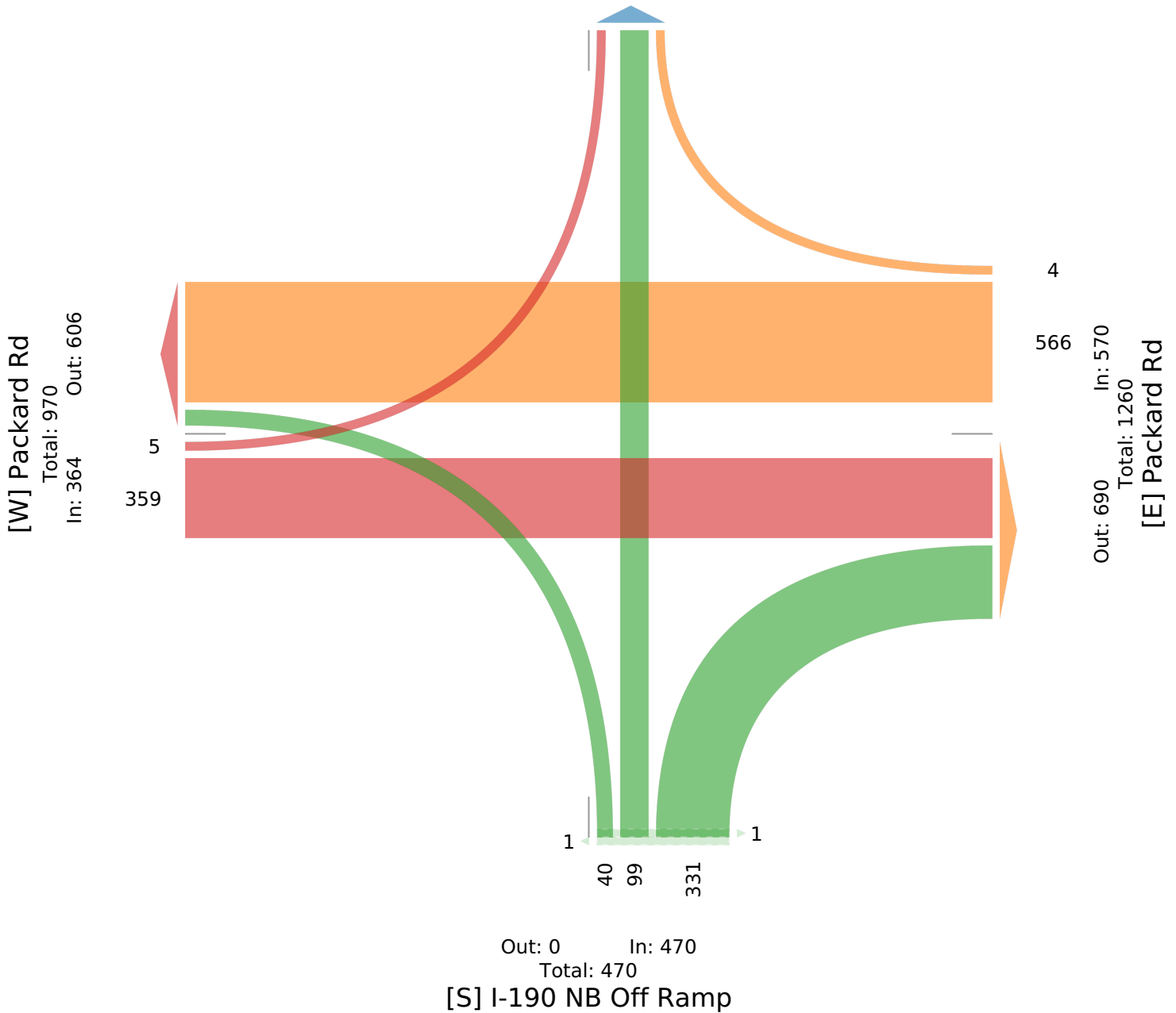
ID: 887500, Location: 43.10731, -78.988532



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

[N] I-190 NB On Ramp-Porter Rd

Total: 108
In: 0 Out: 108



Packard Rd/I-190 NB Off Ramp - TMC

Thu Oct 14, 2021

Forced Peak (5:30 PM - 6:30 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887500, Location: 43.10731, -78.988532



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	I-190 NB On Ramp-Porter Rd Southbound		Packard Rd Westbound						I-190 NB Off Ramp Northbound						Packard Rd Eastbound					
Time	App	Ped*	R	T	U	RR	App	Ped*	R	T	L	RR	App	Ped*	T	L	U	App	Ped*	Int
2021-10-14 5:30PM	0	0	2	132	0	0	134	0	26	30	12	34	102	0	68	0	0	68	0	304
5:45PM	0	0	2	111	0	0	113	0	12	27	8	54	101	0	70	1	0	71	0	285
6:00PM	0	0	1	121	0	0	122	0	34	15	6	31	86	0	61	5	0	66	0	274
6:15PM	0	0	1	82	0	0	83	0	36	19	5	43	103	1	40	1	0	41	0	227
Total	0	0	6	446	0	0	452	0	108	91	31	162	392	1	239	7	0	246	0	1090
% Approach	-	-	1.3%	98.7%	0%	0%	-	-	27.6%	23.2%	7.9%	41.3%	-	-	97.2%	2.8%	0%	-	-	-
% Total	0%	-	0.6%	40.9%	0%	0%	41.5%	-	9.9%	8.3%	2.8%	14.9%	36.0%	-	21.9%	0.6%	0%	22.6%	-	-
PHF	-	-	0.750	0.845	-	-	0.843	-	0.750	0.758	0.646	0.750	0.951	-	0.854	0.350	-	0.866	-	0.896
Motorcycles	0	-	0	2	0	0	2	-	0	0	1	2	3	-	0	0	0	0	0	5
% Motorcycles	-	-	0%	0.4%	0%	0%	0.4%	-	0%	0%	3.2%	1.2%	0.8%	-	0%	0%	0%	0%	-	0.5%
Lights	0	-	6	431	0	0	437	-	103	90	27	157	377	-	236	3	0	239	-	1053
% Lights	-	-	100%	96.6%	0%	0%	96.7%	-	95.4%	98.9%	87.1%	96.9%	96.2%	-	98.7%	42.9%	0%	97.2%	-	96.6%
Heavy	0	-	0	13	0	0	13	-	5	1	3	3	12	-	3	4	0	7	-	32
% Heavy	-	-	0%	2.9%	0%	0%	2.9%	-	4.6%	1.1%	9.7%	1.9%	3.1%	-	1.3%	57.1%	0%	2.8%	-	2.9%
Pedestrians	-	0	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	0	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-

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

Packard Rd/I-190 NB Off Ramp - TMC

Thu Oct 14, 2021

Forced Peak (5:30 PM - 6:30 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

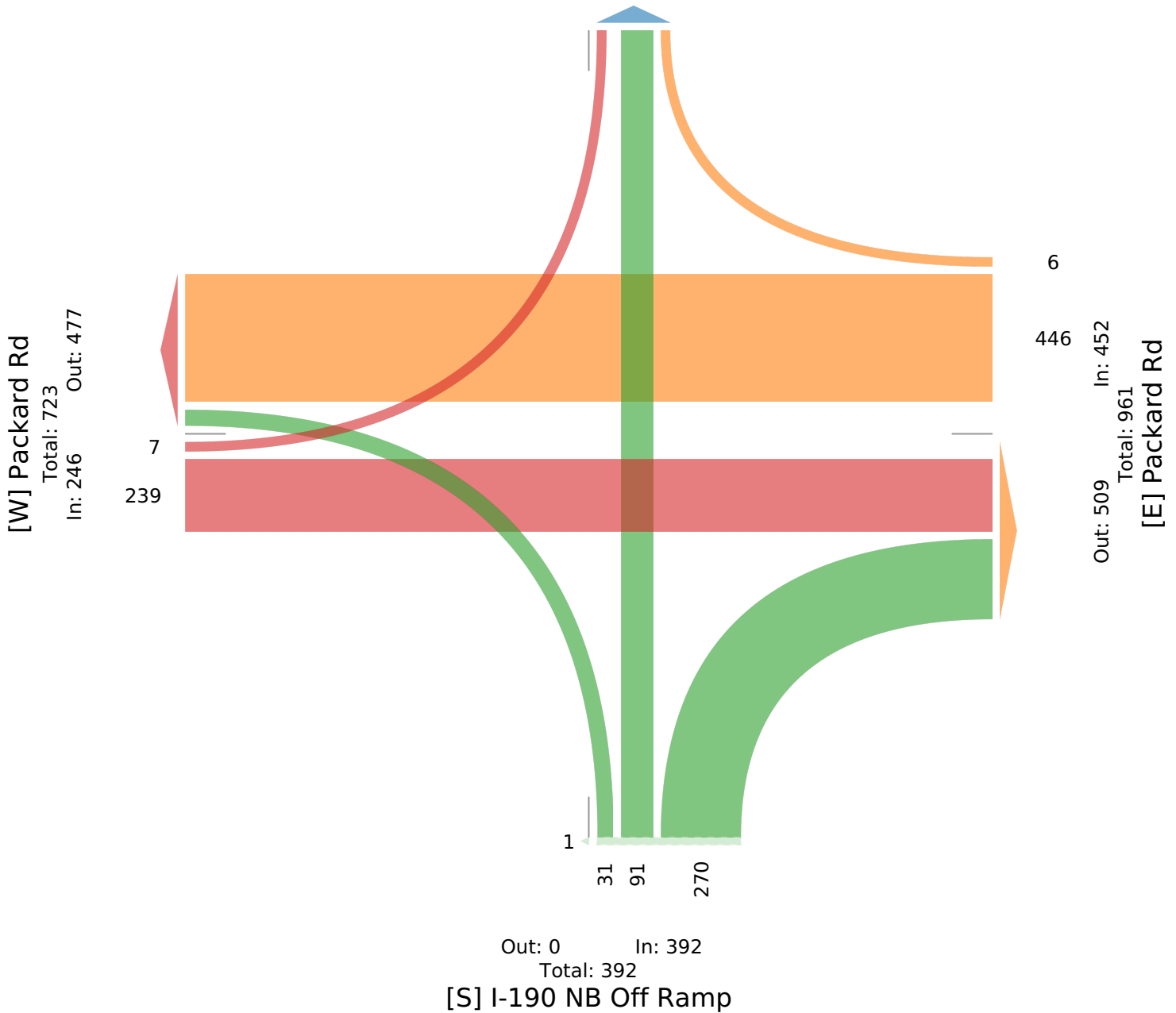
ID: 887500, Location: 43.10731, -78.988532



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

[N] I-190 NB On Ramp-Porter Rd

Total: 104
In: 0 Out: 104



Leg Direction	Porter Rd Access Rd SB I-190 Southbound	Packard Rd Westbound	I-190 SB On Ramp Northbound	Packard Rd Eastbound	
Time	R T L RR App Ped*	T L U App Ped*	App Ped*	R T U RR App Ped*	Int

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

Packard Rd/I-190 SB On Ramp - TMC

Thu Oct 14, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887506, Location: 43.106534, -78.990046



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

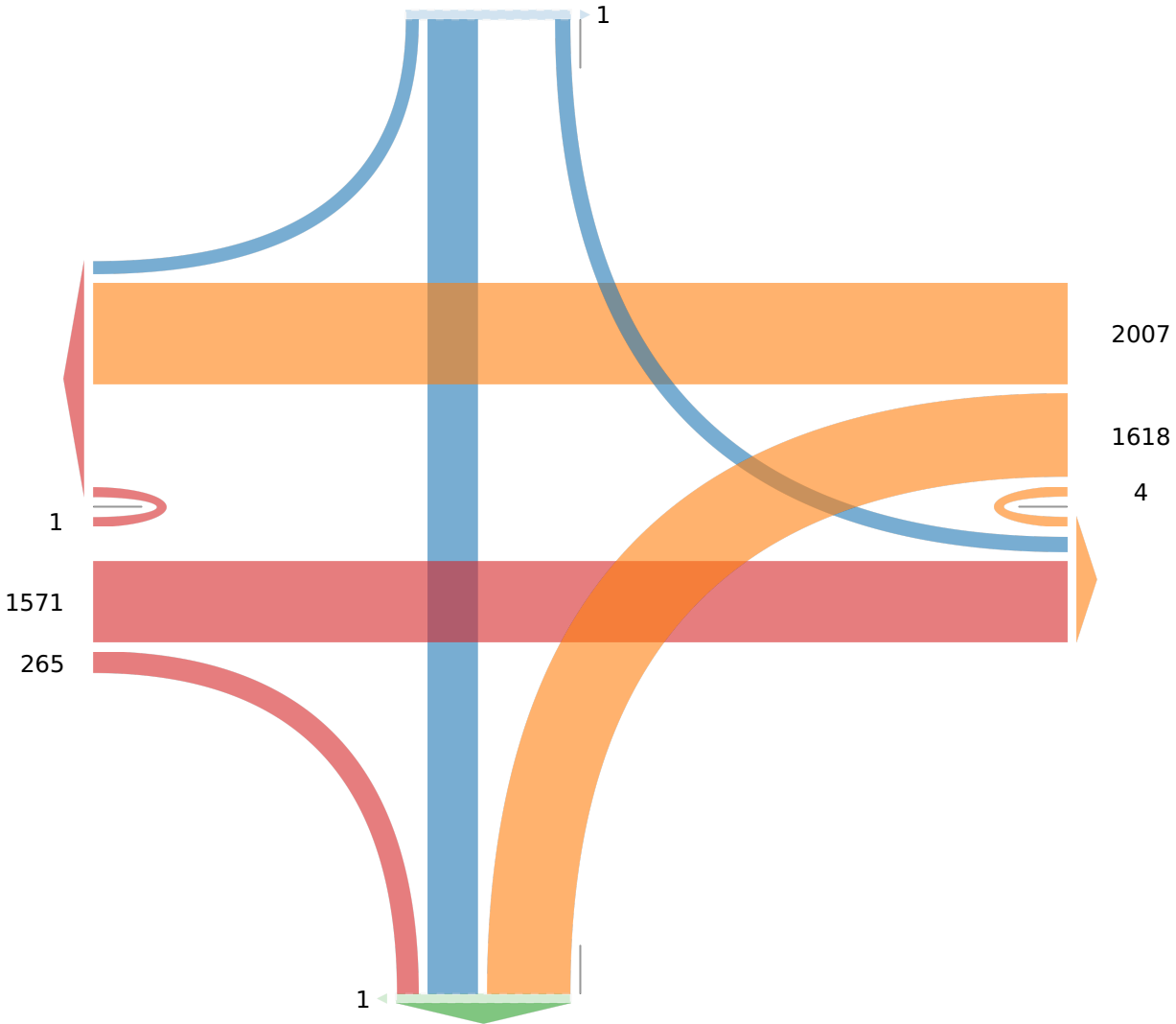
[N] Porter Rd Access Rd SB I-190

Total: 1065

In: 1065 Out: 0

71 872 122

[W] Packard Rd
Total: 3916
In: 1837 Out: 2079



Out: 1697 In: 3629
Total: 5326
[E] Packard Rd

Out: 2755 In: 0
Total: 2755
[S] I-190 SB On Ramp

Packard Rd/I-190 SB On Ramp - TMC

Thu Oct 14, 2021

AM Peak (7:30 AM - 8:30 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887506, Location: 43.106534, -78.990046



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Porter Rd Access Rd SB I-190 Southbound						Packard Rd Westbound					I-190 SB On Ramp Northbound		Packard Rd Eastbound						Int
	R	T	L	RR	App	Ped*	T	L	U	App	Ped*	App	Ped*	R	T	U	RR	App	Ped*	
2021-10-14 7:30AM	0	35	7	1	43	0	92	40	1	133	0	0	0	3	37	0	0	40	0	216
7:45AM	0	26	2	2	30	0	111	58	0	169	0	0	0	6	32	0	0	38	0	237
8:00AM	0	33	2	3	38	0	74	48	0	122	0	0	0	9	42	0	0	51	0	211
8:15AM	0	37	3	3	43	0	57	59	0	116	0	0	0	8	38	0	2	48	0	207
Total	0	131	14	9	154	0	334	205	1	540	0	0	0	26	149	0	2	177	0	871
% Approach	0%	85.1%	9.1%	5.8%	-	-	61.9%	38.0%	0.2%	-	-	-	-	14.7%	84.2%	0%	1.1%	-	-	-
% Total	0%	15.0%	1.6%	1.0%	17.7%	-	38.3%	23.5%	0.1%	62.0%	-	0%	-	3.0%	17.1%	0%	0.2%	20.3%	-	-
PHF	-	0.885	0.500	0.750	0.895	-	0.752	0.869	0.250	0.799	-	-	-	0.722	0.887	-	0.250	0.868	-	0.919
Motorcycles	0	0	0	0	0	-	0	0	0	0	-	0	-	0	0	0	0	0	0	0
% Motorcycles	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	-	-	-	0%	0%	0%	0%	0%	0%	0%
Lights	0	125	12	8	145	-	322	183	1	506	-	0	-	21	135	0	1	157	-	808
% Lights	0%	95.4%	85.7%	88.9%	94.2%	-	96.4%	89.3%	100%	93.7%	-	-	-	80.8%	90.6%	0%	50.0%	88.7%	-	92.8%
Heavy	0	6	2	1	9	-	12	22	0	34	-	0	-	5	14	0	1	20	-	63
% Heavy	0%	4.6%	14.3%	11.1%	5.8%	-	3.6%	10.7%	0%	6.3%	-	-	-	19.2%	9.4%	0%	50.0%	11.3%	-	7.2%
Pedestrians	-	-	-	-	-	0	-	-	-	-	0	-	0	-	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	0	-	0	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Packard Rd/I-190 SB On Ramp - TMC

Thu Oct 14, 2021

AM Peak (7:30 AM - 8:30 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887506, Location: 43.106534, -78.990046



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

[N] Porter Rd Access Rd SB I-190

Total: 154
In: 154 Out: 0

9 131 14

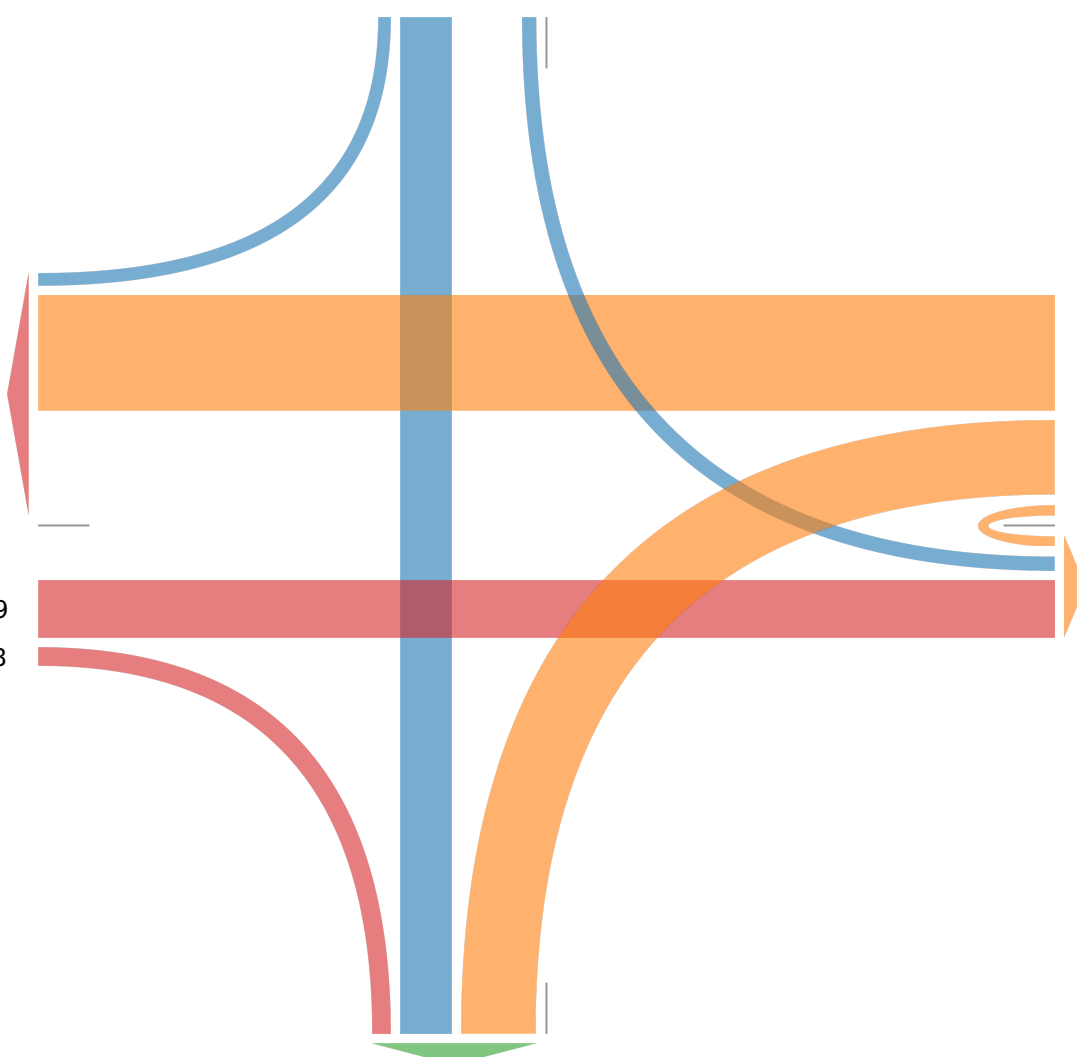
[W] Packard Rd
Total: 520
In: 177 Out: 343

149
28

334
205
1
Out: 164 In: 540
Total: 704

[E] Packard Rd

Out: 364 In: 0
Total: 364
[S] I-190 SB On Ramp



Packard Rd/I-190 SB On Ramp - TMC

Thu Oct 14, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887506, Location: 43.106534, -78.990046



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Porter Rd Access Rd SB I-190 Southbound						Packard Rd Westbound					I-190 SB On Ramp Northbound		Packard Rd Eastbound						Int
	R	T	L	RR	App	Ped*	T	L	U	App	Ped*	App	Ped*	R	T	U	RR	App	Ped*	
2021-10-14 4:00PM	2	32	6	4	44	0	89	92	0	181	0	0	0	24	106	0	1	131	0	356
4:15PM	0	29	10	2	41	0	80	82	0	162	0	0	1	14	81	0	1	96	0	299
4:30PM	0	42	3	2	47	0	85	65	1	151	0	0	0	12	77	0	0	89	0	287
4:45PM	0	37	7	3	47	0	86	56	0	142	0	0	0	12	66	1	1	80	0	269
Total	2	140	26	11	179	0	340	295	1	636	0	0	1	62	330	1	3	396	0	1211
% Approach	1.1%	78.2%	14.5%	6.1%	-	-	53.5%	46.4%	0.2%	-	-	-	-	15.7%	83.3%	0.3%	0.8%	-	-	-
% Total	0.2%	11.6%	2.1%	0.9%	14.8%	-	28.1%	24.4%	0.1%	52.5%	-	0%	-	5.1%	27.3%	0.1%	0.2%	32.7%	-	-
PHF	0.250	0.833	0.650	0.688	0.952	-	0.955	0.802	0.250	0.878	-	-	-	0.646	0.778	0.250	0.750	0.756	-	0.850
Motorcycles	0	0	0	0	0	-	0	3	0	3	-	0	-	1	1	0	0	2	-	5
% Motorcycles	0%	0%	0%	0%	0%	-	0%	1.0%	0%	0.5%	-	-	-	1.6%	0.3%	0%	0%	0.5%	-	0.4%
Lights	2	136	24	6	168	-	325	270	1	596	-	0	-	58	324	1	3	386	-	1150
% Lights	100%	97.1%	92.3%	54.5%	93.9%	-	95.6%	91.5%	100%	93.7%	-	-	-	93.5%	98.2%	100%	100%	97.5%	-	95.0%
Heavy	0	4	2	5	11	-	15	22	0	37	-	0	-	3	5	0	0	8	-	56
% Heavy	0%	2.9%	7.7%	45.5%	6.1%	-	4.4%	7.5%	0%	5.8%	-	-	-	4.8%	1.5%	0%	0%	2.0%	-	4.6%
Pedestrians	-	-	-	-	-	0	-	-	-	-	0	-	1	-	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	0	-	0	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-	-

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

Packard Rd/I-190 SB On Ramp - TMC

Thu Oct 14, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

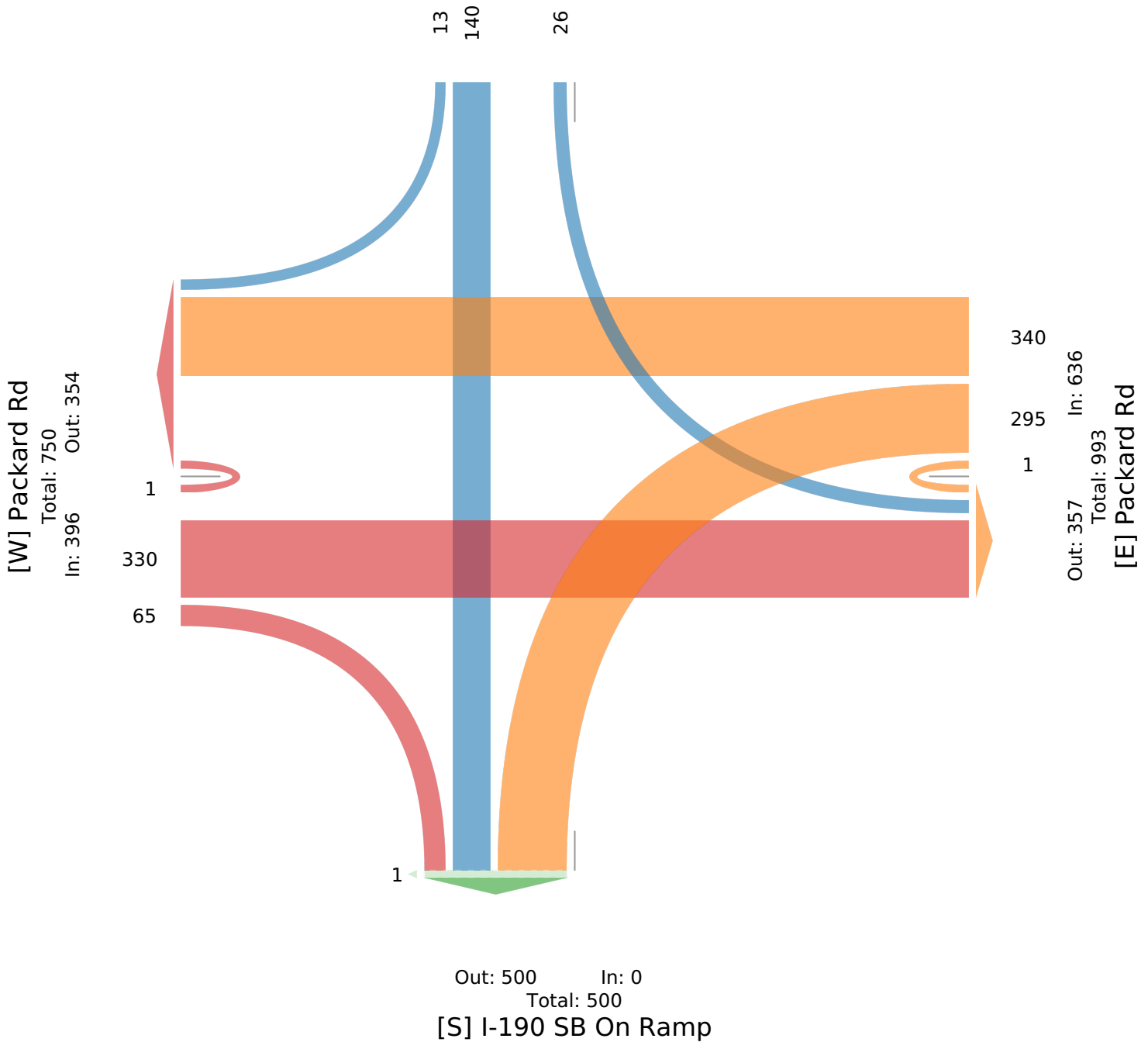
ID: 887506, Location: 43.106534, -78.990046



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

[N] Porter Rd Access Rd SB I-190

Total: 179
In: 179 Out: 0



Packard Rd/I-190 SB On Ramp - TMC

Thu Oct 14, 2021

Forced Peak (5:30 PM - 6:30 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887506, Location: 43.106534, -78.990046



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Porter Rd Access Rd SB I-190 Southbound						Packard Rd Westbound					I-190 SB On Ramp Northbound		Packard Rd Eastbound						
Time	R	T	L	RR	App	Ped*	T	L	U	App	Ped*	App	Ped*	R	T	U	RR	App	Ped*	Int
2021-10-14 5:30PM	0	36	12	2	50	0	78	63	0	141	0	0	0	6	60	0	2	68	0	259
5:45PM	0	31	7	1	39	0	66	60	0	126	0	0	0	11	80	0	0	91	0	256
6:00PM	0	25	7	0	32	0	68	54	0	122	0	0	0	6	59	0	0	65	0	219
6:15PM	0	33	3	2	38	0	55	32	0	87	0	0	0	7	39	0	0	46	0	171
Total	0	125	29	5	159	0	267	209	0	476	0	0	0	30	238	0	2	270	0	905
% Approach	0%	78.6%	18.2%	3.1%	-	-	56.1%	43.9%	0%	-	-	-	-	11.1%	88.1%	0%	0.7%	-	-	-
% Total	0%	13.8%	3.2%	0.6%	17.6%	-	29.5%	23.1%	0%	52.6%	-	0%	-	3.3%	26.3%	0%	0.2%	29.8%	-	-
PHF	-	0.868	0.604	0.625	0.795	-	0.856	0.829	-	0.844	-	-	-	0.682	0.744	-	0.250	0.742	-	0.874
Motorcycles	0	0	0	0	0	-	1	0	0	1	-	0	-	0	0	0	0	0	0	1
% Motorcycles	0%	0%	0%	0%	0%	-	0.4%	0%	0%	0.2%	-	-	-	0%	0%	0%	0%	0%	0%	0.1%
Lights	0	122	26	2	150	-	258	201	0	459	-	0	-	28	230	0	2	260	-	869
% Lights	0%	97.6%	89.7%	40.0%	94.3%	-	96.6%	96.2%	0%	96.4%	-	-	-	93.3%	96.6%	0%	100%	96.3%	-	96.0%
Heavy	0	3	3	3	9	-	8	8	0	16	-	0	-	2	8	0	0	10	-	35
% Heavy	0%	2.4%	10.3%	60.0%	5.7%	-	3.0%	3.8%	0%	3.4%	-	-	-	6.7%	3.4%	0%	0%	3.7%	-	3.9%
Pedestrians	-	-	-	-	-	0	-	-	-	-	0	-	0	-	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	0	-	0	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Packard Rd/I-190 SB On Ramp - TMC

Thu Oct 14, 2021

Forced Peak (5:30 PM - 6:30 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887506, Location: 43.106534, -78.990046



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

[N] Porter Rd Access Rd SB I-190

Total: 159
In: 159 Out: 0

5 125 29

[W] Packard Rd
Total: 542
In: 270 Out: 272

238
32

267
209
Out: 267 In: 476
Total: 743
[E] Packard Rd

Out: 366 In: 0
Total: 366
[S] I-190 SB On Ramp

Packard Rd/Military Rd - TMC

Thu Oct 14, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887333, Location: 43.108529, -78.985914



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Military Rd Southbound							Packard Rd Westbound							
	Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*
	2021-10-14 6:00AM	10	10	14	0	12	46	0	11	32	6	0	0	49	1
	6:15AM	13	16	23	0	10	62	0	19	47	8	0	3	77	0
	6:30AM	16	24	30	0	11	81	0	19	68	9	0	2	98	0
	6:45AM	19	41	25	0	16	101	0	21	95	17	0	2	135	0
	Hourly Total	58	91	92	0	49	290	0	70	242	40	0	7	359	1
	7:00AM	18	29	21	0	10	78	0	18	57	17	0	2	94	1
	7:15AM	23	42	25	0	8	98	0	14	82	18	0	0	114	0
	7:30AM	31	51	33	0	12	127	0	33	86	15	0	3	137	1
	7:45AM	31	53	45	0	14	143	0	30	142	21	0	3	196	0
	Hourly Total	103	175	124	0	44	446	0	95	367	71	0	8	541	2
	8:00AM	27	50	41	0	5	123	0	17	91	13	0	3	124	0
	8:15AM	34	58	47	0	9	148	0	34	85	28	0	2	149	0
	8:30AM	17	50	38	0	10	115	0	46	102	30	0	3	181	0
	8:45AM	22	86	40	0	12	160	0	37	97	35	0	2	171	0
	Hourly Total	100	244	166	0	36	546	0	134	375	106	0	10	625	0
	9:00AM	16	56	37	0	5	114	0	25	80	44	0	1	150	0
	9:15AM	27	76	35	0	3	141	0	25	73	42	0	5	145	0
	9:30AM	25	89	38	0	4	156	0	17	56	33	0	5	111	0
	9:45AM	30	100	37	0	12	179	0	29	69	34	0	3	135	0
	Hourly Total	98	321	147	0	24	590	0	96	278	153	0	14	541	0
	10:00AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00PM	32	103	48	0	0	183	0	40	152	51	0	5	248	0
	4:15PM	40	123	47	0	7	217	0	28	125	47	0	9	209	0
	4:30PM	30	123	34	0	1	188	0	44	123	43	0	3	213	0
	4:45PM	28	112	55	0	6	201	0	32	110	49	0	1	192	1
	Hourly Total	130	461	184	0	14	789	0	144	510	190	0	18	862	1
	5:00PM	37	129	45	0	2	213	0	42	120	49	0	3	214	0
	5:15PM	18	129	29	0	3	179	0	41	125	39	0	3	208	0
	5:30PM	32	108	36	0	11	187	0	33	89	34	0	8	164	0
	5:45PM	23	91	30	0	4	148	0	39	99	39	0	3	180	0
	Hourly Total	110	457	140	0	20	727	0	155	433	161	0	17	766	0
	6:00PM	26	116	26	0	1	169	0	27	92	43	0	2	164	0
	6:15PM	19	104	25	0	2	150	0	27	72	46	0	1	146	0
	6:30PM	19	88	24	0	4	135	0	19	70	33	0	3	125	1
	6:45PM	22	83	30	0	7	142	0	16	59	17	0	0	92	0
	Hourly Total	86	391	105	0	14	596	0	89	293	139	0	6	527	1
	7:00PM	14	89	18	0	2	123	0	22	61	24	0	4	111	0
	7:15PM	11	84	14	0	6	115	0	16	51	24	0	3	94	0
	7:30PM	6	56	15	0	9	86	0	27	55	9	0	1	92	0
	7:45PM	11	65	10	0	5	91	0	21	40	18	0	3	82	0
	Hourly Total	42	294	57	0	22	415	0	86	207	75	0	11	379	0
	8:00PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	727	2434	1015	0	223	4399	0	869	2705	935	0	91	4600	5
	% Approach	16.5%	55.3%	23.1%	0%	5.1%	-	-	18.9%	58.8%	20.3%	0%	2.0%	-	-
	% Total	3.7%	12.5%	5.2%	0%	1.1%	22.5%	-	4.5%	13.9%	4.8%	0%	0.5%	23.6%	-
	Motorcycles	1	5	4	0	0	10	-	3	5	3	0	0	11	-
	% Motorcycles	0.1%	0.2%	0.4%	0%	0%	0.2%	-	0.3%	0.2%	0.3%	0%	0%	0.2%	-
	Lights	675	2400	978	0	208	4261	-	835	2535	912	0	87	4369	-
	% Lights	92.8%	98.6%	96.4%	0%	93.3%	96.9%	-	96.1%	93.7%	97.5%	0%	95.6%	95.0%	-
	Heavy	51	29	33	0	15	128	-	31	165	20	0	4	220	-
	% Heavy	7.0%	1.2%	3.3%	0%	6.7%	2.9%	-	3.6%	6.1%	2.1%	0%	4.4%	4.8%	-

Leg Direction	Military Rd Southbound								Packard Rd Westbound							
Time	R	T	L	U	RR	App	Ped*		R	T	L	U	RR	App	Ped*	
Pedestrians	-	-	-	-	-	-	0		-	-	-	-	-	-	4	
% Pedestrians	-	-	-	-	-	-	-		-	-	-	-	-	-	80.0%	
Bicycles on Crosswalk	-	-	-	-	-	-	0		-	-	-	-	-	-	1	
% Bicycles on Crosswalk	-	-	-	-	-	-	-		-	-	-	-	-	-	20.0%	

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

Packard Rd/Military Rd - TMC

Thu Oct 14, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887333, Location: 43.108529, -78.985914



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Military Rd Northbound								Packard Rd Eastbound								
Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*	Int		
2021-10-14 6:00AM	0	9	5	0	0	14	0	5	38	9	0	3	55	0	164		
6:15AM	1	16	5	0	3	25	0	7	58	8	0	9	82	0	246		
6:30AM	3	27	11	0	2	43	0	5	44	26	0	8	83	0	305		
6:45AM	5	29	20	0	3	57	0	10	100	23	0	12	145	0	438		
Hourly Total	9	81	41	0	8	139	0	27	240	66	0	32	365	0	1153		
7:00AM	5	30	19	0	7	61	0	2	64	14	0	15	95	0	328		
7:15AM	4	39	24	0	4	71	0	4	87	15	0	12	118	0	401		
7:30AM	6	31	14	0	7	58	0	6	93	30	0	22	151	0	473		
7:45AM	6	39	46	0	6	97	0	16	75	19	0	23	133	0	569		
Hourly Total	21	139	103	0	24	287	0	28	319	78	0	72	497	0	1771		
8:00AM	11	49	27	0	5	92	0	27	96	20	0	14	157	0	496		
8:15AM	11	34	27	0	8	80	1	27	111	34	0	24	196	0	573		
8:30AM	16	46	24	0	13	99	0	30	93	15	0	17	155	0	550		
8:45AM	28	53	38	0	6	125	0	51	94	27	0	16	188	0	644		
Hourly Total	66	182	116	0	32	396	1	135	394	96	0	71	696	0	2263		
9:00AM	10	54	43	0	7	114	0	31	81	28	0	34	174	0	552		
9:15AM	18	58	41	0	5	122	0	40	72	16	0	12	140	0	548		
9:30AM	15	62	35	0	4	116	1	32	76	22	0	27	157	1	540		
9:45AM	14	71	38	0	10	133	0	43	69	20	0	26	158	0	605		
Hourly Total	57	245	157	0	26	485	1	146	298	86	0	99	629	1	2245		
10:00AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:00PM	37	102	114	0	11	264	0	75	139	39	0	39	292	0	987		
4:15PM	41	147	88	0	10	286	0	78	129	42	0	33	282	0	994		
4:30PM	38	119	108	0	11	276	0	61	110	42	0	33	246	0	923		
4:45PM	38	111	76	0	16	241	0	69	108	43	1	40	261	0	895		
Hourly Total	154	479	386	0	48	1067	0	283	486	166	1	145	1081	0	3799		
5:00PM	35	135	118	0	7	295	0	57	103	39	0	25	224	0	946		
5:15PM	44	108	91	0	12	255	0	65	126	38	0	37	266	1	908		
5:30PM	43	123	89	0	7	262	0	45	86	22	0	39	192	0	805		
5:45PM	17	97	74	0	10	198	0	38	91	34	0	30	193	1	719		
Hourly Total	139	463	372	0	36	1010	0	205	406	133	0	131	875	2	3378		
6:00PM	42	127	107	0	11	287	0	60	65	27	0	33	185	0	805		
6:15PM	42	126	82	0	6	256	0	36	87	29	0	32	184	0	736		
6:30PM	27	125	65	0	3	220	0	25	62	22	0	38	147	0	627		
6:45PM	34	115	85	0	10	244	0	27	61	25	0	28	141	0	619		
Hourly Total	145	493	339	0	30	1007	0	148	275	103	0	131	657	0	2787		
7:00PM	38	92	66	0	9	205	0	42	58	23	0	25	148	0	587		
7:15PM	37	108	71	0	12	228	0	33	60	20	0	26	139	0	576		
7:30PM	19	91	68	0	20	198	0	36	46	15	0	33	130	0	506		
7:45PM	23	89	49	0	8	169	0	22	51	15	0	28	116	1	458		
Hourly Total	117	380	254	0	49	800	0	133	215	73	0	112	533	1	2127		
8:00PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	708	2462	1768	0	253	5191	2	1105	2633	801	1	793	5333	4	19523		
% Approach	13.6%	47.4%	34.1%	0%	4.9%	-	-	20.7%	49.4%	15.0%	0%	14.9%	-	-	-		
% Total	3.6%	12.6%	9.1%	0%	1.3%	26.6%	-	5.7%	13.5%	4.1%	0%	4.1%	27.3%	-	-		
Motorcycles	1	3	7	0	0	11	-	0	8	4	0	1	13	-	45		
% Motorcycles	0.1%	0.1%	0.4%	0%	0%	0.2%	-	0%	0.3%	0.5%	0%	0.1%	0.2%	-	0.2%		
Lights	690	2432	1731	0	245	5098	-	1082	2479	751	1	789	5102	-	18830		
% Lights	97.5%	98.8%	97.9%	0%	96.8%	98.2%	-	97.9%	94.2%	93.8%	100%	99.5%	95.7%	-	96.5%		
Heavy	17	27	30	0	8	82	-	23	146	46	0	3	218	-	648		
% Heavy	2.4%	1.1%	1.7%	0%	3.2%	1.6%	-	2.1%	5.5%	5.7%	0%	0.4%	4.1%	-	3.3%		

Leg Direction	Military Rd Northbound							Packard Rd Eastbound							
Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*	Int
Pedestrians	-	-	-	-	-	-	2	-	-	-	-	-	-	3	
% Pedestrians	-	-	-	-	-	-	100%	-	-	-	-	-	-	75.0%	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	1	
% Bicycles on Crosswalk	-	-	-	-	-	-	0%	-	-	-	-	-	-	25.0%	-

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

Packard Rd/Military Rd - TMC

Thu Oct 14, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

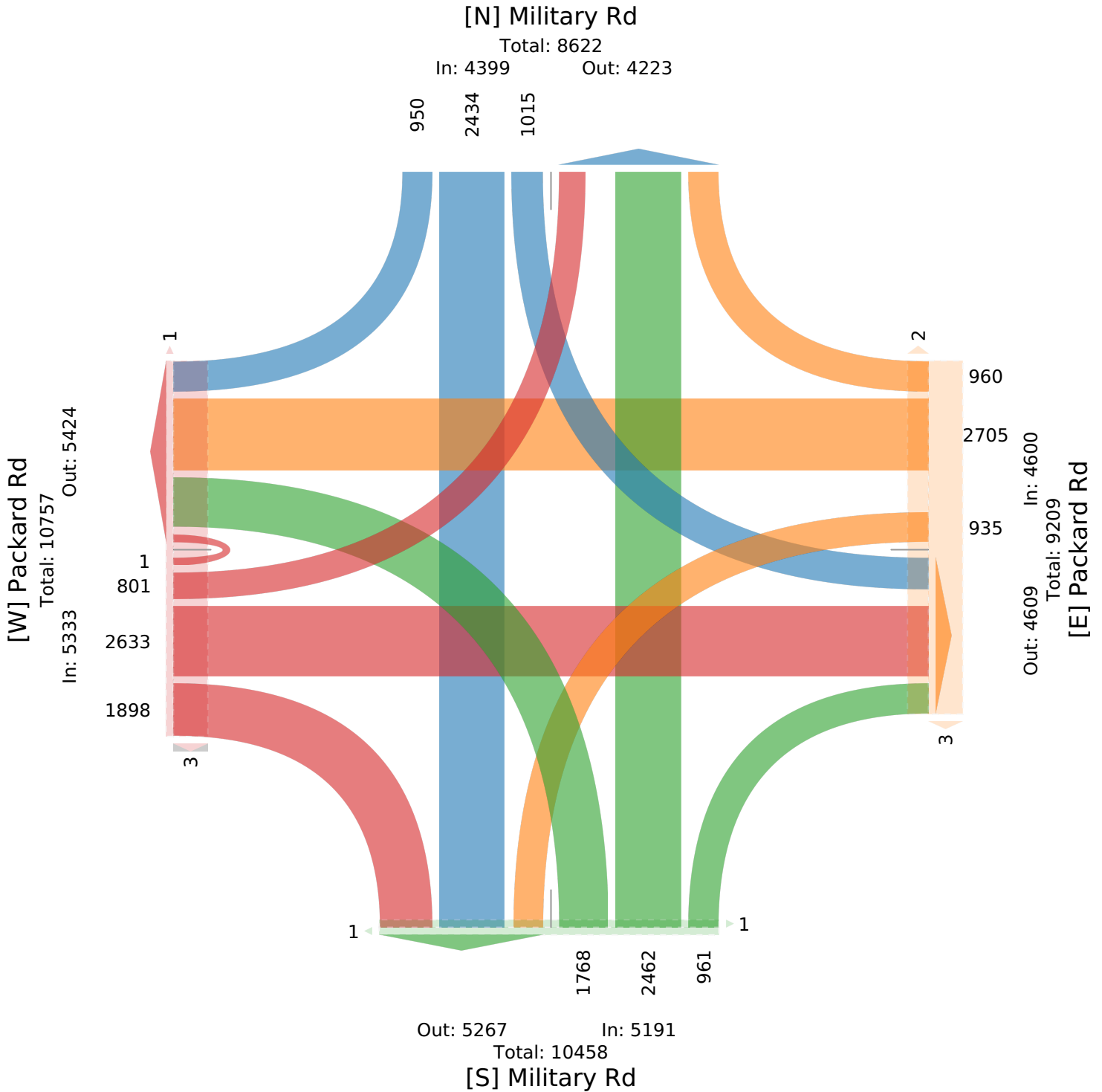
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887333, Location: 43.108529, -78.985914



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Packard Rd/Military Rd - TMC

Thu Oct 14, 2021

AM Peak (8:15 AM - 9:15 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887333, Location: 43.108529, -78.985914



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Military Rd Southbound							Packard Rd Westbound						
Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*
2021-10-14 8:15AM	34	58	47	0	9	148	0	34	85	28	0	2	149	0
8:30AM	17	50	38	0	10	115	0	46	102	30	0	3	181	0
8:45AM	22	86	40	0	12	160	0	37	97	35	0	2	171	0
9:00AM	16	56	37	0	5	114	0	25	80	44	0	1	150	0
Total	89	250	162	0	36	537	0	142	364	137	0	8	651	0
% Approach	16.6%	46.6%	30.2%	0%	6.7%	-	-	21.8%	55.9%	21.0%	0%	1.2%	-	-
% Total	3.8%	10.8%	7.0%	0%	1.6%	23.2%	-	6.1%	15.7%	5.9%	0%	0.3%	28.1%	-
PHF	0.654	0.727	0.862	-	0.750	0.839	-	0.772	0.892	0.778	-	0.667	0.899	-
Motorcycles	0	0	0	0	0	0	-	0	0	1	0	0	1	-
% Motorcycles	0%	0%	0%	0%	0%	0%	-	0%	0%	0.7%	0%	0%	0.2%	-
Lights	74	245	155	0	33	507	-	135	311	128	0	7	581	-
% Lights	83.1%	98.0%	95.7%	0%	91.7%	94.4%	-	95.1%	85.4%	93.4%	0%	87.5%	89.2%	-
Heavy	15	5	7	0	3	30	-	7	53	8	0	1	69	-
% Heavy	16.9%	2.0%	4.3%	0%	8.3%	5.6%	-	4.9%	14.6%	5.8%	0%	12.5%	10.6%	-
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Packard Rd/Military Rd - TMC

Thu Oct 14, 2021

AM Peak (8:15 AM - 9:15 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887333, Location: 43.108529, -78.985914



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Military Rd Northbound								Packard Rd Eastbound								
Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*	Int		
2021-10-14 8:15AM	11	34	27	0	8	80	1	27	111	34	0	24	196	0	573		
8:30AM	16	46	24	0	13	99	0	30	93	15	0	17	155	0	550		
8:45AM	28	53	38	0	6	125	0	51	94	27	0	16	188	0	644		
9:00AM	10	54	43	0	7	114	0	31	81	28	0	34	174	0	552		
Total	65	187	132	0	34	418	1	139	379	104	0	91	713	0	2319		
% Approach	15.6%	44.7%	31.6%	0%	8.1%	-	-	19.5%	53.2%	14.6%	0%	12.8%	-	-	-		
% Total	2.8%	8.1%	5.7%	0%	1.5%	18.0%	-	6.0%	16.3%	4.5%	0%	3.9%	30.7%	-	-		
PHF	0.580	0.866	0.767	-	0.654	0.836	-	0.681	0.854	0.765	-	0.669	0.909	-	0.900		
Motorcycles	0	0	0	0	0	0	-	0	0	0	0	0	0	-	1		
% Motorcycles	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	-	0%		
Lights	57	177	130	0	31	395	-	132	337	93	0	91	653	-	2136		
% Lights	87.7%	94.7%	98.5%	0%	91.2%	94.5%	-	95.0%	88.9%	89.4%	0%	100%	91.6%	-	92.1%		
Heavy	8	10	2	0	3	23	-	7	42	11	0	0	60	-	182		
% Heavy	12.3%	5.3%	1.5%	0%	8.8%	5.5%	-	5.0%	11.1%	10.6%	0%	0%	8.4%	-	7.8%		
Pedestrians	-	-	-	-	-	-	1	-	-	-	-	-	-	0	-		
% Pedestrians	-	-	-	-	-	-	100%	-	-	-	-	-	-	-	-		
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-		
% Bicycles on Crosswalk	-	-	-	-	-	-	0%	-	-	-	-	-	-	-	-		

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

Packard Rd/Military Rd - TMC

Thu Oct 14, 2021

AM Peak (8:15 AM - 9:15 AM)

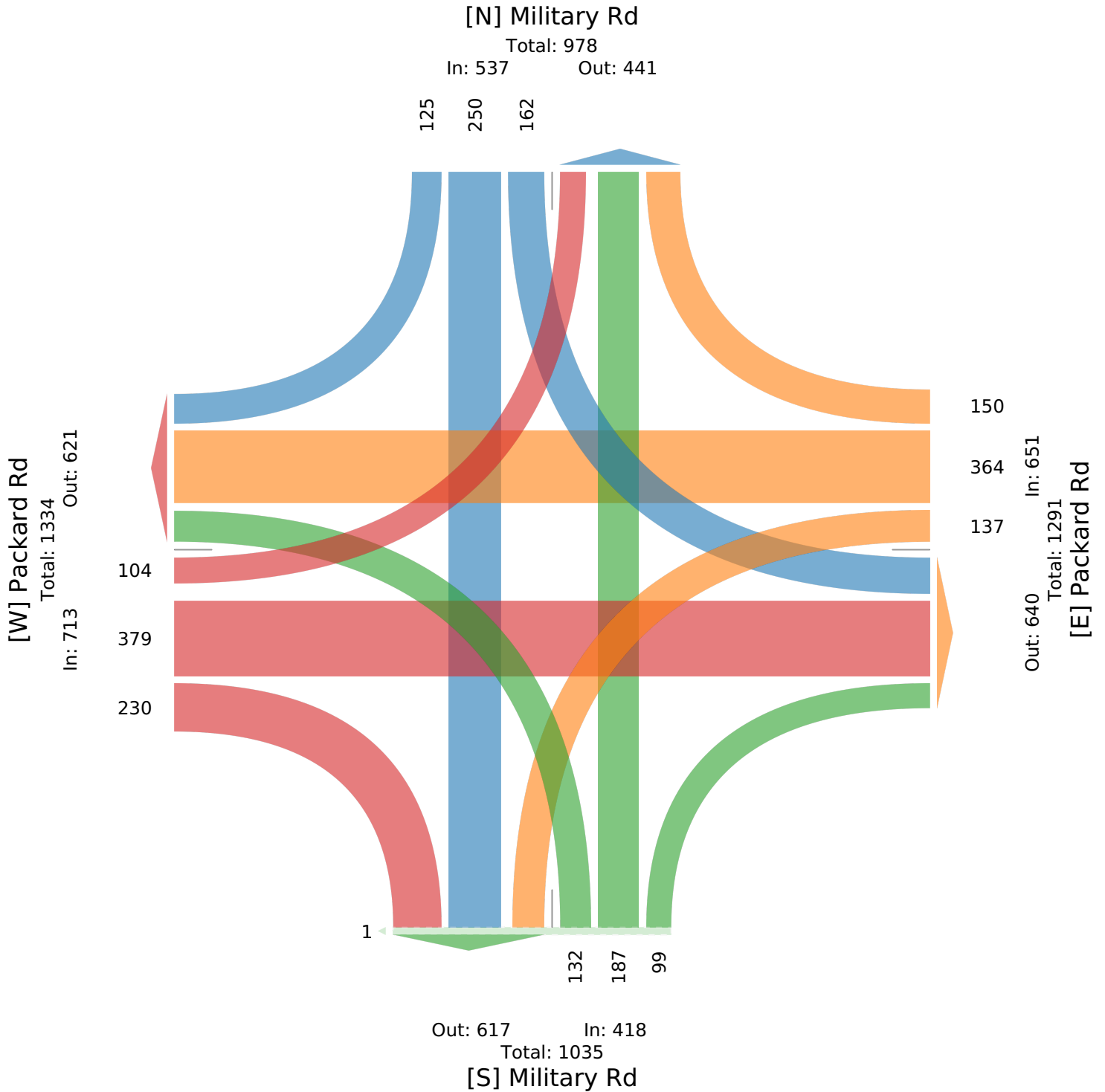
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887333, Location: 43.108529, -78.985914



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Packard Rd/Military Rd - TMC

Thu Oct 14, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887333, Location: 43.108529, -78.985914



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Military Rd Southbound							Packard Rd Westbound						
Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*
2021-10-14 4:00PM	32	103	48	0	0	183	0	40	152	51	0	5	248	0
4:15PM	40	123	47	0	7	217	0	28	125	47	0	9	209	0
4:30PM	30	123	34	0	1	188	0	44	123	43	0	3	213	0
4:45PM	28	112	55	0	6	201	0	32	110	49	0	1	192	1
Total	130	461	184	0	14	789	0	144	510	190	0	18	862	1
% Approach	16.5%	58.4%	23.3%	0%	1.8%	-	-	16.7%	59.2%	22.0%	0%	2.1%	-	-
% Total	3.4%	12.1%	4.8%	0%	0.4%	20.8%	-	3.8%	13.4%	5.0%	0%	0.5%	22.7%	-
PHF	0.813	0.937	0.836	-	0.500	0.909	-	0.818	0.839	0.931	-	0.500	0.869	-
Motorcycles	0	0	0	0	0	0	-	0	3	0	0	0	3	-
% Motorcycles	0%	0%	0%	0%	0%	0%	-	0%	0.6%	0%	0%	0%	0.3%	-
Lights	120	458	181	0	12	771	-	142	485	186	0	18	831	-
% Lights	92.3%	99.3%	98.4%	0%	85.7%	97.7%	-	98.6%	95.1%	97.9%	0%	100%	96.4%	-
Heavy	10	3	3	0	2	18	-	2	22	4	0	0	28	-
% Heavy	7.7%	0.7%	1.6%	0%	14.3%	2.3%	-	1.4%	4.3%	2.1%	0%	0%	3.2%	-
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	1
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	100%
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	0%

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

Packard Rd/Military Rd - TMC

Thu Oct 14, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887333, Location: 43.108529, -78.985914



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Military Rd Northbound								Packard Rd Eastbound								
Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*	Int		
2021-10-14 4:00PM	37	102	114	0	11	264	0	75	139	39	0	39	292	0	987		
4:15PM	41	147	88	0	10	286	0	78	129	42	0	33	282	0	994		
4:30PM	38	119	108	0	11	276	0	61	110	42	0	33	246	0	923		
4:45PM	38	111	76	0	16	241	0	69	108	43	1	40	261	0	895		
Total	154	479	386	0	48	1067	0	283	486	166	1	145	1081	0	3799		
% Approach	14.4%	44.9%	36.2%	0%	4.5%	-	-	26.2%	45.0%	15.4%	0.1%	13.4%	-	-	-		
% Total	4.1%	12.6%	10.2%	0%	1.3%	28.1%	-	7.4%	12.8%	4.4%	0%	3.8%	28.5%	-	-		
PHF	0.939	0.815	0.846	-	0.750	0.933	-	0.907	0.874	0.965	0.250	0.906	0.926	-	0.955		
Motorcycles	0	0	2	0	0	2	-	0	2	1	0	1	4	-	9		
% Motorcycles	0%	0%	0.5%	0%	0%	0.2%	-	0%	0.4%	0.6%	0%	0.7%	0.4%	-	0.2%		
Lights	151	477	380	0	47	1055	-	280	466	158	1	143	1048	-	3705		
% Lights	98.1%	99.6%	98.4%	0%	97.9%	98.9%	-	98.9%	95.9%	95.2%	100%	98.6%	96.9%	-	97.5%		
Heavy	3	2	4	0	1	10	-	3	18	7	0	1	29	-	85		
% Heavy	1.9%	0.4%	1.0%	0%	2.1%	0.9%	-	1.1%	3.7%	4.2%	0%	0.7%	2.7%	-	2.2%		
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-		
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-		
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

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

Packard Rd/Military Rd - TMC

Thu Oct 14, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

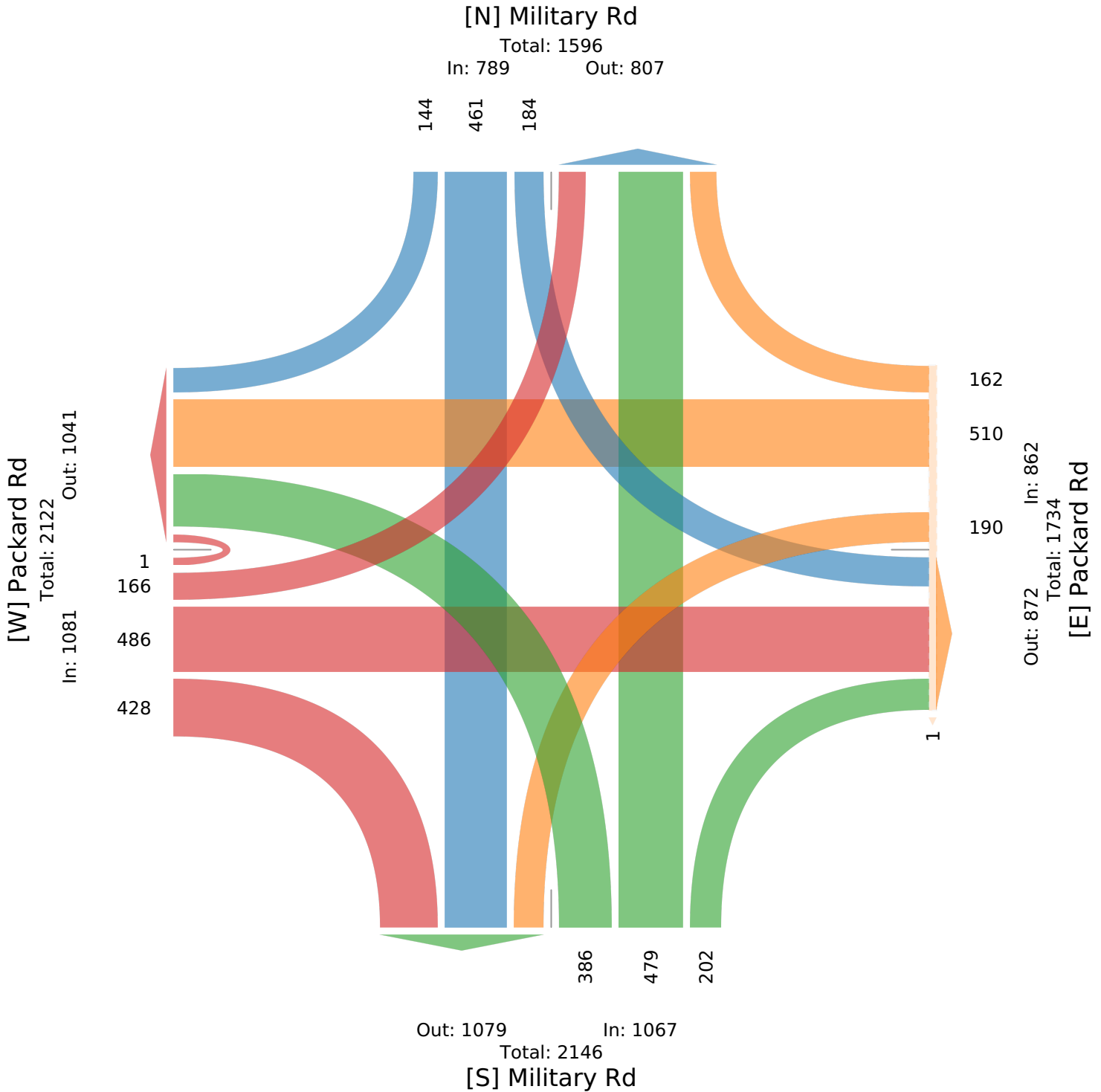
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887333, Location: 43.108529, -78.985914



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Packard Rd/Military Rd - TMC

Thu Oct 14, 2021

Forced Peak (5:30 PM - 6:30 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887333, Location: 43.108529, -78.985914



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Military Rd Southbound							Packard Rd Westbound						
Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*
2021-10-14 5:30PM	32	108	36	0	11	187	0	33	89	34	0	8	164	0
5:45PM	23	91	30	0	4	148	0	39	99	39	0	3	180	0
6:00PM	26	116	26	0	1	169	0	27	92	43	0	2	164	0
6:15PM	19	104	25	0	2	150	0	27	72	46	0	1	146	0
Total	100	419	117	0	18	654	0	126	352	162	0	14	654	0
% Approach	15.3%	64.1%	17.9%	0%	2.8%	-	-	19.3%	53.8%	24.8%	0%	2.1%	-	-
% Total	3.3%	13.7%	3.8%	0%	0.6%	21.3%	-	4.1%	11.5%	5.3%	0%	0.5%	21.3%	-
PHF	0.781	0.903	0.813	-	0.409	0.874	-	0.808	0.889	0.880	-	0.438	0.908	-
Motorcycles	0	1	1	0	0	2	-	0	1	1	0	0	2	-
% Motorcycles	0%	0.2%	0.9%	0%	0%	0.3%	-	0%	0.3%	0.6%	0%	0%	0.3%	-
Lights	99	417	114	0	18	648	-	125	340	160	0	14	639	-
% Lights	99.0%	99.5%	97.4%	0%	100%	99.1%	-	99.2%	96.6%	98.8%	0%	100%	97.7%	-
Heavy	1	1	2	0	0	4	-	1	11	1	0	0	13	-
% Heavy	1.0%	0.2%	1.7%	0%	0%	0.6%	-	0.8%	3.1%	0.6%	0%	0%	2.0%	-
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Packard Rd/Military Rd - TMC

Thu Oct 14, 2021

Forced Peak (5:30 PM - 6:30 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887333, Location: 43.108529, -78.985914



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Military Rd Northbound							Packard Rd Eastbound							
Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*	Int
2021-10-14 5:30PM	43	123	89	0	7	262	0	45	86	22	0	39	192	0	805
5:45PM	17	97	74	0	10	198	0	38	91	34	0	30	193	1	719
6:00PM	42	127	107	0	11	287	0	60	65	27	0	33	185	0	805
6:15PM	42	126	82	0	6	256	0	36	87	29	0	32	184	0	736
Total	144	473	352	0	34	1003	0	179	329	112	0	134	754	1	3065
% Approach	14.4%	47.2%	35.1%	0%	3.4%	-	-	23.7%	43.6%	14.9%	0%	17.8%	-	-	-
% Total	4.7%	15.4%	11.5%	0%	1.1%	32.7%	-	5.8%	10.7%	3.7%	0%	4.4%	24.6%	-	-
PHF	0.837	0.931	0.822	-	0.773	0.874	-	0.746	0.904	0.824	-	0.859	0.977	-	0.952
Motorcycles	1	1	4	0	0	6	-	0	1	2	0	0	3	-	13
% Motorcycles	0.7%	0.2%	1.1%	0%	0%	0.6%	-	0%	0.3%	1.8%	0%	0%	0.4%	-	0.4%
Lights	143	471	344	0	34	992	-	176	322	109	0	133	740	-	3019
% Lights	99.3%	99.6%	97.7%	0%	100%	98.9%	-	98.3%	97.9%	97.3%	0%	99.3%	98.1%	-	98.5%
Heavy	0	1	4	0	0	5	-	3	6	1	0	1	11	-	33
% Heavy	0%	0.2%	1.1%	0%	0%	0.5%	-	1.7%	1.8%	0.9%	0%	0.7%	1.5%	-	1.1%
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	-	1
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0%

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

Packard Rd/Military Rd - TMC

Thu Oct 14, 2021

Forced Peak (5:30 PM - 6:30 PM)

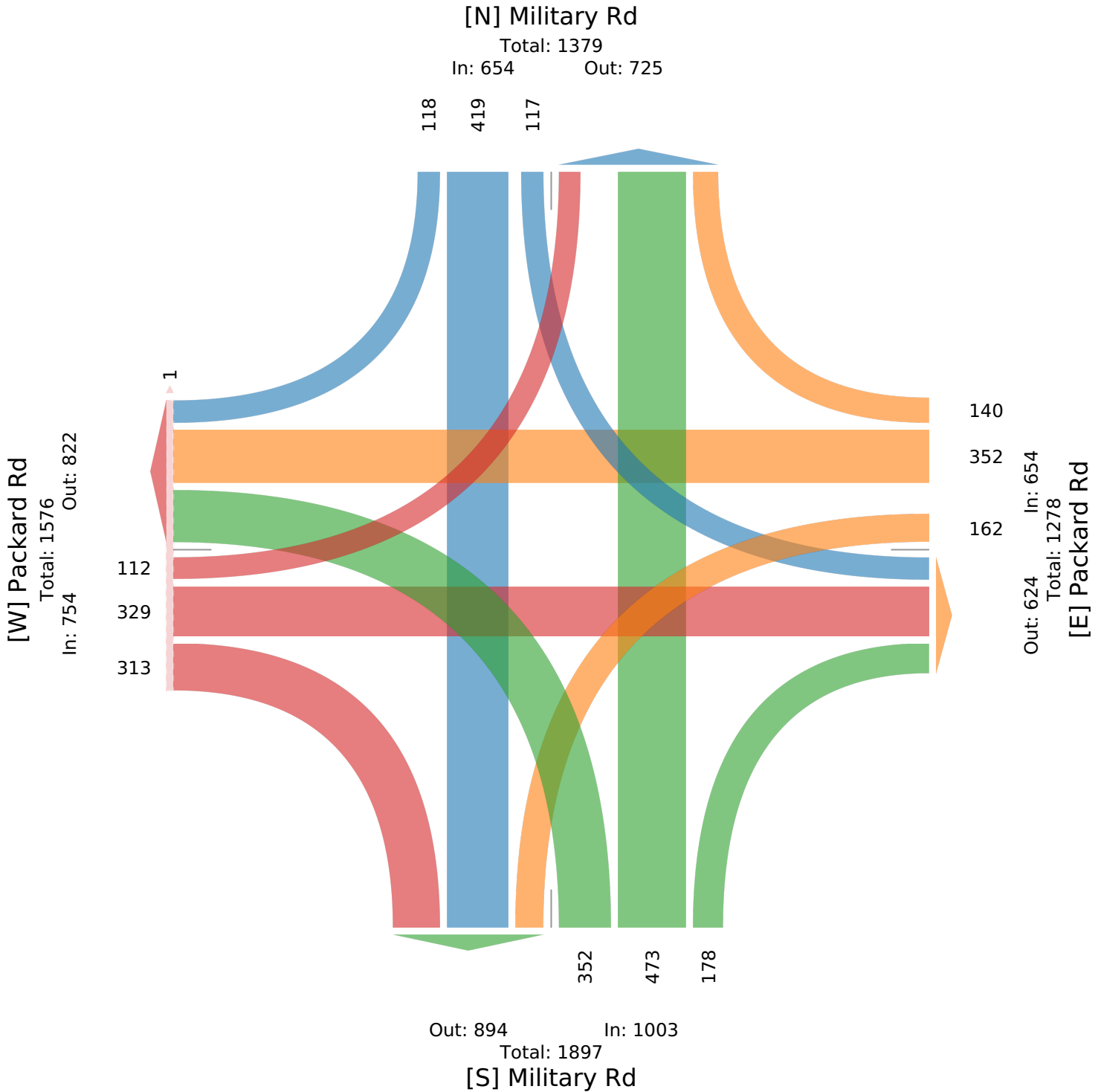
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887333, Location: 43.108529, -78.985914



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Packard Rd/Porter Rd - TMC

Thu Oct 14, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887334, Location: 43.107838, -78.987461



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Porter Rd Southbound								Packard Rd Westbound							
	Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*	
2021-10-14 6:00AM	2	0	14	0	0	0	16	0	11	49	0	0	1	61	0	
6:15AM	5	0	17	0	0	0	22	0	16	68	0	0	4	88	0	
6:30AM	3	0	18	0	0	0	21	0	20	94	0	0	5	119	0	
6:45AM	7	0	38	0	0	0	45	0	26	108	0	0	8	142	0	
Hourly Total	17	0	87	0	0	0	104	0	73	319	0	0	18	410	0	
7:00AM	1	0	31	0	4	36	0	17	75	0	0	11	103	0		
7:15AM	1	0	37	0	3	41	0	35	92	0	0	12	139	0		
7:30AM	3	0	43	0	1	47	0	32	95	0	0	7	134	0		
7:45AM	3	0	77	0	1	81	0	55	142	0	0	21	218	0		
Hourly Total	8	0	188	0	9	205	0	139	404	0	0	51	594	0		
8:00AM	2	0	45	0	2	49	0	34	102	0	0	16	152	0		
8:15AM	1	0	79	0	1	81	0	45	93	0	0	28	166	0		
8:30AM	5	0	58	0	1	64	0	50	86	0	0	12	148	0		
8:45AM	2	0	76	0	0	78	0	41	104	0	0	24	169	0		
Hourly Total	10	0	258	0	4	272	0	170	385	0	0	80	635	0		
9:00AM	2	0	76	0	0	78	0	27	91	0	0	21	139	0		
9:15AM	1	0	70	0	0	71	0	27	87	0	0	25	139	0		
9:30AM	4	0	79	0	1	84	0	29	76	0	0	21	126	0		
9:45AM	1	0	63	0	1	65	0	36	84	0	0	24	144	0		
Hourly Total	8	0	288	0	2	298	0	119	338	0	0	91	548	0		
10:00AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:00PM	1	0	109	0	1	111	0	68	166	0	0	59	293	0		
4:15PM	1	0	112	0	2	115	0	66	146	0	0	56	268	0		
4:30PM	3	0	108	0	0	111	0	78	131	0	0	44	253	0		
4:45PM	0	0	113	0	1	114	0	65	115	0	0	42	222	0		
Hourly Total	5	0	442	0	4	451	0	277	558	0	0	201	1036	0		
5:00PM	0	0	98	0	0	98	0	59	148	0	0	60	267	0		
5:15PM	0	0	113	0	5	118	0	61	132	0	0	39	232	0		
5:30PM	1	0	97	0	0	98	0	54	132	0	0	47	233	0		
5:45PM	0	0	60	0	0	60	0	52	114	0	0	37	203	0		
Hourly Total	1	0	368	0	5	374	0	226	526	0	0	183	935	0		
6:00PM	0	0	76	0	0	76	0	65	117	0	0	41	223	0		
6:15PM	0	0	91	0	0	91	0	52	83	0	0	39	174	0		
6:30PM	0	0	53	0	0	53	0	54	94	0	0	14	162	0		
6:45PM	0	0	72	0	0	72	0	62	82	0	0	23	167	0		
Hourly Total	0	0	292	0	0	292	0	233	376	0	0	117	726	0		
7:00PM	0	0	57	0	0	57	0	38	84	0	0	19	141	0		
7:15PM	0	0	66	0	0	66	0	52	70	0	0	19	141	0		
7:30PM	0	0	55	0	0	55	0	50	67	0	0	23	140	0		
7:45PM	0	0	47	0	0	47	0	35	50	0	0	17	102	0		
Hourly Total	0	0	225	0	0	225	0	175	271	0	0	78	524	0		
Total	49	0	2148	0	24	2221	0	1412	3177	0	0	819	5408	0		
% Approach	2.2%	0%	96.7%	0%	1.1%	-	-	26.1%	58.7%	0%	0%	15.1%	-	-		
% Total	0.4%	0%	19.0%	0%	0.2%	19.6%	-	12.5%	28.1%	0%	0%	7.2%	47.8%	-		
Motorcycles	0	0	4	0	0	4	-	3	7	0	0	3	13	-		
% Motorcycles	0%	0%	0.2%	0%	0%	0.2%	-	0.2%	0.2%	0%	0%	0.4%	0.2%	-		
Lights	46	0	2106	0	24	2176	-	1367	2956	0	0	810	5133	-		
% Lights	93.9%	0%	98.0%	0%	100%	98.0%	-	96.8%	93.0%	0%	0%	98.9%	94.9%	-		
Heavy	3	0	38	0	0	41	-	42	214	0	0	6	262	-		
% Heavy	6.1%	0%	1.8%	0%	0%	1.8%	-	3.0%	6.7%	0%	0%	0.7%	4.8%	-		
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0		
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

Leg Direction	Porter Rd Southbound								Packard Rd Westbound							
Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*		
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0		
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

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

Packard Rd/Porter Rd - TMC

Thu Oct 14, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887334, Location: 43.107838, -78.987461



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	South Northbound							Packard Rd Eastbound							Int
	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*	
Time															
2021-10-14 6:00AM	0	0	0	0	0	0	0	0	45	9	0	0	54	0	131
6:15AM	0	0	0	0	0	0	0	0	74	6	0	0	80	0	190
6:30AM	0	0	0	0	0	0	0	0	76	18	0	0	94	0	234
6:45AM	0	0	0	0	0	0	0	0	103	24	0	0	127	0	314
Hourly Total	0	0	0	0	0	0	0	0	298	57	0	0	355	0	869
7:00AM	0	0	0	0	0	0	0	0	68	16	0	0	84	0	223
7:15AM	0	0	0	0	0	0	0	0	82	18	0	0	100	0	280
7:30AM	0	0	0	0	0	0	0	0	106	15	0	0	121	0	302
7:45AM	0	0	0	0	0	0	0	0	72	13	0	0	85	0	384
Hourly Total	0	0	0	0	0	0	0	0	328	62	0	0	390	0	1189
8:00AM	0	0	0	0	0	0	0	0	107	21	0	0	128	0	329
8:15AM	0	0	0	0	0	0	0	0	119	28	0	0	147	0	394
8:30AM	0	0	0	0	0	0	0	0	86	15	0	0	101	0	313
8:45AM	0	0	0	0	0	0	0	0	121	18	0	0	139	0	386
Hourly Total	0	0	0	0	0	0	0	0	433	82	0	0	515	0	1422
9:00AM	0	0	0	0	0	0	0	0	111	11	0	0	122	0	339
9:15AM	0	0	0	0	0	0	0	0	80	15	0	0	95	0	305
9:30AM	0	0	0	0	0	0	0	0	80	6	0	0	86	0	296
9:45AM	0	0	0	0	0	0	0	0	83	9	0	0	92	0	301
Hourly Total	0	0	0	0	0	0	0	0	354	41	0	0	395	0	1241
10:00AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00PM	0	0	0	0	0	0	0	0	184	9	0	0	193	0	597
4:15PM	0	0	0	0	0	0	0	0	179	10	0	0	189	0	572
4:30PM	0	0	0	0	0	0	0	0	130	13	0	0	143	0	507
4:45PM	0	0	0	0	0	0	0	0	148	11	0	0	159	0	495
Hourly Total	0	0	0	0	0	0	0	0	641	43	0	0	684	0	2171
5:00PM	0	0	0	0	0	0	0	0	134	15	0	0	149	0	514
5:15PM	0	0	0	0	0	0	0	0	145	8	0	0	153	0	503
5:30PM	0	0	0	0	0	0	0	0	118	18	0	0	136	0	467
5:45PM	0	0	0	0	0	0	0	0	131	10	0	0	141	0	404
Hourly Total	0	0	0	0	0	0	0	0	528	51	0	0	579	0	1888
6:00PM	0	0	0	0	0	0	0	0	120	10	0	0	130	0	429
6:15PM	0	0	0	0	0	0	0	0	95	15	0	0	110	0	375
6:30PM	0	0	0	0	0	0	0	0	85	13	0	0	98	0	313
6:45PM	0	0	0	0	0	0	0	0	88	11	0	0	99	0	338
Hourly Total	0	0	0	0	0	0	0	0	388	49	0	0	437	0	1455
7:00PM	0	0	0	0	0	0	0	0	77	8	0	0	85	0	283
7:15PM	0	0	0	0	0	0	0	0	77	6	0	0	83	0	290
7:30PM	0	0	0	0	0	0	0	0	76	7	0	0	83	0	278
7:45PM	0	0	0	0	0	0	0	0	67	5	0	0	72	0	221
Hourly Total	0	0	0	0	0	0	0	0	297	26	0	0	323	0	1072
Total	0	0	0	0	0	0	0	0	3267	411	0	0	3678	0	11307
% Approach	0%	0%	0%	0%	0%	-	-	0%	88.8%	11.2%	0%	0%	-	-	-
% Total	0%	0%	0%	0%	0%	0%	-	0%	28.9%	3.6%	0%	0%	32.5%	-	-
Motorcycles	0	0	0	0	0	0	-	0	7	1	0	0	8	-	25
% Motorcycles	0%	0%	0%	0%	0%	-	-	0%	0.2%	0.2%	0%	0%	0.2%	-	0.2%
Lights	0	0	0	0	0	0	-	0	3081	395	0	0	3476	-	10785
% Lights	0%	0%	0%	0%	0%	-	-	0%	94.3%	96.1%	0%	0%	94.5%	-	95.4%
Heavy	0	0	0	0	0	0	-	0	179	15	0	0	194	-	497
% Heavy	0%	0%	0%	0%	0%	-	-	0%	5.5%	3.6%	0%	0%	5.3%	-	4.4%
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Leg Direction	South Northbound							Packard Rd Eastbound							
Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*	Int
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Packard Rd/Porter Rd - TMC

Thu Oct 14, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887334, Location: 43.107838, -78.987461



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

[N] Porter Rd

Total: 4863

In: 2221 Out: 2642

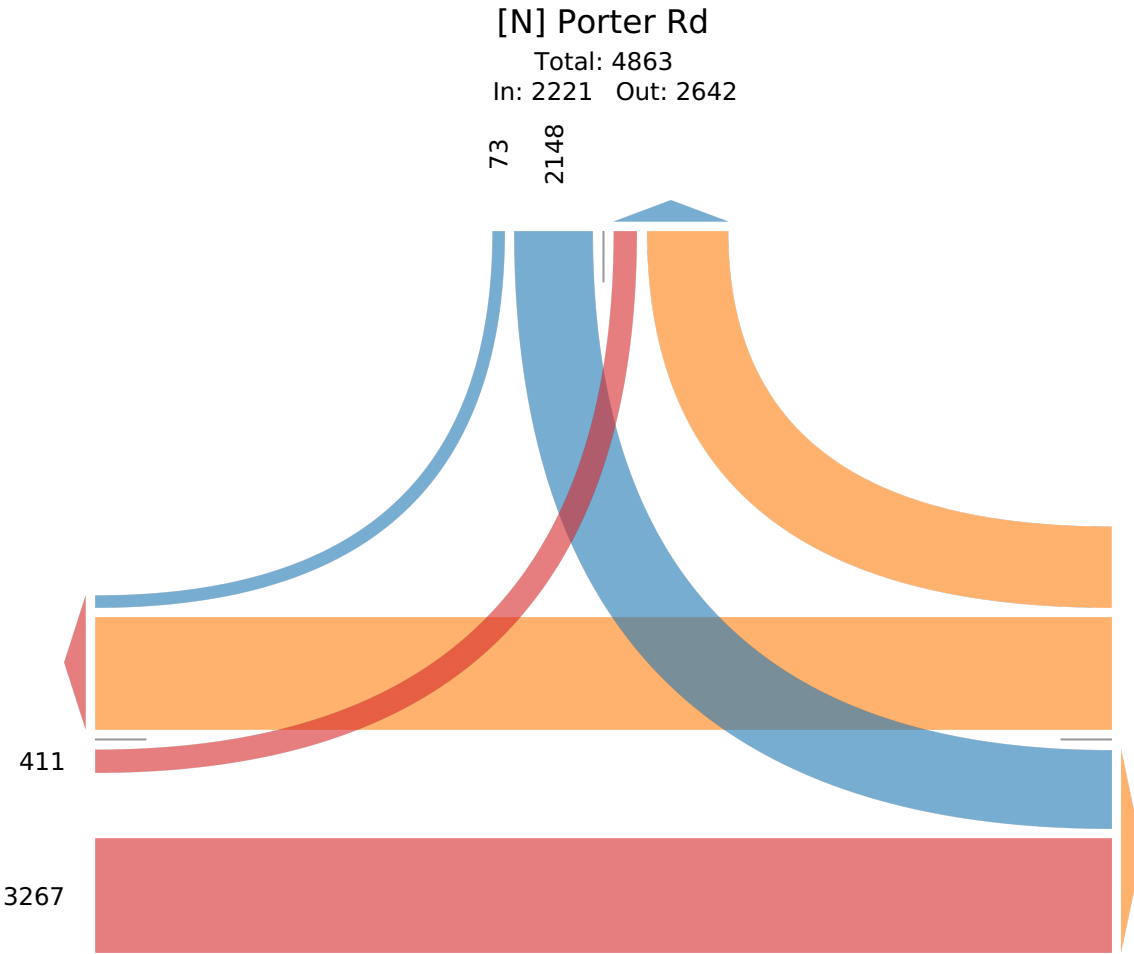
73
2148

[W] Packard Rd

Total: 6928
In: 3678 Out: 3250

411
3267

2231
3177
Out: 5415 In: 5408
Total: 10823
[E] Packard Rd



Packard Rd/Porter Rd - TMC

Thu Oct 14, 2021

AM Peak (8:15 AM - 9:15 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887334, Location: 43.107838, -78.987461



