



Department of
Transportation

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October 3, 2022

David Kruse
SRF Associates
3495 Winton Place, Bldg. E, Ste. 110
Rochester, NY 14623

SENT VIA EMAIL

RE: **Major Commercial Development
4300 Millersport Highway
Town of Amherst, Erie County**

Dear Mr. Kruse:

In response to the Traffic Impact Study and related Synchro files set received on 8/22/2022, the New York State Department of Transportation (NYSDOT) offers the following comments regarding the proposed development in the Town of Amherst:

1. NYSDOT does not have any additional comments regarding study area, trip generation/distribution, level-of-service impacts, or site plan. All comments were adequately addressed in the revised TIS.
2. Any future development associated with the vacant land in the vicinity of the roundabout will require an updated TIS and additional review to identify any potential highway mitigation due to impacts to the state highway system.
3. Based on the Synchro submission, NYSDOT offers the following comments:
 - Change the "Control Type" to "Act-Unchr". This section of roadway is not coordinated as shown in the Synchro models.
4. A phased mitigation agreement is required between the applicant and NYSDOT for the installation of a southbound right turn lane on Transit Road at the site entrance. Based on the trip generation, a right turn lane will be required prior to Phase 2 of the proposed development. An updated traffic study will be required based on the actual traffic volumes generated from Phase 1 and the projected volumes of Phase 2. No additional development will be allowed prior to the completion of any highway mitigation identified in the updated TIS. As stated in the TIS, the phases for the proposed development are as follows:
 - Phase 1 – 38 Single-family patio homes and 40 multi-family units.
 - Phase 2 – Commercial space, 22,400 SF of retail space, and 44 multi-family units above the commercial space.

A NYSDOT Highway Work Permit is required to work within the State's Right-of-Way. This letter does not constitute approval for the purposes of the Highway Work Permit

If you have any questions, please feel free to contact me at (716) 847-5256 or you can email me at Kevin.Hebert@DOT.NY.Gov

4300 Millersport Highway
October 3, 2022
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Sincerely,

Kevin Hebert

Kevin Hebert, P.E.
Major Commercial Development Coordinator

KPH

cc: Michael J. Roche, P.E., Regional Traffic Engineer (email only)
Brian P. Kirby, P.E., Assistant Regional Traffic Engineer (email only)
John Cogswell, P.E., Director of Operations (email only)
Nickolas J. Kinderman, P.E., North Erie Resident Engineer

Traffic Impact Study

for the proposed

Mixed-Use Development 4300 Millersport Highway

Town of Amherst
Erie County, New York

March 2022

Project No. 41118

Prepared For:

Cimato Brothers Construction Inc.

9220 Transit Road
East Amherst, New York 14051
Attn: Mr. Fred Cimato

Prepared By:



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

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LIST OF REFERENCES

1. Highway Capacity Manual 6th Edition. Transportation Research Board (TRB). The National Academies, Washington, DC. 2016.
2. Trip Generation, 11th Edition. Institute of Transportation Engineers (ITE). Washington, DC. 2021.
3. Trip Generation Handbook, 3rd Edition. ITE. Washing, DC. 2017.
4. New York State Department of Transportation (NYSDOT) Traffic Data Viewer. 2022. Retrieved from <https://www.dot.ny.gov/tdv>.
5. OnTheMap. U.S. Census Bureau. 2022.
6. Transportation Data Management System, Greater Buffalo-Niagara Regional Transportation Council (GBNRTC). Retrieved from <http://www.gbnrtc.org/maps/>. 2022.

LIST OF COMMONLY USED ACRONYMS

AADT: Annual Average Daily Traffic

ECDPW: Erie County Department of Public Works

FHWA: Federal Highway Administration

GBNRTC: Greater Buffalo-Niagara Regional Transportation Council

HCM: Highway Capacity Manual

ITE: Institute of Transportation Engineers

LOS: Level of Service

LUC: Land Use Code

MPH: Miles per Hour

NYSDOT: New York State Department of Transportation

SF: Square Feet

VPD: Vehicles per Day

EXECUTIVE SUMMARY

OVERVIEW

The purpose of this report is to evaluate the potential traffic impacts related to the proposed mixed-use development at 4300 Millersport Highway in the Town of Amherst, NY. Within this report, the operating characteristics of the proposed access points and impacts to the adjacent roadway network are identified and mitigating measures (if needed) are provided to minimize operational concerns.

To define traffic impact, this analysis establishes existing baseline traffic conditions, projects background traffic flow including area growth, and determines the traffic operations that would result from the proposed project.

The proposed project will be at 4300 Millersport Highway in the Town of Amherst, Erie County, New York. The project site is bounded by undeveloped lands to the north; portions of existing development, New Road, and Millersport Highway to the east; portions of residential development and Smith Road to the south; and undeveloped lands to the west. Land uses in the vicinity of the proposed project include residential, recreational, and service.

To ensure a comprehensive analysis of potential traffic impacts, a geographically broad study area was determined consisting of the following intersections:

- Millersport Highway/New Road (signalized)
- New Road/Smith Road (unsignalized)
- Millersport Highway/Smith Road (signalized)
- Millersport Highway/I-990 SB Ramp (unsignalized)
- Millersport Highway/I-990 NB Ramp (signalized)

The proposed project consists of constructing 65 single-family patio homes, 70 multifamily units, and $\pm 22,400$ SF of retail space. Access to the proposed project will be provided via one full access driveway along New Road, one full access driveway along Smith Road, and one full access driveway along Millersport Highway. **Figure 5** illustrates the proposed site plan.

Construction of the proposed project is anticipated to reach full build-out within approximately three years depending on market conditions. Town of Amherst 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. No projects were identified.

To account for normal increases in background traffic growth, including any unforeseen developments in the project study area, a growth rate of 0.5% was applied to the existing traffic volumes in the study area based upon a review of historical traffic information obtained from the New York State Department of Transportation.

CONCLUSIONS & RECOMMENDATIONS

This Traffic Impact Study identified and evaluated the potential traffic impacts that can be expected from the proposed mixed-use development at 4300 Millersport Highway in the Town of Amherst, New York. The results of this study determined that the existing transportation network can adequately accommodate the projected traffic volumes and resulting minor impacts to study area intersections. The following sets forth the conclusions and recommendations based upon the results of the analyses:

1. Using ITE Trip Generation Manual data, the proposed project is expected to generate approximately 44 entering/56 exiting vehicle trips during the AM peak hour and 111 entering/97 exiting vehicle trips during the PM peak hour.
2. However, not all driveway volumes are new, but instead a portion of the proposed volume is reduced considering pass-by adjustments. Thus, the proposed project is expected to generate approximately 44 entering/56 exiting vehicle trips during the AM peak hour and 96 entering/82 exiting vehicle trips during the PM peak hour.
3. A crash analysis was conducted from 2017-2019 at the study intersections. Most of the crash types occurring at each study intersection were rear end events, a characteristic of signalized intersections along moderately to heavily trafficked arterials. However, an in-depth review of the crashes determined no deficiencies exist which can be corrected by geometric improvements.
4. The projected minor traffic impacts resulting from full development of the proposed project during both peak hours can be accommodated by the existing transportation network and study area intersections. No capacity improvements are required.
5. The proposed project will not result in any potentially significant adverse traffic impacts to the study area intersections. This Traffic Impact Study provides the Town of Amherst and involved agencies with a detailed analysis for the purpose of evaluating the potential traffic impacts associated with the proposed project.

I. INTRODUCTION

The purpose of this report is to evaluate the potential traffic impacts related to the proposed mixed-use development at 4300 Millersport Highway in the Town of Amherst, NY. Within this report, the operating characteristics of the proposed access points and impacts to the adjacent roadway network are identified and mitigating measures (if needed) are provided to minimize operational concerns.

To define traffic impact, this analysis establishes existing baseline traffic conditions, projects background traffic flow including area growth, and determines the traffic operations that would result from the proposed project.

II. LOCATION

The proposed project will be at 4300 Millersport Highway in the Town of Amherst, Erie County, New York. The project site is bounded by undeveloped lands to the north; portions of existing development, New Road, and Millersport Highway to the east; portions of residential development and Smith Road to the south; and undeveloped lands to the west. Land uses in the vicinity of the proposed project include residential, recreational, and service.

To ensure a comprehensive analysis of potential traffic impacts, a geographically broad study area was determined consisting of the following intersections:

- Millersport Highway/New Road (signalized)
- New Road/Smith Road (unsignalized)
- Millersport Highway/Smith Road (signalized)
- Millersport Highway/I-990 SB Ramp (unsignalized)
- Millersport Highway/I-990 NB Ramp (signalized)

The project site location and study area are illustrated in **Figure 1** (all figures are included at the end of this report).

III. EXISTING HIGHWAY SYSTEM

A. Vehicular Network Description

The following information outlined in **Table 1** provides a description of the existing roadway network within project study area. **Figure 2** illustrates the lane geometry at each of the study intersections and the Annual Average Daily Traffic (AADT) volumes on the study roadways. The AADTs reflect the most recently collected data obtained from the New York State Department of Transportation (NYSDOT).