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Porter Rd Southbound							Packard Rd Westbound						
Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*
2021-10-14 8:15AM	1	0	79	0	1	81	0	45	93	0	0	28	166	0
8:30AM	5	0	58	0	1	64	0	50	86	0	0	12	148	0
8:45AM	2	0	76	0	0	78	0	41	104	0	0	24	169	0
9:00AM	2	0	76	0	0	78	0	27	91	0	0	21	139	0
Total	10	0	289	0	2	301	0	163	374	0	0	85	622	0
% Approach	3.3%	0%	96.0%	0%	0.7%	-	-	26.2%	60.1%	0%	0%	13.7%	-	-
% Total	0.7%	0%	20.2%	0%	0.1%	21.0%	-	11.4%	26.1%	0%	0%	5.9%	43.4%	-
PHF	0.500	-	0.915	-	0.500	0.929	-	0.815	0.899	-	-	0.759	0.920	-
Motorcycles	0	0	0	0	0	0	-	0	0	0	0	0	0	-
% Motorcycles	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	-
Lights	9	0	274	0	2	285	-	149	312	0	0	85	546	-
% Lights	90.0%	0%	94.8%	0%	100%	94.7%	-	91.4%	83.4%	0%	0%	100%	87.8%	-
Heavy	1	0	15	0	0	16	-	14	62	0	0	0	76	-
% Heavy	10.0%	0%	5.2%	0%	0%	5.3%	-	8.6%	16.6%	0%	0%	0%	12.2%	-
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Packard Rd/Porter Rd - TMC

Thu Oct 14, 2021

AM Peak (8:15 AM - 9:15 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887334, Location: 43.107838, -78.987461



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	South Northbound							Packard Rd Eastbound							Int
	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*	
Time															
2021-10-14 8:15AM	0	0	0	0	0	0	0	0	119	28	0	0	147	0	394
8:30AM	0	0	0	0	0	0	0	0	86	15	0	0	101	0	313
8:45AM	0	0	0	0	0	0	0	0	121	18	0	0	139	0	386
9:00AM	0	0	0	0	0	0	0	0	111	11	0	0	122	0	339
Total	0	0	0	0	0	0	0	0	437	72	0	0	509	0	1432
% Approach	0%	0%	0%	0%	0%	-	-	0%	85.9%	14.1%	0%	0%	-	-	-
% Total	0%	0%	0%	0%	0%	0%	0%	0%	30.5%	5.0%	0%	0%	35.5%	-	-
PHF	-	-	-	-	-	-	-	-	0.903	0.643	-	-	0.866	-	0.909
Motorcycles	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0
% Motorcycles	0%	0%	0%	0%	0%	-	-	0%	0%	0%	0%	0%	0%	-	0%
Lights	0	0	0	0	0	0	-	0	394	67	0	0	461	-	1292
% Lights	0%	0%	0%	0%	0%	-	-	0%	90.2%	93.1%	0%	0%	90.6%	-	90.2%
Heavy	0	0	0	0	0	0	-	0	43	5	0	0	48	-	140
% Heavy	0%	0%	0%	0%	0%	-	-	0%	9.8%	6.9%	0%	0%	9.4%	-	9.8%
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Packard Rd/Porter Rd - TMC

Thu Oct 14, 2021

AM Peak (8:15 AM - 9:15 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887334, Location: 43.107838, -78.987461



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

[N] Porter Rd

Total: 621

In: 301 Out: 320

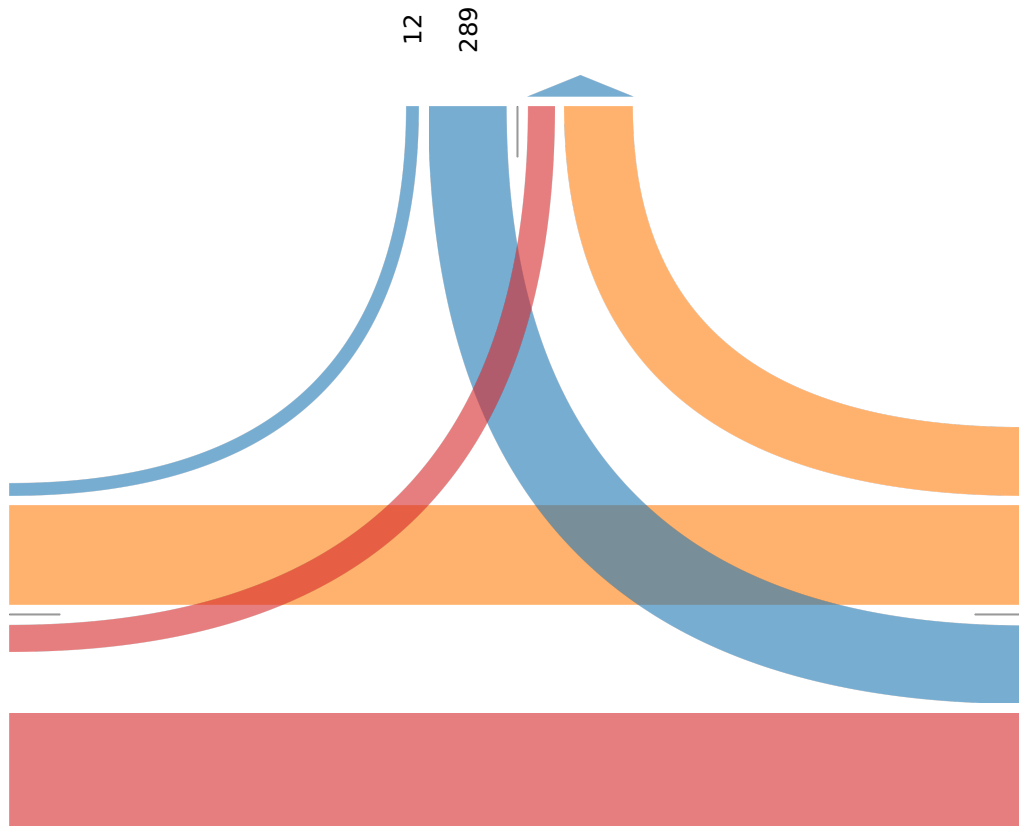
12
289

[W] Packard Rd

Total: 895

In: 509 Out: 386

72
437



248
374

Out: 726 In: 622
Total: 1348
[E] Packard Rd

Packard Rd/Porter Rd - TMC

Thu Oct 14, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887334, Location: 43.107838, -78.987461



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Porter Rd Southbound							Packard Rd Westbound						
	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*
Time														
2021-10-14 4:00PM	1	0	109	0	1	111	0	68	166	0	0	59	293	0
4:15PM	1	0	112	0	2	115	0	66	146	0	0	56	268	0
4:30PM	3	0	108	0	0	111	0	78	131	0	0	44	253	0
4:45PM	0	0	113	0	1	114	0	65	115	0	0	42	222	0
Total	5	0	442	0	4	451	0	277	558	0	0	201	1036	0
% Approach	1.1%	0%	98.0%	0%	0.9%	-	-	26.7%	53.9%	0%	0%	19.4%	-	-
% Total	0.2%	0%	20.4%	0%	0.2%	20.8%	-	12.8%	25.7%	0%	0%	9.3%	47.7%	-
PHF	0.417	-	0.978	-	0.500	0.980	-	0.888	0.840	-	-	0.852	0.884	-
Motorcycles	0	0	1	0	0	1	-	1	3	0	0	1	5	-
% Motorcycles	0%	0%	0.2%	0%	0%	0.2%	-	0.4%	0.5%	0%	0%	0.5%	0.5%	-
Lights	5	0	440	0	4	449	-	272	522	0	0	199	993	-
% Lights	100%	0%	99.5%	0%	100%	99.6%	-	98.2%	93.5%	0%	0%	99.0%	95.8%	-
Heavy	0	0	1	0	0	1	-	4	33	0	0	1	38	-
% Heavy	0%	0%	0.2%	0%	0%	0.2%	-	1.4%	5.9%	0%	0%	0.5%	3.7%	-
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Packard Rd/Porter Rd - TMC

Thu Oct 14, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887334, Location: 43.107838, -78.987461



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	South Northbound								Packard Rd Eastbound								Int
	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*			
2021-10-14 4:00PM	0	0	0	0	0	0	0	0	184	9	0	0	193	0	597		
4:15PM	0	0	0	0	0	0	0	0	179	10	0	0	189	0	572		
4:30PM	0	0	0	0	0	0	0	0	130	13	0	0	143	0	507		
4:45PM	0	0	0	0	0	0	0	0	148	11	0	0	159	0	495		
Total	0	0	0	0	0	0	0	0	641	43	0	0	684	0	2171		
% Approach	0%	0%	0%	0%	0%	-	-	0%	93.7%	6.3%	0%	0%	-	-	-		
% Total	0%	0%	0%	0%	0%	0%	-	0%	29.5%	2.0%	0%	0%	31.5%	-	-		
PHF	-	-	-	-	-	-	-	-	0.871	0.827	-	-	0.886	-	0.909		
Motorcycles	0	0	0	0	0	0	-	0	4	0	0	0	4	-	10		
% Motorcycles	0%	0%	0%	0%	0%	-	-	0%	0.6%	0%	0%	0%	0.6%	-	0.5%		
Lights	0	0	0	0	0	0	-	0	608	43	0	0	651	-	2093		
% Lights	0%	0%	0%	0%	0%	-	-	0%	94.9%	100%	0%	0%	95.2%	-	96.4%		
Heavy	0	0	0	0	0	0	-	0	29	0	0	0	29	-	68		
% Heavy	0%	0%	0%	0%	0%	-	-	0%	4.5%	0%	0%	0%	4.2%	-	3.1%		
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-		
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-		
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

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

Packard Rd/Porter Rd - TMC

Thu Oct 14, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887334, Location: 43.107838, -78.987461



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

[N] Porter Rd

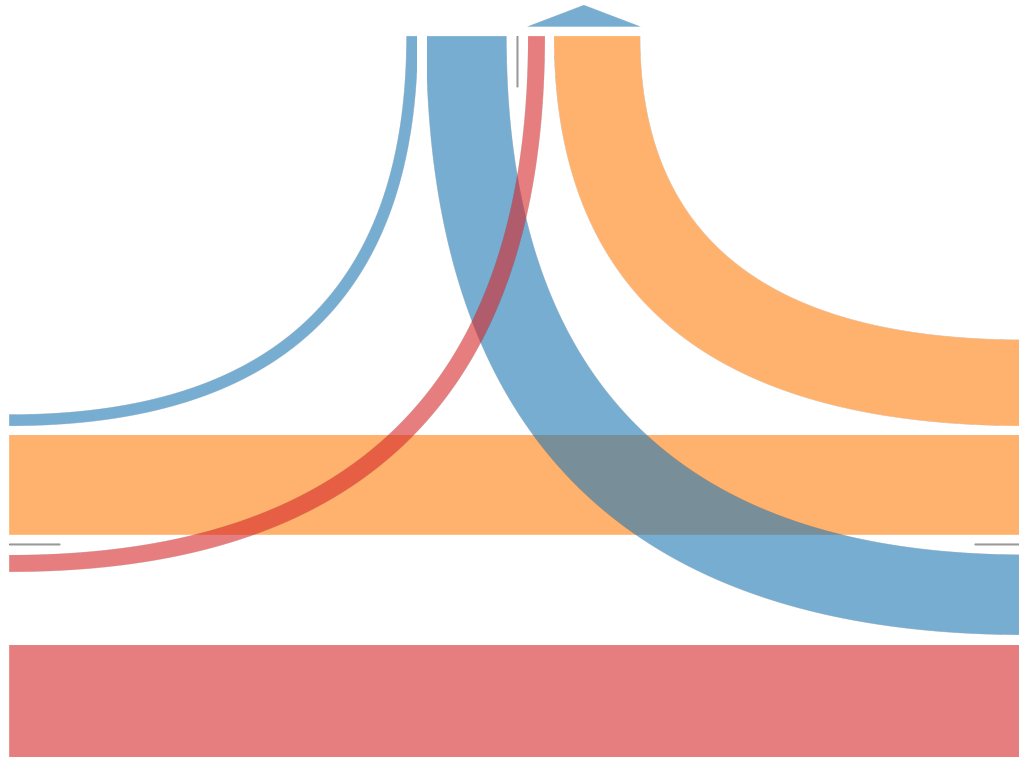
Total: 972

In: 451 Out: 521

9
442

[W] Packard Rd
Total: 1251
In: 684 Out: 567

43
641



478
558
Out: 1083 In: 1036
Total: 2119
[E] Packard Rd

Packard Rd/Porter Rd - TMC

Thu Oct 14, 2021

Forced Peak (5:30 PM - 6:30 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887334, Location: 43.107838, -78.987461



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Porter Rd Southbound							Packard Rd Westbound							
	Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*
	2021-10-14 5:30PM	1	0	97	0	0	98	0	54	132	0	0	47	233	0
	5:45PM	0	0	60	0	0	60	0	52	114	0	0	37	203	0
	6:00PM	0	0	76	0	0	76	0	65	117	0	0	41	223	0
	6:15PM	0	0	91	0	0	91	0	52	83	0	0	39	174	0
	Total	1	0	324	0	0	325	0	223	446	0	0	164	833	0
	% Approach	0.3%	0%	99.7%	0%	0%	-	-	26.8%	53.5%	0%	0%	19.7%	-	-
	% Total	0.1%	0%	19.3%	0%	0%	19.4%	-	13.3%	26.6%	0%	0%	9.8%	49.7%	-
	PHF	0.250	-	0.835	-	-	0.829	-	0.858	0.845	-	-	0.872	0.894	-
	Motorcycles	0	0	1	0	0	1	-	1	2	0	0	2	5	-
	% Motorcycles	0%	0%	0.3%	0%	0%	0.3%	-	0.4%	0.4%	0%	0%	1.2%	0.6%	-
	Lights	1	0	321	0	0	322	-	220	432	0	0	161	813	-
	% Lights	100%	0%	99.1%	0%	0%	99.1%	-	98.7%	96.9%	0%	0%	98.2%	97.6%	-
	Heavy	0	0	2	0	0	2	-	2	12	0	0	1	15	-
	% Heavy	0%	0%	0.6%	0%	0%	0.6%	-	0.9%	2.7%	0%	0%	0.6%	1.8%	-
	Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0
	% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0
	% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Packard Rd/Porter Rd - TMC

Thu Oct 14, 2021

Forced Peak (5:30 PM - 6:30 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887334, Location: 43.107838, -78.987461



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	South Northbound							Packard Rd Eastbound							Int
	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*	
2021-10-14 5:30PM	0	0	0	0	0	0	0	0	118	18	0	0	136	0	467
5:45PM	0	0	0	0	0	0	0	0	131	10	0	0	141	0	404
6:00PM	0	0	0	0	0	0	0	0	120	10	0	0	130	0	429
6:15PM	0	0	0	0	0	0	0	0	95	15	0	0	110	0	375
Total	0	0	0	0	0	0	0	0	464	53	0	0	517	0	1675
% Approach	0%	0%	0%	0%	0%	-	-	0%	89.7%	10.3%	0%	0%	-	-	-
% Total	0%	0%	0%	0%	0%	0%	0%	0%	27.7%	3.2%	0%	0%	30.9%	-	-
PHF	-	-	-	-	-	-	-	-	0.885	0.736	-	-	0.917	-	0.897
Motorcycles	0	0	0	0	0	0	-	0	0	1	0	0	1	-	7
% Motorcycles	0%	0%	0%	0%	0%	-	-	0%	0%	1.9%	0%	0%	0.2%	-	0.4%
Lights	0	0	0	0	0	0	-	0	454	51	0	0	505	-	1640
% Lights	0%	0%	0%	0%	0%	-	-	0%	97.8%	96.2%	0%	0%	97.7%	-	97.9%
Heavy	0	0	0	0	0	0	-	0	10	1	0	0	11	-	28
% Heavy	0%	0%	0%	0%	0%	-	-	0%	2.2%	1.9%	0%	0%	2.1%	-	1.7%
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Packard Rd/Porter Rd - TMC

Thu Oct 14, 2021

Forced Peak (5:30 PM - 6:30 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 887334, Location: 43.107838, -78.987461



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

[N] Porter Rd

Total: 765

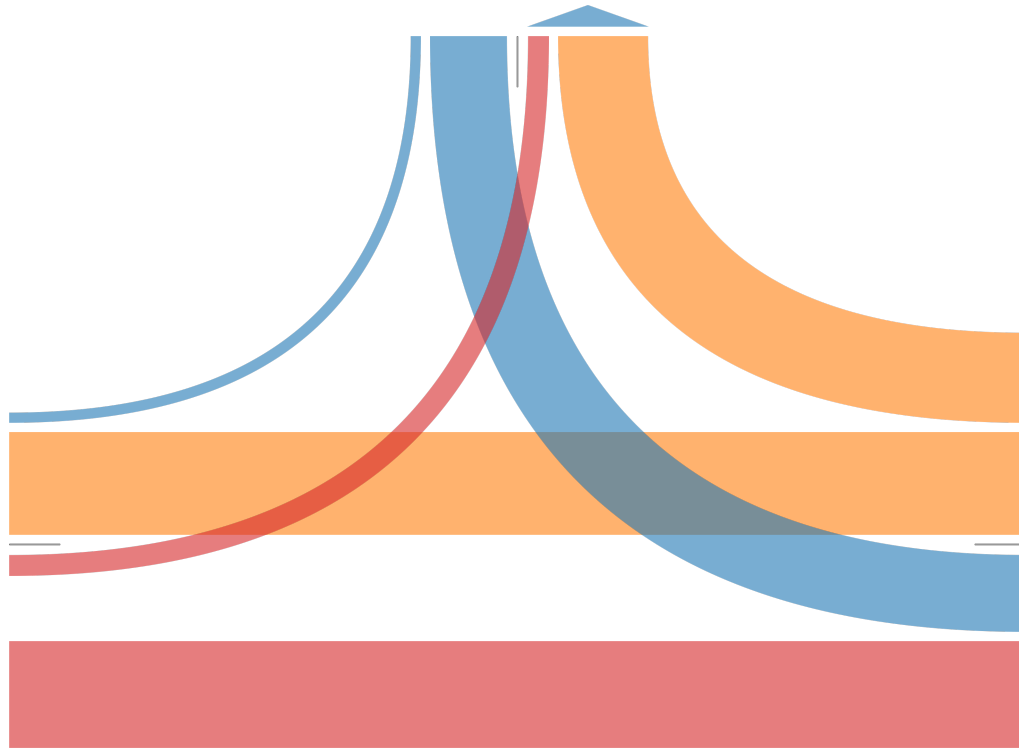
In: 325 Out: 440

1
324

[W] Packard Rd

Total: 964
In: 517 Out: 447

53
464



387
446

Out: 788 In: 833
Total: 1621
[E] Packard Rd

Porter Rd/Packard Rd (east) - TMC

Tue Dec 14, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 911616, Location: 43.109264, -78.984311



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	North Southbound						Packard Rd Westbound					
	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*
Time												
2021-12-14 6:00AM	0	0	0	0	0	0	0	36	0	0	36	0
6:15AM	0	0	0	0	0	0	0	54	1	0	55	0
6:30AM	0	0	0	0	0	0	0	73	1	0	74	0
6:45AM	0	0	0	0	0	0	0	64	1	0	65	0
Hourly Total	0	0	0	0	0	0	0	227	3	0	230	0
7:00AM	0	0	0	0	0	0	0	75	2	0	77	0
7:15AM	0	0	0	0	0	0	0	81	2	0	83	0
7:30AM	1	0	0	0	1	0	0	90	4	0	94	0
7:45AM	0	0	0	0	0	0	0	92	1	0	93	0
Hourly Total	1	0	0	0	1	0	0	338	9	0	347	0
8:00AM	0	0	0	0	0	0	0	73	0	0	73	0
8:15AM	0	0	0	0	0	0	0	91	1	0	92	0
8:30AM	0	0	0	0	0	0	0	68	4	0	72	0
8:45AM	0	0	0	0	0	0	0	81	3	0	84	0
Hourly Total	0	0	0	0	0	0	0	313	8	0	321	0
9:00AM	0	0	0	0	0	0	0	95	0	0	95	0
9:15AM	0	0	0	0	0	0	0	90	3	0	93	0
9:30AM	0	0	0	0	0	0	0	82	0	0	82	0
9:45AM	0	0	0	0	0	0	0	92	1	0	93	0
Hourly Total	0	0	0	0	0	0	0	359	4	0	363	0
10:00AM	0	0	0	0	0	0	0	3	0	0	3	0
Hourly Total	0	0	0	0	0	0	0	3	0	0	3	0
4:00PM	0	0	0	0	0	0	0	116	4	0	120	0
4:15PM	0	0	0	0	0	0	0	116	7	0	123	0
4:30PM	0	1	0	0	1	0	0	136	4	0	140	0
4:45PM	0	0	0	0	0	0	0	86	2	0	88	0
Hourly Total	0	1	0	0	1	0	0	454	17	0	471	0
5:00PM	0	0	0	0	0	0	0	105	2	0	107	0
5:15PM	1	0	0	0	1	0	0	99	2	0	101	0
5:30PM	0	0	0	0	0	0	0	79	3	0	82	0
5:45PM	0	0	0	0	0	0	0	88	2	0	90	0
Hourly Total	1	0	0	0	1	0	0	371	9	0	380	0
6:00PM	0	0	0	0	0	0	0	51	2	0	53	0
6:15PM	0	0	0	0	0	0	0	80	1	0	81	0
6:30PM	0	0	0	0	0	0	0	65	4	0	69	0
6:45PM	0	0	0	0	0	0	0	48	2	0	50	0
Hourly Total	0	0	0	0	0	0	0	244	9	0	253	0
7:00PM	0	0	0	0	0	0	0	52	1	0	53	0
7:15PM	0	0	0	0	0	0	0	49	4	0	53	0
7:30PM	0	0	0	0	0	0	0	55	4	0	59	0
7:45PM	0	0	0	0	0	0	0	35	2	0	37	0
Hourly Total	0	0	0	0	0	0	0	191	11	0	202	0
8:00PM	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	1	0	0	3	0	0	2500	70	0	2570	0
% Approach	66.7%	33.3%	0%	0%	-	-	0%	97.3%	2.7%	0%	-	-
% Total	0%	0%	0%	0%	0%	-	0%	28.9%	0.8%	0%	29.7%	-
Motorcycles	1	0	0	0	1	-	0	2	0	0	2	-
% Motorcycles	50.0%	0%	0%	0%	33.3%	-	0%	0.1%	0%	0%	0.1%	-
Lights	1	1	0	0	2	-	0	2338	69	0	2407	-
% Lights	50.0%	100%	0%	0%	66.7%	-	0%	93.5%	98.6%	0%	93.7%	-
Heavy	0	0	0	0	0	-	0	160	1	0	161	-
% Heavy	0%	0%	0%	0%	0%	-	0%	6.4%	1.4%	0%	6.3%	-

Leg Direction	North Southbound						Packard Rd Westbound					
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-

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

Porter Rd/Packard Rd (east) - TMC

Tue Dec 14, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 911616, Location: 43.109264, -78.984311



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Porter Rd Northbound								Packard Rd Eastbound								Int
	Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*		
2021-12-14 6:00AM	0	0	15	0	0	0	15	0	14	46	0	0	4	64	0	115	
6:15AM	1	0	16	0	0	0	17	0	27	59	0	0	4	90	0	162	
6:30AM	1	0	33	0	1	35	0	23	91	0	0	7	121	0	230		
6:45AM	0	0	36	0	1	37	0	19	84	0	0	14	117	0	219		
Hourly Total	2	0	100	0	2	104	0	83	280	0	0	29	392	0	726		
7:00AM	0	0	27	0	0	27	0	26	76	0	0	3	105	0	209		
7:15AM	3	0	32	0	2	37	0	24	76	0	0	9	109	0	229		
7:30AM	3	0	39	0	0	42	0	56	72	1	0	5	134	0	271		
7:45AM	0	0	61	0	0	61	0	61	83	0	0	14	158	0	312		
Hourly Total	6	0	159	0	2	167	0	167	307	1	0	31	506	0	1021		
8:00AM	0	0	59	0	0	59	0	45	82	0	0	7	134	0	266		
8:15AM	1	0	51	0	0	52	0	51	74	0	0	19	144	0	288		
8:30AM	3	0	66	0	0	69	0	51	84	0	1	24	160	0	301		
8:45AM	2	0	63	0	0	65	0	49	91	0	0	14	154	0	303		
Hourly Total	6	0	239	0	0	245	0	196	331	0	1	64	592	0	1158		
9:00AM	1	0	52	0	1	54	0	60	70	0	0	10	140	0	289		
9:15AM	1	0	67	0	1	69	0	52	70	0	0	13	135	0	297		
9:30AM	2	0	46	0	0	48	0	46	65	0	0	24	135	0	265		
9:45AM	3	0	50	0	0	53	0	58	51	0	0	10	119	0	265		
Hourly Total	7	0	215	0	2	224	0	216	256	0	0	57	529	0	1116		
10:00AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3		
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3		
4:00PM	5	0	95	0	1	101	1	35	119	0	0	37	191	0	412		
4:15PM	5	0	91	0	2	98	0	81	120	1	0	28	230	0	451		
4:30PM	4	0	106	0	2	112	0	67	133	0	0	32	232	1	485		
4:45PM	8	0	87	0	1	96	0	54	99	0	0	25	178	0	362		
Hourly Total	22	0	379	0	6	407	1	237	471	1	0	122	831	1	1710		
5:00PM	4	0	74	0	1	79	0	54	143	0	1	11	209	0	395		
5:15PM	0	0	66	0	2	68	0	62	102	0	0	14	178	0	348		
5:30PM	5	0	67	0	0	72	0	42	94	0	0	8	144	0	298		
5:45PM	3	0	52	0	1	56	0	43	68	0	0	5	116	0	262		
Hourly Total	12	0	259	0	4	275	0	201	407	0	1	38	647	0	1303		
6:00PM	5	0	54	0	0	59	0	31	69	1	0	19	120	0	232		
6:15PM	1	0	55	0	0	56	0	34	80	0	0	3	117	0	254		
6:30PM	1	0	61	0	1	63	0	28	80	0	0	3	111	0	243		
6:45PM	2	0	35	0	0	37	0	26	53	0	0	1	80	0	167		
Hourly Total	9	0	205	0	1	215	0	119	282	1	0	26	428	0	896		
7:00PM	1	0	39	0	0	40	0	30	62	0	0	7	99	0	192		
7:15PM	2	0	28	0	2	32	0	24	70	0	0	3	97	0	182		
7:30PM	0	0	36	0	0	36	0	22	79	0	0	2	103	0	198		
7:45PM	1	0	29	0	1	31	0	25	54	0	0	3	82	0	150		
Hourly Total	4	0	132	0	3	139	0	101	265	0	0	15	381	0	722		
8:00PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	68	0	1688	0	20	1776	1	1320	2599	3	2	382	4306	1	8655		
% Approach	3.8%	0%	95.0%	0%	1.1%	-	-	30.7%	60.4%	0.1%	0%	8.9%	-	-	-		
% Total	0.8%	0%	19.5%	0%	0.2%	20.5%	-	15.3%	30.0%	0%	0%	4.4%	49.8%	-	-		
Motorcycles	0	0	1	0	0	1	-	2	1	0	0	0	3	-	7		
% Motorcycles	0%	0%	0.1%	0%	0%	0.1%	-	0.2%	0%	0%	0%	0%	0.1%	-	0.1%		
Lights	63	0	1625	0	18	1706	-	1272	2468	3	2	371	4116	-	8231		
% Lights	92.6%	0%	96.3%	0%	90.0%	96.1%	-	96.4%	95.0%	100%	100%	97.1%	95.6%	-	95.1%		
Heavy	5	0	62	0	2	69	-	46	130	0	0	11	187	-	417		
% Heavy	7.4%	0%	3.7%	0%	10.0%	3.9%	-	3.5%	5.0%	0%	0%	2.9%	4.3%	-	4.8%		

Leg Direction	Porter Rd Northbound							Packard Rd Eastbound							
Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*	Int
Pedestrians	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
% Pedestrians	-	-	-	-	-	-	100%	-	-	-	-	-	-	-	100%
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	0%	-	-	-	-	-	-	-	0%

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

Porter Rd/Packard Rd (east) - TMC

Tue Dec 14, 2021

Full Length (6 AM-10 AM, 4 PM-8 PM)

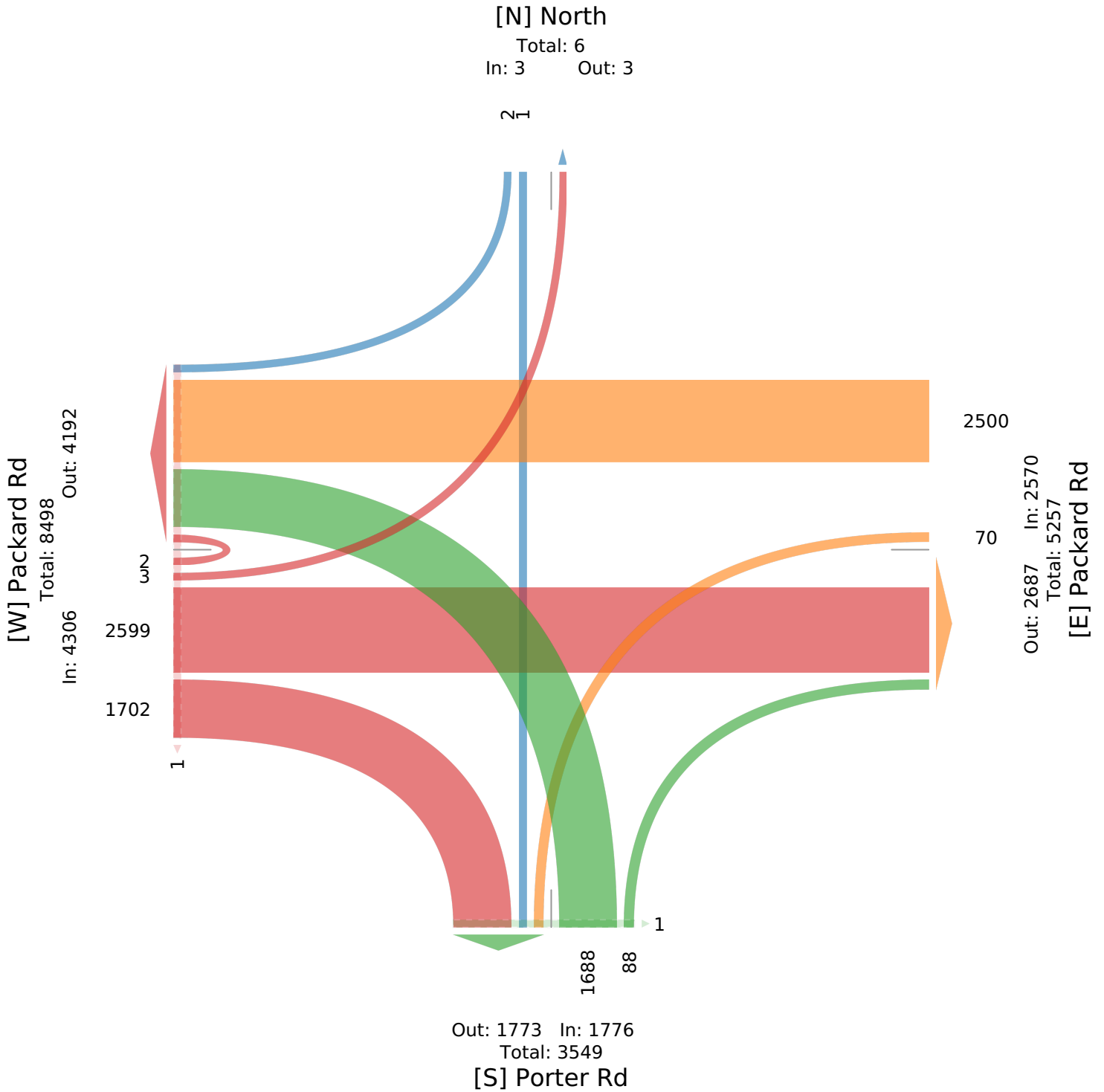
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 911616, Location: 43.109264, -78.984311



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Porter Rd/Packard Rd (east) - TMC

Tue Dec 14, 2021

AM Peak (8:30 AM - 9:30 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 911616, Location: 43.109264, -78.984311



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	North Southbound						Packard Rd Westbound					
	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*
Time												
2021-12-14 8:30AM	0	0	0	0	0	0	0	68	4	0	72	0
8:45AM	0	0	0	0	0	0	0	81	3	0	84	0
9:00AM	0	0	0	0	0	0	0	95	0	0	95	0
9:15AM	0	0	0	0	0	0	0	90	3	0	93	0
Total	0	0	0	0	0	0	0	334	10	0	344	0
% Approach	0%	0%	0%	0%	-	-	0%	97.1%	2.9%	0%	-	-
% Total	0%	0%	0%	0%	0%	-	0%	28.1%	0.8%	0%	28.9%	-
PHF	-	-	-	-	-	-	-	0.879	0.625	-	0.905	-
Motorcycles	0	0	0	0	0	-	0	0	0	0	0	-
% Motorcycles	0%	0%	0%	0%	-	-	0%	0%	0%	0%	0%	-
Lights	0	0	0	0	0	-	0	303	10	0	313	-
% Lights	0%	0%	0%	0%	-	-	0%	90.7%	100%	0%	91.0%	-
Heavy	0	0	0	0	0	-	0	31	0	0	31	-
% Heavy	0%	0%	0%	0%	-	-	0%	9.3%	0%	0%	9.0%	-
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-

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

Porter Rd/Packard Rd (east) - TMC

Tue Dec 14, 2021

AM Peak (8:30 AM - 9:30 AM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 911616, Location: 43.109264, -78.984311



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Porter Rd Northbound								Packard Rd Eastbound								
Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*	Int		
2021-12-14 8:30AM	3	0	66	0	0	69	0	51	84	0	1	24	160	0	301		
8:45AM	2	0	63	0	0	65	0	49	91	0	0	14	154	0	303		
9:00AM	1	0	52	0	1	54	0	60	70	0	0	10	140	0	289		
9:15AM	1	0	67	0	1	69	0	52	70	0	0	13	135	0	297		
Total	7	0	248	0	2	257	0	212	315	0	1	61	589	0	1190		
% Approach	2.7%	0%	96.5%	0%	0.8%	-	-	36.0%	53.5%	0%	0.2%	10.4%	-	-	-		
% Total	0.6%	0%	20.8%	0%	0.2%	21.6%	-	17.8%	26.5%	0%	0.1%	5.1%	49.5%	-	-		
PHF	0.583	-	0.925	-	0.500	0.931	-	0.883	0.865	-	0.250	0.635	0.920	-	0.982		
Motorcycles	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0		
% Motorcycles	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	-	0%		
Lights	6	0	237	0	1	244	-	199	279	0	1	60	539	-	1096		
% Lights	85.7%	0%	95.6%	0%	50.0%	94.9%	-	93.9%	88.6%	0%	100%	98.4%	91.5%	-	92.1%		
Heavy	1	0	11	0	1	13	-	13	36	0	0	1	50	-	94		
% Heavy	14.3%	0%	4.4%	0%	50.0%	5.1%	-	6.1%	11.4%	0%	0%	1.6%	8.5%	-	7.9%		
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-		
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-		
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

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

Porter Rd/Packard Rd (east) - TMC

Tue Dec 14, 2021

AM Peak (8:30 AM - 9:30 AM)

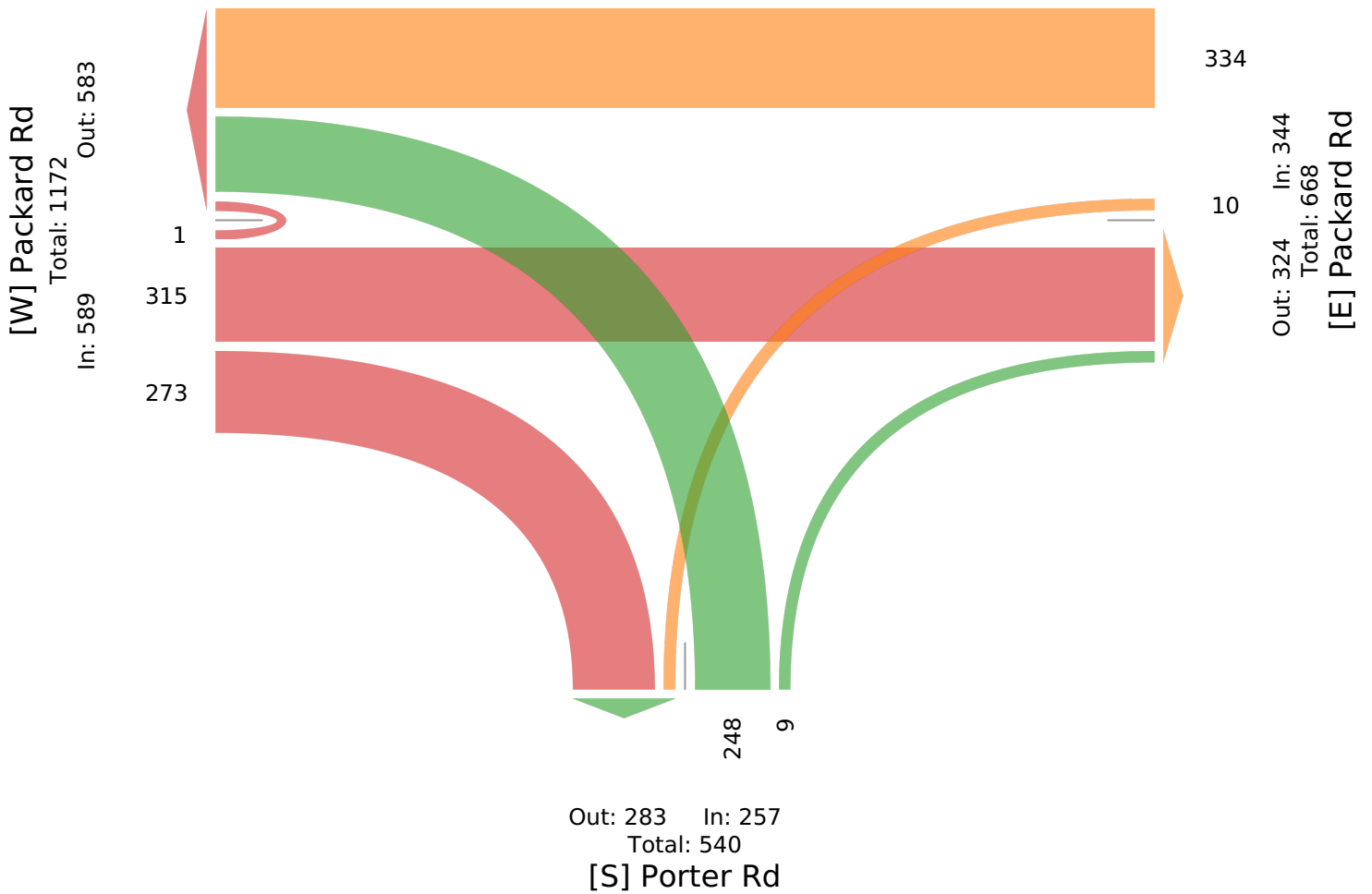
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 911616, Location: 43.109264, -78.984311



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Porter Rd/Packard Rd (east) - TMC

Tue Dec 14, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 911616, Location: 43.109264, -78.984311



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	North Southbound						Packard Rd Westbound					
	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*
Time												
2021-12-14 4:00PM	0	0	0	0	0	0	0	116	4	0	120	0
4:15PM	0	0	0	0	0	0	0	116	7	0	123	0
4:30PM	0	1	0	0	1	0	0	136	4	0	140	0
4:45PM	0	0	0	0	0	0	0	86	2	0	88	0
Total	0	1	0	0	1	0	0	454	17	0	471	0
% Approach	0%	100%	0%	0%	-	-	0%	96.4%	3.6%	0%	-	-
% Total	0%	0.1%	0%	0%	0.1%	-	0%	26.5%	1.0%	0%	27.5%	-
PHF	-	0.250	-	-	0.250	-	-	0.835	0.607	-	0.841	-
Motorcycles	0	0	0	0	0	-	0	0	0	0	0	-
% Motorcycles	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-
Lights	0	1	0	0	1	-	0	432	17	0	449	-
% Lights	0%	100%	0%	0%	100%	-	0%	95.2%	100%	0%	95.3%	-
Heavy	0	0	0	0	0	-	0	22	0	0	22	-
% Heavy	0%	0%	0%	0%	0%	-	0%	4.8%	0%	0%	4.7%	-
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-

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

Porter Rd/Packard Rd (east) - TMC

Tue Dec 14, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 911616, Location: 43.109264, -78.984311



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Porter Rd Northbound							Packard Rd Eastbound							Int
	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*	
Time															
2021-12-14 4:00PM	5	0	95	0	1	101	1	35	119	0	0	37	191	0	
4:15PM	5	0	91	0	2	98	0	81	120	1	0	28	230	0	
4:30PM	4	0	106	0	2	112	0	67	133	0	0	32	232	1	
4:45PM	8	0	87	0	1	96	0	54	99	0	0	25	178	0	
Total	22	0	379	0	6	407	1	237	471	1	0	122	831	1	
% Approach	5.4%	0%	93.1%	0%	1.5%	-	-	28.5%	56.7%	0.1%	0%	14.7%	-	-	
% Total	1.3%	0%	22.2%	0%	0.4%	23.8%	-	13.9%	27.5%	0.1%	0%	7.1%	48.6%	-	
PHF	0.688	-	0.894	-	0.750	0.908	-	0.731	0.885	0.250	-	0.824	0.895	-	
Motorcycles	0	0	0	0	0	0	-	0	1	0	0	0	1	-	
% Motorcycles	0%	0%	0%	0%	0%	0%	-	0%	0.2%	0%	0%	0%	0.1%	-	
Lights	22	0	365	0	6	393	-	232	454	1	0	121	808	-	
% Lights	100%	0%	96.3%	0%	100%	96.6%	-	97.9%	96.4%	100%	0%	99.2%	97.2%	-	
Heavy	0	0	14	0	0	14	-	5	16	0	0	1	22	-	
% Heavy	0%	0%	3.7%	0%	0%	3.4%	-	2.1%	3.4%	0%	0%	0.8%	2.6%	-	
Pedestrians	-	-	-	-	-	-	1	-	-	-	-	-	-	1	
% Pedestrians	-	-	-	-	-	-	100%	-	-	-	-	-	-	100%	
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	0%	-	-	-	-	-	-	0%	

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

Porter Rd/Packard Rd (east) - TMC

Tue Dec 14, 2021

PM Peak (4 PM - 5 PM) - Overall Peak Hour

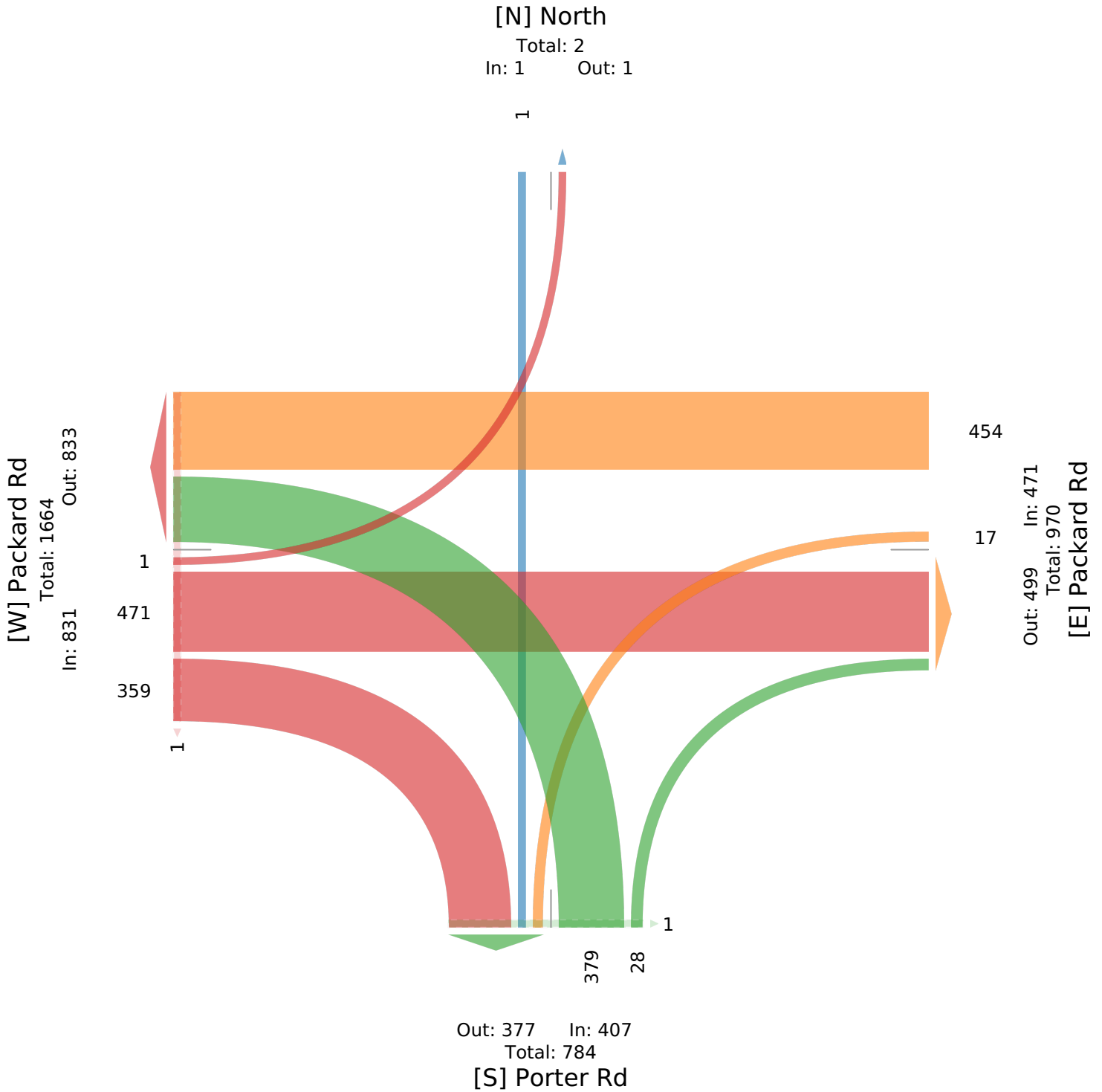
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 911616, Location: 43.109264, -78.984311



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Porter Rd/Packard Rd (east) - TMC

Tue Dec 14, 2021

Forced Peak (5:30 PM - 6:30 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 911616, Location: 43.109264, -78.984311



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	North Southbound						Packard Rd Westbound					
	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*
Time												
2021-12-14 5:30PM	0	0	0	0	0	0	0	79	3	0	82	0
5:45PM	0	0	0	0	0	0	0	88	2	0	90	0
6:00PM	0	0	0	0	0	0	0	51	2	0	53	0
6:15PM	0	0	0	0	0	0	0	80	1	0	81	0
Total	0	0	0	0	0	0	0	298	8	0	306	0
% Approach	0%	0%	0%	0%	-	-	0%	97.4%	2.6%	0%	-	-
% Total	0%	0%	0%	0%	0%	-	0%	28.5%	0.8%	0%	29.3%	-
PHF	-	-	-	-	-	-	-	0.847	0.667	-	0.850	-
Motorcycles	0	0	0	0	0	-	0	2	0	0	2	-
% Motorcycles	0%	0%	0%	0%	-	-	0%	0.7%	0%	0%	0.7%	-
Lights	0	0	0	0	0	-	0	287	8	0	295	-
% Lights	0%	0%	0%	0%	-	-	0%	96.3%	100%	0%	96.4%	-
Heavy	0	0	0	0	0	-	0	9	0	0	9	-
% Heavy	0%	0%	0%	0%	-	-	0%	3.0%	0%	0%	2.9%	-
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-

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

Porter Rd/Packard Rd (east) - TMC

Tue Dec 14, 2021

Forced Peak (5:30 PM - 6:30 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 911616, Location: 43.109264, -78.984311



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Porter Rd Northbound							Packard Rd Eastbound							
Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*	Int
2021-12-14 5:30PM	5	0	67	0	0	72	0	42	94	0	0	8	144	0	298
5:45PM	3	0	52	0	1	56	0	43	68	0	0	5	116	0	262
6:00PM	5	0	54	0	0	59	0	31	69	1	0	19	120	0	232
6:15PM	1	0	55	0	0	56	0	34	80	0	0	3	117	0	254
Total	14	0	228	0	1	243	0	150	311	1	0	35	497	0	1046
% Approach	5.8%	0%	93.8%	0%	0.4%	-	-	30.2%	62.6%	0.2%	0%	7.0%	-	-	-
% Total	1.3%	0%	21.8%	0%	0.1%	23.2%	-	14.3%	29.7%	0.1%	0%	3.3%	47.5%	-	-
PHF	0.700	-	0.851	-	0.250	0.844	-	0.872	0.827	0.250	-	0.461	0.863	-	0.878
Motorcycles	0	0	1	0	0	1	-	1	0	0	0	0	1	-	4
% Motorcycles	0%	0%	0.4%	0%	0%	0.4%	-	0.7%	0%	0%	0%	0%	0.2%	-	0.4%
Lights	14	0	226	0	1	241	-	149	309	1	0	35	494	-	1030
% Lights	100%	0%	99.1%	0%	100%	99.2%	-	99.3%	99.4%	100%	0%	100%	99.4%	-	98.5%
Heavy	0	0	1	0	0	1	-	0	2	0	0	0	2	-	12
% Heavy	0%	0%	0.4%	0%	0%	0.4%	-	0%	0.6%	0%	0%	0%	0.4%	-	1.1%
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Porter Rd/Packard Rd (east) - TMC

Tue Dec 14, 2021

Forced Peak (5:30 PM - 6:30 PM)

All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 911616, Location: 43.109264, -78.984311

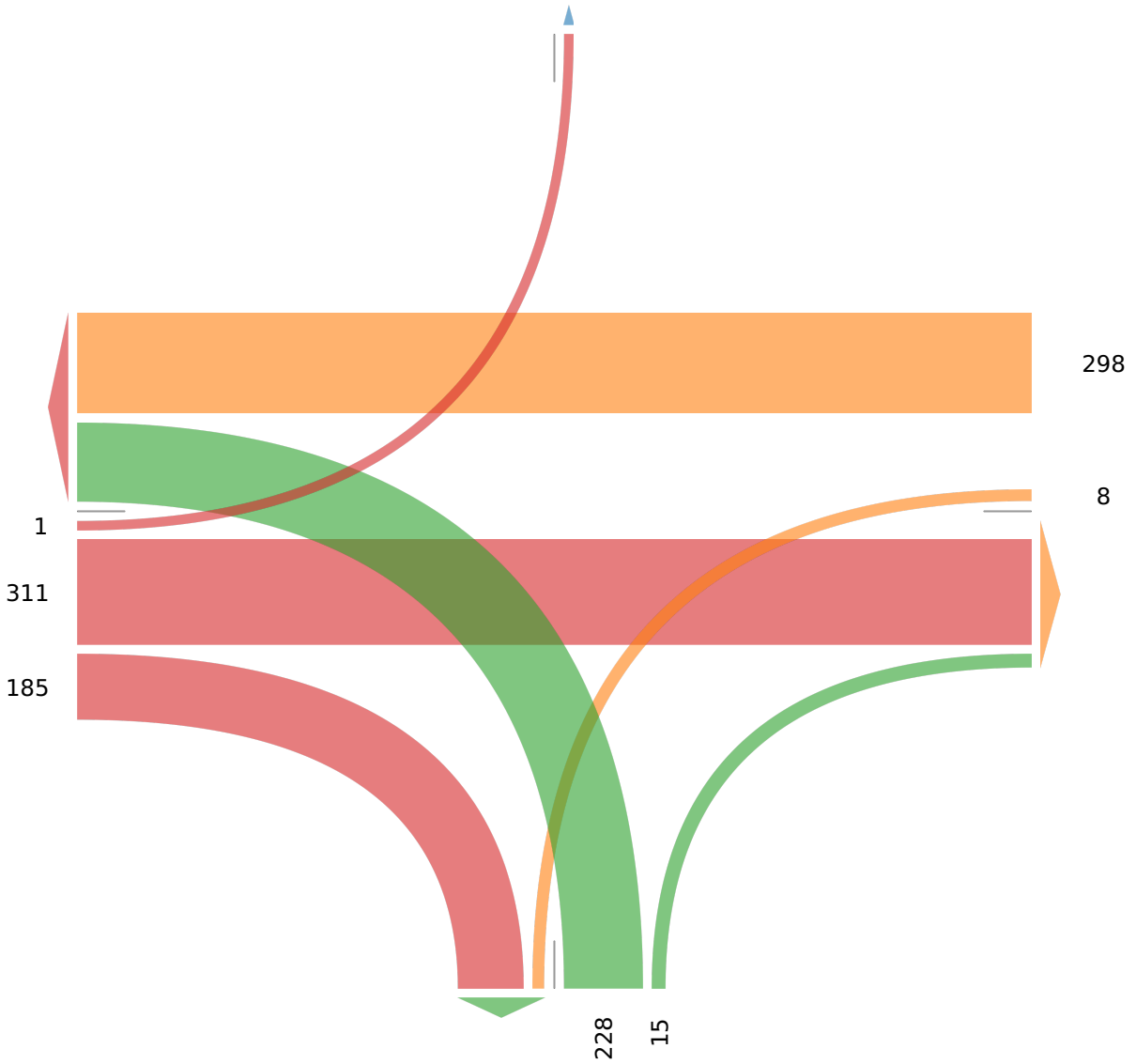


Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

[N] North

Total: 1
In: 0 Out: 1

[W] Packard Rd
Total: 1023
In: 497 Out: 526



[E] Packard Rd
Out: 326 In: 306
Total: 632

[S] Porter Rd
Out: 193 In: 243
Total: 436

A2

**Miscellaneous Traffic Data
and Calculations**



Project Fifi Proposed Distribution Center, Town of Niagara, Niagara County, NY

Documentation of Ambient Traffic Volume Growth

Roadway	Segment starts at	Segment end at	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Annual Growth
Military Rd	Packard Rd	Lockport Rd						18,656		21,174		17,115	-2.13%
Packard Rd	Porter Rd	Military Rd	23,353						24,008			22,375	-0.47%
Packard Rd	Niagara Falls CL	I-190 SB				8,015		8,048			8,410		0.97%
Porter Rd	I-190	Packard Rd	13,663				14,496		11,670	11,236		11,223	-2.16%
Porter Rd	Packard Rd	Rte 62	9,217			8,502		8,258	8,258	8,760	8,392		-1.17%
Lockport Rd	Lockport TL	Bear Ridge Rd		6,663					4,930			6,762	0.18%
Lockport Rd	Comstock Rd	Campbell Blvd			6,365			5,775		5,202			-3.96%
Walmore Rd	Lockport Rd	Wheatfield/Lewiston		4,787		3,904		6,004	6,530		3,893		-3.43%
Lockport Rd	Meath Rd	Comstock Rd	6,802									6,562	-0.68%
Walmore Rd	Niagara Rd	Lockport Rd			6,147		16,166	19,318			7,124		0.94%
Niagara Falls Blvd	Walmore Rd	Williams Rd										18,490	2.72%
Cayuga Dr Ext	Williams Rd	Niagara Rd	7,991			6,599			7,674			7,088	-1.32%
												AVERAGE	-0.88%

Timing Report, Sorted By Phase
 3: Military Road/Military Rd & Porter-Packard

Signal #4

5/26/2016



Phase Number	1	2	3	4	5	6	7	8
Movement	NWL	SET	EBL	WBTL	SEL	NWT	WBL	EBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	None	C-Max	None	Max	None	C-Max
Maximum Split (s)	25	30	15	35	25	30	15	35
Maximum Split (%)	23.8%	28.6%	14.3%	33.3%	23.8%	28.6%	14.3%	33.3%
Minimum Split (s)	15.2	17.2	10.2	17.2	13.2	17.2	10.2	17.2
Yellow Time (s)	3.6	3.6	3.9	3.9	3.6	3.6	3.9	3.9
All-Red Time (s)	2.8	2.8	3.3	3.3	2.8	2.8	3.3	3.3
Minimum Initial (s)	8	10	3	10	6	10	3	10
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		24		24		24		24
Dual Entry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	7.2	32.2	62.2	77.2	7.2	32.2	62.2	77.2
End Time (s)	32.2	62.2	77.2	7.2	32.2	62.2	77.2	7.2
Yield/Force Off (s)	25.8	55.8	70	0	25.8	55.8	70	0
Yield/Force Off 170(s)	25.8	31.8	70	81	25.8	31.8	70	81
Local Start Time (s)	7.2	32.2	62.2	77.2	7.2	32.2	62.2	77.2
Local Yield (s)	25.8	55.8	70	0	25.8	55.8	70	0
Local Yield 170(s)	25.8	31.8	70	81	25.8	31.8	70	81

RECEIVED

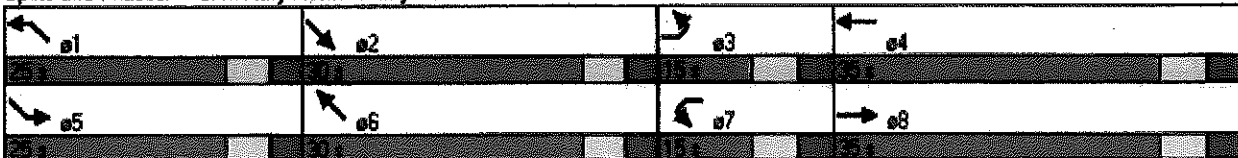
NOV 25 2019

TOWN OF NIAGARA
 BLDG. INSP. OFFICE

Intersection Summary

Cycle Length 105
 Control Type Actuated-Coordinated
 Natural Cycle 80
 Offset: 0 (0%). Referenced to phase 4:WBTL and 8:EBTL, Start of Yellow, Master Intersection

Splits and Phases: 3: Military Road/Military Rd & Porter-Packard



Timing Report, Sorted By Phase
4: I-190N Off Ramp & Packard

Signal #103

5/26/2016



Phase Number	1	3
Movement	EBWB	NWTL
Lead/Lag		
Lead-Lag Optimize		
Recall Mode	C-Max	None
Maximum Split (s)	65	40
Maximum Split (%)	61.9%	38.1%
Minimum Split (s)	60	11.2
Yellow Time (s)	4.3	3.6
All-Red Time (s)	1.1	1.6
Minimum Initial (s)	34.6	6
Vehicle Extension (s)	3	3
Minimum Gap (s)	3	3
Time Before Reduce (s)	0	0
Time To Reduce (s)	0	0
Walk Time (s)		
Flash Dont Walk (s)		
Dual Entry	Yes	Yes
Inhibit Max	Yes	Yes
Start Time (s)	60.4	20.4
End Time (s)	20.4	60.4
Yield/Force Off (s)	15	55.2
Yield/Force Off 170(s)	15	55.2
Local Start Time (s)	45.4	5.4
Local Yield (s)	0	40.2
Local Yield 170(s)	0	40.2

Intersection Summary

Cycle Length 105
 Control Type Actuated-Coordinated
 Natural Cycle 75
 Offset: 15 (14%), Referenced to phase 1:EBWB, Start of Yellow

Splits and Phases: 4: I-190N Off Ramp & Packard



Timing Report, Sorted By Phase
 6: K-Mart/Porter & Packard/Porter-Packard

Signal # 77

5/26/2016



Phase Number	1	2	3
Movement	EBWB	SBTL	NBTL
Lead/Lag	Lead	Lag	
Lead-Lag Optimize	Yes	Yes	
Recall Mode	C-Max	None	None
Maximum Split (s)	45	45	15
Maximum Split (%)	42.9%	42.9%	14.3%
Minimum Split (s)	45	21.2	14.2
Yellow Time (s)	3.6	3.6	3.6
All-Red Time (s)	2.6	2.6	2.6
Minimum Initial (s)	28.8	15	8
Vehicle Extension (s)	3	3	3
Minimum Gap (s)	3	3	3
Time Before Reduce (s)	0	0	0
Time To Reduce (s)	0	0	0
Walk Time (s)			
Flash Dont Walk (s)			
Dual Entry	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes
Start Time (s)	74.2	14.2	59.2
End Time (s)	14.2	59.2	74.2
Yield/Force Off (s)	8	53	68
Yield/Force Off 170(s)	8	53	68
Local Start Time (s)	66.2	6.2	51.2
Local Yield (s)	0	45	60
Local Yield 170(s)	0	45	60

Intersection Summary

Cycle Length 105
 Control Type Actuated-Coordinated
 Natural Cycle 85
 Offset: 8 (8%), Referenced to phase 1:EBWB, Start of Yellow

Splits and Phases: 6: K-Mart/Porter & Packard/Porter-Packard



Station : 4076 - 182 @ Porter (Standard File)

Phase [1.1.1]

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Walk	7	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clearance	21	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Green	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0
Passage	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
Max1	35	0	40	0	0	0	0	0	0	0	0	0	0	0	0	0
Max2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yellow	3.6	3.5	3.9	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Red	2.7	1.5	1.8	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Red Revert	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Added Initial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Initial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time Before Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Before Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Reduce By	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dynamic Max Limit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dynamic Max Step	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Auto Exit																
Rest In Walk																

Phase Option [1.1.2]

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Enable	ON		ON													
Auto Entry																
Non Act1																
Non Act2																
Lock Call																
Min Recall																
Max Recall	ON															
Ped Recall																
Soft Recall																
Dual Entry		ON		ON		ON		ON								
Sim Gap Enable	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Guar Passage																
Cond Service																
Add Init Calc																

Alternate Phase Program 1, Calls and Redirection [1.1.6.3]

ENTRY	Call Phases	From	to	From	to	From	to	From	to	Assigned Ph
1	0 0 0 0 0 0	0	0	0	0	0	0	0	0	0
2	0 0 0 0 0 0	0	0	0	0	0	0	0	0	0
3	0 0 0 0 0 0	0	0	0	0	0	0	0	0	0
4	0 0 0 0 0 0	0	0	0	0	0	0	0	0	0
5	0 0 0 0 0 0	0	0	0	0	0	0	0	0	0
6	0 0 0 0 0 0	0	0	0	0	0	0	0	0	0
7	0 0 0 0 0 0	0	0	0	0	0	0	0	0	0
8	0 0 0 0 0 0	0	0	0	0	0	0	0	0	0

Alternate Phase Program 2, Calls and Redirection [1.1.6.3]

ENTRY	Call Phases	From	to	From	to	From	to	From	to	Assigned Ph
1	0 0 0 0 0 0	0	0	0	0	0	0	0	0	0
2	0 0 0 0 0 0	0	0	0	0	0	0	0	0	0
3	0 0 0 0 0 0	0	0	0	0	0	0	0	0	0
4	0 0 0 0 0 0	0	0	0	0	0	0	0	0	0
5	0 0 0 0 0 0	0	0	0	0	0	0	0	0	0
6	0 0 0 0 0 0	0	0	0	0	0	0	0	0	0
7	0 0 0 0 0 0	0	0	0	0	0	0	0	0	0
8	0 0 0 0 0 0	0	0	0	0	0	0	0	0	0

Alternate Phase Program 1, Interval Times [1.1.6.1]

Phase	Walk	Ped Clear	Min Green	Passage	Max1	Max2	Yellow	Red Clear	Assign Ph	Bike Clear
1	0	0	0	0	0	0	0	0	0	
2	0	0	0	0	0	0	0	0	0	
3	0	0	0	0	0	0	0	0	0	
4	0	0	0	0	0	0	0	0	0	
5	0	0	0	0	0	0	0	0	0	
6	0	0	0	0	0	0	0	0	0	
7	0	0	0	0	0	0	0	0	0	
8	0	0	0	0	0	0	0	0	0	

Alternate Phase Program 2, Interval Times [1.1.6.1]

Phase	Walk	Ped Clear	Min Green	Passage	Max1	Max2	Yellow	Red Clear	Assign Ph	Bike Clear
1	0	0	0	0	0	0	0	0	0	
2	0	0	0	0	0	0	0	0	0	
3	0	0	0	0	0	0	0	0	0	
4	0	0	0	0	0	0	0	0	0	
5	0	0	0	0	0	0	0	0	0	
6	0	0	0	0	0	0	0	0	0	
7	0	0	0	0	0	0	0	0	0	
8	0	0	0	0	0	0	0	0	0	

Prepared By

Date Implemented

Reviewed By

Traffic Engineer

Station : 4076 - 182 @ Porter (Standard File)

Unit Parameters [1.2.1]

StartUp Flash	Auto Ped Clear	Backup Time	Red Revert	Aux Switch Function	Local Flash Start	Console Timeout	Yellow 3 Second Disable	Tone Disable	Omit Yellow Enable	MCE Timeout	Enable Run	Start Red Time	Phase Mode	Disable Init Ped	Diamond Mode	TOD Dim Enable	Extra Maps Enable	D Connector Enable	SDLC Retry Time	TS2 Det Faults	Stop Time Over Preempt
OFF		900	3	STOPTM	RED	20	OFF	OFF	OFF		ON	6	STD8	OFF	4PH	OFF	DEFAULT			ON	OFF

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Station : 4076 - 182 @ Porter (Standard File)

TB Coor, Action Table [4.5]

Action	Pattern	Aux 1	Aux 2	Aux 3	Special 1	Special 2	Special 3	Special 4	Special 5	Special 6	Special 7	Special 8
1	1				0	0						
2	2				0	0						
3	3				0	0						
4	4				0	0						
5	5				0	0						
6	6				0	0						
7	7				0	0						
8	8				0	0						
9	9				0	0						
10	10				0	0						
11	11				0	0						
12	12				0	0						
13	13				0	0						
14	14				0	0						
15	15				0	0						
16	16				0	0						
17	17				0	0						
18	18				0	0						
19	19				0	0						
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59					0	0						
60					0	0						
61					0	0						
62					0	0						
63					0	0						
64					0	0						
99					0	0						
100	255				0	0						

Station : 4035 - 265 @ Lockport Rd (Standard File)

Phase [1.1.1]

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Walk	7	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clearance	15	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Green	20	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0
Passage	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
Max1	40	0	40	0	0	0	0	0	0	0	0	0	0	0	0	0
Max2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yellow	4.3	3.5	4.3	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Red	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Red Revert	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Added Initial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Initial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time Before Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Before Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Reduce By	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dynamic Max Limit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dynamic Max Step	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Auto Exit																
Rest In Walk																

Phase Option [1.1.2]

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Enable	ON		ON													
Auto Entry																
Non Act1																
Non Act2																
Lock Call	ON															
Min Recall			ON													
Max Recall																
Ped Recall																
Soft Recall																
Dual Entry		ON		ON		ON		ON								
Sim Gap Enable	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Guar Passage																
Cond Service																
Add Init Calc																

Alternate Phase Program 1, Calls and Redirection [1.1.6.3]

ENTRY	Call Phases	From	to	From	to	From	to	From	to	Assigned Ph
1	0 0 0 0 0 0	0	0	0	0	0	0	0	0	0
2	0 0 0 0 0 0	0	0	0	0	0	0	0	0	0
3	0 0 0 0 0 0	0	0	0	0	0	0	0	0	0
4	0 0 0 0 0 0	0	0	0	0	0	0	0	0	0
5	0 0 0 0 0 0	0	0	0	0	0	0	0	0	0
6	0 0 0 0 0 0	0	0	0	0	0	0	0	0	0
7	0 0 0 0 0 0	0	0	0	0	0	0	0	0	0
8	0 0 0 0 0 0	0	0	0	0	0	0	0	0	0

Alternate Phase Program 2, Calls and Redirection [1.1.6.3]

ENTRY	Call Phases	From	to	From	to	From	to	From	to	Assigned Ph
1	0 0 0 0 0 0	0	0	0	0	0	0	0	0	0
2	0 0 0 0 0 0	0	0	0	0	0	0	0	0	0
3	0 0 0 0 0 0	0	0	0	0	0	0	0	0	0
4	0 0 0 0 0 0	0	0	0	0	0	0	0	0	0
5	0 0 0 0 0 0	0	0	0	0	0	0	0	0	0
6	0 0 0 0 0 0	0	0	0	0	0	0	0	0	0
7	0 0 0 0 0 0	0	0	0	0	0	0	0	0	0
8	0 0 0 0 0 0	0	0	0	0	0	0	0	0	0

Alternate Phase Program 1, Interval Times [1.1.6.1]

Phase	Walk	Ped Clear	Min Green	Passage	Max1	Max2	Yellow	Red Clear	Assign Ph	Bike Clear
1	0	0	0	0	0	0	0	0	0	
2	0	0	0	0	0	0	0	0	0	
3	0	0	0	0	0	0	0	0	0	
4	0	0	0	0	0	0	0	0	0	
5	0	0	0	0	0	0	0	0	0	
6	0	0	0	0	0	0	0	0	0	
7	0	0	0	0	0	0	0	0	0	
8	0	0	0	0	0	0	0	0	0	

Alternate Phase Program 2, Interval Times [1.1.6.1]

Phase	Walk	Ped Clear	Min Green	Passage	Max1	Max2	Yellow	Red Clear	Assign Ph	Bike Clear
1	0	0	0	0	0	0	0	0	0	
2	0	0	0	0	0	0	0	0	0	
3	0	0	0	0	0	0	0	0	0	
4	0	0	0	0	0	0	0	0	0	
5	0	0	0	0	0	0	0	0	0	
6	0	0	0	0	0	0	0	0	0	
7	0	0	0	0	0	0	0	0	0	
8	0	0	0	0	0	0	0	0	0	

Prepared By

Date Implemented

Reviewed By

Traffic Engineer

Station : 4035 - 265 @ Lockport Rd (Standard File)

Unit Parameters [1.2.1]

StartUp Flash	Auto Ped Clear	Backup Time	Red Revert	Aux Switch Function	Local Flash Start	Console Timeout	Yellow 3 Second Disable	Tone Disable	Omit Yellow Enable	MCE Timeout	Enable Run	Start Red Time	Phase Mode	Disable Init Ped	Diamond Mode	TOD Dim Enable	Extra Maps Enable	D Connector Enable	SDLC Retry Time	TS2 Det Faults	Stop Time Over Preempt
OFF		900	3	STOPTM	RED	20	OFF	OFF	OFF		ON	6	STD8	OFF	4PH	OFF	DEFAULT			ON	OFF

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Station : 4035 - 265 @ Lockport Rd (Standard File)

TB Coor, Action Table [4.5]

Action	Pattern	Aux 1	Aux 2	Aux 3	Special 1	Special 2	Special 3	Special 4	Special 5	Special 6	Special 7	Special 8
1	1				0	0						
2	2				0	0						
3	3				0	0						
4	4				0	0						
5	5				0	0						
6	6				0	0						
7	7				0	0						
8	8				0	0						
9	9				0	0						
10	10				0	0						
11	11				0	0						
12	12				0	0						
13	13				0	0						
14	14				0	0						
15	15				0	0						
16	16				0	0						
17	17				0	0						
18	18				0	0						
19	19				0	0						
20	20				0	0						
21	21				0	0						
22	22				0	0						
23	23				0	0						
24	24				0	0						
25					0	0						
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54					0	0						
55					0	0						
56					0	0						
57					0	0						
58					0	0						
59					0	0						
60					0	0						
61					0	0						
62					0	0						
63					0	0						
64					0	0						
99					0	0						
100	255				0	0						

Station : 54002 - 62 @ Walmore Rd. (Standard File)

Phase [1.1.1]

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Walk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clearance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Green	6	10	0	0	6	10	6	20	0	0	0	0	0	0	0	0
Gap Ext	3	4	0	0	3	4	2	2	0	0	0	0	0	0	0	0
Max1	15	50	0	0	15	50	30	30	0	0	0	0	0	0	0	0
Max2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yellow Clr	3.2	4	3.5	3.5	3.2	4	4	4	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Red Clr	1.1	2	1.5	1.5	1.1	2	2	2	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Red Revert	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Added Initial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Initial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time Before Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Before Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Reduce By	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dynamic Max Limit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dynamic Max Step	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Auto Flash Entry																
Auto Flash Exit																
Non-Actuated 1																
Non-Actuated 2																
Lock Calls																
Guarantd Passage																
Rest In Walk																
Added Init Calc																

Phase Option [1.1.2]

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Enable	ON	ON			ON	ON	ON	ON								
Min Recall								ON								
Max Recall		ON				ON										
Ped Recall																
Soft Recall																
Dual Entry		ON		ON		ON		ON								
Sim Gap Enable	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Cond Service																

Alternate Phase Program 1, Calls and Redirection [1.1.6.3]

ENTRY	Call Phases	From	to	From	to	From	to	From	to	Assigned Ph
1	0 0 0 0 0	0	0	0	0	0	0	0	0	0
2	0 0 0 0 0	0	0	0	0	0	0	0	0	0
3	0 0 0 0 0	0	0	0	0	0	0	0	0	0
4	0 0 0 0 0	0	0	0	0	0	0	0	0	0
5	0 0 0 0 0	0	0	0	0	0	0	0	0	0
6	0 0 0 0 0	0	0	0	0	0	0	0	0	0
7	0 0 0 0 0	0	0	0	0	0	0	0	0	0
8	0 0 0 0 0	0	0	0	0	0	0	0	0	0

Alternate Phase Program 2, Calls and Redirection [1.1.6.3]

ENTRY	Call Phases	From	to	From	to	From	to	From	to	Assigned Ph
1	0 0 0 0 0	0	0	0	0	0	0	0	0	0
2	0 0 0 0 0	0	0	0	0	0	0	0	0	0
3	0 0 0 0 0	0	0	0	0	0	0	0	0	0
4	0 0 0 0 0	0	0	0	0	0	0	0	0	0
5	0 0 0 0 0	0	0	0	0	0	0	0	0	0
6	0 0 0 0 0	0	0	0	0	0	0	0	0	0
7	0 0 0 0 0	0	0	0	0	0	0	0	0	0
8	0 0 0 0 0	0	0	0	0	0	0	0	0	0

Alternate Phase Program 1, Interval Times [1.1.6.1]

Phase	Walk	Ped Clear	Min Green	Passage	Max1	Max2	Yellow	Red Clear	Assign Ph	Bike Clear
1	0	0	0	0	0	0	0	0	0	
2	0	0	0	0	0	0	0	0	0	
3	0	0	0	0	0	0	0	0	0	
4	0	0	0	0	0	0	0	0	0	
5	0	0	0	0	0	0	0	0	0	
6	0	0	0	0	0	0	0	0	0	
7	0	0	0	0	0	0	0	0	0	
8	0	0	0	0	0	0	0	0	0	

Alternate Phase Program 2, Interval Times [1.1.6.1]

Phase	Walk	Ped Clear	Min Green	Passage	Max1	Max2	Yellow	Red Clear	Assign Ph	Bike Clear
1	0	0	0	0	0	0	0	0	0	
2	0	0	0	0	0	0	0	0	0	
3	0	0	0	0	0	0	0	0	0	
4	0	0	0	0	0	0	0	0	0	
5	0	0	0	0	0	0	0	0	0	
6	0	0	0	0	0	0	0	0	0	
7	0	0	0	0	0	0	0	0	0	
8	0	0	0	0	0	0	0	0	0	

Prepared By

Date Implemented

Reviewed By

Traffic Engineer

Station : 54002 - 62 @ Walmore Rd. (Standard File)

Unit Parameters [1.2.1]

StartUp Flash	Auto Ped Clear	Red Revert	Local Flash Start	Allow < 3 sec Yel	Allow Skip Yel	MCE Timeout	Enable Run	Start Red Time	Phase Mode	Startup Calls	Diamond Mode	Stop Time Over Preempt	Free Ring Sequence	Clearance Decide	Min Ped Clear Time	Ring Algo
OFF		3	RED	OFF	OFF		ON	6	STD8	OFF	4PH	OFF	1	OFF	OFF	

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Station : 54002 - 62 @ Walmore Rd. (Standard File)

TB Coor, Action Table [4.5]

Action	Pattern	Aux 1	Aux 2	Aux 3	Special 1	Special 2	Special 3	Special 4	Special 5	Special 6	Special 7	Special 8
1	1				0	0						
2	2				0	0						
3	3				0	0						
4	4				0	0						
5	5				0	0						
6	6				0	0						
7	7				0	0						
8	8				0	0						
9	9				0	0						
10	10				0	0						
11	11				0	0						
12	12				0	0						
13	13				0	0						
14	14				0	0						
15	15				0	0						
16	16				0	0						
17	17				0	0						
18	18				0	0						
19	19				0	0						
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62					0	0						
63					0	0						
64					0	0						
99					0	0						
100	255				0	0						

Lanes, Volumes, Timings
4: Lockport Rd & Walmore Rd (N)

Proposed ETC+10 AM
6/15/2017



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	31	321	429	176	101	42
Future Volume (vph)	31	321	429	176	101	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200			170	0	100
Storage Lanes	1			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor				0.98		
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1583	1712	1792	1553	1543	1568
Flt Permitted	0.464				0.950	
Satd. Flow (perm)	773	1712	1792	1520	1543	1568
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				193		53
Link Speed (mph)		45	45		45	
Link Distance (ft)		1545	1097		997	
Travel Time (s)		23.4	16.6		15.1	
Confl. Peds. (#/hr)				1		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.80	0.80
Heavy Vehicles (%)	14%	11%	6%	4%	17%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	34	353	471	193	126	53
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases		4	8		6	
Permitted Phases	4			8		6
Detector Phase	4	4	8	8	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	27.0	27.0	27.0	27.0	13.0	13.0
Total Split (%)	67.5%	67.5%	67.5%	67.5%	32.5%	32.5%
Maximum Green (s)	22.5	22.5	22.5	22.5	8.5	8.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	C-Max	C-Max	Min	Min
Act Effct Green (s)	23.4	23.4	23.4	23.4	7.6	7.6
Actuated g/C Ratio	0.58	0.58	0.58	0.58	0.19	0.19
v/c Ratio	0.08	0.35	0.45	0.20	0.43	0.16
Control Delay	4.6	5.9	6.0	2.1	18.9	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.6	5.9	6.0	2.1	18.9	6.4
LOS	A	A	A	A	B	A

Lanes, Volumes, Timings
 4: Lockport Rd & Walmore Rd (N)

Proposed ETC+10 AM
 6/15/2017

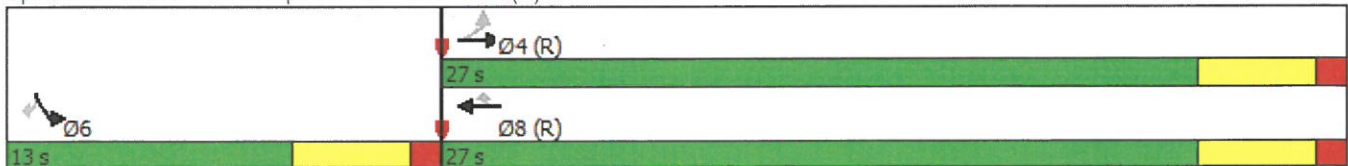


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Approach Delay		5.8	4.9		15.2	
Approach LOS		A	A		B	
Queue Length 50th (ft)	3	36	54	0	24	0
Queue Length 95th (ft)	11	70	96	m15	51	15
Internal Link Dist (ft)		1465	1017		917	
Turn Bay Length (ft)	200			170		100
Base Capacity (vph)	451	1000	1047	968	327	374
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.35	0.45	0.20	0.39	0.14

Intersection Summary

Area Type: Other
 Cycle Length: 40
 Actuated Cycle Length: 40
 Offset: 29 (73%), Referenced to phase 4:EBTL and 8:WBT, Start of Green
 Natural Cycle: 40
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.45
 Intersection Signal Delay: 6.7
 Intersection LOS: A
 Intersection Capacity Utilization 38.9%
 ICU Level of Service A
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Lockport Rd & Walmore Rd (N)



Lanes, Volumes, Timings
6: Walmore Rd (S) & Lockport Rd

Proposed ETC+10 AM
6/15/2017



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↕		↕	↕	↕	↕
Traffic Volume (vph)	262	171	109	346	247	75
Future Volume (vph)	262	171	109	346	247	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						0.98
Frt	0.947					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1687	0	1656	1792	1770	1524
Flt Permitted			0.396		0.950	
Satd. Flow (perm)	1687	0	690	1792	1770	1491
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	100					123
Link Speed (mph)	45			45	45	
Link Distance (ft)	1097			2020	987	
Travel Time (s)	16.6			30.6	15.0	
Confl. Peds. (#/hr)						1
Peak Hour Factor	0.90	0.90	0.92	0.92	0.61	0.61
Heavy Vehicles (%)	9%	3%	9%	6%	2%	6%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	481	0	118	376	405	123
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Detector Phase	4		8	8	2	2
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	10.0		10.0	10.0	10.0	10.0
Total Split (s)	21.0		21.0	21.0	19.0	19.0
Total Split (%)	52.5%		52.5%	52.5%	47.5%	47.5%
Maximum Green (s)	16.5		16.5	16.5	14.5	14.5
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	C-Max		C-Max	C-Max	Min	Min
Act Effct Green (s)	18.2		18.2	18.2	12.8	12.8
Actuated g/C Ratio	0.46		0.46	0.46	0.32	0.32
v/c Ratio	0.59		0.38	0.46	0.72	0.22
Control Delay	7.5		12.7	10.6	19.8	3.6
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	7.5		12.7	10.6	19.8	3.6
LOS	A		B	B	B	A
Approach Delay	7.5			11.1	16.0	
Approach LOS	A			B	B	
Queue Length 50th (ft)	46		17	56	73	0



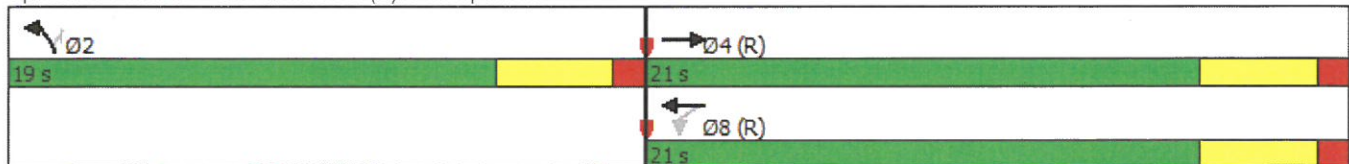
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Queue Length 95th (ft)	82		51	113	79	8
Internal Link Dist (ft)	1017			1940	907	
Turn Bay Length (ft)						
Base Capacity (vph)	822		314	816	641	618
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.59		0.38	0.46	0.63	0.20