Functional classification of highways within the study area is determined by the NYSDOT and the Federal Highway Administration (FHWA). Definitions of the functional classifications shown in **Table 1** are provided after the table.

TABLE I: EXISTING HIGHWAY SYSTEM

ROADWAY	CLASS ¹	AGENCY ²	SPEED LIMIT ³	TRAVEL LANES ⁴	TRAVEL PATTERN/DIRECTION	EST. AADT & SOURCE ⁵
New Road (CH-186)	17	ECDPW	40	2	Two-way/ North-South	4,066 NYSDOT (2017)
Millersport Highway (NY-263)	14	NYSDOT	55	4	Two-way/ North-South	22,592 NYSDOT (2017)
Smith Road (CH-297)	19	ECDPW	35	2	Two-way/ East-West	637 NYSDOT (2015)
I-990	11	NYSDOT	65	4 (Divided)	Two-way/ North-South	24,086 NYSDOT (2018)

Notes:

1. State Functional Classification of Roadway.
2. Jurisdictional Agency of Roadway.
3. Posted or Statewide Limit in Miles per Hour (mph).
4. Number of travel lanes. Excludes turning/auxiliary lanes developed at intersections.
5. Estimated AADT in Vehicles per Day (vpd). AADT Source (Year).

Urban Principal Arterial – Interstate (Class 11)

Interstates are the highest classification of arterials and are designed for high-level mobility and for long-distance travel. These systems are typically high-speed, limited access, divided highways which connect major urban areas or destinations.

Urban Principal Arterial – Other (Class 14)

An urban principal arterial serves major activity centers, can interconnect and augment higher level arterials, serve trips of moderate length, and serve demand for intra-area travel between the central business district and outlying residential areas. Unlike access-controlled arterials, abutting land uses can be served directly.

Urban Major Collector (Class 17)

The collector street system provides both land access service and traffic circulation in higher density residential neighborhoods and commercial and industrial areas. The collector street distributes trips from the arterials through the area to their ultimate destination and vice versa (i.e., the collector street also collects traffic from local streets in residential neighborhoods and channels it into the arterial system). The collector street system may also service bus routes. Operating characteristics tend to include higher speeds and more signalized intersections.

Urban Local (Class 19)

Locally classified roads account for the largest percentage of all roadway mileage and includes all facilities not in one of the higher systems. Local roadways do not typically serve as bus routes, are often designed to discourage through traffic, and have the lowest degree of mobility.

B. Multi-Modal Network Description

This evaluation reviewed the study area’s pedestrian, bicycle, and transit network via field and aerial reconnaissance. A description of the multi-modal infrastructure is described hereafter.

Pedestrian & Bicycle Facilities

There are no sidewalk facilities within the study area. However, the signalized intersection of Millersport Highway/New Road features pedestrian countdown signals and crosswalk striping.

There are no dedicated bicycle lanes or trails, although cyclists are permitted to share the road with motorists on all roadways within the study area.

Transit Facilities

The Niagara Frontier Transportation Authority (NFTA) provides regional bus and metro rail service. The nearest bus stops are at the intersections of Millersport Highway/New Road and Millersport Highway/Smith Road and are serviced via Route 44 (Lockport) and Route 64 (Lockport Express).

IV. EXISTING TRAFFIC CONDITIONS

A. Peak Intervals for Analysis

Given the functional characteristics of the study corridors, adjacent land uses, and the proposed land uses for the project site (residential and retail), the peak hours selected for analysis are the weekday commuter AM and PM peak periods. The combination of site traffic and adjacent through traffic produces the greatest demand during these time periods.

B. Existing Traffic Volume Data

Turning movement traffic counts were collected by SRF at the study intersections described in Section II on Wednesday, February 9, 2022. Traffic counts were conducted from 7:00-9:00 AM and 4:00-6:00 PM. The peak hour traffic periods generally occurred from 7:00-8:00 AM and 4:15-5:15 PM. The unadjusted weekday AM and PM peak hour volumes are reflected in **Figure 3A**.

C. Field Observations

The study intersections were observed during both peak intervals to assess current traffic operations. Signal timing and phasing information was obtained by the NYSDOT to determine peak hour phasing plans and phase durations during each interval. 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 through a Freedom of Information (FOIL) request.

Given that the COVID-19 pandemic influenced daily travel in 2020, any reported crashes in 2020 were dismissed from the study.

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 intersection and compared with NYSDOT average crash rates for similar intersections, as summarized in **Table II**. Intersection rates are listed as crashes per million entering vehicle (CR/MEV). Pertinent crash data is provided in the Appendices.

TABLE II: EXISTING CRASH RATES

INTERSECTION	TOTAL CRASHES	NUMBER OF ENTERING VEHICLES	ACTUAL CRASH RATE	STATEWIDE AVERAGE CRASH RATE
Millersport Highway/New Road	6	25,147	0.22	0.26
New Road/Smith Road	3	6,778	0.40	0.31
Millersport Highway/Smith Road	7	26,757	0.24	0.26
Millersport Highway/I-990 SB	3	26,178	0.10	0.07
Millersport Highway/I-990 NB	14	20,231	0.63	0.17

Notable crash clusters are approaches with three or greater identifiable consistent crash types.

Millersport Highway/New Road

As shown in **Table II**, the study intersection has a crash rate that is lower than the statewide average crash rate for similar intersections. Four of the six (67%) reported crashes were attributed to rear end collisions; three of which occurred in the southbound direction. This is characteristic of moderate to heavily trafficked signalized intersections. The causes of the rear end crashes were generally due to driver error. No geometric improvements are recommended.

New Road/Smith Road

As shown in **Table II**, the study intersection has a crash rate that is approximately 1.3 times higher than the statewide average crash rate for similar intersections. No discernible crash patterns exist; thus, no geometric improvements are recommended.

Millersport Highway/Smith Road

As shown in **Table II**, the study intersection has a crash rate that is lower than the statewide average crash rate for similar intersections. Five of the seven (71%) of the reported crashes were attributed to rear end collisions; four of which occurred in the southbound direction. The causes of the rear end crashes were generally due to driver error. No geometric improvements are recommended.

Millersport Highway/I-990 On-ramp

As shown in **Table II**, the study intersection has a crash rate that is approximately 1.4 times higher than the statewide average crash rate for similar intersections. No discernible crash patterns exist; thus, no geometric improvements are recommended.

Millersport Highway/I-990 Off-ramp

As shown in **Table II**, the study intersection has a crash rate that is approximately 3.7 times higher than the statewide average crash rate for similar intersections. 10 of the 14 (71%) of the reported crashes were attributed to rear end collisions. Five rear end crashes occurred in the northbound direction and three occurred in the southbound direction. The remaining two occurred in the eastbound direction. The causes of the rear end crashes were generally due to driver error. No geometric improvements are recommended.

V. FUTURE AREA DEVELOPMENT AND LOCAL GROWTH

Construction of the proposed project is anticipated to reach full build-out within approximately three years depending on market conditions. Town of Amherst 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. No projects were identified.

To account for normal increases in background traffic growth, including any unforeseen developments in the project study area, a growth rate of 0.5% was applied to the existing traffic volumes in the study area based upon a review of historical traffic information obtained from the NYSDOT. All ambient growth calculations are included in the Appendices. The background traffic volumes are depicted in **Figure 4**.

VI. PROPOSED DEVELOPMENT

A. Project Description

The proposed project consists of constructing 65 single-family patio homes, 70 multifamily units, and ±22,400 SF of retail space. Access to the proposed project will be provided via one full access driveway along New Road, one full access driveway along Smith Road, and one full access driveway along Millersport Highway. **Figure 5** illustrates the proposed site plan.

B. Site Generated Traffic

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 Manual (11th Edition) published by the Institute of Transportation Engineers (ITE) 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. Volumes generated during the peak hour of the adjacent street traffic and proposed land use, in this case, the weekday commuter AM and PM peaks, represent a more critical volume when analyzing the capacity of the system; those intervals will provide the basis of this analysis.

Additionally, for certain types of developments, the total number of trips generated is different from the amount of new traffic added to the adjacent highway network by the generator. Service and retail-oriented developments (i.e., shopping centers, banks, restaurants, coffee/donut shops, retail storefronts, discount stores, and supermarkets) often locate adjacent to busy streets to attract the motorists already passing the site on the adjacent street. These sites attract a portion of their trips from traffic passing the site. The “pass-by” traffic refers to the amount of existing traffic already on the roadway adjacent to the site that, as it

“passes by” the site, will enter the site driveways to patronize the project site. The quantifying of “pass-by” trips has the net result of reducing the volume of new traffic that is added to the site driveways and/or adjacent roadways. This site and proposed retail and restaurant land uses are likely to exhibit some level of pass-by traffic.

For retail storefronts (shopping centers), the ITE data reports a range of rates during the PM peak period from 12% to 74% with an average pass-by rate of 34%. This study used a 25% pass-by rate during the PM peak hour. The ITE does not have data during the AM peak hour. Given the volume of projected trips, no adjustments were made for pass-by-rates for the AM peak hour.