Intersection Summary

Area Type: Other
 Cycle Length: 40
 Actuated Cycle Length: 40
 Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBTL, Start of Green, Master Intersection
 Natural Cycle: 45
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.72
 Intersection Signal Delay: 11.7
 Intersection Capacity Utilization 55.2%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 6: Walmore Rd (S) & Lockport Rd



Lanes, Volumes, Timings
4: Lockport Rd & Walmore Rd (N)

Proposed ETC+10 PM
6/15/2017



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	69	602	421	150	117	36
Future Volume (vph)	69	602	421	150	117	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200			170	0	100
Storage Lanes	1			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor				0.98		
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1530	1863	1827	1553	1752	1252
Flt Permitted	0.498				0.950	
Satd. Flow (perm)	802	1863	1827	1520	1752	1252
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				158		51
Link Speed (mph)		45	45		45	
Link Distance (ft)		1545	1097		997	
Travel Time (s)		23.4	16.6		15.1	
Confl. Peds. (#/hr)				1		
Peak Hour Factor	0.84	0.84	0.95	0.95	0.71	0.71
Heavy Vehicles (%)	18%	2%	4%	4%	3%	29%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	82	717	443	158	165	51
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases		4	8		6	
Permitted Phases	4			8		6
Detector Phase	4	4	8	8	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	20.0	20.0	20.0	20.0	10.0	10.0
Total Split (%)	66.7%	66.7%	66.7%	66.7%	33.3%	33.3%
Maximum Green (s)	15.5	15.5	15.5	15.5	5.5	5.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	C-Max	C-Max	Min	Min
Act Effct Green (s)	15.5	15.5	15.5	15.5	5.5	5.5
Actuated g/C Ratio	0.52	0.52	0.52	0.52	0.18	0.18
v/c Ratio	0.20	0.75	0.47	0.18	0.51	0.19
Control Delay	5.3	12.5	6.6	2.0	17.3	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.3	12.5	6.6	2.0	17.3	6.0
LOS	A	B	A	A	B	A

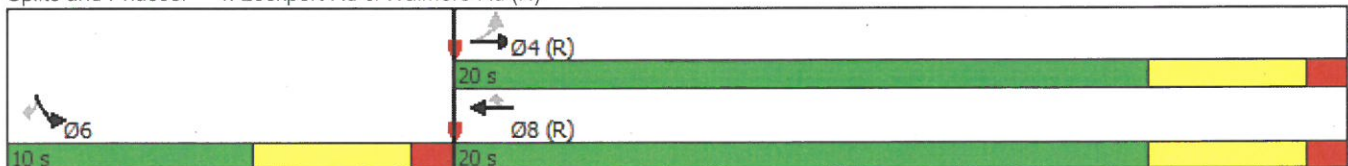


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Approach Delay		11.8	5.4		14.7	
Approach LOS		B	A		B	
Queue Length 50th (ft)	5	69	50	3	23	0
Queue Length 95th (ft)	15	116	69	m14	39	9
Internal Link Dist (ft)		1465	1017		917	
Turn Bay Length (ft)	200			170		100
Base Capacity (vph)	414	962	943	861	321	271
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.75	0.47	0.18	0.51	0.19

Intersection Summary

Area Type: Other
 Cycle Length: 30
 Actuated Cycle Length: 30
 Offset: 6 (20%), Referenced to phase 4:EBTL and 8:WBT, Start of Green
 Natural Cycle: 40
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.75
 Intersection Signal Delay: 9.8
 Intersection LOS: A
 Intersection Capacity Utilization 45.7%
 ICU Level of Service A
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Lockport Rd & Walmore Rd (N)



Lanes, Volumes, Timings
6: Walmore Rd (S) & Lockport Rd

Proposed ETC+10 PM
6/15/2017



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	475	241	106	360	217	131
Future Volume (vph)	475	241	106	360	217	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						0.98
Frt	0.955					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1785	0	1770	1827	1736	1509
Flt Permitted			0.233		0.950	
Satd. Flow (perm)	1785	0	434	1827	1736	1476
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	81					152
Link Speed (mph)	45			45	45	
Link Distance (ft)	1097			2020	987	
Travel Time (s)	16.6			30.6	15.0	
Confl. Peds. (#/hr)						1
Peak Hour Factor	0.87	0.87	0.94	0.94	0.86	0.86
Heavy Vehicles (%)	2%	1%	2%	4%	4%	7%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	823	0	113	383	252	152
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Detector Phase	4		8	8	2	2
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	10.0		10.0	10.0	10.0	10.0
Total Split (s)	42.0		42.0	42.0	18.0	18.0
Total Split (%)	70.0%		70.0%	70.0%	30.0%	30.0%
Maximum Green (s)	37.5		37.5	37.5	13.5	13.5
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5	4.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	C-Max		C-Max	C-Max	Min	Min
Act Effct Green (s)	38.8		38.8	38.8	12.2	12.2
Actuated g/C Ratio	0.65		0.65	0.65	0.20	0.20
v/c Ratio	0.70		0.40	0.32	0.72	0.36
Control Delay	7.2		11.1	6.0	34.6	6.8
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	7.2		11.1	6.0	34.6	6.8
LOS	A		B	A	C	A
Approach Delay	7.2			7.1	24.1	
Approach LOS	A			A	C	
Queue Length 50th (ft)	154		18	55	83	0



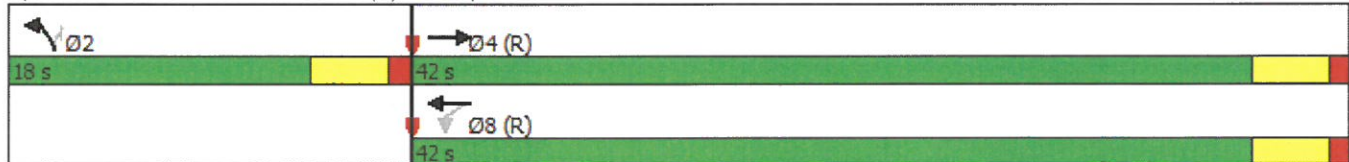
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Queue Length 95th (ft)	210		53	95	142	35
Internal Link Dist (ft)	1017			1940	907	
Turn Bay Length (ft)						
Base Capacity (vph)	1183		280	1181	390	449
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.70		0.40	0.32	0.65	0.34

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBTL, Start of Green, Master Intersection
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.72
 Intersection Signal Delay: 11.1
 Intersection Capacity Utilization 68.8%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service C

Splits and Phases: 6: Walmore Rd (S) & Lockport Rd



**Guideline for determining left-turn Lane at a two-way stop-controlled intersection
TWO LANE ROADWAY**

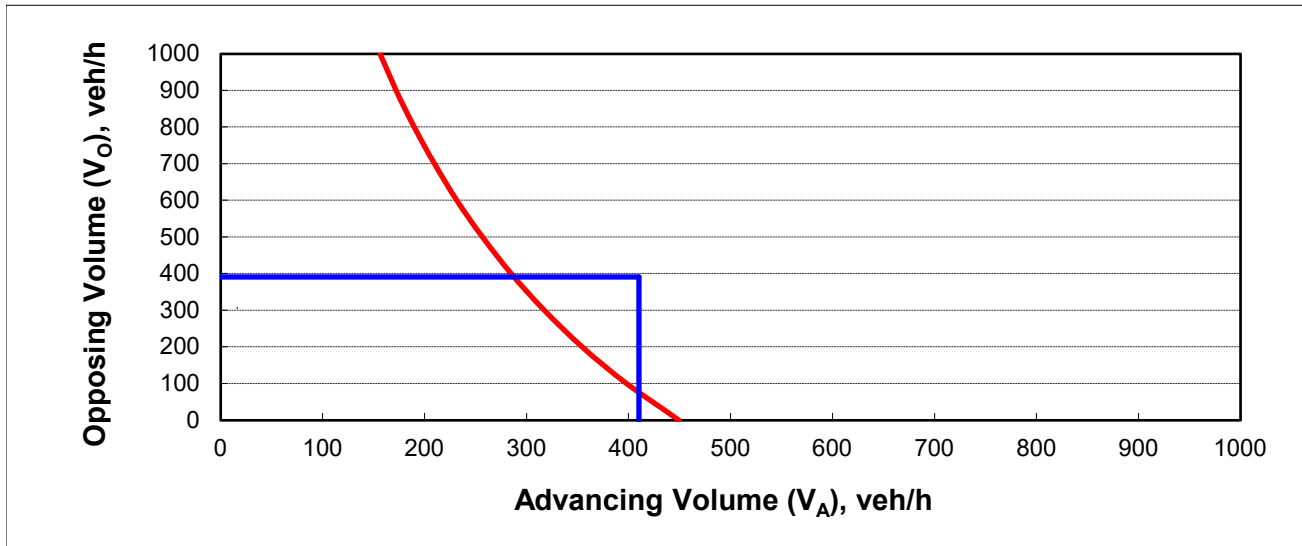
INPUT

Variable	Value
Major Approach	Lockport Rd/Proposed Dwy #2 - AM Peak
Approach	Westbound (Full Development)
Design Speed Limit - MPH	50
Percent of left-turns in advancing volume (V_A), %:	13%
Advancing volume (V_A), veh/h:	410
Opposing volume (V_O), veh/h:	391

CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

PLOT - LINE 1		PLOT - LINE 2	
0	391	410	0
410	391	410	391



OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	288
Guidance for determining the need for a major-road left-turn bay:	
Westbound (Full Development) Left-turn treatment warranted at Lockport Rd/Proposed Dwy #2 - AM Peak	

**Guideline for determining left-turn Lane at a two-way stop-controlled intersection
TWO LANE ROADWAY**

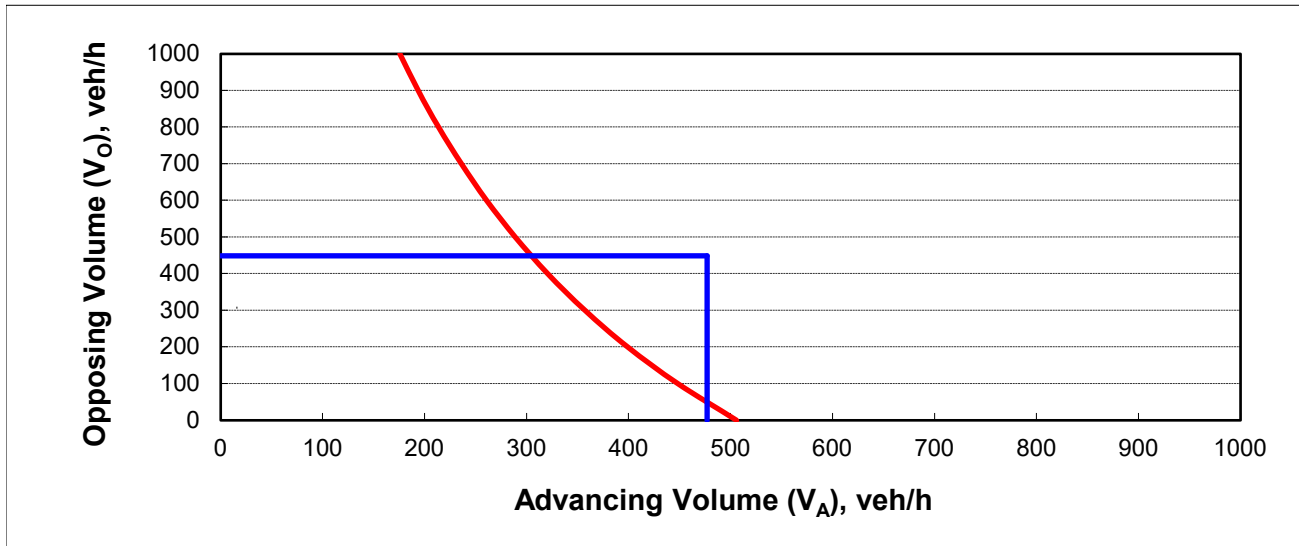
INPUT

Variable	Value
Major Approach	Lockport Rd/Proposed Dwy #2 - PM Peak
Approach	Westbound (Full Development)
Design Speed Limit - MPH	50
Percent of left-turns in advancing volume (V_A), %:	10%
Advancing volume (V_A), veh/h:	477
Opposing volume (V_O), veh/h:	449

CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

PLOT - LINE 1		PLOT - LINE 2	
0	449	477	0
477	449	477	449



OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	305
Guidance for determining the need for a major-road left-turn bay:	
Westbound (Full Development) Left-turn treatment warranted at Lockport Rd/Proposed Dwy #2 - PM Peak	



Traffic Signal Warrant Analysis Lockport Road and Driveway #1 Town of Niagara, Niagara County

Hour	Existing Fluctuation in Artery Volumes				Full Development Artery Volume on Lockport Rd at Driveway #1	Hourly Fluctuation of NB Driveway Traffic		Total Future Hourly Volumes Exiting Driveway #1*	2021 Warrant Analysis		
	per NYSDOT count on Lockport Rd		per NYSDOT count on Lockport Rd			Hourly Fluctuation of NB Driveway Traffic			Warrant I Condition A	Warrant I Condition B	Warrant 2 (4-hour)
	EB	WB	Two-Way	Two-Way		Exiting	Exiting		350/140	525/70	80 vph min
6:00 AM to 7:00 AM	360	321	681	4.47%	828	52	3.04%	20	N	N	N
7:00 AM to 8:00 AM	458	435	893	5.86%	1086	45	2.63%	30	N	N	N
8:00 AM to 9:00 AM	436	456	892	5.85%	1085	35	2.05%	13	N	N	N
9:00 AM to 10:00 AM	333	380	713	4.68%	867	41	2.40%	16	N	N	N
10:00 AM to 11:00 AM	336	405	741	4.86%	901	35	2.05%	13	N	N	N
11:00 AM to 12:00 PM	462	541	1003	6.58%	1220	51	2.98%	20	N	N	N
12:00 PM to 1:00 PM	532	451	983	6.45%	1195	36	2.11%	14	N	N	N
1:00 PM to 2:00 PM	491	436	927	6.08%	1127	25	1.46%	10	N	N	N
2:00 PM to 3:00 PM	477	482	959	6.29%	1166	32	1.87%	12	N	N	N
3:00 PM to 4:00 PM	577	580	1157	7.59%	1407	40	2.34%	15	N	N	N
4:00 PM to 5:00 PM	594	576	1170	7.68%	1423	39	2.28%	15	N	N	N
5:00 PM to 6:00 PM	514	522	1036	6.80%	1260	182	10.64%	70	N	Y	N
6:00 PM to 7:00 PM	354	396	750	4.92%	912	387	22.63%	148	Y	Y	Y
7:00 PM to 8:00 PM	292	266	558	3.66%	679	38	2.22%	15	N	N	N
8:00 PM to 9:00 PM	270	186	456	2.99%	554	27	1.58%	10	N	N	N
9:00 PM to 10:00 PM	298	150	448	2.94%	545	26	1.52%	10	N	N	N
10:00 PM to 11:00 PM	170	116	286	1.88%	348	36	2.11%	14	N	N	N
			15235		18526	1710		654			

Traffic Signal Warrant Analysis Lockport Road and Driveway #3 Town of Niagara, Niagara County

Hour	Existing Fluctuation in Artery Volumes					Full Development Artery Volume on Lockport Rd at Driveway #3	Hourly Fluctuation of NB Driveway Traffic		Total Future Hourly Volumes Exiting Driveway #3*	2021 Warrant Analysis		
	per NYSDOT count on Lockport Rd	per NYSDOT count on Lockport Rd	per NYSDOT count on Lockport Rd	per NYSDOT count on Lockport Rd	Fluctuation		Total	Exiting		Warrant I Condition A	Warrant I Condition B	Warrant 2 (4-hour)
	EB	WB	Two-Way	Two-Way	Two-Way							
6:00 AM to 7:00 AM	360	321	681	681	4.47%	1037	52	3.04%	24	N	N	N
7:00 AM to 8:00 AM	458	435	893	893	5.86%	1360	45	2.63%	8	N	N	N
8:00 AM to 9:00 AM	436	456	892	892	5.85%	1358	35	2.05%	16	N	N	N
9:00 AM to 10:00 AM	333	380	713	713	4.68%	1086	41	2.40%	19	N	N	N
10:00 AM to 11:00 AM	336	405	741	741	4.86%	1128	35	2.05%	16	N	N	N
11:00 AM to 12:00 PM	462	541	1003	1003	6.58%	1527	51	2.98%	24	N	N	N
12:00 PM to 1:00 PM	532	451	983	983	6.45%	1497	36	2.11%	17	N	N	N
1:00 PM to 2:00 PM	491	436	927	927	6.08%	1412	25	1.46%	12	N	N	N
2:00 PM to 3:00 PM	477	482	959	959	6.29%	1460	32	1.87%	15	N	N	N
3:00 PM to 4:00 PM	577	580	1157	1157	7.59%	1762	40	2.34%	19	N	N	N
4:00 PM to 5:00 PM	594	576	1170	1170	7.68%	1782	39	2.28%	18	N	N	N
5:00 PM to 6:00 PM	514	522	1036	1036	6.80%	1577	182	10.64%	84	N	Y	N
6:00 PM to 7:00 PM	354	396	750	750	4.92%	1142	387	22.63%	179	Y	Y	Y
7:00 PM to 8:00 PM	292	266	558	558	3.66%	850	38	2.22%	18	N	N	N
8:00 PM to 9:00 PM	270	186	456	456	2.99%	694	27	1.58%	12	N	N	N
9:00 PM to 10:00 PM	298	150	448	448	2.94%	682	26	1.52%	12	N	N	N
10:00 PM to 11:00 PM	170	116	286	286	1.88%	435	36	2.11%	17	N	N	N
						23198	1710		791			

AR Sortable Gen 11.5 1M OB TASRS FC - Traffic Schedule

Headcount

Headcount - Day Shift	Total
Headcount - Night Shift	661
	661

Shift Structure

Adjustment below accounts for mass transit and carpool users.	92%	Net Cars Factor
Day Shift - Inbound Employees	7:00:00 AM	5:30:00 PM
Day Shift - Outbound Employees	7:30:00 AM	6:00:00 PM
Night Shift - Inbound Employees	6:00:00 PM	4:30:00 AM
Night Shift - Outbound Employees	6:30:00 PM	5:00:00 AM

Traffic Schedule

Cars

Time	Average Weekday		Total
	In	Out	
00:00	2	4	6
01:00	1	2	3
02:00	3	9	12
03:00	5	9	14
04:00	11	116	127
05:00	24	308	332
06:00	18	11	29
06:15	47	11	58
06:30	82	6	88
06:45	110	4	114
07:00	109	6	115
07:15	142	3	145
07:30	21	4	25
07:45	5	4	9
08:00	17	11	28
09:00	11	6	17
10:00	13	11	24
11:00	25	26	51
12:00	7	11	18
13:00	9	9	18
14:00	7	16	23
15:00	19	24	43
16:00	29	21	50
17:00	17	21	38
17:15	32	10	42
17:30	71	83	154
17:45	93	48	141
18:00	116	160	276
18:15	112	108	220
18:30	15	72	87
18:45	3	27	30
19:00	12	23	35
20:00	5	5	10
21:00	10	10	20
22:00	11	14	25
23:00	2	3	5
Total	1,216	1,216	2,432

Trucks

Time	Average Weekday		Total
	In	Out	
00:00	18	18	36
01:00	30	30	60
02:00	13	13	26
03:00	24	24	48
04:00	13	13	26
05:00	18	18	36
06:00	5	5	10
06:15	5	5	10
06:30	5	5	10
06:45	5	5	10
07:00	7	7	14
07:15	7	7	14
07:30	7	7	14
07:45	7	7	14
08:00	24	24	48
09:00	35	35	70
10:00	24	24	48
11:00	25	25	50
12:00	25	25	50
13:00	16	16	32
14:00	16	16	32
15:00	16	16	32
16:00	18	18	36
17:00	5	5	10
17:15	5	5	10
17:30	5	5	10
17:45	5	5	10
18:00	5	5	10
18:15	5	5	10
18:30	5	5	10
18:45	5	5	10
19:00	15	15	30
20:00	22	22	44
21:00	16	16	32
22:00	22	22	44
23:00	16	16	32
Total	494	494	988

Cars + Trucks Average Weekday

Time	Average Weekday		Total
	In	Out	
00:00	20	22	42
01:00	31	32	63
02:00	16	22	38
03:00	29	33	62
04:00	24	129	153
05:00	42	326	368
06:00	23	16	39
06:15	52	16	68
06:30	87	11	98
06:45	115	9	124
07:00	116	13	129
07:15	149	10	159
07:30	28	11	39
07:45	12	11	23
08:00	41	35	76
09:00	46	41	87
10:00	37	35	72
11:00	50	51	101
12:00	32	36	68
13:00	25	25	50
14:00	23	32	55
15:00	35	40	75
16:00	47	39	86
17:00	22	26	48
17:15	37	15	52
17:30	76	88	164
17:45	98	53	151
18:00	121	165	286
18:15	117	113	230
18:30	20	77	97
18:45	8	32	40
19:00	27	38	65
20:00	27	27	54
21:00	26	26	52
22:00	33	36	69
23:00	18	19	37
Total	1,710	1,710	3,420

Morning Peak Hour of Generator (6:30 - 7:30 AM)			
	Enter	Exit	Total
Cars	443	19	462
Trucks	24	24	48
Total	467	43	510

Morning Peak Hour of Adjacent Street (7:00 - 8:00 AM)			
	Enter	Exit	Total
Cars	277	17	294
Trucks	28	28	56
Total	305	45	350

Evening Peak Hour of Generator (5:30 - 6:30 PM)			
	Enter	Exit	Total
Cars	392	399	791
Trucks	20	20	40
Total	412	419	831

Evening Peak Hour of Adjacent Street (5:00 - 6:00 PM)			
	Enter	Exit	Total
Cars	213	162	375
Trucks	20	20	40
Total	233	182	415

PROJECT: Project Fifi Proposed Distribution Center
LOCATION: Lockport Rd, Town of Niagara, New York
PEAK HOUR: AM Peak

Figure Number: 3 Num of yrs 3 4 6A 7A 6B 7B 7C 8

LOCATION NUMBER	INTERSECTION DESCRIPTION	Unadjusted Volumes	2024 Bkgd Vol 0.5%	Royal Car Wash	Speedway	Total Bkgd Vol	Proposed Distribution Facility - Trailers		Proposed Distribution Facility - Autos		Total Trailer Trips	Total Auto Trips	Total Combined Trips	Full Build Volumes
							Enter Dist. %	Exit Dist. %	Trips IN	Trips OUT				
4	Packard Rd/ Military Rd		3											
	SR	121	123	7		130								130
	ST	136	138		-23	115								115
	SL	101	103		37	140								140
	WR	78	79		2	81								81
	WT	302	307	3	14	324	92%			25%		5	27	351
	WL	61	62		30	92		22	4%			1	1	93
	NR	33	33			33						18	18	51
	NT	125	127		11	138								138
	NL	74	75			75								75
5	ER	68	69			69								69
	ET	295	299	3	14	316	92%	22		25%		111	133	449
	EL	78	79	7		86								86
	Packard Rd/ Porter Rd													
	SR													
	ST													
	SL													
	WR													
	WT	293	297	2	-19	280	92%	22				6	28	308
	WL	6	6		28	34						0	0	34
6	NR	8	8		16	24						4	4	28
	NT													
	NL	128	130	1	65	196								196
	ER	125	127	1		128								128
	ET	327	332	2	-6	328	92%	22		29%		128	151	479
	EL													
	Packard Rd/ Lockport Rd													
	SR	2	2			2								2
	ST	87	88			88	4%	1	8%		1	35	36	36
	SL	78	79			79			2%		9	9	9	97
WR	247	251	2	9	262						0	0	79	
WL											0	0	263	
NR											1	1	15	
NT											14	15	15	
NL													1	
ER	255	259	2	10	271	92%	22		8%		1	2	2	
ET									4%		1	2	27	
EL									4%		1	2	27	
									92%		5	27	27	
											111	133	133	
									5%		22	22	293	

PROJECT: Project Fifi Proposed Distribution Center
LOCATION: Lockport Rd, Town of Niagara, New York
PEAK HOUR: PM Peak

Figure Number:

3

Num of yrs

3

6A

7A

6B

7B

7C

8

LOCATION NUMBER	INTERSECTION DESCRIPTION	Unadjusted Volumes	Adjusted Volumes	2024 Bkgd Vol 0.5%	Royal Car Wash	Speedway	Total Bkgd Vol	Proposed Distribution Facility - Trailers			Proposed Distribution Facility - Autos			Total Auto Trips	Total Combined Trips	Full Build Volumes	
								Enter Dist. %	Exit Dist. %	Trips IN	Trips OUT	Enter Dist. %	Exit Dist. %				Trips IN
7	Lockport Rd/ Tusecarora Rd																
	SR																
	ST																
	SL																
	WR	293	322	327	2	11	340	4%	1		60%	235		235	236	576	
	WT																
	WL																
NR																	
8	Lockport Rd/ Walmore Rd																
	SR	25	28	28		1	29									29	
	ST	73	80	82			82									82	
	SL	89	98	99			99									99	
	WR	231	254	258	2	10	270	4%	1		60%	235		235	236	506	
	WT																
	WL																
NR																	
9	Lockport Rd/ Walmore Rd																
	SR	240	264	268	2	9	279									519	
	ST	34	37	38		1	39									39	
	SL																
	WR	178	196	199	2	10	211	4%	1		10%	39		39	40	251	
	WT	70	77	78			78									78	
	WL	61	67	68			68									68	
NR																	
NT	121	133	135			135										331	
NL	119	131	133			133										333	
ER	218	240	243	2	9	254	4%	1		50%	196		196	196	200		
EL										10%	40		40	41	295		

Int. #	Packard Rd/I-190 SB On-Ramp											Sum					
1	Left turn	Rear-end	Overtaking	Right Angle	Right Turn	Head On	Side-swipe	Fixed Object	Backing	Other	Animal	Bike/Ped	Total	Injury	Non Injury	Non-Repo	5
	0	1	0	2	1	0	0	1	0	0	0	0	5	0	1	4	

TOTALS 0 1 0 2 1 0 0 0 1 0 0 0 0 5 0 1 4

	Northbound	Southbound	Eastbound	Westbound	Unknown	Totals
Left turn						0
Rear-end	1					1
Overtaking						0
Right Angle	1		1			2
Right Turn	1					1
Head On						0
Side-swipe						0
Fixed Object	1					1
Backing						0
Other						0
Bike/Ped						0
Animal						0
Totals	0	4	1	0	0	5

1 Packard Rd/I-190 SB On-Ramp - 36 months
 ADT = Peak hour entering volume / k factor
 $ADT = \frac{1211}{0.10} = 12747.37$ VPD
 Rate = $\frac{5 \text{ Acc.}}{12747.368 \text{ VPD}} \times \frac{1,000,000}{365 \text{ Days}} \times 3,000 \text{ Yrs.} = 0.36 \text{ Crash / MEV}$

Inf. # **2** Packard Rd/I-190 NB Off-Ramp
 Left turn Rear-end Overtaking Right Angle Right Turn Head On Side-swipe Fixed Object Backing Other Animal Bike/Ped Total Sum
 7 2 2 5 0 0 0 0 0 0 2 0 0 3 9 4 16 16

	Northbound	Southbound	Eastbound	Westbound	Unknown	Totals
Left turn	2					2
Rear-end	6	1				7
Overtaking						0
Right Angle	4		1			5
Right Turn						0
Head On						0
Side-swipe						0
Fixed Object						0
Backing						0
Other				1		2
Bike/Ped						0
Animal						0
Totals	12	1	1	1	1	16

2 Packard Rd/I-190 NB Off-Ramp - 36 months
 ADT = Peak hour entering volume / k factor VPH / VPD = 14778.95
 Rate = $\frac{16 \text{ Acc.}}{14778.947 \text{ VPD}} \times \frac{1,000,000}{365 \text{ Days}} \times 3,000 \text{ Yrs.} = 0.99 \text{ Crash / MEV}$

Int # Packard Rd/Porter Rd/Vacant Store Dwy

	Left turn	Rear-end	Overtaking	Right Angle	Right Turn	Head On	Side-swipe	Fixed Object	Backing	Other	Animal	Bike/Ped	Total
	7	16	9	9	3	0	1	2	0	2	0	1	50
TOTALS	7	16	9	9	3	0	1	2	0	2	0	1	50

Injury	Non Injury	Non-Repo	Sum
11	30	9	50
11	30	9	50

	Northbound	Southbound	Eastbound	Westbound	Unknown	Totals
Left turn	1	2	2	2	0	7
Rear-end	4	3	5	3	1	16
Overtaking		1	5	3		9
Right Angle	1		5	3		9
Right Turn			1	2		3
Head On						0
Side-swipe			1			1
Fixed Object	1			1		2
Backing						0
Other			1	1		2
Bike/Ped	1					1
Animal						0
Totals	7	7	20	15	1	50

3 Packard Rd/Porter Rd/Vacant Store Dwy - 36 months
 ADT = Peak hour entering volume / k factor
 $ADT = \frac{2171}{3.000 \text{ Yrs.}} = 723.67$

$$\text{Rate} = \frac{50 \text{ Acc.}}{22852.6316 \text{ VPD}} \times \frac{1,000,000}{365 \text{ Days}} \times 0.10 = 22852.6316 \text{ VPD}$$

Int # 4 **Packard Rd/Military Rd**

Left turn	13	31	14	8	2	1	1	1	2	0	11	Animal	Bike/Ped	Total	Injury	Non Injury	Non-Repo	Sum
														83	21	50	12	83

TOTALS 13 31 14 8 2 1 1 2 0 11 0 0

	Northbound	Southbound	Eastbound	Westbound	Unknown	Totals
Left turn	5	2	2	4		13
Rear-end	10	6	5	8	2	31
Overtaking	4	2	5	3		14
Right Angle		4	3	1		8
Right Turn		1	1			2
Head On		1				1
Side-swipe	1					1
Fixed Object		1	1			2
Backing						0
Other	2	4	2	3		11
Bike/Ped						0
Animal						0
Totals	22	21	19	19	2	83

4 Packard Rd/Military Rd - 36 months

ADT = Peak hour entering volume / k factor
ADT = 3799

Rate = $\frac{83 \text{ Acc.}}{39989.4737 \text{ VPD}}$ x $\frac{1,000,000}{365 \text{ Days}}$ x $\frac{0.095}{\text{VPH}}$ = $\frac{39989.4737 \text{ VPD}}{1.90 \text{ Crash / MEV}}$ = $\frac{0.095}{3.000 \text{ Yrs.}}$

Int. #	Packard Rd/Porter Rd										Sum						
5	Left turn	Rear-end	Overtaking	Right Angle	Right Turn	Head On	Side-swipe	Fixed Object	Backing	Other	Animal	Bike/Ped	Total	Injury	Non Injury	Non-Repo	7
	0	3	1	2	0	0	0	0	0	1	0	0	7	4	2	1	7

TOTALS 0 3 1 2 0 0 0 0 0 0 1 0 0 7 4 2 1

	Northbound	Southbound	Eastbound	Westbound	Unknown	Totals
Left turn						0
Rear-end		3				3
Overtaking		1				1
Right Angle		1	1			2
Right Turn						0
Head On						0
Side-swipe						0
Fixed Object						0
Backing						0
Other		1				1
Bike/Ped						0
Animal						0
Totals	0	6	1	0	0	7

5 Packard Rd/Porter Rd - 36 months
 ADT = Peak hour entering volume / k factor
 $ADT = \frac{1710}{0.10} = 18000$ VPD
 Rate = $\frac{7}{18000} \times \frac{Acc.}{VPD} \times \frac{1,000,000}{365 \text{ Days}} \times 3,000 \text{ Yrs.} = 0.36$ Crash / MEV

Int. #	Packard Rd/Lockport Rd										Sum					
6	Left turn	Rear-end	Overtaking	Right Angle	Right Turn	Head On	Side-swipe	Fixed Object	Backing	Other	Animal	Bike/Ped	Injury	Non Injury	Non-Repo	2
	3	0	1	3	0	0	0	0	0	1	1	0	6	1	1	2
TOTALS	3	0	1	3	0	0	0	0	0	1	1	0	6	1	1	2

Total 9

Sum 9

	Northbound	Southbound	Eastbound	Westbound	Unknown	Totals
Left turn		2	1			3
Rear-end						0
Overtaking				1		1
Right Angle		3				3
Right Turn						0
Head On						0
Side-swipe						0
Fixed Object						0
Backing						0
Other			1			1
Bike/Ped						0
Animal			1			1
Totals	0	5	3	1	0	9

6 Packard Rd/Lockport Rd - 36 months

ADT = Peak hour entering volume / k factor

ADT = $\frac{1135}{0.10} = 11947.37$ VPD

Rate = $\frac{9 \text{ Acc.}}{11947.368 \text{ VPD}} \times \frac{1,000,000}{365 \text{ Days}} \times 3,000 \text{ Yrs.} = 0.69$ Crash / MEV

Int #	Lockport Rd/Tuscarora Rd										Sum					
7	Left turn	Rear-end	Overtaking	Right Angle	Right Turn	Head On	Side-swipe	Fixed Object	Backing	Other	Animal	Bike/Ped	Injury	Non Injury	Non-Repo	2
	4	1	1	1	0	0	1	1	0	1	1	0	3	5	5	10
TOTALS	0	4	1	1	0	0	1	1	0	1	1	0	3	5	5	2

	Northbound	Southbound	Eastbound	Westbound	Unknown	Totals
Left turn						0
Rear-end	1	3				4
Overtaking		1				1
Right Angle	1					1
Right Turn						0
Head On						0
Side-swipe	1					1
Fixed Object						1
Backing						0
Other		1				1
Bike/Ped						0
Animal				1		1
Totals	2	2	5	1	0	10

7 Lockport Rd/Tuscarora Rd - 36 months
 ADT = Peak hour entering volume / k factor
 $ADT = \frac{1049}{VPH / 0.10} = 11042.11$ VPD
 Rate = $\frac{10}{11042.105} \times \frac{Acc.}{VPD} \times \frac{1,000,000}{365 \text{ Days}} \times 3,000 \text{ Yrs.} = 0.83$ Crash / MEV

Int #	Lockport Rd/Walmore Rd (North)																
8	Left turn	Rear-end	Overtaking	Right Angle	Right Turn	Head On	Side-swipe	Fixed Object	Backing	Other	Animal	Bike/Ped	Total	Injury	Non Injury	Non-Repo	Sum
	1	3	1	1	1	0	0	2	0	3	1	0	12	2	10	0	12
TOTALS	1	3	1	1	0	0	0	2	0	3	1	0	12	2	10	0	12

	Northbound	Southbound	Eastbound	Westbound	Unknown	Totals
Left turn	1					1
Rear-end	2	1				3
Overtaking						1
Right Angle		1				1
Right Turn						0
Head On						0
Side-swipe						0
Fixed Object	1	1				2
Backing						0
Other	1		1		1	3
Bike/Ped						0
Animal	1					1
Totals	2	0	5	4	1	12

8 Lockport Rd/Walmore Rd (North) - 36 months
 ADT = Peak hour entering volume / k factor
 $ADT = \frac{1199}{0.10} = 12621.05$ VPD
 Rate = $\frac{9}{12621.053} \times \frac{Acc.}{365 \text{ Days}} \times \frac{1,000,000}{3,000 \text{ Yrs.}}$ = 0.65 Crash / MEV

Int. #	Lockport Rd/Walmore Rd (South)											Sum					
9	3	1	1	3	3	0	0	0	1	1	0	0	1	2	6	1	9
	Left turn	Rear-end	Overtaking	Right Angle	Right Turn	Head On	Side-swipe	Fixed Object	Backing	Other	Animal	Bike/Ped	Injury	Non Injury	Non-Repo		
TOTALS	0	3	1	3	0	0	0	1	0	1	0	0	2	6	1	9	

	Northbound	Southbound	Eastbound	Westbound	Unknown	Totals
Left turn						0
Rear-end	1			2		3
Overtaking		1				1
Right Angle		2	1			3
Right Turn						0
Head On						0
Side-swipe						0
Fixed Object	1					1
Backing						0
Other	1					1
Bike/Ped						0
Animal						0
Totals	3	2	2	2	0	9

9 Lockport Rd/Walmore Rd (South) - 36 months
 ADT = Peak hour entering volume / k factor
 $ADT = \frac{1223}{0.10} = 12873.68$ VPD
 Rate = $\frac{9 \text{ Acc.}}{12873.684 \text{ VPD}} \times \frac{1,000,000}{365 \text{ Days}} \times 3,000 \text{ Yrs.} = 0.64$ Crash / MEV

Int. #	10											Sum					
	Walmore Rd/Niagara Rd/Niagara Falls Blvd/Cayuga Drive											28					
	Left turn	Rear-end	Overtaking	Right Angle	Right Turn	Head On	Side-swipe	Fixed Object	Backing	Other	Animal	Bike/Ped	Total	Injury	Non Injury	Non-Repo	
	2	15	2	1	1	1	0	1	0	3	1	1	28	8	16	4	
TOTALS	2	15	2	1	1	1	0	1	0	3	1	1	28	8	16	4	

	Northbound Southbound	Northbound	Southbound	Southwestbound	Northwestbound	Southeastbound	Unknown	Totals
Left turn	1							2
Rear-end		5	1		4		1	15
Overtaking		1			1			2
Right Angle				1				1
Right Turn					1			1
Head On						1		1
Side-swipe								0
Fixed Object					1			1
Backing								0
Other	1				1			3
Bike/Ped		1						1
Animal					1			1
Totals	2	7	1	2	9	7	0	28

10 Walmore Rd/Niagara Rd/Niagara Falls Blvd/Cayuga Drive - 36 months
 ADT = Peak hour entering volume / k factor

$$\text{Rate} = \frac{28}{23536.842} \times \frac{\text{Acc. VPD}}{\text{VPD}} \times \frac{1,000,000}{365 \text{ Days}} \times 3,000 \text{ Yrs.} = 1.09 \text{ Crash/MEV}$$

Int. #	Military Rd/Lockport Rd											Sum					
11	Left turn	Rear-end	Overtaking	Right Angle	Right Turn	Head On	Side-swipe	Fixed Object	Backing	Other	Animal	Bike/Ped	Total	Injury	Non Injury	Non-Repo	2
	10	2	2	2	1	0	0	0	0	0	0	0	15	3	10	2	15
TOTALS	0	10	2	2	1	0	0	0	0	0	0	0	15	3	10	2	15

	Northbound	Southbound	Eastbound	Westbound	Unknown	Totals
Left turn						0
Rear-end	5	2	2	1		10
Overtaking	1	1				2
Right Angle	1	1				2
Right Turn	1					1
Head On						0
Side-swipe						0
Fixed Object						0
Backing						0
Other						0
Bike/Ped						0
Animal						0
Totals	7	4	2	2	0	15

11 **Military Rd/Lockport Rd - 36 months**

ADT = Peak hour entering volume / k factor
ADT = $\frac{1724}{0.10} = 18147.37$ VPD

Rate = $\frac{15 \text{ Acc.}}{18147.368 \text{ VPD}} \times \frac{1,000,000}{365 \text{ Days}} \times 3,000 \text{ Yrs.} = 0.75$ Crash / MEV

COMMUTING CHARACTERISTICS

2019: 5-Year Estimates



Lockport, NY (City)

MEANS OF TRANSPORTATION TO WORK	Estimate (in %)
Car, truck, or van	92.7
Drove alone	84
Carpooled	8.8
In 2-person carpool	7.6
In 3-person carpool	1.1
In 4-or-more person carpool	0.1
Workers per car, truck, or van	1.05
Public transportation (excluding taxicab)	0.4
Walked	2.9
Bicycle	0.2
Taxicab, motorcycle, or other means	2
Worked from home	1.8

VEHICLES AVAILABLE

Workers 16 years and over in households	9531
No vehicle available	5.2
1 vehicle available	27.2
2 vehicles available	45.5
3 or more vehicles available	22.1

Niagara Falls, NY

MEANS OF TRANSPORTATION TO WORK	Estimate (in %)
Car, truck, or van	88.8
Drove alone	80.2
Carpooled	8.6
In 2-person carpool	7.5
In 3-person carpool	0.8
In 4-or-more person carpool	0.4
Workers per car, truck, or van	1.05
Public transportation (excluding taxicab)	2.8
Walked	3.4
Bicycle	0.6
Taxicab, motorcycle, or other means	1.8
Worked from home	2.5

VEHICLES AVAILABLE

Workers 16 years and over in households	2061
No vehicle available	8.7
1 vehicle available	35
2 vehicles available	39.3
3 or more vehicles available	16.9

North Tonawanda, NY (City)

MEANS OF TRANSPORTATION TO WORK	Estimate (in %)
Car, truck, or van	93.7
Drove alone	85.9
Carpooled	7.8
In 2-person carpool	6.9
In 3-person carpool	0.7
In 4-or-more person carpool	0.2
Workers per car, truck, or van	1.05
Public transportation (excluding taxicab)	0.5
Walked	2
Bicycle	0.5
Taxicab, motorcycle, or other means	0.7
Worked from home	2.7

VEHICLES AVAILABLE

Workers 16 years and over in households	15290
No vehicle available	3
1 vehicle available	22
2 vehicles available	46.1
3 or more vehicles available	28.8

Tonawanda, NY (City)

MEANS OF TRANSPORTATION TO WORK	Estimate (in %)
Car, truck, or van	92.8
Drove alone	86.3
Carpooled	6.6
In 2-person carpool	6.5
In 3-person carpool	0
In 4-or-more person carpool	0
Workers per car, truck, or van	1.04
Public transportation (excluding taxicab)	1.6
Walked	2.4
Bicycle	0.8
Taxicab, motorcycle, or other means	0.8
Worked from home	1.6

VEHICLES AVAILABLE

Workers 16 years and over in households	7380
No vehicle available	1
1 vehicle available	24.2
2 vehicles available	49.4
3 or more vehicles available	25.4

Tonawanda, NY (Town)

MEANS OF TRANSPORTATION TO WORK	Estimate (in %)
Car, truck, or van	92.4
Drove alone	83.8
Carpooled	8.7
In 2-person carpool	6.6
In 3-person carpool	0.4
In 4-or-more person carpool	1.6
Workers per car, truck, or van	1.06
Public transportation (excluding taxicab)	2.2
Walked	1.8
Bicycle	0.6
Taxicab, motorcycle, or other means	0.2
Worked from home	2.7

VEHICLES AVAILABLE

Workers 16 years and over in households	39410
No vehicle available	0.6
1 vehicle available	23.8
2 vehicles available	50.5
3 or more vehicles available	25

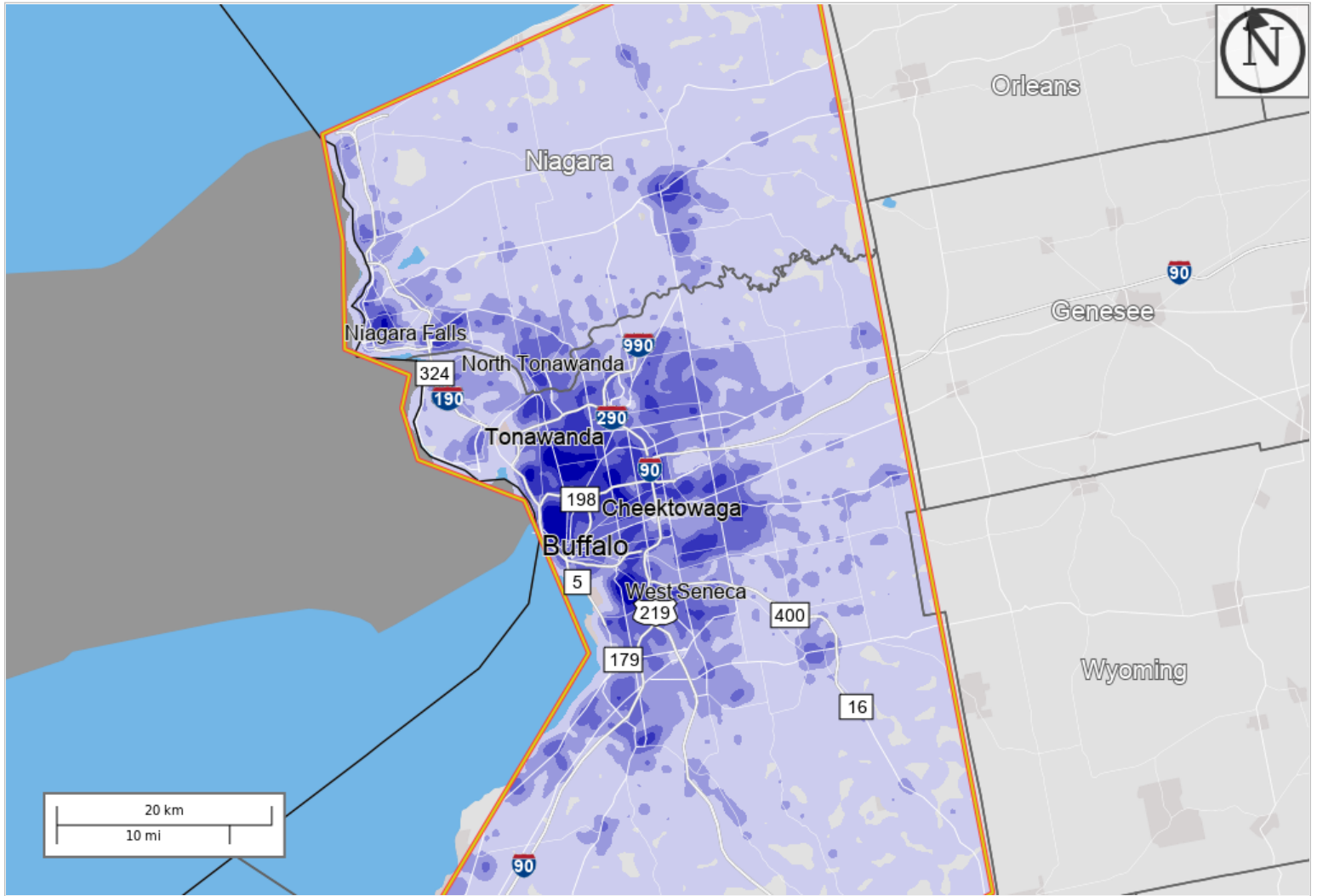
Home Area Profile Report

All Jobs for All Workers in 2019

Created by the U.S. Census Bureau's OnTheMap <https://onthemap.ces.census.gov> on 12/21/2021

Density of All Jobs in Home Selection Area in 2019

All Workers



Map Legend

Job Density [Jobs/Sq. Mile]

- 5 - 253
- 254 - 999
- 1,000 - 2,242
- 2,243 - 3,981
- 3,982 - 6,219

Selection Areas

- 🔴 Analysis Selection



A3

Level of Service: Criteria and Definitions

Level of Service Criteria

Highway Capacity Manual 2016

SIGNALIZED INTERSECTIONS

Level of Service is a qualitative measure describing operational conditions within a traffic stream, based on service measures such as speed and travel time, freedom to maneuver, traffic interruptions, comfort, and convenience. Level of Service for signalized intersections is defined in terms of delay specifically, average total delay per vehicle for a 15 minute analysis period. The ranges are as follows:

Level of Service	Control Delay per vehicle (seconds)
A	< 10
B	10 – 20
C	20 – 35
D	35 – 55
E	55 – 80
F	>80

UNSIGNALIZED INTERSECTIONS

Level of Service for unsignalized intersections is also defined in terms of delay. However, the delay criteria are different from a signalized intersection. The primary reason for this is driver expectation that a signalized intersection is designed to carry higher volumes than an unsignalized intersection. The total delay threshold for any given Level of Service is less for an unsignalized intersection than for a signalized intersection. The ranges are as follows:

Level of Service	Control Delay per vehicle (seconds)
A	< 10
B	10 – 15
C	15 – 25
D	25 – 35
E	35 - 50
F	>50

A4

Level of Service Calculations: Existing Conditions

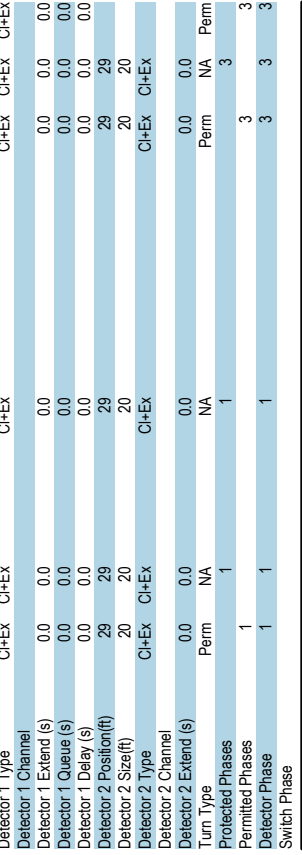
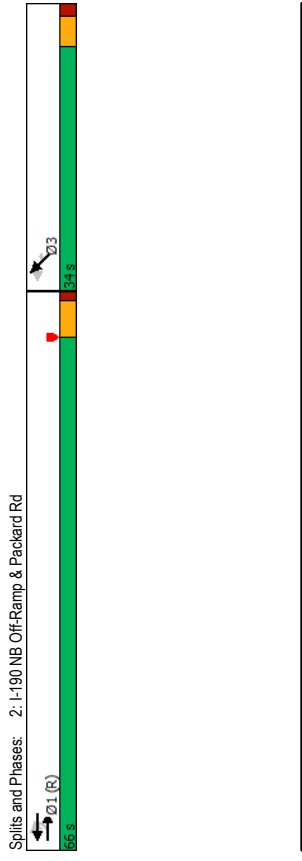
Lanes, Volumes, Timings
2: I-190 NB Off-Ramp & Packard Rd

Project Fifi
2021 Existing AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Minimum Initial (s)	34.6	34.6									6.0	6.0
Minimum Split (s)	60.0	60.0								11.2	11.2	11.2
Total Split (s)	66.0	66.0								34.0	34.0	34.0
Total Split (%)	66.0%	66.0%								34.0%	34.0%	34.0%
Maximum Green (s)	60.6	60.6								28.8	28.8	28.8
Yellow Time (s)	4.3	4.3								3.6	3.6	3.6
All-Red Time (s)	1.1	1.1								1.6	1.6	1.6
Lost Time Adjust (s)	0.0	0.0								0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4								5.2	5.2	5.2
LeadLag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0								3.0	3.0	3.0
Recall Mode	C-Max	C-Max								None	None	None
Act Effct Green (s)	78.0	78.0								11.4	11.4	11.4
Actuated g/C Ratio	0.78	0.78								0.11	0.11	0.11
v/c Ratio	0.06	0.06								0.46	0.46	0.73
Control Delay	3.0	3.0								47.8	47.8	13.9
Queue Delay	0.0	0.0								0.0	0.0	0.0
Total Delay	3.0	3.0								47.8	47.8	13.9
LOS	A	A								B	D	B
Approach Delay	3.0	3.0								21.1		
Approach LOS	A	A								B	C	
Intersection Summary												
Area Type:	Other											
Cycle Length:	100											
Actuated Cycle Length:	100											
Offset: 95 (95%) Referenced to phase 1:EBW, Start of Yellow												
Natural Cycle:	75											
Control Type:	Actuated-Coordinated											
Maximum v/c Ratio:	0.73											
Intersection Signal Delay:	14.6											
Intersection Capacity Utilization:	55.3%											
Analysis Period (min):	15											

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	123	0	0	389	0	0	0	0	0	54	22	285
Future Volume (vph)	123	0	0	389	0	0	0	0	0	54	22	285
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.850
Flt Protected	0.966											
Satd. Flow (prot)	0	3191	0	0	3195	0	0	0	0	0	1741	1482
Flt Permitted	0.964											
Satd. Flow (perm)	0	3044	0	0	3195	0	0	0	0	0	1741	1482
Right Turn on Red	Yes											
Satd. Flow (RTOR)	Yes											
Link Speed (mph)	45			45			30					30
Link Distance (ft)	326			342			341					521
Travel Time (s)	4.9			5.2			7.8					11.8
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	33%	13%	0%	0%	13%	0%	0%	0%	0%	6%	4%	9%
Adj. Flow (vph)	148	0	0	469	1	0	0	0	0	65	27	343
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	149	0	0	470	0	0	0	0	0	92	343
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Right	Left	Left	Right	Left	Left	Left	Right
Median Width (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Link Offset (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Crosswalk Width (ft)	16			16			16					16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			15			15			15		15
Number of Detectors	2	2	2	2	2	2	2	2	2	2	2	2
Detector Template	Left											
Leading Detector (ft)	49	49	49	49	49	49	49	49	49	49	49	49
Trailing Detector (ft)	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Detector 1 Position (ft)	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Detector 1 Size (ft)	20	20	20	20	20	20	20	20	20	20	20	20
Detector 1 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 1 Channel	Ch+Ex											
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (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
Detector 2 Position (ft)	29	29	29	29	29	29	29	29	29	29	29	29
Detector 2 Size (ft)	20	20	20	20	20	20	20	20	20	20	20	20
Detector 2 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 2 Channel	Ch+Ex											
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Perm	NA	NA	NA	NA	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases	1											
Permitted Phases	3											
Detector Phase	1	1	1	1	1	1	3	3	3	3	3	3
Switch Phase												



Lanes, Volumes, Timings
5: Porter Rd & Packard Rd

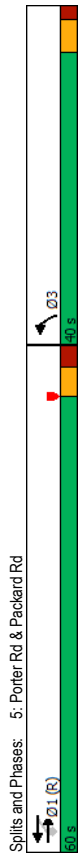
Lanes, Volumes, Timings
5: Porter Rd & Packard Rd

Project Fifi
2021 Existing AM

Project Fifi
2021 Existing AM

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↔	↔	↔	↔
Traffic Volume (vph)	327	125	6	293	128	8
Future Volume (vph)	327	125	6	293	128	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.97	0.95
Flt Protected		0.850			0.991	
Satd. Flow (prot)	1863	1583	0	3536	3420	0
Flt Permitted			0.949	0.955		
Satd. Flow (perm)	1863	1583	0	3359	3420	0
Right Turn on Red	Yes				Yes	
Satd. Flow (RTOR)	130				7	
Link Speed (mph)	35	40		1105	538	
Link Distance (ft)	9.9	21.5	9.2			
Travel Time (s)	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow Factor	341	130	6	305	133	8
Shared Lane Traffic (%)						
Lane Group Flow (vph)	341	130	0	311	141	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12	12	24			
Link Offset(ft)	0	0	0			
Crosswalk Width(ft)	16	16	16			
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60	60	60	60
Number of Detectors	2	1	2	2	1	
Detector Template		Left				
Leading Detector (ft)	49	19	49	49	19	
Trailing Detector (ft)	-1	-1	-1	-1	-1	
Detector 1 Position(ft)	-1	-1	-1	-1	-1	
Detector 1 Size(ft)	20	20	20	20	20	
Detector 1 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	29	29	29	29		
Detector 2 Size(ft)	20	20	20	20		
Detector 2 Type	Ch+Ex	Ch+Ex	Ch+Ex			
Detector 2 Channel						
Detector 2 Extend (s)	0.0	0.0	0.0			
Turn Type	NA	Perm	NA	Prot		
Protected Phases	1	1	1	3		
Permitted Phases	1	1	1	1	3	
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	1.0	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Minimum Split (s)	12.3	12.3	12.3	12.3	7.6	
Total Split (s)	60.0	60.0	60.0	60.0	40.0	
Total Split (%)	60.0%	60.0%	60.0%	60.0%	40.0%	
Maximum Green (s)	53.7	53.7	53.7	53.7	34.3	
Yellow Time (s)	3.6	3.6	3.6	3.6	3.9	
All-Red Time (s)	2.7	2.7	2.7	2.7	1.8	
Lost Time Adjst (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.3	6.3	6.3	6.3	5.7	
LeadLag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	21.0	21.0	21.0	21.0	21.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	78.7	78.7	78.7	78.7	9.3	
Actuated g/C Ratio	0.79	0.79	0.79	0.79	0.09	
v/c Ratio	0.23	0.10	0.12	0.12	0.44	
Control Delay	1.6	0.2	2.8	2.8	44.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	1.6	0.2	2.8	2.8	44.5	
LOS	A	A	A	A	D	
Approach Delay	1.2	2.8	2.8	44.5		
Approach LOS	A	A	A	D		
Intersection Summary						
Area Type:	Other					
Cycle Length:	100					
Actuated Cycle Length:	100					
Offset:	55 (55%), Referenced to phase 1:EBWB, Start of Yellow					
Natural Cycle:	40					
Control Type:	Actuated-Coordinated					
Maximum v/c Ratio:	0.44					
Intersection Signal Delay:	8.3					
Intersection LOS:	A					
Intersection Capacity Utilization:	31.1%					
Analysis Period (min):	15					



Lanes, Volumes, Timings
6: Packard Rd & Lockport Rd

HCM Unsignalized Intersection Capacity Analysis
6: Packard Rd & Lockport Rd

Project Fifi
2021 Existing AM

Project Fifi
2021 Existing AM

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations	W			4		
Traffic Volume (veh/h)	87	2	0	255	247	78
Future Volume (veh/h)	87	2	0	255	247	78
Sign Control	Stop			Free	Free	Free
Grade	0%			0%	0%	0%
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	100	2	0	293	284	90
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)				None	None	None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	622	329	374			
vC1, stage 1 cont vol						
vC2, stage 2 cont vol						
vCu, unblocked vol	622	329	374			
IC, single (s)	6.4	6.2	4.1			
IC, 2 stage (s)						
IF (s)	3.5	3.3	2.2			
p0 queue free %	78	100	100			
cM capacity (veh/h)	450	712	1184			
Direction, Lane #	SE 1	NE 1	SW 1			
Volume Total	102	293	374			
Volume Left	100	0	0			
Volume Right	2	0	90			
cSH	454	1184	1700			
Volume to Capacity	0.22	0.00	0.22			
Queue Length 95th (ft)	21	0	0			
Control Delay (s)	15.2	0.0	0.0			
Lane LOS	C					
Approach Delay (s)	15.2	0.0	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay	2.0					
Intersection Capacity Utilization	29.4%					
ICU Level of Service	A					
Analysis Period (min)	15					

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations	W			4		
Traffic Volume (vph)	87	2	0	255	247	78
Future Volume (vph)	87	2	0	255	247	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fit	0.997			0.968		
Fit Protected	0.953					
Satd. Flow (prot)	1770	0	0	1863	1803	0
Fit Permitted	0.953					
Satd. Flow (perm)	1770	0	0	1863	1803	0
Link Speed (mph)	45			45	45	
Link Distance (ft)	217			505	881	
Travel Time (s)	3.3			7.7	13.3	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	100	2	0	293	284	90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	102	0	0	293	374	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Right	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15	Free	Free	9
Sign Control	Stop			Free	Free	Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	29.4%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings
7: Tuscarora Rd & Lockport Rd

Project Fifi
2021 Existing AM

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↓	↓	↓
Traffic Volume (veh/h)	330	0	0	328	0	0
Future Volume (veh/h)	330	0	0	328	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fit Protected						
Satd. Flow (prot)	1863	0	0	1863	1863	0
Fit Permitted						
Satd. Flow (perm)	1863	0	0	1863	1863	0
Link Speed (mph)	45			45	30	
Link Distance (ft)	1802			1470	2048	
Travel Time (s)	27.3			22.3	46.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	359	0	0	357	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	359	0	0	357	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Right	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15	15	15	9	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	20.7%					
Analysis Period (min)	15					
ICU Level of Service	A					

HCM Unsignalized Intersection Capacity Analysis
7: Tuscarora Rd & Lockport Rd

Project Fifi
2021 Existing AM

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↓	↓	↓
Traffic Volume (veh/h)	330	0	0	328	0	0
Future Volume (veh/h)	330	0	0	328	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	359	0	0	357	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)						
pX, platoon unblocked						
vC, conflicting volume		359			716	359
vC1, stage 1 cont vol						
vC2, stage 2 cont vol						
vCu, unblocked vol		359			716	359
tC, single (s)		4.1			6.4	6.2
tC, 2 stage (s)		2.2			3.5	3.3
tF (s)		100			100	100
p0 queue free %		1200			397	685
cM capacity (veh/h)						
Direction, Lane #	EB, 1	WB, 1	NB, 1			
Volume Total	359	357	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1200	1700			
Volume to Capacity	0.21	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS				A		
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS				A		
Intersection Summary						
Average Delay	0.0					
Intersection Capacity Utilization	20.7%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings
8: Lockport Rd & Walmore Rd

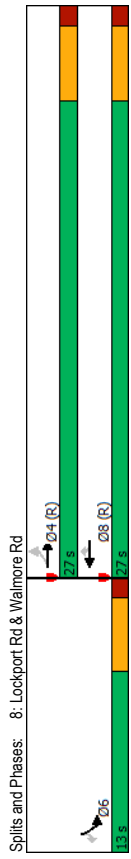
Lanes, Volumes, Timings
8: Lockport Rd & Walmore Rd

Project Fifi
2021 Existing AM

Project Fifi
2021 Existing AM

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	23	205	362	114	51	22
Traffic Volume (vph)	23	205	362	114	51	22
Future Volume (vph)	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	125	0	115			
Storage Length (ft)	1					
Storage Lanes	25					
Tapor Length (ft)	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.950	0.850	0.850	0.850	0.850	0.850
Flt Protected	1770	1863	1863	1583	1770	1583
Satd. Flow (perm)	0.521				0.950	
Flt Permitted	970	1863	1863	1583	1770	1583
Satd. Flow (perm)		Yes	Yes	Yes	Yes	Yes
Right Turn on Red						25
Satd. Flow (RTOR)				128		25
Link Distance (ft)		45	45		35	
Link Speed (mph)		697	1100		1227	
Travel Time (s)		10.6	16.7		23.9	
Peak Hour Factor		0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)		26	230	407	128	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	26	230	407	128	57	25
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Right
Median Width(ft)	12	12	12	12	12	12
Link Offset(ft)	0	0	0	0	0	0
Crosswalk Width(ft)	16	16	16	16	16	16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	2	2	2	2	2	2
Detector Template	49	49	49	49	49	49
Leading Detector (ft)	-1	-1	-1	-1	-1	-1
Trailing Detector (ft)	-1	-1	-1	-1	-1	-1
Detector 1 Position(ft)	20	20	20	20	20	20
Detector 1 Size(ft)	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 1 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	29	29	29	29	29	29
Detector 2 Size(ft)	20	20	20	20	20	20
Detector 2 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 2 Channel						
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases		4	8	8	6	6
Permitted Phases	4					

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase	4	4	8	8	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	27.0	27.0	27.0	27.0	13.0	13.0
Total Split (%)	67.5%	67.5%	67.5%	67.5%	32.5%	32.5%
Maximum Green (s)	22.5	22.5	22.5	22.5	8.5	8.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
LeadLag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	C-Max	C-Max	Min	Min
Act Effct Green (s)	24.2	24.2	24.2	24.2	6.8	6.8
Actuated g/C Ratio	0.60	0.60	0.60	0.60	0.17	0.17
v/c Ratio	0.04	0.20	0.36	0.13	0.19	0.09
Control Delay	4.0	4.4	6.1	2.9	15.3	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.0	4.4	6.1	2.9	15.3	7.5
LOS	A	A	A	A	B	A
Approach Delay	4.4	5.4			12.9	
Approach LOS	A	A			B	
Intersection Summary						
Area Type:	Other					
Cycle Length:	40					
Actuated Cycle Length:	40					
Offset:	13 (33%), Referenced to phase 4:EBTL and 8:WBT, Start of Green					
Natural Cycle:	40					
Control Type:	Actuated-Coordinated					
Maximum v/c Ratio:	0.36					
Intersection Signal Delay:	5.8					
Intersection LOS:	A					
Intersection Capacity Utilization:	30.8%					
Analysis Period (min):	15					



Lanes, Volumes, Timings
9: Walmore Rd & Lockport Rd

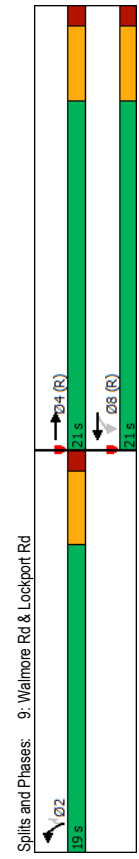
Lanes, Volumes, Timings
9: Walmore Rd & Lockport Rd

Project Fifi
2021 Existing AM

Project Fifi
2021 Existing AM

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	155	84	76	278	199	73
Traffic Volume (vph)	155	84	76	278	199	73
Future Volume (vph)	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	0	200	0	200	0	200
Storage Length (ft)	0	1	1	1	1	1
Storage Lanes	0	1	1	1	1	1
Taper Length (ft)	0	25	25	25	25	25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.953					0.850
Satd. Flow (prot)	1775	0	1770	1863	1770	1583
Flt Permitted	0.596					0.950
Satd. Flow (perm)	1775	0	1110	1863	1770	1583
Right Turn on Red	Yes					Yes
Satd. Flow (RTOR)	83					81
Link Distance (ft)	45		45	40		
Link Speed (mph)	1100		957	738		
Travel Time (s)	16.7		14.5	12.6		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	172	93	84	309	221	81
Shared Lane Traffic (%)						
Lane Group Flow (vph)	265	0	84	309	221	81
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12		12	12		12
Link Offset(ft)	0		0	0		0
Crosswalk Width(ft)	16		16	16		16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15	15	15	9	9
Number of Detectors	2	2	2	2	2	2
Detector Template						
Leading Detector (ft)	49	49	49	49	49	49
Trailing Detector (ft)	-1	-1	-1	-1	-1	-1
Detector 1 Position(ft)	-1	-1	-1	-1	-1	-1
Detector 1 Size(ft)	20	20	20	20	20	20
Detector 1 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	29	29	29	29	29	29
Detector 2 Size(ft)	20	20	20	20	20	20
Detector 2 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 2 Channel						
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	NA	Perm	NA	Prot	Perm	Perm
Protected Phases	4					
Permitted Phases		8		8	2	2

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	4		8	8	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	21.0	21.0	21.0	19.0	19.0	19.0
Total Split (%)	52.5%	52.5%	47.5%	47.5%	47.5%	47.5%
Maximum Green (s)	16.5	16.5	16.5	14.5	14.5	14.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead-Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	C-Max	Min	Min	Min
Act Effct Green (s)	20.8	20.8	20.8	10.2	10.2	10.2
Actuated g/C Ratio	0.52	0.52	0.52	0.26	0.26	0.26
v/c Ratio	0.28	0.15	0.32	0.49	0.17	0.17
Control Delay	3.8	7.1	7.7	15.7	4.2	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.8	7.1	7.7	15.7	4.2	4.2
LOS	A	A	A	B	B	A
Approach Delay	3.8		7.6	12.6		
Approach LOS	A		A	B		B
Intersection Summary						
Area Type:	Other					
Cycle Length:	40					
Actuated Cycle Length:	40					
Offset:	19 (48%), Referenced to phase 4:EBT and 8:WBL, Start of Green					
Natural Cycle:	40					
Control Type:	Actuated-Coordinated					
Maximum v/c Ratio:	0.49					
Intersection Signal Delay:	8.1					
Intersection LOS:	A					
Intersection Capacity Utilization:	39.8%					
Analysis Period (min):	15					



Lanes, Volumes, Timings
10: Cayuga Drive/Niagara Rd & Walmore Rd & Niagara Falls Blvd

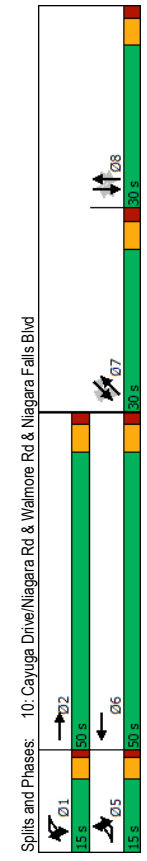
Lanes, Volumes, Timings
10: Cayuga Drive/Niagara Rd & Walmore Rd & Niagara Falls Blvd

Project Fifi
2021 Existing AM

Project Fifi
2021 Existing AM

Lane Group	SWR2
Lane Configurations	
Traffic Volume (vph)	5
Future Volume (vph)	5
Ideal Flow (vphpl)	1900
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	1.00
Flt Protected	
Std. Flow (prot)	0
Flt Permitted	
Std. Flow (perm)	0
Right Turn on Red	Yes
Std. Flow (RTOR)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.80
Adj. Flow (vph)	6
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	
Permitted Phases	

Lane Group	EBL2	EBL	EBT	EBR	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	NBR2
Detector Phase	5	5	2		1	1	6		8		8	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	9.5	22.5	9.5	9.5	9.5	22.5	9.5	22.5	22.5	22.5	22.5
Total Split (s)	15.0	15.0	50.0	15.0	15.0	15.0	50.0	15.0	30.0	30.0	30.0	30.0
Total Split (%)	12.0%	12.0%	40.0%	12.0%	12.0%	12.0%	40.0%	12.0%	24.0%	24.0%	24.0%	24.0%
Maximum Green (s)	10.7	10.7	44.0	10.7	10.7	10.7	44.0	10.7	24.0	24.0	24.0	24.0
Yellow Time (s)	3.2	3.2	4.0	3.2	3.2	3.2	4.0	3.2	4.0	4.0	4.0	4.0
All-Red Time (s)	1.1	1.1	2.0	1.1	1.1	1.1	2.0	1.1	2.0	2.0	2.0	2.0
Lost Time Adjust (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
Total Lost Time (s)	4.3	4.3	6.0	4.3	4.3	4.3	6.0	4.3	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lead	Lag	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	10.0	10.0	51.1	7.6	44.3	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Actuated g/C Ratio	0.09	0.47	0.07	0.41	0.07	0.41	0.07	0.41	0.07	0.41	0.07	0.41
v/c Ratio	0.64	0.17	0.28	0.33	0.28	0.33	0.28	0.33	0.28	0.33	0.28	0.33
Control Delay	67.2	19.4	55.2	23.7	55.2	23.7	55.2	23.7	54.2	54.2	54.2	54.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.2	19.4	55.2	23.7	55.2	23.7	55.2	23.7	54.2	54.2	54.2	54.2
LOS	E	B	B	E	E	C	C	E	D	D	D	D
Approach Delay			32.1				26.0					
Approach LOS			C				C					
Intersection Summary												
Area Type:	Other											
Cycle Length:	125											
Actuated Cycle Length:	107.6											
Natural Cycle:	80											
Control Type:	Semi Act-Uncoord											
Maximum v/c Ratio:	0.79											
Intersection Signal Delay:	34.7											
Intersection Capacity Utilization:	65.6%											
Analysis Period (min):	15											



Lanes, Volumes, Timings
10: Cayuga Drive/Niagara Rd & Walmore Rd & Niagara Falls Blvd

Lanes, Volumes, Timings
10: Cayuga Drive/Niagara Rd & Walmore Rd & Niagara Falls Blvd

Project Fifi
2021 Existing AM

Project Fifi
2021 Existing AM

Lane Group	SBL2	SBL	SBT	SBR	SBR2	NEL2	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	8	8	8	8	8	7	7	7	7	7	7	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Total Split (%)	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%
Maximum Green (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (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
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	11.0	11.0	11.0	11.0	11.0	19.9	19.9	19.9	19.9	19.9	19.9	19.9
Actuated g/C Ratio	0.10	0.10	0.10	0.10	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
v/c Ratio	0.51	0.29			0.79	0.79	0.79	0.79	0.79	0.22	0.17	0.17
Control Delay	59.9	5.7			63.0	63.0	63.0	63.0	63.0	39.6	1.9	1.9
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.9	5.7			63.0	63.0	63.0	63.0	63.0	39.6	1.9	1.9
LOS	E	A			E	E	E	E	E	D	A	A
Approach Delay	31.5				63.0	63.0	63.0	63.0	63.0	22.1		
Approach LOS	C				E	E	E	E	E	C		
Intersection Summary												

Lane Group	SWR2
Detector Phase	SWR2
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

Lanes, Volumes, Timings
2: I-190 NB Off-Ramp & Packard Rd

Project Fifi
2021 Existing PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations	8	263	0	0	491	7	0	0	0	34	100	297
Traffic Volume (vph)	8	263	0	0	491	7	0	0	0	34	100	297
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	0.95	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.998											
Fit Protected	0.989											
Satd. Flow (prot)	0.939											
Flt Permitted	0.3325											
Satd. Flow (perm)	0.3370											
Right Turn on Red	Yes											
Satd. Flow (RTOR)	3											
Link Speed (mph)	45											
Link Distance (ft)	326											
Travel Time (s)	4.9											
Peak Hour Factor	0.90											
Heavy Vehicles (%)	0%											
Adj. Flow (vph)	9											
Shared Lane Traffic (%)	0											
Lane Group Flow (vph)	301											
Enter Blocked Intersection	No											
Lane Alignment	Left											
Median Width (ft)	0											
Link Offset (ft)	0											
Crosswalk Width (ft)	16											
Two way Left Turn Lane	16											
Headway Factor	1.00											
Turning Speed (mph)	15											
Number of Detectors	2											
Detector Template	Left											
Leading Detector (ft)	49											
Trailing Detector (ft)	-1											
Detector 1 Position (ft)	-1											
Detector 1 Size (ft)	20											
Detector 1 Type	Ch+Ex											
Detector 1 Channel	Ch+Ex											
Detector 1 Extend (s)	0.0											
Detector 1 Queue (s)	0.0											
Detector 1 Delay (s)	0.0											
Detector 2 Position (ft)	29											
Detector 2 Size (ft)	20											
Detector 2 Type	Ch+Ex											
Detector 2 Channel	Ch+Ex											
Detector 2 Extend (s)	0.0											
Turn Type	Perm											
Protected Phases	1											
Permitted Phases	3											
Detector Phase	1											
Switch Phase	3											

Lanes, Volumes, Timings
2: I-190 NB Off-Ramp & Packard Rd

Project Fifi
2021 Existing PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Minimum Initial (s)	34.6											
Minimum Split (s)	60.0											
Total Split (s)	66.0											
Total Split (%)	66.0%											
Maximum Green (s)	60.6											
Yellow Time (s)	4.3											
All-Red Time (s)	1.1											
Lost Time Adjust (s)	0.0											
Total Lost Time (s)	5.4											
LeadLag												
Lead-Lag Optimize?	3.0											
Vehicle Extension (s)	3.0											
Recall Mode	C-Max											
Act Effct Green (s)	75.6											
Actuated g/C Ratio	0.76											
v/c Ratio	0.22											
Control Delay	3.4											
Queue Delay	0.0											
Total Delay	3.4											
LOS	A											
Approach Delay	3.4											
Approach LOS	A											
Intersection Summary	Other											
Area Type	Other											
Cycle Length	100											
Actuated Cycle Length	100											
Offset 95 (95%)	Referenced to phase 1:EBWB, Start of Yellow											
Natural Cycle	75											
Control Type	Actuated-Coordinated											
Maximum v/c Ratio	0.67											
Intersection Signal Delay	13.5											
Intersection Capacity Utilization	56.1%											
Analysis Period (min)	15											
Splits and Phases: 2: I-190 NB Off-Ramp & Packard Rd												

Lanes, Volumes, Timings
3: Vacant Store Dwy/Porter Rd & Packard Rd

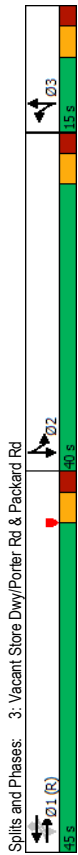
Lanes, Volumes, Timings
3: Vacant Store Dwy/Porter Rd & Packard Rd

Project Fifi
2021 Existing PM

Project Fifi
2021 Existing PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR
Lane Configurations											
Traffic Volume (vph)	58	510	0	0	491	426	0	0	0	356	0
Future Volume (vph)	58	510	0	0	491	426	0	0	0	356	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0	150	0	0	0	0	0	0	0
Storage Lanes	0	0	0	1	1	1	0	0	0	1	0
Taper Length (ft)	25	0	0	25	0	0	25	0	0	25	0
Lane Util. Factor	0.91	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	0.95	1.00
Fit Protected	0.995					0.850				0.999	
Satd. Flow (prot)	0	4939	0	1900	3406	1599	1900	1900	0	1698	1702
Fit Permitted	0.929									0.950	0.963
Satd. Flow (perm)	0	4115	0	1900	3406	1599	1900	1900	0	1698	1702
Right Turn on Red			Yes						Yes		Yes
Satd. Flow (RTOR)						473					103
Link Distance (ft)	45			35			30				35
Link Speed (mph)	342			475			302				290
Travel Time (s)	5.2			9.3			6.9				5.6
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	5%	0%	0%	6%	1%	0%	0%	0%	1%	0%
Adj. Flow (vph)	64	567	0	0	546	473	0	0	0	396	0
Shared Lane Traffic (%)										50%	
Lane Group Flow (vph)	0	631	0	0	546	473	0	0	0	198	199
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Right
Median Width(ft)	12	12	12	12	12	12	12	12	12	12	12
Link Offset(ft)	0	0	0	0	0	0	0	0	0	0	0
Crosswalk Width(ft)	16	16	16	16	16	16	16	16	16	16	16
Two way Left Turn Lane											
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15	9	15	9	15	9	15	9	15
Number of Detectors	2	2	1	2	1	1	2	1	2	1	2
Detector Template	Left										
Leading Detector (ft)	49	49	19	49	19	49	19	49	19	49	49
Trailing Detector (ft)	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Detector 1 Position(ft)	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Detector 1 Size(ft)	20	20	20	20	20	20	20	20	20	20	20
Detector 1 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 1 Channel											
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	29	29	29	29	29	29	29	29	29	29	29
Detector 2 Size(ft)	20	20	20	20	20	20	20	20	20	20	20
Detector 2 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 2 Channel											
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Split	Split	NA	NA
Protected Phases	1			1			3	3	3	2	2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR
Permitted Phases	1	1	1	1	1	1	3	3			
Detector Phase											
Switch Phase											
Minimum Initial (s)	28.8	28.8	28.8	28.8	28.8	28.8	3.8	3.8		15.0	15.0
Minimum Split (s)	45.0	45.0	45.0	45.0	45.0	45.0	10.0	10.0		24.2	24.2
Total Split (s)	45.0	45.0	45.0	45.0	45.0	45.0	15.0	15.0		40.0	40.0
Total Split (%)	45.0%	45.0%	45.0%	45.0%	45.0%	45.0%	15.0%	15.0%		40.0%	40.0%
Maximum Green (s)	38.8	38.8	38.8	38.8	38.8	38.8	8.8	8.8		33.8	33.8
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6		3.6	3.6
All-Red Time (s)	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6		2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2		6.2	6.2
Lead/Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max	None	None		None	None
Act Effect Green (s)	69.6	69.6	69.6	69.6	69.6	69.6				18.0	18.0
Actuated g/C Ratio	0.70	0.70	0.70	0.70	0.70	0.70				0.18	0.18
v/c Ratio	0.22	0.22	0.23	0.38	0.38	0.38				0.65	0.51
Control Delay	7.6	7.6	7.6	2.3	1.9	1.9				47.8	22.1
Queue Delay	0.0	0.0	0.0	0.0	0.7	0.7				0.0	0.0
Total Delay	7.6	7.6	7.6	2.3	2.6	2.6				47.8	22.1
LOS	A	A	A	A	A	A				D	C
Approach Delay	7.6	7.6	7.6	2.4	2.4	2.4				34.9	34.9
Approach LOS	A	A	A	A	A	A				C	C
Intersection Summary											
Area Type:	Other										
Cycle Length:	100										
Actuated Cycle Length:	100										
Offset: 61 (61%):	Referenced to phase 1:EBWB, Start of Yellow										
Natural Cycle:	80										
Control Type:	Actuated-Coordinated										
Maximum v/c Ratio:	0.65										
Intersection Signal Delay:	10.3										
Intersection Capacity Utilization:	73.5%										
Analysis Period (min):	15										



Lanes, Volumes, Timings
4: Military Rd & Packard Rd

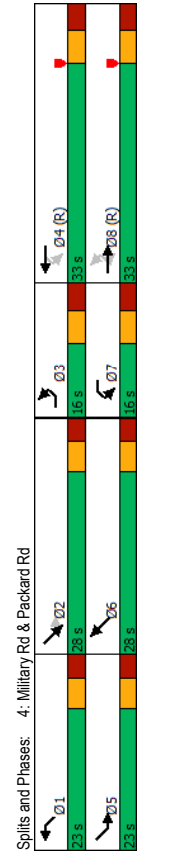
Project Fifi
2021 Existing PM

EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
123	362	344	178	387	154	129	461	130	387	520	196
123	362	344	178	387	154	129	461	130	387	520	196
1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
160	0	180	0	170	0	170	0	335	0	335	0
70	75	0	50	0	50	0	0	250	0	250	0
1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	0.97	0.95	0.95
	0.850		0.957			0.967				0.959	
0.950		0.950		0.950		0.950		0.950		0.950	
1736	3471	1599	1770	3349	0	1770	3404	0	3467	3418	0
0.316		0.478		0.227		0.227		0.950		0.950	
577	3471	1599	890	3349	0	423	3404	0	3467	3418	0
	Yes		Yes		Yes		Yes		Yes		Yes
	362		57		33		33		50		50
	35		35		40		40		40		40
	475		510		1089		1089		1785		1785
	9.3		9.9		18.6		18.6		30.4		30.4
0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
4%	1%	2%	4%	1%	2%	1%	1%	8%	1%	1%	2%
129	381	362	187	407	162	136	485	137	407	547	206
129	381	362	187	407	162	136	485	137	407	547	206
No	No	No	No	No	No	No	No	No	No	No	No
Left	Left	Right	Left	Right	Left	Left	Left	Right	Left	Left	Right
12	12	24	12	24	24	24	24	24	24	24	24
0	0	0	0	0	0	0	0	0	0	0	0
16	16	16	16	16	16	16	16	16	16	16	16
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
15	9	15	9	15	9	15	9	15	9	15	9
1	2	1	1	2	1	2	1	2	1	2	1
19	49	19	49	19	49	19	49	19	49	19	49
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
20	20	20	20	20	20	20	20	20	20	20	20
Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	29	29	29	29	29	29	29	29	29	29	29
20	20	20	20	20	20	20	20	20	20	20	20
Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	Prot	NA	Prot	NA	6
3	8	6	7	4	5	2	1	1	1	1	6

Lanes, Volumes, Timings
4: Military Rd & Packard Rd

Project Fifi
2021 Existing PM

EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
8	8	8	4	4	4	2	2	2	2	2	2
3	8	8	7	4	4	5	5	2	1	1	6
3.0	10.0	10.0	3.0	10.0	10.0	6.0	10.0	8.0	8.0	10.0	10.0
10.2	38.2	38.2	10.2	38.2	13.2	37.4	37.4	15.2	15.2	32.4	32.4
16.0	33.0	33.0	16.0	33.0	23.0	28.0	28.0	23.0	23.0	28.0	28.0
16.0%	33.0%	33.0%	16.0%	33.0%	23.0%	28.0%	28.0%	23.0%	23.0%	28.0%	28.0%
8.8	25.8	25.8	8.8	25.8	16.6	21.6	21.6	16.6	16.6	21.6	21.6
3.9	3.9	3.9	3.9	3.9	3.6	3.6	3.6	3.6	3.6	3.6	3.6
3.3	3.3	3.3	3.3	3.3	2.8	2.8	2.8	2.8	2.8	2.8	2.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7.2	7.2	7.2	7.2	7.2	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
None	C-Max	C-Max	None	C-Max	None	Max	Max	None	None	Max	Max
7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
0	0	0	0	0	0	0	0	0	0	0	0
34.3	25.9	25.9	34.9	26.2	32.9	22.7	22.7	15.5	15.5	28.0	28.0
0.34	0.26	0.26	0.35	0.26	0.33	0.23	0.23	0.16	0.16	0.28	0.28
0.44	0.42	0.53	0.48	0.62	0.49	0.78	0.78	0.76	0.76	0.76	0.76
26.4	33.8	33.8	17.5	22.0	24.2	42.6	42.6	50.2	50.2	37.1	37.1
0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26.4	33.8	10.4	17.5	22.0	24.2	42.6	42.6	50.2	50.2	37.1	37.1
C	C	B	B	C	C	D	D	D	D	D	D
23.0	23.0	20.9	20.9	20.9	39.3	39.3	39.3	41.7	41.7	41.7	41.7
C	C	C	C	C	D	D	D	D	D	D	D



Lanes, Volumes, Timings
5: Porter Rd & Packard Rd

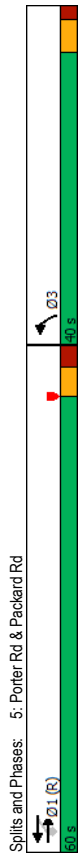
Lanes, Volumes, Timings
5: Porter Rd & Packard Rd

Project Fifi
2021 Existing PM

Project Fifi
2021 Existing PM

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↔	↔	↔	↔
Traffic Volume (vph)	342	204	9	328	251	17
Future Volume (vph)	342	204	9	328	251	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.97	0.95
Flt Protected		0.850			0.991	
Satd. Flow (prot)	1863	1583	0	3536	3420	0
Flt Permitted			0.944	0.955		
Satd. Flow (perm)	1863	1583	0	3341	3420	0
Right Turn on Red	Yes				8	Yes
Satd. Flow (RTOR)	30	232			1105	538
Link Speed (mph)	11.6	25.1	12.2			
Link Distance (ft)	389	232	10	373	285	19
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Shared Lane Traffic (%)	389	232	0	383	304	0
Lane Group Flow (vph)	No	No	No	No	No	No
Enter Blocked Intersection	Left	Right	Left	Left	Left	Right
Lane Alignment	12	24				
Median Width(ft)	0	0	0	0	0	0
Link Offset(ft)	16	16	16	16	16	16
Crosswalk Width(ft)	1.00	1.00	1.00	1.00	1.00	1.00
Two way Left Turn Lane	60	60	60	60	60	60
Headway Factor	2	1	2	2	1	
Turning Speed (mph)	49	19	49	49	19	
Number of Detectors	-1	-1	-1	-1	-1	
Detector Template	20	20	20	20	20	
Leading Detector (ft)	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	
Trailing Detector (ft)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(ft)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(ft)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Type	29	29	29	29	29	
Detector 1 Channel	20	20	20	20	20	
Detector 1 Extend (s)	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Size(ft)	20	20	20	20	20	
Detector 2 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	
Detector 2 Channel	0.0	0.0	0.0	0.0	0.0	
Detector 2 Extend (s)	NA	Perm	NA	NA	Prot	
Turn Type	1	1	1	1	3	
Protected Phases	1	1	1	1	3	
Permitted Phases	1	1	1	1	3	
Detector Phase	6.0	6.0	6.0	6.0	6.0	1.0
Switch Phase						
Minimum Initial (s)						

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Minimum Split (s)	12.3	12.3	12.3	12.3	7.6	
Total Split (%)	60.0%	60.0%	60.0%	60.0%	40.0%	
Maximum Green (s)	53.7	53.7	53.7	53.7	34.3	
Yellow Time (s)	3.6	3.6	3.6	3.6	3.9	
All-Red Time (s)	2.7	2.7	2.7	2.7	1.8	
Lost Time Adjst (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.3	6.3	6.3	6.3	5.7	
LeadLag						
Lead-Lag Optimize?	3.0	3.0	3.0	3.0	3.0	
Vehicle Extension (s)	C-Max	C-Max	C-Max	C-Max	None	
Recall Mode	7.0	7.0	7.0	7.0	7.0	
Walk Time (s)	21.0	21.0	21.0	21.0	21.0	
Flash Dont Walk (s)	0	0	0	0	0	
Pedestrian Calls (#/hr)	73.9	73.9	73.9	73.9	14.1	
Act Effct Green (s)	0.74	0.74	0.74	0.74	0.14	
Actuated g/C Ratio	0.28	0.19	0.16	0.62		
v/c Ratio	2.5	0.5	4.3	44.7		
Queue Delay	2.5	0.5	4.3	44.7		
Total Delay	A	A	A	D	A	D
LOS	1.8	4.3	44.7			
Approach Delay	A	A	A	D		
Approach LOS	A	A	A	D		
Intersection Summary						
Area Type:	Other					
Cycle Length:	100					
Actuated Cycle Length:	100					
Offset:	55 (55%), Referenced to phase 1:EBWB, Start of Yellow					
Natural Cycle:	40					
Control Type:	Actuated-Coordinated					
Maximum v/c Ratio:	0.62					
Intersection Signal Delay:	12.5					
Intersection LOS:	B					
Intersection Capacity Utilization:	35.7%					
Analysis Period (min):	15					



Lanes, Volumes, Timings
6: Packard Rd & Lockport Rd

HCM Unsignalized Intersection Capacity Analysis
6: Packard Rd & Lockport Rd

Project Fifi
2021 Existing PM

Project Fifi
2021 Existing PM

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations	W			4		
Traffic Volume (veh/h)	86	2	2	316	305	74
Future Volume (veh/h)	86	2	2	316	305	74
Sign Control	Stop			Free	Free	Free
Grade	0%			0%	0%	0%
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	104	2	2	381	367	89
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)				None	None	None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	796	412	456			
vC1, stage 1 cont vol						
vC2, stage 2 cont vol						
vCu, unblocked vol	796	412	456			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	71	100	100			
cM capacity (veh/h)	355	640	1105			
Direction, Lane #	SE 1	NE 1	SW 1			
Volume Total	106	383	456			
Volume Left	104	2	0			
Volume Right	2	0	89			
cSH	368	1105	1700			
Volume to Capacity	0.30	0.00	0.27			
Queue Length 95th (ft)	30	0	0			
Control Delay (s)	19.2	0.1	0.0			
Lane LOS	C	A	A			
Approach Delay (s)	19.2	0.1	0.0			
Approach LOS	C	C	C			
Intersection Summary						
Average Delay	2.2					
Intersection Capacity Utilization	32.1%					
ICU Level of Service	A					
Analysis Period (min)	15					

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations	W			4		
Traffic Volume (vph)	86	2	2	316	305	74
Future Volume (vph)	86	2	2	316	305	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.953			0.974		
Satd. Flow (prot)	1770	0	0	1863	1814	0
Flt Permitted	0.953					
Satd. Flow (perm)	1770	0	0	1863	1814	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	217			505	881	
Travel Time (s)	4.9			11.5	20.0	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	104	2	2	381	367	89
Shared Lane Traffic (%)						
Lane Group Flow (vph)	106	0	0	383	456	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Right	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60	Free	Free	60
Sign Control	Stop			Free	Free	Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	32.1%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings
7: Tuscarora Rd & Lockport Rd

Project Fifi
2021 Existing PM

	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group						
Lane Configurations	↑			↓	↓	↓
Traffic Volume (vph)	356	0	0	322	0	0
Future Volume (vph)	356	0	0	322	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fit Protected						
Satd. Flow (prot)	1863	0	0	1863	1863	0
Fit Permitted						
Satd. Flow (perm)	1863	0	0	1863	1863	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	1802			1470	2048	
Travel Time (s)	41.0			33.4	46.5	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	409	0	0	370	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	409	0	0	370	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Right	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60	60	60	60
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	22.1%					
Analysis Period (min)	15					
ICU Level of Service	A					

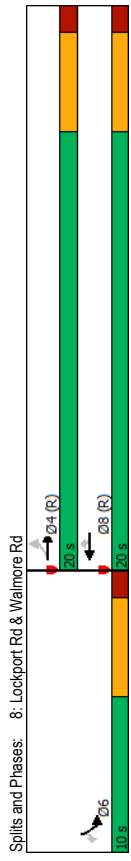
HCM Unsignalized Intersection Capacity Analysis
7: Tuscarora Rd & Lockport Rd

Project Fifi
2021 Existing PM

	EBT	EBR	WBL	WBT	NBL	NBR
Movement						
Lane Configurations	↑			↓	↓	↓
Traffic Volume (veh/h)	356	0	0	322	0	0
Future Volume (Veh/h)	356	0	0	322	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	409	0	0	370	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)						
pX, platoon unblocked						
vC, conflicting volume		409			779	409
vC1, stage 1 cont vol						
vC2, stage 2 cont vol						
vCu, unblocked vol		409			779	409
tC, single (s)		4.1			6.4	6.2
tC, 2 stage (s)		2.2			3.5	3.3
tF (s)		100			100	100
p0 queue free %		1150			364	642
cM capacity (veh/h)						
Direction, Lane #	EB, 1	WB, 1	NB, 1			
Volume Total	409	370	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1150	1700			
Volume to Capacity	0.24	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS		A				
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS		A				
Intersection Summary						
Average Delay	0.0					
Intersection Capacity Utilization	22.1%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	37	264	254	98	80	28
Traffic Volume (vph)	37	264	254	98	80	28
Future Volume (vph)	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	125	0	115	125	0	115
Storage Length (ft)	1	1	1	1	1	1
Storage Lanes	25			25		
Taper Length (ft)	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.950	0.850	0.850	0.950	0.850	0.850
Flt Protected	1770	1863	1863	1583	1770	1583
Std. Flow (perm)	0.581			0.950		
Flt Permitted	1082	1863	1863	1583	1770	1583
Right Turn on Red				Yes		Yes
Std. Flow (RTOR)				113		32
Link Distance (ft)	30	30	30	30	30	30
Link Speed (mph)	697	1100	1100	1227		
Travel Time (s)	15.8	25.0	25.0	27.9		
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	43	303	292	113	92	32
Shared Lane Traffic (%)	43	303	292	113	92	32
Lane Group Flow (vph)	No	No	No	No	No	No
Enter Blocked Intersection	Left	Left	Right	Right	Left	Right
Lane Alignment	12	12	12	12	12	12
Median Width(ft)	0	0	0	0	0	0
Link Offset(ft)	16	16	16	16	16	16
Crosswalk Width(ft)	1.00	1.00	1.00	1.00	1.00	1.00
Two way Left Turn Lane	60	60	60	60	60	60
Headway Factor	2	2	2	2	2	2
Turning Speed (mph)	49	49	49	49	49	49
Number of Detectors	-1	-1	-1	-1	-1	-1
Detector Template	-1	-1	-1	-1	-1	-1
Leading Detector (ft)	20	20	20	20	20	20
Trailing Detector (ft)	20	20	20	20	20	20
Detector 1 Position(ft)	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 1 Size(ft)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Type	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Channel	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	29	29	29	29	29	29
Detector 2 Position(ft)	20	20	20	20	20	20
Detector 2 Size(ft)	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 2 Type	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Channel	Perm	NA	NA	Perm	Prot	Perm
Detector 2 Extend (s)	4	8	8	6	6	6
Turn Type						
Protected Phases						
Permitted Phases	4					

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase	4	4	8	8	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	20.0	20.0	20.0	20.0	10.0	10.0
Total Split (%)	66.7%	66.7%	66.7%	66.7%	33.3%	33.3%
Maximum Green (s)	15.5	15.5	15.5	15.5	5.5	5.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
LeadLag						
Lead-Lag Optimize?	3.0	3.0	3.0	3.0	3.0	3.0
Vehicle Extension (s)	C-Max	C-Max	C-Max	C-Max	Min	Min
Recall Mode	15.5	15.5	15.5	15.5	5.5	5.5
Act Effct Green (s)	0.52	0.52	0.52	0.52	0.18	0.18
Actuated g/C Ratio	0.08	0.31	0.30	0.13	0.28	0.10
v/c Ratio	4.1	5.3	5.0	1.8	13.1	5.8
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	4.1	5.3	5.0	1.8	13.1	5.8
Total Delay	A	A	A	A	B	A
LOS	A	A	A	A	B	A
Approach Delay	5.1	4.1	11.2			
Approach LOS	A	A	B			
Intersection Summary						
Area Type:	Other					
Cycle Length:	30					
Actuated Cycle Length:	30					
Offset:	0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green					
Natural Cycle:	40					
Control Type:	Actuated-Coordinated					
Maximum v/c Ratio:	0.31					
Intersection Signal Delay:	5.5					
Intersection LOS:	A					
Intersection Capacity Utilization:	33.2%					
Analysis Period (min):	15					



Lanes, Volumes, Timings
9: Walmore Rd & Lockport Rd

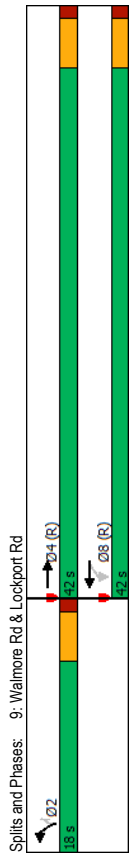
Lanes, Volumes, Timings
9: Walmore Rd & Lockport Rd

Project Fifi
2021 Existing PM

Project Fifi
2021 Existing PM

	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	1	1	1	1	1	1	
Traffic Volume (vph)	240	131	77	196	133	67	
Future Volume (vph)	240	131	77	196	133	67	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	0	200	0	200	0	200	
Storage Lanes	0	1	0	1	0	1	
Taper Length (ft)	0	25	0	25	0	25	
Lane Util. Factor	0.952	1.00	1.00	1.00	1.00	1.00	0.850
Flt Protected	1773	0	1770	1863	1770	1583	
Std. Flow (perm)	1773	0	902	1863	1770	1583	
Right Turn on Red	Yes					Yes	
Std. Flow (RTOR)	87					80	
Link Distance (ft)	30		30		30		
Link Speed (mph)	1100		957		738		
Travel Time (s)	250		21.8		16.8		
Peak Hour Factor	0.84		0.84		0.84		0.84
Adj. Flow (vph)	286		156		233		80
Shared Lane Traffic (%)	442		92		158		80
Lane Group Flow (vph)	No	No	No	No	No	No	
Enter Blocked Intersection	Left	Right	Left	Left	Left	Right	
Lane Alignment	12		12		12		
Median Width (ft)	0		0		0		
Link Offset (ft)	16		16		16		
Crosswalk Width (ft)	1.00		1.00		1.00		1.00
Two way Left Turn Lane	60		60		60		60
Headway Factor	2		2		2		2
Turning Speed (mph)	49		49		49		49
Number of Detectors	-1		-1		-1		-1
Detector Template	20		20		20		20
Leading Detector (ft)	-1		-1		-1		-1
Trailing Detector (ft)	-1		-1		-1		-1
Detector 1 Position (ft)	20		20		20		20
Detector 1 Size (ft)	Ch+Ex		Ch+Ex		Ch+Ex		Ch+Ex
Detector 1 Type	0.0		0.0		0.0		0.0
Detector 1 Channel	0.0		0.0		0.0		0.0
Detector 1 Extend (s)	0.0		0.0		0.0		0.0
Detector 1 Queue (s)	0.0		0.0		0.0		0.0
Detector 1 Delay (s)	29		29		29		29
Detector 2 Position (ft)	20		20		20		20
Detector 2 Size (ft)	Ch+Ex		Ch+Ex		Ch+Ex		Ch+Ex
Detector 2 Type	0.0		0.0		0.0		0.0
Detector 2 Channel	NA		Perm		NA		Prot Perm
Detector 2 Extend (s)	4		8		8		2
Turn Type							
Protected Phases							
Permitted Phases							

	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	4		8		8		2
Detector Phase	4		8		8		2
Switch Phase	5.0		5.0		5.0		5.0
Minimum Initial (s)	10.0		10.0		10.0		10.0
Future Volume (vph)	420		420		420		180
Ideal Flow (vphpl)	70.0%		70.0%		70.0%		30.0%
Storage Length (ft)	37.5		37.5		37.5		13.5
Storage Lanes	3.5		3.5		3.5		3.5
Taper Length (ft)	1.0		1.0		1.0		1.0
Lane Util. Factor	0.0		0.0		0.0		0.0
Flt Protected	4.5		4.5		4.5		4.5
Std. Flow (perm)	3.0		3.0		3.0		3.0
Right Turn on Red	Yes		Yes		Yes		Yes
Std. Flow (RTOR)	30		30		30		30
Link Distance (ft)	40.7		40.7		40.7		10.3
Link Speed (mph)	0.68		0.68		0.68		0.17
Travel Time (s)	0.36		0.15		0.18		0.24
Peak Hour Factor	6.9		4.9		4.5		28.2
Adj. Flow (vph)	0.0		0.0		0.0		0.0
Shared Lane Traffic (%)	6.9		4.9		4.5		28.2
Lane Group Flow (vph)	A		A		A		C A
Enter Blocked Intersection	Left	Right	Left	Left	Left	Right	
Lane Alignment	6.9		4.6		21.2		
Median Width (ft)	A		A		A		C
Link Offset (ft)	0		0		0		0
Crosswalk Width (ft)	1.00		1.00		1.00		1.00
Two way Left Turn Lane	60		60		60		60
Headway Factor	2		2		2		2
Turning Speed (mph)	49		49		49		49
Number of Detectors	-1		-1		-1		-1
Detector Template	20		20		20		20
Leading Detector (ft)	-1		-1		-1		-1
Trailing Detector (ft)	-1		-1		-1		-1
Detector 1 Position (ft)	20		20		20		20
Detector 1 Size (ft)	Ch+Ex		Ch+Ex		Ch+Ex		Ch+Ex
Detector 1 Type	0.0		0.0		0.0		0.0
Detector 1 Channel	0.0		0.0		0.0		0.0
Detector 1 Extend (s)	0.0		0.0		0.0		0.0
Detector 1 Queue (s)	0.0		0.0		0.0		0.0
Detector 1 Delay (s)	29		29		29		29
Detector 2 Position (ft)	20		20		20		20
Detector 2 Size (ft)	Ch+Ex		Ch+Ex		Ch+Ex		Ch+Ex
Detector 2 Type	0.0		0.0		0.0		0.0
Detector 2 Channel	NA		Perm		NA		Prot Perm
Detector 2 Extend (s)	4		8		8		2
Turn Type							
Protected Phases							
Permitted Phases							



Lanes, Volumes, Timings
10: Cayuga Drive/Niagara Rd & Walmore Rd & Niagara Falls Blvd

Lanes, Volumes, Timings
10: Cayuga Drive/Niagara Rd & Walmore Rd & Niagara Falls Blvd

Project Fifi
2021 Existing PM

Project Fifi
2021 Existing PM

Lane Group	EBL2	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	WBR2	NBL	NBT
Lane Configurations		↕	↕	↕	↕	↕	↕	↕	↕		↕
Traffic Volume (vph)	70	105	471	15	2	9	66	512	47	4	11
Future Volume (vph)	70	105	471	15	2	9	66	512	47	4	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175	0	0	0	250	0	0	0	0	0	0
Storage Lanes	1	0	0	0	1	0	0	0	0	0	0
Taper Length (ft)	25	0	0	0	25	0	0	0	0	0	25
Lane Util. Factor	0.95	1.00	0.95	0.95	0.95	1.00	0.95	0.95	0.95	1.00	1.00
Fit	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995
Fit Protected	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Satd. Flow (prot)	0	1770	3522	0	0	0	1770	3490	0	0	1758
Fit Permitted	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Satd. Flow (perm)	0	1770	3522	0	0	0	1770	3490	0	0	1581
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (RTOR)							1				4
Link Speed (mph)	30	30	30	30	30	30	30	30	30	30	30
Link Distance (ft)	1254	1254	1254	1254	1254	1254	1395	917	1395	917	917
Travel Time (s)	28.5	28.5	28.5	28.5	28.5	28.5	31.7	20.8	31.7	20.8	20.8
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	79	118	523	17	2	10	74	575	53	4	12
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	197	548	0	0	0	84	632	0	0	39
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Left	Left	Left	Left	Right	Right	Left	Left
Median Width(ft)	12	12	12	12	12	12	12	12	12	12	12
Link Offset(ft)	0	0	0	0	0	0	0	0	0	0	0
Crosswalk Width(ft)	16	16	16	16	16	16	16	16	16	16	16
Two way Left Turn Lane	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60	60	60	60	60	60	60	60	60
Number of Detectors	2	2	2	2	2	2	2	2	2	2	2
Detector Template	Left	Left	Left	Left	Left	Left	Left	Left	Left	Left	Left
Leading Detector (ft)	49	49	49	49	49	49	49	49	49	49	49
Trailing Detector (ft)	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Detector 1 Position(ft)	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Detector 1 Size(ft)	20	20	20	20	20	20	20	20	20	20	20
Detector 1 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 1 Channel											
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	29	29	29	29	29	29	29	29	29	29	29
Detector 2 Size(ft)	20	20	20	20	20	20	20	20	20	20	20
Detector 2 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 2 Channel											
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Prot	Prot	Prot	Prot	Prot	Prot	Prot	Prot	Prot	Prot
Protected Phases	5	5	5	2	1	1	1	6	1	1	6
Permitted Phases											8

Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (RTOR)							116				116
Link Speed (mph)	30	30	30	30	30	30	30	30	30	30	30
Link Distance (ft)	1156	1156	1156	1156	1156	1156	812	1156	812	1156	1156
Travel Time (s)	26.3	26.3	26.3	26.3	26.3	26.3	18.5	26.3	18.5	26.3	26.3
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	8	4	15	74	22	47	79	4	46	69	102
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	0	0	0	0	0	111	126	0	0	222
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Right	Right	Right	Left	Left	Left	Right	Right	Right	Left	Right
Median Width(ft)	0	0	0	0	0	0	0	0	0	0	0
Link Offset(ft)	0	0	0	0	0	0	0	0	0	0	0
Crosswalk Width(ft)	16	16	16	16	16	16	16	16	16	16	16
Two way Left Turn Lane	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60	60	60	60	60	60	60	60	60
Number of Detectors	2	2	2	2	2	2	2	2	2	2	2
Detector Template	Left	Left	Left	Left	Left	Left	Left	Left	Left	Left	Left
Leading Detector (ft)	49	49	49	49	49	49	49	49	49	49	49
Trailing Detector (ft)	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Detector 1 Position(ft)	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Detector 1 Size(ft)	20	20	20	20	20	20	20	20	20	20	20
Detector 1 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 1 Channel											
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	29	29	29	29	29	29	29	29	29	29	29
Detector 2 Size(ft)	20	20	20	20	20	20	20	20	20	20	20
Detector 2 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 2 Channel											
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	7	7	7	8	8	8	8	8	7	7	7
Permitted Phases											

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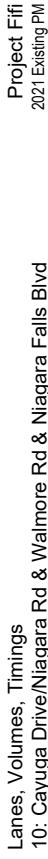
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Lanes, Volumes, Timings
10: Cayuga Drive/Niagara Rd & Walmore Rd & Niagara Falls Blvd

Lanes, Volumes, Timings
10: Cayuga Drive/Niagara Rd & Walmore Rd & Niagara Falls Blvd

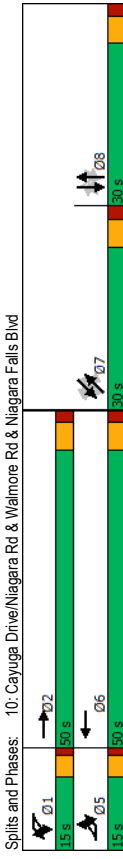
Project Fifi
2021 Existing PM



Lane Group	SWL2	SWL	SWT	SWR	SWR2
Lane Configurations			4	8	9
Traffic Volume (vph)	4	9	48	85	9
Future Volume (vph)	4	9	48	85	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100		
Storage Lanes	0	0	1		
Taper Length (ft)	25				
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00
Flt Protected			0.990		
Std. Flow (prot)	0	0	1844	1583	0
Flt Permitted			0.884		
Std. Flow (perm)	0	0	1647	1583	0
Right Turn on Red					Yes
Std. Flow (RTOR)					116
Link Distance (ft)			30		
Link Speed (mph)			1223		
Travel Time (s)			27.8		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	4	10	54	96	10
Shared Lane Traffic (%)					
Lane Group Flow (vph)	0	0	68	106	0
Enter Blocked Intersection	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Right
Median Width(ft)			0		
Link Offset(ft)			0		
Crosswalk Width(ft)			16		
Two way Left Turn Lane					
Headway Factor	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60	60	60
Number of Detectors	2	2	2	2	
Detector Template	Left	Left			
Leading Detector (ft)	49	49	49	49	
Trailing Detector (ft)	-1	-1	-1	-1	
Detector 1 Position(ft)	-1	-1	-1	-1	
Detector 1 Size(ft)	20	20	20	20	
Detector 1 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	
Detector 1 Channel					
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	29	29	29	29	
Detector 2 Size(ft)	20	20	20	20	
Detector 2 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	
Detector 2 Channel					
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	
Turn Type	Perm	Perm	NA	Perm	
Protected Phases			7		
Permitted Phases	7	7		7	

Lane Group	EBL2	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	WBR2	NBL	NBT
Detector Phase	5	5	2			1	1	6			8	8
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	9.5	22.5	9.5	9.5	9.5	9.5	22.5	9.5	9.5	22.5	22.5
Total Split (s)	15.0	15.0	50.0	15.0	15.0	15.0	15.0	50.0	15.0	15.0	30.0	30.0
Total Split (%)	12.0%	12.0%	40.0%	12.0%	12.0%	12.0%	12.0%	40.0%	12.0%	12.0%	24.0%	24.0%
Maximum Green (s)	10.7	10.7	44.0	10.7	10.7	10.7	10.7	44.0	10.7	10.7	24.0	24.0
Yellow Time (s)	3.2	3.2	4.0	3.2	3.2	3.2	3.2	4.0	3.2	3.2	4.0	4.0
All-Red Time (s)	1.1	1.1	2.0	1.1	1.1	1.1	1.1	2.0	1.1	1.1	2.0	2.0
Lost Time Adjust (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
Total Lost Time (s)	4.3	4.3	6.0	4.3	4.3	4.3	4.3	6.0	4.3	4.3	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	None	None	None	None	Max	None	None	None	None
Act Effct Green (s)	10.8	10.8	48.0	10.8	10.8	10.8	10.8	48.0	10.8	10.8	24.3	24.3
Actuated g/C Ratio	0.10	0.10	0.43	0.10	0.10	0.10	0.10	0.43	0.10	0.10	0.13	0.13
v/c Ratio	1.16	1.16	0.36	1.16	1.16	1.16	1.16	0.36	1.16	1.16	0.46	0.46
Control Delay	163.0	163.0	24.9	163.0	163.0	163.0	163.0	24.9	163.0	163.0	27.3	27.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	163.0	163.0	24.9	163.0	163.0	163.0	163.0	24.9	163.0	163.0	27.3	27.3
LOS	F	F	C	F	F	F	F	C	F	F	D	D
Approach Delay			61.4					31.9				
Approach LOS			E					C				

Intersection Summary	Area Type:	Cycle Length:	Actuated Cycle Length:	Natural Cycle:	Control Type:	Maximum v/c Ratio:	Intersection Signal Delay:	Intersection Capacity Utilization:	Analysis Period (min):
	Other	125	111.5	80	Semi-Act-Uncoordinated	1.16	45.6	82.3%	15
					Intersection LOS: D				
					ICU Level of Service E				



Splits and Phases: 10: Cayuga Drive/Niagara Rd & Walmore Rd & Niagara Falls Blvd

Lanes, Volumes, Timings
10: Cayuga Drive/Niagara Rd & Walmore Rd & Niagara Falls Blvd

Lanes, Volumes, Timings
10: Cayuga Drive/Niagara Rd & Walmore Rd & Niagara Falls Blvd

Project Fifi
2021 Existing PM

Project Fifi
2021 Existing PM

Lane Group	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	NEL2	NEL	NET	NER	NER2
Detector Phase			8	8	8	8	8	7	7	7	7	
Switch Phase												
Minimum Initial (s)			5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)			22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	
Total Split (s)			30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	
Total Split (%)			24.0%	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%	
Maximum Green (s)			24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	
Yellow Time (s)			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)			2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)			6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag			Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode			None	None	None	None	None	None	None	None	None	
Act Effct Green (s)			14.3	14.3	14.3	14.3	14.3	19.8	19.8	19.8	19.8	
v/c Ratio			0.63	0.42	0.13	0.13	0.18	0.18	0.18	0.18	0.18	
Control Delay			62.9	14.2	65.2	65.2	65.2	65.2	65.2	65.2	65.2	
Queue Delay			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay			62.9	14.2	65.2	65.2	65.2	65.2	65.2	65.2	65.2	
LOS			E	B	E	E	E	E	E	E	E	
Approach Delay			37.0	D	65.2	65.2	65.2	65.2	65.2	65.2	65.2	
Approach LOS			D	D	E	E	E	E	E	E	E	
Intersection Summary												

Lane Group	SWL2	SWL	SMT	SWR	SWR2
Detector Phase	7	7	7	7	7
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5
Total Split (s)	30.0	30.0	30.0	30.0	30.0
Total Split (%)	24.0%	24.0%	24.0%	24.0%	24.0%
Maximum Green (s)	24.0	24.0	24.0	24.0	24.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None
Act Effct Green (s)	19.8	19.8	19.8	19.8	19.8
v/c Ratio	0.23	0.28	0.23	0.28	0.28
Control Delay	42.2	8.2	42.2	8.2	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	42.2	8.2	42.2	8.2	8.2
LOS	D	A	D	A	A
Approach Delay	21.5	21.5	21.5	21.5	21.5
Approach LOS	C	C	C	C	C
Intersection Summary					

A5

**Level of Service Calculations:
Background Conditions**

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↕	↕	↔	↔	↔	↕
Traffic Volume (vph)	328	128	34	280	196	24
Future Volume (vph)	328	128	34	280	196	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.97	0.95
Flt Protected		0.850			0.984	
Flt Permitted	1863	1583	0	3522	3403	0
Satd. Flow (perm)	1863	1583	0	3150	3403	0
Right Turn on Red	Yes					Yes
Satd. Flow (RTOR)	133				15	
Link Speed (mph)	35		35		40	
Link Distance (ft)	510		1105		538	
Travel Time (s)	9.9		21.5		9.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Shared Lane Traffic (%)	342	133	35	292	204	25
Lane Group Flow (vph)	342	133	0	327	229	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Right	Right
Median Width(ft)	12		12		24	
Link Offset(ft)	0		0		0	
Crosswalk Width(ft)	16		16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60	60	60	60
Number of Detectors	2	1	2	2	1	
Detector Template			Left			
Leading Detector (ft)	49	19	49	49	19	
Trailing Detector (ft)	-1	-1	-1	-1	-1	
Detector 1 Position(ft)	-1	-1	-1	-1	-1	
Detector 1 Size(ft)	20	20	20	20	20	
Detector 1 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	29	29	29	29		
Detector 2 Size(ft)	20	20	20	20		
Detector 2 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0	0.0	0.0	0.0		
Turn Type	NA	Perm	NA	NA	Prot	
Protected Phases	1	1	1	1	3	
Permitted Phases	1	1	1	1	3	
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	1.0	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Minimum Split (s)	12.3	12.3	12.3	12.3	7.6	
Total Split (s)	60.0	60.0	60.0	60.0	40.0	
Total Split (%)	60.0%	60.0%	60.0%	60.0%	40.0%	
Maximum Green (s)	53.7	53.7	53.7	53.7	34.3	
Yellow Time (s)	3.6	3.6	3.6	3.6	3.9	
All-Red Time (s)	2.7	2.7	2.7	2.7	1.8	
Lost Time Adjst (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.3	6.3	6.3	6.3	5.7	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	21.0	21.0	21.0	21.0	21.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	76.3	76.3	76.3	76.3	11.7	
Actuated g/C Ratio	0.76	0.76	0.76	0.76	0.12	
v/c Ratio	0.24	0.11	0.14	0.14	0.56	
Control Delay	1.1	0.2	3.5	43.8		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	1.1	0.2	3.5	43.8		
LOS	A	A	A	D	D	
Approach Delay	0.8		3.5	43.8		
Approach LOS	A		A	D		
Intersection Summary						
Area Type:	Other					
Cycle Length:	100					
Actuated Cycle Length:	100					
Offset:	55 (55%), Referenced to phase 1:EBWB, Start of Yellow					
Natural Cycle:	40					
Control Type:	Actuated-Coordinated					
Maximum v/c Ratio:	0.56					
Intersection Signal Delay:	11.2					
Intersection LOS:	B					
Intersection Capacity Utilization:	47.6%					
Analysis Period (min):	15					
Splits and Phases: 5: Porter Rd & Packard Rd						

Lanes, Volumes, Timings
6: Packard Rd & Lockport Rd

HCM Unsignalized Intersection Capacity Analysis
6: Packard Rd & Lockport Rd

Project Fifi
2024 Background AM

Project Fifi
2024 Background AM

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations	W			4		
Traffic Volume (veh/h)	88	2	0	271	262	79
Future Volume (Veh/h)	88	2	0	271	262	79
Sign Control	Stop			Free	Free	Free
Grade	0%			0%	0%	0%
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	101	2	0	311	301	91
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)				None	None	None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	658	346	392			
vC1, stage 1 cont vol						
vC2, stage 2 cont vol						
vCu, unblocked vol	658	346	392			
IC, single (s)	6.4	6.2	4.1			
IC, 2 stage (s)	3.5	3.3	2.2			
p0 queue free %	76	100	100			
cM capacity (veh/h)	429	697	1167			
Direction, Lane #	SE 1	NE 1	SW 1			
Volume Total	103	311	392			
Volume Left	101	0	0			
Volume Right	2	0	91			
cSH	433	1167	1700			
Volume to Capacity	0.24	0.00	0.23			
Queue Length 95th (ft)	23	0	0			
Control Delay (s)	15.9	0.0	0.0			
Lane LOS	C					
Approach Delay (s)	15.9	0.0	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay	2.0					
Intersection Capacity Utilization	30.3%					
ICU Level of Service	A					
Analysis Period (min)	15					

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations	W			4		
Traffic Volume (vph)	88	2	0	271	262	79
Future Volume (vph)	88	2	0	271	262	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fit	0.997			0.969		
Fit Protected	0.953					
Satd. Flow (prot)	1770	0	0	1863	1805	0
Fit Permitted	0.953					
Satd. Flow (perm)	1770	0	0	1863	1805	0
Link Speed (mph)	45			45	45	
Link Distance (ft)	217			505	881	
Travel Time (s)	3.3			7.7	13.3	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	101	2	0	311	301	91
Shared Lane Traffic (%)						
Lane Group Flow (vph)	103	0	0	311	392	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Right	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15	Free	Free	9
Sign Control	Stop			Free	Free	Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	30.3%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings
7: Tuscarora Rd & Lockport Rd

Project Fifi
2024 Background AM

	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1	4	4	4	4	4
Traffic Volume (vph)	347	0	0	344	0	0
Future Volume (vph)	347	0	0	344	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected						
Satd. Flow (prot)	1863	0	0	1863	1863	0
Flt Permitted						
Satd. Flow (perm)	1863	0	0	1863	1863	0
Link Speed (mph)	45			45	30	
Link Distance (ft)	1802			1470	2048	
Travel Time (s)	27.3			22.3	46.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	377	0	0	374	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	377	0	0	374	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Right	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	21.6%					
Analysis Period (min)	15					
ICU Level of Service	A					

HCM Unsignalized Intersection Capacity Analysis
7: Tuscarora Rd & Lockport Rd

Project Fifi
2024 Background AM

	EBT	EBR	WBL	WBT	NBL	NBR
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1	4	4	4	4	4
Traffic Volume (veh/h)	347	0	0	344	0	0
Future Volume (Veh/h)	347	0	0	344	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	377	0	0	374	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)	None					
Upstream signal (ft)	None					
pX, platoon unblocked	None					
vC, conflicting volume	None					
vC1, stage 1 conf vol	377			751		377
vC2, stage 2 conf vol						
vCu, unblocked vol	377			751		377
tC, single (s)	4.1			6.4		6.2
tC, 2 stage (s)	2.2			3.5		3.3
p0 queue free %	100			100		100
cM capacity (veh/h)	1181			378		670
Direction, Lane #	EB.1	WB.1	NB.1			
Volume Total	377	374	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1181	1700			
Volume to Capacity	0.22	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS				A		
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS				A		
Intersection Summary						
Average Delay	0.0					
Intersection Capacity Utilization	21.6%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings
8: Lockport Rd & Walmore Rd

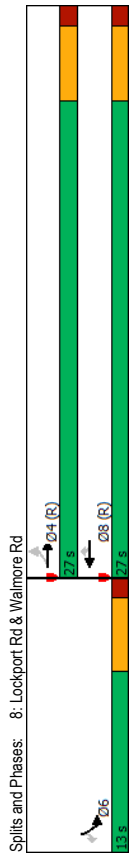
Lanes, Volumes, Timings
8: Lockport Rd & Walmore Rd

Project Fifi
2024 Background AM

Project Fifi
2024 Background AM

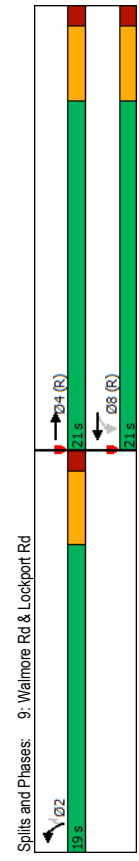
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	24	219	116	52	23	23
Traffic Volume (vph)	24	219	277	116	52	23
Future Volume (vph)	24	219	277	116	52	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125	0	115			
Storage Lanes	1			1	1	1
Tapor Length (ft)	25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.850
Flt Protected	0.950			0.950		
Std. Flow (prot)	1770	1863	1863	1583	1770	1583
Flt Permitted	0.571			0.950		
Std. Flow (perm)	1064	1863	1863	1583	1770	1583
Right Turn on Red				Yes	Yes	Yes
Std. Flow (RTOR)				130		26
Link Distance (ft)		45	45		35	
Travel Time (s)		697	1100		1227	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	27	246	311	130	58	26
Shared Lane Traffic (%)						
Lane Group Flow (vph)	27	246	311	130	58	26
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right
Median Width(ft)	12	12	12	12	12	12
Link Offset(ft)	0	0	0	0	0	0
Crosswalk Width(ft)	16	16	16	16	16	16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	2	2	2	2	2	2
Detector Template						
Leading Detector (ft)	49	49	49	49	49	49
Trailing Detector (ft)	-1	-1	-1	-1	-1	-1
Detector 1 Position(ft)	-1	-1	-1	-1	-1	-1
Detector 1 Size(ft)	20	20	20	20	20	20
Detector 1 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	29	29	29	29	29	29
Detector 2 Size(ft)	20	20	20	20	20	20
Detector 2 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 2 Channel						
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases		4	8	8	6	6
Permitted Phases	4					

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase	4	4	8	8	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	27.0	27.0	27.0	27.0	13.0	13.0
Total Split (%)	67.5%	67.5%	67.5%	67.5%	32.5%	32.5%
Maximum Green (s)	22.5	22.5	22.5	22.5	8.5	8.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
LeadLag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	C-Max	C-Max	Min	Min
Act Effct Green (s)	24.2	24.2	24.2	24.2	6.8	6.8
Actuated g/C Ratio	0.60	0.60	0.60	0.60	0.17	0.17
v/c Ratio	0.04	0.22	0.28	0.13	0.19	0.09
Control Delay	4.0	4.5	5.7	3.0	15.3	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.0	4.5	5.7	3.0	15.3	7.4
LOS	A	A	A	A	B	A
Approach Delay						
Approach LOS	A	A	A	A	B	B
Intersection Summary						
Area Type:	Other					
Cycle Length:	40					
Actuated Cycle Length:	40					
Offset:	13 (33%), Referenced to phase 4:EBTL and 8:WBT, Start of Green					
Natural Cycle:	40					
Control Type:	Actuated-Coordinated					
Maximum v/c Ratio:	0.28					
Intersection Signal Delay:	5.6					
Intersection LOS:	A					
Intersection Capacity Utilization:	31.6%					
Analysis Period (min):	15					



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1	1	1	1	1	1
Traffic Volume (vph)	168	85	77	292	202	74
Future Volume (vph)	168	85	77	292	202	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0	0	0	0
Storage Lanes	0	1	1	1	1	1
Taper Length (ft)						
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.955					0.850
Std. Flow (prot)	1779	0	1770	1863	1770	1583
Flt Permitted			0.587		0.950	
Std. Flow (perm)	1779	0	1083	1863	1770	1583
Right Turn on Red		Yes				Yes
Std. Flow (RTOR)	77					82
Link Distance (ft)	45		45	40		
Link Speed (mph)	1100		957	738		
Travel Time (s)	16.7		14.5	12.6		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	187	94	86	324	224	82
Shared Lane Traffic (%)						
Lane Group Flow (vph)	281	0	86	324	224	82
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12		12	12		12
Link Offset(ft)	0		0	0		0
Crosswalk Width(ft)	16		16	16		16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15	2	2	15	9
Number of Detectors	2	2	2	2	2	2
Detector Template						
Leading Detector (ft)	49	49	49	49	49	49
Trailing Detector (ft)	-1	-1	-1	-1	-1	-1
Detector 1 Position(ft)	-1	-1	-1	-1	-1	-1
Detector 1 Size(ft)	20	20	20	20	20	20
Detector 1 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	29	29	29	29	29	29
Detector 2 Size(ft)	20	20	20	20	20	20
Detector 2 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 2 Channel						
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	NA	Perm	NA	Prot	Perm	Perm
Protected Phases	4			8	2	2
Permitted Phases						

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	4		8	8	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	21.0	21.0	21.0	19.0	19.0	19.0
Total Split (%)	52.5%	52.5%	47.5%	47.5%	47.5%	47.5%
Maximum Green (s)	16.5	16.5	16.5	14.5	14.5	14.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead-Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	C-Max	Min	Min	Min
Act Effct Green (s)	20.7	20.7	20.7	10.3	10.3	10.3
Actuated g/C Ratio	0.52	0.52	0.52	0.26	0.26	0.26
v/c Ratio	0.29	0.15	0.34	0.49	0.18	0.18
Control Delay	4.2	7.2	7.9	15.7	4.1	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.2	7.2	7.9	15.7	4.1	4.1
LOS	A	A	A	B	B	A
Approach Delay	4.2		7.7	12.6		
Approach LOS	A		A	B		B
Intersection Summary						
Area Type:	Other					
Cycle Length:	40					
Actuated Cycle Length:	40					
Offset:	19 (48%), Referenced to phase 4:EBT and 8:WBL, Start of Green					
Natural Cycle:	40					
Control Type:	Actuated-Coordinated					
Maximum v/c Ratio:	0.49					
Intersection Signal Delay:	8.2					
Intersection LOS:	A					
Intersection Capacity Utilization:	40.7%					
Analysis Period (min):	15					



Lanes, Volumes, Timings
10: Cayuga Drive/Niagara Rd & Walmore Rd & Niagara Falls Blvd

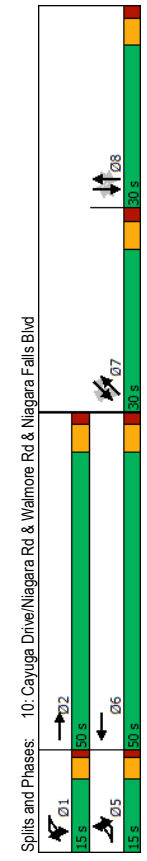
Lanes, Volumes, Timings
10: Cayuga Drive/Niagara Rd & Walmore Rd & Niagara Falls Blvd

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Lane Group	SWR2
Lane Configurations	
Traffic Volume (vph)	5
Future Volume (vph)	5
Ideal Flow (vphpl)	1900
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	1.00
Flt Protected	
Std. Flow (prot)	0
Flt Permitted	
Std. Flow (perm)	0
Right Turn on Red	Yes
Std. Flow (RTOR)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.80
Adj. Flow (vph)	6
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	
Permitted Phases	

Lane Group	EBL2	EBL	EBT	EBR	WBL2	WBL	WBT	WBR	NBL	NBR	NBR2
Detector Phase	5	5	2	2	1	1	6	6	8	8	8
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	9.5	22.5	22.5	9.5	9.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	15.0	15.0	50.0	50.0	15.0	15.0	50.0	50.0	30.0	30.0	30.0
Total Split (%)	12.0%	12.0%	40.0%	40.0%	12.0%	12.0%	40.0%	40.0%	24.0%	24.0%	24.0%
Maximum Green (s)	10.7	10.7	44.0	44.0	10.7	10.7	44.0	44.0	24.0	24.0	24.0
Yellow Time (s)	3.2	3.2	4.0	4.0	3.2	3.2	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.1	1.1	2.0	2.0	1.1	1.1	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.3	4.3	6.0	6.0	4.3	4.3	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	None	None	None	None	None	None	None
Act Effct Green (s)	10.0	10.0	51.1	51.1	7.6	7.6	44.3	44.3	11.1	11.1	11.1
Actuated g/C Ratio	0.09	0.09	0.47	0.47	0.07	0.07	0.41	0.41	0.10	0.10	0.10
v/c Ratio	0.64	0.64	0.18	0.18	0.28	0.28	0.33	0.33	0.45	0.45	0.45
Control Delay	67.6	67.6	19.6	19.6	55.4	55.4	23.9	23.9	54.3	54.3	54.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.6	67.6	19.6	19.6	55.4	55.4	23.9	23.9	54.3	54.3	54.3
LOS	E	E	B	B	E	E	C	C	D	D	D
Approach Delay			32.2	32.2			26.2	26.2			54.3
Approach LOS			C	C			C	C			D
Intersection Summary											
Area Type:	Other										
Cycle Length:	125										
Actuated Cycle Length:	107.9										
Natural Cycle:	80										
Control Type:	Semi Act-Uncoord										
Maximum v/c Ratio:	0.79										
Intersection Signal Delay:	34.9										
Intersection Capacity Utilization:	66.0%										
Analysis Period (min):	15										



Lanes, Volumes, Timings
10: Cayuga Drive/Niagara Rd & Walmore Rd & Niagara Falls Blvd

Lanes, Volumes, Timings
10: Cayuga Drive/Niagara Rd & Walmore Rd & Niagara Falls Blvd

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2024 Background AM

Lane Group	SBL2	SBL	SBT	SBR	SBR2	NEL2	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	8	8	8	8	8	7	7	7	7	7	7	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Total Split (%)	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%
Maximum Green (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (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
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	11.1	11.1	11.1	11.1	11.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1
Actuated g/C Ratio	0.10	0.10	0.10	0.10	0.10	0.19	0.19	0.19	0.19	0.19	0.19	0.19
v/c Ratio	0.51	0.30	0.30	0.30	0.30	0.79	0.79	0.79	0.79	0.22	0.17	0.17
Control Delay	60.3	5.8	5.8	5.8	5.8	63.5	63.5	63.5	63.5	39.7	2.0	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.3	5.8	5.8	5.8	5.8	63.5	63.5	63.5	63.5	39.7	2.0	2.0
LOS	E	A	A	A	A	E	E	E	E	D	D	A
Approach Delay	31.8					63.5	63.5	63.5	63.5	22.1		
Approach LOS	C					E	E	E	E	C		
Intersection Summary												

Lane Group	SWR2
Detector Phase	SWR2
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Minimum Initial (s)	34.6	34.6									6.0	6.0
Minimum Split (s)	60.0	60.0									11.2	11.2
Total Split (s)	66.0	66.0									34.0	34.0
Total Split (%)	66.0%	66.0%									34.0%	34.0%
Maximum Green (s)	60.6	60.6									28.8	28.8
Yellow Time (s)	4.3	4.3									3.6	3.6
All-Red Time (s)	1.1	1.1									1.6	1.6
Lost Time Adjust (s)	0.0	0.0									0.0	0.0
Total Lost Time (s)	5.4	5.4									5.2	5.2
LeadLag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0									3.0	3.0
Recall Mode	C-Max	C-Max									None	None
Act Effct Green (s)	75.5	75.5									13.9	13.9
Actuated g/C Ratio	0.76	0.76									0.14	0.14
v/c Ratio	0.22	0.22									0.61	0.68
Control Delay	3.5	3.5									50.1	11.5
Queue Delay	0.0	0.0									0.0	0.0
Total Delay	3.5	3.5									50.1	11.5
LOS	A	A									D	B
Approach Delay	3.5	3.5									23.3	
Approach LOS	A	A									C	
Intersection Summary												
Area Type:	Other											
Cycle Length:	100											
Actuated Cycle Length:	100											
Offset 95 (95%):	Referenced to phase 1:EBWB, Start of Yellow											
Natural Cycle:	75											
Control Type:	Actuated-Coordinated											
Maximum v/c Ratio:	0.68											
Intersection Signal Delay:	12.4											
Intersection Capacity Utilization:	56.8%											
Analysis Period (min):	15											



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	8	274	0	0	506	7	0	0	0	35	102	309
Future Volume (vph)	8	274	0	0	506	7	0	0	0	35	102	309
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Permitted	0.999	0.999			0.998						0.987	0.850
Satd. Flow (prot)	0	3538	0	0	3370	0	0	0	0	0	1798	1509
Satd. Flow (perm)	0	3420	0	0	3370	0	0	0	0	0	1798	1509
Right Turn on Red		Yes			Yes						Yes	Yes
Satd. Flow (RTOR)		45			3						343	
Link Speed (mph)		326			45						30	
Link Distance (ft)		4.9			342						521	
Travel Time (s)		0.90			5.2						11.8	
Peak Hour Factor		0%			0%						8%	
Heavy Vehicles (%)		0%			7%						0%	
Adj. Flow (vph)		9			562						39	
Shared Lane Traffic (%)												
Lane Group Flow (vph)		0			570						152	
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Right	Left	Left	Left	Right	Left	Left	Right
Median Width (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Link Offset (ft)	0	16	0	0	16	0	0	0	0	0	0	0
Crosswalk Width (ft)												
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	15	9	15	15	9	15	15	9	15	15	9
Number of Detectors	2	2			2				9	2	2	1
Detector Template	Left	Left			Left				Left	Left	Left	Left
Leading Detector (ft)	49	49			49				49	49	49	19
Trailing Detector (ft)	-1	-1			-1				-1	-1	-1	-1
Detector 1 Position (ft)	-1	-1			-1				-1	-1	-1	-1
Detector 1 Size (ft)	20	20			20				20	20	20	20
Detector 1 Type	Ch+Ex	Ch+Ex			Ch+Ex				Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0				0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0			0.0				0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0			0.0				0.0	0.0	0.0	0.0
Detector 2 Position (ft)	29	29			29				29	29	29	29
Detector 2 Size (ft)	20	20			20				20	20	20	20
Detector 2 Type	Ch+Ex	Ch+Ex			Ch+Ex				Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0			0.0				0.0	0.0	0.0	0.0
Turn Type	Perm	NA			NA				Perm	NA	Perm	Perm
Protected Phases	1	1			1				3	3	3	3
Permitted Phases	1	1			1				3	3	3	3
Detector Phase	1	1			1				3	3	3	3
Switch Phase												

Lanes, Volumes, Timings
3: Vacant Store Dwy/Porter Rd & Packard Rd

Lanes, Volumes, Timings
3: Vacant Store Dwy/Porter Rd & Packard Rd

Lanes, Volumes, Timings
3: Vacant Store Dwy/Porter Rd & Packard Rd

Project Fifif
2024 Background PM

Project Fifif
2024 Background PM

Project Fifif
2024 Background PM

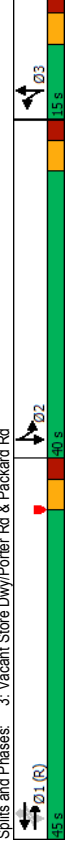
Project Fifif
2024 Background PM

Project Fifif
2024 Background PM

Project Fifif
2024 Background PM

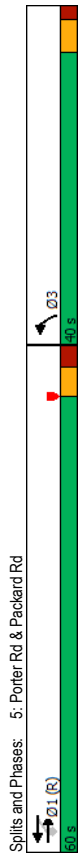
EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR
59	526	7	10	506	438	6	3	10	367	3
59	526	7	10	506	438	6	3	10	367	3
1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
0	0	150	0	1	1	1	1	0	0	0
25	25	0	25	0	0	0	0	0	0	0
0.91	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95
0.998	0.998	0.998	0.950	0.850	0.950	0.882	0.998	0.998	0.998	0.998
0	4932	0	1805	3406	1599	1805	1676	0	1698	1702
0.824	0	0.390	0.390	0.950	0.950	0.950	0.950	0.950	0.950	0.950
0	4084	0	741	3406	1599	1805	1676	0	1698	1702
2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
45			35			30			35	
342			475			302			290	
5.2			9.3			6.9			5.6	
0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
0%	5%	0%	0%	6%	1%	0%	0%	0%	1%	0%
66	584	8	11	562	487	7	3	11	408	3
0	658	0	11	562	487	7	14	0	204	208
No	No	No	No	No	No	No	No	No	No	No
12	Left	Right	Left	Left	Right	Left	Right	Left	Left	Right
0	0	0	0	0	0	0	0	0	0	0
16			16			16			16	
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
15	9	15	9	15	9	15	9	15	9	15
2	2	1	2	1	1	2	1	2	1	2
49	49	19	49	19	49	19	49	19	49	49
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
20	20	20	20	20	20	20	20	20	20	20
Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	29	29	29	29	29	29	29	29	29	29
20	20	20	20	20	20	20	20	20	20	20
Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1	Perm	NA	Perm	NA	Perm	Split	NA	Split	NA	2

EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR
1	1	1	1	1	1	1	3	3	2	2
28.8	28.8	28.8	28.8	28.8	28.8	3.8	3.8	3.8	15.0	15.0
45.0	45.0	45.0	45.0	45.0	45.0	10.0	10.0	10.0	24.2	24.2
45.0	45.0	45.0	45.0	45.0	45.0	15.0	15.0	15.0	40.0	40.0
45.0%	45.0%	45.0%	45.0%	45.0%	45.0%	15.0%	15.0%	15.0%	40.0%	40.0%
38.8	38.8	38.8	38.8	38.8	38.8	8.8	8.8	8.8	33.8	33.8
3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
63.8	63.8	63.8	63.8	63.8	63.8	6.1	6.1	6.1	18.6	18.6
0.64	0.64	0.64	0.64	0.64	0.64	0.06	0.06	0.06	0.19	0.19
0.25	0.02	0.26	0.41	0.06	0.12	0.06	0.12	0.06	0.66	0.66
11.6	11.6	6.6	5.4	3.6	45.0	28.2	47.1	47.6	47.1	47.6
0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0
11.6	6.6	5.4	4.4	45.0	28.2	47.1	47.6	47.1	47.6	47.6
B	A	A	A	A	D	C	D	D	D	D
11.6	4.9	A	A	A	A	33.8	47.4	47.4	47.4	47.4
B	B	A	A	A	C	C	D	D	D	D
Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other
100	100	100	100	100	100	100	100	100	100	100
61	61	61	61	61	61	61	61	61	61	61
80	80	80	80	80	80	80	80	80	80	80
0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66
15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4
78.9%	78.9%	78.9%	78.9%	78.9%	78.9%	78.9%	78.9%	78.9%	78.9%	78.9%
15	15	15	15	15	15	15	15	15	15	15



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↔	↔	↔	↔
Traffic Volume (vph)	346	208	32	321	308	30
Future Volume (vph)	346	208	32	321	308	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.97	0.95
Flt Protected		0.850			0.987	
Satd. Flow (prot)	1863	1583	0	3525	3410	0
Flt Permitted			0.996	0.956		
Satd. Flow (perm)	1863	1583	0	3157	3410	0
Right Turn on Red	Yes					Yes
Satd. Flow (RTOR)	30	236			11	
Link Speed (mph)	510		30	1105	538	
Link Distance (ft)	11.6		25.1	12.2		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	333	236	36	365	350	34
Shared Lane Traffic (%)						
Lane Group Flow (vph)	333	236	0	401	384	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12		12	24		
Link Offset(ft)	0		0	0		
Crosswalk Width(ft)	16		16	16		
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60	60	60	60
Number of Detectors	2	1	2	2	1	
Detector Template			Left			
Leading Detector (ft)	49	19	49	49	19	
Trailing Detector (ft)	-1	-1	-1	-1	-1	
Detector 1 Position(ft)	-1	-1	-1	-1	-1	
Detector 1 Size(ft)	20	20	20	20	20	
Detector 1 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	29	29	29	29		
Detector 2 Size(ft)	20	20	20	20		
Detector 2 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0	0.0	0.0	0.0		
Turn Type	NA	Perm	NA	Prot	Prot	
Protected Phases	1	1	1	1	3	
Permitted Phases	1	1	1	1	3	
Detector Phase	1	1	1	1	3	
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	1.0	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Minimum Split (s)	12.3	12.3	12.3	12.3	7.6	
Total Split (s)	60.0	60.0	60.0	60.0	40.0	
Total Split (%)	60.0%	60.0%	60.0%	60.0%	40.0%	
Maximum Green (s)	53.7	53.7	53.7	53.7	34.3	
Yellow Time (s)	3.6	3.6	3.6	3.6	3.9	
All-Red Time (s)	2.7	2.7	2.7	2.7	1.8	
Lost Time Adjst (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.3	6.3	6.3	6.3	5.7	
LeadLag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	21.0	21.0	21.0	21.0	21.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	71.5	71.5	71.5	71.5	16.5	
Actuated g/C Ratio	0.72	0.72	0.72	0.72	0.16	
v/c Ratio	0.30	0.20	0.18	0.18	0.67	
Control Delay	3.4	0.6	5.2	43.8		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	3.4	0.6	5.2	43.8		
LOS	A	A	A	D	D	
Approach Delay	2.3		5.2	43.8		
Approach LOS	A		A	D		
Intersection Summary						
Area Type:	Other					
Cycle Length:	100					
Actuated Cycle Length:	100					
Offset:	55 (55%), Referenced to phase 1:EBWB, Start of Yellow					
Natural Cycle:	40					
Control Type:	Actuated-Coordinated					
Maximum v/c Ratio:	0.67					
Intersection Signal Delay:	14.4					
Intersection LOS:	B					
Intersection Capacity Utilization:	53.0%					
Analysis Period (min):	15					



Lanes, Volumes, Timings
6: Packard Rd & Lockport Rd

HCM Unsignalized Intersection Capacity Analysis
6: Packard Rd & Lockport Rd

Project Fifi
2024 Background PM

Project Fifi
2024 Background PM

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations	W			4		
Traffic Volume (veh/h)	87	2	2	332	322	75
Future Volume (veh/h)	87	2	2	332	322	75
Sign Control	Stop			Free	Free	Free
Grade	0%			0%	0%	0%
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	105	2	2	400	388	90
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)				None	None	None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	837	433	478			
vC1, stage 1 cont vol						
vC2, stage 2 cont vol						
vCu, unblocked vol	837	433	478			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	3.5	3.3	2.2			
p0 queue free %	69	100	100			
cM capacity (veh/h)	336	623	1084			
Direction, Lane #	SE 1	NE 1	SW 1			
Volume Total	107	402	478			
Volume Left	105	2	0			
Volume Right	2	0	90			
cSH	339	1084	1700			
Volume to Capacity	0.32	0.00	0.28			
Queue Length 95th (ft)	33	0	0			
Control Delay (s)	20.4	0.1	0.0			
Lane LOS	C	A				
Approach Delay (s)	20.4	0.1	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay	2.2					
Intersection Capacity Utilization	33.1%					
ICU Level of Service	A					
Analysis Period (min)	15					

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations	W			4		
Traffic Volume (vph)	87	2	2	332	322	75
Future Volume (vph)	87	2	2	332	322	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fit Protected	0.997			0.975		
Fit Permitted	0.953					
Satd. Flow (prot)	1770	0	0	1863	1816	0
Satd. Flow (perm)	1770	0	0	1863	1816	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	217			505	881	
Travel Time (s)	4.9			11.5	20.0	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	105	2	2	400	388	90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	107	0	0	402	478	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Right	Right
Median Width (ft)	12			0	0	
Link Offset (ft)	0			0	0	
Crosswalk Width (ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60	Free	Free	60
Sign Control	Stop			Free	Free	Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	33.1%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings
7: Tuscarora Rd & Lockport Rd

Project Fifi
2024 Background PM

	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group						
Lane Configurations	4			4		
Traffic Volume (veh/h)	374	0	0	340	0	0
Future Volume (veh/h)	374	0	0	340	0	0
Ideal Flow (veh/pl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected						
Satd. Flow (prot)	1863	0	0	1863	1863	0
Flt Permitted						
Satd. Flow (perm)	1863	0	0	1863	1863	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	1802			1470	2048	
Travel Time (s)	41.0			33.4	46.5	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	430	0	0	391	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	430	0	0	391	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Right	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60	60	60	60
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	23.0%					
Analysis Period (min)	15					
ICU Level of Service	A					

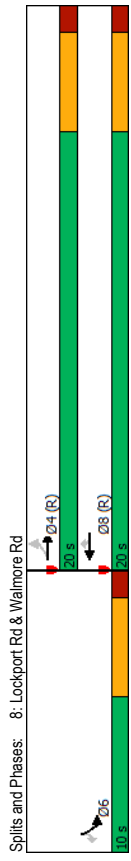
HCM Unsignalized Intersection Capacity Analysis
7: Tuscarora Rd & Lockport Rd

Project Fifi
2024 Background PM

	EBT	EBR	WBL	WBT	NBL	NBR
Movement						
Lane Configurations	4			4		
Traffic Volume (veh/h)	374	0	0	340	0	0
Future Volume (veh/h)	374	0	0	340	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	430	0	0	391	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)						
pX, platoon unblocked						
vC, conflicting volume		430		821	430	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol		430		821	430	
vCu, unblocked vol		4.1		6.4	6.2	
tC, single (s)		2.2		3.5	3.3	
tC, 2 stage (s)		100		100	100	
p0 queue free %		1129		344	625	
cM capacity (veh/h)						
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	430	391	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1129	1700			
Volume to Capacity	0.25	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS		A				
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS		A				
Intersection Summary						
Average Delay	0.0					
Intersection Capacity Utilization	23.0%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	39	279	270	99	82	29
Traffic Volume (vph)	39	279	270	99	82	29
Future Volume (vph)	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	125	0	115			
Storage Length (ft)	1			1	1	1
Storage Lanes	25			25		
Taper Length (ft)	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.950			0.850		0.850
Flt Protected	1770	1863	1863	1583	1770	1583
Satd. Flow (prot)	0.572			0.950		
Flt Permitted	1065	1863	1863	1583	1770	1583
Satd. Flow (perm)				Yes		Yes
Right Turn on Red				114		33
Satd. Flow (RTOR)		30	30		30	
Link Distance (ft)	697	1100		1227		
Travel Time (s)	15.8	25.0		27.9		
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	45	321	310	114	94	33
Shared Lane Traffic (%)						
Lane Group Flow (vph)	45	321	310	114	94	33
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Right
Median Width(ft)	12	12	12	12	12	12
Link Offset(ft)	0	0	0	0	0	0
Crosswalk Width(ft)	16	16	16	16	16	16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60	60	60	60
Number of Detectors	2	2	2	2	2	2
Detector Template	49	49	49	49	49	49
Leading Detector (ft)	-1	-1	-1	-1	-1	-1
Trailing Detector (ft)	-1	-1	-1	-1	-1	-1
Detector 1 Position(ft)	20	20	20	20	20	20
Detector 1 Size(ft)	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 1 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 1 Channel	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	29	29	29	29	29	29
Detector 2 Position(ft)	20	20	20	20	20	20
Detector 2 Size(ft)	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 2 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 2 Channel	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Extend (s)	Perm	NA	NA	Perm	Prot	Perm
Turn Type	4	8	8	8	6	6
Protected Phases						
Permitted Phases	4					

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase	4	4	8	8	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	20.0	20.0	20.0	20.0	10.0	10.0
Total Split (%)	66.7%	66.7%	66.7%	66.7%	33.3%	33.3%
Maximum Green (s)	15.5	15.5	15.5	15.5	5.5	5.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
LeadLag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	C-Max	C-Max	Min	Min
Act Effct Green (s)	15.5	15.5	15.5	15.5	5.5	5.5
Actuated g/C Ratio	0.52	0.52	0.52	0.52	0.18	0.18
v/c Ratio	0.08	0.33	0.32	0.13	0.29	0.10
Control Delay	4.1	5.4	5.2	1.8	13.2	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.1	5.4	5.2	1.8	13.2	5.8
LOS	A	A	A	A	B	A
Approach Delay		5.2	4.3			
Approach LOS	A	A	A	A	B	B
Intersection Summary						
Area Type:	Other					
Cycle Length:	30					
Actuated Cycle Length:	30					
Offset:	0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green					
Natural Cycle:	40					
Control Type:	Actuated-Coordinated					
Maximum v/c Ratio:	0.33					
Intersection Signal Delay:	5.6					
Intersection LOS:	A					
Intersection Capacity Utilization:	34.2%					
Analysis Period (min):	15					



Lanes, Volumes, Timings
9: Walmore Rd & Lockport Rd

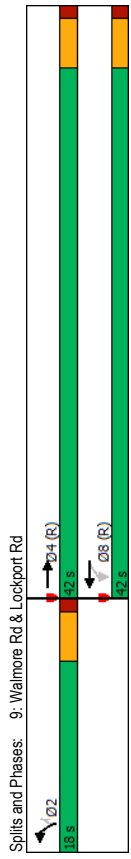
Lanes, Volumes, Timings
9: Walmore Rd & Lockport Rd

Project Fifi
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	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	1	1	1	1	1	1	
Traffic Volume (vph)	254	133	78	211	135	68	
Future Volume (vph)	254	133	78	211	135	68	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	0	0	200	0	0	200	
Storage Lanes	0	1	1	1	1	1	
Taper Length (ft)							
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Fit	0.954					0.850	
Flt Protected			0.950		0.950		
Std. Flow (prot)	1777	0	1770	1863	1770	1583	
Flt Permitted			0.472		0.950		
Std. Flow (perm)	1777	0	879	1863	1770	1583	
Right Turn on Red		Yes				Yes	
Std. Flow (RTOR)	84					81	
Link Speed (mph)	30		30		30		
Link Distance (ft)	1100		957		738		
Travel Time (s)	250		21.8		16.8		
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	
Adj. Flow (vph)	302	158	93	251	161	81	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	460	0	93	251	161	81	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(ft)	12		12		12		
Link Offset(ft)	0		0		0		
Crosswalk Width(ft)	16		16		16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	60	60	60	60	60	60	
Number of Detectors	2	2	2	2	2	2	
Detector Template							
Leading Detector (ft)	49	49	49	49	49	49	
Trailing Detector (ft)	-1	-1	-1	-1	-1	-1	
Detector 1 Position(ft)	-1	-1	-1	-1	-1	-1	
Detector 1 Size(ft)	20	20	20	20	20	20	
Detector 1 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	29	29	29	29	29	29	
Detector 2 Size(ft)	20	20	20	20	20	20	
Detector 2 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	
Detector 2 Channel							
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Turn Type	NA	Perm	NA	Prot	Perm	Perm	
Protected Phases	4						
Permitted Phases			8		8	2	

	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	
Detector Phase	4		8		8	2	
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	
Total Split (s)	42.0	42.0	42.0	18.0	18.0	30.0%	
Total Split (%)	70.0%	70.0%	70.0%	30.0%	30.0%	30.0%	
Maximum Green (s)	37.5	37.5	37.5	13.5	13.5	13.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	
Lead-Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Max	C-Max	C-Max	Min	Min	Min	
Act Effct Green (s)	40.6	40.6	40.6	10.4	10.4	10.4	
Actuated g/C Ratio	0.68	0.68	0.68	0.17	0.17	0.17	
v/c Ratio	0.37	0.16	0.20	0.52	0.24	0.24	
Control Delay	7.2	5.0	4.6	28.3	7.5	7.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	7.2	5.0	4.6	28.3	7.5	7.5	
LOS	A	A	A	C	C	A	
Approach Delay	7.2	4.7	21.3				
Approach LOS	A	A	C				
Intersection Summary							
Area Type:	Other						
Cycle Length:	60						
Actuated Cycle Length:	60						
Offset:	18 (30%), Referenced to phase 4:EBT and 8:WBT, Start of Green						
Natural Cycle:	40						
Control Type:	Actuated-Coordinated						
Maximum v/c Ratio:	0.52						
Intersection Signal Delay:	9.6						
Intersection LOS:	A						
Intersection Capacity Utilization:	44.5%						
Analysis Period (min):	15						



Lanes, Volumes, Timings

10: Cayuga Drive/Niagara Rd & Walmore Rd & Niagara Falls Blvd

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Table with 20 columns: Lane Group, EBL2, EBL, EBT, EBR, EBR2, WBL2, WBL, WBT, WBR, WBR2, NBL, NBT. Rows include lane configurations, traffic volume, future volume, ideal flow, storage length, taper length, lane utilization, fit protected, saturation flow, fit permitted, right turn on red, saturation flow (RTOR), link speed, link distance, travel time, peak hour factor, adjusted flow, shared lane traffic, lane group flow, enter blocked intersection, lane alignment, median width, link offset, crosswalk width, roadway factor, turning speed, number of detectors, detector template, leading detector, trailing detector, detector 1 position, detector 1 size, detector 1 type, detector 1 channel, detector 1 extend, detector 1 queue, detector 1 delay, detector 2 position, detector 2 size, detector 2 type, detector 2 channel, detector 2 extend, turn type, protected phases, permitted phases.

Lanes, Volumes, Timings

10: Cayuga Drive/Niagara Rd & Walmore Rd & Niagara Falls Blvd

Project Fifi

2024 Background PM

Table with 20 columns: Lane Group, NBR, NBR2, SBL2, SBL, SBT, SBR, SBR2, NEL2, NEL, NET, NER, NER2. Rows include lane configurations, traffic volume, future volume, ideal flow, storage length, taper length, lane utilization, fit protected, saturation flow, fit permitted, right turn on red, saturation flow (RTOR), link speed, link distance, travel time, peak hour factor, adjusted flow, shared lane traffic, lane group flow, enter blocked intersection, lane alignment, median width, link offset, crosswalk width, roadway factor, turning speed, number of detectors, detector template, leading detector, trailing detector, detector 1 position, detector 1 size, detector 1 type, detector 1 channel, detector 1 extend, detector 1 queue, detector 1 delay, detector 2 position, detector 2 size, detector 2 type, detector 2 channel, detector 2 extend, turn type, protected phases, permitted phases.