Table III shows the total site generated trips, pass-by trips, and resulting primary trips that are added to the existing highway system for full development of the project. All trip generation information has been included in the Appendices.

TABLE III: SITE GENERATED TRIPS

DESCRIPTION	ITE LUC	SIZE	AM PEAK HOUR		PM PEAK HOUR	
			ENTER	EXIT	ENTER	EXIT
Residential, Patio Homes	210	38 units	8	23	25	15
Residential, Multifamily	220	40 units	4	12	12	8
Retail	822	±22,400 SF	32	21	74	74
Total Site Generated Trips			44	56	111	97
<i>Pass-by Trips</i>			0	0	-15	-15
Total Primary Trips			44	56	96	82

Using ITE Trip Generation Manual data, the proposed project is expected to generate approximately 44 entering/56 exiting vehicle trips during the AM peak hour and 111 entering/97 exiting vehicle trips during the PM peak hour.

However, not all driveway volumes are new, but instead a portion of the proposed volume is reduced considering pass-by adjustments. Thus, the proposed project is expected to generate approximately 44 entering/56 exiting vehicle trips during the AM peak hour and 96 entering/82 exiting vehicle trips during the PM peak hour.

C. Site Traffic Distribution

The cumulative effect of site-generated 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 generated by the proposed project is considered a function of several parameters, including:

- Employment centers using Census Data
- Population centers using Census Data
- Commercial centers
- Proposed access locations
- Existing traffic patterns
- Existing traffic conditions and controls

Figure 6A shows the anticipated trip distribution pattern percentages for the traffic from the residential program and **Figure 6B** shows the anticipated trip distribution pattern percentages for the traffic from the retail program. **Figures 7A through 7D** illustrate the peak hour project site-generated traffic based on those percentages for residential, retail primary trips, pass-by trips, and total site-generated trips, respectively.

VII. FULL DEVELOPMENT VOLUMES

Proposed design hour traffic volumes are developed for the AM and PM peak hours by combining the background traffic conditions (**Figure 4**) and the new site generated traffic volumes (**Figure 7D**) to yield the traffic volumes under full development conditions. The resulting design hour volumes for the proposed project are illustrated in **Figure 8** 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 most amount of 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 Appendices. LOS "C" or better is generally desirable, but LOS "D" for signalized locations and LOS "E" for unsignalized are generally acceptable during peak periods so long as the volume to capacity ratio (v/c) is below 1.0.

The standard procedure for capacity analysis of signalized and unsignalized intersections is outlined in the Highway Capacity Manual (HCM 2016) published by the Transportation Research Board (TRB). 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.

B. Capacity Analysis Results

Existing and background operating conditions during the peak study periods are evaluated to determine a basis for comparison with the projected future conditions. The future traffic conditions generated by the proposed project were analyzed to assess the operation of the study area intersections. Capacity results for existing, background and full development conditions are listed in **Table IV**. The discussion following the table summarizes capacity conditions.

INTERSECTION	2022 EXISTING CONDITIONS				2025 BACKGROUND CONDITIONS				2025 FULL BUILD CONDITIONS					
		AM	PM		AM	PM		AM	PM	AM	PM		AM	PM
1. Millersport Highway/New Road (S)														
NB - New Road	B	15.7	C	25.7	B	15.6	C	25.9	B	15.5	C	26.0		
SB - New Road	C	22.1	B	14.6	C	22.3	B	14.5	C	23.6	B	14.4		
NE Left - Millersport Highway	A	7.4	A	7.1	A	7.5	A	7.3	A	7.8	A	0.6		
NE Thru/Right - Millersport Highway	B	11.9	B	14.0	B	12.0	B	14.3	B	12.0	B	14.6		
SW Left - Millersport Highway	A	6.0	A	5.4	A	6.0	A	5.5	A	6.0	A	5.6		
SW Thru/Right - Millersport Highway	B	18.3	B	13.7	B	18.8	B	13.8	C	21.3	B	14.1		
Overall LOS	B	16.6	B	13.9	B	16.9	B	14.1	B	18.4	B	14.4		
Volume-to-Capacity (v/c) Ratio		0.73		0.64		0.74		0.65		0.79		0.66		
2. New Road/Smith Road (U)														
EB - Smith Road	A	9.1	A	9.9	A	9.2	B	10.0	A	9.2	B	10.1		
WB - Smith Road	B	10.8	A	9.2	B	11.0	A	9.3	B	11.1	A	9.3		
NB - New Road	B	10.5	A	9.7	B	10.6	A	9.8	B	10.7	A	9.9		
SB - New Road	A	9.8	A	9.0	A	9.9	A	9.0	A	10.0	A	9.0		
3. Millersport Highway/Smith Road (S)														
EB Left/Thru - Smith Road	B	19.4	C	21.7	B	19.4	C	21.8	B	19.8	C	22.6		
EB Right - Smith Road	A	3.1	A	1.8	A	3.1	A	1.8	A	7.2	A	5.9		
WB Left/Thru - Smith Road	D	38.2	C	27.8	D	39.3	C	28.3	D	40.1	C	28.9		
WB Right - Smith Road	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.1		
NB Left - Millersport Highway	A	0.0	A	5.8	A	0.0	A	5.8	A	10.0	A	6.2		
NB Thru/Right - Millersport Highway	A	9.8	A	9.7	A	9.8	A	9.9	A	9.9	B	10.0		
SB Left - Millersport Highway	A	8.2	A	6.5	A	8.2	A	6.7	A	8.4	A	7.3		
SB Thru/Right - Millersport Highway	B	17.3	A	6.0	B	17.7	A	6.1	B	18.0	A	6.1		
Overall LOS	B	17.9	A	9.6	B	18.2	A	9.8	B	18.4	A	10.0		
Volume-to-Capacity (v/c) Ratio		0.80		0.67		0.80		0.68		0.81		0.69		
4. Millersport Highway/Proposed Driveway (U)														
EB Left - Proposed Driveway									C	19.3	B	13.3		
EB Right - Proposed Driveway	N/A		N/A		N/A		N/A		B	10.1	A	9.3		
NB Left - Millersport Highway									B	11.7	A	9.1		
5. Smith Road/Proposed Driveway (U)														
EB - Smith Road	N/A		N/A		N/A		N/A		A	0.1	A	0.2		
SB - Proposed Driveway									A	9.2	A	9.4		
6. Millersport Highway/I-990 On-Ramp (U)														
NB Left - Millersport Highway	C	17.5	B	10.0	C	17.9	B	10.1	C	18.3	B	10.3		
7. Millersport Highway/I-990 Off-Ramp (S)														
EB Left - I-990 Off-Ramp	D	36.6	C	26.0	D	36.5	C	26.1	D	36.3	C	26.7		
EB Right - I-990 Off-Ramp	C	30.6	C	23.4	C	30.7	C	23.5	C	30.6	C	24.1		
NB - Millersport Highway	A	8.5	C	22.4	A	8.6	C	22.7	A	8.8	C	22.9		
SB - Millersport Highway	A	8.9	C	21.2	A	9.0	C	21.3	A	9.3	C	21.5		
Overall LOS	C	21.4	C	23.8	C	21.4	C	24.0	C	21.5	C	24.4		
Volume-to-Capacity (v/c) Ratio		0.67		0.80		0.68		0.81		0.68		0.82		

Notes:

1. A (0.0) = Level of Service (Delay in seconds per vehicle)
2. EB = Eastbound, WB = Westbound, NB = Northbound, NE = Northeastbound, SB = Southbound, SW = Southwestbound
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.

1. Millersport Highway/New Road

All movements operate at LOS "C" or better under existing, projected background, and future build conditions during both peak hours studied. The intersection can accommodate the projected new traffic volumes resulting from the project; thus, no capacity improvements are warranted nor recommended.

2. New Road/Smith Road

All movements operate at LOS "B" or better under existing, projected background, and future build conditions during both peak hours studied. The intersection can accommodate the projected new traffic volumes resulting from the project; thus, no capacity improvements are warranted nor recommended.

3. Millersport Highway/Smith Road

All movements generally operate at LOS "C" or better under existing, projected background, and future build conditions during both peak hours studied. The exception is the westbound left/thru movement during the AM peak hour, which operates at LOS "D". However, the condition is on the low end of the LOS "D" spectrum as the threshold between LOS "C" and "D" occurs at 35.0 seconds of delay per vehicle. The intersection can accommodate the projected new traffic volumes resulting from the project; thus, no capacity improvements are warranted nor recommended.

4. Millersport Highway/Proposed Driveway

All movements are projected to operate at LOS "C" or better during both peak hours under full build conditions. No capacity improvements are warranted nor recommended.

5. Smith Road/Proposed Driveway

All movements are projected to operate at LOS "A" during both peak hours under full build conditions. No capacity improvements are warranted nor recommended.

6. Millersport Highway/I-990 On-Ramp

All movements generally operate at LOS "C" or better under existing, projected background, and future build conditions during both peak hours studied. The intersection can accommodate the projected new traffic volumes resulting from the project; thus, no capacity improvements are warranted nor recommended.

7. Millersport Highway/I-990 Off-Ramp

All movements generally operate at LOS "C" or better under existing, projected background, and future build conditions during both peak hours studied. The exception is the eastbound left movement during the AM peak hour, which operates at LOS "D". However, the condition is on the low end of the LOS "D" spectrum as the threshold between LOS "C" and "D" occurs at 35.0 seconds of delay per vehicle. The intersection can accommodate the projected new traffic volumes resulting from the project; thus, no capacity improvements are warranted nor recommended.

IX. CONCLUSIONS & RECOMMENDATIONS

This Traffic Impact Study identified and evaluated the potential traffic impacts that can be expected from the proposed mixed-use development at 4300 Millersport Highway in the Town of Amherst, New York. The results of this study determined that the existing transportation network can adequately accommodate the projected traffic volumes and resulting minor impacts to study area intersections. The following sets forth the conclusions and recommendations based upon the results of the analyses:

1. Using ITE Trip Generation Manual data, the proposed project is expected to generate approximately 44 entering/56 exiting vehicle trips during the AM peak hour and 111 entering/97 exiting vehicle trips during the PM peak hour.
2. However, not all driveway volumes are new, but instead a portion of the proposed volume is reduced considering pass-by adjustments. Thus, the proposed project is expected to generate approximately 44 entering/56 exiting vehicle trips during the AM peak hour and 96 entering/82 exiting vehicle trips during the PM peak hour.
3. A crash analysis was conducted from 2017-2019 at the study intersections. Most of the crash types occurring at each study intersection were rear end events, a characteristic of signalized intersections along moderately to heavily trafficked arterials. However, an in-depth review of the crashes determined no deficiencies exist which can be corrected by geometric improvements.
4. The projected minor traffic impacts resulting from full development of the proposed project during both peak hours can be accommodated by the existing transportation network and study area intersections. No capacity improvements are required.
5. The proposed project will not result in any potentially significant adverse traffic impacts to the study area intersections. This Traffic Impact Study provides the Town of Amherst and involved agencies with a detailed analysis for the purpose of evaluating the potential traffic impacts associated with the proposed project.

X. FIGURES

Figures 1 through 8 are included on the following pages.


FIGURE 1: SITE LOCATION AND STUDY AREA



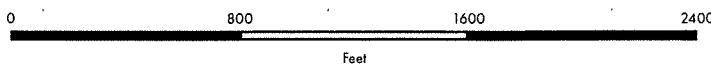
Key	
①	Study Intersection
Ⓜ	Proposed Intersection
	Study Area
▨	Site Location

**PROPOSED 4300 MILLERSPORT HIGHWAY
MIXED-USE PROJECT**


TOWN OF AMHERST, ERIE COUNTY, NEW YORK



N



0 800 1600 2400
Feet



SRF

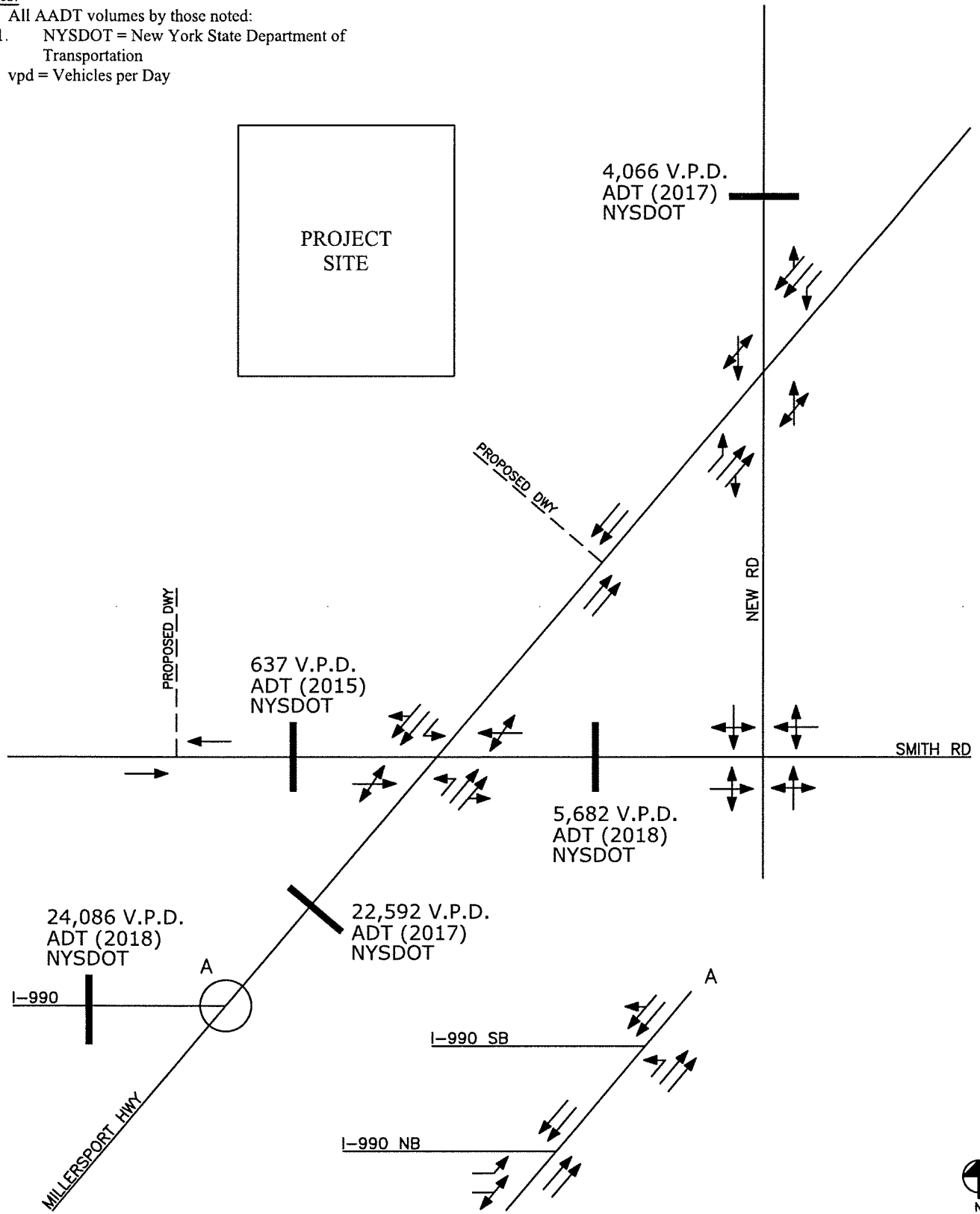
ASSOCIATES

Transportation Planning / Engineering / Design

Project No: 41118

Notes:

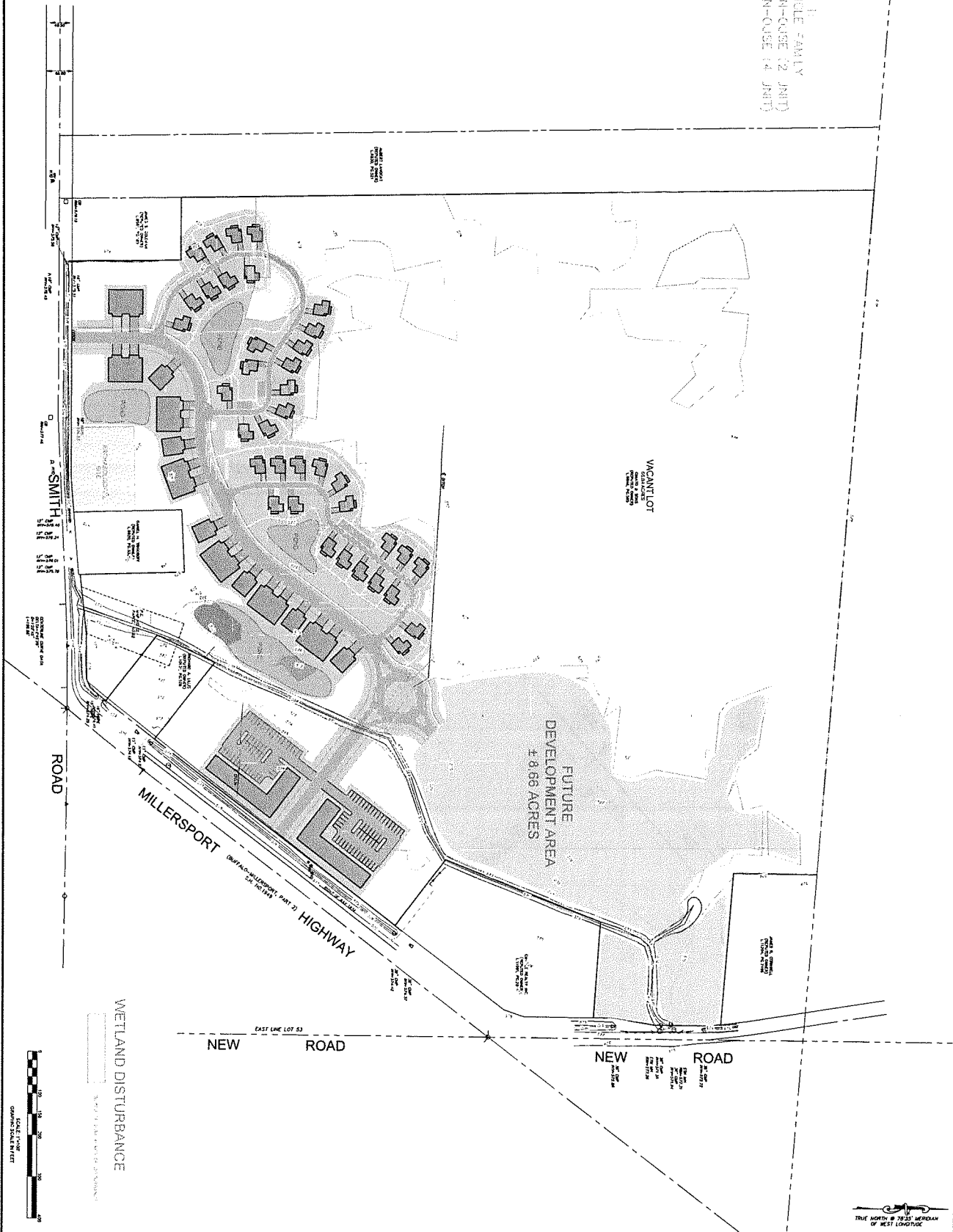
1. All AADT volumes by those noted:
 - 1.1. NYSDOT = New York State Department of Transportation
2. vpd = Vehicles per Day