Lanes, Volumes, Timings
10: Cayuga Drive/Niagara Rd & Walmore Rd & Niagara Falls Blvd

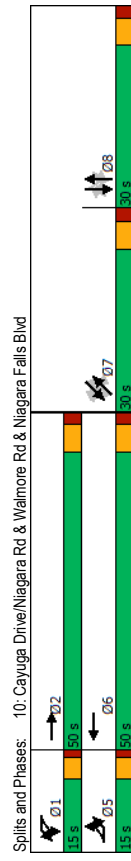
Lanes, Volumes, Timings
10: Cayuga Drive/Niagara Rd & Walmore Rd & Niagara Falls Blvd

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Lane Group	SWL2	SWL	SWT	SWR	SWR2
Lane Configurations					
Traffic Volume (vph)	4	9	49	86	9
Future Volume (vph)	4	9	49	86	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100		
Storage Lanes	0	0	1		
Taper Length (ft)	25				
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00
Flt Protected			0.990		0.850
Satd. Flow (prot)	0	0	1844	1583	0
Flt Permitted			0.884		
Satd. Flow (perm)	0	0	1647	1583	0
Right Turn on Red					Yes
Satd. Flow (RTOR)					116
Link Distance (ft)			30		
Link Speed (mph)			1223		
Travel Time (s)			27.8		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	4	10	55	97	10
Shared Lane Traffic (%)					
Lane Group Flow (vph)	0	0	69	107	0
Enter Blocked Intersection	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Right
Median Width(ft)			0		
Link Offset(ft)			0		
Crosswalk Width(ft)			16		
Two way Left Turn Lane					
Headway Factor	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60	60	60
Number of Detectors	2	2	2	2	
Detector Template	Left	Left			
Leading Detector (ft)	49	49	49	49	
Trailing Detector (ft)	-1	-1	-1	-1	
Detector 1 Position(ft)	-1	-1	-1	-1	
Detector 1 Size(ft)	20	20	20	20	
Detector 1 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	
Detector 1 Channel					
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	29	29	29	29	
Detector 2 Size(ft)	20	20	20	20	
Detector 2 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	
Detector 2 Channel					
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	
Turn Type	Perm	Perm	NA	Perm	
Protected Phases			7		
Permitted Phases	7	7	7	7	

Lane Group	EBL2	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	WBR2	NBL	NBT
Detector Phase	5	5	2			1	1	6			8	8
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	9.5	22.5	9.5	9.5	9.5	9.5	22.5	9.5	9.5	22.5	22.5
Total Split (s)	15.0	15.0	50.0	15.0	15.0	15.0	15.0	50.0	15.0	15.0	30.0	30.0
Total Split (%)	12.0%	12.0%	40.0%	12.0%	12.0%	12.0%	12.0%	40.0%	12.0%	12.0%	24.0%	24.0%
Maximum Green (s)	10.7	10.7	44.0	10.7	10.7	10.7	10.7	44.0	10.7	10.7	24.0	24.0
Yellow Time (s)	3.2	3.2	4.0	3.2	3.2	3.2	3.2	4.0	3.2	3.2	4.0	4.0
All-Red Time (s)	1.1	1.1	2.0	1.1	1.1	1.1	1.1	2.0	1.1	1.1	2.0	2.0
Lost Time Adjust (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
Total Lost Time (s)	4.3	4.3	6.0	4.3	4.3	4.3	4.3	6.0	4.3	4.3	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	None	None	None	None	Max	None	None	None	None
Act Effct Green (s)	10.8	10.8	48.0	10.8	10.8	10.8	10.8	48.0	10.8	10.8	24.4	24.4
Actuated g/C Ratio	0.10	0.10	0.43	0.10	0.10	0.10	0.10	0.43	0.10	0.10	0.13	0.13
v/c Ratio	1.17	1.17	0.37	1.17	1.17	1.17	1.17	0.37	1.17	1.17	0.46	0.46
Control Delay	167.7	167.7	25.1	167.7	167.7	167.7	167.7	25.1	167.7	167.7	27.6	27.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	167.7	167.7	25.1	167.7	167.7	167.7	167.7	25.1	167.7	167.7	27.6	27.6
LOS	F	F	C	F	F	F	F	C	F	F	E	E
Approach Delay			62.6					32.1				
Approach LOS			E					C				
Intersection Summary												
Area Type:	Other											
Cycle Length:	125											
Actuated Cycle Length:	111.7											
Natural Cycle:	80											
Control Type:	Semi Act-Uncoord											
Maximum v/c Ratio:	1.17											
Intersection Signal Delay:	46.2											
Intersection Capacity Utilization:	82.9%											
Analysis Period (min):	15											



Lanes, Volumes, Timings
10: Cayuga Drive/Niagara Rd & Walmore Rd & Niagara Falls Blvd

Lanes, Volumes, Timings
10: Cayuga Drive/Niagara Rd & Walmore Rd & Niagara Falls Blvd

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2024 Background PM

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2024 Background PM

Lane Group	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	NEL2	NEL	NET	NER	NER2
Detector Phase			8	8	8	8	8	7	7	7	7	7
Switch Phase												
Minimum Initial (s)			5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)			22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)			30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Total Split (%)			24.0%	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%
Maximum Green (s)			24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Yellow Time (s)			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)			2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)			6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag			Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode			None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)			14.4	14.4	14.4	14.4	14.4	19.9	19.9	19.9	19.9	19.9
Actuated g/C Ratio			0.13	0.13	0.13	0.13	0.13	0.18	0.18	0.18	0.18	0.18
v/c Ratio			0.63	0.42	0.63	0.42	0.63	0.80	0.80	0.80	0.80	0.80
Control Delay			62.9	14.4	62.9	14.4	65.6	65.6	65.6	65.6	65.6	65.6
Queue Delay			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay			62.9	14.4	62.9	14.4	65.6	65.6	65.6	65.6	65.6	65.6
LOS			E	B	E	B	E	E	E	E	E	E
Approach Delay			37.1		37.1		65.6	65.6	65.6	65.6	65.6	65.6
Approach LOS			D		D		E	E	E	E	E	E
Intersection Summary												

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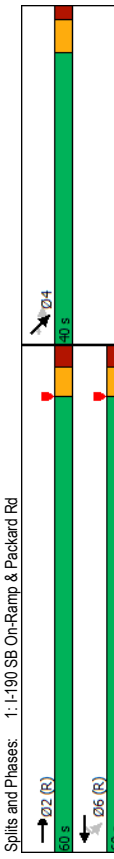
**Level of Service Calculations:
Full Development Conditions**

Lanes, Volumes, Timings
1: I-190 SB On-Ramp & Packard Rd

Lanes, Volumes, Timings
1: I-190 SB On-Ramp & Packard Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	0	145	30	227	265	0	9	107	10	0	0	0
Future Volume (vph)	0	145	30	227	265	0	9	107	10	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0	0	0	0	0	0	70	0	0	0
Storage Lanes	0	0	0	0	0	0	0	0	1	0	0	0
Tapor Length (ft)	25	25	25	25	25	25	25	25	25	25	25	25
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fit	0.974								0.850			
Fit Protected	0	3153	0	0	3200	0	1641	1810	1495	0	0	0
Satd. Flow (prot)	0	3153	0	0	3200	0	1641	1810	1495	0	0	0
Fit Permitted	0	3153	0	0	2381	0	1641	1810	1495	0	0	0
Satd. Flow (perm)	0	3153	0	0	2381	0	1641	1810	1495	0	0	0
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (RTOR)	34								36			
Link Speed (mph)	45			45		45		30		30		30
Link Distance (ft)	868			171		171		486		486		696
Travel Time (s)	13.2			2.6		2.6		11.0		11.0		15.8
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	11%	14%	14%	7%	0%	10%	5%	8%	0%	0%	0%
Adj. Flow (vph)	0	163	34	255	298	0	10	120	11	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	197	0	0	553	0	10	120	11	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	0	0	0	0	0	0	12	0	0	0	12	0
Link Offset(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Crosswalk Width(ft)	16	16	16	16	16	16	16	16	16	16	16	16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15	15	9	15	15	9	15	9	15	9
Number of Detectors	2	2	2	2	2	2	1	2	1	2	1	9
Detector Template	Left	Left	Left	Left	Left	Left	Left	Left	Left	Left	Left	Left
Leading Detector (ft)	49	49	49	49	49	49	49	49	49	49	49	49
Trailing Detector (ft)	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Detector 1 Position(ft)	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Detector 1 Size(ft)	20	20	20	20	20	20	20	20	20	20	20	20
Detector 1 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	29	29	29	29	29	29	29	29	29	29	29	29
Detector 2 Size(ft)	20	20	20	20	20	20	20	20	20	20	20	20
Detector 2 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases	2			6			4					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Permitted Phases												
Detector Phase	2	6	6	6	6	6	4	4	4	4	4	4
Switch Phase												
Minimum Initial (s)	28.7	28.7	28.7	28.7	28.7	28.7	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	60.0	60.0	60.0	60.0	60.0	60.0	11.7	11.7	11.7	11.7	11.7	11.7
Total Split (%)	60.0%	60.0%	60.0%	60.0%	60.0%	60.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%
Maximum Green (s)	53.7	53.7	53.7	53.7	53.7	53.7	34.3	34.3	34.3	34.3	34.3	34.3
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.9	3.9	3.9	3.9	3.9	3.9
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	1.8	1.8	1.8	1.8	1.8	1.8
Lost Time Adjust (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
Total Lost Time (s)	6.3	6.3	6.3	6.3	6.3	6.3	5.7	5.7	5.7	5.7	5.7	5.7
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	None	None	None	None	None	None
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	76.0	76.0	76.0	76.0	76.0	76.0	12.0	12.0	12.0	12.0	12.0	12.0
Actuated g/C Ratio	0.76	0.76	0.76	0.76	0.76	0.76	0.12	0.12	0.12	0.12	0.12	0.12
v/c Ratio	0.08	0.31	0.31	0.31	0.31	0.31	0.05	0.55	0.05	0.05	0.05	0.05
Control Delay	3.0	16.3	16.3	16.3	16.3	16.3	37.1	50.4	3.0	50.4	3.0	50.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.0	16.3	16.3	16.3	16.3	16.3	37.1	50.4	3.0	50.4	3.0	50.4
LOS	A	A	B	B	B	B	D	D	D	D	A	A
Approach Delay	3.0	16.3	16.3	16.3	16.3	16.3	45.6	45.6	3.0	45.6	3.0	45.6
Approach LOS	A	A	B	B	B	B	D	D	D	D	A	A
Intersection Summary												
Area Type:	Other											
Cycle Length:	100											
Actuated Cycle Length:	100											
Offset:	23 (23%), Referenced to phase 2:EBT and 6:WBT.L. Start of Yellow											
Natural Cycle:	75											
Control Type:	Actuated-Coordinated											
Maximum v/c Ratio:	0.65											
Intersection Signal Delay:	18.0											
Intersection Capacity Utilization:	68.7%											
Analysis Period (min):	15											



Lanes, Volumes, Timings
2: I-190 NB Off-Ramp & Packard Rd

Project Fifi
2024 Full Build AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations	1	153	0	0	430	1	0	0	0	55	22	388
Traffic Volume (vph)	1	153	0	0	430	1	0	0	0	55	22	388
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	0.95	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor												0.850
Flt Protected												0.966
Satd. Flow (prot)	0	3192	0	0	3195	0	0	0	0	0	1741	1482
Flt Permitted	0	0.954										0.966
Satd. Flow (perm)	0	3045	0	0	3195	0	0	0	0	0	1741	1482
Right Turn on Red			Yes			Yes			Yes			467
Satd. Flow (RTOR)												30
Link Speed (mph)	45	326		45	342		30	341				521
Link Distance (ft)	4.9	2.6		5.2	7.8		11.8					11.8
Travel Time (s)	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Peak Hour Factor	33%	13%	0%	0%	13%	0%	0%	0%	0%	6%	4%	9%
Heavy Vehicles (%)												
Adj. Flow (vph)	1	184	0	0	518	1	0	0	0	66	27	467
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	185	0	0	519	0	0	0	0	0	93	467
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Right	Left	Left	Right	Left	Left	Left	Right
Median Width (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Link Offset (ft)	0	16		0	0		0	0	0	0	0	0
Crosswalk Width (ft)	16			16			16					16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	15	15	15	15	15	15	15	15	15	15	15
Number of Detectors	2	2	2	2	2	2	2	2	2	2	2	2
Detector Template	Left	Left	Left	Left	Left	Left	Left	Left	Left	Left	Left	Left
Leading Detector (ft)	49	49	49	49	49	49	49	49	49	49	49	49
Trailing Detector (ft)	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Detector 1 Position (ft)	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Detector 1 Size (ft)	20	20	20	20	20	20	20	20	20	20	20	20
Detector 1 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position (ft)	29	29	29	29	29	29	29	29	29	29	29	29
Detector 2 Size (ft)	20	20	20	20	20	20	20	20	20	20	20	20
Detector 2 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Perm	NA	NA	NA	NA	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases	1	1		1			3		3		3	
Permitted Phases	1	1		1			3		3		3	
Detector Phase	1	1		1			3		3		3	
Switch Phase												

Lanes, Volumes, Timings
2: I-190 NB Off-Ramp & Packard Rd

Project Fifi
2024 Full Build AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Minimum Initial (s)	34.6	34.6		34.6						6.0	6.0	6.0
Minimum Split (s)	60.0	60.0		60.0						11.2	11.2	11.2
Total Split (s)	66.0	66.0		66.0						34.0	34.0	34.0
Total Split (%)	66.0%	66.0%		66.0%						34.0%	34.0%	34.0%
Maximum Green (s)	60.6	60.6		60.6						28.8	28.8	28.8
Yellow Time (s)	4.3	4.3		4.3						3.6	3.6	3.6
All-Red Time (s)	1.1	1.1		1.1						1.6	1.6	1.6
Lost Time Adjust (s)	0.0	0.0		0.0						0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4		5.4						5.2	5.2	5.2
LeadLag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0						3.0	3.0	3.0
Recall Mode	C-Max	C-Max		C-Max						None	None	None
Act Effct Green (s)	77.0	77.0		77.0						12.4	12.4	12.4
Actuated g/C Ratio	0.77	0.77		0.77						0.12	0.12	0.12
v/c Ratio	0.08	0.08		0.21						0.43	0.79	0.79
Control Delay	3.5	3.5		11.8						44.9	14.0	14.0
Queue Delay	0.0	0.0		0.3						0.0	0.0	0.0
Total Delay	3.5	3.5		12.1						44.9	14.0	14.0
LOS	A	A		B						D	B	B
Approach Delay	3.5	3.5		12.1						19.1	19.1	19.1
Approach LOS	A	A		B						B	B	B
Intersection Summary												
Area Type:	Other											
Cycle Length:	100											
Actuated Cycle Length:	100											
Offset 95 (95%):	Referenced to phase 1:EBWB, Start of Yellow											
Natural Cycle:	75											
Control Type:	Actuated-Coordinated											
Maximum v/c Ratio:	0.79											
Intersection Signal Delay:	14.0											
Intersection Capacity Utilization:	61.7%											
ICU Level of Service:	B											
Analysis Period (min):	15											



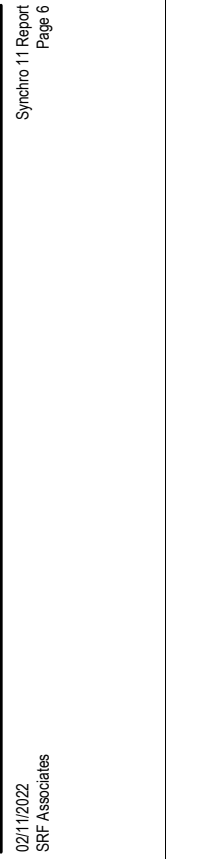
Splits and Phases: 2: I-190 NB Off-Ramp & Packard Rd

Lanes, Volumes, Timings
3: Vacant Store Dwy/Porter Rd & Packard Rd

Lanes, Volumes, Timings
3: Vacant Store Dwy/Porter Rd & Packard Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR
Lane Configurations											
Traffic Volume (vph)	77	454	7	10	410	142	6	3	10	153	3
Future Volume (vph)	77	454	7	10	410	142	6	3	10	153	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	150	0	0	0	0	0	0	0	0
Storage Lanes	0	0	1	1	1	1	0	0	0	1	0
Taper Length (ft)	25	25	0	25	25	0	25	0	25	0	25
Lane Util. Factor	0.91	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95
Fit Protected	0.998	0.998	0.998	0.950	0.850	0.850	0.887	0.887	0.887	0.967	0.967
Satd. Flow (prot)	0	4740	0	1805	3167	1495	1805	1685	0	1618	1588
Fit Permitted	0.795	0.795	0.795	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Satd. Flow (perm)	0	3795	0	756	3167	1495	1805	1685	0	1618	1588
Right Turn on Red	2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (RTOR)	2			169	169	169	12	12	12	16	16
Link Speed (mph)	45	342	45	35	35	30	30	30	30	35	35
Link Distance (ft)	342	5.2	342	475	9.3	302	6.9	302	6.9	290	5.6
Travel Time (s)	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Peak Hour Factor	6%	9%	0%	0%	14%	8%	0%	0%	0%	6%	7%
Heavy Vehicles (%)	92	540	8	12	488	169	7	4	12	182	4
Adj. Flow (vph)	0	640	0	12	488	169	7	16	0	106	103
Shared Lane Traffic (%)	0	640	0	12	488	169	7	16	0	106	103
Lane Group Flow (vph)	No	No	No	No	No	No	No	No	No	No	No
Enter Blocked Intersection	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Right
Lane Alignment	12	12	12	12	12	12	12	12	12	12	12
Median Width(ft)	0	0	0	0	0	0	0	0	0	0	0
Link Offset(ft)	16	16	16	16	16	16	16	16	16	16	16
Crosswalk Width(ft)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Two way Left Turn Lane	15	9	15	9	15	9	15	9	15	9	15
Headway Factor	2	2	2	2	2	2	2	2	2	2	2
Turning Speed (mph)	49	49	49	49	49	49	49	49	49	49	49
Number of Detectors	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Detector Template	20	20	20	20	20	20	20	20	20	20	20
Leading Detector (ft)	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Trailing Detector (ft)	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Detector 1 Position(ft)	20	20	20	20	20	20	20	20	20	20	20
Detector 1 Size(ft)	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 1 Type	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Channel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	29	29	29	29	29	29	29	29	29	29	29
Detector 1 Delay (s)	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 2 Position(ft)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Size(ft)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Type	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Channel	Perm	NA	Perm	NA	Perm	Split	NA	Split	NA	Split	NA
Detector 2 Extend (s)	1	1	1	1	1	1	3	3	1	2	2
Turn Type	Protected Phases										

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR
Permitted Phases	1	1	1	1	1	1	1	3	3	2	2
Detector Phase											
Switch Phase	28.8	28.8	28.8	28.8	28.8	28.8	3.8	3.8	3.8	15.0	15.0
Minimum Initial (s)	45.0	45.0	45.0	45.0	45.0	45.0	10.0	10.0	10.0	24.2	24.2
Minimum Split (s)	45.0	45.0	45.0	45.0	45.0	45.0	15.0	15.0	15.0	40.0	40.0
Total Split (%)	45.0%	45.0%	45.0%	45.0%	45.0%	45.0%	15.0%	15.0%	15.0%	40.0%	40.0%
Maximum Green (s)	38.8	38.8	38.8	38.8	38.8	38.8	8.8	8.8	8.8	33.8	33.8
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
Lead/Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lag	Lag
Lead/Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehide Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	67.0	67.0	67.0	67.0	67.0	67.0	6.1	6.1	6.1	15.3	15.3
Actuated g/C Ratio	0.67	0.67	0.67	0.67	0.67	0.67	0.06	0.06	0.06	0.15	0.15
Actuated v/c Ratio	0.25	0.25	0.25	0.23	0.23	0.23	0.14	0.14	0.14	0.43	0.40
Control Delay	8.0	8.0	8.0	7.6	7.6	7.6	4.2	4.2	4.2	44.2	37.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.0	8.0	8.0	7.6	7.6	7.6	4.2	4.2	4.2	44.2	37.1
LOS	A	A	A	A	A	A	D	C	D	D	D
Approach Delay	8.0	8.0	8.0	6.7	6.7	6.7	33.4	33.4	33.4	40.7	40.7
Approach LOS	A	A	A	A	A	A	C	C	C	D	D
Intersection Summary											
Area Type:	Other										
Cycle Length:	100										
Actuated Cycle Length:	100										
Offset: 61 (61%):	Referenced to phase 1:EBWB, Start of Yellow										
Natural Cycle:	80										
Control Type:	Actuated-Coordinated										
Maximum v/c Ratio:	0.43										
Intersection Signal Delay:	12.3										
Intersection Capacity Utilization:	76.0%										
Analysis Period (min):	15										



Lanes, Volumes, Timings
4: Military Rd & Packard Rd

Project Fifi
2024 Full Build AM

EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
86	449	69	93	351	81	140	115	130	75	138	51
86	449	69	93	351	81	140	115	130	75	138	51
1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
160	0	180	0	180	0	170	0	335	0	335	0
70	1	1	75	1	50	50	250	0.95	0.95	0.95	0.95
1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	0.97	0.95	0.95
0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
1641	3282	1524	1703	3159	0	1736	3022	0	3433	3225	0
0.379	0.379	0.379	0.379	0.379	0.379	0.379	0.379	0.379	0.379	0.379	0.379
655	3282	1524	566	3159	0	963	3022	0	3433	3225	0
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
185	27	155	40	40	1785	30.4	18.6	0.84	0.84	0.84	0.84
35	475	9.3	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
10%	10%	6%	6%	12%	7%	4%	3%	16%	2%	6%	11%
102	535	82	111	418	96	167	137	155	89	164	61
102	535	82	111	514	0	167	292	0	89	225	0
No	No	No	No	No	No	No	No	No	No	No	No
12	24	24	0	0	0	0	0	0	0	0	0
16	16	16	16	16	16	16	16	16	16	16	16
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
15	9	15	9	15	9	15	9	15	9	15	9
1	2	1	1	2	1	2	1	2	1	2	1
19	49	19	19	49	19	49	19	49	19	49	49
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
20	20	20	20	20	20	20	20	20	20	20	20
Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	29	29	29	29	29	29	29	29	29	29	29
20	20	20	20	20	20	20	20	20	20	20	20
Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	Prot	NA	Prot	NA	NA
3	8	6	7	4	5	2	1	6	1	6	6

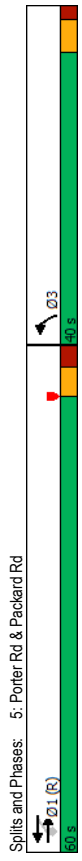
Lanes, Volumes, Timings
4: Military Rd & Packard Rd

Project Fifi
2024 Full Build AM

EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
8	8	8	4	4	2	2	2	2	1	6	6
3	8	8	7	4	5	5	2	2	1	6	6
3.0	10.0	10.0	3.0	10.0	6.0	10.0	10.0	10.0	8.0	10.0	10.0
10.2	38.2	38.2	10.2	38.2	13.2	37.4	37.4	37.4	15.2	32.4	32.4
16.0	33.0	33.0	16.0	33.0	23.0	28.0	28.0	28.0	23.0	28.0	28.0
16.0%	33.0%	33.0%	16.0%	33.0%	23.0%	28.0%	28.0%	28.0%	23.0%	28.0%	28.0%
8.8	25.8	25.8	8.8	25.8	16.6	21.6	21.6	21.6	16.6	21.6	21.6
3.9	3.9	3.9	3.9	3.9	3.6	3.6	3.6	3.6	3.6	3.6	3.6
3.3	3.3	3.3	3.3	3.3	2.8	2.8	2.8	2.8	2.8	2.8	2.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7.2	7.2	7.2	7.2	7.2	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
None	C-Max	C-Max	None	C-Max	None	None	None	None	None	None	None
7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
0	0	0	0	0	0	0	0	0	0	0	0
34.5	26.4	26.4	36.1	29.2	42.4	32.5	32.5	32.5	8.6	26.7	26.7
0.34	0.26	0.26	0.36	0.29	0.42	0.32	0.32	0.32	0.09	0.27	0.27
0.33	0.62	0.15	0.37	0.55	0.34	0.27	0.27	0.27	0.30	0.25	0.25
257	40.0	5.5	17.2	23.3	19.2	13.2	13.2	13.2	45.5	23.9	23.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25.7	40.0	5.5	17.2	23.3	19.2	13.2	13.2	13.2	45.5	23.9	23.9
C	D	A	B	C	B	B	B	B	D	C	C
34.1	22.2	15.4	15.4	15.4	15.4	15.4	15.4	15.4	30.1	30.1	30.1
C	C	C	C	C	C	C	C	C	C	C	C
Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other
100	100	100	100	100	100	100	100	100	100	100	100
0	0	0	0	0	0	0	0	0	0	0	0
105	105	105	105	105	105	105	105	105	105	105	105
25.9	25.9	25.9	25.9	25.9	25.9	25.9	25.9	25.9	25.9	25.9	25.9
56.3%	56.3%	56.3%	56.3%	56.3%	56.3%	56.3%	56.3%	56.3%	56.3%	56.3%	56.3%
15	15	15	15	15	15	15	15	15	15	15	15

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↔	↔	↔	↔
Traffic Volume (vph)	479	128	34	308	196	28
Future Volume (vph)	479	128	34	308	196	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.97	0.95
Flt Protected		0.850			0.981	
Flt Permitted		0.995			0.958	
Satd. Flow (prot)	1863	1583	0	3522	3396	0
Satd. Flow (perm)	1863	1583	0	3100	3396	0
Right Turn on Red	Yes					Yes
Satd. Flow (RTOR)	133				17	
Link Speed (mph)	35		35	40		
Link Distance (ft)	510		1105	538		
Travel Time (s)	9.9		21.5	9.2		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	499	133	35	321	204	29
Shared Lane Traffic (%)						
Lane Group Flow (vph)	499	133	0	356	233	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Right	Right
Median Width(ft)	12		12	24		
Link Offset(ft)	0		0	0		
Crosswalk Width(ft)	16		16	16		
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60	60	60	60
Number of Detectors	2	1	2	2	1	
Detector Template			Left			
Leading Detector (ft)	49	19	49	49	19	
Trailing Detector (ft)	-1	-1	-1	-1	-1	
Detector 1 Position(ft)	-1	-1	-1	-1	-1	
Detector 1 Size(ft)	20	20	20	20	20	
Detector 1 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	29	29	29	29		
Detector 2 Size(ft)	20	20	20	20		
Detector 2 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0	0.0	0.0	0.0		
Turn Type	NA	Perm	NA	NA	Prot	
Protected Phases	1	1	1	1	3	
Permitted Phases	1	1	1	1	3	
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	1.0	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Minimum Split (s)	12.3	12.3	12.3	12.3	7.6	
Total Split (s)	60.0	60.0	60.0	60.0	40.0	
Total Split (%)	60.0%	60.0%	60.0%	60.0%	40.0%	
Maximum Green (s)	53.7	53.7	53.7	53.7	34.3	
Yellow Time (s)	3.6	3.6	3.6	3.6	3.9	
All-Red Time (s)	2.7	2.7	2.7	2.7	1.8	
Lost Time Adjst (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.3	6.3	6.3	6.3	5.7	
LeadLag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	21.0	21.0	21.0	21.0	21.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	76.2	76.2	76.2	76.2	11.8	
Actuated g/C Ratio	0.76	0.76	0.76	0.76	0.12	
v/c Ratio	0.35	0.11	0.15	0.15	0.56	
Control Delay	1.9	0.1	3.6	43.6		
Queue Delay	0.6	0.0	0.0	0.0		
Total Delay	2.5	0.1	3.6	43.6		
LOS	A	A	A	D	D	
Approach Delay	2.0		3.6	43.6		
Approach LOS	A		A	D		
Intersection Summary						
Area Type:	Other					
Cycle Length:	100					
Actuated Cycle Length:	100					
Offset:	55 (55%), Referenced to phase 1:EBWB, Start of Yellow					
Natural Cycle:	40					
Control Type:	Actuated-Coordinated					
Maximum v/c Ratio:	0.56					
Intersection Signal Delay:	10.4					
Intersection LOS:	B					
Intersection Capacity Utilization:	51.5%					
Analysis Period (min):	15					



Lanes, Volumes, Timings
6: Packard Rd & Proposed Driveway & Lockport Rd

HCM Unsignalized Intersection Capacity Analysis
6: Packard Rd & Proposed Driveway & Lockport Rd

Project Fifi
2024 Full Build AM

Project Fifi
2024 Full Build AM

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	97	36	2	27	2	1	0	293	133	15	263	79
Future Volume (vph)	97	36	2	27	2	1	0	293	133	15	263	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125	0	0	0	0	0	200	200	0	0	200	0
Storage Lanes	0	0	0	1	0	0	0	0	0	0	0	0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fit	0.998			0.950			0.959			0.970		
Fit Protected	0.965			0.950			0.998			0.998		
Satd. Flow (prot)	0	1794	0	1770	1770	0	0	1786	0	0	1803	0
Fit Permitted	0.965			0.950			0.998			0.998		
Satd. Flow (perm)	0	1794	0	1770	1770	0	0	1786	0	0	1803	0
Link Speed (mph)	45			30			45			45		
Link Distance (ft)	217			444			505			881		
Travel Time (s)	3.3			10.1			7.7			13.3		
Peak Hour Factor	0.87	0.92	0.87	0.92	0.92	0.92	0.87	0.87	0.92	0.92	0.87	0.87
Adj. Flow (vph)	111	39	2	29	2	1	0	337	145	16	302	91
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	152	0	29	3	0	0	482	0	0	409	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width (ft)	12			12			0		0	0		0
Link Offset (ft)	0			0			0		0	0		0
Crosswalk Width (ft)	16			16			16		16	16		16
Two way Left Turn Lane	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Headway Factor	15			15			15		15	15		15
Turning Speed (mph)	15			15			15		15	15		15
Sign Control	Stop			Stop			Free		Free	Free		Free
Intersection Summary	Other											
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	51.9%											
Analysis Period (min)	15											
ICU Level of Service	A											

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	97	36	2	27	2	1	0	293	133	15	263	79
Future Volume (Veh/h)	97	36	2	27	2	1	0	293	133	15	263	79
Sign Control	Stop			Stop			Free		Free	Free		Free
Grade	0%			0%			0%		0%	0%		0%
Peak Hour Factor	0.87	0.92	0.87	0.92	0.92	0.92	0.87	0.87	0.92	0.92	0.87	0.87
Hourly flow rate (vph)	111	39	2	29	2	1	0	337	145	16	302	91
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	791	862	348	810	834	410	393			482		
vC1, stage 1 cont vol												
vC2, stage 2 cont vol												
vCu, unblocked vol	791	862	348	810	834	410	393			482		
IC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
IC, 2 stage (s)												
IF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	63	86	100	89	99	100	100			99		
cM capacity (veh/h)	302	289	696	264	299	642	1166			1081		
Direction, Lane #	SE, 1	NW, 1	NW, 2	NE, 1	SW, 1							
Volume Total	152	29	3	482	409							
Volume Left	111	29	0	0	16							
Volume Right	2	0	1	145	91							
cSH	301	264	364	1166	1081							
Volume to Capacity	0.51	0.11	0.01	0.00	0.01							
Queue Length 95th (ft)	67	9	1	0	1							
Control Delay (s)	28.6	20.3	15.0	0.0	0.5							
Lane LOS	D	C	B	A	A							
Approach Delay (s)	28.6	19.8	0.0	0.0	0.5							
Approach LOS	D	C										
Intersection Summary												
Average Delay	4.8											
Intersection Capacity Utilization	51.9%											
ICU Level of Service	A											
Analysis Period (min)	15											

Lanes, Volumes, Timings
7: Tuscarora Rd & Lockport Rd

Project Fifi
2024 Full Build AM

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑				↓	
Traffic Volume (veh/h)	359	0	0	611	0	0
Future Volume (veh/h)	359	0	0	611	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fit Protected						
Satd. Flow (prot)	1863	0	0	1863	1863	0
Fit Permitted						
Satd. Flow (perm)	1863	0	0	1863	1863	0
Link Speed (mph)	45			45	30	
Link Distance (ft)	1250			1470	800	
Travel Time (s)	18.9			22.3	18.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	390	0	0	664	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	390	0	0	664	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Right	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	35.5%					
Analysis Period (min)	15					
ICU Level of Service	A					

HCM Unsignalized Intersection Capacity Analysis
7: Tuscarora Rd & Lockport Rd

Project Fifi
2024 Full Build AM

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑				↓	
Traffic Volume (veh/h)	359	0	0	611	0	0
Future Volume (veh/h)	359	0	0	611	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	390	0	0	664	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)						
pX, platoon unblocked						
vC, conflicting volume		390		1054		390
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol		390		1054		390
tC, single (s)		4.1		6.4		6.2
tC, 2 stage (s)		2.2		3.5		3.3
p0 queue free %		100		100		100
cM capacity (veh/h)		1169		250		658
Direction, Lane #	EB, 1	WB, 1	NB, 1			
Volume Total	390	664	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1169	1700			
Volume to Capacity	0.23	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS				A		
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS				A		
Intersection Summary						
Average Delay	0.0					
Intersection Capacity Utilization	35.5%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings
8: Lockport Rd & Walmore Rd

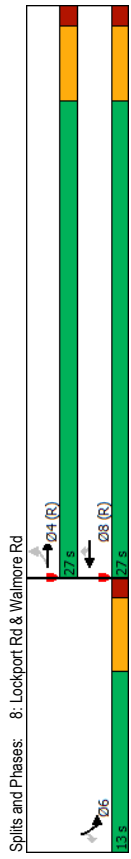
Lanes, Volumes, Timings
8: Lockport Rd & Walmore Rd

Project Fifi
2024 Full Build AM

Project Fifi
2024 Full Build AM

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	24	231	644	116	52	23
Traffic Volume (vph)	24	231	644	116	52	23
Future Volume (vph)	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	125	0	1115			
Storage Length (ft)	1	1	1	1	1	1
Storage Lanes	25					
Traper Length (ft)	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.950	0.850	0.950	0.850	0.950	0.850
Flt Protected	1770	1863	1863	1583	1770	1583
Satd. Flow (perm)	0.291				0.950	
Flt Permitted	542	1863	1863	1583	1770	1583
Satd. Flow (perm)		Yes	Yes	Yes	Yes	Yes
Right Turn on Red						26
Satd. Flow (RTOR)		45	45		35	
Link Distance (ft)	697	1100	1227			
Travel Time (s)	10.6	16.7	23.9			
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	27	260	724	130	58	26
Shared Lane Traffic (%)						
Lane Group Flow (vph)	27	260	724	130	58	26
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Right
Median Width(ft)	12	12	12	12	12	12
Link Offset(ft)	0	0	0	0	0	0
Crosswalk Width(ft)	16	16	16	16	16	16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15	9	15	9
Number of Detectors	2	2	2	2	2	2
Detector Template	49	49	49	49	49	49
Leading Detector (ft)	-1	-1	-1	-1	-1	-1
Trailing Detector (ft)	-1	-1	-1	-1	-1	-1
Detector 1 Position(ft)	20	20	20	20	20	20
Detector 1 Size(ft)	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 1 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 1 Channel	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	29	29	29	29	29	29
Detector 2 Position(ft)	20	20	20	20	20	20
Detector 2 Size(ft)	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 2 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 2 Channel	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Extend (s)	Perm	NA	NA	Perm	Prot	Perm
Turn Type	4	8	8	8	6	6
Protected Phases						
Permitted Phases	4					

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase	4	4	8	8	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	27.0	27.0	27.0	27.0	13.0	13.0
Total Split (%)	67.5%	67.5%	67.5%	67.5%	32.5%	32.5%
Maximum Green (s)	22.5	22.5	22.5	22.5	8.5	8.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
LeadLag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	C-Max	C-Max	Min	Min
Act Effct Green (s)	24.2	24.2	24.2	24.2	6.8	6.8
Actuated g/C Ratio	0.60	0.60	0.60	0.60	0.17	0.17
v/c Ratio	0.08	0.23	0.64	0.13	0.19	0.09
Control Delay	4.6	4.6	9.3	2.4	15.3	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.6	4.6	9.3	2.4	15.3	7.4
LOS	A	A	A	A	B	A
Approach Delay						
Approach LOS	A	A	A	A	B	B
Intersection Summary						
Area Type:	Other					
Cycle Length:	40					
Actuated Cycle Length:	40					
Offset:	0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green					
Natural Cycle:	40					
Control Type:	Actuated-Coordinated					
Maximum v/c Ratio:	0.64					
Intersection Signal Delay:	7.7					
Intersection LOS:	A					
Intersection Capacity Utilization:	45.6%					
Analysis Period (min):	15					



Lanes, Volumes, Timings
9: Walmore Rd & Lockport Rd

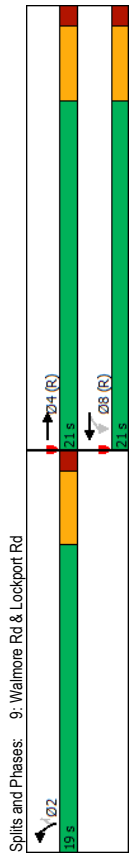
Lanes, Volumes, Timings
9: Walmore Rd & Lockport Rd

Project Fifi
2024 Full Build AM

Project Fifi
2024 Full Build AM

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	171	95	77	337	424	74
Traffic Volume (vph)	171	95	77	337	424	74
Future Volume (vph)	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	0	200	0	200	0	200
Storage Length (ft)	0	1	1	1	1	1
Storage Lanes	1.00	1.00	1.00	1.00	1.00	1.00
Taper Length (ft)	0.952	25	25	25	25	0.850
Lane Util. Factor	1773	0	1770	1863	1770	1583
Flt Permitted	1773	0	1079	1863	1770	1583
Right Turn on Red	Yes					Yes
Satd. Flow (perm)	85					82
Satd. Flow (RTOR)	45			45	40	
Link Speed (mph)	1100			957	738	
Link Distance (ft)	16.7			14.5	12.6	
Travel Time (s)	0.90	0.90	0.90	0.90	0.90	0.90
Peak Hour Factor	190	106	86	374	471	82
Adj. Flow (vph)	296	0	86	374	471	82
Shared Lane Traffic (%)	No	No	No	No	No	No
Lane Group Flow (vph)	12	12	12	12	12	12
Enter Blocked Intersection	0	0	0	0	0	0
Lane Alignment	16	16	16	16	16	16
Median Width(ft)	1.00	1.00	1.00	1.00	1.00	1.00
Link Offset(ft)	9	15	15	15	15	9
Crosswalk Width(ft)	2	2	2	2	2	2
Two way Left Turn Lane	49	49	49	49	49	49
Headway Factor	-1	-1	-1	-1	-1	-1
Turning Speed (mph)	-1	-1	-1	-1	-1	-1
Number of Detectors	20	20	20	20	20	20
Detector Template	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Leading Detector (ft)	0.0	0.0	0.0	0.0	0.0	0.0
Trailing Detector (ft)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(ft)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(ft)	29	29	29	29	29	29
Detector 1 Type	20	20	20	20	20	20
Detector 1 Channel	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	29	29	29	29	29	29
Detector 2 Size(ft)	20	20	20	20	20	20
Detector 2 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Extend (s)	NA	Perm	NA	Prot	Perm	Perm
Turn Type	4	8	8	2	2	2
Protected Phases						
Permitted Phases						

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	4	8	8	2	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	21.0	21.0	21.0	19.0	19.0	19.0
Total Split (%)	52.5%	52.5%	47.5%	47.5%	47.5%	47.5%
Maximum Green (s)	16.5	16.5	14.5	14.5	14.5	14.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead-Lag						
Lead-Lag Optimize?	3.0	3.0	3.0	3.0	3.0	3.0
Vehicle Extension (s)	C-Max	C-Max	C-Max	Min	Min	Min
Recall Mode	17.5	17.5	17.5	13.5	13.5	13.5
Act Effct Green (s)	0.44	0.44	0.44	0.34	0.34	0.34
Actuated g/C Ratio	0.36	0.18	0.46	0.79	0.14	0.14
v/c Ratio	8.0	8.8	10.8	23.8	3.6	3.6
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	8.0	8.8	10.8	23.8	3.6	3.6
Total Delay	A	A	B	C	A	A
LOS	A	A	B	C	A	A
Approach Delay	8.0	10.4	20.8			
Approach LOS	A	B	C			
Intersection Summary						
Area Type:	Other					
Cycle Length:	40					
Actuated Cycle Length:	40					
Offset:	29 (73%), Referenced to phase 4:EBT and 8:WBT, Start of Green					
Natural Cycle:	40					
Control Type:	Actuated-Coordinated					
Maximum v/c Ratio:	0.79					
Intersection Signal Delay:	14.3					
Intersection LOS:	B					
Intersection Capacity Utilization:	53.8%					
Analysis Period (min):	15					



Lanes, Volumes, Timings
10: Niagara Rd & Walmore Rd & Niagara Falls Blvd

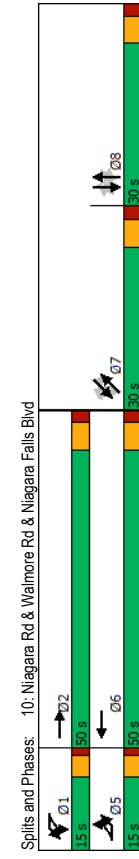
Lanes, Volumes, Timings
10: Niagara Rd & Walmore Rd & Niagara Falls Blvd

Project Fifi
2024 Full Build AM

Project Fifi
2024 Full Build AM

Lane Group	SWR2
Lane Configurations	
Traffic Volume (vph)	5
Future Volume (vph)	5
Ideal Flow (vphpl)	1900
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	1.00
Flt Protected	
Std. Flow (prot)	0
Flt Permitted	
Std. Flow (perm)	0
Right Turn on Red	Yes
Std. Flow (RTOR)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.80
Adj. Flow (vph)	6
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	
Permitted Phases	

Lane Group	EBL2	EBL	EBT	EBR	WBL2	WBL	WBT	WBR	NBL	NBR	NBR2
Detector Phase	5	5	2		1	1	6		8	8	
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	9.5	22.5	9.5	9.5	9.5	22.5	9.5	22.5	22.5	22.5
Total Split (s)	15.0	15.0	50.0	15.0	15.0	15.0	50.0	15.0	30.0	30.0	30.0
Total Split (%)	12.0%	12.0%	40.0%	12.0%	12.0%	12.0%	40.0%	12.0%	24.0%	24.0%	24.0%
Maximum Green (s)	10.7	10.7	44.0	10.7	10.7	10.7	44.0	10.7	24.0	24.0	24.0
Yellow Time (s)	3.2	3.2	4.0	3.2	3.2	3.2	4.0	3.2	4.0	4.0	4.0
All-Red Time (s)	1.1	1.1	2.0	1.1	1.1	1.1	2.0	1.1	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.3	4.3	6.0	4.3	4.3	4.3	6.0	4.3	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	None	None	None	Max	None	None	None	None
Act Effct Green (s)	10.1	51.0	7.7	44.2							
Actuated g/C Ratio	0.09	0.46	0.07	0.40							
v/c Ratio	0.66	0.18	0.29	0.55							
Control Delay	70.3	20.7	56.8	28.9							
Queue Delay	0.0	0.0	0.0	0.0							
Total Delay	70.3	20.7	56.8	28.9							
LOS	E	C	E	C							
Approach Delay		33.8		30.2							
Approach LOS		C		C							
Intersection Summary											
Area Type:	Other										
Cycle Length:	125										
Actuated Cycle Length:	111.2										
Natural Cycle:	90										
Control Type:	Semi Act-Uncoord										
Maximum v/c Ratio:	0.85										
Intersection Signal Delay:	37.2										
Intersection Capacity Utilization:	73.7%										
Analysis Period (min):	15										



Lanes, Volumes, Timings
10: Niagara Rd & Walmore Rd & Niagara Falls Blvd

Lanes, Volumes, Timings
10: Niagara Rd & Walmore Rd & Niagara Falls Blvd

Project Fifi
2024 Full Build AM

Project Fifi
2024 Full Build AM

Lane Group	SBL2	SBL	SBT	SBR	SBR2	NEL2	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	8	8	8	8	8	7	7	7	7	7	7	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Total Split (%)	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%
Maximum Green (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (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
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	12.2	12.2	12.2	12.2	12.2	22.3	22.3	22.3	22.3	22.3	22.3	22.3
v/c Ratio	0.57	0.29				0.85				0.21	0.16	
Control Delay	62.7	5.8				69.6				39.8	1.9	
Queue Delay	0.0	0.0				0.0				0.0	0.0	
Total Delay	62.7	5.8				69.6				39.8	1.9	
LOS	E	A				E				D	A	
Approach Delay	34.6					69.6				22.1	C	
Approach LOS	C					E				C		
Intersection Summary												

Lane Group	SWR2
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Act Effct Green (s)	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

Lanes, Volumes, Timings
12: Proposed Driveway & Lockport Rd

Project Fifi
2024 Full Build AM

	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Group							
Lane Configurations	EBT	EBR	WBL	WBT	NBL	NBR	
Traffic Volume (vph)	369	22	53	357	1	4	
Future Volume (vph)	369	22	53	357	1	4	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Flt Protected	0.992				0.994	0.950	
Satd. Flow (prot)	1848	0	0	1852	1770	1583	
Flt Permitted	0.994				0.950		
Satd. Flow (perm)	1848	0	0	1852	1770	1583	
Link Speed (mph)	45			45	30		
Link Distance (ft)	881			552	527		
Travel Time (s)	13.3			8.4	12.0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	401	24	58	388	1	4	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	425	0	0	446	1	4	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(ft)	0			0	12		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)		9	15		15	9	
Sign Control	Free			Free	Stop		
Intersection Summary							
Area Type:	Other						
Control Type:	Unsignalized						
Intersection Capacity Utilization	55.8%						
Analysis Period (min)	15						
							ICU Level of Service B

HCM Unsignalized Intersection Capacity Analysis
12: Proposed Driveway & Lockport Rd

Project Fifi
2024 Full Build AM

	EBT	EBR	WBL	WBT	NBL	NBR	
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	EBT	EBR	WBL	WBT	NBL	NBR	
Traffic Volume (veh/h)	369	22	53	357	1	4	
Future Volume (Veh/h)	369	22	53	357	1	4	
Sign Control	Free			Free	Stop		
Grade	0%			0%	0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	401	24	58	388	1	4	
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							
vC1, stage 1 cont vol					917	413	
vC2, stage 2 cont vol							
vCu, unblocked vol					425	413	
IC, single (s)					4.1	6.4	6.2
IC, 2 stage (s)					2.2	3.5	3.3
p0 queue free %					95	100	99
cM capacity (veh/h)					1134	287	639
Direction, Lane #	EB, 1	WB, 1	NB, 1	NB, 2			
Volume Total	425	446	1	4			
Volume Left	0	58	1	0			
Volume Right	24	0	0	4			
cSH	1700	1134	287	639			
Volume to Capacity	0.25	0.05	0.00	0.01			
Queue Length 95th (ft)	0	4	0	0			
Control Delay (s)	0.0	1.6	17.6	10.7			
Lane LOS	A	C	C	B			
Approach Delay (s)	0.0	1.6	12.1				
Approach LOS			B				
Intersection Summary							
Average Delay	0.9						
Intersection Capacity Utilization	55.8%						
Analysis Period (min)	15						
							ICU Level of Service B

Lanes, Volumes, Timings
13: Proposed Driveway & Lockport Rd

HCM Unsignalized Intersection Capacity Analysis
13: Proposed Driveway & Lockport Rd

Project Fifi
2024 Full Build AM

Project Fifi
2024 Full Build AM

	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group						
Lane Configurations	4	4	4	4	4	4
Traffic Volume (vph)	364	9	199	409	1	7
Future Volume (vph)	364	9	199	409	1	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200	0	0	0	0
Storage Lanes	0	0	1	1	1	1
Taper Length (ft)	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.997					0.850
Flt Protected			0.984	0.950		
Satd. Flow (prot)	1857	0	1833	1770	1583	
Flt Permitted			0.984	0.950		
Satd. Flow (perm)	1857	0	1833	1770	1583	
Link Speed (mph)	45		45	30		
Link Distance (ft)	552		1250	516		
Travel Time (s)	8.4		18.9	11.7		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	396	10	216	445	1	8
Shared Lane Traffic (%)						
Lane Group Flow (vph)	406	0	0	661	1	8
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width (ft)	0		0	12		
Link Offset (ft)	0		0	0		
Crosswalk Width (ft)	16		16	16		
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		15	9	
Sign Control	Free		Free	Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	65.6%					
Analysis Period (min)	15					
ICU Level of Service	C					

	EBT	EBR	WBL	WBT	NBL	NBR
Movement						
Lane Configurations	4	4	4	4	4	4
Traffic Volume (veh/h)	364	9	199	409	1	7
Future Volume (Veh/h)	364	9	199	409	1	7
Sign Control	Free		Free	Free	Stop	
Grade	0%		0%	0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	396	10	216	445	1	8
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		406			1278	401
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol		406			1278	401
IC, single (s)		4.1			6.4	6.2
IC, 2 stage (s)		2.2			3.5	3.3
p0 queue free %		81			99	99
cM capacity (veh/h)		1153			149	649
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total	406	661	1	8		
Volume Left	0	216	1	0		
Volume Right	10	0	0	8		
cSH	1700	1153	149	649		
Volume to Capacity	0.24	0.19	0.01	0.01		
Queue Length 95th (ft)	0	17	1	1		
Control Delay (s)	0.0	4.4	29.3	10.6		
Lane LOS		A	D	B		
Approach Delay (s)	0.0	4.4	12.7			
Approach LOS		B	B			
Intersection Summary						
Average Delay	2.8					
Intersection Capacity Utilization	65.6%					
ICU Level of Service	C					
Analysis Period (min)	15					

Lanes, Volumes, Timings
14: Tuscarora Rd & Proposed Driveway

HCM Unsignalized Intersection Capacity Analysis
14: Tuscarora Rd & Proposed Driveway

Project Fifi
2024 Full Build AM

Project Fifi
2024 Full Build AM

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected						
Satd. Flow (prot)	1863	0	0	1863	1863	0
Flt Permitted						
Satd. Flow (perm)	1863	0	0	1863	1863	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	536			1247	800	
Travel Time (s)	12.2			28.3	18.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Right	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15	15	9	15
Sign Control	Stop			Free	Free	Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	0.0%					
Analysis Period (min)	15					
ICU Level of Service	A					

	EBL	EBR	NBL	NBT	SBT	SBR
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0	0	0	0	0	
vC1, stage 1 cont vol						
vC2, stage 2 cont vol						
vCu, unblocked vol	0	0	0	0	0	
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	1023	1085	1623			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	0	0	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.00	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay	0.0					
Intersection Capacity Utilization	0.0%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings
1: I-190 SB On-Ramp & Packard Rd

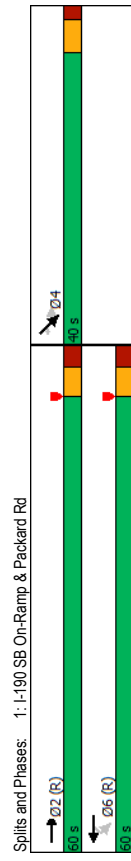
Lanes, Volumes, Timings
1: I-190 SB On-Ramp & Packard Rd

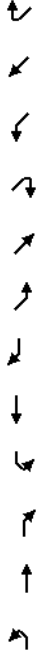
Project Fifif
2024 Full Build PM

Project Fifif
2024 Full Build PM

EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
0	293	36	315	322	0	32	140	6	0	0	0
0	293	36	315	322	0	32	140	6	0	0	0
1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
0	0	0	0	0	0	0	70	0	0	0	0
25	25	25	25	25	25	25	25	25	25	25	25
1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
0.984					0.950				0.850		
0	3472	0	0	3325	0	1671	1845	1170	0	0	0
0	3472	0	0	2224	0	1671	1845	1170	0	0	0
20	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
45	45	45	45	45	45	30	30	30	30	30	30
868	868	868	868	868	868	486	486	486	486	486	486
13.2	13.2	13.2	13.2	13.2	13.2	11.0	11.0	11.0	11.0	11.0	11.0
0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
0%	2%	5%	8%	4%	0%	8%	3%	36%	0%	0%	0%
0	337	41	362	370	0	37	161	7	0	0	0
0	378	0	0	732	0	37	161	7	0	0	0
No	No	No	No	No	No	No	No	No	No	No	No
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
16	16	16	16	16	16	16	16	16	16	16	16
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
15	9	15	15	9	15	9	15	9	15	15	9
2	2	2	2	2	2	1	2	1	2	1	2
49	49	49	49	49	49	19	49	19	49	19	49
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
20	20	20	20	20	20	20	20	20	20	20	20
ChEx	ChEx	ChEx	ChEx	ChEx	ChEx	ChEx	ChEx	ChEx	ChEx	ChEx	ChEx
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	29	29	29	29	29	29	29	29	29	29	29
20	20	20	20	20	20	20	20	20	20	20	20
ChEx	ChEx	ChEx	ChEx	ChEx	ChEx	ChEx	ChEx	ChEx	ChEx	ChEx	ChEx
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2	2	2	2	2	2	6	4	4	4	4	4

EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
2	6	6	6	6	6	4	4	4	4	4	4
28.7	28.7	28.7	28.7	28.7	28.7	6.0	6.0	6.0	6.0	6.0	6.0
60.0	60.0	60.0	60.0	60.0	60.0	11.7	11.7	11.7	11.7	11.7	11.7
60.0	60.0	60.0	60.0	60.0	60.0	40.0	40.0	40.0	40.0	40.0	40.0
60.0%	60.0%	60.0%	60.0%	60.0%	60.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%
53.7	53.7	53.7	53.7	53.7	53.7	34.3	34.3	34.3	34.3	34.3	34.3
3.6	3.6	3.6	3.6	3.6	3.6	3.9	3.9	3.9	3.9	3.9	3.9
2.7	2.7	2.7	2.7	2.7	2.7	1.8	1.8	1.8	1.8	1.8	1.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.3	6.3	6.3	6.3	6.3	6.3	5.7	5.7	5.7	5.7	5.7	5.7
3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
73.9	73.9	73.9	73.9	73.9	73.9	14.1	14.1	14.1	14.1	14.1	14.1
0.74	0.74	0.74	0.74	0.74	0.74	0.14	0.14	0.14	0.14	0.14	0.14
0.15	0.15	0.15	0.15	0.15	0.15	0.16	0.16	0.16	0.16	0.16	0.16
4.2	4.2	4.2	4.2	4.2	4.2	37.3	50.2	0.3	37.3	50.2	0.3
4.2	4.2	4.2	4.2	4.2	4.2	37.3	50.2	0.3	37.3	50.2	0.3
A	A	A	C	C	C	D	D	A	D	D	A
4.2	4.2	4.2	22.8	22.8	22.8	46.2	46.2	46.2	46.2	46.2	46.2
A	A	A	C	C	C	D	D	D	D	D	D
Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other
100	100	100	100	100	100	100	100	100	100	100	100
23	23	23	23	23	23	23	23	23	23	23	23
75	75	75	75	75	75	75	75	75	75	75	75
0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62
21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1
70.5%	70.5%	70.5%	70.5%	70.5%	70.5%	70.5%	70.5%	70.5%	70.5%	70.5%	70.5%
15	15	15	15	15	15	15	15	15	15	15	15





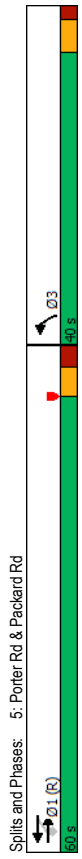
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations	8	294	0	0	604	7	0	0	0	35	102	386
Traffic Volume (vph)	8	294	0	0	604	7	0	0	0	35	102	386
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	0.95	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor												0.850
Fit Protected		0.999			0.998							0.987
Satd. Flow (prot)	0	3538	0	0	3370	0	0	0	0	0	1798	1509
Flt Permitted	0	0.938			0.987							0.987
Satd. Flow (perm)	0	3322	0	0	3370	0	0	0	0	0	1798	1509
Right Turn on Red			Yes		Yes				Yes			429
Satd. Flow (RTOR)				2								30
Link Speed (mph)	45	326		45	342		30	341				521
Link Distance (ft)	4.9			5.2		7.8		11.8				11.8
Travel Time (s)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Peak Hour Factor	0%	2%	0%	0%	7%	0%	0%	0%	7%	8%	3%	7%
Heavy Vehicles (%)												39
Adj. Flow (vph)	9	327	0	0	671	8	0	0	0	39	113	429
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	336	0	0	679	0	0	0	0	0	152	429
Enter Blocked Intersection	No	Left	No	No	Right	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Left	Right	Left	Left	Right	Left	Left	Right	Right
Median Width(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Link Offset(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Crosswalk Width(ft)	16	16		16		16		16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15	9	15	15	9	15	9	15	9
Number of Detectors	2	2		2		2		2		2	2	1
Detector Template	Left	Left		Left		Left		Left		Left	Left	Left
Leading Detector (ft)	49	49		49		49		49		49	49	19
Trailing Detector (ft)	-1	-1		-1		-1		-1		-1	-1	-1
Detector 1 Position(ft)	-1	-1		-1		-1		-1		-1	-1	-1
Detector 1 Size(ft)	20	20		20		20		20		20	20	20
Detector 1 Type	Ch+Ex	Ch+Ex		Ch+Ex		Ch+Ex		Ch+Ex		Ch+Ex	Ch+Ex	Ch+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0		0.0		0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0		0.0		0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0		0.0		0.0		0.0	0.0	0.0
Detector 2 Position(ft)	29	29		29		29		29		29	29	29
Detector 2 Size(ft)	20	20		20		20		20		20	20	20
Detector 2 Type	Ch+Ex	Ch+Ex		Ch+Ex		Ch+Ex		Ch+Ex		Ch+Ex	Ch+Ex	Ch+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0		0.0		0.0		0.0		0.0	0.0	0.0
Turn Type	Perm	NA		NA		NA		NA		NA	NA	Perm
Protected Phases	1	1		1		1		3		3	3	3
Permitted Phases												
Detector Phase	1	1		1		1		3		3	3	3
Switch Phase												



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Minimum Initial (s)	34.6	34.6		34.6		34.6				6.0	6.0	6.0
Minimum Split (s)	60.0	60.0		60.0		60.0				11.2	11.2	11.2
Total Split (s)	66.0	66.0		66.0		66.0				34.0	34.0	34.0
Total Split (%)	66.0%	66.0%		66.0%		66.0%				34.0%	34.0%	34.0%
Maximum Green (s)	60.6	60.6		60.6		60.6				28.8	28.8	28.8
Yellow Time (s)	4.3	4.3		4.3		4.3				3.6	3.6	3.6
All-Red Time (s)	1.1	1.1		1.1		1.1				1.6	1.6	1.6
Lost Time Adjust (s)	0.0	0.0		0.0		0.0				0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4		5.4		5.4				5.2	5.2	5.2
LeadLag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0		3.0				3.0	3.0	3.0
Recall Mode	C-Max	C-Max		C-Max		C-Max				None	None	None
Act Effct Green (s)	74.9	74.9		74.9		74.9				14.5	14.5	14.5
Actuated g/C Ratio	0.75	0.75		0.75		0.75				0.14	0.14	0.14
v/c Ratio	0.14	0.14		0.27		0.27				0.68	0.73	0.73
Control Delay	3.7	3.7		9.5		9.5				48.1	11.7	11.7
Queue Delay	0.0	0.0		0.4		0.4				0.0	0.0	0.0
Total Delay	3.7	3.7		9.9		9.9				48.1	11.7	11.7
LOS	A	A		A		A				D	D	B
Approach Delay	3.7	3.7		9.9		9.9				21.2	21.2	21.2
Approach LOS	A	A		A		A				C	C	C
Intersection Summary												
Area Type:	Other											
Cycle Length:	100											
Actuated Cycle Length:	100											
Offset 95 (95%):	Referenced to phase 1:EBW, Start of Yellow											
Natural Cycle:	75											
Control Type:	Actuated-Coordinated											
Maximum v/c Ratio:	0.73											
Intersection Signal Delay:	12.7											
Intersection Capacity Utilization:	61.6%											
Analysis Period (min):	15											
Spits and Phases:	2: I-190 NB Off-Ramp & Packard Rd											

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↔	↔	↔	↔
Traffic Volume (vph)	478	208	36	455	308	34
Future Volume (vph)	478	208	36	455	308	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.97	0.95
Flt Protected		0.850			0.985	
Flt Permitted	1863	1583	0	3525	3406	0
Satd. Flow (perm)	1863	1583	0	3118	3406	0
Right Turn on Red	Yes					Yes
Satd. Flow (RTOR)	35	236			13	
Link Speed (mph)	510			35	40	
Link Distance (ft)	9.9			1105	538	
Travel Time (s)	8.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	543	236	41	517	350	39
Shared Lane Traffic (%)						
Lane Group Flow (vph)	No	No	No	558	389	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60	60	60	60
Number of Detectors	2	1	2	2	1	
Detector Template			Left			
Leading Detector (ft)	49	19	49	49	19	
Trailing Detector (ft)	-1	-1	-1	-1	-1	
Detector 1 Position(ft)	-1	-1	-1	-1	-1	
Detector 1 Size(ft)	20	20	20	20	20	
Detector 1 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	29	29	29	29	29	
Detector 2 Size(ft)	20	20	20	20	20	
Detector 2 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	
Detector 2 Channel						
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Turn Type	NA	Perm	NA	NA	Prot	
Protected Phases	1	1	1	1	3	
Permitted Phases	1	1	1	1	3	
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	1.0

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Minimum Split (s)	12.3	12.3	12.3	12.3	7.6	
Total Split (s)	60.0	60.0	60.0	60.0	40.0	
Total Split (%)	60.0%	60.0%	60.0%	60.0%	40.0%	
Maximum Green (s)	53.7	53.7	53.7	53.7	34.3	
Yellow Time (s)	3.6	3.6	3.6	3.6	3.9	
All-Red Time (s)	2.7	2.7	2.7	2.7	1.8	
Lost Time Adjst (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.3	6.3	6.3	6.3	5.7	
LeadLag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	21.0	21.0	21.0	21.0	21.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	71.5	71.5	71.5	71.5	16.5	
Actuated g/C Ratio	0.72	0.72	0.72	0.72	0.16	
v/c Ratio	0.41	0.20	0.25	0.25	0.68	
Control Delay	4.3	0.5	5.6	43.9		
Queue Delay	0.7	0.0	0.0	0.0		
Total Delay	5.0	0.5	5.6	43.9		
LOS	A	A	A	D		
Approach Delay	3.6		5.6	43.9		
Approach LOS	A		A	D		
Intersection Summary						
Area Type:	Other					
Cycle Length:	100					
Actuated Cycle Length:	100					
Offset:	55 (55%), Referenced to phase 1:EBWB, Start of Yellow					
Natural Cycle:	40					
Control Type:	Actuated-Coordinated					
Maximum v/c Ratio:	0.68					
Intersection Signal Delay:	13.4					
Intersection LOS:	B					
Intersection Capacity Utilization:	59.9%					
Analysis Period (min):	15					



Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	95	32	2	114	33	1	2	352	116	13	346	83
Future Volume (vph)	95	32	2	114	33	1	2	352	116	13	346	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125	0	0	0	200	0	200	200	0	0	200	0
Storage Lanes	0	0	0	1	0	0	0	0	0	0	0	0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fit	0.998			0.996			0.969			0.975		
Fit Protected	0.964			0.950			0.999			0.999		
Satd. Flow (prot)	0	1792	0	1770	1855	0	0	1805	0	0	1814	0
Fit Permitted	0.964			0.950			0.999			0.999		
Satd. Flow (perm)	0	1792	0	1770	1855	0	0	1805	0	0	1814	0
Link Speed (mph)	45			30			45			45		
Link Distance (ft)	217			444			505			881		
Travel Time (s)	3.3			10.1			7.7			13.3		
Peak Hour Factor	0.83	0.92	0.83	0.92	0.92	0.92	0.83	0.83	0.92	0.92	0.83	0.83
Adj. Flow (vph)	114	35	2	124	36	1	2	424	126	14	417	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	151	0	124	37	0	0	552	0	0	531	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right	Right
Median Width(ft)	12			12			0			0		
Link Offset(ft)	0			0			0			0		
Crosswalk Width(ft)	16			16			16			16		
Two way Left Turn Lane	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Headway Factor	60	60	60	60	60	60	60	60	60	60	60	60
Turning Speed (mph)	60			60			60			60		
Sign Control	Stop			Stop			Free			Free		
Intersection Summary	Other											
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	53.2%											
Analysis Period (min)	15											
ICU Level of Service	A											

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	95	32	2	114	33	1	2	352	116	13	346	83
Future Volume (Veh/h)	95	32	2	114	33	1	2	352	116	13	346	83
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.83	0.92	0.83	0.92	0.92	0.92	0.83	0.83	0.92	0.92	0.83	0.83
Hourly flow rate (vph)	114	35	2	124	36	1	2	424	126	14	417	100
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type												None
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1005	1049	467	1006	1036	487	517			550		
vC1, stage 1 cont vol												
vC2, stage 2 cont vol												
vCu, unblocked vol	1005	1049	467	1006	1036	487	517			550		
IC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
IC, 2 stage (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
IF (s)	40	84	100	35	84	100	100			99		
p0 queue free %	191	224	596	191	228	581	1049			1020		
cM capacity (veh/h)												
Direction, Lane #	SE, 1	NW, 1	NW, 2	NE, 1	SW, 1							
Volume Total	151	124	37	552	531							
Volume Left	114	124	0	2	14							
Volume Right	2	0	1	126	100							
cSH	200	191	232	1049	1020							
Volume to Capacity	0.76	0.65	0.16	0.00	0.01							
Queue Length 95th (ft)	127	96	14	0	1							
Control Delay (s)	63.9	53.4	23.5	0.1	0.4							
Lane LOS	F	F	C	A	A							
Approach Delay (s)	63.9	46.5	0.1	0.4								
Approach LOS	F	E										
Intersection Summary												
Average Delay	12.5											
Intersection Capacity Utilization	53.2%											
ICU Level of Service	A											
Analysis Period (min)	15											

Lanes, Volumes, Timings
7: Tuscarora Rd & Lockport Rd

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	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	4				4	
Traffic Volume (vph)	614	0	0	576	0	0
Future Volume (vph)	614	0	0	576	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected						
Satd. Flow (prot)	1863	0	0	1863	1863	0
Flt Permitted						
Satd. Flow (perm)	1863	0	0	1863	1863	0
Link Speed (mph)	45			45	30	
Link Distance (ft)	1250			1470	800	
Travel Time (s)	18.9			22.3	18.2	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	706	0	0	662	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	706	0	0	662	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Right	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60	60	60	60
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	35.6%					
Analysis Period (min)	15					
ICU Level of Service	A					

HCM Unsignalized Intersection Capacity Analysis
7: Tuscarora Rd & Lockport Rd

Project Fifi
2024 Full Build PM

	EBT	EBR	WBL	WBT	NBL	NBR
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	4				4	
Traffic Volume (veh/h)	614	0	0	576	0	0
Future Volume (Veh/h)	614	0	0	576	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	706	0	0	662	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)						
pX, platoon unblocked						
vC, conflicting volume		706			1368	706
vC1, stage 1 cont vol						
vC2, stage 2 cont vol						
vCu, unblocked vol		706			1368	706
tC, single (s)		4.1			6.4	6.2
tC, 2 stage (s)		2.2			3.5	3.3
p0 queue free %		100			100	100
cM capacity (veh/h)		892			162	436
Direction, Lane #	EB, 1	WB, 1	NB, 1			
Volume Total	706	662	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	892	1700			
Volume to Capacity	0.42	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS		A				
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS		A				
Intersection Summary						
Average Delay	0.0					
Intersection Capacity Utilization	35.6%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings
8: Lockport Rd & Walmore Rd

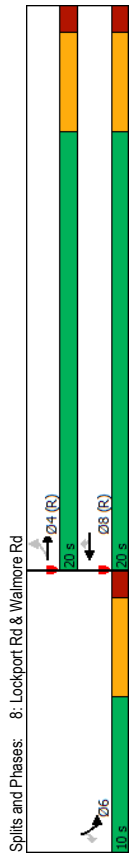
Lanes, Volumes, Timings
8: Lockport Rd & Walmore Rd

Project Fifi
2024 Full Build PM

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2024 Full Build PM

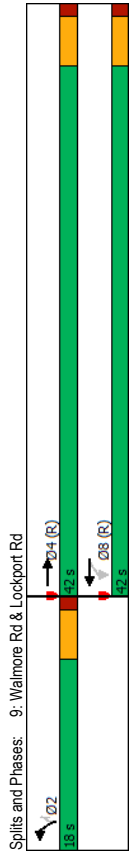
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	39	519	506	99	82	29
Traffic Volume (vph)	39	519	506	99	82	29
Future Volume (vph)	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	125	0	115			
Storage Length (ft)	1	1	1	1	1	1
Storage Lanes	25			25		
Taper Length (ft)	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.950			0.850		0.850
Flt Protected	1770	1863	1863	1583	1770	1583
Satd. Flow (prot)	0.375			0.950		0.950
Flt Permitted	699	1863	1863	1583	1770	1583
Satd. Flow (perm)		Yes	Yes	Yes	Yes	Yes
Right Turn on Red				114		33
Satd. Flow (RTOR)		45	45		35	
Link Distance (ft)	697	1100		1227		
Travel Time (s)	10.6	16.7		23.9		
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	45	597	582	114	94	33
Shared Lane Traffic (%)						
Lane Group Flow (vph)	45	597	582	114	94	33
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Right
Median Width (ft)	12	12	12	12	12	12
Link Offset (ft)	0	0	0	0	0	0
Crosswalk Width (ft)	16	16	16	16	16	16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60	60	60	60
Number of Detectors	2	2	2	2	2	2
Detector Template						
Leading Detector (ft)	49	49	49	49	49	49
Trailing Detector (ft)	-1	-1	-1	-1	-1	-1
Detector 1 Position (ft)	-1	-1	-1	-1	-1	-1
Detector 1 Size (ft)	20	20	20	20	20	20
Detector 1 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position (ft)	29	29	29	29	29	29
Detector 2 Size (ft)	20	20	20	20	20	20
Detector 2 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 2 Channel						
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases	4	8	8	6	6	6
Permitted Phases						

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase	4	4	8	8	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	20.0	20.0	20.0	20.0	10.0	10.0
Total Split (%)	66.7%	66.7%	66.7%	66.7%	33.3%	33.3%
Maximum Green (s)	15.5	15.5	15.5	15.5	5.5	5.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
LeadLag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	C-Max	C-Max	Min	Min
Act Effct Green (s)	15.5	15.5	15.5	15.5	5.5	5.5
Actuated g/C Ratio	0.52	0.52	0.52	0.52	0.18	0.18
v/c Ratio	0.12	0.62	0.60	0.13	0.29	0.10
Control Delay	4.7	8.6	7.6	1.8	13.2	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.7	8.6	7.6	1.8	13.2	5.8
LOS	A	A	A	A	B	A
Approach Delay		8.3	6.6		11.3	
Approach LOS	A	A	A	A	B	B
Intersection Summary						
Area Type:	Other					
Cycle Length:	30					
Actuated Cycle Length:	30					
Offset:	0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green					
Natural Cycle:	40					
Control Type:	Actuated-Coordinated					
Maximum v/c Ratio:	0.62					
Intersection Signal Delay:	7.8					
Intersection LOS:	A					
Intersection Capacity Utilization:	44.5%					
Analysis Period (min):	15					



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	295	333	78	251	331	68
Future Volume (vph)	295	333	78	251	331	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200	0	200	0	200
Storage Lanes	0	1	1	1	1	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.928					0.850
Satd. Flow (prot)	1729	0	1770	1863	1770	1583
Flt Permitted		0.265		0.950		
Satd. Flow (perm)	1729	0	494	1863	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	181					81
Link Speed (mph)	45		45		40	
Link Distance (ft)	1100		957		738	
Travel Time (s)	16.7		14.5		12.6	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	351	396	93	299	394	81
Shared Lane Traffic (%)						
Lane Group Flow (vph)	747	0	93	299	394	81
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12		12		12	
Link Offset(ft)	0		0		0	
Crosswalk Width(ft)	16		16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60	60	60	60
Number of Detectors	2	2	2	2	2	2
Detector Template						
Leading Detector (ft)	49	49	49	49	49	49
Trailing Detector (ft)	-1	-1	-1	-1	-1	-1
Detector 1 Position(ft)	-1	-1	-1	-1	-1	-1
Detector 1 Size(ft)	20	20	20	20	20	20
Detector 1 Type	CI+EX	CI+EX	CI+EX	CI+EX	CI+EX	CI+EX
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	29	29	29	29	29	29
Detector 2 Size(ft)	20	20	20	20	20	20
Detector 2 Type	CI+EX	CI+EX	CI+EX	CI+EX	CI+EX	CI+EX
Detector 2 Channel						
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	NA	Perm	NA	Prot	Perm	Perm
Protected Phases	4					
Permitted Phases			8		8	2

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	4		8		8	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	42.0	42.0	42.0	18.0	18.0	18.0
Total Split (%)	70.0%	70.0%	70.0%	30.0%	30.0%	30.0%
Maximum Green (s)	37.5	37.5	37.5	13.5	13.5	13.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead-Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	C-Max	Min	Min	Min
Act Effct Green (s)	37.5	37.5	37.5	13.5	13.5	13.5
Actuated g/C Ratio	0.62	0.62	0.62	0.22	0.22	0.22
v/c Ratio	0.65	0.30	0.26	0.99	0.19	0.19
Control Delay	11.8	8.5	5.7	70.4	6.8	6.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.8	8.5	5.7	70.4	6.8	6.8
LOS	B	A	A	E	E	A
Approach Delay	11.8	6.4	6.4	89.6		
Approach LOS	B	A	A	E		
Intersection Summary						
Area Type:	Other					
Cycle Length:	60					
Actuated Cycle Length:	60					
Offset:	8 (13%), Referenced to phase 4:EBT and 8:WBT_L, Start of Green					
Natural Cycle:	50					
Control Type:	Actuated-Coordinated					
Maximum v/c Ratio:	0.99					
Intersection Signal Delay:	24.5					
Intersection LOS:	C					
Intersection Capacity Utilization:	69.8%					
Analysis Period (min):	15					



Lanes, Volumes, Timings
10: Niagara Rd & Walmore Rd & Niagara Falls Blvd

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Lane Group	EBL2	EBL	EFT	EBR	EBR2	WBL2	WBL	WBT	WBR	WBR2	NBL	NBL
Lane Configurations												
Traffic Volume (vph)	71	106	478	16	2	9	67	519	224	4	11	13
Future Volume (vph)	71	106	478	16	2	9	67	519	224	4	11	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175	0	1900	0	0	250	0	0	0	0	0	0
Storage Lanes	1	0	0	0	0	1	0	0	0	0	0	0
Taper Length (ft)	25	0	0	0	0	25	0	0	0	0	25	0
Lane Util. Factor	0.95	1.00	0.95	0.95	0.95	1.00	0.95	0.95	0.95	0.95	1.00	1.00
Fit	0.995	0.995	0.995	0.954	0.954	0.995	0.995	0.954	0.954	0.954	0.995	0.995
Fit Protected	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Satd. Flow (prot)	0	1770	3522	0	0	0	1770	3376	0	0	0	1758
Fit Permitted	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Satd. Flow (perm)	0	1770	3522	0	0	0	1770	3376	0	0	0	1581
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (RTOR)												
Link Speed (mph)	30	30	30	30	30	30	30	30	30	30	30	30
Link Distance (ft)	1254	1254	1254	1395	1395	1395	917	917	917	917	917	917
Travel Time (s)	28.5	28.5	28.5	31.7	31.7	31.7	20.8	20.8	20.8	20.8	20.8	20.8
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	80	119	537	18	2	10	75	583	252	4	12	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	199	557	0	0	0	85	839	0	0	0	39
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Right	Left	Left	Left	Right	Right	Left	Left
Median Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Link Offset (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Crosswalk Width (ft)	16	16	16	16	16	16	16	16	16	16	16	16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60	60	60	60	60	60	60	60	60	60
Number of Detectors	2	2	2	2	2	2	2	2	2	2	2	2
Detector Template	Left	Left	Left	Left	Left	Left	Left	Left	Left	Left	Left	Left
Leading Detector (ft)	49	49	49	49	49	49	49	49	49	49	49	49
Trailing Detector (ft)	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Detector 1 Position (ft)	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Detector 1 Size (ft)	20	20	20	20	20	20	20	20	20	20	20	20
Detector 1 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position (ft)	29	29	29	29	29	29	29	29	29	29	29	29
Detector 2 Size (ft)	20	20	20	20	20	20	20	20	20	20	20	20
Detector 2 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Prot	NA	Prot	Prot	Prot	Prot	Prot	Prot	Prot	Prot	Prot
Protected Phases	5	5	2	2	2	1	1	1	6	6	6	8
Permitted Phases												
Permitted Phases												

Lanes, Volumes, Timings
10: Niagara Rd & Walmore Rd & Niagara Falls Blvd

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Lane Group	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	NEL2	NEL	NET	NER	NER2
Lane Configurations												
Traffic Volume (vph)	7	4	13	67	20	42	71	4	61	61	61	83
Future Volume (vph)	7	4	13	67	20	42	71	4	61	61	61	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0	0	0	335	0	0	0	0	0	0
Storage Lanes	0	0	0	0	0	1	0	0	0	0	0	0
Taper Length (ft)	25	0	0	0	0	25	0	0	0	0	0	0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fit	0.943	0.943	0.943	0.943	0.943	0.943	0.943	0.943	0.943	0.943	0.943	0.943
Fit Protected	0.961	0.961	0.961	0.961	0.961	0.961	0.961	0.961	0.961	0.961	0.961	0.961
Satd. Flow (prot)	0	0	0	1790	1563	0	0	0	1730	0	0	0
Fit Permitted	0.741	0.741	0.741	0.741	0.741	0.741	0.741	0.741	0.741	0.741	0.741	0.741
Satd. Flow (perm)	0	0	0	1380	1563	0	0	0	1539	0	0	0
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (RTOR)												
Link Speed (mph)	30	30	30	40	40	30	30	30	30	30	30	30
Link Distance (ft)	812	812	812	812	812	1156	1156	1156	1156	1156	1156	1156
Travel Time (s)	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	8	4	15	75	22	47	80	4	69	69	104	104
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	112	127	0	0	0	0	247	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Right	Right	Left	Left	Left	Right	Right	Left	Left	Left	Right	Right
Median Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Link Offset (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Crosswalk Width (ft)	16	16	16	16	16	16	16	16	16	16	16	16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60	60	60	60	60	60	60	60	60	60
Number of Detectors	2	2	2	2	2	2	2	2	2	2	2	2
Detector Template	Left	Left	Left	Left	Left	Left	Left	Left	Left	Left	Left	Left
Leading Detector (ft)	49	49	49	49	49	49	49	49	49	49	49	49
Trailing Detector (ft)	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Detector 1 Position (ft)	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Detector 1 Size (ft)	20	20	20	20	20	20	20	20	20	20	20	20
Detector 1 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position (ft)	29	29	29	29	29	29	29	29	29	29	29	29
Detector 2 Size (ft)	20	20	20	20	20	20	20	20	20	20	20	20
Detector 2 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Perm	Perm	NA	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	8	8	8	8	8	8	8	8	8	8	8	8
Permitted Phases												
Permitted Phases												

Lanes, Volumes, Timings
10: Niagara Rd & Walmore Rd & Niagara Falls Blvd

Lanes, Volumes, Timings
10: Niagara Rd & Walmore Rd & Niagara Falls Blvd

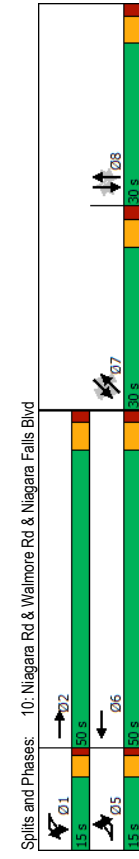
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Lane Group	SWL2	SWL	SWT	SWR	SWR2
Lane Configurations					
Traffic Volume (vph)	4	9	49	86	9
Future Volume (vph)	4	9	49	86	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100		
Storage Lanes	0	0	1		
Taper Length (ft)	25				
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00
Fit			0.850		
Fit Protected			0.990		
Satd. Flow (prot)	0	0	1844	1583	0
Fit Permitted			0.890		
Satd. Flow (perm)	0	0	1658	1583	0
Right Turn on Red				Yes	
Satd. Flow (RTOR)				116	
Link Distance (ft)			30		
Link Speed (mph)			1223		
Travel Time (s)			27.8		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	4	10	55	97	10
Shared Lane Traffic (%)					
Lane Group Flow (vph)	0	0	69	107	0
Enter Blocked Intersection	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Right
Median Width(ft)			0		
Link Offset(ft)			0		
Crosswalk Width(ft)			16		
Two way Left Turn Lane					
Headway Factor	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60	60	60
Number of Detectors	2	2	2	2	
Detector Template	Left	Left			
Leading Detector (ft)	49	49	49	49	
Trailing Detector (ft)	-1	-1	-1	-1	
Detector 1 Position(ft)	-1	-1	-1	-1	
Detector 1 Size(ft)	20	20	20	20	
Detector 1 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	
Detector 1 Channel					
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	29	29	29	29	
Detector 2 Size(ft)	20	20	20	20	
Detector 2 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	
Detector 2 Channel					
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	
Turn Type	Perm	Perm	NA	Perm	
Protected Phases			7		
Permitted Phases	7	7	7	7	

Lane Group	EBL2	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	WBR2	NBL	NBT
Detector Phase	5	5	2			1	1	6			8	8
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	9.5	22.5	9.5	9.5	9.5	9.5	22.5	9.5	22.5	22.5	22.5
Total Split (s)	15.0	15.0	50.0	15.0	15.0	15.0	15.0	50.0	15.0	50.0	30.0	30.0
Total Split (%)	12.0%	12.0%	40.0%	12.0%	12.0%	12.0%	12.0%	40.0%	12.0%	40.0%	24.0%	24.0%
Maximum Green (s)	10.7	10.7	44.0	10.7	10.7	10.7	10.7	44.0	10.7	44.0	24.0	24.0
Yellow Time (s)	3.2	3.2	4.0	3.2	3.2	3.2	3.2	4.0	3.2	4.0	4.0	4.0
All-Red Time (s)	1.1	1.1	2.0	1.1	1.1	1.1	1.1	2.0	1.1	2.0	2.0	2.0
Lost Time Adjust (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
Total Lost Time (s)	4.3	4.3	6.0	4.3	4.3	4.3	4.3	6.0	4.3	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lead	Lag	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	None	None	None	None	Max	None	None	None	None
Act Effct Green (s)	10.7	10.7	47.9	10.7	10.7	10.7	10.7	47.9	10.7	47.9	14.5	14.5
Actuated g/C Ratio	0.09	0.09	0.42	0.08	0.08	0.08	0.08	0.39	0.08	0.39	0.13	0.13
v/c Ratio	1.19	0.38		0.57	0.64				0.57	0.64		0.19
Control Delay	175.1	25.9		67.3	32.0				67.3	32.0		42.8
Queue Delay	0.0	0.0		0.0	0.0				0.0	0.0		0.0
Total Delay	175.1	25.9		67.3	32.0				67.3	32.0		42.8
LOS	F	C		E	C				E	C		D
Approach Delay			65.1					35.2				42.8
Approach LOS			E					D				D

Intersection Summary
Area Type: Other
Cycle Length: 125
Actuated Cycle Length: 113.5
Natural Cycle: 90
Control Type: Semi-Act-Uncoordinated
Maximum v/c Ratio: 1.19
Intersection Signal Delay: 47.6
Intersection Capacity Utilization 89.6%
Analysis Period (min) 15



Lanes, Volumes, Timings
10: Niagara Rd & Walmore Rd & Niagara Falls Blvd

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Lane Group	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	NEL2	NEL	NET	NER	NER2
Detector Phase	8	8	8	8	8	8	8	7	7	7	7	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Total Split (%)	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%	24.0%
Maximum Green (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (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
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	14.5	14.5	14.5	14.5	14.5	14.5	14.5	21.7	21.7	21.7	21.7	21.7
Actuated g/C Ratio	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.19	0.19	0.19	0.19	0.19
v/c Ratio	0.64	0.42	0.64	0.42	0.64	0.42	0.42	0.84	0.84	0.84	0.84	0.84
Control Delay	63.9	14.4	63.9	14.4	63.9	14.4	14.4	69.7	69.7	69.7	69.7	69.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.9	14.4	63.9	14.4	63.9	14.4	14.4	69.7	69.7	69.7	69.7	69.7
LOS	E	B	E	B	E	B	B	E	E	E	E	E
Approach Delay	37.6		37.6		37.6			69.7	69.7	69.7	69.7	69.7
Approach LOS	D		D		D			E	E	E	E	E
Intersection Summary												

Lanes, Volumes, Timings
10: Niagara Rd & Walmore Rd & Niagara Falls Blvd

Project Fifi
2024 Full Build PM

Lane Group	SWL2	SWL	SMT	SWR	SWR2
Detector Phase	7	7	7	7	7
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5
Total Split (s)	30.0	30.0	30.0	30.0	30.0
Total Split (%)	24.0%	24.0%	24.0%	24.0%	24.0%
Maximum Green (s)	24.0	24.0	24.0	24.0	24.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None
Act Effct Green (s)	21.7	21.7	21.7	21.7	21.7
Actuated g/C Ratio	0.19	0.19	0.19	0.19	0.19
v/c Ratio	0.22	0.27	0.22	0.27	0.27
Control Delay	41.7	8.1	41.7	8.1	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	41.7	8.1	41.7	8.1	8.1
LOS	D	A	D	A	A
Approach Delay	21.3		21.3		
Approach LOS	C		C		
Intersection Summary					

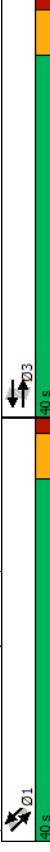
Lanes, Volumes, Timings
11: Military Rd & Lockport Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations	26	81	88	49	68	47	45	427	36	104	546	52
Traffic Volume (vph)	26	81	88	49	68	47	45	427	36	104	546	52
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	200	0	200	0	200	0	200	0	175	0	175	0
Storage Length (ft)	1	0	0	1	0	0	1	0	0	1	0	0
Storage Lanes	25	25	25	25	25	25	25	25	25	25	25	25
Taper Length (ft)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Lane Util. Factor	0.922			0.938			0.988				0.987	
Fit Protected	0.950			0.950			0.950				0.950	
Satd. Flow (prot)	1770	1717	0	1770	1747	0	1770	3497	0	1770	3493	0
Fit Permitted	0.674			0.638			0.383				0.460	
Satd. Flow (perm)	1255	1717	0	1188	1747	0	713	3497	0	857	3493	0
Right Turn on Red			Yes		Yes				Yes		Yes	Yes
Satd. Flow (RTOR)	86			53			13			15		15
Link Speed (mph)	40			45			40			40		40
Link Distance (ft)	906			1287			883			1055		1055
Travel Time (s)	15.4			19.5			15.1			18.0		18.0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	29	91	99	55	76	53	51	480	40	117	613	58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	29	190	0	55	129	0	51	520	0	117	671	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Right	Left	Left	Right	Left	Left	Right	Right
Median Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Link Offset (ft)	0			0			0			0		0
Crosswalk Width (ft)	16			16			16			16		16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60	60	60	60	60	60	60	60	60	60
Number of Detectors	2	2	2	2	2	2	2	2	2	2	2	2
Detector Template												
Leading Detector (ft)	49	49	49	49	49	49	49	49	49	49	49	49
Trailing Detector (ft)	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Detector 1 Position (ft)	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Detector 1 Size (ft)	20	20	20	20	20	20	20	20	20	20	20	20
Detector 1 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position (ft)	29	29	29	29	29	29	29	29	29	29	29	29
Detector 2 Size (ft)	20	20	20	20	20	20	20	20	20	20	20	20
Detector 2 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases	3			3			1			1		1
Permitted Phases												

Lanes, Volumes, Timings
11: Military Rd & Lockport Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Detector Phase	3	3	3	3	3	3	1	1	1	1	1	1
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	15.0	20.0	20.0	20.0	20.0	20.0	20.0
Minimum Split (s)	27.8	27.8	27.8	27.8	27.8	27.8	27.8	27.8	27.8	27.8	27.8	27.8
Total Split (s)	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Maximum Green (s)	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (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
Total Lost Time (s)	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
Lead Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Act Effct Green (s)	15.4	15.4	15.4	15.4	15.4	15.4	23.9	23.9	23.9	23.9	23.9	23.9
Actuated g/C Ratio	0.30	0.30	0.30	0.30	0.30	0.30	0.47	0.47	0.47	0.47	0.47	0.47
v/c Ratio	0.08	0.33	0.15	0.23	0.15	0.23	0.15	0.32	0.29	0.29	0.41	0.41
Control Delay	15.8	11.1	16.5	11.3	16.5	11.3	8.6	8.5	10.2	10.2	9.3	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.8	11.1	16.5	11.3	16.5	11.3	8.6	8.5	10.2	10.2	9.3	9.3
LOS	B	B	B	B	B	B	A	A	B	B	A	A
Approach Delay												
Approach LOS	B	B	B	B	B	B	A	A	B	B	A	A
Intersection Summary												
Area Type:	Other											
Cycle Length: 80												
Actuated Cycle Length: 51												
Natural Cycle: 60												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.41												
Intersection Signal Delay: 9.8												
Intersection Capacity Utilization 77.7%												
Analysis Period (min): 15												

Splits and Phases: 11: Military Rd & Lockport Rd



Lanes, Volumes, Timings
12: Proposed Driveway & Lockport Rd

Project Fifi
2024 Full Build PM

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	4	4	4	4	4	4
Traffic Volume (veh/h)	429	20	47	430	12	80
Future Volume (veh/h)	429	20	47	430	12	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fit Protected	0.994			0.995	0.950	0.850
Satd. Flow (prot)	1852	0	0	1853	1770	1583
Flt Permitted	0.995			0.995	0.950	
Satd. Flow (perm)	1852	0	0	1853	1770	1583
Link Speed (mph)	30			30	30	
Link Distance (ft)	881			552	527	
Travel Time (s)	20.0			12.5	12.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	466	22	51	467	13	87
Shared Lane Traffic (%)						
Lane Group Flow (vph)	488	0	0	518	13	87
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60	60	60	60
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	62.4%					
Analysis Period (min)	15					
ICU Level of Service B						

HCM Unsignalized Intersection Capacity Analysis
12: Proposed Driveway & Lockport Rd

Project Fifi
2024 Full Build PM

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	4	4	4	4	4	4
Traffic Volume (veh/h)	429	20	47	430	12	80
Future Volume (veh/h)	429	20	47	430	12	80
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	466	22	51	467	13	87
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		488		1046		477
vC1, stage 1 cont vol						
vC2, stage 2 cont vol						
vCu, unblocked vol		488		1046		477
IC, single (s)		4.1		6.4		6.2
IC, Z stage (s)		2.2		3.5		3.3
p0 queue free %		95		95		85
cM capacity (veh/h)		1075		241		588
Direction, Lane #	EB, 1	WB, 1	NB, 1	NB, 2		
Volume Total	488	518	13	87		
Volume Left	0	51	13	0		
Volume Right	22	0	0	87		
cSH	1700	1075	241	588		
Volume to Capacity	0.29	0.05	0.05	0.15		
Queue Length 95th (ft)	0	4	4	13		
Control Delay (s)	0.0	1.3	20.8	12.2		
Lane LOS	A	C	C	B		
Approach Delay (s)	0.0	1.3	13.3			
Approach LOS			B			
Intersection Summary						
Average Delay	1.8					
Intersection Capacity Utilization	62.4%					
ICU Level of Service	B					
Analysis Period (min)	15					

Lanes, Volumes, Timings
13: Proposed Driveway & Lockport Rd

HCM Unsignalized Intersection Capacity Analysis
13: Proposed Driveway & Lockport Rd

Project Fifi
2024 Full Build PM

Project Fifi
2024 Full Build PM

	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	4	4	4	4	4	4
Traffic Volume (vph)	501	8	176	457	20	159
Future Volume (vph)	501	8	176	457	20	159
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200	0	0	0	0
Storage Lanes	0	0	1	1	1	1
Taper Length (ft)	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.998					0.850
Flt Protected			0.986	0.950		
Satd. Flow (prot)	1859	0	1837	1770	1583	
Flt Permitted			0.986	0.950		
Satd. Flow (perm)	1859	0	1837	1770	1583	
Link Speed (mph)	30		30	30		30
Link Distance (ft)	552		1250	516		1117
Travel Time (s)	12.5		28.4	11.7		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	545	9	191	497	22	173
Shared Lane Traffic (%)						
Lane Group Flow (vph)	554	0	0	688	22	173
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0		0	0	12	
Link Offset(ft)	0		0	0	0	
Crosswalk Width(ft)	16		16	16		
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60	60	60	60
Sign Control	Free	Free	Free	Free	Stop	Stop
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	74.0%					
Analysis Period (min)	15					
ICU Level of Service	D					