KEY	FIGURE 2
	LANE GEOMETRY & AVERAGE DAILY TRAFFIC
	PROPOSED 4300 MILLERSPORT HIGHWAY MIXED-USE PROJECT, TOWN OF AMHERST, NY
PROJECT NO: 41118	

FIGURE 5 - CONCEPT SITE PLAN

PHASE 1
 20 SINGLE FAMILY
 8 TOWNHOUSE (2 UNIT)
 7 TOWNHOUSE (4 UNIT)



THIS SHEET ISSUED JANUARY 23, 2012
 DRAWING SCALE 1"=80'
 WORK PROTECTIVE 100%
CP6

TOWN OF AMHERST
 COUNTY OF ERIE, STATE OF NEW YORK
 PART OF LOT 53, TOWNSHIP 13, RANGE 7
 HOLLAND LAND COMPANY'S SURVEY

WM SCHUTT ASSOCIATES
 37 CENTRAL AVE.
 LANCASTER, NY 14066-2143
 PH. 716-683-5961
 FAX 716-683-0169
 WWW.WMSCHUTT.COM

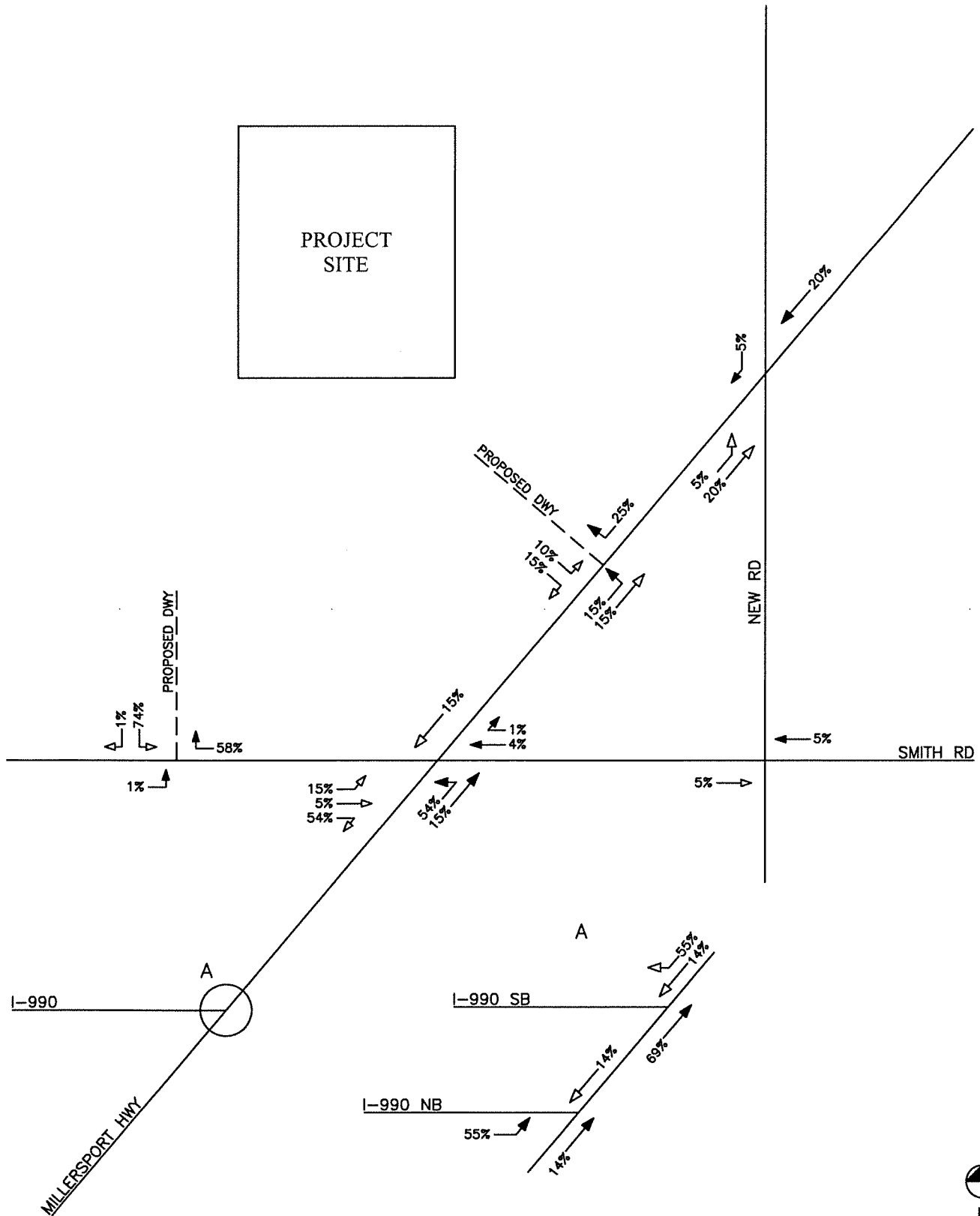
SKETCH PLAN

DESIGNED BY	DATE
DLS	
CHECKED BY: WES	
DATE	

WARNING:
 ALTERING THIS DOCUMENT IS IN VIOLATION OF
 THE LAW EXCEPT AS PROVIDED IN SECTION
 7003, PART 2 OF THE NEW YORK STATE
 EDUCATION LAW. © COPYRIGHT 2012
 WM. SCHUTT & ASSOCIATES P.C.

DRAWING REVISIONS		
ITER	DATE	DESCRIPTION





KEY
00(00) = AM(PM)
→ = ENTERING TRIPS
↗ = EXITING TRIPS
PROJECT NO: 41118

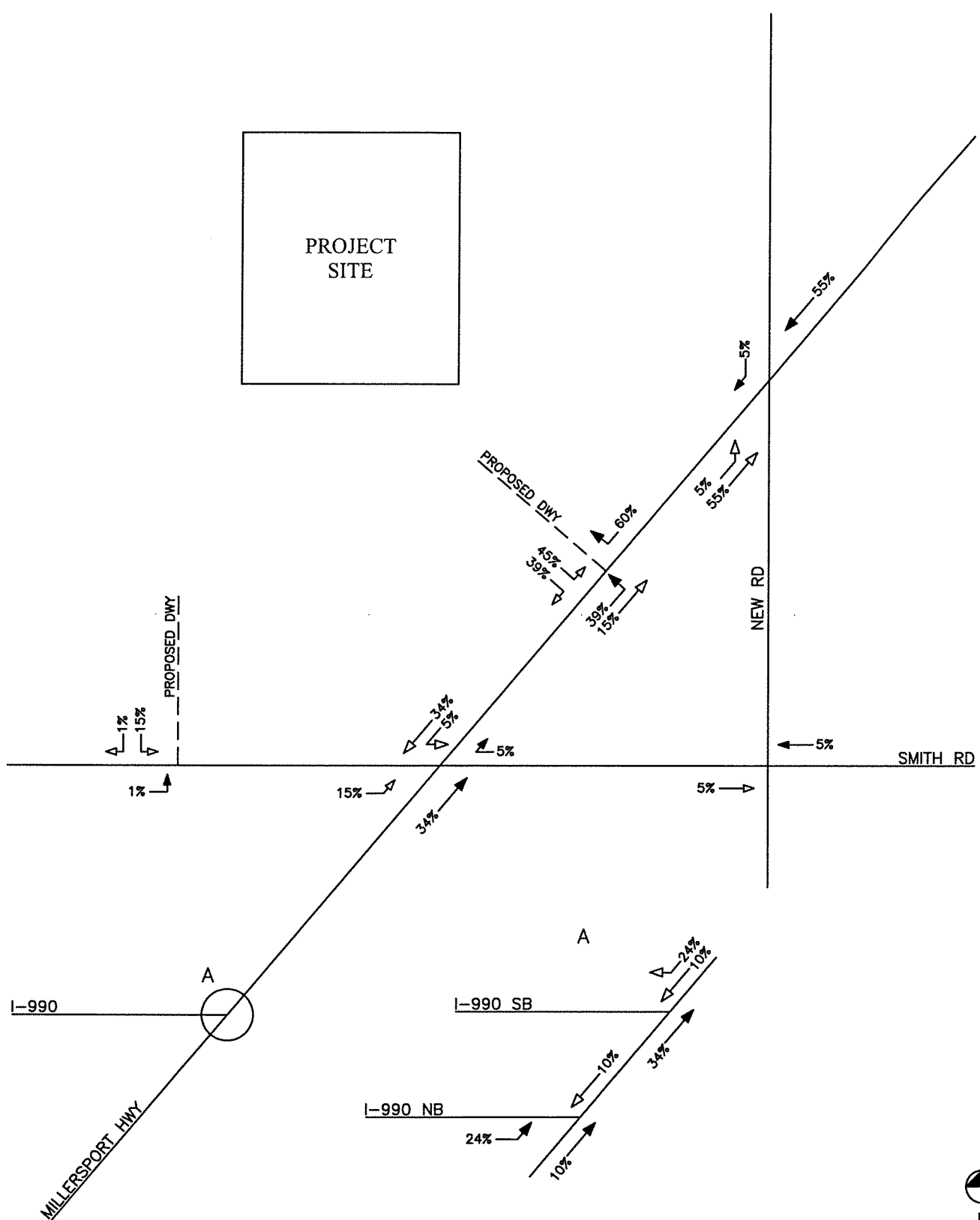
FIGURE 6A


TRIP DISTRIBUTION RESIDENTIAL

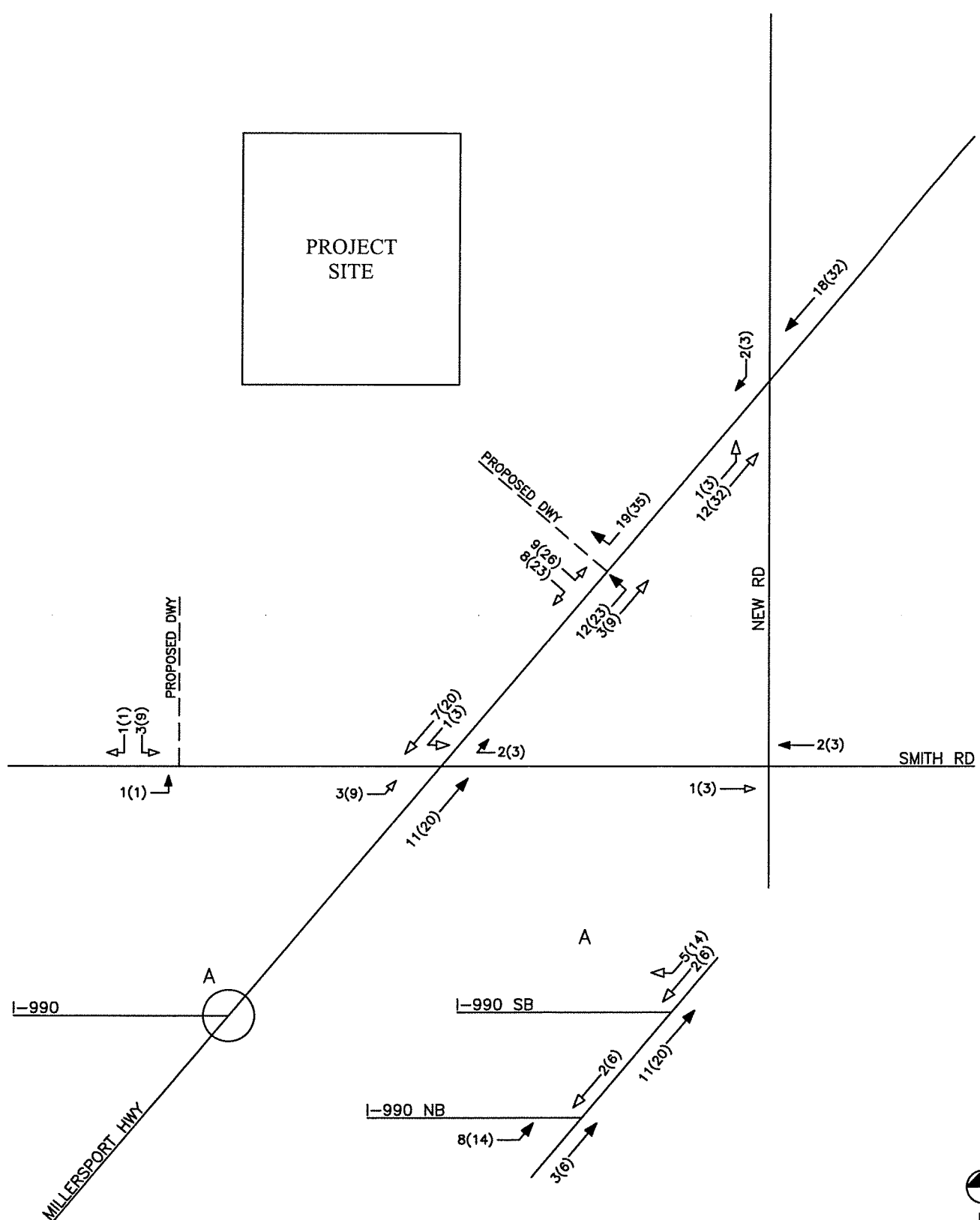
PROPOSED 4300 MILLERSPORT HIGHWAY MIXED-USE PROJECT, TOWN OF AMHERST, NY


SRF ASSOCIATES

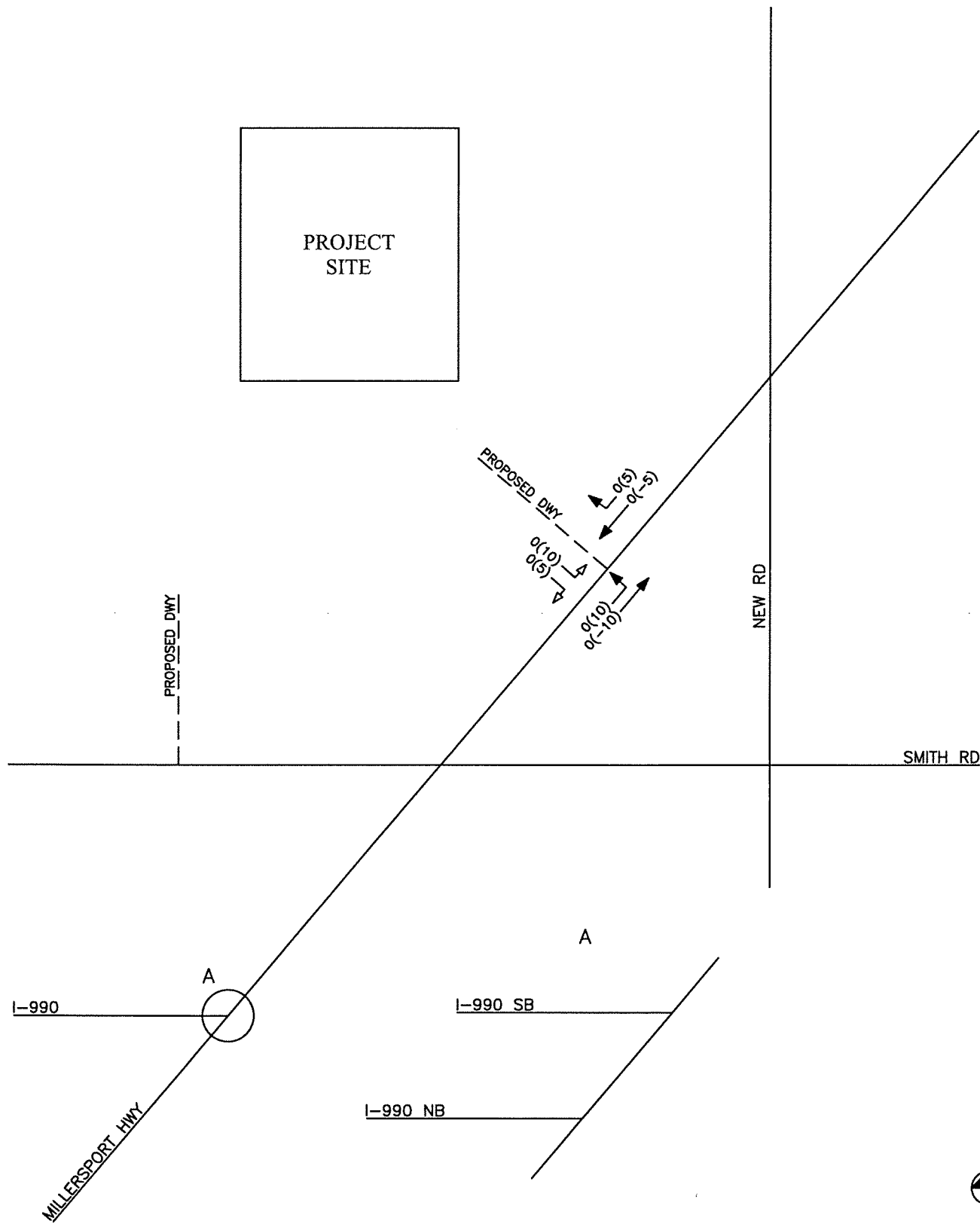
Transportation Planning / Engineering / Design
www.srfa.net / (585) 272-4660