	EBT	EBR	WBL	WBT	NBL	NBR
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	4	4	4	4	4	4
Traffic Volume (veh/h)	501	8	176	457	20	159
Future Volume (Veh/h)	501	8	176	457	20	159
Sign Control	Free	Free	Free	Free	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	545	9	191	497	22	173
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		554			1428	550
vC1, stage 1 cont vol						
vC2, stage 2 cont vol						
vCu, unblocked vol		554			1428	550
IC, single (s)		4.1			6.4	6.2
IC, 2 stage (s)		2.2			3.5	3.3
p0 queue free %		81			82	68
cM capacity (veh/h)		1016			121	535
Direction, Lane #	EB, 1	WB, 1	NB, 1	NB, 2		
Volume Total	554	688	22	173		
Volume Left	0	191	22	0		
Volume Right	9	0	0	173		
cSH	1700	1016	121	535		
Volume to Capacity	0.33	0.19	0.18	0.32		
Queue Length 95th (ft)	0	17	16	35		
Control Delay (s)	0.0	4.4	41.4	14.9		
Lane LOS	A	A	E	B		
Approach Delay (s)	0.0	4.4	17.9			
Approach LOS		C	C			
Intersection Summary						
Average Delay	4.5					
Intersection Capacity Utilization	74.0%					
ICU Level of Service	D					
Analysis Period (min)	15					

Lanes, Volumes, Timings
14: Tuscarora Rd & Proposed Driveway

HCM Unsignalized Intersection Capacity Analysis
14: Tuscarora Rd & Proposed Driveway

Project Fifi
2024 Full Build PM

Project Fifi
2024 Full Build PM

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected						
Satd. Flow (prot)	1863	0	0	1863	1863	0
Flt Permitted						
Satd. Flow (perm)	1863	0	0	1863	1863	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	536			1247	800	
Travel Time (s)	12.2			28.3	18.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Right	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60	60	60	60
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	0.0%					
Analysis Period (min)	15					
ICU Level of Service	A					

	EBL	EBR	NBL	NBT	SBT	SBR
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0	0	0	0	0	
vC1, stage 1 cont vol						
vC2, stage 2 cont vol						
vCu, unblocked vol	0	0	0	0	0	
IC, single (s)	6.4	6.2	4.1			
IC, 2 stage (s)						
IF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	1023	1085	1623			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	0	0	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.00	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay	0.0					
Intersection Capacity Utilization	0.0%					
ICU Level of Service	A					
Analysis Period (min)	15					

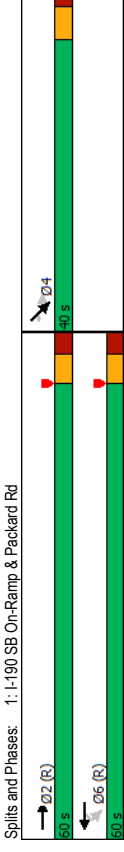
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**Level of Service Calculations:
Full Development Conditions
with Mitigation**

Lanes, Volumes, Timings
1: I-190 SB On-Ramp & Packard Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	0	145	30	227	265	0	9	107	10	0	0	0
Future Volume (vph)	0	145	30	227	265	0	9	107	10	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0	0	0	0	0	0	70	0	0	0
Storage Lanes	0	0	0	0	0	0	0	1	1	0	0	0
Taper Length (ft)	25	25	25	25	25	25	25	25	25	25	25	25
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected		0.974		0.977	0.950		0.950	0.850				
Satd. Flow (prot)	0	3153	0	3200	1641	0	1810	1495	0	0	0	0
Flt Permitted		0.727		0.727	0.950		0.950					
Satd. Flow (perm)	0	3153	0	2381	0	1641	1810	1495	0	0	0	0
Right Turn on Red		Yes		Yes	Yes		Yes	Yes				
Satd. Flow (RTOR)	34						36					
Link Speed (mph)	45			45	45		30	30			30	
Link Distance (ft)	868			171	171		486	696			696	
Travel Time (s)	13.2			2.6	2.6		11.0	15.8			15.8	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	11%	14%	14%	7%	0%	10%	5%	8%	0%	0%	0%
Adj. Flow (vph)	0	163	34	255	298	0	10	120	11	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	197	0	0	553	0	10	120	11	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Right	Left	Left	Right	Right	Left	Left	Right
Median Width(ft)	0	0	0	0	0	0	12	0	0	12	0	0
Link Offset(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Crosswalk Width(ft)	16	16	16	16	16	16	16	16	16	16	16	16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15	15	9	15	15	9	15	15	9	15
Number of Detectors	2	2	2	2	2	2	1	2	1	2	1	2
Detector Template		Left		Left	Left		Left	Left	Left	Left	Left	Left
Leading Detector (ft)	49	49	49	49	49	49	49	49	49	49	49	49
Trailing Detector (ft)	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Detector 1 Position(ft)	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Detector 1 Size(ft)	20	20	20	20	20	20	20	20	20	20	20	20
Detector 1 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	29	29	29	29	29	29	29	29	29	29	29	29
Detector 2 Size(ft)	20	20	20	20	20	20	20	20	20	20	20	20
Detector 2 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases	2			6			4					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Permitted Phases							4	4	4	4	4	4
Detector Phase	2			6	6	6	4	4	4	4	4	4
Switch Phase												
Minimum Initial (s)	28.7			28.7	28.7	28.7	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	60.0			60.0	60.0	60.0	11.7	11.7	11.7	11.7	11.7	11.7
Total Split (s)	60.0			60.0	60.0	60.0	40.0	40.0	40.0	40.0	40.0	40.0
Total Split (%)	60.0%			60.0%	60.0%	60.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%
Maximum Green (s)	53.7			53.7	53.7	53.7	34.3	34.3	34.3	34.3	34.3	34.3
Yellow Time (s)	3.6			3.6	3.6	3.6	3.9	3.9	3.9	3.9	3.9	3.9
All-Red Time (s)	2.7			2.7	2.7	2.7	1.8	1.8	1.8	1.8	1.8	1.8
Lost Time Adjunct (s)	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3			6.3	6.3	6.3	5.7	5.7	5.7	5.7	5.7	5.7
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max			C-Max	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	76.0			76.0	76.0	76.0	12.0	12.0	12.0	12.0	12.0	12.0
Actuated g/C Ratio	0.76			0.76	0.76	0.76	0.12	0.12	0.12	0.12	0.12	0.12
v/c Ratio	0.08			0.31	0.31	0.31	0.05	0.55	0.05	0.05	0.05	0.05
Control Delay	3.0			16.3	16.3	16.3	37.1	50.4	1.0	50.4	1.0	1.0
Queue Delay	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.0			16.3	16.3	16.3	37.1	50.4	1.0	50.4	1.0	1.0
LOS	A			B	B	B	D	D	A	D	D	A
Approach Delay	3.0			16.3	16.3	16.3	45.6	45.6				
Approach LOS	A			B	B	B	D	D				
Intersection Summary												
Area Type:	Other											
Cycle Length:	100											
Actuated Cycle Length:	100											
Offset:	23 (23%), Referenced to phase 2:EBT and 6:WBTL. Start of Yellow											
Natural Cycle:	75											
Control Type:	Actuated-Coordinated											
Maximum v/c Ratio:	0.65											
Intersection Signal Delay:	18.0											
Intersection Capacity Utilization:	68.7%											
Analysis Period (min):	15											
ICU Level of Service:	C											



Lanes, Volumes, Timings
3: Vacant Store Dwy/Porter Rd & Packard Rd

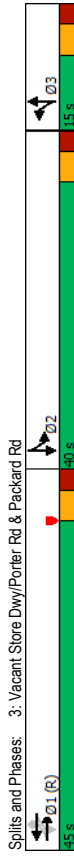
Lanes, Volumes, Timings
3: Vacant Store Dwy/Porter Rd & Packard Rd

Project Fifi
2024 Full Build AM

Project Fifi
2024 Full Build AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR
Lane Configurations	77	454	7	10	410	142	6	3	10	153	3
Traffic Volume (vph)	77	454	7	10	410	142	6	3	10	153	3
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	0	0	0	0	0	0	0	0	0	0	0
Storage Length (ft)	0	0	0	0	0	0	0	0	0	0	0
Storage Lanes	0	0	0	0	0	0	0	0	0	0	0
Taper Length (ft)	25	25	25	25	25	25	25	25	25	25	25
Lane Util. Factor	0.91	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95
Fit	0.998	0.998	0.998	0.950	0.950	0.950	0.887	0.887	0.950	0.964	0.964
Fit Protected	0	4740	0	1805	3167	1495	1805	1685	0	1618	1588
Satd. Flow (prot)	0.795	0.795	0.795	0.398	0.398	0.398	0.950	0.950	0.950	0.964	0.964
Fit Permitted	0	3795	0	756	3167	1495	1805	1685	0	1618	1588
Satd. Flow (perm)	0	3795	0	756	3167	1495	1805	1685	0	1618	1588
Right Turn on Red	2	2	2	12	12	12	12	12	12	12	12
Satd. Flow (RTOR)	45	45	45	35	35	35	30	30	30	35	35
Link Speed (mph)	342	342	342	475	475	475	302	302	302	290	290
Link Distance (ft)	5.2	5.2	5.2	9.3	9.3	9.3	6.9	6.9	6.9	5.6	5.6
Travel Time (s)	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Peak Hour Factor	6%	9%	0%	0%	14%	8%	0%	0%	0%	6%	7%
Heavy Vehicles (%)	92	540	8	12	488	169	7	4	12	182	4
Adj. Flow (vph)	0	640	0	12	488	169	7	16	12	182	4
Shared Lane Traffic (%)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	No	No	No	No	No	No	No	No	No	No	No
Enter Blocked Intersection	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Right
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Right
Median Width(ft)	12	12	12	12	12	12	12	12	12	12	12
Link Offset(ft)	0	0	0	0	0	0	0	0	0	0	0
Crosswalk Width(ft)	16	16	16	16	16	16	16	16	16	16	16
Two way Left Turn Lane	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Headway Factor	15	9	15	15	9	15	9	15	9	15	9
Turning Speed (mph)	2	2	2	2	2	2	2	2	2	2	2
Number of Detectors	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Right
Detector Template	49	49	49	49	49	49	49	49	49	49	49
Leading Detector (ft)	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Trailing Detector (ft)	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Detector 1 Position(ft)	20	20	20	20	20	20	20	20	20	20	20
Detector 1 Size(ft)	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 1 Type	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	29	29	29	29	29	29	29	29	29	29	29
Detector 2 Position(ft)	20	20	20	20	20	20	20	20	20	20	20
Detector 2 Size(ft)	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 2 Type	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Channel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Extend (s)	Perm	NA	Perm	NA	Perm	NA	Split	NA	Split	NA	NA
Turn Type	1	1	1	1	1	1	3	3	3	2	2
Protected Phases											

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR
Permitted Phases	1	1	1	1	1	1	3	3	3	2	2
Detector Phase	28.8	28.8	28.8	28.8	28.8	28.8	3.8	3.8	3.8	15.0	15.0
Switch Phase	45.0	45.0	45.0	45.0	45.0	45.0	10.0	10.0	10.0	24.2	24.2
Minimum Initial (s)	45.0	45.0	45.0	45.0	45.0	45.0	15.0	15.0	15.0	40.0	40.0
Total Split (s)	45.0%	45.0%	45.0%	45.0%	45.0%	45.0%	15.0%	15.0%	15.0%	40.0%	40.0%
Total Split (%)	38.8	38.8	38.8	38.8	38.8	38.8	8.8	8.8	8.8	33.8	33.8
Maximum Green (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
Yellow Time (s)	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lost Time Adjust (s)	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
Total Lost Time (s)	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lag	Lag
Lead/Lag	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lead-Lag Optimize?	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Vehide Extension (s)	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max	None	None	None	None	None
Recall Mode	67.0	67.0	67.0	67.0	67.0	67.0	6.1	6.1	6.1	15.3	15.3
Act Effct Green (s)	0.67	0.67	0.67	0.67	0.67	0.67	0.06	0.06	0.06	0.15	0.15
Actuated g/C Ratio	0.25	0.25	0.25	0.23	0.23	0.23	0.16	0.16	0.14	0.43	0.40
v/c Ratio	8.0	8.0	8.0	7.6	7.6	7.6	4.2	4.2	4.2	44.2	37.1
Control Delay	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Queue Delay	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Total Delay	A	A	A	A	A	A	D	C	C	D	D
LOS	A	A	A	A	A	A	D	C	C	D	D
Approach Delay	8.0	8.0	8.0	6.7	6.7	6.7	33.4	33.4	33.4	40.7	40.7
Approach LOS											
Intersection LOS	A	A	A	A	A	A	C	C	C	D	D
Intersection Summary											
Area Type:	Other										
Cycle Length:	100										
Actuated Cycle Length:	100										
Offset: 61 (61%):	Referenced to phase 1:EBWB, Start of Yellow										
Natural Cycle:	80										
Control Type:	Actuated-Coordinated										
Maximum v/c Ratio:	0.43										
Intersection Signal Delay:	12.3										
Intersection Capacity Utilization:	76.0%										
Analysis Period (min):	15										



Splits and Phases: 3: Vacant Store Dwy/Porter Rd & Packard Rd
02/11/2022 SRF Associates
Synchro 11 Report Page 5

Synchro 11 Report Page 6

Lanes, Volumes, Timings
4: Military Rd & Packard Rd

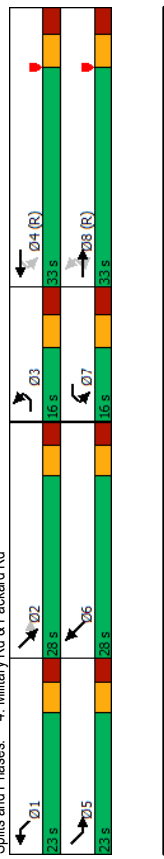
Project Fifi
2024 Full Build AM

Table with columns: Lane Group, EBL, EBT, EBR, WBL, WBT, WBR, SEL, SET, SER, NWL, NWT, NWR. Rows include Lane Configurations, Traffic Volume (vph), Future Volume (vph), Ideal Flow (vphpl), Storage Length (ft), Storage Lanes, Taper Length (ft), Lane Util. Factor, Flt Protected, Satd. Flow (prot), Flt Permitted, Satd. Flow (perm), Right Turn on Red, Satd. Flow (RTOR), Link Distance (ft), Travel Time (s), Peak Hour Factor, Adj. Flow (vph), Shared Lane Traffic (%), Lane Group Flow (vph), Enter Blocked Intersection, Lane Alignment, Median Width(ft), Link Offset(ft), Crosswalk Width(ft), Two way Left Turn Lane, Headway Factor, Turning Speed (mph), Number of Detectors, Detector Template, Leading Detector (ft), Trailing Detector (ft), Detector 1 Position(ft), Detector 1 Size(ft), Detector 1 Type, Detector 1 Channel, Detector 1 Extend (s), Detector 1 Queue (s), Detector 1 Delay (s), Detector 2 Position(ft), Detector 2 Size(ft), Detector 2 Type, Detector 2 Channel, Detector 2 Extend (s), Turn Type, Protected Phases.

Lanes, Volumes, Timings
4: Military Rd & Packard Rd

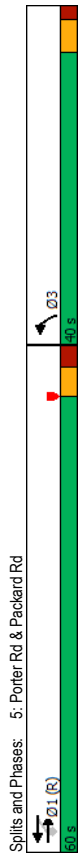
Project Fifi
2024 Full Build AM

Table with columns: Lane Group, EBL, EBT, EBR, WBL, WBT, WBR, SEL, SET, SER, NWL, NWT, NWR. Rows include Permitted Phases, Detector Phase, Switch Phase, Minimum Initial (s), Minimum Split (s), Total Split (s), Total Split (%), Maximum Green (s), Yellow Time (s), All-Red Time (s), Lost Time Adjust (s), Total Lost Time (s), Lead/Lag, Lead/Lag Optimize?, Vehide Extension (s), Recall Mode, Walk Time (s), Flash Dont Walk (s), Pedestrian Calls (#/hr), Act Efect Green (s), Actuated g/C Ratio, v/c Ratio, Control Delay, Queue Delay, Total Delay, LOS, Approach Delay, Approach LOS, Intersection Summary, Area Type, Cycle Length, Actuated Cycle Length, Offset, Natural Cycle, Control Type, Intersection Signal Delay, Intersection Capacity Utilization, Analysis Period.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↔	↔	↔	↔
Traffic Volume (vph)	479	128	34	308	196	28
Future Volume (vph)	479	128	34	308	196	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.97	0.95
Flt Protected		0.850			0.981	
Flt Permitted		0.995			0.958	
Satd. Flow (prot)	1863	1583	0	3522	3396	0
Satd. Flow (perm)	1863	1583	0	3100	3396	0
Right Turn on Red	Yes					Yes
Satd. Flow (RTOR)	133				17	
Link Speed (mph)	35		35	40		
Link Distance (ft)	510		1105	538		
Travel Time (s)	9.9		21.5	9.2		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	499	133	35	321	204	29
Shared Lane Traffic (%)						
Lane Group Flow (vph)	499	133	0	356	233	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Right	Right
Median Width(ft)	12		12	24		
Link Offset(ft)	0		0	0		
Crosswalk Width(ft)	16		16	16		
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60	60	60	60
Number of Detectors	2	1	2	2	1	
Detector Template			Left			
Leading Detector (ft)	49	19	49	49	19	
Trailing Detector (ft)	-1	-1	-1	-1	-1	
Detector 1 Position(ft)	-1	-1	-1	-1	-1	
Detector 1 Size(ft)	20	20	20	20	20	
Detector 1 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	29	29	29	29		
Detector 2 Size(ft)	20	20	20	20		
Detector 2 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0	0.0	0.0	0.0		
Turn Type	NA	Perm	NA	NA	Prot	
Protected Phases	1	1	1	1	3	
Permitted Phases	1	1	1	1	3	
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	1.0	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Minimum Split (s)	12.3	12.3	12.3	12.3	7.6	
Total Split (s)	60.0	60.0	60.0	60.0	40.0	
Total Split (%)	60.0%	60.0%	60.0%	60.0%	40.0%	
Maximum Green (s)	53.7	53.7	53.7	53.7	34.3	
Yellow Time (s)	3.6	3.6	3.6	3.6	3.9	
All-Red Time (s)	2.7	2.7	2.7	2.7	1.8	
Lost Time Adjst (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.3	6.3	6.3	6.3	5.7	
LeadLag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	21.0	21.0	21.0	21.0	21.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	76.2	76.2	76.2	76.2	11.8	
Actuated g/C Ratio	0.76	0.76	0.76	0.76	0.12	
v/c Ratio	0.35	0.11	0.15	0.15	0.56	
Control Delay	1.9	0.1	3.6	43.6		
Queue Delay	0.6	0.0	0.0	0.0		
Total Delay	2.5	0.1	3.6	43.6		
LOS	A	A	A	D	D	
Approach Delay	2.0		3.6	43.6		
Approach LOS	A		A	D		
Intersection Summary						
Area Type:	Other					
Cycle Length:	100					
Actuated Cycle Length:	100					
Offset:	55 (55%), Referenced to phase 1:EBWB, Start of Yellow					
Natural Cycle:	40					
Control Type:	Actuated-Coordinated					
Maximum v/c Ratio:	0.56					
Intersection Signal Delay:	10.4					
Intersection LOS:	B					
Intersection Capacity Utilization:	51.5%					
Analysis Period (min):	15					



Lanes, Volumes, Timings
6: Packard Rd & Proposed Driveway & Lockport Rd

Lanes, Volumes, Timings
6: Packard Rd & Proposed Driveway & Lockport Rd

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	6	6	6	2	2	2	4	4	4	4	8	8
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (%)	30.0	30.0	30.0	30.0	30.0	30.0	60.0	60.0	60.0	60.0	60.0	60.0
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	66.7%	66.7%	66.7%	66.7%	66.7%	66.7%
Maximum Green (s)	25.5	25.5	25.5	25.5	25.5	25.5	55.5	55.5	55.5	55.5	55.5	55.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead-Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	Min	Min	Min	Min	Min	None	None	None	None	None	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Act Effct Green (s)	7.8	7.8	7.8	7.8	7.8	7.8	11.1	11.1	11.1	11.1	11.1	11.1
Actuated g/C Ratio	0.28	0.28	0.28	0.28	0.28	0.28	0.39	0.39	0.39	0.39	0.39	0.39
vic Ratio	0.28	0.08	0.08	0.08	0.01		0.46	0.20	0.04	0.41	0.13	
Control Delay	11.1	8.7	9.1	8.0	9.1	8.0	8.7	8.7	2.3	5.7	8.2	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.1	8.7	9.1	8.0	9.1	8.0	8.7	8.7	2.3	5.7	8.2	2.3
LOS	B	A	A	A	A	A	A	A	A	A	A	A
Approach Delay			10.4							6.8		
Approach LOS			B							A		
Intersection Summary												
Area Type: Other												
Cycle Length: 90												
Actuated Cycle Length: 28.2												
Natural Cycle: 45												
Control Type: Semi Act-Uncoordinated												
Maximum v/c Ratio: 0.46												
Intersection Signal Delay: 7.3												
Intersection Capacity Utilization 35.0%												
Analysis Period (min) 15												
Spits and Phases: 6: Packard Rd & Proposed Driveway & Lockport Rd												
	0.2											
	30.5											
	50.5											

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	97	36	2	27	2	1	0	293	133	15	263	79
Traffic Volume (vph)	97	36	2	27	2	1	0	293	133	15	263	79
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	125	0	0	0	0	0	200	200	0	200	0	200
Storage Length (ft)	1	0	0	1	0	0	1	1	1	1	1	1
Storage Lanes	25			25			25			25		
Taper Length (ft)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.993			0.950			0.850			0.850		0.850
Flt Protected	0.950			0.950			0.950			0.950		0.950
Satd. Flow (prot)	1770	1850	0	1770	1770	0	1863	1863	1583	1770	1863	1583
Flt Permitted	0.756			0.730			0.558			0.558		0.558
Satd. Flow (perm)	1408	1850	0	1360	1770	0	1863	1863	1583	1039	1863	1583
Right Turn on Red	2			1			Yes		Yes	145		91
Satd. Flow (RTOR)	45	30	45	45	45	45				45		45
Link Distance (ft)	217			444			505			505		881
Travel Time (s)	3.3			10.1			7.7			7.7		13.3
Peak Hour Factor	0.87	0.92	0.87	0.92	0.92	0.92	0.87	0.87	0.92	0.92	0.87	0.87
Adj. Flow (vph)	111	39	2	29	2	1	0	337	145	16	302	91
Shared Lane Traffic (%)	111	41	0	29	3	0	0	337	145	16	302	91
Lane Group Flow (vph)	No	No	No	No	No	No	No	No	No	No	No	No
Enter Blocked Intersection	Left	Left	Right	Left	Left	Left	Left	Right	Left	Right	Left	Right
Lane Alignment	12	12	12	12	12	12	12	12	12	12	12	12
Median Width(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Link Offset(ft)	16	16	16	16	16	16	16	16	16	16	16	16
Crosswalk Width(ft)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Two way Left Turn Lane	15	2	9	15	9	15	15	15	9	15	15	9
Headway Factor	1	2	1	2	1	2	1	2	1	2	1	2
Turning Speed (mph)	20	100	20	100	20	100	20	100	20	100	20	100
Number of Detectors	0	0	0	0	0	0	0	0	0	0	0	0
Detector Template	20	100	20	100	20	100	20	100	20	100	20	100
Leading Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	20	6	20	6	20	6	20	6	20	6	20	6
Detector 1 Size(ft)	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 1 Type	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Channel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (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
Detector 2 Position(ft)	94	6	94	6	94	6	94	6	94	6	94	6
Detector 2 Size(ft)	6	6	6	6	6	6	6	6	6	6	6	6
Detector 2 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 2 Channel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Extend (s)	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Turn Type	6	6	6	6	6	6	6	6	6	6	6	6
Protected Phases												
Permitted Phases	6	2	2	4	4	4	4	4	4	4	8	8

Lanes, Volumes, Timings
7: Tuscarora Rd & Lockport Rd

HCM Unsignalized Intersection Capacity Analysis
7: Tuscarora Rd & Lockport Rd

Project Fifi
2024 Full Build AM

Project Fifi
2024 Full Build AM

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔	↔	↔	↔	↔	↔
Traffic Volume (veh/h)	359	0	0	611	0	0
Future Volume (veh/h)	359	0	0	611	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected						
Satd. Flow (prot)	1863	0	0	1863	1863	0
Flt Permitted						
Satd. Flow (perm)	1863	0	0	1863	1863	0
Link Speed (mph)	45			45	30	
Link Distance (ft)	1250			1470	800	
Travel Time (s)	18.9			22.3	18.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	390	0	0	664	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	390	0	0	664	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Right	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	35.5%					
Analysis Period (min)	15					
ICU Level of Service	A					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔	↔	↔	↔	↔	↔
Traffic Volume (veh/h)	359	0	0	611	0	0
Future Volume (veh/h)	359	0	0	611	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	390	0	0	664	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)	1250					
pX, platoon unblocked						
vC, conflicting volume		390		1054		390
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol		390		1054		390
tC, single (s)		4.1		6.4		6.2
tC, 2 stage (s)		2.2		3.5		3.3
p0 queue free %		100		100		100
cM capacity (veh/h)		1169		250		658
Direction, Lane #	EB, 1	WB, 1	NB, 1			
Volume Total	390	664	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1169	1700			
Volume to Capacity	0.23	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS				A		
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS				A		
Intersection Summary						
Average Delay	0.0					
Intersection Capacity Utilization	35.5%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings
8: Lockport Rd & Walmore Rd

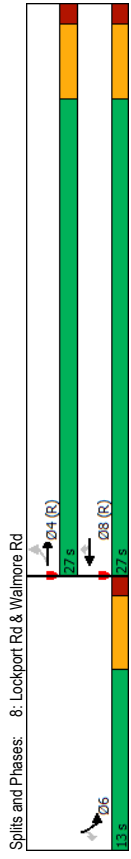
Lanes, Volumes, Timings
8: Lockport Rd & Walmore Rd

Project Fifi
2024 Full Build AM

Project Fifi
2024 Full Build AM

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	24	231	644	116	52	23
Traffic Volume (vph)	24	231	644	116	52	23
Future Volume (vph)	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	125	0	115			
Storage Length (ft)	1	1	1	1	1	1
Storage Lanes	25			25		
Tapor Length (ft)	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.950			0.850		0.850
Flt Protected	0.950			0.950		0.950
Satd. Flow (prot)	1770	1863	1863	1583	1770	1583
Flt Permitted	0.291			0.950		0.950
Satd. Flow (perm)	542	1863	1863	1583	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				130		26
Link Distance (ft)	45	45		35		35
Link Speed (mph)	697	1100		1227		1227
Travel Time (s)	10.6	16.7		23.9		23.9
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	27	260	724	130	58	26
Shared Lane Traffic (%)						
Lane Group Flow (vph)	27	260	724	130	58	26
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Right
Median Width (ft)	12	12		12		12
Link Offset (ft)	0	0		0		0
Crosswalk Width (ft)	16	16		16		16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	2	2	2	2	2	2
Detector Template						
Leading Detector (ft)	49	49	49	49	49	49
Trailing Detector (ft)	-1	-1	-1	-1	-1	-1
Detector 1 Position (ft)	-1	-1	-1	-1	-1	-1
Detector 1 Size (ft)	20	20	20	20	20	20
Detector 1 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position (ft)	29	29	29	29	29	29
Detector 2 Size (ft)	20	20	20	20	20	20
Detector 2 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 2 Channel						
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases		4	8		6	
Permitted Phases	4			8		6

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase	4	4	8	8	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	27.0	27.0	27.0	27.0	13.0	13.0
Total Split (%)	67.5%	67.5%	67.5%	67.5%	32.5%	32.5%
Maximum Green (s)	22.5	22.5	22.5	22.5	8.5	8.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	C-Max	C-Max	Min	Min
Act Effct Green (s)	24.2	24.2	24.2	24.2	6.8	6.8
Actuated g/C Ratio	0.60	0.60	0.60	0.60	0.17	0.17
v/c Ratio	0.08	0.23	0.64	0.13	0.19	0.09
Control Delay	4.6	4.6	7.6	1.4	15.3	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.6	4.6	7.6	1.4	15.3	7.4
LOS	A	A	A	A	B	A
Approach Delay						
Approach LOS	A	A	A	A	B	B
Intersection Summary						
Area Type:	Other					
Cycle Length:	40					
Actuated Cycle Length:	40					
Offset:	22 (55%), Referenced to phase 4:EBTL and 8:WBT, Start of Green					
Natural Cycle:	40					
Control Type:	Actuated-Coordinated					
Maximum v/c Ratio:	0.64					
Intersection Signal Delay:	6.6					
Intersection LOS:	A					
Intersection Capacity Utilization:	45.6%					
Analysis Period (min):	15					



Lanes, Volumes, Timings
9: Walmore Rd & Lockport Rd

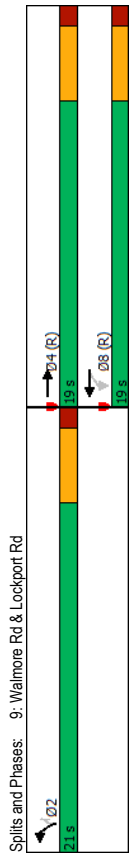
Lanes, Volumes, Timings
9: Walmore Rd & Lockport Rd

Project Fifi
2024 Full Build AM

Project Fifi
2024 Full Build AM

	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	171	95	77	337	424	74	
Traffic Volume (vph)	171	95	77	337	424	74	
Future Volume (vph)	1900	1900	1900	1900	1900	1900	
Ideal Flow (vphpl)	0	200	0	200	0	200	
Storage Length (ft)	0	1	1	1	1	1	
Storage Lanes	1.00	1.00	1.00	1.00	1.00	1.00	
Taper Length (ft)	0.952	25	25	25	25	0.850	
Lane Util. Factor	1773	0	1770	1863	1770	1583	
Flt Protected	1773	0	1071	1863	1770	1583	
Satd. Flow (perm)	Yes						
Right Turn on Red	79					82	
Satd. Flow (RTOR)	45		45	40			
Link Speed (mph)	1100		957	738			
Link Distance (ft)	16.7		14.5	12.6			
Travel Time (s)	0.90	0.90	0.90	0.90	0.90	0.90	
Peak Hour Factor	190	106	86	374	471	82	
Adj. Flow (vph)	296	0	86	374	471	82	
Shared Lane Traffic (%)	No	No	No	No	No	No	
Lane Group Flow (vph)	12	12	12	12	12	12	
Enter Blocked Intersection	0	0	0	0	0	0	
Lane Alignment	16	16	16	16	16	16	
Median Width(ft)	1.00	1.00	1.00	1.00	1.00	1.00	
Link Offset(ft)	9	15	15	15	15	9	
Crosswalk Width(ft)	2	2	2	2	2	2	
Two way Left Turn Lane	49	49	49	49	49	49	
Headway Factor	-1	-1	-1	-1	-1	-1	
Turning Speed (mph)	-1	-1	-1	-1	-1	-1	
Number of Detectors	20	20	20	20	20	20	
Detector Template	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	
Leading Detector (ft)	0.0	0.0	0.0	0.0	0.0	0.0	
Trailing Detector (ft)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(ft)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(ft)	29	29	29	29	29	29	
Detector 1 Type	20	20	20	20	20	20	
Detector 1 Channel	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	29	29	29	29	29	29	
Detector 2 Size(ft)	20	20	20	20	20	20	
Detector 2 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	
Detector 2 Channel	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Extend (s)	NA	Perm	NA	Prot	Perm	Perm	
Turn Type	4	8	8	8	2	2	
Protected Phases							
Permitted Phases							

	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	
Detector Phase	4	8	8	2	2	2	
Switch Phase	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	19.0	19.0	19.0	21.0	21.0	21.0	
Total Split (s)	47.5%	47.5%	47.5%	52.5%	52.5%	52.5%	
Total Split (%)	14.5	14.5	14.5	16.5	16.5	16.5	
Maximum Green (s)	3.5	3.5	3.5	3.5	3.5	3.5	
Yellow Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Lost Time Adjust (s)	4.5	4.5	4.5	4.5	4.5	4.5	
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	
Lead-Lag	16.6	16.6	16.6	14.4	14.4	14.4	
Lead-Lag Optimize?	0.42	0.42	0.42	0.36	0.36	0.36	
Vehicle Extension (s)	0.38	0.19	0.48	0.74	0.13	0.13	
Recall Mode	13.7	10.1	12.2	18.7	3.0	3.0	
C-Max	0.0	0.0	0.0	0.0	0.0	0.0	
C-Max Min	13.7	10.1	12.2	18.7	3.0	3.0	
Act Effct Green (s)	13.7	11.8	16.4				
Actuated g/C Ratio	B	B	B	B	B	A	
v/c Ratio	B	B	B	B	B	B	
Control Delay	B	B	B	B	B	B	
Queue Delay	B	B	B	B	B	B	
Total Delay	B	B	B	B	B	B	
LOS	B	B	B	B	B	B	
Approach Delay	B	B	B	B	B	B	
Approach LOS	B	B	B	B	B	B	
Intersection Summary							
Area Type:	Other						
Cycle Length:	40						
Actuated Cycle Length:	40						
Offset:	23 (58%), Referenced to phase 4:EBT and 8:WBT, Start of Green						
Natural Cycle:	40						
Control Type:	Actuated-Coordinated						
Maximum v/c Ratio:	0.74						
Intersection Signal Delay:	14.1						
Intersection LOS:	B						
Intersection Capacity Utilization:	53.8%						
ICU Level of Service:	A						
Analysis Period (min):	15						



Lanes, Volumes, Timings
10: Cayuga Dr/Niagara Rd & Walmore Rd & Niagara Falls Blvd

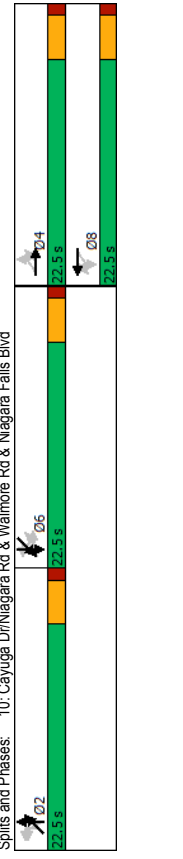
Lanes, Volumes, Timings
10: Cayuga Dr/Niagara Rd & Walmore Rd & Niagara Falls Blvd

Project Fifi
2024 Full Build AM

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2024 Full Build AM

Lane Group	SWR2
Lane Configurations	
Traffic Volume (vph)	5
Future Volume (vph)	5
Ideal Flow (vphpl)	1900
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	1.00
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.80
Adj. Flow (vph)	6
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	
Permitted Phases	

Lane Group	EBL2	EBL	EBT	EBR	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	NBR2
Detector Phase	4	4	4	4	8	8	8	8	2	2	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
LeadLag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	None	Max	Max	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Act Effct Green (s)	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2
Actuated g/C Ratio	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
v/c Ratio	0.66	0.26	0.26	0.26	0.10	0.68	0.10	0.68	0.28	0.28	0.28	0.28
Control Delay	45.0	16.5	16.5	16.5	16.8	22.3	16.8	22.3	19.4	19.4	19.4	19.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.0	16.5	16.5	16.5	16.8	22.3	16.8	22.3	19.4	19.4	19.4	19.4
LOS	D	B	B	B	B	C	B	C	B	B	B	B
Approach Delay			24.0				22.0					19.4
Approach LOS			C				C					B
Intersection Summary												
Area Type:	Other											
Cycle Length:	67.5											
Actuated Cycle Length:	56.6											
Natural Cycle:	70											
Control Type:	Actuated-Uncoordinated											
Maximum v/c Ratio:	2.49											
Intersection Signal Delay:	116.6											
Intersection Capacity Utilization:	67.6%											
Analysis Period (min):	15											
ICU Level of Service:	C											
Phase conflict between lane groups:												



Lanes, Volumes, Timings
10: Cayuga Dr/Niagara Rd & Walmore Rd & Niagara Falls Blvd

Lanes, Volumes, Timings
10: Cayuga Dr/Niagara Rd & Walmore Rd & Niagara Falls Blvd

Project Fifi

2024 Full Build AM

Project Fifi
2024 Full Build AM

Lane Group	SBL2	SBL	SBT	SBR	SBR2	NEL2	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	6	6	6	6	2	2	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	Max	Max	Max	None	None	None	None	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Act Effct Green (s)	9.0	9.0	9.0	9.0	18.2	18.2	18.2	0.32	0.32	0.16	0.16	0.16
Actuated g/C Ratio	0.16	0.16	0.16	0.16	0.32	0.32	0.32	0.26	0.26	0.26	0.26	0.26
v/c Ratio	0.40	0.24	0.40	0.24	0.24	0.24	0.24	0.26	0.26	0.26	0.26	0.26
Control Delay	28.1	6.3	28.1	6.3	713.4	713.4	713.4	23.8	23.8	23.8	23.8	23.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.1	6.3	28.1	6.3	713.4	713.4	713.4	23.8	23.8	23.8	23.8	23.8
LOS	C	A	C	A	F	F	F	C	C	C	C	A
Approach Delay					17.3	17.3	17.3	14.8	14.8	14.8	14.8	14.8
Approach LOS					B	B	B	F	F	B	B	B
Intersection Summary												

Lane Group	SWR2
Detector Phase	SWR2
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead-Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

Lanes, Volumes, Timings
11: Military Rd & Lockport Rd

Project Fifif
2024 Full Build AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations	14	79	49	43	41	37	51	207	24	60	164	32
Traffic Volume (vph)	14	79	49	43	41	37	51	207	24	60	164	32
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	200	0	200	0	200	0	200	0	175	0	175	0
Storage Length (ft)	1	0	0	1	0	1	0	1	0	1	0	0
Storage Lanes	25			25			25			25		
Taper Length (ft)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Lane Util. Factor	0.943			0.928			0.984			0.974		
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1757	0	1770	1729	0	1770	3483	0	1770	3447	0
Flt Permitted	0.699			0.663			0.618			0.588		
Satd. Flow (perm)	1302	1757	0	1235	1729	0	1151	3483	0	1095	3447	0
Right Turn on Red			Yes			Yes		Yes		Yes		Yes
Satd. Flow (RTOR)	48			43			20			37		
Link Speed (mph)	40			45			40			40		
Link Distance (ft)	906			1287			883			1055		
Travel Time (s)	15.4			19.5			15.1			18.0		
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	16	91	56	49	47	43	59	238	28	69	177	37
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	147	0	49	90	0	59	266	0	69	214	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Right	Left	Left	Right	Left	Left	Right	Right
Median Width(ft)	12			12			12			12		
Link Offset(ft)	0			0			0			0		
Crosswalk Width(ft)	16			16			16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			15			15			15		
Number of Detectors	2	2	2	2	2	2	2	2	2	2	2	2
Detector Template	49	49		49			49	49		49	49	49
Leading Detector (ft)	-1	-1		-1			-1	-1		-1	-1	-1
Trailing Detector (ft)	-1	-1		-1			-1	-1		-1	-1	-1
Detector 1 Position(ft)	-1	-1		-1			-1	-1		-1	-1	-1
Detector 1 Size(ft)	20	20		20			20	20		20	20	20
Detector 1 Type	Ch+Ex	Ch+Ex		Ch+Ex			Ch+Ex	Ch+Ex		Ch+Ex	Ch+Ex	Ch+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0			0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0			0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0			0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	29	29		29			29	29		29	29	29
Detector 2 Size(ft)	20	20		20			20	20		20	20	20
Detector 2 Type	Ch+Ex	Ch+Ex		Ch+Ex			Ch+Ex	Ch+Ex		Ch+Ex	Ch+Ex	Ch+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0		0.0			0.0	0.0		0.0	0.0	0.0
Turn Type	Perm	NA		Perm			Perm	NA		Perm	NA	NA
Protected Phases	3			3			1			1		1
Permitted Phases												

Lanes, Volumes, Timings
11: Military Rd & Lockport Rd

Project Fifif
2024 Full Build AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Detector Phase	3			3			1			1		1
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		20.0	20.0		20.0	20.0	20.0
Minimum Split (s)	27.8	27.8		27.8	27.8		27.8	27.8		27.8	27.8	27.8
Total Split (s)	40.0	40.0		40.0	40.0		40.0	40.0		40.0	40.0	40.0
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	50.0%
Maximum Green (s)	34.2	34.2		34.2	34.2		34.2	34.2		34.2	34.2	34.2
Yellow Time (s)	4.3	4.3		4.3	4.3		4.3	4.3		4.3	4.3	4.3
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8		5.8	5.8		5.8	5.8		5.8	5.8	5.8
LeadLag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Recall Mode	None	None		None	None		None	None		None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	15.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	18.1	18.1		18.1	18.1		21.5	21.5		21.5	21.5	21.5
Actuated g/C Ratio	0.46	0.46		0.46	0.46		0.54	0.54		0.54	0.54	0.54
v/c Ratio	0.03	0.18		0.09	0.11		0.09	0.14		0.12	0.11	0.11
Control Delay	11.2	9.2		11.9	7.5		8.6	7.6		8.9	6.9	6.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	11.2	9.2		11.9	7.5		8.6	7.6		8.9	6.9	6.9
Approach Delay	B	A		B	A		A	A		A	A	A
Approach LOS												
Intersection Summary												
Area Type:	Other											
Cycle Length:	80											
Actuated Cycle Length:	39.6											
Natural Cycle:	60											
Control Type:	Actuated-Uncoordinated											
Maximum v/c Ratio:	0.18											
Intersection Signal Delay:	8.1											
Intersection Capacity Utilization:	77.7%											
Analysis Period (min):	15											
Splits and Phases: 11: Military Rd & Lockport Rd												

Lanes, Volumes, Timings
12: Proposed Driveway & Lockport Rd

Project Fifi
2024 Full Build AM

	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group						
Lane Configurations	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	369	22	53	357	1	4
Future Volume (vph)	369	22	53	357	1	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200	0	0	0	0
Storage Lanes	0	1	1	1	1	1
Taper Length (ft)		25		25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fit	0.992					0.850
Flt Protected		0.950		0.950		
Std. Flow (prot)	1848	0	1770	1863	1770	1583
Flt Permitted		0.950		0.950		
Std. Flow (perm)	1848	0	1770	1863	1770	1583
Link Speed (mph)	45		45	30		
Link Distance (ft)	881		552	527		
Travel Time (s)	13.3		8.4	12.0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	401	24	58	388	1	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	425	0	58	388	1	4
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width (ft)	12		12	12		12
Link Offset (ft)	0		0	0		0
Crosswalk Width (ft)	16		16	16		16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15	15	15	9	9
Sign Control	Free		Free	Stop		Stop
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	37.4%					
Analysis Period (min)	15					
ICU Level of Service	A					

HCM Unsignalized Intersection Capacity Analysis
12: Proposed Driveway & Lockport Rd

Project Fifi
2024 Full Build AM

	EBT	EBR	WBL	WBT	NBL	NBR
Movement	↔	↔	↔	↔	↔	↔
Lane Configurations	↔	↔	↔	↔	↔	↔
Traffic Volume (veh/h)	369	22	53	357	1	4
Future Volume (veh/h)	369	22	53	357	1	4
Sign Control	Free		Free	Stop		Stop
Grade	0%		0%	0%		0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	401	24	58	388	1	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh						
Upstream signal (ft)	881		552			
pX, platoon unblocked			0.99		0.90	0.99
vC, conflicting volume			425		917	413
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			415		826	403
IC, single (s)			4.1		6.4	6.2
IC, 2 stage (s)						
p0 queue free %			2.2		3.5	3.3
cM capacity (veh/h)			1133		291	642
Direction, Lane #	EB, 1	WB, 1	WB, 2	NB, 1	NB, 2	
Volume Total	425	58	388	1	4	
Volume Left	0	58	0	1	0	
Volume Right	24	0	0	0	4	
cSH	1700	1133	1700	291	642	
Volume to Capacity	0.25	0.05	0.23	0.00	0.01	
Queue Length 95th (ft)	0	4	0	0	0	
Control Delay (s)	0.0	8.3	0.0	17.4	10.6	
Lane LOS		A		C	B	
Approach Delay (s)	0.0	1.1		12.0		
Approach LOS		B		B		
Intersection Summary						
Average Delay	0.6					
Intersection Capacity Utilization	37.4%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings
13: Proposed Driveway & Lockport Rd

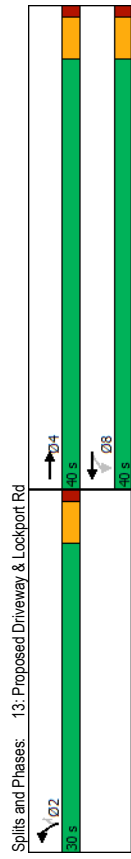
Lanes, Volumes, Timings
13: Proposed Driveway & Lockport Rd

Project Fifi
2024 Full Build AM

Project Fifi
2024 Full Build AM

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1	1	1	1	1	1
Traffic Volume (vph)	364	9	199	409	1	7
Future Volume (vph)	364	9	199	409	1	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200	0	0	0	0
Storage Lanes	0	1	1	1	1	1
Taper Length (ft)		25		25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.997					0.850
Satd. Flow (prot)	1857	0	1770	1863	1770	1583
Flt Permitted		0.524				0.950
Satd. Flow (perm)	1857	0	976	1863	1770	1583
Right Turn on Red	Yes					Yes
Satd. Flow (RTOR)	3					8
Link Speed (mph)	45		45	30		
Link Distance (ft)	552		1250	516		
Travel Time (s)	8.4		18.9	11.7		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	396	10	216	445	1	8
Shared Lane Traffic (%)						
Lane Group Flow (vph)	406	0	216	445	1	8
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12		12	12		12
Link Offset(ft)	0		0	0		0
Crosswalk Width(ft)	16		16	16		16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15	15	15	9	9
Number of Detectors	2	1	2	1	1	1
Detector Template	Thru	Left	Thru	Left	Right	Right
Leading Detector (ft)	100	20	100	20	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	6	20	6	20	20	20
Detector 1 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94		94			
Detector 2 Size(ft)	6		6			
Detector 2 Type	Ch+Ex		Ch+Ex			
Detector 2 Channel						
Detector 2 Extend (s)	0.0		0.0			
Turn Type	NA	Perm	NA	Prot	Perm	Perm
Protected Phases	4		8	8	2	2
Permitted Phases			8			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	4		8	8	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	40.0	40.0	40.0	40.0	30.0	30.0
Total Split (%)	57.1%	57.1%	57.1%	57.1%	42.9%	42.9%
Maximum Green (s)	35.5	35.5	35.5	25.5	25.5	25.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead-Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	Min	Min
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effct Green (s)	13.1	13.1	13.1	5.8	5.8	5.8
Actuated g/C Ratio	0.46	0.46	0.46	0.21	0.21	0.21
v/c Ratio	0.47	0.48	0.51	0.00	0.02	0.02
Control Delay	6.7	8.7	7.3	12.0	8.3	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.7	8.7	7.3	12.0	8.3	8.3
LOS	A	A	A	B	A	A
Approach Delay	6.7		7.7	8.7		
Approach LOS	A		A	A		
Intersection Summary						
Area Type:	Other					
Cycle Length:	70					
Actuated Cycle Length:	28.2					
Natural Cycle:	50					
Control Type:	Semi Act-Uncoord					
Maximum v/c Ratio:	0.51					
Intersection Signal Delay:	7.3					
Intersection Capacity Utilization:	46.1%					
Analysis Period (min):	15					



Lanes, Volumes, Timings
14: Tuscarora Rd & Proposed Driveway

HCM Unsignalized Intersection Capacity Analysis
14: Tuscarora Rd & Proposed Driveway

Project Fifi
2024 Full Build AM

Project Fifi
2024 Full Build AM

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected						
Satd. Flow (prot)	1863	0	0	1863	1863	0
Flt Permitted						
Satd. Flow (perm)	1863	0	0	1863	1863	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	536			1247	800	
Travel Time (s)	12.2			28.3	18.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Right	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15	15	9	15
Sign Control	Stop			Free	Free	Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	0.0%					
Analysis Period (min)	15					
ICU Level of Service	A					

	EBL	EBR	NBL	NBT	SBT	SBR
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0	0	0	0	0	
vC1, stage 1 cont vol						
vC2, stage 2 cont vol						
vCu, unblocked vol	0	0	0	0	0	
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	1023	1085	1623			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	0	0	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.00	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay	0.0					
Intersection Capacity Utilization	0.0%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings
1: I-190 SB On-Ramp & Packard Rd

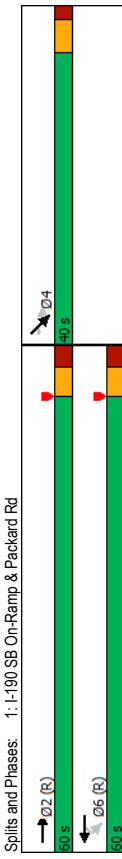
Lanes, Volumes, Timings
1: I-190 SB On-Ramp & Packard Rd

Project Fifi
2024 Full Build PM

Project Fifi
2024 Full Build PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	0	293	36	315	322	0	32	140	6	0	0	0
Future Volume (vph)	0	293	36	315	322	0	32	140	6	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0	0	0	0	0	0	70	0	0	0
Storage Lanes	0	0	0	0	0	0	1	1	1	0	0	0
Tapor Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fit	0.984						0.950		0.850			
Flt Protected	0	3472	0	0	3325	0	1671	1845	1170	0	0	0
Satd. Flow (prot)							0.653		0.950			
Flt Permitted	0	3472	0	0	2224	0	1671	1845	1170	0	0	0
Satd. Flow (perm)						Yes				Yes		
Right Turn on Red										Yes		
Satd. Flow (RTOR)			20							36		
Link Speed (mph)		45		45			30			30		
Link Distance (ft)		868		171			486			696		
Travel Time (s)		13.2		2.6			11.0			15.8		
Peak Hour Factor		0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)		0%	2%	5%	8%	4%	0%	8%	3%	38%	0%	0%
Adj. Flow (vph)		0	337	41	362	370	0	37	161	7	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)		0	378	0	0	732	0	37	161	7	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0		0		0	12			12		
Link Offset(ft)		0		0		0	0			0		
Crosswalk Width(ft)		16		16		16	16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15	15	9	15	15	9	15	9	15	9
Number of Detectors	2	2	2	2	2	2	1	2	1	2	1	2
Detector Template				Left								
Leading Detector (ft)	49	49	49	49	49	49	19	49	19	49	19	49
Trailing Detector (ft)	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Detector 1 Position(ft)	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Detector 1 Size(ft)	20	20	20	20	20	20	20	20	20	20	20	20
Detector 1 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	29	29	29	29	29	29	29	29	29	29	29	29
Detector 2 Size(ft)	20	20	20	20	20	20	20	20	20	20	20	20
Detector 2 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases	2			6			4					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Permitted Phases							4			4		
Detector Phase							4			4		
Switch Phase												
Minimum Initial (s)							6.0			6.0		
Minimum Split (s)							11.7			11.7		
Total Split (s)							40.0			40.0		
Total Split (%)							40.0%			40.0%		
Maximum Green (s)							34.3			34.3		
Yellow Time (s)							3.9			3.9		
All-Red Time (s)							1.8			1.8		
Lost Time Adjust (s)							0.0			0.0		
Total Lost Time (s)							5.7			5.7		
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)							3.0			3.0		
Recall Mode							C-Max			None		
Act Effct Green (s)							73.9			14.1		
Actuated g/C Ratio							0.74			0.14		
v/c Ratio							0.45			0.16		
Control Delay							22.8			37.3		
Queue Delay							0.0			0.0		
Total Delay							4.2			37.3		
LOS							A			D		
Approach Delay							4.2			46.2		
Approach LOS							C			D		
Intersection Summary												
Area Type:	Other											
Cycle Length:	100											
Actuated Cycle Length:	100											
Offset:	23 (23%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow											
Natural Cycle:	75											
Control Type:	Actuated-Coordinated											
Maximum v/c Ratio:	0.62											
Intersection Signal Delay:	21.1											
Intersection Capacity Utilization:	70.5%											
Analysis Period (min):	15											
ICU Level of Service:	C											



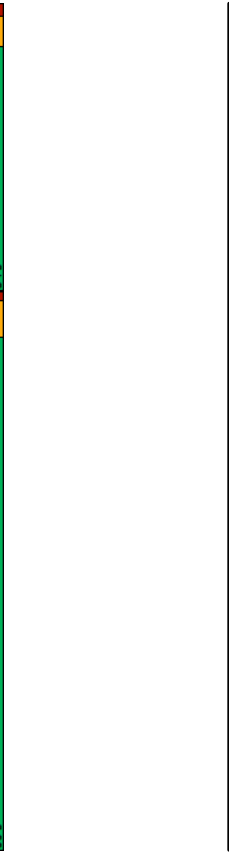
Lanes, Volumes, Timings
2: I-190 NB Off-Ramp & Packard Rd

Lanes, Volumes, Timings
2: I-190 NB Off-Ramp & Packard Rd

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Minimum Initial (s)	34.6	34.6		34.6	34.6						6.0	6.0
Minimum Split (s)	60.0	60.0		60.0	60.0					11.2	11.2	11.2
Total Split (s)	66.0	66.0		66.0	66.0					34.0	34.0	34.0
Total Split (%)	66.0%	66.0%		66.0%	66.0%					34.0%	34.0%	34.0%
Maximum Green (s)	60.6	60.6		60.6	60.6					28.8	28.8	28.8
Yellow Time (s)	4.3	4.3		4.3	4.3					3.6	3.6	3.6
All-Red Time (s)	1.1	1.1		1.1	1.1					1.6	1.6	1.6
Lost Time Adjust (s)	0.0	0.0		0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4		5.4	5.4					5.2	5.2	5.2
LeadLag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0					3.0	3.0	3.0
Recall Mode	C-Max	C-Max		C-Max	C-Max					None	None	None
Act Effct Green (s)	74.9	74.9		74.9	74.9					14.5	14.5	14.5
Actuated g/C Ratio	0.75	0.75		0.75	0.75					0.14	0.14	0.14
v/c Ratio	0.14	0.14		0.27	0.27					0.68	0.73	0.73
Control Delay	3.7	3.7		9.5	9.5					48.1	11.7	11.7
Queue Delay	0.0	0.0		0.4	0.4					0.0	0.0	0.0
Total Delay	3.7	3.7		9.9	9.9					48.1	11.7	11.7
LOS	A	A		A	A					D	D	B
Approach Delay	3.7	3.7		9.9	9.9					21.2		
Approach LOS	A	A		A	A					C		
Intersection Summary												
Area Type:	Other											
Cycle Length:	100											
Actuated Cycle Length:	100											
Offset 95 (95%):	Referenced to phase 1:EBWB, Start of Yellow											
Natural Cycle:	75											
Control Type:	Actuated-Coordinated											
Maximum v/c Ratio:	0.73											
Intersection Signal Delay:	12.7											
Intersection Capacity Utilization:	61.6%											
Analysis Period (min):	15											



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	8	294	0	0	604	7	0	0	0	35	102	386
Future Volume (vph)	8	294	0	0	604	7	0	0	0	35	102	386
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0	0.999			0.998						0.987	
Satd. Flow (prot)	0	3538	0	0	3370	0	0	0	0	0	1798	1509
Flt Permitted	0	0.938			0.987						0.987	
Satd. Flow (perm)	0	3322	0	0	3370	0	0	0	0	0	1798	1509
Right Turn on Red							Yes	Yes				429
Satd. Flow (RTOR)							2					30
Link Speed (mph)		45			45		30					521
Link Distance (ft)		326			342		341					11.8
Travel Time (s)		4.9			5.2		7.8					0.90
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	2%	0%	0%	7%	0%	0%	0%	0%	8%	3%	7%
Adj. Flow (vph)	9	327	0	0	671	8	0	0	0	39	113	429
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	336	0	0	679	0	0	0	0	0	152	429
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Right	Left	Left	Right	Left	Left	Left	Right
Median Width (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Link Offset (ft)	0	16	0	0	0	0	0	0	0	0	0	0
Crosswalk Width (ft)		16			16		16					16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	15	15	15	15	15	15	15	15	15	15	15
Number of Detectors	2	2	2	2	2	2	2	2	2	2	2	2
Detector Template	Left	Left	Left	Left	Left	Left	Left	Left	Left	Left	Left	Left
Leading Detector (ft)	49	49	49	49	49	49	49	49	49	49	49	49
Trailing Detector (ft)	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Detector 1 Position (ft)	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Detector 1 Size (ft)	20	20	20	20	20	20	20	20	20	20	20	20
Detector 1 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position (ft)	29	29	29	29	29	29	29	29	29	29	29	29
Detector 2 Size (ft)	20	20	20	20	20	20	20	20	20	20	20	20
Detector 2 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Perm	NA	NA	NA	NA	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases	1	1	1	1	1	1	3	3	3	3	3	3
Permitted Phases	1	1	1	1	1	1	3	3	3	3	3	3
Detector Phase	1	1	1	1	1	1	3	3	3	3	3	3
Switch Phase												

Lanes, Volumes, Timings
3: Vacant Store Dwy/Porter Rd & Packard Rd

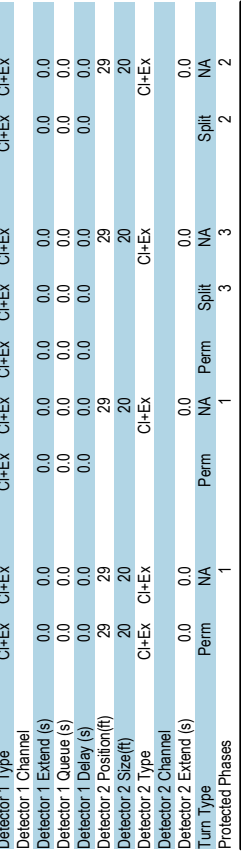
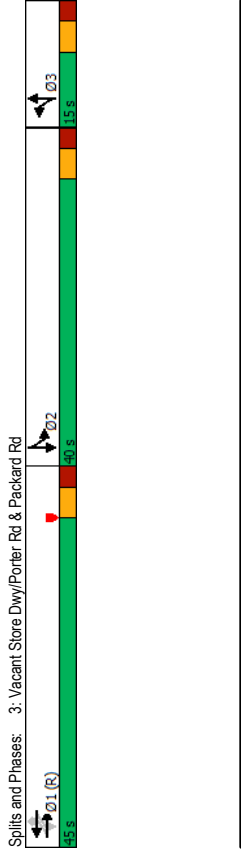
Lanes, Volumes, Timings
3: Vacant Store Dwy/Porter Rd & Packard Rd

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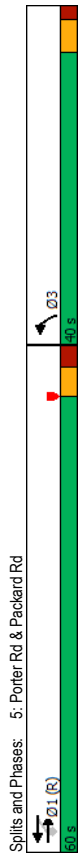
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR
Permitted Phases	1	1	1	1	1	1	3	3			
Detector Phase											2
Switch Phase											2
Minimum Initial (s)	28.8	28.8	28.8	28.8	28.8	28.8	3.8	3.8			15.0
Minimum Split (s)	45.0	45.0	45.0	45.0	45.0	45.0	10.0	10.0			24.2
Total Split (s)	45.0	45.0	45.0	45.0	45.0	45.0	15.0	15.0			40.0
Total Split (%)	45.0%	45.0%	45.0%	45.0%	45.0%	45.0%	15.0%	15.0%			40.0%
Maximum Green (s)	38.8	38.8	38.8	38.8	38.8	38.8	8.8	8.8			33.8
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6			3.6
All-Red Time (s)	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6			2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2			6.2
Lead/Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lead	Lag	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehide Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			3.0
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max	None	None			None
Act Effect Green (s)	63.3	63.3	63.3	63.3	63.3	63.3	6.1	6.1			19.1
Actuated g/C Ratio	0.63	0.63	0.63	0.63	0.63	0.63	0.06	0.06			0.19
v/c Ratio	0.30	0.03	0.31	0.42	0.06	0.12	45.0	28.2			47.2
Control Delay	12.2	7.3	6.6	4.3	45.0	28.2					47.7
Queue Delay	0.2	0.0	0.0	0.9	0.0	0.0					0.0
Total Delay	12.5	7.3	6.6	5.2	45.0	28.2					47.7
LOS	B	A	A	A	A	A	C	C			D
Approach Delay	12.5			6.0							47.5
Approach LOS	B			A							D
Intersection Summary											
Area Type	Other										
Cycle Length	100										
Offset 61 (61%), Referenced to phase 1:EBWB, Start of Yellow	0.0										
Control Type	Actuated-Coordinated										
Maximum v/c Ratio	0.68										
Intersection Signal Delay	15.8										
Intersection Capacity Utilization	81.0%										
Analysis Period (min)	15										

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR
Lane Configurations	←	←	←	←	←	←	←	←	←	←	←
Traffic Volume (vph)	59	623	7	10	604	458	6	3	10	387	3
Future Volume (vph)	59	623	7	10	604	458	6	3	10	387	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0	0	0	0	0	0	0	0	0
Storage Lanes	0	0	0	0	0	0	0	0	0	0	0
Tapar Length (ft)	25	25	25	25	25	25	25	25	25	25	25
Lane Util. Factor	0.91	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95
Flt Protected	0.998			0.950	0.850		0.882			0.999	
Satd. Flow (prot)	0	4933	0	1805	3406	1599	1805	1676	0	1698	1702
Flt Permitted	0.819			0.342	0.950		0.950			0.950	0.953
Satd. Flow (perm)	0	4056	0	650	3406	1599	1805	1676	0	1698	1702
Right Turn on Red	2	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes
Satd. Flow (RTOR)	45			35			30			35	
Link Speed (mph)	342			475			302			290	
Travel Time (s)	5.2			9.3			6.9			5.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	5%	0%	6%	1%	0%	0%	0%	0%	1%	0%
Adj. Flow (vph)	66	692	8	11	671	509	7	3	11	430	3
Shared Lane Traffic (%)	0	766	0	11	671	509	7	14	0	215	219
Lane Group Flow (vph)	No	No	No	No	No	No	No	No	No	No	No
Enter Blocked Intersection	Left	Left	Right	Left	Right	Left	Left	Right	Left	Right	Right
Lane Alignment	Left	Left	Right	Left	Right	Left	Left	Right	Left	Right	Right
Median Width(ft)	12	12	12	12	12	12	12	12	12	12	12
Link Offset(ft)	0			0			0			0	
Crosswalk Width(ft)	16			16			16			16	
Two way Left Turn Lane											
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15	9	15	9	15	9	15	15	9
Number of Detectors	2	2	1	1	2	1	1	2	1	1	2
Detector Template	Left			Left			Left			Left	
Leading Detector (ft)	49	49	19	49	19	49	19	49	19	49	49
Trailing Detector (ft)	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Detector 1 Position(ft)	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Detector 1 Size(ft)	20	20	20	20	20	20	20	20	20	20	20
Detector 1 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 1 Channel											
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	29	29	29	29	29	29	29	29	29	29	29
Detector 2 Size(ft)	20	20	20	20	20	20	20	20	20	20	20
Detector 2 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 2 Channel											
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Perm	NA	Perm	NA	Perm	NA	Split	NA	Split	NA	NA
Protected Phases	1			1			3		3		2



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↔	↔	↔	↔
Traffic Volume (vph)	478	208	36	455	308	34
Future Volume (vph)	478	208	36	455	308	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.97	0.95
Flt Protected		0.850			0.985	
Satd. Flow (prot)	1863	1583	0	3525	3406	0
Flt Permitted		0.996		0.957		
Satd. Flow (perm)	1863	1583	0	3118	3406	0
Right Turn on Red	Yes					Yes
Satd. Flow (RTOR)	35	236			13	
Link Speed (mph)	510		35	40		
Link Distance (ft)	9.9		21.5	9.2		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	543	236	41	517	350	39
Shared Lane Traffic (%)						
Lane Group Flow (vph)	543	236	0	558	389	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12		12	24		
Link Offset(ft)	0		0	0		
Crosswalk Width(ft)	16		16	16		
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60	60	60	60
Number of Detectors	2	1	2	2	1	
Detector Template			Left			
Leading Detector (ft)	49	19	49	49	19	
Trailing Detector (ft)	-1	-1	-1	-1	-1	
Detector 1 Position(ft)	-1	-1	-1	-1	-1	
Detector 1 Size(ft)	20	20	20	20	20	
Detector 1 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	29	29	29	29		
Detector 2 Size(ft)	20	20	20	20		
Detector 2 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0	0.0	0.0	0.0		
Turn Type	NA	Perm	NA	NA	Prot	
Protected Phases	1	1	1	1	3	
Permitted Phases	1	1	1	1	3	
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	1.0	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Minimum Split (s)	12.3	12.3	12.3	12.3	7.6	
Total Split (s)	60.0	60.0	60.0	60.0	40.0	
Total Split (%)	60.0%	60.0%	60.0%	60.0%	40.0%	
Maximum Green (s)	53.7	53.7	53.7	53.7	34.3	
Yellow Time (s)	3.6	3.6	3.6	3.6	3.9	
All-Red Time (s)	2.7	2.7	2.7	2.7	1.8	
Lost Time Adjst (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.3	6.3	6.3	6.3	5.7	
LeadLag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	21.0	21.0	21.0	21.0	21.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	71.5	71.5	71.5	71.5	16.5	
Actuated g/C Ratio	0.72	0.72	0.72	0.72	0.16	
v/c Ratio	0.41	0.20	0.25	0.68		
Control Delay	4.3	0.5	5.6	43.9		
Queue Delay	0.7	0.0	0.0	0.0		
Total Delay	5.0	0.5	5.6	43.9		
LOS	A	A	A	D		
Approach Delay	3.6		5.6	43.9		
Approach LOS	A		A	D		
Intersection Summary						
Area Type:	Other					
Cycle Length:	100					
Actuated Cycle Length:	100					
Offset:	55 (55%), Referenced to phase 1:EBWB, Start of Yellow					
Natural Cycle:	40					
Control Type:	Actuated-Coordinated					
Maximum v/c Ratio:	0.68					
Intersection Signal Delay:	13.4					
Intersection LOS:	B					
Intersection Capacity Utilization:	59.9%					
Analysis Period (min):	15					



Lanes, Volumes, Timings
7: Tuscarora Rd & Lockport Rd

HCM Unsignalized Intersection Capacity Analysis
7: Tuscarora Rd & Lockport Rd

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Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1	4	4	4	4	4
Traffic Volume (veh/h)	614	0	0	576	0	0
Future Volume (veh/h)	614	0	0	576	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected						
Satd. Flow (prot)	1863	0	0	1863	1863	0
Flt Permitted						
Satd. Flow (perm)	1863	0	0	1863	1863	0
Link Speed (mph)	45			45	30	
Link Distance (ft)	1250			1470	800	
Travel Time (s)	18.9			22.3	18.2	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	706	0	0	662	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	706	0	0	662	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Right	Right
Median Width (ft)	12			12	12	
Link Offset (ft)	0			0	0	
Crosswalk Width (ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60	60	60	60
Sign Control	Free	Free	Free	Free	Stop	Stop
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	35.6%					
Analysis Period (min)	15					
ICU Level of Service	A					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Volume Total	706	662	0	0	0	0
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	860	1700			
Volume to Capacity	0.42	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS				A		
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS				A		
Intersection Summary						
Average Delay	0.0					
Intersection Capacity Utilization	35.6%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings
8: Lockport Rd & Walmore Rd

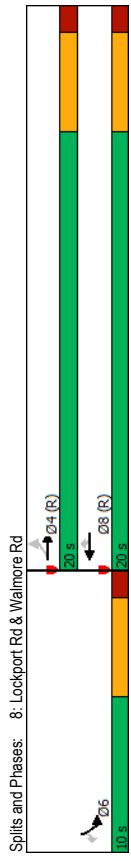
Lanes, Volumes, Timings
8: Lockport Rd & Walmore Rd

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Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	39	519	506	99	82	29
Traffic Volume (vph)	39	519	506	99	82	29
Future Volume (vph)	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	125	0	115			
Storage Length (ft)	1	1	1	1	1	1
Storage Lanes	25			25		
Taper Length (ft)	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.950			0.850		0.850
Flt Protected	1770	1863	1863	1583	1770	1583
Std. Flow (prot)	0.375			0.950		
Flt Permitted	699	1863	1863	1583	1770	1583
Std. Flow (perm)		Yes	Yes	Yes	Yes	Yes
Right Turn on Red						33
Std. Flow (RTOR)		45	45		35	
Link Distance (ft)	697	1100			1227	
Travel Time (s)	10.6	16.7			23.9	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	45	597	582	114	94	33
Shared Lane Traffic (%)						
Lane Group Flow (vph)	45	597	582	114	94	33
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Left	Right
Median Width(ft)	12	12	12	12	12	12
Link Offset(ft)	0	0	0	0	0	0
Crosswalk Width(ft)	16	16	16	16	16	16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60	60	60	60
Number of Detectors	2	2	2	2	2	2
Detector Template						
Leading Detector (ft)	49	49	49	49	49	49
Trailing Detector (ft)	-1	-1	-1	-1	-1	-1
Detector 1 Position(ft)	-1	-1	-1	-1	-1	-1
Detector 1 Size(ft)	20	20	20	20	20	20
Detector 1 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	29	29	29	29	29	29
Detector 2 Size(ft)	20	20	20	20	20	20
Detector 2 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 2 Channel						
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases	4	8	8	6	6	6
Permitted Phases						

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase	4	4	8	8	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	20.0	20.0	20.0	20.0	10.0	10.0
Total Split (%)	66.7%	66.7%	66.7%	66.7%	33.3%	33.3%
Maximum Green (s)	15.5	15.5	15.5	15.5	5.5	5.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
LeadLag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	C-Max	C-Max	Min	Min
Act Effct Green (s)	15.5	15.5	15.5	15.5	5.5	5.5
Actuated g/C Ratio	0.52	0.52	0.52	0.52	0.18	0.18
v/c Ratio	0.12	0.62	0.60	0.13	0.29	0.10
Control Delay	4.7	8.6	6.9	1.3	13.2	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.7	8.6	6.9	1.3	13.2	5.8
LOS	A	A	A	A	B	A
Approach Delay		8.3	6.0		11.3	
Approach LOS		A	A		B	
Intersection Summary						
Area Type:	Other					
Cycle Length:	30					
Actuated Cycle Length:	30					
Offset:	26 (87%), Referenced to phase 4:EBTL and 8:WBT, Start of Green					
Natural Cycle:	40					
Control Type:	Actuated-Coordinated					
Maximum v/c Ratio:	0.62					
Intersection Signal Delay:	7.5					
Intersection LOS:	A					
Intersection Capacity Utilization:	44.5%					
Analysis Period (min):	15					



Lanes, Volumes, Timings
9: Walmore Rd & Lockport Rd

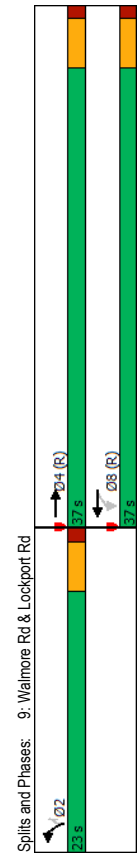
Lanes, Volumes, Timings
9: Walmore Rd & Lockport Rd

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	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group	4	8	8	8	2	2
Lane Configurations	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	295	333	78	251	331	68
Future Volume (vph)	295	333	78	251	331	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200	0	200	0	200
Storage Lanes	0	1	1	1	1	1
Taper Length (ft)						
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.850
Flt Protected	0.928					
Satd. Flow (prot)	1729	0	1770	1863	1770	1583
Flt Permitted	0.228					
Satd. Flow (perm)	1729	0	425	1863	1770	1583
Right Turn on Red	Yes					Yes
Satd. Flow (RTOR)	148					81
Link Speed (mph)	45		45	40		
Link Distance (ft)	1100		957	738		
Travel Time (s)	16.7		14.5	12.6		
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	351	396	93	299	394	81
Shared Lane Traffic (%)						
Lane Group Flow (vph)	747	0	93	299	394	81
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12		12	12		
Link Offset(ft)	0		0	0		
Crosswalk Width(ft)	16		16	16		
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60	60	60	60
Number of Detectors	2	2	2	2	2	2
Detector Template						
Leading Detector (ft)	49	49	49	49	49	49
Trailing Detector (ft)	-1	-1	-1	-1	-1	-1
Detector 1 Position(ft)	-1	-1	-1	-1	-1	-1
Detector 1 Size(ft)	20	20	20	20	20	20
Detector 1 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	29	29	29	29	29	29
Detector 2 Size(ft)	20	20	20	20	20	20
Detector 2 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 2 Channel						
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	NA	Perm	NA	Prot	Perm	Perm
Protected Phases	4					
Permitted Phases		8		8	2	2

	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group	4	8	8	8	2	2
Detector Phase	↔	↔	↔	↔	↔	↔
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	37.0	37.0	37.0	23.0	23.0	38.3%
Total Split (%)	61.7%	61.7%	61.7%	38.3%	38.3%	38.3%
Maximum Green (s)	32.5	32.5	32.5	18.5	18.5	18.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead-Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	C-Max	Min	Min	Min
Act Effct Green (s)	34.2	34.2	34.2	16.8	16.8	16.8
Actuated g/C Ratio	0.57	0.57	0.57	0.28	0.28	0.28
v/c Ratio	0.71	0.38	0.28	0.80	0.16	0.16
Control Delay	12.4	14.0	8.0	33.3	5.3	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.4	14.0	8.0	33.3	5.3	5.3
LOS	B	B	A	C	A	A
Approach Delay	12.4		9.4	28.5		
Approach LOS	B		A	C		
Intersection Summary						
Area Type:	Other					
Cycle Length:	60					
Actuated Cycle Length:	60					
Offset:	0 (0%), Referenced to phase 4:EBT and 8:WBL, Start of Green					
Natural Cycle:	50					
Control Type:	Actuated-Coordinated					
Maximum v/c Ratio:	0.80					
Intersection Signal Delay:	16.4					
Intersection LOS:	B					
Intersection Capacity Utilization:	69.8%					
Analysis Period (min):	15					



Lanes, Volumes, Timings
10: Cayuga Dr/Niagara Rd & Walmore Rd & Niagara Falls Blvd

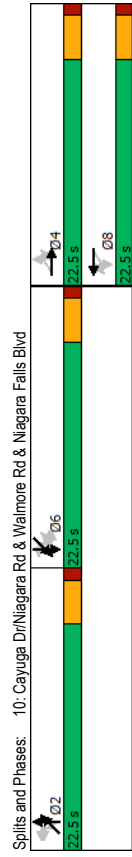
Lanes, Volumes, Timings
10: Cayuga Dr/Niagara Rd & Walmore Rd & Niagara Falls Blvd

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Lane Group	SWL2	SWL	SWT	SWR	SWR2	SWR2
Lane Configurations						
Traffic Volume (vph)	4	9	49	86	9	9
Future Volume (vph)	4	9	49	86	9	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			
Storage Lanes	0	0	1			
Taper Length (ft)	25					
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected			0.990		0.850	
Satd. Flow (perm)	0	0	1844	1583	0	0
Flt Permitted			0.889			
Satd. Flow (perm)	0	0	1656	1583	0	0
Right Turn on Red					Yes	
Satd. Flow (RTOR)					97	
Link Distance (ft)			1223			
Travel Time (s)			271.8			
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	4	10	55	97	10	10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	69	107	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Right	Right	Right
Median Width(ft)			0			
Link Offset(ft)			0			
Crosswalk Width(ft)			16			
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60	60	60	60
Number of Detectors	2	2	2	2	2	2
Detector Template	Left	Left				
Leading Detector (ft)	49	49	49	49	49	49
Trailing Detector (ft)	-1	-1	-1	-1	-1	-1
Detector 1 Position(ft)	-1	-1	-1	-1	-1	-1
Detector 1 Size(ft)	20	20	20	20	20	20
Detector 1 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	29	29	29	29	29	29
Detector 2 Size(ft)	20	20	20	20	20	20
Detector 2 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 2 Channel						
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Perm	Perm	NA	Perm	Perm	Perm
Protected Phases						
Permitted Phases	6!	6!	6!	6!	6!	6!

Lane Group	EBL2	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	WBR2	NBL	NBT
Detector Phase	4	4	4	4	8	8	8	8	8	2	2
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag											
Lead-Lag Optimize?											
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	None	None	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0
Act Effct Green (s)	18.3	18.3	18.3	18.3	18.3	18.3	18.3	18.3	18.3	18.3	18.3
Actuated g/C Ratio	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
v/c Ratio	1.54	0.50			0.40	0.78				0.14	0.14
Control Delay	305.1	19.4			25.0	26.7				17.1	17.1
Queue Delay	0.0	0.0			0.0	0.0				0.0	0.0
Total Delay	305.1	19.4			25.0	26.7				17.1	17.1
LOS	F	B			C	C				B	B
Approach Delay			94.6								
Approach LOS			F							C	C
Intersection Summary											
Area Type:	Other										
Cycle Length:	67.5										
Actuated Cycle Length:	57.7										
Natural Cycle:	100										
Control Type:	Actuated-Uncoordinated										
Maximum v/c Ratio:	3.17										
Intersection Signal Delay:	148.9										
Intersection Capacity Utilization:	83.5%										
Analysis Period (min):	15										
! Phase conflict between lane groups.											