<p>KEY</p>	<p>FIGURE 6A</p>	 <p>Transportation Planning / Engineering / Design www.srfa.net / (585) 272-4660</p>
<p>00(00) = AM(PM) → = ENTERING TRIPS ⇨ = EXITING TRIPS</p>	<p>TRIP DISTRIBUTION COMMERCIAL</p>	
<p>PROJECT NO: 41118</p>	<p>PROPOSED 4300 MILLERSPORT HIGHWAY MIXED-USE PROJECT, TOWN OF AMHERST, NY</p>	



<p>KEY</p>	<p>FIGURE 7B</p>	
<p>00(00) = AM(PM) → = ENTERING TRIPS ⇨ = EXITING TRIPS</p>	<p>SITE GENERATED TRIPS COMMERCIAL</p>	<p>Transportation Planning / Engineering / Design www.srfa.net / (585) 272-4660</p>
<p>PROJECT NO: 41118</p>	<p>PROPOSED 4300 MILLERSPORT HIGHWAY MIXED-USE PROJECT, TOWN OF AMHERST, NY</p>	



KEY
00(00) = AM(PM)
→ = ENTERING TRIPS
↔ = EXITING TRIPS
PROJECT NO: 41118

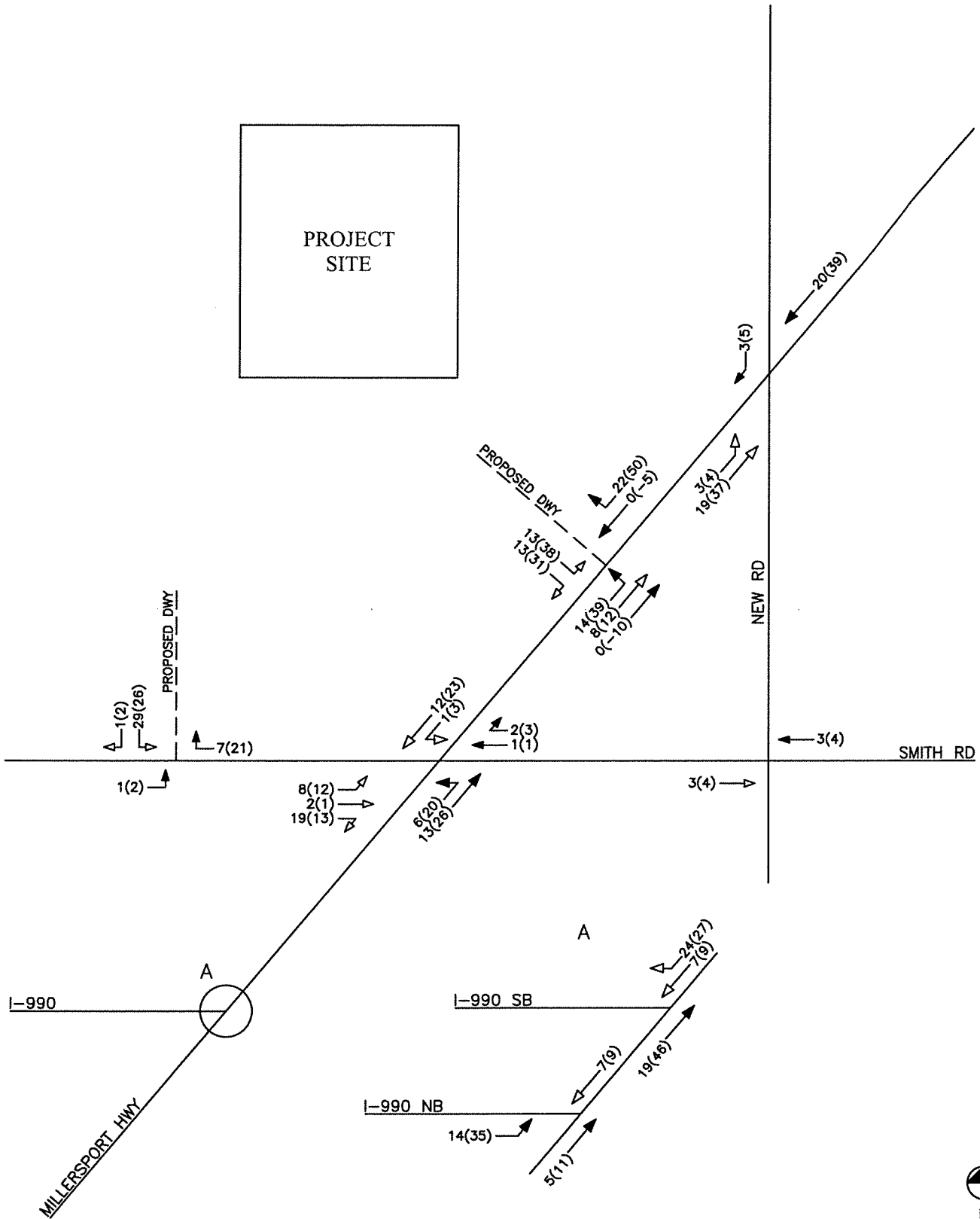
FIGURE 7C

SITE GENERATED TRIPS
PASS-BY TRIPS

PROPOSED 4300 MILLERSPORT
HIGHWAY MIXED-USE PROJECT,
TOWN OF AMHERST, NY

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KEY

- 00(00) = AM(PM)
- = ENTERING TRIPS
- ↔ = EXITING TRIPS

PROJECT NO: 41118

FIGURE 7D

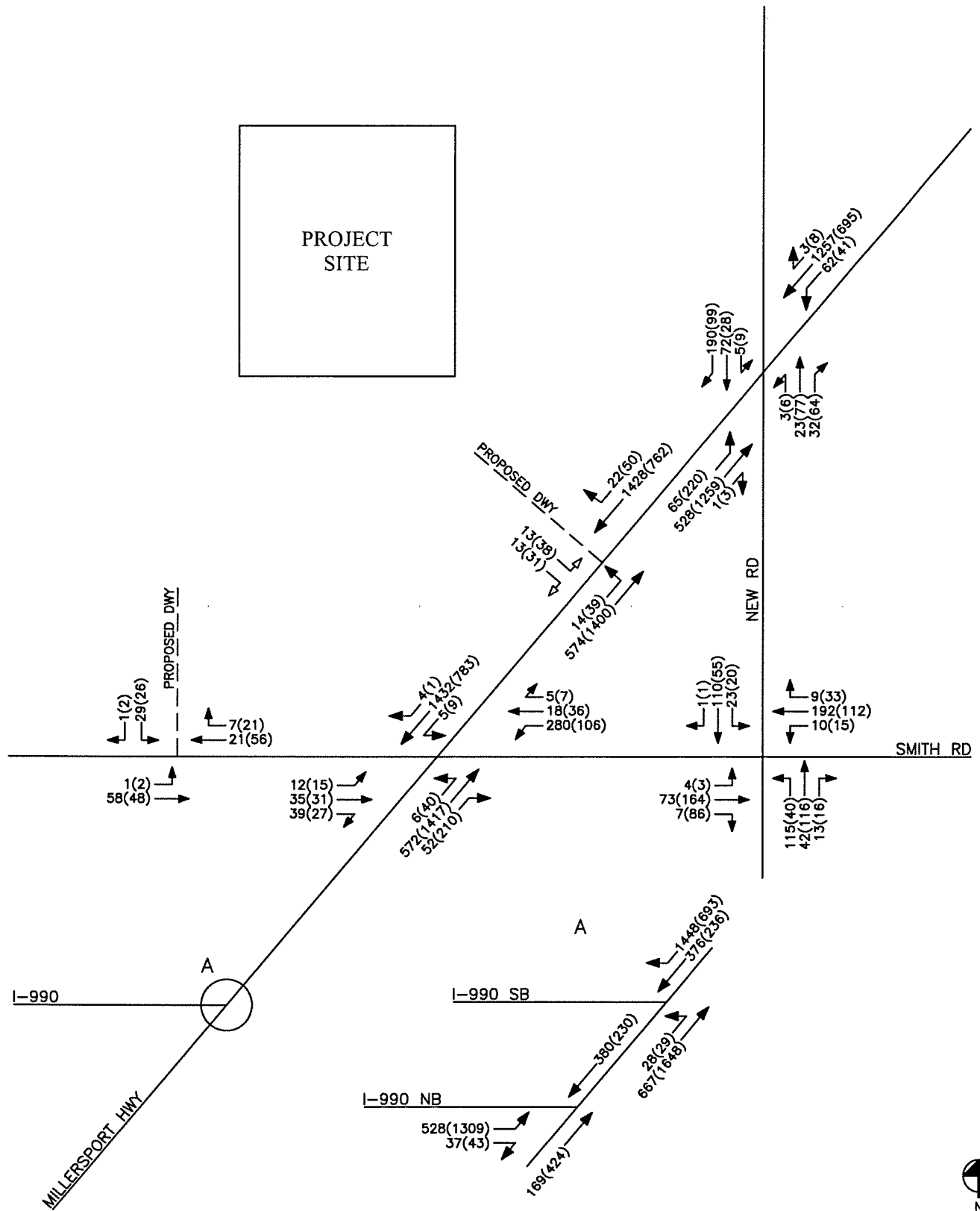
TOTAL SITE GENERATED TRIPS

PROPOSED 4300 MILLERSPORT HIGHWAY MIXED-USE PROJECT, TOWN OF AMHERST, NY



Transportation Planning / Engineering / Design
www.srfa.net / (585) 272-4660





KEY
00(00) = AM(PM)
PROJECT NO: 41118

FIGURE 8

PEAK HOUR VOLUMES
FULL DEVELOPMENT CONDITIONS

PROPOSED 4300 MILLERSPORT
HIGHWAY MIXED-USE PROJECT,
TOWN OF AMHERST, NY

SRF ASSOCIATES

Transportation Planning / Engineering / Design
www.srfa.net / (585) 272-4660

APPENDICES

A1

Collected Traffic Volume Data

TRI-STATE TRAFFIC DATA

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville, Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: New Rd/Smith Rd
Site Code:
Start Date: 02/09/2022
Page No: 1

Turning Movement Data

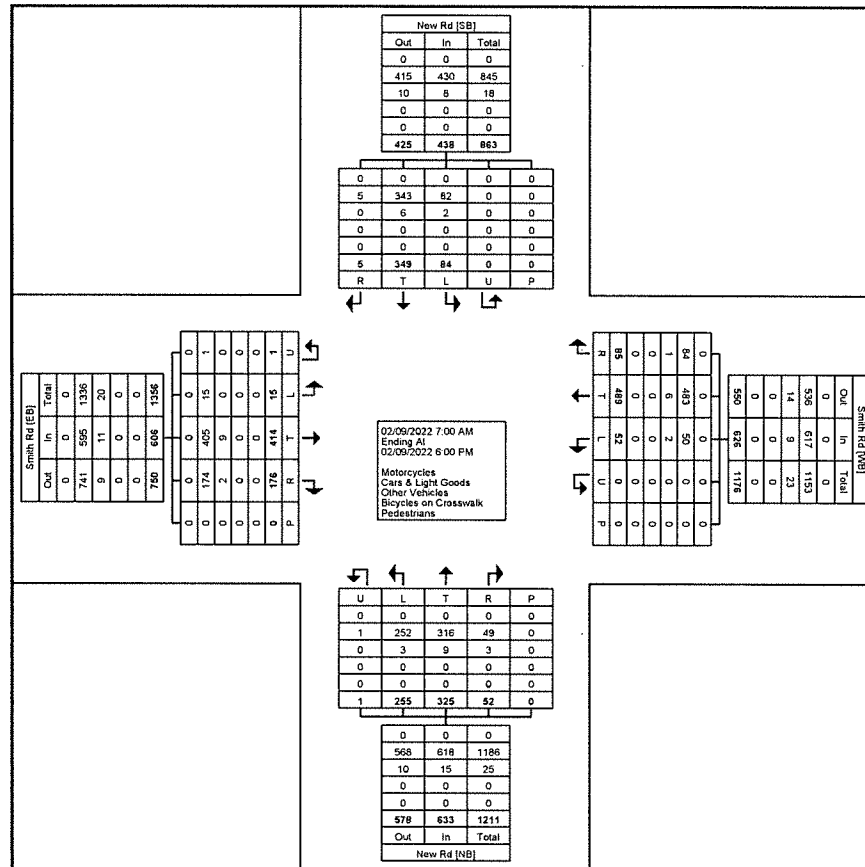
Start Time	New Rd Southbound						Smith Rd Westbound						New Rd Northbound						Smith Rd Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
7:00 AM	0	14	9	0	0	23	1	44	1	0	0	46	1	5	25	0	0	31	1	12	0	0	0	13	113
7:15 AM	0	27	3	0	0	30	2	35	2	0	0	39	1	8	24	1	0	34	3	21	0	0	0	24	127
7:30 AM	1	38	7	0	0	46	5	54	5	0	0	64	8	11	36	0	0	55	1	16	0	0	0	17	182
7:45 AM	0	29	4	0	0	33	1	53	2	0	0	56	3	17	27	0	0	47	2	20	0	0	0	22	158
Hourly Total	1	108	23	0	0	132	9	186	10	0	0	205	13	41	112	1	0	167	7	69	0	0	0	76	580
8:00 AM	0	31	5	0	0	36	5	34	2	0	0	41	2	21	14	0	0	37	1	13	1	0	0	15	129