Lanes, Volumes, Timings
10: Cayuga Dr/Niagara Rd & Walmore Rd & Niagara Falls Blvd

Lanes, Volumes, Timings
10: Cayuga Dr/Niagara Rd & Walmore Rd & Niagara Falls Blvd

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Lane Group	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	NEL2	NEL	NET	NER	NER2
Detector Phase	6	6	6	6	6	6	6	2	2	2	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Act Effct Green (s)	10.1	10.1	10.1	10.1	10.1	10.1	10.1	18.3	18.3	18.3	18.3	18.3
Actuated g/C Ratio	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.32	0.32	0.32	0.32	0.32
v/c Ratio	0.47	0.36	0.47	0.36	0.47	0.36	0.47	3.17	3.17	3.17	3.17	3.17
Control Delay	28.8	11.0	28.8	11.0	28.8	11.0	28.8	1015.5	1015.5	1015.5	1015.5	1015.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.8	11.0	28.8	11.0	28.8	11.0	28.8	1015.5	1015.5	1015.5	1015.5	1015.5
LOS	C	B	C	B	C	B	C	F	F	F	F	F
Approach Delay	19.3		19.3		19.3		19.3	1015.5	1015.5	1015.5	1015.5	1015.5
Approach LOS	B		B		B		B	F	F	F	F	F
Intersection Summary												

Lanes, Volumes, Timings
11: Military Rd & Lockport Rd

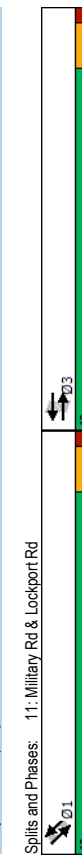
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations	26	81	88	49	68	47	45	427	36	104	546	52
Traffic Volume (vph)	26	81	88	49	68	47	45	427	36	104	546	52
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	200	0	200	0	200	0	200	0	175	0	0	0
Storage Length (ft)	1	0	0	1	0	0	1	0	1	1	0	0
Storage Lanes	25	0	0	25	0	0	25	0	25	25	0	0
Tapor Length (ft)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Lane Util. Factor	0.922			0.938			0.988			0.987		
Flt Protected	0.950	0.950		0.950	0.950		0.950		0.950	0.950		
Satd. Flow (prot)	1770	1717	0	1770	1747	0	1770	3497	0	1770	3493	0
Flt Permitted	0.674			0.638			0.383			0.460		
Satd. Flow (perm)	1255	1717	0	1188	1747	0	713	3497	0	857	3493	0
Right Turn on Red		Yes		Yes		Yes		Yes		Yes		Yes
Satd. Flow (RTOR)	86			53			13			15		
Link Speed (mph)	40			45			40			40		
Link Distance (ft)	906			1287			883			1055		
Travel Time (s)	15.4			19.5			15.1			18.0		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	29	91	98	55	76	53	51	480	40	117	613	58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	29	190	0	55	129	0	51	520	0	117	671	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Right	Left	Left	Right	Left	Right	Left	Right
Median Width(ft)	12			12			12			12		
Link Offset(ft)	0			0			0			0		
Crosswalk Width(ft)	16			16			16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60	60	60	60	60	60	60	60	60	60
Number of Detectors	2	2	2	2	2	2	2	2	2	2	2	2
Detector Template	49	49	49	49	49	49	49	49	49	49	49	49
Leading Detector (ft)	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Trailing Detector (ft)	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Detector 1 Position(ft)	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Detector 1 Size(ft)	20	20	20	20	20	20	20	20	20	20	20	20
Detector 1 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	29	29	29	29	29	29	29	29	29	29	29	29
Detector 2 Size(ft)	20	20	20	20	20	20	20	20	20	20	20	20
Detector 2 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases												
Permitted Phases	3			3			1			1		1

Lanes, Volumes, Timings
11: Military Rd & Lockport Rd

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Detector Phase	3	3	3	3	3	3	1	1	1	1	1	1
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	15.0	20.0	20.0	20.0	20.0	20.0	20.0
Minimum Split (s)	27.8	27.8	27.8	27.8	27.8	27.8	27.8	27.8	27.8	27.8	27.8	27.8
Total Split (s)	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Maximum Green (s)	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (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
Total Lost Time (s)	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
Lead-Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Act Efft Green (s)	15.4	15.4	15.4	15.4	15.4	15.4	23.9	23.9	23.9	23.9	23.9	23.9
Actuated g/C Ratio	0.30	0.30	0.30	0.30	0.30	0.30	0.47	0.47	0.47	0.47	0.47	0.47
vic Ratio	0.08	0.33	0.15	0.23	0.15	0.23	0.15	0.32	0.29	0.29	0.41	
Control Delay	15.8	11.1	16.5	11.3	16.5	11.3	8.6	8.5	10.2	9.3		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.8	11.1	16.5	11.3	16.5	11.3	8.6	8.5	10.2	9.3		
LOS	B	B	B	B	B	B	A	A	B	B	A	A
Approach Delay												
Approach LOS	B	B	B	B	B	B	A	A	B	B	A	A
Intersection Summary												
Area Type:	Other											
Cycle Length:	80											
Actuated Cycle Length:	51											
Natural Cycle:	60											
Control Type:	Actuated-Uncoordinated											
Maximum v/c Ratio:	0.41											
Intersection Signal Delay:	9.8											
Intersection Capacity Utilization:	77.7%											
Analysis Period (min):	15											



Lanes, Volumes, Timings
12: Proposed Driveway & Lockport Rd

HCM Unsignalized Intersection Capacity Analysis
12: Proposed Driveway & Lockport Rd

Project Fifi
2024 Full Build PM

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	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	←	←	←	←	←	←
Traffic Volume (vph)	429	20	47	430	12	80
Future Volume (vph)	429	20	47	430	12	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200	0	0	0	0
Storage Lanes	0	1	1	1	1	1
Taper Length (ft)		25		25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fit	0.994					0.850
Flt Protected		0.950		0.950		
Std. Flow (prot)	1852	0	1770	1863	1770	1583
Flt Permitted		0.950		0.950		
Std. Flow (perm)	1852	0	1770	1863	1770	1583
Link Speed (mph)	30		30		30	
Link Distance (ft)	881		552		527	
Travel Time (s)	20.0		12.5		12.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	466	22	51	467	13	87
Shared Lane Traffic (%)						
Lane Group Flow (vph)	488	0	51	467	13	87
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width (ft)	12		12		12	
Link Offset (ft)	0		0		0	
Crosswalk Width (ft)	16		16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60	60	60	60
Sign Control	Free	Free	Free	Free	Stop	Stop
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	40.5%					
Analysis Period (min)	15					
ICU Level of Service	A					

	EBT	EBR	WBL	WBT	NBL	NBR
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	←	←	←	←	←	←
Traffic Volume (veh/h)	429	20	47	430	12	80
Future Volume (Veh/h)	429	20	47	430	12	80
Sign Control	Free	Free	Free	Free	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	466	22	51	467	13	87
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh						
Upstream signal (ft)	881		552		0.89	
pX, platoon unblocked					1046	477
vC, conflicting volume			488			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	488		488		990	477
IC, single (s)	4.1		4.1		6.4	6.2
IC, 2 stage (s)						
IF (s)	2.2		2.2		3.5	3.3
p0 queue free %	95		95		94	85
cM capacity (veh/h)	1075		1075		232	588
Direction, Lane #	EB, 1	WB, 1	WB, 2	NB, 1	NB, 2	
Volume Total	488	51	467	13	87	
Volume Left	0	51	0	13	0	
Volume Right	22	0	0	0	87	
cSH	1700	1075	1700	232	588	
Volume to Capacity	0.29	0.05	0.27	0.06	0.15	
Queue Length 95th (ft)	0	4	0	4	13	
Control Delay (s)	0.0	8.5	0.0	21.5	12.2	
Lane LOS	A	A	C	C	B	
Approach Delay (s)	0.0	0.8		13.4		
Approach LOS		B		B		
Intersection Summary						
Average Delay	1.6					
Intersection Capacity Utilization	40.5%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings
13: Proposed Driveway & Lockport Rd

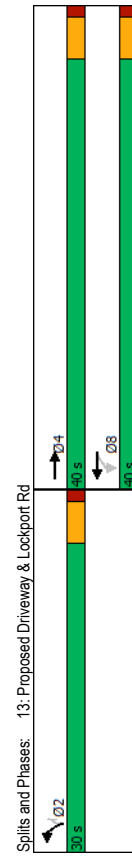
Lanes, Volumes, Timings
13: Proposed Driveway & Lockport Rd

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2024 Full Build PM

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Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	4	4	8	8	2	2
Traffic Volume (vph)	501	8	176	457	20	159
Future Volume (vph)	501	8	176	457	20	159
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200	0	0	0	0
Storage Lanes	0	1	1	1	1	1
Taper Length (ft)	0	25	25	25	25	25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.998					0.850
Satd. Flow (prot)	1859	0	1770	1863	1770	1583
Flt Permitted	0.393					0.950
Satd. Flow (perm)	1859	0	732	1863	1770	1583
Right Turn on Red	Yes					Yes
Satd. Flow (RTOR)	2					173
Link Speed (mph)	30					30
Link Distance (ft)	552					1250
Travel Time (s)	12.5					28.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	545	9	191	497	22	173
Shared Lane Traffic (%)						
Lane Group Flow (vph)	554	0	191	497	22	173
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12					12
Link Offset(ft)	0					0
Crosswalk Width(ft)	16					16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60					60
Number of Detectors	2					1
Detector Template	Thru	Left	Thru	Left	Right	Right
Leading Detector (ft)	100					20
Trailing Detector (ft)	0					0
Detector 1 Position(ft)	0					0
Detector 1 Size(ft)	6					20
Detector 1 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0					0.0
Detector 1 Queue (s)	0.0					0.0
Detector 1 Delay (s)	0.0					0.0
Detector 2 Position(ft)	94					94
Detector 2 Size(ft)	6					6
Detector 2 Type	Ch+Ex					Ch+Ex
Detector 2 Channel						
Detector 2 Extend (s)	0.0					0.0
Turn Type	NA	Perm	NA	Prot	Perm	Perm
Protected Phases	4					2
Permitted Phases			8			2

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	4					2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	40.0	40.0	40.0	40.0	30.0	30.0
Total Split (%)	57.1%	57.1%	57.1%	57.1%	42.9%	42.9%
Maximum Green (s)	35.5	35.5	35.5	35.5	25.5	25.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead-Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	Min	Min
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0				0	0
Act Effct Green (s)	18.3	18.3	18.3	18.3	7.0	7.0
Actuated g/C Ratio	0.52	0.52	0.52	0.52	0.20	0.20
v/c Ratio	0.57	0.50	0.51	0.06	0.38	0.38
Control Delay	7.7	10.0	7.0	16.1	6.8	6.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.7	10.0	7.0	16.1	6.8	6.8
LOS	A	A	A	A	B	A
Approach Delay	7.7				7.8	7.8
Approach LOS	A				A	A
Intersection Summary						
Area Type:	Other					
Cycle Length:	70					
Actuated Cycle Length:	35.1					
Natural Cycle:	60					
Control Type:	Semi Act-Uncoord					
Maximum v/c Ratio:	0.57					
Intersection Signal Delay:	7.8					
Intersection Capacity Utilization:	52.0%					
Analysis Period (min):	15					



Lanes, Volumes, Timings
14: Tuscarora Rd & Proposed Driveway

HCM Unsignalized Intersection Capacity Analysis
14: Tuscarora Rd & Proposed Driveway

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	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected						
Satd. Flow (prot)	1863	0	0	1863	1863	0
Flt Permitted						
Satd. Flow (perm)	1863	0	0	1863	1863	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	536			1247	800	
Travel Time (s)	12.2			28.3	18.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Right	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60	60	60	60
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	0.0%					
Analysis Period (min)	15					
ICU Level of Service	A					

	EBL	EBR	NBL	NBT	SBT	SBR
Movement	↔	↔	↔	↔	↔	↔
Lane Configurations	↔	↔	↔	↔	↔	↔
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0	0	0	0	0	
vC1, stage 1 cont vol						
vC2, stage 2 cont vol						
vCu, unblocked vol	0	0	0	0	0	
IC, single (s)	6.4	6.2	4.1			
IC, 2 stage (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	1023	1085	1623			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	0	0	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.00	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay	0.0					
Intersection Capacity Utilization	0.0%					
ICU Level of Service	A					
Analysis Period (min)	15					

Exhibit I

WATER SYSTEM ENGINEER'S REPORT

for

Project Fifi Packard Road & Lockport Road Town of Niagara, New York

Prepared For:

JB2 Partners, LLC
3322 Grant Valley Road NW
Atlanta, GA 30305

Prepared By:

**Langan Engineering, Environmental, Surveying,
Landscape Architecture and Geology, D.P.C.**
One North Broadway, Suite 910
White Plains, New York 10601

Michael Finan, PE, LEED-AP
Professional Engineer License No. 081473

February 15, 2022

LANGAN

Project No.: 190071801

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1 Executive Summary

This Engineer's Report has been prepared for the Applicant, JB2 Partners, LLC, who is proposing to develop a ±218.4 acre property located along Packard Road (County Road No. 82) and Lockport Road (County Road No. 6) ("Site") in the Town of Niagara ("Town"), New York for use as an e-commerce storage and distribution facility for consumer products ("Facility") by a single, prospective entity (collectively, the "Project"). The Project, also known as Project Fifi, is a 5-story warehouse distribution facility that has an approximate 650,000 square foot building footprint (approximately 3,400,000 square foot area total) with associated car and trailer parking. The upper floors will have limited employees due to the use of robotics.

The water distribution portion of the project involves the following installation of approximately:

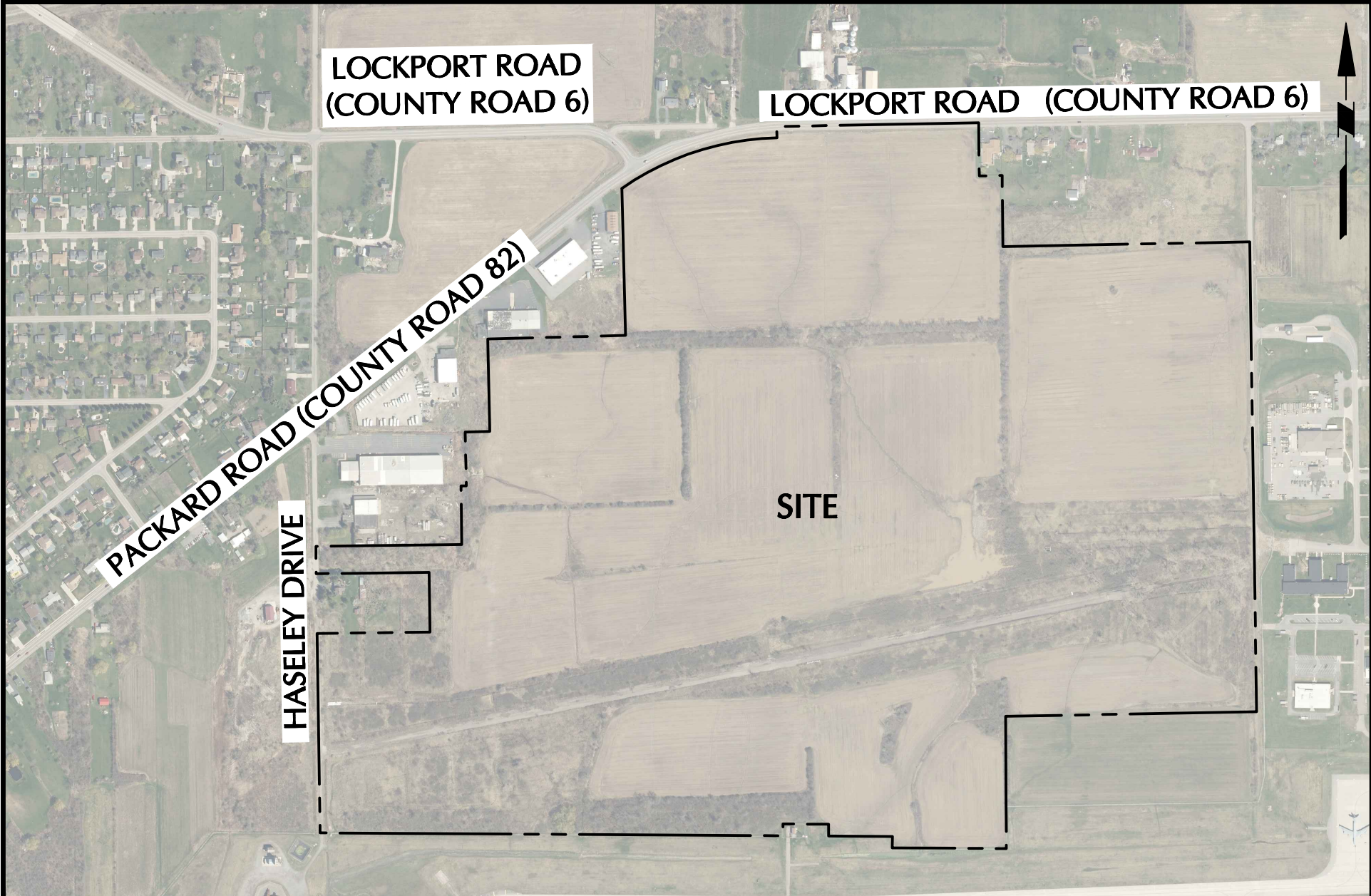
- 740 linear feet of 1 ¼-inch diameter Type K copper water service lines to the guard houses;
- 980 linear feet of 6-inch diameter C-900 domestic water service line to the proposed building;
- 3,885 linear feet of 8-inch diameter C900 PVC fire suppression water service line to the fire suppression water storage tanks;
- 6,300 linear feet of 10-inch diameter C900 PVC fire suppression water line, which includes the fire loop feed lines from the fire suppression water storage tank;
- 13 fire hydrants around the building, which are fed by the fire suppression water line;
- Two fire suppression water storage tanks; and
- One water meter/RPZ hot box.

2 Site Description

The Site is bounded by Packard Road (County Road No. 82) and Lockport Road (County Road No. 6) to the North; residential properties and Tuscarora Road to the north east; Niagara International Airport to the south; and commercial properties, a residential property, and Haseley Drive to the west (see [Figure 1](#)).

The Site is used for agricultural purposes; however, the Site is zoned for heavy industry. A Langan wetland scientist conducted a delineation of the onsite wetlands in November 2021. There are 16 wetlands present onsite and a portion of the Cayuga Creek West Tributary is located in the western portion of the Site. The United States Army Corps of Engineers (USACOE) has been contacted about the project and a Jurisdictional Determination application for proposed disturbance of the wetlands will be submitted.

The United States Department of Agriculture (USDA) Soil Conservation Service Soil Survey for Niagara County has been reviewed. The surficial soil conditions are shown in [Figure 2](#) and are summarized in the table below.



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Project No. 190071801

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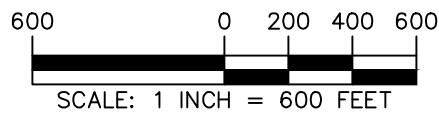
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Project
PROJECT FIFI
 TAX ID. 132.18-1-2, 146.05-1-9, 146.06-1-1, &
 146.06-1-2
 TOWN OF NIAGARA
 NIAGARA COUNTY NEW YORK

Drawing Title
**SITE
 LOCATION
 MAP**

Project No.
190071801
 Date
SEPTEMBER 29, 2021
 Drawn By
LM
 Checked By
CZ

Figure
FG01
 Sheet 1 of 1



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Project
PROJECT FIFI
 TAX ID. 132.18-1-2, 146.05-1-9, 146.06-1-1, &
 146.06-1-2
TOWN OF NIAGARA
NIAGARA COUNTY NEW YORK

Drawing Title
SOILS MAP

Project No.
190071801
 Date
FEBRUARY 15, 2022
 Drawn By
LM
 Checked By
CZ

Figure
FG02
 Sheet 1 of 1

Table 1: USDA Soil Data

Map Symbol	Description	Depth to Groundwater (ft.)	Depth to Bedrock (ft.)
CcA	Cayuga and Cazenovia silt loams, 0 to 2 percent slopes	2.0	>6.0
CcB	Cayuga and Cazenovia silt loams, 2 to 6 percent slopes	2.0	>6.0
Lc	Lakemont silty clay loam, 0 to 3 percent slopes	0	>6.0
OdA	Odessa silty clay loam, 3 to 8 percent slopes	0.5	>6.0

Langan performed a soil investigation between November 30 to December 17, 2021 to determine the subsurface soil conditions in various locations throughout the Site. A total of 48 borings were drilled from 4.5 to 22.5 feet below existing grade and a total of 49 test pits were excavated from 2 to 22 feet below existing grade. Rock was encountered approximately 4.4 feet to 14.7 feet below existing grade in portions of the Site. Groundwater was encountered approximately 4 feet to 10 feet below grade in portions of the Site. Refer to [Appendix B](#) for the testing data.

There is a 12-inch diameter ACP watermain that transitions to a 10-inch diameter ACP water main along Packard Road and Lockport Road (see [Figure 3](#)). The transition occurs east of the intersection of Packard Road and Lockport Road North/South. A hydrant flow test was conducted by the Harrington Group Inc. (HGI) at first hydrant east of the water main transition on November 16, 2021 (see [Appendix A](#)). The hydrant flow test data is as follows:

Hydrant East of Water Main Transition

Static Pressure: 67 psi
 Residual Pressure: 55 psi
 Flow: 1,450 gpm

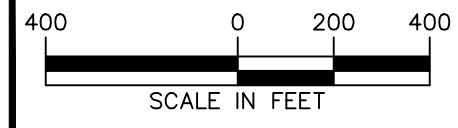
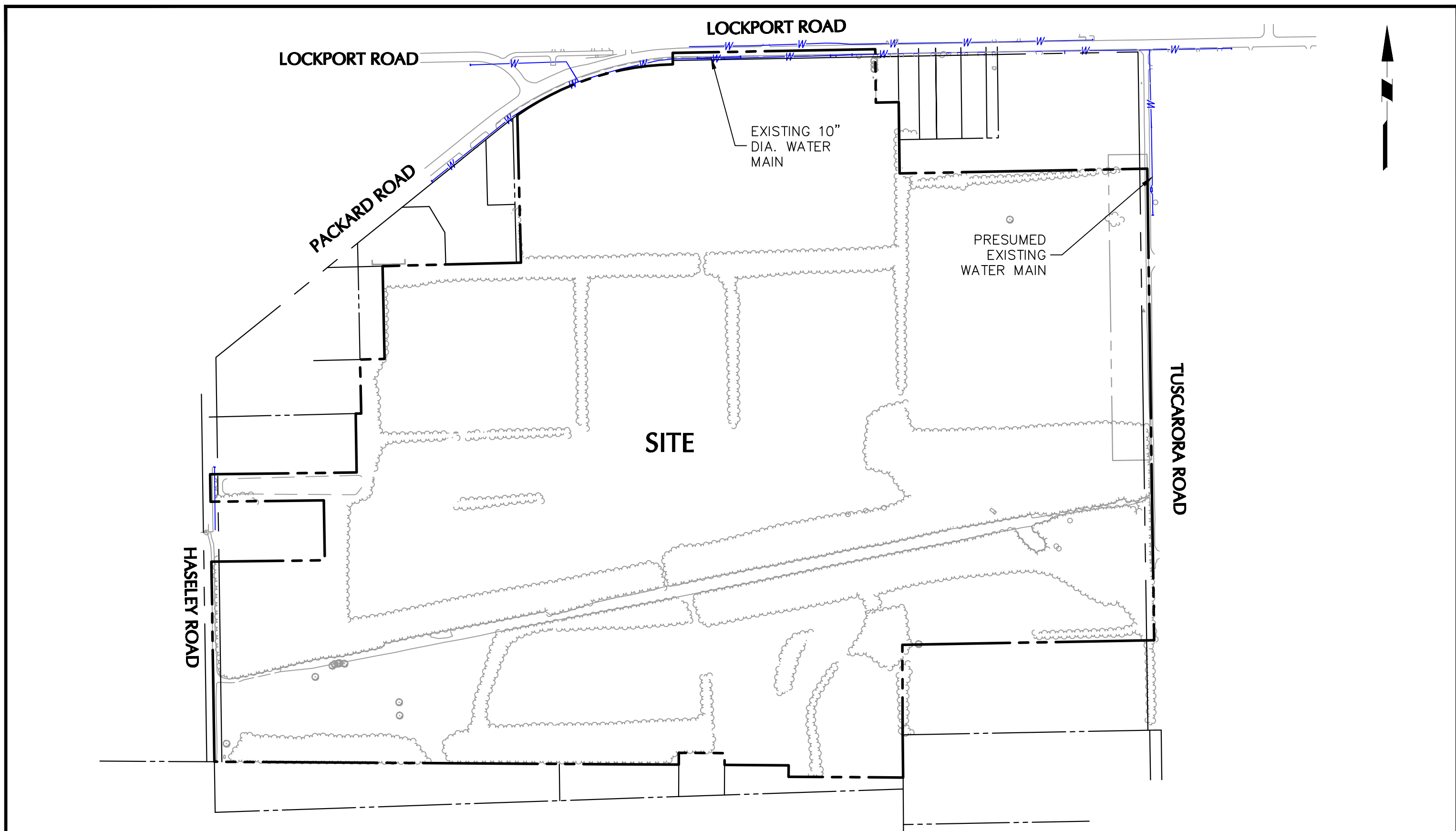
3 Water Distribution System

3.1 Projected Water Demand

Based upon projected traffic trip generation information, during peak season each employee work shift is reported to have 1,334 employees. There will be two 11-hour shifts.

The New York State Department of Environmental Conservation's (NYSDEC) *New York State Design Standards for Intermediate Sized Wastewater Treatment Systems, 2014* per-unit hydraulic loading rates in Table B-3 starting on page B-16, were used to estimate the anticipated water demand for the Project. Except for the residential flows, the per-unit hydraulic loading rates in Table B-3 may be reduced by 20 percent for establishments equipped with water saving plumbing fixtures. Given the Facility is new construction, water saving plumbing fixtures will be used. The per-unit hydraulic loading rate is 15 gpd/employee/shift, or 12 gpd/employee/shift with water saving plumbing fixtures.

To be conservative, we have assumed the per-unit hydraulic loading rate provided in Table B-3 is for an 8-hour shift; therefore, we have adjusted the per-unit hydraulic rates for the Facility 11-hour shifts. Below are the corresponding calculations:



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			Date FEBRUARY 2, 2022	
			Drawn By AW	
			Checked By CZ	

$$[(15 \text{ gpd/employee/shift} \times 11\text{-hrs}) \div 8\text{-hrs}] \times 0.80 = 16.5 \text{ gpd/employee/shift.}$$

The projected water demand for the Project, based on peak season is:

$$1,334 \text{ employees/shift} \times 2 \text{ shifts} \times 16.5 \text{ gpd/employee} = 44,022 \text{ gpd (30.6 gpm).}$$

3.2 Proposed Water Distribution System

The water distribution system has been designed in accordance with the requirements of the Niagara County Department of Health (NCDOH) and the *Ten States Recommended Standards for Water Works*, latest edition.

The proposed project will connect to the existing 10-inch diameter ACP water main along Lockport Road (see [Figure 4](#)). An aboveground heated water meter/RPZ box will be installed approximately 50 feet south of the connection to the 10-inch diameter water main. The 6-inch diameter C900 PVC domestic water service and the 8-inch diameter C900 PVC water line have been separated from one another. The 8-inch diameter C900 PVC water line will feed the fire storage tank and fire protection loop around the building. This will avoid potential stagnant water, objectionable tastes and odors, since the 8-inch diameter water line does not loop around the building and directly feeds the water storage tank. A separate 10-inch diameter C900 PVC fire suppression line that loops around the building will be provided. A 10-inch diameter connection from the fire service line into the fire pump room is proposed. No domestic services connections will come off of the 10-inch diameter fire service line.

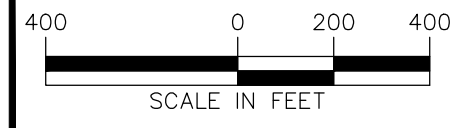
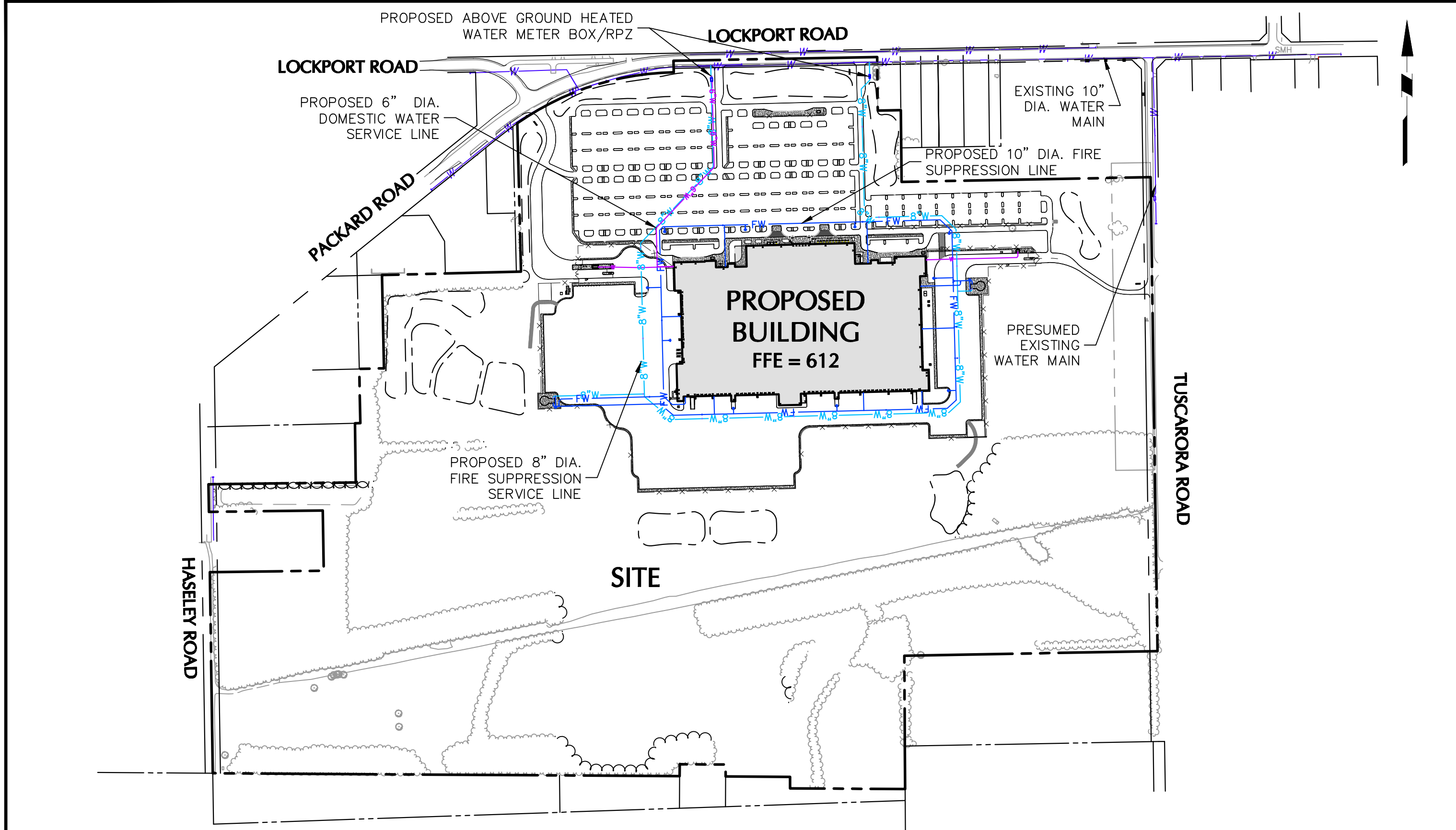
Two 1½-inch diameter Type K copper water service lines will provide water service to the guard houses. The water services lines will be feed internally from the building.

Isolation valves are placed at not more than 800-foot intervals. Hydrants have been provided approximately every 300 to 600 feet along the fire suppression line. The water distribution system has been designed in accordance with the requirements of *Ten States Recommended Standards for Water Works*, latest edition and the pipe and appurtenances will conform to AWWA Standard C900, latest revision.

Where the proposed water main will be parallel to the sanitary sewer or storm drainage, a minimum horizontal separation distance of 10 feet (wall-to-wall) was maintained. Where the proposed water line crosses the sanitary sewer or storm drainage system, a minimum vertical separation distance of 18 inches (wall-to-wall) was maintained. Additionally, a full pipe length was provided at vertical crossings so that both joints will be as far as possible from the sanitary sewer or storm drainage.

3.3 Heated Water Meter/RPZ Box

The heated water meter/PRZ Box can be accessed from Lockport Road as well as the main access driveway off of Lockport Road. Access will be provided by two 38¼-inch wide by 90-inch tall access panels on each side of the heated box. The heated box will have the required drain in the side of the meter box that discharges to the atmosphere.



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	<p>Date: 2/11/2022 Time: 16:14 User: czolezi Style Table: Langan.stb Layout: Layout1 Document Code: FG-190071801-0205-CU103-0104</p>			

A 6-inch RPZ backflow preventer, Watts Model LF909-OSY and a 4-inch Neptune Tru/Flo compound meter will be installed on the 6-inch domestic water line. A 8-inch reduced pressure detector assembly, Watts Model 909RPDA-OSY, with a 5/8-inch Neptune radio meter will be installed on the 8-inch water line. The water distribution system cut sheets are provided in Appendix C.

3.4 Pressure Analysis

According to the November 16, 2021 hydrant flow test, the pressure at the water main is approximately 67 psi.

Static Pressure at Building

Static Head Loss

The differential in grade between the connection point at the water main (elev. 613 feet) and the point at which the water service line enters the building (elev. 612 feet) is 1.0 feet

Friction Head Loss

$$h_{100} = \frac{0.2083 \left(\frac{100}{C}\right)^{1.852} q^{1.852}}{d^{4.8655}}$$

C for C900 pipe = 120

6" C900 water main length	=	985 LF
6" Tee	= 12.3 LF x 1	= 12.3 LF
6" 45 deg. Elbow	= 8 LF x 6	= 48 LF
6" Gate Valve	= 4 LF x 4	= 16 LF
Total Equivalent Length	=	1,061.3 LF

$$h_{100} = [(0.2083 \times (100/120)^{1.852} \times 30.6 \text{ gpm}^{1.852}) / (6.90 \text{ in}^{4.8655})] = 0.007 \text{ ft}/100 \text{ ft}$$

$$h_{L6"} = 1,061.3 \text{ ft} \times 0.007 \text{ ft}/100 \text{ ft} = 0.74 \text{ ft}$$

8" C900 water main length	=	55 LF
8" Gate Valve	= 25 LF x 1	= 25 LF
Total Equivalent Length	=	80 LF

$$h_{100} = [(0.2083 \times (100/120)^{1.852} \times 30.6 \text{ gpm}^{1.852}) / (8.39 \text{ in}^{4.8655})] = 0.003 \text{ ft}/100 \text{ ft}$$

$$h_{L8"} = 80 \text{ ft} \times 0.003 \text{ ft}/100 \text{ ft} = 0.002 \text{ ft}$$

Total Friction Head Loss = 0.74 ft + 0.002 ft = **0.74 ft**

Friction Loss through the RPZ = 10.5 psi

Friction Loss through the water meter = 3.5 psi

Total Friction Loss through RPZ and Water Meter = 10.5 psi + 3.5 psi = 13.8 psi

Total Dynamic Head

TDH = Static Head Loss (ft) + Total Friction Head Loss (ft)

TDH = 1.0 ft + 0.74 ft = 1.74 ft

TDH = 1.74 x 62.4 lb/ft³ / 144 in²/sf = 0.75 psi + 13.8 psi = 14.6 psi

Static Pressure

Static Pressure at the Building = 67 psi – 14.6 psi = 52.4 psi.

According to *Recommended Standards for Water Works*, latest edition, the system shall be designed to maintain a minimum pressure of 20 pound per square inch (psi) at all points in the distribution system under all conditions of flow. The minimum working pressure in the distribution system should be 35 psi and the normal working pressure should be approximately 60 to 80 psi. When static pressures exceed 100 psi, pressure reducing devices shall be provided. Based on the analysis, pressure reducing devices will not be required. The minimum working pressure of 35 psi has been met; however, the pressure in the system is less than the normal working pressure range for the building and a booster pump will be required. The booster pump will be designed by the project Mechanical, Electrical and Plumbing (MEP) Engineer.

4 Construction Specifications

The proposed water distribution system and appurtenance shall be installed in accordance with the construction specifications provided in Appendix D.

5 Testing

Prior to being placed into service, the water distribution system shall be tested in accordance with the testing procedures outlined on the project plans. A certification letter shall be provided to the Town of Niagara and Niagara County Department of Health once testing has been completed.

\\langan.com\data\WPW\data\8190071801\Project Data_Discipline\Site Civil\Reports\Water\2022-02-15 water report\2022-02-15 Project Fifi water report.docx

Project Fifi
Packard Road & Lockport Road
Town of Niagara, New York

Appendix A

Soil Testing Data

Refer to geotechnical report prepared by Langan

Project Fifi
Packard Road & Lockport Road
Town of Niagara, New York

Appendix B

Hydrant Flow Test Data



Harrington Group, Inc.
 3237 Satellite Blvd., Suite 525
 Duluth, GA 30096
 Main: (770) 564-3505
www.hgi-fire.com

HYDRANT FLOW TEST REPORT

HGI No. 21MHA0017.0000
 Test No. 1 of 1
 Date/ Time of Test 11/16/2021 8:00
 Version 1.1 (211005)

Project Project Fifi
 Address Intersection of Lockport Road & Packard Road
 City Niagara Falls State NY Zip 14304

Test Purpose	Basis of Design Hydrant Flow Test		
Water Source	Elevated Water Tank (43°07'15.73" N 78°59'05.70"		
AHJ Min. Residual (psi)	20		
S/R Hydrant Location	43°07'09.39" N 78°57'53.94" W		
Gauge No.	22055		
Calibration Adjust (psi)	0.25		
Elevation ASL (ft)	608		
Static (psi)	67	Adjusted	67.3
Residual (psi)	55	Adjusted	55.3
Total Flow Rate (gpm)	1,450		
Flow @ 20 psi (gpm)	3,040 (theoretical)		
Flow @ 0 psi (gpm)	3,678 (theoretical)		
Pressure drop	18%		
Flow Duration (min)	5 (estimated)		
Total Volume (gal)	7,251 (estimated)		

	Outlet 1	Outlet 2	Outlet 3	Outlet 4
Location	43°07'14.88" N 78°57'42.95" W	43°07'14.88" N 78°57'42.95" W		
Elevation ASL (ft)	619	619		
Gauge No.	22054	22053		
Calibration Adjust (psi)	0.25	0.25		
Pitot Pressure (psi)	24.0 Adjusted 24.3	22.0 Adjusted 22.3	Adjusted 0.0	Adjusted 0.0
Outlet/ Diffuser Dia. (in)	2.495	2.495	2.469	2.375
Coefficient	0.81	0.81	0.81	0.81
Flow Rate (gpm)	741	709	0	0
Notes	Pollard Diffuser	Pollard Diffuser		

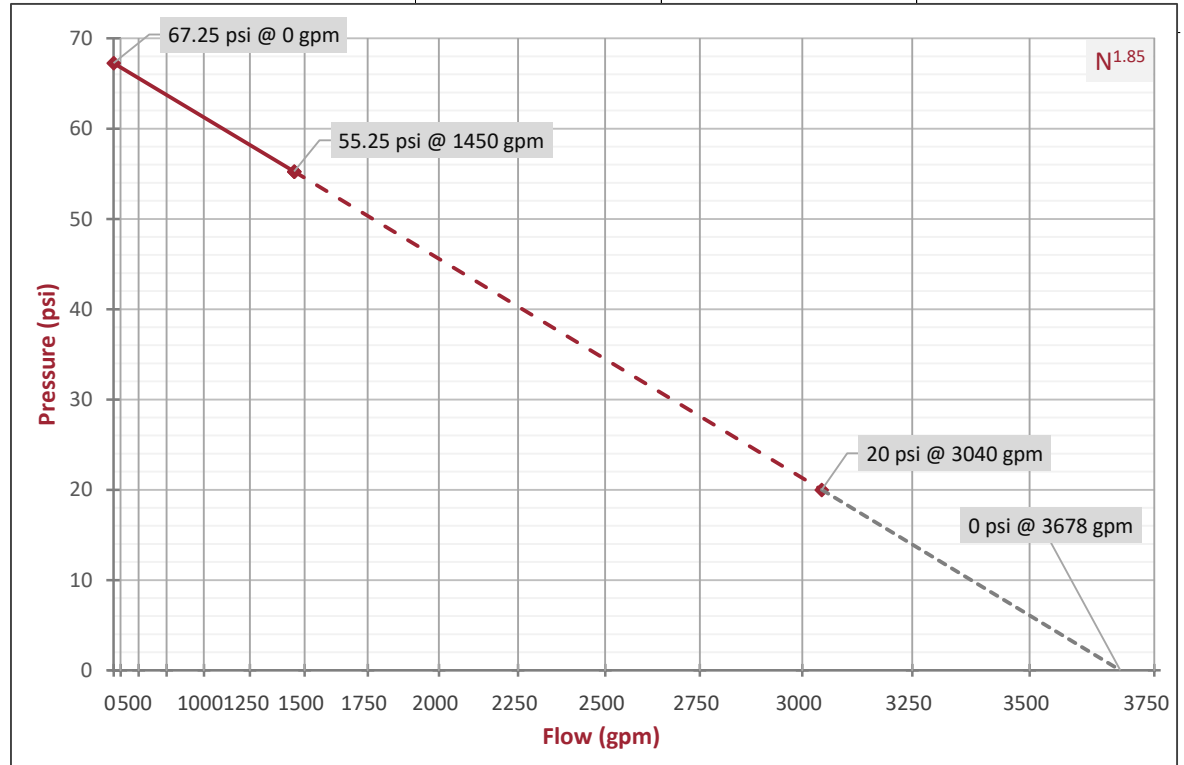
Comments

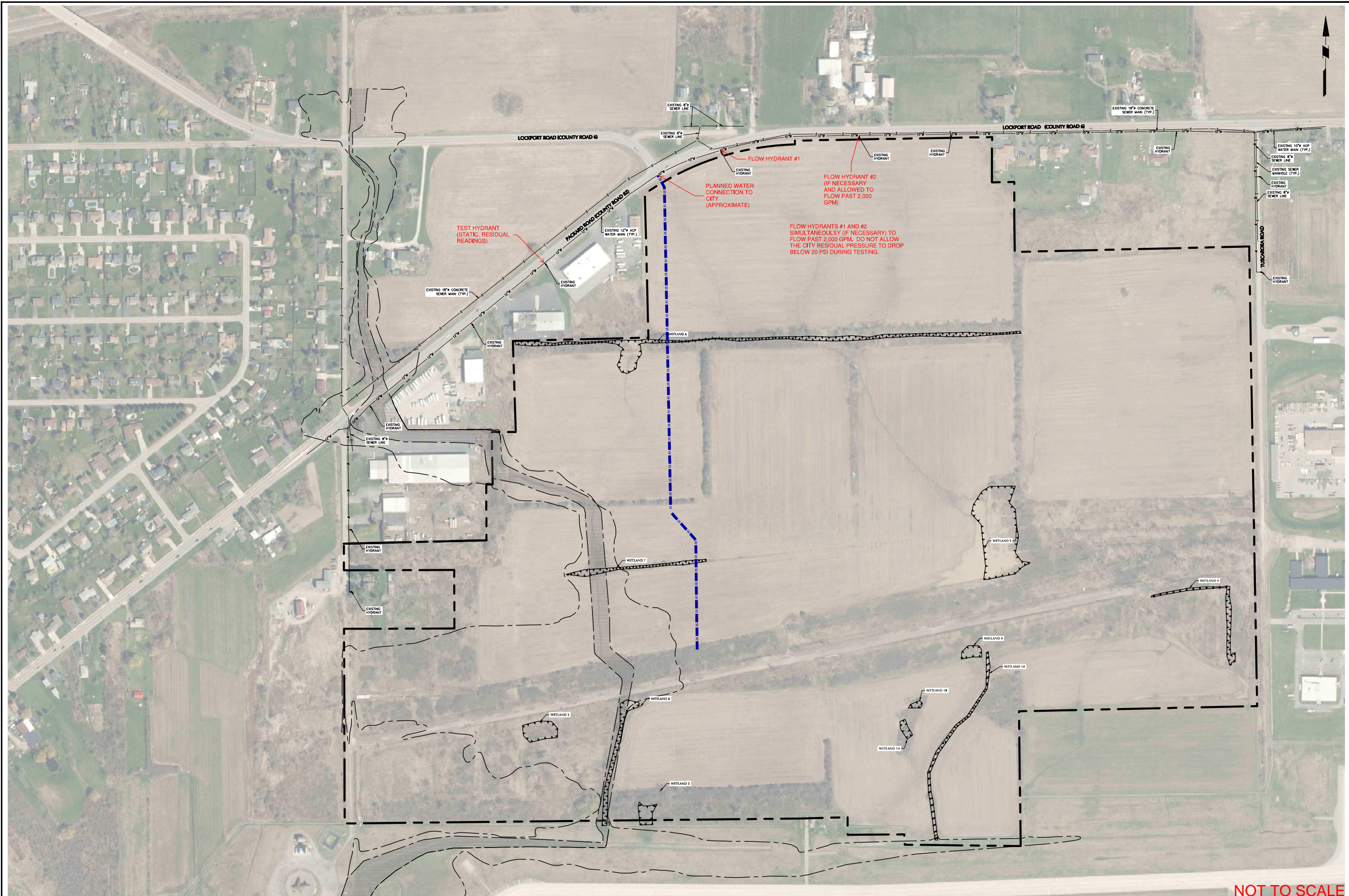
Height of water ASL: 622' (Ground) + 121'-3" (Distance from Ground to Bottom of Tank) + 21' (Water Level in Tank - Given by Water Department) = 764'-3" ASL

Attendees

John Dreher - Harrington Group, Inc.
 Town of Niagara Water & Sewer

Performed by John Dreher (223) 231-7162





NOT TO SCALE

Date	Description	No.	Signature	Date
Revisions				

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Project
PROJECT FIFI
 TAX ID: 146.06-1-1 AND 132.16-1-2
 TOWN OF NIAGARA
 NIAGARA COUNTY NEW YORK

Drawing Title
EXISTING SITE UTILITIES

Project No.
190071801
 Date
NOVEMBER 3, 2021
 Drawn By
CZ
 Checked By
MF
 Figure
FG02
 Sheet 1 of 1

Project No. 190071801
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Project Fifi
Packard Road & Lockport Road
Town of Niagara, New York

Appendix C

Water Main Appurtenances Cut Sheets

For Health Hazard Applications

Job Name _____

Contractor _____

Job Location _____

Approval _____

Engineer _____

Contractor's P.O. No. _____

Approval _____

Representative _____

Series 909RPDA

Reduced Pressure Detector Assemblies

Sizes: 2½" – 10" (65 – 250mm)

Series 909RPDA Reduced Pressure Detector Assemblies are used in health hazard applications and are designed exclusively for use in accordance with water utility authority containment requirements. It is mandatory to prevent the reverse flow of fire protection system substances, i.e., glycerin wetting agents, stagnant water and water of non-potable quality from being pumped or siphoned into the potable water line.

Benefits: Detects leaks . . . with emphasis on the cost of unaccountable water; incorporates a meter which allow the water utility to:

- detect leaks that historically create great annual cost due to waste
- provide a detection point for unauthorized use. It can help locate illegal taps

Modular check design concept facilitates maintenance and assembly access. All sizes are standardly equipped with AWWA epoxy coated, UL/FM listed OSY resilient seated gate valves, CFM (cubic feet per minute) or GPM (gallon per minute) meter and ball type test cocks. A pressure differential relief valve is located in a zone between the check valves.

Modular Design

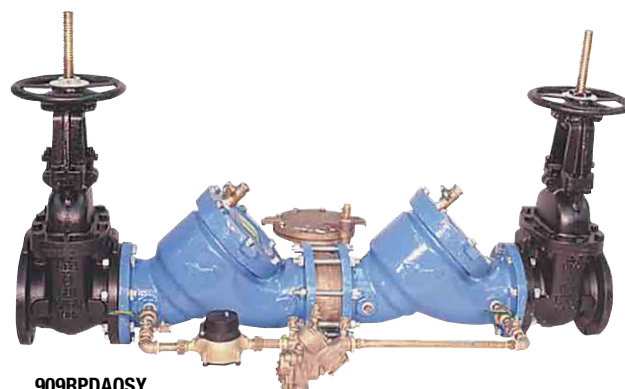
Features a modular design concept which facilitates maintenance and assembly access. All sizes are standardly equipped with gate valves and ball type test cocks.

Features

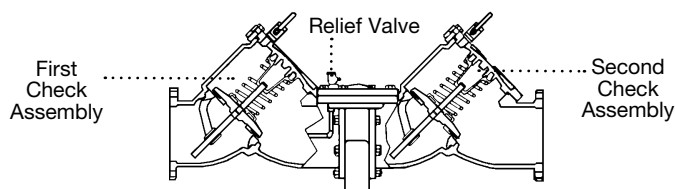
- Body construction fused epoxy coated cast iron
- Replaceable bronze seats
- Maximum flow at low pressure drop
- Compact for economy combined with performance
- Design simplicity for easy maintenance
- Furnished with 5/8" x 3/4" (16 x 19mm) meter
- Air-in/Water-out relief valve design provides maximum capacity during emergency conditions.
- No special tools required

Specifications

A Reduced Pressure Detector Assembly shall be installed on fire protection systems when connected to a public water supply. Degree of hazard present is determined by the local authority having jurisdiction. The unit shall be a complete assembly including UL listed and FM approved OSY shutoff valves. Including an auxiliary line consisting of an approved backflow preventer and water meter. The assembly shall meet the requirements of AWWA C511-92; ASSE 1047; UL Classified File No. EX3185; CSA B64 and USC Manual 8th. Edition. Assembly shall be a Watts Series 909RPDA.

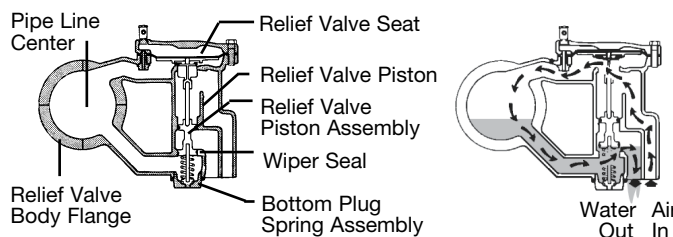


909RPDA0SY



How it operates

The unique relief valve construction incorporates two channels: one for air, one for water. When the relief valve opens, as in the accompanying air-in/water-out diagram, the right-hand channel admits air to the top of the reduced pressure zone, relieving the zone vacuum. The channel on the left then drains the zone to atmosphere. Therefore, if both check valves foul, and simultaneous negative supply and positive backpressure develops, the relief valve uses the air-in/water-out principle to stop potential backflow.



Now Available
WattsBox Insulated Enclosures.

For more information, send for literature ES-WB.

NOTICE

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

NOTICE

Inquire with governing authorities for local installation requirements

Watts product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact Watts Technical Service. Watts reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on Watts products previously or subsequently sold.

WATTS®

Models

Suffix:

- OSY – UL/FM outside stem and yoke resilient seated gate valves
- CFM – cubic feet per minute meter
- GPM – gallons per minute meter
- LF – less shutoff valves

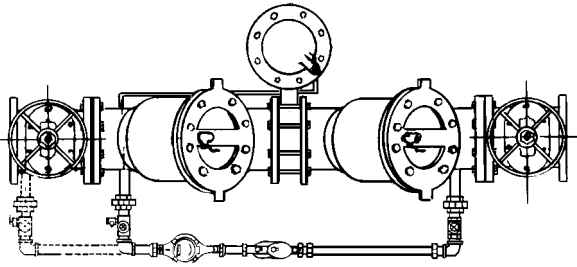
Materials

- Discs: Rubber
- Body: Epoxy coated cast iron
- Seat and Disc Holder: Bronze
- Trim: Stainless steel
- Test Cocks: Bronze

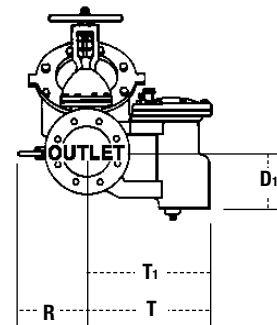
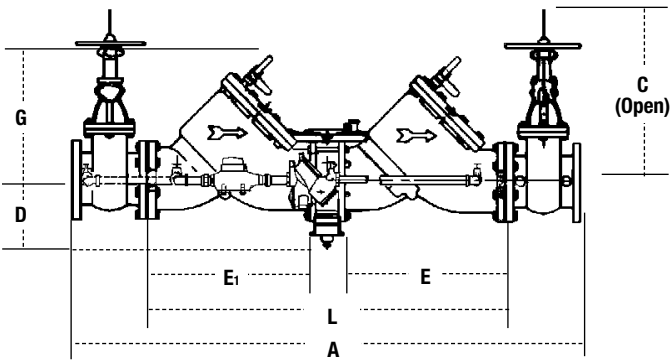
Pressure – Temperature

- Temperature Range: 33°F – 140°F (0.5°C – 60°C) continuous
- Maximum Working Pressure: 175psi (12.1 bar)

Dimensions – Weights



NOTE: Piping for 3" 909 will start from #1 gate valve and connect at #2 check valve.



SIZE (DN)		DIMENSIONS										WEIGHT											
in.	mm	A		C		D		D1		E, E1		G		L		R		T		T1		lbs.	kgs.
		in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm		
2½	65	41¼	1070	16⅞	416	5¼	133	4¼	114	12	305	7	178	26⅞	664	14	356	9	229	7⅞	194	230	104
3	80	42¼	1070	18⅞	479	5¼	133	4¼	114	12	305	7	178	26⅞	664	14	356	9	229	7⅞	194	230	104
4	100	55⅞	1400	22⅞	578	6	152	5⅞	149	17	432	9½	241	37	940	15	381	13⅝	346	11¾	299	470	213
6	150	65½	1664	30⅞	765	6	152	6	152	20¾	527	14½	368	45	1130	16	406	13⅝	346	11¾	299	798	362
8	200	78½	1994	37¼	959	9¾	248	8⅝	219	26	660	18½	470	55¼	1403	17	432	18½	470	16⅝	416	1456	660
10	250	93⅝	2378	45¼	1162	9¾	248	8⅝	219	32	813	21½	546	67½	1715	18	457	18½	470	16⅝	416	2230	1012

Standards

- AWWA C511-92; CSA B64
- USC Manual for Cross-connection Control, 8th Edition

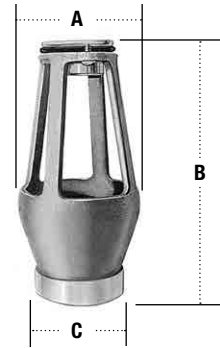
Approvals



Approved by the foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California.

Series 909AG AIR GAPS

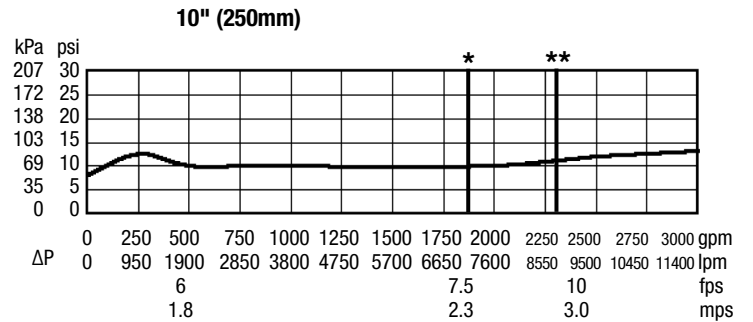
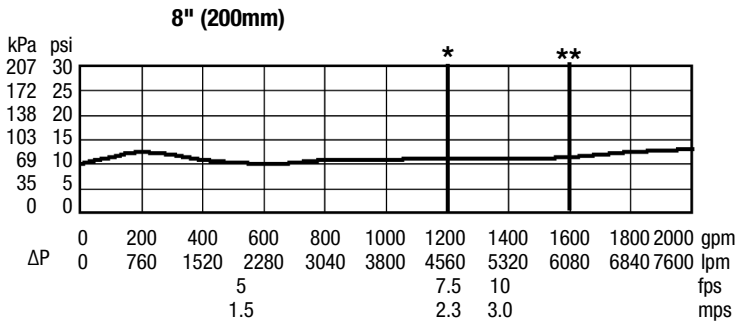
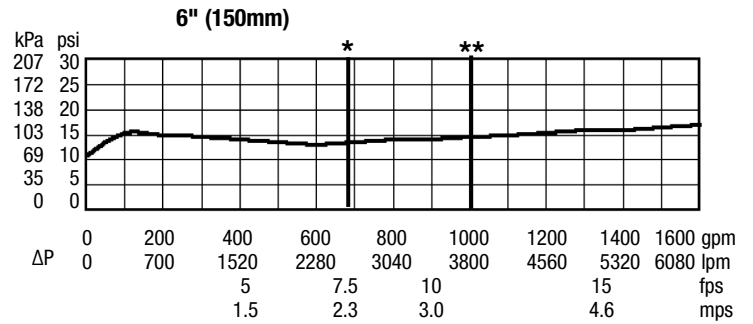
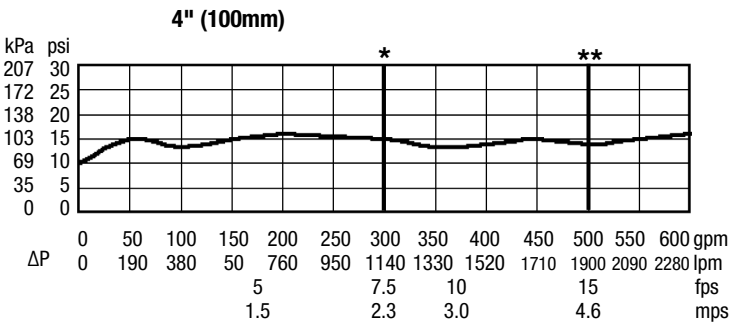
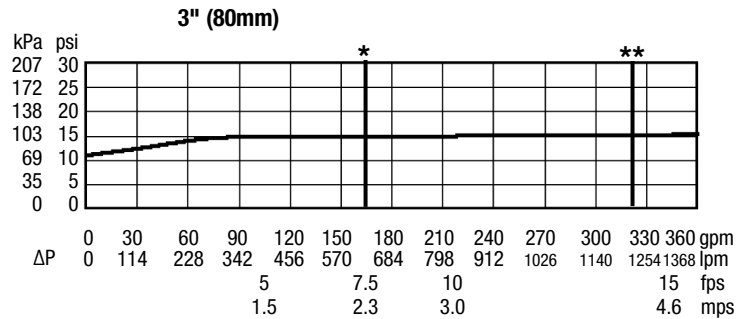
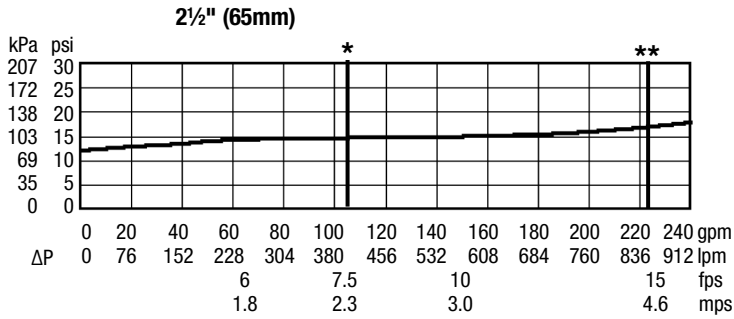
When installing a drain line, use Series 909 air gaps on Model 909 backflow preventers.



Iron Body Model	Ordering Code	Series/Sizes	Dimensions			Weight	
			A in. mm	B in. mm	C in. mm	lbs	kgs
909AG-F	0881378	1¼" – 3" 009/909	4⅜" 111	6¾ 171	2 51	3.25	1.47
		1¼" – 2" 009 M1					
		2" 009 M2					
909AG-K	0881385	4" – 6" 909 8" – 10" 909 M1	6⅝" 162	9⅝ 244	3 76	6.25	2.83
909AG-M	0881387	8" – 10" 909	7⅞" 187	11¼ 286	4 102	15.50	7.03

Capacity

*Typical maximum flow rate (7.5 feet/sec.) **UL rated flow





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Latin America: T: (52) 81-1001-8600 • F: (52) 81-8000-7091 • Watts.com

Engineering Specification

Job Name _____
 Job Location _____
 Engineer _____
 Approval _____

Contractor _____
 Approval _____
 Contractor's P.O. No. _____
 Representative _____

LEAD FREE*

Series LF909

Reduced Pressure Zone Assemblies

Sizes: 2½" – 10"

Series LF909 Reduced Pressure Zone Assemblies are designed to provide cross-connection control protection of the potable water supply in accordance with national plumbing codes. This series can be utilized in a variety of installations, including health hazard cross-connections in plumbing systems or for containment at the service line entrance. With its exclusive relief valve design incorporating the "air-in/water-out" principle, it provides substantially improved relief valve discharge performance during the emergency conditions of combined backsiphonage and backpressure with both checks fouled. The LF909 features Lead Free* construction to comply with Lead Free* installation requirements.

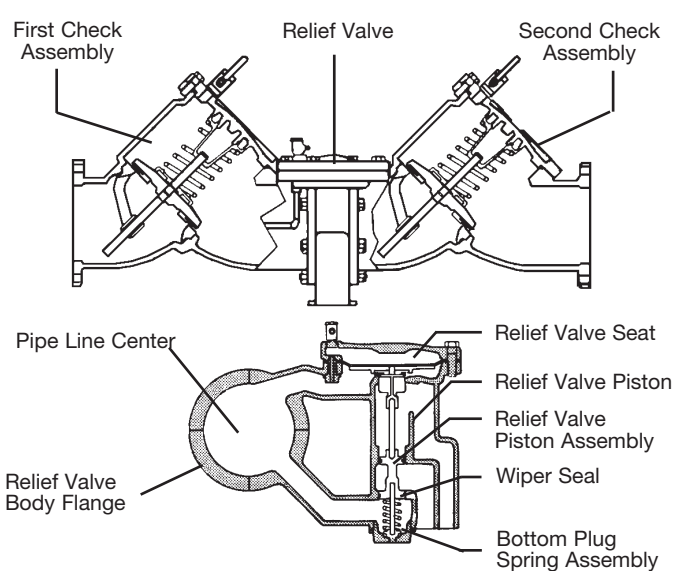
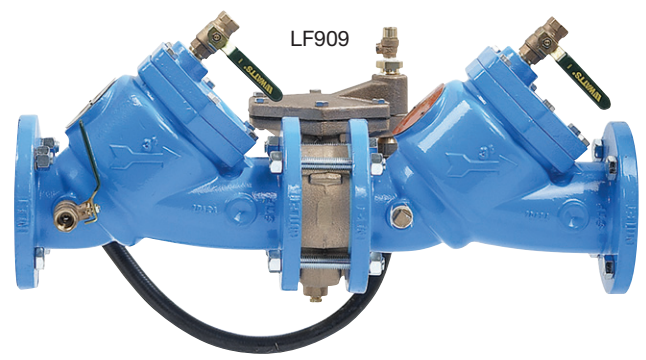
Series LF909 is also available with SentryPlus™ Alert technology to detect catastrophic relief valve discharge that could potentially cause flooding, and issue a multi-channel alert (call, e-mail, text) to selected users so they can take action to avoid potentially costly flooding.

Features

- Replaceable seats
- Stainless steel internal parts
- No special tools required for servicing
- Captured spring check assemblies
- Fused epoxy coated & lined checks
- Industrial strength sensing hose
- Field reversible relief valve
- Air-in/water-out relief valve design provides maximum capacity during emergency conditions

Specifications

A Reduced Pressure Zone Assembly shall be installed at each cross-connection to prevent backsiphonage and backpressure backflow of hazardous materials into the potable water supply. The assembly shall consist of a pressure differential relief valve located in a zone between two positive seating check valves and captured springs. Backsiphonage protection shall include provision to admit air directly into the reduced pressure zone via a separate channel from the water discharge channel. The assembly shall include two tightly closing shutoff valves before and after the valve and test cocks. The Lead Free* Reduced Pressure Zone Assembly shall comply with state codes and standards, where applicable, requiring reduced lead content. The assembly shall meet the requirements of ASSE Std. 1013; AWWA Std. C511-92; CSA B64.5; and UL Classified File No. EX3185. Listed by IAPMO (UPC). Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California. The assembly shall be a Watts Series LF909.



Now Available
WattsBox Insulated Enclosures.
 For more information, send for literature ES-WB.

NOTICE

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

NOTICE

Inquire with governing authorities for local installation requirements

***The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.**

Watts product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact Watts Technical Service. Watts reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on Watts products previously or subsequently sold.



Available Models & Options

Suffix:	
LF –	without shutoff valves
NRS –	non-rising stem resilient seated gate valves
OSY -	UL/FM outside stem & yoke resilient seated gate valves
S-FDA –	FDA epoxy coated strainer
ALERT	with SentryPlus™ Alert flood detection system

Note: The installation of a drain line is recommended. When installing a drain line, an air gap is necessary.

Materials

Check Valve Bodies: FDA epoxy coated cast iron
Seats: Stainless steel
Trim: Stainless steel
Relief Valve Body: 2½"-3" Lead Free* cast copper silicon alloy
4"-10" FDA epoxy coated cast iron
Test Cocks: Lead Free* copper silicon alloy

Pressure — Temperature

Temperature Range: 33°F-110°F (0.5°C-43°C) continuous,
140°F (60°C) intermittent

Maximum Working Pressure: 175psi (12.06 bar)

Standards

AWWA C511-92
IAPMO PS 31, SBCCI (Standard Plumbing Code)
USC manual for Cross-Connection Control, 8th Edition

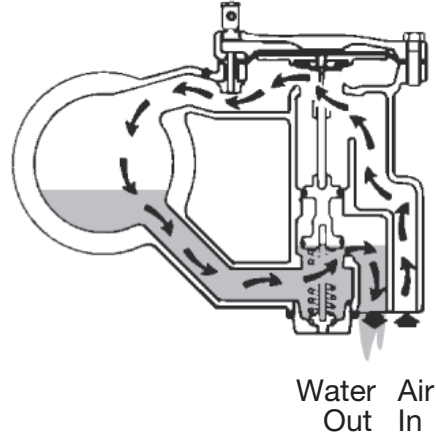
Approvals



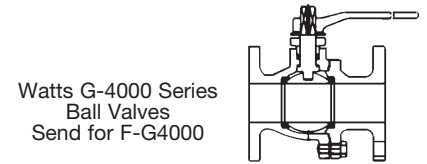
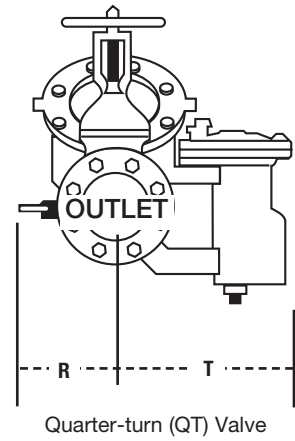
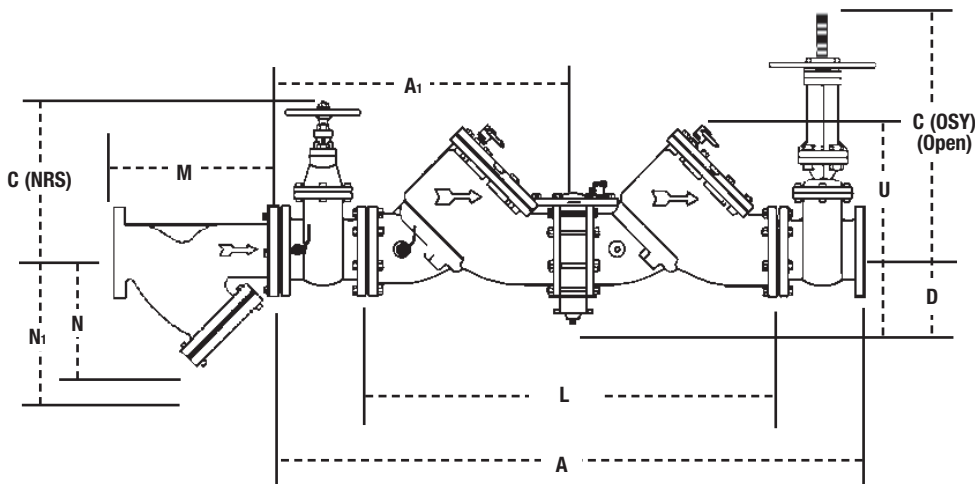
Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California.

How It Operates

The unique relief valve construction incorporates two channels: one for air, one for water. When the relief valve opens, as in the accompanying air-in/water-out diagram, the right-hand channel admits air to the top of the reduced pressure zone, relieving the zone vacuum. The channel on the left then drains the zone to atmosphere. Therefore, if both check valves foul, and simultaneous negative supply and positive backpressure develops, the relief valve uses the air-in/water-out principle to stop potential backflow.



Dimensions – Weights



NOTE: Valve may be furnished with (2) OSY or (2) NRS Shutoffs.

NOTE: Relief valve section is reversible, therefore, can be on either side and is furnished standardly as shown. Carla.Long@wattswater.com

SIZE	DIMENSIONS												WEIGHT													
	A		A1		C clearance for check		D		L		U		R		R (QT)		T		NRS		OSY		QT			
in.	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kgs.	lbs.	kgs.	lbs.	kgs.		
2½	41½	1053	20¾	527	16¾	416	9¾	238	5¼	133	26¾	669	11	279	4	102	16	406	9¼	230	195	88.4	198	89.8	182	82.6
3	42½	1079	21¼	539	18¾	479	10¼	260	5¼	133	26¾	669	11	279	5	127	16	406	9¼	230	225	102	230	104	190	86
4	55½	1405	27¾	702	22¾	578	12¾	310	6	152	37¾	944	14	356	6	152	19¾	502	14¾	365	455	206	470	213	352	160
6	65½	1672	33	836	30¾	765	16	406	6	152	44½	1134	16	406	11	279	26	660	14¾	365	718	326	798	362	762	346
8	78½	1995	39¾	998	37¾	959	19½	506	9¾	248	55½	1404	21	533	11¼	286	11¼	286	19¼	489	1350	612	1456	660	2286	1037
10	93½	2376	46¾	1188	45¾	1162	23½	605	9¾	248	67¾	1709	21	533	12½	318	12½	318	21	533	2160	980	2230	1011	3716	1685

*UL, FM approved backflow preventers must include UL/FM approved OSY gate valves.

Strainer Dimensions

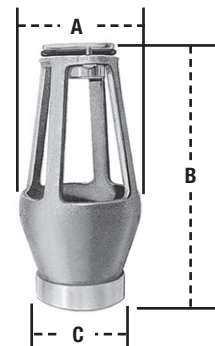
SIZE	DIMENSIONS						WEIGHT	
	M		N†		N		lbs.	kgs.
in.	in.	mm	in.	mm	in.	mm	lbs.	kgs.
2½	10	254	10	254	6½	165	28	12.7
3	10½	267	10	254	7	178	34	15.4
4	12½	308	12	305	8¼	210	60	27
6	18½	470	20	508	13½	343	133	60
8	21½	549	22¾	578	15½	394	247	112
10	26	660	28	711	18½	470	370	168

† – Dimension required for screen removal

Air Gap Dimensions

When installing a drain line on Series 909 backflow preventers that are installed horizontally, use 909 AG series air gaps.

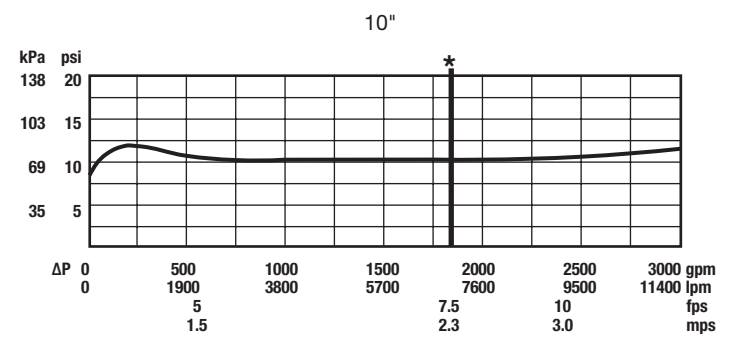
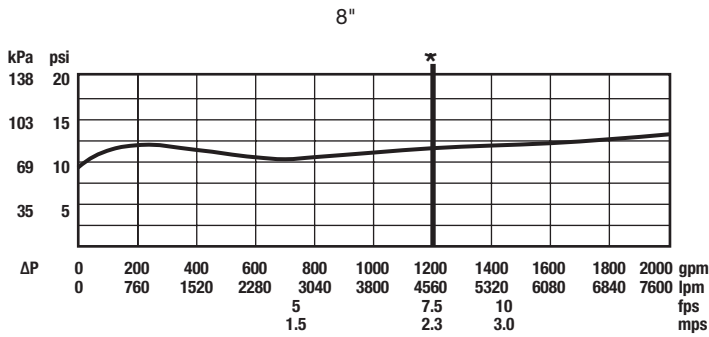
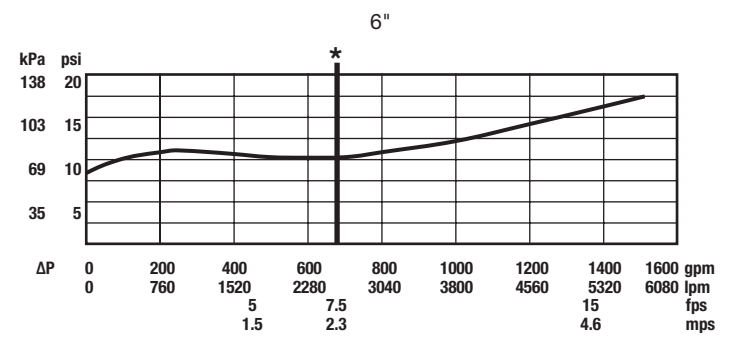
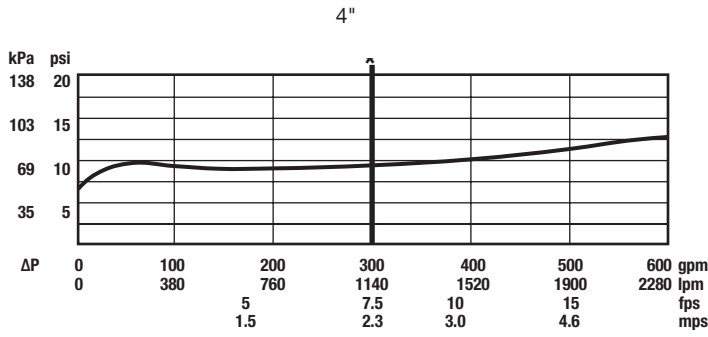
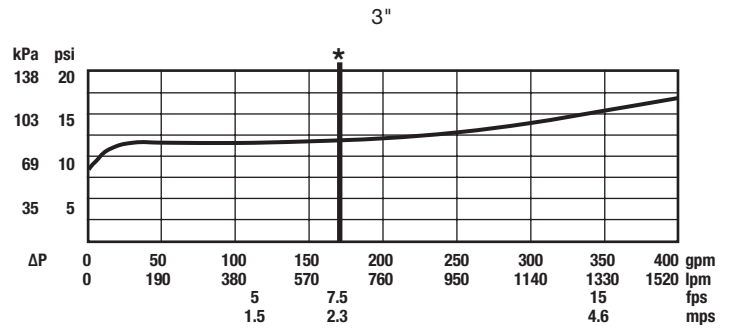
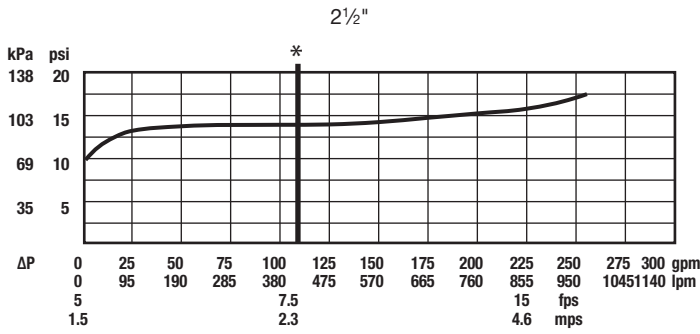
IRON BODY MODEL NO.	ORDERING CODE	SERIES/SIZES	DIMENSIONS			WEIGHT				
			A	B	C	lbs	kgs			
			in.	mm	in.	mm	in.	mm	lbs	kgs
909AG-F	881378	1¼" – 3" 009/909 1¼" – 2" 009 M1 2" 009 M2	4¾	111	6¾	171	2	51	3.25	1.47
909AG-K	881385	4" – 6" 909 8" – 10" 909 M1	6¾	162	9¾	244	3	76	6.25	2.83
909AG-M	881387	8" – 10" 909	7¾	187	11¼	286	4	102	15.5	7.03



For flange size backflow preventers installed vertically (flow down), a fabricated air gap is recommended.

Capacity

*Typical maximum flow rate (7.5 feet/sec.)



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A PRODUCT SHEET OF NEPTUNE TECHNOLOGY GROUP

TRU/FLO[®] Compound Meter

SIZES: 2"HP, 3", 4", 6", AND 6"X8"



All TRU/FLO[®] Compound water meters meet or exceed the latest performance and accuracy requirements set by the AWWA C702, and maximum continuous flow rates may be exceeded by as much as 25% for intermittent periods.

Application

The TRU/FLO Compound water meter is designed to register wide flow ranges where varying flow rates are typical. TRU/FLO meters combine the low-flow sensitivity of a disc-type meter with the high-flow capacity of a turbine-type meter.

Operation

The hydraulic valve transfers flow smoothly between the disc section and turbine section of the meter, minimizing the loss of accuracy in the crossover range. The turbine measuring element registers high flows and the disc measuring element registers low flows, ensuring accurate measurement at all flow rates.

Construction

The TRU/FLO consists of a durable, lead free, high-copper alloy maincase, Neptune[®] High Performance (HP) or Trident[®] Turbine measuring element, Neptune T-10[®] chamber, and two magnetic-driven, roll-sealed registers.

The 6" x 8" TRU/FLO assembly consists of two 6" x 8" concentric reducers, a 6" Neptune strainer, and a 6" Neptune TRU/FLO Compound meter.

The lead free, high-copper maincase is corrosion-resistant, lightweight, and easy to handle.

A calibration vane allows field calibration of the UME to lengthen service life and to ensure accurate registration.

The two magnetic-driven, roll-sealed registers simplify the meter's design and reduce long-term maintenance by eliminating complicated combining drive mechanisms. For reading convenience, the registers can be mounted in any one of four positions on the meter.

Warranty

Neptune provides a limited warranty with respect to its TRU/FLO Compound water meters for performance, materials, and workmanship.

When desired, owner maintenance is easily accomplished by in-line replacement of major components, or a factory-calibrated UME.

KEY FEATURES

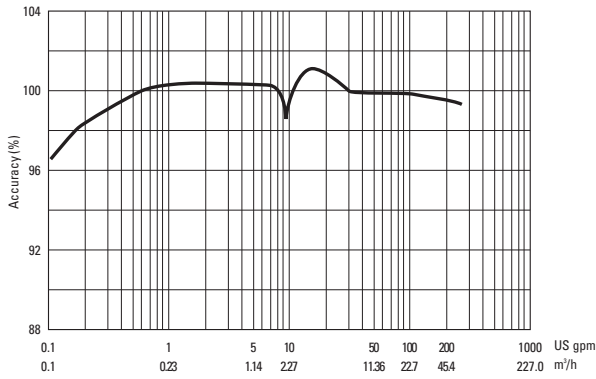
Minimum loss of accuracy in the crossover range increases revenue

Spring-loaded valve eliminates need for frequent adjustment and service

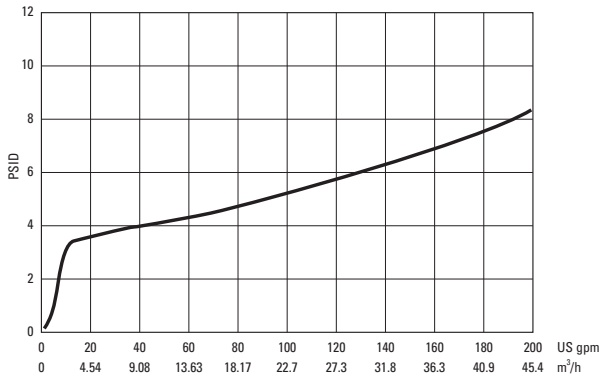
Combined turbine and disc measuring elements

- Industry-leading flow ranges at 98.5%–101.5% accuracy ensure maximum revenue
 - Direct coupling of rotor to gear train ensures accurate registration
 - Unitized Measuring Element (UME) makes maintenance easier and faster with less downtime
 - Calibration vane allows in-line service to extend life and ensure accurate registration
- Compact maincase
- Made from lead free, high-copper alloy
 - NSF/ANSI 372 certified and NSF/ANSI 61 compliant
 - Lifetime guarantee
 - Compact, lightweight design provides for easy installation and in-line serviceability

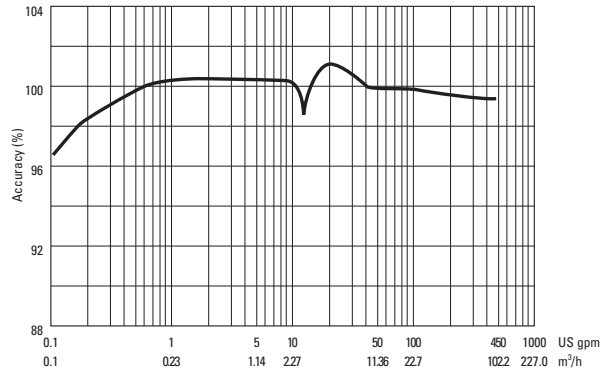
2" Accuracy



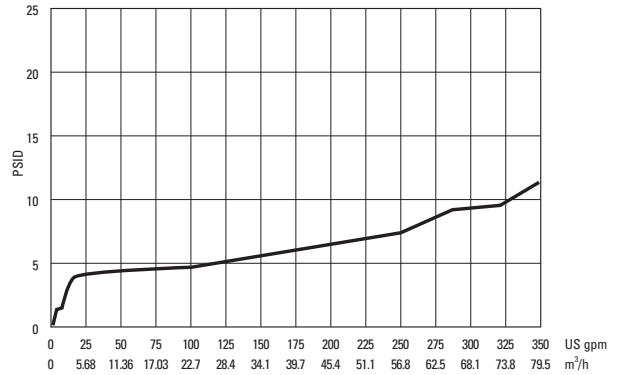
2" Pressure Loss



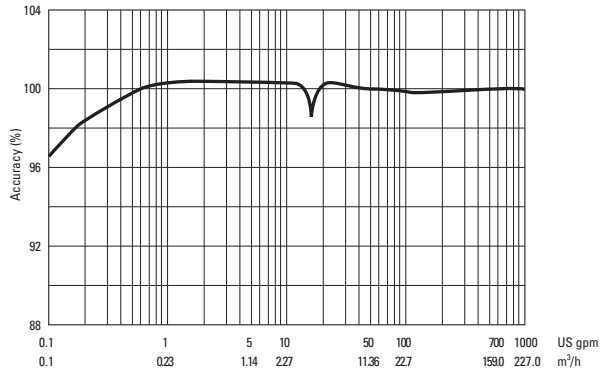
3" Accuracy



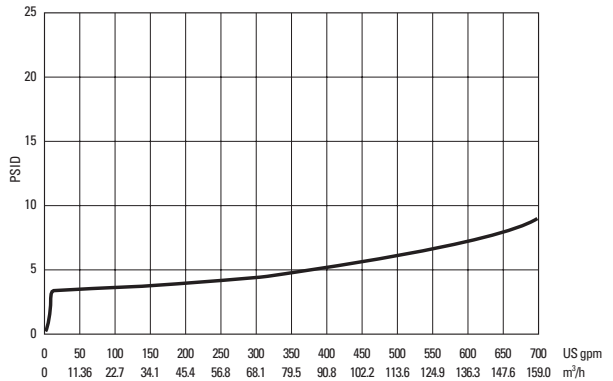
3" Pressure Loss



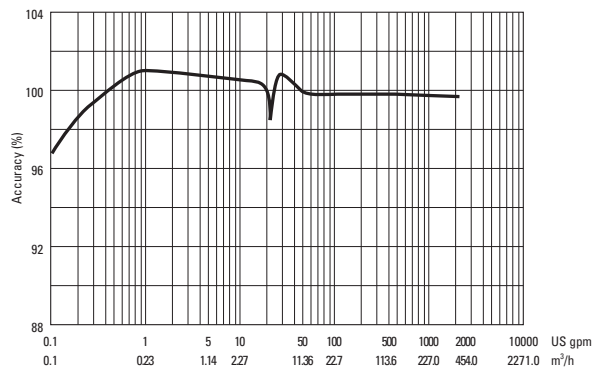
4" Accuracy



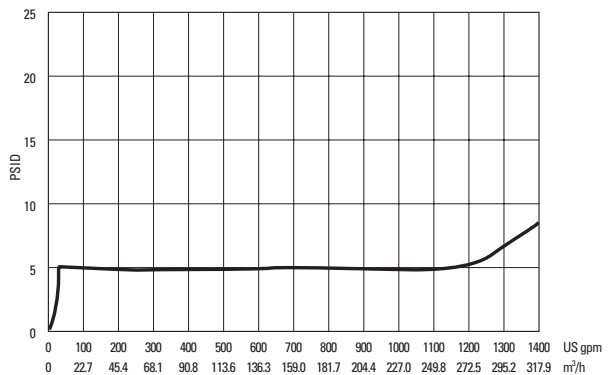
4" Pressure Loss



6" Accuracy



6" Pressure Loss



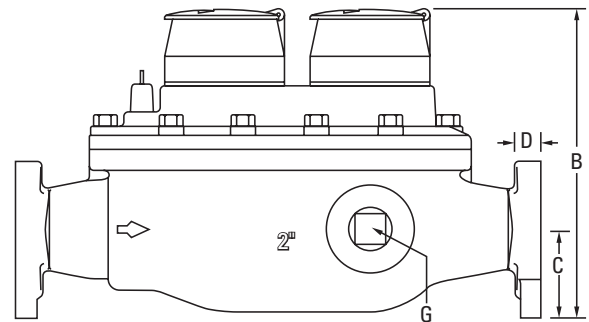
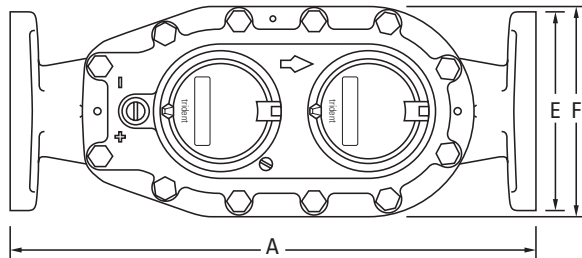
Operating Characteristics

Meter Size	Normal Operating Range @100% Accuracy (±1.5%)	AWWA Standard	Low Flow @ 95% - 101% Accuracy
2"	½ to 200 US gpm 0.11 to 45.4 m³/h	1 to 160 US gpm .227 to 36.34 m³/h	⅛ US gpm 0.03 m³/h
3"	½ to 450 US gpm 0.11 to 102.2 m³/h	2 to 350 US gpm .454 to 79.5 m³/h	⅛ US gpm 0.03 m³/h
4"	1 to 1000 US gpm 0.23 to 227.1 m³/h	3 to 600 US gpm .68 to 136.3 m³/h	½ US gpm 0.11 m³/h
6"	1 ½ to 2000 US gpm 0.34 to 454.2 m³/h	5 to 1350 US gpm 1.14 to 306.6 m³/h	¾ US gpm 0.17 m³/h
6" x 8"	1 ½ to 2000 US gpm 0.34 to 454.2 m³/h	16 to 1600 US gpm 3.63 to 363.4 m³/h	¾ US gpm 0.17 m³/h

*Accuracy at changeover 90% -103% per AWWA C702

Dimensions

Meter Size	B				C in/mm	D in/mm	E in/mm	F in/mm	G in/mm	Flange Type	Weight lbs/kg
	A in/mm	E-CODER® OR ProCoder™ in/mm	ProRead™ in/mm	E-CODER®) R900i™ or ProCoder™) R900i™ in/mm							
2" HP	15 ¼ 387	9 ⅜ 238	9 ⅞ 243	9 ⅜ 238	2 ½ 64	1 ⅜ 21	5 ⅞ 149	6 152	1 ½ NPT 38	2" Oval 150lb	32 14.5
3"	17 432	11 ½ 292	11 ¾ 298	11 ½ 292	3 ¾ 95	⅝ 16	7 ½ 191	8 ½ 216	1 ½ NPT 38	3" ANSI 150lb	72 32.7
4"	20 508	13 ⅜ 340	13 ⅞ 345	13 ⅜ 340	4 ½ 114	1 ⅛ 17	9 229	9 ⅞ 232	2 NPT 51	4" ANSI 150lb	100 45.4
6"	24 610	16 ⅜ 416	16 ⅞ 421	16 ⅜ 416	5 ½ 140	1 25	11 279	12 ¾ 324	2 NPT 51	6" ANSI 150lb	208 94.3
6" x 8"	55 ⅜ 1407	16 ⅜ 416	16 ⅞ 421	16 ⅜ 416	5 ½ 140	1 25	11 279	12 ¾ 232	2 NPT 51	8" ANSI 150lb	460 208.50



Guaranteed Systems Compatibility

All Neptune TRU/FLO Compound meters are guaranteed adaptable to our ARB®V, ProRead™ (ARB VI), ProCoder™, E-CODER®, E-CODER®)R900i™, E-CODER®)R450i™, TRICON®/S, TRICON/E®3, and Neptune meter reading systems without removing the meter from service.

Systems Compatibility

Adaptability to all present and future systems for flexibility.

Registration

Registration (per sweep hand revolution)	Turbine Side		Disc Side
	2", 3", 4"	6", 6" x 8"	2", 3", 4", 6", 6" x 8"
1,000 US Gallons		✓	
1,000 Imperial Gallons		✓	
100 US Gallons	✓		
100 Imperial Gallons	✓		
100 Cubic Feet		✓	
10 US Gallons			✓
10 Imperial Gallons			✓
10 Cubic Feet	✓		
10 Cubic Metres		✓	
1 Cubic Foot			✓
1 Cubic Metre	✓		
0.1 Cubic Metre			✓

Register Capacity (6-wheel odometer)	Turbine Side		Disc Side
	2", 3", 4"	6", 6" x 8"	2", 3", 4", 6", 6" x 8"
1,000,000,000 US Gallons		✓	
1,000,000,000 Imperial Gallons		✓	
100,000,000 US Gallons	✓		
100,000,000 Imperial Gallons	✓		
100,000,000 Cubic Feet		✓	
10,000,000 US Gallons			✓
10,000,000 Imperial Gallons			✓
10,000,000 Cubic Feet	✓		
10,000,000 Cubic Metres		✓	
1,000,000 Cubic Feet			✓
1,000,000 Cubic Metres	✓		
100,000 Cubic Metres			✓

Specifications

Application

- Cold water measurement of flow in one direction

Maximum Operating Pressure

- 150 psi (1034 kPa)

Maximum Operating Temperature

- 80°F

Register

- Direct reading, center sweep, roll-sealed, magnetic drive with low-flow indicator

Measuring Element

- AWWA Class II Turbine, hydrodynamically balanced rotor
- Nutating disc

Options

Sizes

- 2" HP, 3", 4", 6", and 6" x 8"

Units of Measure

- U.S. gallons, imperial gallons, cubic feet, cubic metres

Register Types

- Remote reading systems: ProRead, ProCoder, E-CODER, E-CODER)R900i, E-CODER)R450i, TRICON/S, TRICON/E3

- Reclaim

Companion Flanges

- 2", 3", 4" bronze or cast iron
- 6", 6" x 8" cast iron

Strainer

- 2", 3", 4", 6" NSF/ANSI 372 and NSF/ANSI 61 lead free, high-copper alloy



Project Fifi
Packard Road & Lockport Road
Town of Niagara, New York

Appendix D

Water Distribution System Specifications

SECTION 331101
WATER UTILITY DISTRIBUTION PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Water distribution piping.
- B. Related Sections include the following:
 - 1. Section 331216 – Water Utility Distribution Valves.
 - 2. Section 331219 – Utility Distribution Fire Hydrants.

1.3 REFERENCES

- A. Recommended Standards for Water Works (Ten State Standards) latest Edition.

1.4 SUBMITTALS

- A. Product Data: For the following:
 - 1. Piping specialties.
- B. Field Quality-Control Test Reports: From Contractor. Identify the following:
 - 1. System Test: Conducted section-by-section or as an entire system.

1.5 QUALITY ASSURANCE

- A. Regulatory Requirements:
 - 1. Comply with requirements of utility company supplying water.
 - 2. Comply with standards of authorities having jurisdiction for potable-water-service piping, including materials, installation, testing, and disinfection.
 - 3. Comply with standards of authorities having jurisdiction for fire-suppression water-service piping, including materials, hose threads, installation, and testing.
 - 4. Comply with the requirements of the American Water Works Association, AWWA.
 - a. C104 – Cement-Mortar Lining for Ductile Iron Pipe and Fittings.
 - b. C151 – Ductile Iron Pipe.
 - c. C600 – Installation of Ductile Iron Water Mains and Their Appurtenances
 - d. C605 – Underground Installation of Polyvinyl Chloride (PVC)
 - e. C900 – Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fitting
 - 5. Comply with Great Lakes – Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers, “Recommended Standards for Water Works”, latest edition.

6. Comply with Occupational Safety and Health Administration, OSHA, Standards 29 CFR, Section 1926, Subpart P and its latest revision.
7. Water and Sewer/Stormwater Line Separations:
 - a. Horizontal Separation from Water Mains: 10 feet minimum clear.
 - b. Vertical Separation from Water Mains: 18 inches minimum clear.
 - 1) If existing conditions prevent minimum vertical separation:
 - a) Construct sewer of PVC pressure pipe material 10 feet on each side of the water main/sewer crossing. The sewer is to be pressure tested.
 - b) Encase sewer pipe in concrete, 4 feet on each side of the water main/sewer crossing. Concrete encasement shall be a minimum of 6 inches around the sewer pipe.
 - c. Where a water main crosses under a sewer, provide adequate structural support for sewer to maintain line and grade.
- B. Piping materials shall bear label, stamp, or other markings of specified testing agency. Defective pipe or fittings found after installation shall be removed and replaced by the Contractor at his own expense.
- C. Disinfection of water mains and appurtenances: AWWA C651, excluding Section 5.1 covering the tablet method.
- D. Inspection of pipes and appurtenances prior to backfilling.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Handling: Use sling to handle valves and fire hydrants if size requires handling by crane or lift. Rig valves to avoid damage to exposed parts. Do not use hand wheels or stems as lifting or rigging points. Unload materials so as to avoid shock or damage. Handle and store all pipe in such a manner as to avoid deterioration or other injury thereto. Place no pipe within pipe of a larger size. Store pipe and fittings on sills above storm drainage level and delivery for laying after the trenches are excavated. Valves and hydrants shall be drained and stored to protect them from damage.
- B. Deliver piping with factory-applied end caps. Maintain end caps through shipping, storage, and handling to prevent pipe-end damage and to prevent entrance of dirt, debris, and moisture.
- C. Protect stored piping from moisture and dirt. Elevate above grade. Do not exceed structural capacity of floor when storing inside.
- D. Protect flanges, fittings, and specialties from moisture, dirt, and falling debris.
- E. Store plastic piping protected from direct sunlight. Support pipe to prevent sagging and bending.
- F. Do not store or place materials on private property without written approval from the property owner.

1.7 PROJECT CONDITIONS

- A. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after

arranging to provide temporary utility services according to requirements indicated:

1. Notify Civil Engineer not less than two days in advance of proposed utility interruptions.
2. Do not proceed with utility interruptions without Owner's and Civil Engineer's written permission.

1.8 COORDINATION

- A. Coordinate connection to water main with utility company or Town Water and Sewer Superintendent.

PART 2 - PRODUCTS

2.1 DUCTILE IRON PIPE AND FITTINGS

- A. Ductile Iron Water Pipe: Shall be Class 52, cement lined rated for 350 psi minimum working pressure conforming to ANSI A21.10/AWWA C110 and their latest revisions. Pipe shall be manufactured by US Pipe, Riderwood, Maryland (410) 828-4686 or approved equal.
- B. Mechanical-Joint, Ductile-Iron Pipe: AWWA C151, with mechanical-joint, bell- and plain-spigot end unless grooved or flanged ends are indicated.
 1. Mechanical-Joint, Ductile-Iron Fittings: AWWA C110, ductile- or gray-iron standard pattern or AWWA C153, ductile-iron compact pattern.
 2. Glands, Gaskets, and Bolts: AWWA C111, ductile- or gray-iron glands, rubber gaskets, and steel bolts.
- C. Push-on-Joint, Ductile-Iron Pipe: AWWA C151, with push-on-joint, bell- and plain-spigot end unless grooved or flanged ends are indicated.
 1. Push-on-Joint, Ductile-Iron Fittings: AWWA C110, ductile- or gray-iron standard pattern or AWWA C153, ductile-iron compact pattern.
 2. Gaskets: AWWA C111, rubber.
- D. Flanges: ASME 16.1, Class 125, cast iron.
- E. Insulation
 1. Insulation shall be installed on all water piping that has less than 5 feet of cover over top of the water pipe. The insulation shall extend until 5 feet of cover can be provided.
 2. Insulation for the water mains shall be made of fiberglass, cellular glass, urethane or cellular phenol in accordance with the NYSDOT 2016 Standard Specifications and shall conform to the requirements of:
 - a. Fiberglass Pipe Insulation ASTM C547
 - b. Cellular Glass Insulation ASTM C552
 - c. Urethane Foam Pipe Insulation ASTM C591
 - d. Spray Applied Urethane Insulation ASTM C1029
 - e. Rigid Cellular Phenolic Pipe Insulation ASTM C1126, Type III
 - f. Waterproof Jacket for Insulation ASTM C1136

2.2 POLYVINYL CHLORIDE (PVC) PIPE AND FITTINGS

- A. Pipe Material: PVC 1120 meeting ASTM cell classification 12454-B.

- B. PVC Pipe: Shall be AWWA C900 DR18 with material cell classification 12454-8 per ASTM D 1784, integral bell and spigot with elastomeric gasket and cast iron equivalent outside diameter.
 - 1. Provide pipe in standard 20-foot laying lengths. Random lengths are not permitted.
- C. Use AWG No. 8 stranded copper wire with high molecular weight polyethylene (HMW/PE) installation specifically designed for direct burial in corrosive soil or water. Polyethylene insulation shall conform to ASTM D 1248, Type 3, Class C, Grade 5. Wires with cut or damaged insulation are not acceptable and replacement of the entire wire which has been damaged will be required at the Contractor's expense. All tracer wire shall be tested and verified by the Town Engineer.
- D. When pipeline is located outside of paved street, provide marker for buried pipelines at 500 feet on center, horizontal change in pipe direction, or as directed by the Town Engineer. Use valve box top section and plug with lettering "WATER."
- E. Mechanical-Joint Restraints shall be Factory Mutual Approved, shall meet or exceed the requirements of ASTM F1674 of the latest version, and shall be Series 2000PV produced by EBAA Iron Inc. or approved equal.

2.3 JOINT RESTRAINT SYSTEM

- A. Restraining system shall include Field Lok gaskets as manufactured by Griffon Pipe Products Co., mechanical joints, restraining glands, lugs, clamps, rod couplings, nuts and washers as required or approved equal. All units shall be constructed of corrosion resistant material.
- B. The mechanical joint restraint for PVC shall be EBAA Iron Inc., Series 1912 for PVC to PVC connections, Series 19MJ12 for PVC to PVC fittings, Series 2012PV for PVC to DI fittings, or approved equal.
- C. Alternate: Concrete thrust block control at abrupt changes in pipeline grade, horizontal alignment, or reduction in pipe size. The pipe manufacturer's recommendations for thrust control shall be followed.

2.4 COUPLING

- A. The restrained coupling system shall be Series 3812 manufactured by EBAA Iron, Inc, or approved equal. Coupling for use on Ductile Iron Pipe (10 in.), and C900 PVC Pipe (10 in.)
- B. Coupling to be used to prevent axial separation when connecting two plain ends of same or dissimilar materials.
- C. The coupling sleeve internal surfaces shall be lined with a minimum of 15 mils of fusion bonded epoxy conforming to the applicable requirements of ANSI/AWWA C213. Sealing gaskets shall be constructed of SBR. The coating and gaskets shall meet ANSI/NSF-61. Exterior surfaces shall be coated with a minimum of 6 mils of fusion bonded epoxy conforming to the applicable requirements of ANSI/AWWA C116/A21.16. Ductile Iron components shall meet or exceed the requirements of ASTM A536, and shall be tested in accordance with said standard.

- D. The restrained mechanism shall incorporate a plurality of individually actuating gripping surfaces to maximize restraint capability, and have a torque limiting twist off nuts to insure proper actuating of the restraint devices. The restrained joining system shall meet the applicable requirements of AWWA C219, ANSI/AWWA C111/A21.11, and ASTM D2000.

2.5 PIPE BEDDING AND BACKFILL

- A. Pipe Bedding: Mixture of crushed stone and gravel, free of soft, nondurable particles, organic materials and elongated particles. The maximum diameter of the large particles shall not exceed $\frac{3}{4}$ inches. When in ledge, use AASHTO No. 67 or approved equal processed sand and gravel, free of debris, clay lumps, organic, or other deleterious material.
- B. Pipe Backfill: Mixture of crushed stone and gravel, free of soft, nondurable particles, organic materials and elongated particles. The maximum diameter of the large particles shall not exceed $\frac{3}{4}$ inches.

PART 3 - EXECUTION

3.1 EXCAVATION

- A. For Utility Trenches:
 - 1. Excavate trenches to indicated gradients, lines, depths, and elevations.
 - 2. Excavate trenches to uniform widths to provide the following clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit unless otherwise indicated.
 - a. Clearance: 12 inches each side of pipe or conduit.
 - 3. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove projecting stones and sharp objects along trench subgrade.
 - a. Excavate trenches 6 inches deeper than elevation required in rock or other unyielding bearing material, 4 inches deeper elsewhere, to allow for bedding course.
 - 4. Trenches in Tree- and Plant-Protection Zones:
 - a. Hand-excavate to indicated lines, cross sections, elevations, and subgrades. Use narrowtine spading forks to comb soil and expose roots. Do not break, tear, or chop exposed roots. Do not use mechanical equipment that rips, tears, or pulls roots.
 - b. Do not cut main lateral roots or taproots; cut only smaller roots that interfere with installation of utilities.

3.2 INSTALLATION

- A. Inspect pipe and fittings prior to installation to preclude installation of defective materials
- B. Install Work in accordance with the Town of Gates, New York State Department of Health and the recommended Standards for Water Works (Ten State Standards) latest Edition.

- C. Install piping as shown on the Drawings.
- D. Install underground piping with restrained joints at horizontal and vertical changes in direction; additional concrete thrust blocks to be added as directed by the Town/Village for added strength. Mechanical joint restraint shall require conventional tools and installation procedures per AWWA C600, while retaining full mechanical joint deflection during assembly as well as allowing joint deflection after assembly. Proper actuation of the gripping wedges shall be ensured with torque limiting twist off nuts.
- E. All fittings shall be supported independently from the pipe in such a manner that no part of the weight of the fitting is held by the pipe.
- F. Fittings and pipe within structures shall be placed to line and grade and properly supported before joints are made. The Contractor shall furnish all the necessary pipe supports, including stirrups, rods, clamps, hangers, pipe columns and piers, necessary to sustain the pipe and fittings in a firm and substantial manner to the lines and grades given.
- G. Each valve and valve box shall be installed in accordance with the manufacturers' recommendations or as directed.
- H. The Contractor shall construct and install hydrants in the locations shown on the Drawings and/or as directed.
- I. Bury piping with depth of cover shown on the Drawings.
- J. Install bedding at sides and over top of pipe. Pipe backfill to be installed a minimum of 12 inches overtop of the pipe and compacted in 6 inch loose lifts maximum.

3.3 ANCHORAGE INSTALLATION

- A. Install anchorages for tees, plugs and caps, bends, crosses, valves, and hydrant branches.

3.4 UTILITY TRENCH BACKFILL

- A. Place backfill on subgrades free of mud, frost, snow, or ice.
- B. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.
- C. Place and compact initial backfill of subbase material, free of particles larger than 1 inch in any dimension, to a height of 12 inches over the pipe or conduit.
 - 1. Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of piping or conduit to avoid damage or displacement of piping or conduit. Coordinate backfilling with utilities testing.
- D. Place and compact final backfill of satisfactory soil to final subgrade elevation.
- E. Install detectable warning tape directly above utilities, 12 inches below finished grade.

3.5 IDENTIFICATION

- A. For PVC pipe: Prior to backfill, install tracer wire on top and secure in place with 2-inch wide adhesive tape at maximum 10-foot interval. Maintain tracer wire on pipe centerline during trench backfill. Run tracer wire continuously along pipe and terminate in adjacent termination boxes. Location of all tracer wire termination boxes installed shall be noted on the field drawings. Provide 24-inches of coiled wire at access points for attachment of pipe locating equipment. Protect wire insulation from damage during installation and backfilling.
- B. For DI pipe: After the pipe zone and the first 12-inches in the trench zone have been backfilled and compacted, place the marking tape on the compacted backfill and center over the pipe. Run tape continuously along the trench and tie ends of tape together. Wrap marking tape around valve box extension pipes and continue along pipe.

3.6 FIELD QUALITY CONTROL

- A. All pipelines carrying water shall be tested for strength and tightness after installation. All testing shall conform to the Town of Gates and AWWA C600, latest edition.
- B. The working pressure of the water main is at the point of extension is 92 psi.
- C. Piping Tests: Conduct piping tests before joints are covered and after concrete thrust blocks (if present) have hardened sufficiently or as directed by the Town/Village. Fill pipeline 24 hours before testing and apply test pressure to stabilize system. Test pressure shall be 150 psi or 1.5 times working pressure, whichever is greater, or as directed by the Town/Village. All aspects of the test, duration, allowable leakage, etc., shall be in accordance with the latest AWWA standards. Use only potable water.
- D. Hydrostatic Tests: Test at not less than one-and-one half times working pressure for two hours. Increase pressure in 50-psig increments and inspect each joint between increments. Hold at test pressure for 1 hour; decrease to 0 psig. Slowly increase again to test pressure and hold for 1 more hour. Maximum allowable leakage is 2 quarts per hour per 100 joints. Remake leaking joints with new materials and repeat test until leakage is within allowed limits.
 - 1. The hydrostatic pressure shall be 150 psi.
- E. Prepare reports of testing activities.

3.7 CLEANING AND DISINFECTION

- A. Disinfection will be performed after the pipe has passes any leakage tests.
- B. The Municipality and Civil Engineer shall be notified at least 48 hours prior to the start of pressure testing, leakage testing, and disinfection.
- C. Disinfection will be performed in accordance with the drawings and AWWA C651, excluding Section 5.1 covering the tablet method.
- D. Prepare reports of disinfecting activities

END OF SECTION 331101

SECTION 331216
WATER UTILITY DISTRIBUTION VALVES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Water distribution piping.
- B. Related Sections include the following:
 - 1. Section 331101 – Water Utility Distribution Piping.
 - 2. Section 331219 – Utility Distribution Fire Hydrants.

1.3 REFERENCES

- A. Recommended Standards for Water Works (Ten State Standards) latest Edition.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Field quality-control test reports.

1.5 QUALITY ASSURANCE

- A. Regulatory Requirements:
 - 1. Comply with requirements of utility company supplying water.
 - 2. Comply with the requirements of the American Water Works Association, AWWA.
 - a. C104 – Cement-Mortar Lining for Ductile Iron Pipe and Fittings.
 - b. C151 – Ductile Iron Pipe.
 - c. C600 – Installation of Ductile Iron Water Mains and Their Appurtenances
 - d. C605 – Underground Installation of Polyvinyl Chloride (PVC)
 - e. C900 – Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fitting
 - 3. Comply with Great Lakes – Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers, “Recommended Standards for Water Works”, latest edition.
 - 4. Comply with Occupational Safety and Health Administration, OSHA, Standards 29 CFR, Section 1926, Subpart P and its latest revision.
 - 5. Water and Sewer/Stormwater Line Separations:
 - a. Horizontal Separation from Water Mains: 10 feet minimum clear.
 - b. Vertical Separation from Water Mains: 18 inches minimum clear.
 - 1) If existing conditions prevent minimum vertical separation:

- a) Construct sewer of PVC pressure pipe material 10 feet on each side of the water main/sewer crossing. The sewer is to be pressure tested.
 - b) Encase sewer pipe in concrete, 4 feet on each side of the water main/sewer crossing. Concrete encasement shall be a minimum of 6 inches around the sewer pipe.
 - c. Where a water main crosses under a sewer, provide adequate structural support for sewer to maintain line and grade.
- B. Piping materials shall bear label, stamp, or other markings of specified testing agency. Defective pipe or fittings found after installation shall be removed and replaced by the Contractor at his own expense.
- C. Disinfection of water mains and appurtenances: AWWA C651, excluding Section 5.1 covering the tablet method.
- D. Inspection of pipes and appurtenances prior to backfilling.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Preparation for Transport: Prepare valves, including fire hydrants, according to the following:
 - 1. Ensure that valves are dry and internally protected against rust and corrosion.
 - 2. Protect valves against damage to threaded ends and flange faces.
 - 3. Set valves in best position for handling. Set valves closed to prevent rattling.
- B. During Storage: Use precautions for valves, including fire hydrants, according to the following:
 - 1. Do not remove end protectors unless necessary for inspection; then reinstall for storage.
 - 2. Protect from weather. Store indoors and maintain temperatures higher than ambient dew-point temperature. Support off the ground or pavement in watertight enclosures when outdoor storage is necessary.
- C. Handling: Use sling to handle valves and fire hydrants if size requires handling by crane or lift. Rig valves to avoid damage to exposed parts. Do not use hand wheels or stems as lifting or rigging points. Unload materials so as to avoid shock or damage. Handle and store all pipe in such a manner as to avoid deterioration or other injury thereto. Place no pipe within pipe of a larger size. Store pipe and fittings on sills above storm drainage level and delivery for laying after the trenches are excavated. Valves and hydrants shall be drained and stored to protect them from damage.
- D. Protect flanges, fittings, and specialties from moisture, dirt, and falling debris.
- E. Do not store or place materials on private property without written approval from the property owner.

PART 2 - PRODUCTS

2.1 COUPLING

- A. The restrained coupling system shall be Series 3812 manufactured by EBAA Iron, Inc, or approved equal. Coupling for use on Ductile Iron Pipe (12 in.), and C900 PVC Pipe (12 in).
- B. Coupling to be used to prevent axial separation when connecting two plain ends of same or dissimilar materials.
- C. The coupling sleeve internal surfaces shall be lined with a minimum of 15 mils of fusion bonded epoxy conforming to the applicable requirements of ANSI/AWWA C213. Sealing gaskets shall be constructed of SBR. The coating and gaskets shall meet ANSI/NSF-61. Exterior surfaces shall be coated with a minimum of 6 mils of fusion bonded epoxy conforming to the applicable requirements of ANSI/AWWA C116/A21.16. Ductile Iron components shall meet or exceed the requirements of ASTM A536, and shall be tested in accordance with said standard.
- D. The restrained mechanism shall incorporate a plurality of individuality actuating gripping surfaces to maximize restraint capability, and have a torque limiting twist off nuts to insure proper actuating of the restraint devices. The restrained joining system shall meet the applicable requirements of AWWA C219, ANSI/AWWA C111/A21.11, and ASTM D2000.

2.2 GATE VALVES

- A. Nonrising-Stem, Resilient-Wedge Gate Valves:
 - 1. Description: Gray- or ductile-iron body and bonnet; with bronze or gray- or ductile-iron gate, resilient seats, bronze stem, and stem nut.
 - a. Standard: AWWA C509.
 - b. Minimum Pressure Rating: 200 psig.
 - c. End Connections: Mechanical joint.
 - d. Interior Coating: Complying with AWWA C550.
 - e. By Mueller Company or approved equivalent.
- B. Nonrising-Stem, High-Pressure, Resilient-Wedge Gate Valves:
 - 1. Description: Ductile-iron body and bonnet; with bronze or ductile-iron gate, resilient seats, bronze stem, and stem nut.
 - a. Standard: AWWA C509.
 - b. Minimum Pressure Rating: 250 psig.
 - c. End Connections: Push on or mechanical joint.
 - d. Interior Coating: Complying with AWWA C550.
 - e. By Mueller Company or approved equivalent.

2.3 GATE VALVE BOX AND SPECIALTIES

- A. Valve Boxes: Comply with AWWA M44 for cast-iron valve boxes. Include top section, screw type adjustable extension of length required for depth of burial of valve, plug with lettering "WATER," and bottom section with base that fits over valve and with a barrel approximately 5 inches in diameter.

1. Operating Wrenches: Steel, tee-handle with one pointed end, stem of length to operate deepest buried valve, and socket matching valve operating nut.
- B. Indicator Posts: UL 789, FMG-approved, vertical-type, cast-iron body with operating wrench, extension rod, and adjustable cast-iron barrel of length required for depth of burial of valve.
- C. Valve box cover directions to indicate right hand open and left hand close.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install valves of type and kind as indicated on the drawings, each complete with operator and accessory items as required by the actual location. Size valves the same size as the piping in which they are installed, unless otherwise indicated.

3.2 VALVE BOXES

- A. Install a valve box and cover, extending from the valve to final grade, for each gate valve buried in the ground.

END OF SECTION 331216

SECTION 331219
WATER UTILITY DISTRIBUTION FIRE HYDRANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Water distribution piping.
- B. Related Sections include the following:
 - 1. Section 331101 – Water Utility Distribution Piping.
 - 2. Section 331216 – Water Utility Distribution Valves.

1.3 REFERENCES

- A. Recommended Standards for Water Works (Ten State Standards) latest Edition.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Field quality-control test reports.

1.5 QUALITY ASSURANCE

- A. Regulatory Requirements:
 - 1. Comply with requirements of utility company supplying water.
 - 2. Comply with the requirements of the American Water Works Association, AWWA.
 - a. C104 – Cement-Mortar Lining for Ductile Iron Pipe and Fittings.
 - b. C151 – Ductile Iron Pipe.
 - c. C600 – Installation of Ductile Iron Water Mains and Their Appurtenances
 - d. C605 – Underground Installation of Polyvinyl Chloride (PVC)
 - e. C900 – Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fitting
 - 3. Comply with Great Lakes – Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers, “Recommended Standards for Water Works”, latest edition.
 - 4. Comply with Occupational Safety and Health Administration, OSHA, Standards 29 CFR, Section 1926, Subpart P and its latest revision.
- B. Disinfection of water mains and appurtenances: AWWA C651, excluding Section 5.1 covering the tablet method.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Preparation for Transport: Prepare valves, including fire hydrants, according to the following:
 - 1. Ensure that valves are dry and internally protected against rust and corrosion.
 - 2. Protect valves against damage to threaded ends and flange faces.
 - 3. Set valves in best position for handling. Set valves closed to prevent rattling.
- B. During Storage: Use precautions for valves, including fire hydrants, according to the following:
 - 1. Do not remove end protectors unless necessary for inspection; then reinstall for storage.
 - 2. Protect from weather. Store indoors and maintain temperatures higher than ambient dew-point temperature. Support off the ground or pavement in watertight enclosures when outdoor storage is necessary.
- C. Handling: Use sling to handle valves and fire hydrants if size requires handling by crane or lift. Rig valves to avoid damage to exposed parts. Do not use hand wheels or stems as lifting or rigging points. Unload materials so as to avoid shock or damage. Handle and store all pipe in such a manner as to avoid deterioration or other injury thereto. Place no pipe within pipe of a larger size. Store pipe and fittings on sills above storm drainage level and delivery for laying after the trenches are excavated. Valves and hydrants shall be drained and stored to protect them from damage.
- D. Protect flanges, fittings, and specialties from moisture, dirt, and falling debris.
- E. Do not store or place materials on private property without written approval from the property owner.

PART 2 - PART 2 PRODUCTS

2.1 FIRE HYDRANTS

- A. Description: Freestanding, with one NPS 4-1/2 and two NPS 2-1/2 outlets, 5-1/4-inch main valve, drain valve, and NPS 6 mechanical-joint inlet. Hydrant shall have cast-iron body, compression-type valve opening against pressure and closing with pressure.
- B. Standards: UL 246, FMG approved.
 - 1. Pressure Rating: 150 psig minimum 250 psig.
 - 2. Outlet Threads: NFPA 1963, with external hose thread used by local fire department. Include cast-iron caps with steel chains.
 - 3. Operating and Cap Nuts: Pentagon, 1-1/2 inches point to flat.
 - 4. Direction of Opening: Open hydrant valve by turning operating nut to left or counterclockwise.
 - 5. Exterior Finish: Red alkyd-gloss enamel paint, unless otherwise indicated.
 - 6. Manufacturer: Mueller Company, Super Centurion Model #A-423 or approved equal.
 - 7. Accessories
 - a. Break-way flange

- b. Integral storz connection

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Locate fire hydrants 5 feet from the edge of pavement in areas where there is no curb. Distance varies for fire hydrants in areas where there are curbs – refer to plans. Position steamer connections to face the road.
- B. Set fire hydrants plumb with nozzle centerline elevations 18 inches minimum and 2 feet maximum above finished grade, or match gradeline indicated on barrel of hydrants with finished grade. Provide thrust blocks as indicated. Backfill with crushed stone around the waste or drip outlet with 1/2 of the stone below the outlet. Arrange remaining balance of stone around hydrant to prevent damage to the connections from mechanical shock and to insure hydrant stability.
- C. Clean and paint all parts of the hydrants showing above the ground with two finish coats of paint.

END OF SECTION 331219

Exhibit J

SANITARY SEWER SYSTEM ENGINEER'S REPORT

for

Project Fifi Packard Road & Lockport Road Town of Niagara, New York

Prepared For:

**JB2 Partners, LLC
3322 Grant Valley Road NW
Atlanta, GA 30305**

Prepared By:

**Langan Engineering, Environmental, Surveying,
Landscape Architecture and Geology, D.P.C.
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**Michael Finan, PE, LEED-AP
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February 15, 2022

LANGAN

Project No.: 190071801

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1 Executive Summary

This Engineer's Report has been prepared for the Applicant, JB2 Partners, LLC, who is proposing to develop a ±218.4 acre property located along Packard Road (County Road No. 82) and Lockport Road (County Road No. 6) ("Site") in the Town of Niagara ("Town"), New York for use as an e-commerce storage and distribution facility for consumer products ("Facility") by a single prospective entity ("Project"). The Project, also known as Project Fifi, is a 5-story warehouse distribution facility that has an approximate 650,000 square foot building footprint (approximately 3,400,000 square foot area total) with associated car and trailer parking. The upper floors will have limited employees due to the use of robotics.

The sanitary sewer portion of the project involves the installation of:

- 260 linear feet of 4-inch diameter SDR35 PVC sanitary sewer laterals;
- 270 linear feet of 6-inch diameter SDR35 PVC sanitary sewer laterals;
- 23,10 linear feet of 8-inch diameter SDR35 PVC sanitary sewer gravity lines;
- Eight 48-inch diameter sanitary sewer manholes;
- One 48-inch diameter doghouse sanitary sewer manhole;
- One private sanitary lift station for the guard house;
- 445 linear feet of 1½-inch diameter SDR21 PVC force main; and
- One force main cleanouts.

2 Site Description

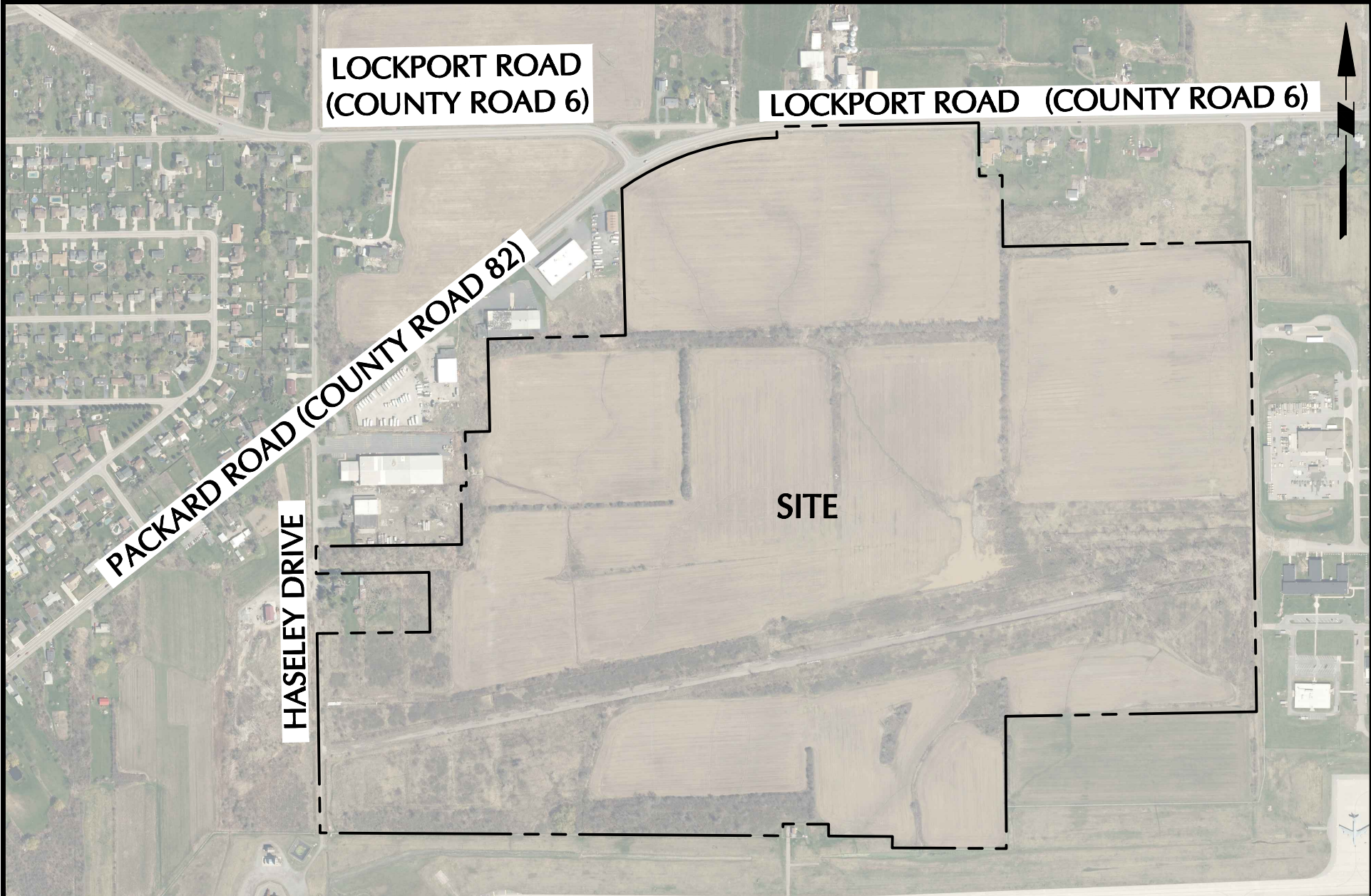
The Site is bounded by Packard Road (County Road No. 82) and Lockport Road (County Road No. 6) to the North; residential properties and Tuscarora Road to the east; Niagara International Airport to the south; and commercial properties, a residential property, and Haseley Drive to the west (see [Figure 1](#)).

The Site is currently used for agricultural purposes; however, the Site is zoned for heavy industry. A Langan wetland scientist conducted a delineation of the onsite wetlands in November 2021. There are 16 wetlands present onsite and a portion of the Cayuga Creek West Tributary is located in the western portion of the Site. The United States Army Corps of Engineers (USACOE) has been contacted about the Project and a Jurisdictional Determination application for proposed disturbance of the wetlands will be submitted.

The United States Department of Agriculture (USDA) Soil Conservation Service Soil Survey for Niagara County has been reviewed. The surficial soil conditions are shown in [Figure 2](#) and are summarized in the table below.

Table 1: USDA Soil Data

Map Symbol	Description	Depth to Groundwater (ft.)	Depth to Bedrock (ft.)
CcA	Cayuga and Cazenovia silt loams, 0 to 2 percent slopes	2.0	>6.0
CcB	Cayuga and Cazenovia silt loams, 2 to 6 percent slopes	2.0	>6.0
Lc	Lakemont silty clay loam, 0 to 3 percent slopes	0	>6.0
OdA	Odessa silty clay loam, 3 to 8 percent slopes	0.5	>6.0



LANGAN

Project No. 190071801



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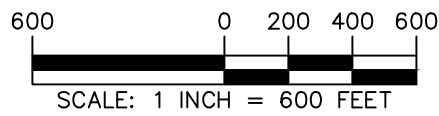
Project
PROJECT FIFI
 TAX ID. 132.18-1-2, 146.05-1-9, 146.06-1-1, &
 146.06-1-2
TOWN OF NIAGARA
NIAGARA COUNTY NEW YORK

Drawing Title
**SITE
 LOCATION
 MAP**

Project No.
190071801
 Date
SEPTEMBER 29, 2021
 Drawn By
LM
 Checked By
CZ

Figure
FG01
 Sheet 1 of 1

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Project
PROJECT FIFI
 TAX ID. 132.18-1-2, 146.05-1-9, 146.06-1-1, &
 146.06-1-2
TOWN OF NIAGARA
NIAGARA COUNTY NEW YORK

Drawing Title
SOILS MAP

Project No.
190071801
 Date
FEBRUARY 15, 2022
 Drawn By
LM
 Checked By
CZ

Figure
FG02
 Sheet 1 of 1

Langan performed a soil investigation between November 30 to December 17, 2021 to determine the subsurface soil conditions in various locations throughout the property. A total of 48 borings were drilled from 4.5 to 22.5 feet below existing grade and a total of 49 test pits were excavated from 2 to 22 feet below existing grade. Rock was encountered approximately 4.4 feet to 14.7 feet below existing grade in portions of the site. Groundwater was encountered approximately 4 feet to 10 feet below grade in portions of the site. Refer to [Appendix A](#) for the testing data.

There are two gravity sewer mains within the vicinity of the property (see [Figure 3](#)). There is an 8-inch diameter concrete sewer main located along Tuscarora Road and an 18-inch diameter concrete sewer main along Lockport Road.

3 Sanitary Sewer System

3.1 Projected Wastewater Flow

Based upon projected traffic trip generation information, during peak season each employee work shift is reported to have 1,334 employees. There will be two 11-hour shifts.

The New York State Department of Environmental Conservation's (NYSDEC) *New York State Design Standards for Intermediate Sized Wastewater Treatment Systems*, 2014 per-unit hydraulic loading rates in Table B-3 starting on page B-16, were used to estimate the anticipated wastewater flow from the Project. Except for the residential flows, the per-unit hydraulic loading rates in Table B-3 may be reduced by 20 percent for establishments equipped with water saving plumbing fixtures. Given the Facility is new construction, water saving plumbing fixtures will be used. The per-unit hydraulic loading rate is 15 gpd/employee/shift, or 12 gpd/employee/shift with water saving plumbing fixtures.

To be conservative, we have assumed the per-unit hydraulic loading rate provided in Table B-3 is for an 8-hour shift; therefore, we have adjusted the per-unit hydraulic rates for the Facility 11-hour shifts. Below are the corresponding calculations:

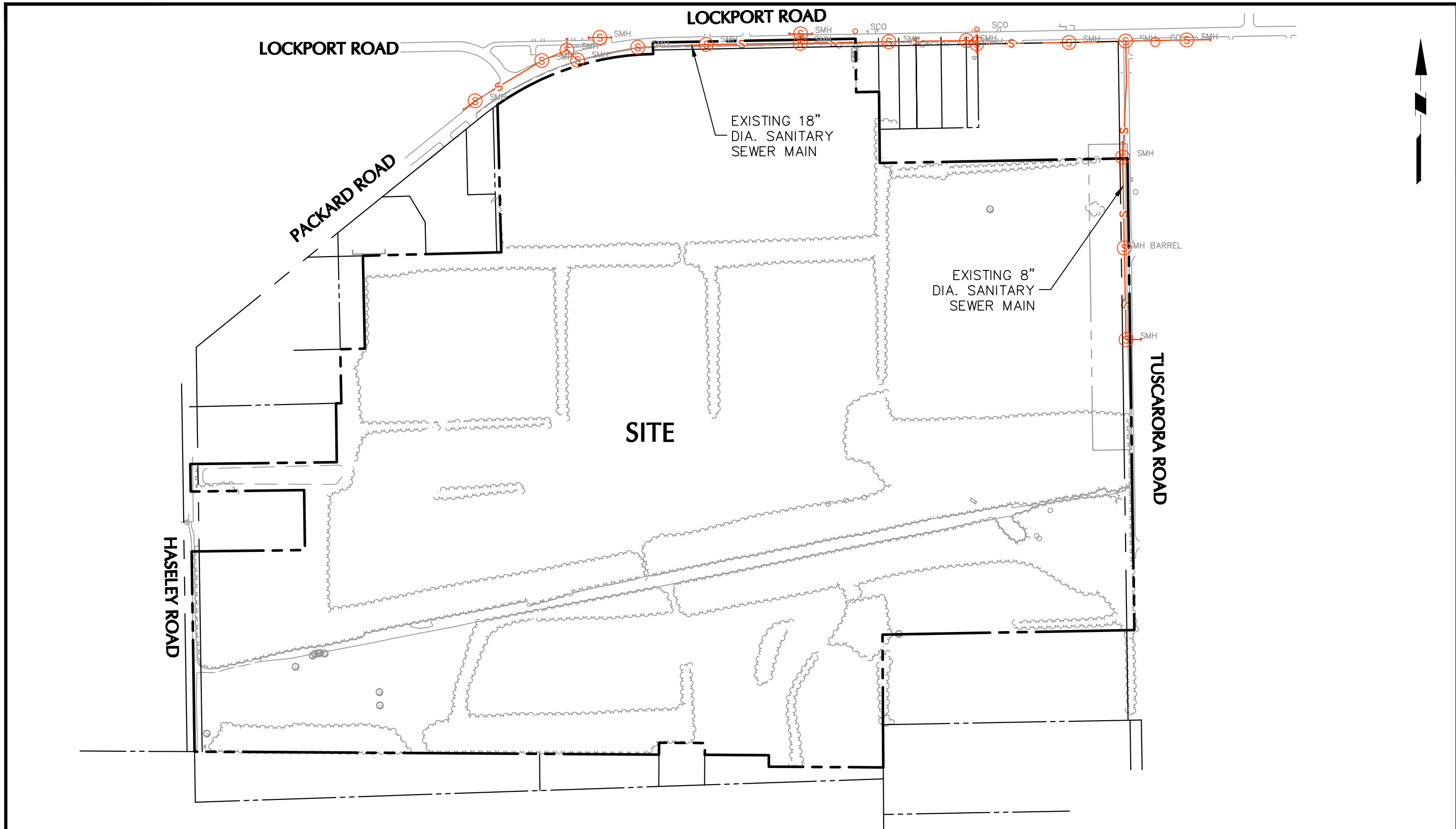
$$[(15 \text{ gpd/employee/shift} \times 11\text{-hrs}) \div 8\text{-hrs}] \times 0.80 = 16.5 \text{ gpd/employee/shift.}$$

The projected wastewater generation (or average daily flow) for the Project, based on peak season is:

$$1,334 \text{ employees/shift} \times 2 \text{ shifts} \times 16.5 \text{ gpd/employee} = 44,022 \text{ gpd (30.6 gpm).}$$

3.2 Proposed Collection System

The sanitary sewer system has been designed in accordance with the requirements of the New York State Department of Environmental Conservation (NYSDEC) and the *Ten States Recommended Standards for Wastewater Facilities*, latest edition.



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<p>LANGAN Langan Engineering, Environmental, Surveying, Landscape Architecture, and Geology, D.P.C. One North Broadway, Suite 910 White Plains, NY 10601 T: 914.323.7400 F: 914.323.7401 www.langan.com</p>	<p>Project PROJECT FIFI TAX ID. 132.18-1-2, 146.05-1-9, 146.06-1-1, & 146.06-1-2 TOWN OF NIAGARA NIAGARA COUNTY NEW YORK</p>	<p>Drawing Title EXISTING SANITARY SEWER MAP</p>	Project No. 190071801	Figure FG03
			Date FEBRUARY 2, 2022	
			Drawn By AW	
			Checked By CZ	

The sanitary sewer system will collect the wastewater generated from the proposed project and convey it by gravity to the existing 8-inch diameter concrete gravity sewer line located along Tuscarora Road through a doghouse manhole. The existing 8-inch diameter concrete sewer line connects to the existing 18-inch diameter concrete gravity sewer main located on Lockport Road by gravity. Sanitary flows will be domestic in nature and void of industrial solid, hazardous, or toxic waste contamination. Refer to [Figure 4](#) for the proposed sanitary sewer collection system.

Where the proposed sanitary sewer line will be parallel to the water main, minimum horizontal separation distance of 10 feet (wall-to-wall) was maintained. Where the proposed sanitary sewer line crosses the water line, a minimum vertical separation distance of 18-inches (wall-to-wall) was maintained.

The sanitary manholes will be precast concrete and have a minimum inside diameter of 48-inches. Sanitary manholes will be provided at all changes of direction, both vertical and horizontal, at the terminus of all lines, and spaced not more than 400 feet apart. The sanitary manholes will be waterproofed on the exterior surface with two layers of bituminous paint. Refer to the project plans for additional information, notes, and specifications.

3.3 Pipe Capacity Analysis

The proposed sanitary sewer mains have been analyzed to verify that proper pipe capacity has been provided. The flattest proposed pipe with the highest design flow was analyzed for each of the sanitary sewer mains. This pipe condition will provide the least amount of capacity on the system and is considered the "worst case scenario". All other proposed collection piping will receive less design flow or provide steeper sloped pipes with similar design flow for the project.

The flattest pipe section is an 8-inch diameter SDR35 PVC and sloped at 0.4%. The average design flow through this section of pipe is 44,022 gpd. The average daily flow for a 24-hour day for the Project is as follows:

$$\text{Avg. Daily Flow} = 44,022 \text{ gpd} \times (1 \text{ day}/1,440 \text{ min}) = 30.6 \text{ gpm.}$$

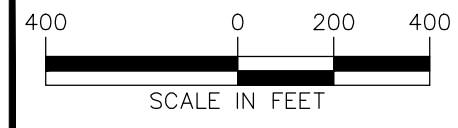
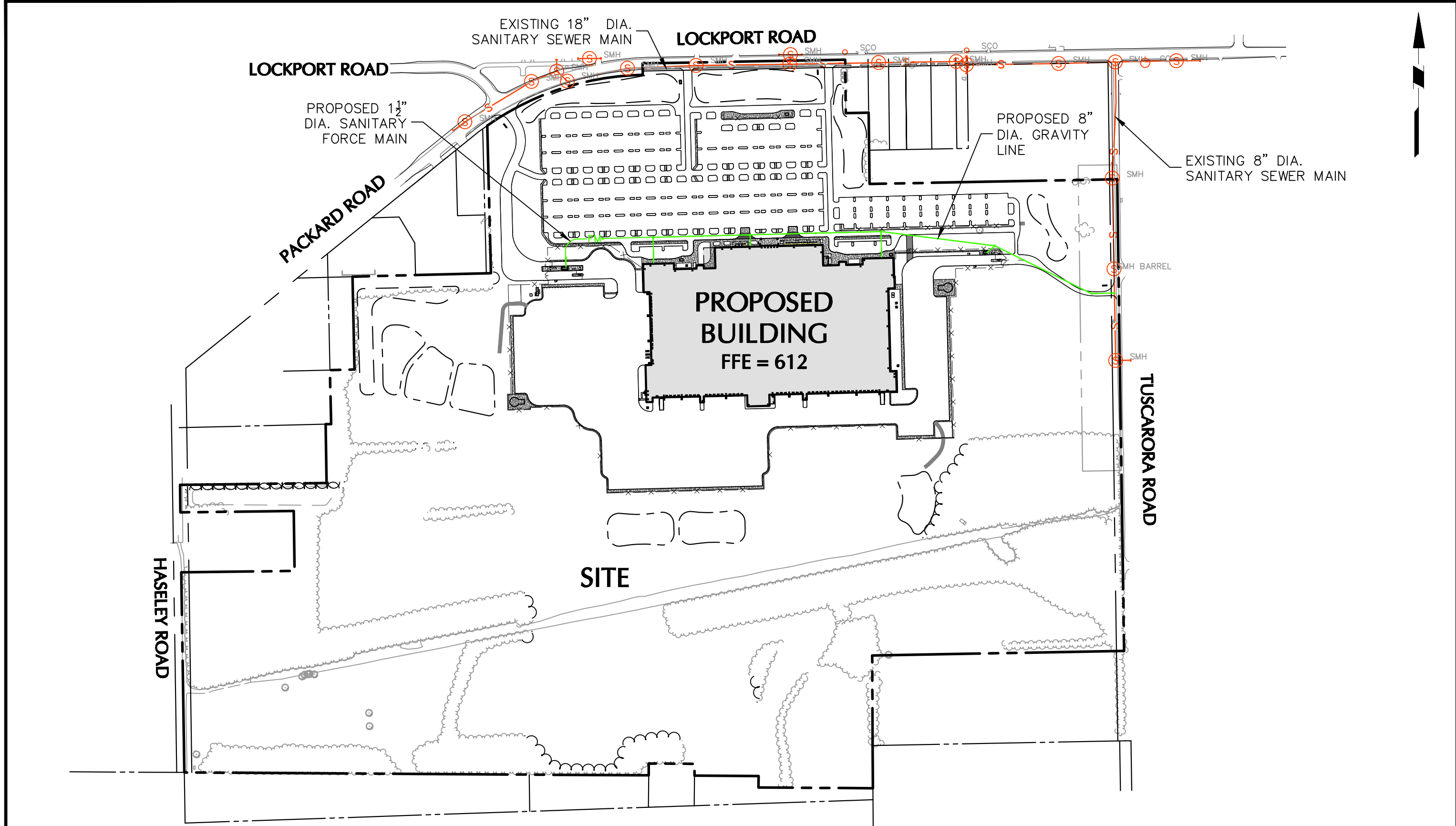
Consistent with *Ten States Recommended Standards for Wastewater Facilities*, a peak hourly factor of 4.0 was used to calculate the peak hourly flow. The peak hourly design is:

$$\text{Peak Hourly Flow} = 4.0 \times 30.6 \text{ gpm} = 122.4 \text{ gpm (0.27 cfs).}$$

The design capacity of the 8-inch dia. pipe sloped at 0.4% flowing full is calculated at follows:

$$Q_{full} = (1.49/0.013) \times 0.35 \times (0.20)^{2/3} \times (0.004)^{1/2} = 0.87 \text{ cfs.}$$

As demonstrated above, the peak design flow is approximately 31% of the capacity of the proposed pipe. Given that this pipe is the flattest sloping pipe with the largest design flow, the other proposed 8-inch diameter gravity lines within the project will be capable of conveying the anticipated peak hourly sewage flows.



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			<p>Date FEBRUARY 2, 2022</p>	
			<p>Drawn By AW</p>	<p>Sheet 1 of 1</p>
			<p>Checked By CZ</p>	

3.4 Guard House Sanitary Private Lift Station

Based on the elevations of the existing sanitary sewer line and the sanitary sewer lateral elevation from the remote guard house, a small private sanitary lift station would be required. A duplex submersible grinder pump, E-One Model D152, is proposed. The submersible pumps will be controlled via a liquid level probe in the wet well that turns the pumps on or off depending on the sewage level within the wet well. The pump controller will also alternate the lead/lag designation of the pumps. The E-One Model D152 tank provides 150 gallons of capacity. The small private sanitary lift station will be equipped with an audio and visual alarm at the guard booth.

A 1½-inch diameter PVC force main will be used to convey the wastewater from the remote guard house to the proposed gravity main. The discharge through the force main is:

Optimal Design: 13 gpm at 22.3 feet (see [Appendix B](#))

$$V = V'/A$$

Conversion: 1 gpm = 0.002228 cfs

$$V' = 13 \text{ gpm} \times 0.002228 = 0.0290 \text{ cfs}$$

$$A (1.5\text{-inch}) = \pi(0.125)^2 / 4 = 0.0123 \text{ sf}$$

$$V = 0.0290 / 0.0123 = 2.4 \text{ fps}$$

Velocity = 2.4 fps

4 Construction Specifications

The proposed sanitary sewer system, force main and appurtenances shall be installed in accordance with the construction specifications provided in [Appendix C](#).

5 Testing

Prior to being placed into service, the sanitary sewer system shall be tested in accordance with the testing procedures outlined on the project plans. A certification letter shall be provided to the Town of Niagara and Niagara County Sewer District #1 once testing has been completed.

Project Fifi
Packard Road & Lockport Road
Town of Niagara, New York

Appendix A

Soil Testing Data

Refer to geotechnical report prepared by Langan

Project Fifi
Packard Road & Lockport Road
Town of Niagara, New York

Appendix B

Guard House Private Lift Station Calculations

1.5-inch Service Force Main to Sewer Collection System			
Diameter of Pipe	1.5	inch	PIPE I.D PVC 1.5 inch
Area of Pipe	0.0123	SF	Inside Area of Pipe 0.0123 SF
Length of Pipe	443	LF	C (Coefficient) 120
Static Head	1.7	FT	

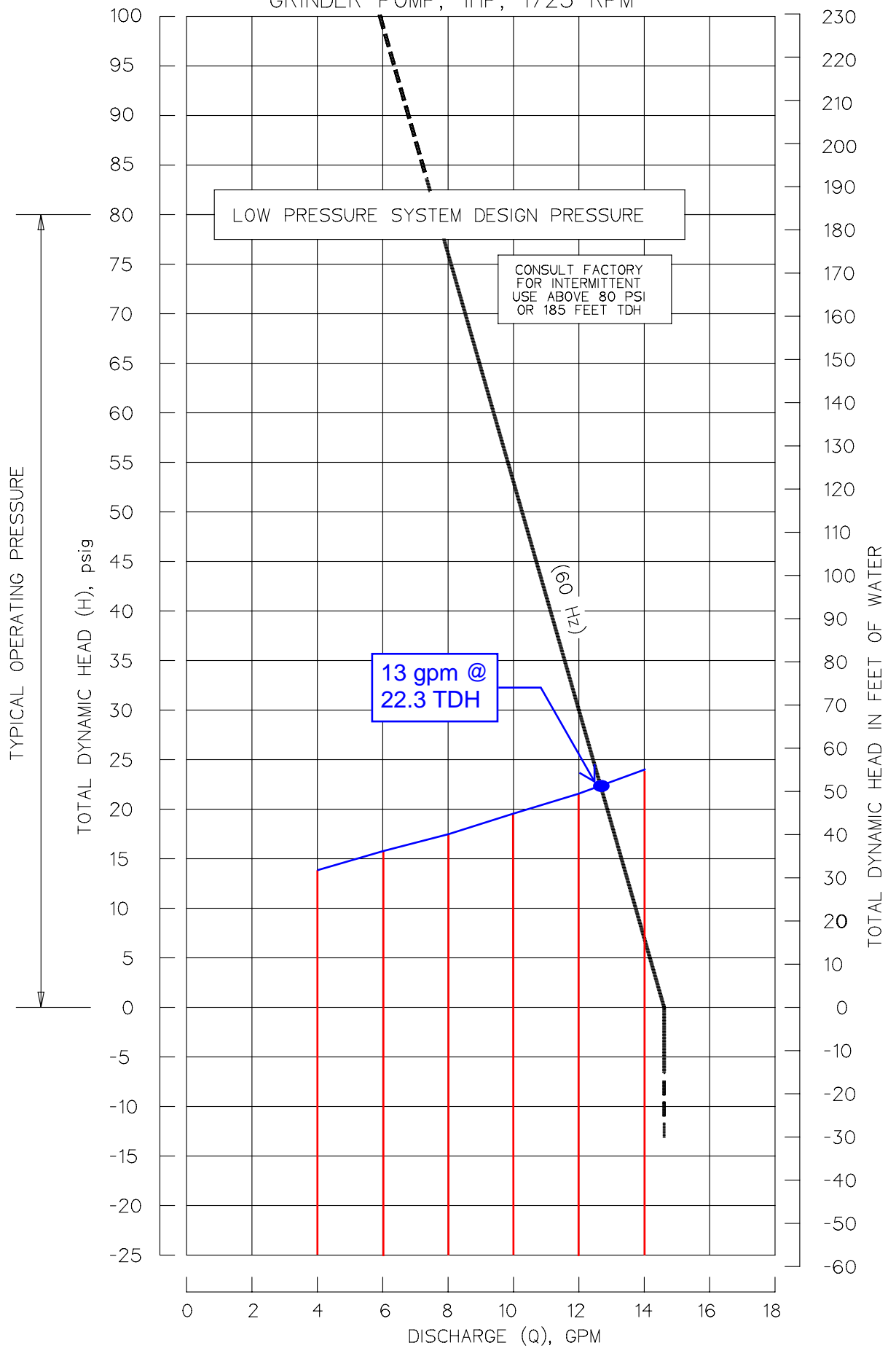
Type	Check Valve	Gate Valve	Wyes	45 Bend	90 Bend	Globe Valves
Quantity (Each)	2	1	1	4	0	0
K	2	2	0.75	0.35	1.5	3

Description	1.5 inch Pipe										
	V	V^2/2g	Hf Pipe	Hf Check	Hf Ball	Hf Wye	Hf 45 Bend	Hf 90 Bend	Hf Globe Valves	Total Hf	Static Head
hf @ 4 gpm	0.7266	0.0082	12.1425	0.0328	0.0164	0.0061	0.0115	0.0000	0.0000	12.2	1.7
hf @ 6 gpm	1.0899	0.0184	13.7974	0.0738	0.0369	0.0138	0.0258	0.0000	0.0000	13.9	1.7
hf @ 8 gpm	1.4532	0.0328	15.5492	0.1312	0.0656	0.0246	0.0459	0.0000	0.0000	15.8	1.7
hf @ 10 gpm	1.8165	0.0512	17.3968	0.2049	0.1025	0.0384	0.0717	0.0000	0.0000	17.8	1.7
hf @ 12 gpm	2.1798	0.0738	19.3394	0.2951	0.1476	0.0553	0.1033	0.0000	0.0000	19.9	1.7
hf @ 14 gpm	2.5430	0.1004	21.3761	0.4017	0.2008	0.0753	0.1406	0.0000	0.0000	22.2	1.7

TDH (1 Pump On)	hf @ 4 gpm	hf @ 6 gpm	hf @ 8 gpm	hf @ 10 gpm	hf @ 12 gpm	hf @ 14 gpm
Q	13.9	15.7	17.5	19.5	21.7	23.9

E|ONE SPD PUMP PERFORMANCE CURVE

GRINDER PUMP, 1HP, 1725 RPM



Project Fifi
Packard Road & Lockport Road
Town of Niagara, New York

Appendix C

Sanitary Sewer Specifications

SECTION 333104
SANITARY SEWER PIPE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Gravity sewer pipe.
- B. Related Sections include the following:
 - 1. Section 333901 – Sanitary Sewer Structures.

1.3 DEFINITIONS

- A. PVC: Polyvinyl chloride plastic.

1.4 PERFORMANCE REQUIREMENTS

- A. Gravity-Flow, Nonpressure-Piping Pressure Ratings: At least equal to system test pressure.

1.5 SUBMITTALS

- A. Product Certification: Pipe, fittings, precast concrete units, metal items, and miscellaneous appurtenances.
- B. Product Data: For the following:
 - 1. Pipe.

1.6 QUALITY ASSURANCE

- A. Regulatory Requirements:
 - 1. Comply with standards of authorities having jurisdiction for sanitary sewer piping, including materials, installation, and testing.
 - 2. Comply with Great Lakes-Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers, "Recommended Standards for Wastewater Facilities", dated 2004, as amended.
 - 3. Comply with Occupational Safety and Health Administration, OSHA, Standards 29 CFR, Section 1926, Subpart P and its latest revision.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Do not store plastic structures, pipe, and fittings in direct sunlight. Keep plastic items at ambient outdoor temperature.
- B. Protect pipe, pipe fittings, and seals from dirt and damage.

- C. Handle precast concrete manholes and other structures according to manufacturer's written rigging instructions.
- D. Inspection: Upon delivery of pipe, inspect pipe.
 - 1. Straightness Tolerance: Maximum deviation of 1/16 inch per foot from straight line drawn between centers of openings.
 - 2. Immediately remove lengths of pipe that fail straightness requirement.
 - 3. Rejection of Manufacturer and Product: Remove all pipe supplied by a manufacturer if more than five percent of shipment is rejected.

1.8 PROJECT CONDITIONS

- A. Site Information: Perform site survey, research public utility records, and verify existing utility locations.
- B. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
 - 1. Notify Civil Engineer not less than two days in advance of proposed utility interruptions.
 - 2. Do not proceed with utility interruptions without the owner of the utility's written permission.

PART 2 - PRODUCTS

2.1 PIPES AND FITTINGS

- A. PVC Sewer Pipe and Fittings: According to the following:
 - 1. PVC Sewer Pipe and Fittings, NPS 15 and Smaller: ASTM D3034, SDR 35, for gasketed joints.
 - 2. Gaskets: ASTM F477, elastomeric seals; resistant to common sewage and industrial wastes, including oil.

2.2 IDENTIFICATION

- A. Materials and their installation are specified on the project plans. Arrange for installing green warning tapes directly over piping and at outside edges of underground structures.
 - 1. Use warning tape or detectable warning tape over ferrous piping.
 - 2. Use detectable warning tape over nonferrous piping and over edges of underground structures.

2.3 BEDDING AND COVER MATERIALS

- A. Pipe Bedding: Mixture of crushed stone and gravel, free of soft, nondurable particles, organic materials and elongated particles. The maximum diameter of the large particles shall not exceed $\frac{3}{4}$ inches. When in ledge, use AASHTO No. 67 or approved equal processed sand and gravel, free of debris, clay lumps, organic, or other deleterious material.
- B. Pipe Backfill: Mixture of crushed stone and gravel, free of soft, nondurable particles, organic materials and elongated particles. The maximum diameter of the large particles shall not exceed $\frac{3}{4}$ inches.

PART 3 - EXECUTION

3.1 EXCAVATION

- A. For Utility Trenches:
 - 1. Excavate trenches to indicated gradients, lines, depths, and elevations.
 - 2. Excavate trenches to uniform widths to provide the following clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit unless otherwise indicated.
 - a. Clearance: 12 inches each side of pipe or conduit.
 - 3. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove projecting stones and sharp objects along trench subgrade.
 - a. Excavate trenches 6 inches deeper than elevation required in rock or other unyielding bearing material, 4 inches deeper elsewhere, to allow for bedding course.
 - 4. Trenches in Tree- and Plant-Protection Zones:
 - a. Hand-excavate to indicated lines, cross sections, elevations, and subgrades. Use narrowtine spading forks to comb soil and expose roots. Do not break, tear, or chop exposed roots. Do not use mechanical equipment that rips, tears, or pulls roots.
 - b. Do not cut main lateral roots or taproots; cut only smaller roots that interfere with installation of utilities.

3.2 INSTALLATION

- A. General Locations and Arrangements: Drawing plans and details indicate general location and arrangement of underground sanitary sewerage piping. Location and arrangement of piping layout take design considerations into account. Install piping as indicated, to extent practical.
- B. Install piping beginning at low point, true to grades and alignment indicated with unbroken continuity of invert. Place bell ends of piping facing upstream. Install gaskets, seals, sleeves, and couplings according to manufacturer's written instructions for using lubricants, cements, and other installation requirements. Check previously made joints as installation progresses. Maintain swab or drag in line, and pull past each joint as it is completed.
- C. Use manholes for changes in direction, unless fittings are indicated. Use fittings for branch connections, unless direct tap into existing sewer is indicated.
- D. Use proper size increasers, reducers, and couplings where different sizes or materials of pipes and fittings are connected. Reducing size of piping in direction of flow is prohibited.
- E. Install gravity-flow piping and connect to building's sanitary drains, of sizes and in locations indicated. Terminate piping as indicated.
- F. Install piping pitched down in direction of flow, at slope indicated.
- G. Install piping with minimum cover as shown on the Drawings.

3.3 PIPE JOINT CONSTRUCTION AND INSTALLATION

- A. PVC Sewer Pipe and Fittings: As follows:
 - 1. Join pipe and fittings with gaskets according to ASTM D2321 and manufacturer's written instructions.
 - 2. If full entry of pipe joint is not achieved, remove pipe and replace with new unit and gasket.
- B. Join piping made of different materials or dimensions with couplings made for this application. Use couplings that are compatible with and that fit both systems' materials and dimensions.
- C. Install pipe, fittings, and accessories in accordance with Drawings.
- D. Route piping in straight line.
- E. Install bedding at sides and over top of pipe in accordance with Drawings.
- F. Do not displace or damage pipe when compacting.
- G. Connect to sanitary sewer manholes, pumping stations and existing manhole as shown on Drawings.
- H. Install Work in accordance with Quality Assurance standards described above.

3.4 UTILITY TRENCH BACKFILL

- A. Place backfill on subgrades free of mud, frost, snow, or ice.
- B. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.
- C. Place and compact initial backfill of subbase material, free of particles larger than 1 inch in any dimension, to a height of 12 inches over the pipe or conduit.
 - 1. Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of piping or conduit to avoid damage or displacement of piping or conduit. Coordinate backfilling with utilities testing.
- D. Place and compact final backfill of satisfactory soil to final subgrade elevation.
- E. Install detectable warning tape directly above utilities, 12 inches below finished grade.

3.5 FIELD QUALITY CONTROL

- A. Perform test of sanitary sewage system in accordance with the standards of the Town of Thompson, New York State Health Department, and the Ten State Standards.
- B. When tests indicate Work does not meet specified requirements, remove work, replace and retest.

END OF SECTION 333104

SECTION 333400
SANITARY SEWER FORCE MAINS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Force mains.
- B. Related Sections include the following:
 - 1. Section 333901 – Sanitary Sewer Structures.

1.3 DEFINITIONS

- A. PVC: Polyvinyl chloride plastic.
- B. DIP: Ductile Iron Pipe.

1.4 PERFORMANCE REQUIREMENTS

- A. Force-Main Pressure Ratings: At least equal to system operating pressure, but not less than 150 psig (1035 kPa).

1.5 SUBMITTALS

- A. Product Certification: Pipe, fittings, precast concrete units, metal items, and miscellaneous appurtenances.
- B. Product Data: For the following:
 - 1. Pipe.

1.6 QUALITY ASSURANCE

- A. Regulatory Requirements:
 - 1. Comply with standards of authorities having jurisdiction for sanitary sewer piping, including materials, installation, and testing.
 - 2. Comply with Great Lakes-Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers, "Recommended Standards for Wastewater Facilities", latest edition.
 - 3. Comply with Occupational Safety and Health Administration, OSHA, Standards 29 CFR, Section 1926, Subpart P and its latest revision.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Do not store plastic structures, pipe, and fittings in direct sunlight. Keep plastic items at ambient outdoor temperature.
- B. Protect pipe, pipe fittings, and seals from dirt and damage.

- C. Handle precast concrete manholes and other structures according to manufacturer's written rigging instructions.
- D. Inspection: Upon delivery of pipe, assist Civil Engineer in inspecting pipe.
 - 1. Straightness Tolerance: Maximum deviation of 1/16 inch per foot from straight line drawn between centers of openings.
 - 2. Immediately remove lengths of pipe that fail straightness requirement.
 - 3. Rejection of Manufacturer and Product: Remove all pipe supplied by a manufacturer if more than five percent of shipment is rejected.

1.8 PROJECT CONDITIONS

- A. Site Information: Perform site survey, research public utility records, and verify existing utility locations.
- B. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
 - 1. Notify Civil Engineer not less than two days in advance of proposed utility interruptions.
 - 2. Do not proceed with utility interruptions without Civil Engineer's written permission.

PART 2 - PRODUCTS

2.1 FORCE MAIN

- A. Polyvinyl Chloride (PVC) Pressure Sewer Pipe and Fittings – 1.5 inch Nominal Pipe Size:
 - 1. ASTM D2241, PVC SDR 21.

2.2 IDENTIFICATION

- A. Materials and their installation are specified in Section 310000 Earthwork. Arrange for installing green warning tapes directly over piping and at outside edges of underground structures.
 - 1. Use warning tape or detectable warning tape over ferrous piping.
 - 2. Use detectable warning tape over nonferrous piping and over edges of underground structures.

2.3 BEDDING AND COVER MATERIALS

- A. Pipe Bedding: Mixture of crushed stone and gravel, free of soft, nondurable particles, organic materials and elongated particles. The maximum diameter of the large particles shall not exceed $\frac{3}{4}$ inches. When in ledge, use AASHTO No. 67 or approved equal processed sand and gravel, free of debris, clay lumps, organic, or other deleterious material.
- B. Pipe Backfill: Mixture of crushed stone and gravel, free of soft, nondurable particles, organic materials and elongated particles. The maximum diameter of the large particles shall not exceed $\frac{3}{4}$ inches.

PART 3 - EXECUTION

3.1 EXCAVATION

- A. For Utility Trenches:
 - 1. Excavate trenches to indicated gradients, lines, depths, and elevations.
 - 2. Excavate trenches to uniform widths to provide the following clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit unless otherwise indicated.
 - a. Clearance: 12 inches each side of pipe or conduit.
 - 3. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove projecting stones and sharp objects along trench subgrade.
 - a. Excavate trenches 6 inches deeper than elevation required in rock or other unyielding bearing material, 4 inches deeper elsewhere, to allow for bedding course.
 - 4. Trenches in Tree- and Plant-Protection Zones:
 - a. Hand-excavate to indicated lines, cross sections, elevations, and subgrades. Use narrowtine spading forks to comb soil and expose roots. Do not break, tear, or chop exposed roots. Do not use mechanical equipment that rips, tears, or pulls roots.
 - b. Do not cut main lateral roots or taproots; cut only smaller roots that interfere with installation of utilities.

3.2 INSTALLATION

- A. General Locations and Arrangements: Drawing plans and details indicate general location and arrangement of underground sanitary sewerage piping. Location and arrangement of piping layout take design considerations into account. Install piping as indicated, to extent practical.
- B. Install cleanouts as shown on the Drawings. Bend flexible pipe per manufacturer's guidelines for changes in direction, unless otherwise indicated.
- C. Install force main piping and connect to the site pump station. Terminate piping as indicated.
 - 1. Install piping with minimum cover as shown on the Drawings.

3.3 CLEANOUTS

- A. Install cleanouts in vault from force main to grade as indicated. Set cleanout vault frame and cover flush with grade in pavement.

3.4 PIPE JOINT CONSTRUCTION AND INSTALLATION

- A. PVC Sewer Pipe and Fittings: As follows:
 - 1. Join pipe and fittings with gaskets according to ASTM D2321 and manufacturer's written instructions.
 - 2. If full entry of pipe joint is not achieved, remove pipe and replace with new unit and gasket.

- B. Join piping made of different materials or dimensions with couplings made for this application. Use couplings that are compatible with and that fit both systems' materials and dimensions.
- C. Install pipe, fittings, and accessories in accordance with Drawings.
- D. Route piping in straight line.
- E. Install bedding at sides and over top of pipe. Pipe backfill to be installed a minimum of 12 inches overtop of the pipe and compacted in 6 inch loose lifts maximum.
- F. Do not displace or damage pipe when compacting.
- G. Connect to sanitary sewer manholes, pumping stations and existing manhole as shown on Drawings.
- H. Install Work in accordance with Quality Assurance standards described above.

3.5 JOINT RESTRAINT SYSTEM

- A. Restraining system shall include Field Lok gaskets as manufactured by Griffon Pipe Products Co., mechanical joints, restraining glands, lugs, clamps, rod couplings, nuts and washers as required or approved equal. All units shall be constructed of corrosion resistant material.
- B. The mechanical joint restraint for PVC shall be EBAA Iron Inc., Series 1912 for PVC to PVC connections, Series 19MJ12 for PVC to PVC fittings, Series 2012PV for PVC to DI fittings, or approved equal.
- C. Alternate: Concrete thrust block control at abrupt changes in pipeline grade, horizontal alignment, or reduction in pipe size. The pipe manufacturer's recommendations for thrust control shall be followed.

3.6 UTILITY TRENCH BACKFILL

- A. Place backfill on subgrades free of mud, frost, snow, or ice.
- B. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.
- C. Place and compact initial backfill of subbase material, free of particles larger than 1 inch in any dimension, to a height of 12 inches over the pipe or conduit.
 - 1. Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of piping or conduit to avoid damage or displacement of piping or conduit. Coordinate backfilling with utilities testing.
- D. Place and compact final backfill of satisfactory soil to final subgrade elevation.
- E. Install detectable warning tape directly above utilities, 12 inches below finished grade.

3.7 FIELD QUALITY CONTROL

- A. Perform test of sanitary sewage system in accordance with the standards of the Town of Thompson, New York State Health Department, and the Ten State Standards.

- B. When tests indicate Work does not meet specified requirements, remove work, replace and retest.

END OF SECTION 333400

SECTION 333901
SANITARY SEWER STRUCTURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Sanitary manholes.
- B. Related Sections include the following:
 - 1. Section 333100 – Sanitary Sewer Pipe.
 - 2. Section 333400 – Sanitary Sewer Force Mains.

1.3 QUALITY ASSURANCE

- A. Regulatory Requirements:
 - 1. Comply with standards of authorities having jurisdiction for sanitary sewer piping, including materials, installation, and testing.
 - 2. Comply with Great Lakes-Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers, "Recommended Standards for Wastewater Facilities", latest edition.
 - 3. Comply with Occupational Safety and Health Administration, OSHA, Standards 29 CFR, Section 1926, Subpart P and its latest revision.

1.4 SUBMITTALS

- A. Shop Drawings: Indicate manhole locations, elevations, piping, sizes, and elevations of penetrations.
- B. Product Data: Submit cover and frame construction, features, configuration, and dimensions.
- C. Design Mix Reports and Calculations: For each class of cast-in-place concrete.
- D. Field Test Reports: Indicate and interpret test results for compliance with performance requirements.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Handle precast concrete manholes and other structures according to manufacturer's written rigging instructions.

1.6 PROJECT CONDITIONS

- A. Site Information: Perform site survey, research public utility records, and verify existing utility locations.
- B. Locate existing structures and piping to be closed and abandoned.

- C. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
1. Notify Civil Engineer not less than two days in advance of proposed utility interruptions.
 2. Do not proceed with utility interruptions without Civil Engineer's written permission.

PART 2 - PRODUCTS

2.1 MANHOLES

- A. Precast Concrete Manholes: ASTM C478, precast, reinforced concrete, of depth indicated, with provision for rubber gasketed joints.
1. Diameter: 48 inches minimum, unless otherwise indicated on the private manhole detail provided on the Drawings.
 2. Ballast: Increase thickness of precast concrete sections or add concrete to base section, as required to prevent flotation.
 3. Base Section: 6-inch minimum thickness for floor slab and 6-inch minimum thickness for walls and base riser section, and having separate base slab or base section with integral floor.
 4. Riser Sections: 4-inch minimum thickness and lengths to provide depth indicated.
 5. Top Section: Eccentric-cone type, unless concentric-cone or flat-slab-top type is indicated. Top of cone of size that matches grade rings.
 6. Gaskets: ASTM C443, rubber.
 7. Grade Rings: Include two or three reinforced-concrete rings, of 6- to 9-inch total thickness, that match 24-inch diameter frame and cover.
 8. Steps: ASTM C478, individual steps or ladder.
 9. Pipe Connectors: ASTM C923, resilient, of size required, for each pipe connecting to base section.
- B. Sanitary Manhole Frames and Covers: 30 inch ID to include indented top design with lettering "SANITARY SEWER" cast into cover.
1. Campbell Foundry Co. Pattern No. 1206A
 2. Or approved equal.
- C. Steps: Copolymer Polypropylene step, ½ inch Grade 60 steel reinforcement, pattern no. 2593-2254 as manufactured by Campbell Foundry or approved equal. Cast steps or anchor ladder into base, riser, and top section sidewalls at 12-inch intervals. Omit steps for catch basins less than 60 inches deep.
- D. Channels and Benches: Factory or field formed from concrete. Portland cement design mix, 4000 psi minimum, with 0.45 maximum water/cementitious materials ratio. Include channels and benches in manholes.
1. Channels: concrete invert, formed to same width as connected piping, with height of vertical sides to three-fourths of pipe diameter. Form curved channels with smooth, uniform radius and slope.
 - a. Invert Slope: 2 percent through manhole.
 - b. Benches: concrete, sloped to drain into channel.
 - c. Slope: 4 percent.

2.2 FORCE MAIN CLEAN-OUT

- A. Precast Concrete Clean-out Structure: ASTM C478, precast, reinforced concrete, of depth indicated, with provision for rubber gasketed joints.
 - 1. Internal Dimensions: 4 foot diameter (min.)
 - 2. Top Slab: 8 inch minimum thickness
 - 3. Walls: 5 inch minimum thickness
 - 4. Bottom Slab: 5 inch minimum thickness
 - 5. Sump: 6 inches minimum. Pitch floor to sump.
- B. Sanitary Manhole Frames and Covers: 30 inch ID to include indented top design with lettering "SANITARY SEWER" cast into cover.
 - 1. Campbell Foundry Co. Pattern No. 1490
 - 2. Or approved equal.
- C. Pipe Supports: 2 inch minimum diameter.
 - 1. Tilco
 - 2. Or approved equal.

2.3 CONCRETE

- A. General: Cast-in-place concrete according to ACI 318, ACI 350R, and the following:
 - 1. Cement: ASTM C150, Type II.
 - 2. Fine Aggregate: ASTM C33, sand.
 - 3. Coarse Aggregate: ASTM C33, crushed gravel.
 - 4. Water: Potable.
- B. Portland Cement Design Mix: 4000 psi minimum, with 0.45 maximum water-cementitious materials ratio.
 - 1. Reinforcement Bars: ASTM A615/A615M, Grade 60, deformed steel.
- C. Structure Channels and Benches: Factory or field formed from concrete. Portland cement design mix, 4000 psi minimum, with 0.45 maximum water-cementitious materials ratio. Include channels and benches in manholes.
 - 1. Channels: Concrete invert, formed to same width as connected piping, with height of vertical sides to three-fourths of pipe diameter. Form curved channels with smooth, uniform radius and slope.
 - 2. Benches: Concrete, sloped to drain into channel.

2.4 PROTECTIVE COATINGS

- A. Description: Two-coat, coal-tar epoxy; 15-mil minimum thickness, unless otherwise indicated; factory or field applied to the following surfaces:
 - 1. Concrete Manholes: On exterior surface.

2.5 CONNECTIONS TO EXISTING STRUCTURES

- A. Pipe Connectors: ASTM C 923, resilient, of size required, for each pipe connecting to base section.

PART 3 - EXECUTION

3.1 MANHOLE INSTALLATION

- A. General: Install manholes, complete with appurtenances and accessories indicated on Drawings.
- B. Form continuous concrete channels and benches between inlets and outlet.
- C. Set tops of frames and covers flush with finished surface of manholes that occur in pavements. Set tops 3 inches above finished surface elsewhere, unless otherwise indicated on Drawings.
- D. Install precast concrete manhole sections with gaskets according to ASTM C891.

3.2 FORCE MAIN CLEAN-OUT

- A. General: Install clean-out, complete with appurtenances and accessories indicated on Drawings.
- B. Set tops of frames and covers flush with finished surface in pavements.

3.3 CONCRETE PLACEMENT

- A. Place cast-in-place concrete according to ACI 318 and ACI 350R.

3.4 CONNECTIONS TO EXISTING STRUCTURES

- A. Core drill existing structures and boot with flexible pipe connector.

3.5 CONCRETE PLACEMENT

- A. Place cast-in-place concrete according to ACI 318.

3.6 FIELD QUALITY CONTROL

- A. Test system in accordance with the Drawings.
 - 1. Do not enclose, cover, or put into service before inspection and approval.
 - 2. Schedule tests and inspections by authorities having jurisdiction with at least 48 hour advance notice.
 - 3. Submit separate reports for each test.

END OF SECTION 333901