8:15 AM	0	35	3	0	0	38	2	31	2	0	0	35	6	11	20	0	0	37	3	10	0	0	0	13	123
8:30 AM	0	18	7	0	0	25	3	45	10	0	0	58	3	12	24	0	0	39	3	14	0	0	0	17	139
8:45 AM	0	15	3	0	0	18	4	21	5	0	0	30	2	11	19	0	0	32	2	14	0	0	0	16	96
Hourly Total	0	99	18	0	0	117	14	131	19	0	0	164	13	55	77	0	0	145	9	51	1	0	0	61	487
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	15	7	0	0	22	11	21	1	0	0	33	6	29	6	0	0	41	14	36	1	0	0	51	147
4:15 PM	0	12	6	0	0	18	9	15	4	0	0	28	2	35	11	0	0	48	19	48	2	0	0	69	163
4:30 PM	0	14	6	0	0	20	10	30	3	0	0	43	5	24	8	0	0	37	26	30	0	0	0	56	156
4:45 PM	1	12	5	0	0	18	6	30	4	0	0	40	5	25	11	0	0	41	18	37	0	0	0	55	154
Hourly Total	1	53	24	0	0	78	36	96	12	0	0	144	18	113	36	0	0	167	77	151	3	0	0	231	620
5:00 PM	0	16	3	0	0	19	8	31	4	0	0	43	4	30	9	0	0	43	22	43	2	0	0	67	172
5:15 PM	1	20	6	0	0	27	8	15	3	0	0	26	1	32	8	0	0	41	18	39	0	0	0	57	151
5:30 PM	0	23	5	0	0	28	6	18	3	0	0	27	3	27	11	0	0	41	22	37	1	1	0	61	157
5:45 PM	2	30	5	0	0	37	4	12	1	0	0	17	0	27	2	0	0	29	21	24	8	0	0	53	136
Hourly Total	3	89	19	0	0	111	26	76	11	0	0	113	8	116	30	0	0	154	83	143	11	1	0	238	616
Grand Total	5	349	84	0	0	438	85	489	52	0	0	626	52	325	255	1	0	633	176	414	15	1	0	606	2303
Approach %	1.1	79.7	19.2	0.0	-	-	13.6	78.1	8.3	0.0	-	-	8.2	51.3	40.3	0.2	-	-	29.0	68.3	2.5	0.2	-	-	-
Total %	0.2	15.2	3.6	0.0	-	19.0	3.7	21.2	2.3	0.0	-	27.2	2.3	14.1	11.1	0.0	-	27.5	7.6	18.0	0.7	0.0	-	26.3	-
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	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0
Cars & Light Goods	5	343	82	0	-	430	84	483	50	0	-	617	49	316	252	1	-	618	174	405	15	1	-	595	2260
% Cars & Light Goods	100.0	98.3	97.6	-	-	98.2	98.8	98.8	96.2	-	-	98.6	94.2	97.2	98.8	100.0	-	97.6	98.9	97.8	100.0	100.0	-	98.2	98.1
Other Vehicles	0	6	2	0	-	8	1	6	2	0	-	9	3	9	3	0	-	15	2	9	0	0	-	11	43
% Other Vehicles	0.0	1.7	2.4	-	-	1.8	1.2	1.2	3.8	-	-	1.4	5.8	2.8	1.2	0.0	-	2.4	1.1	2.2	0.0	0.0	-	1.8	1.9
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-

TRI-STATE TRAFFIC DATA

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville, Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: New Rd/Smith Rd
Site Code:
Start Date: 02/09/2022
Page No: 3



Turning Movement Data Plot

TRI-STATE
TRAFFIC DATA

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville, Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: New Rd/Smith Rd
Site Code:
Start Date: 02/09/2022
Page No: 4

Turning Movement Peak Hour Data (7:15 AM)

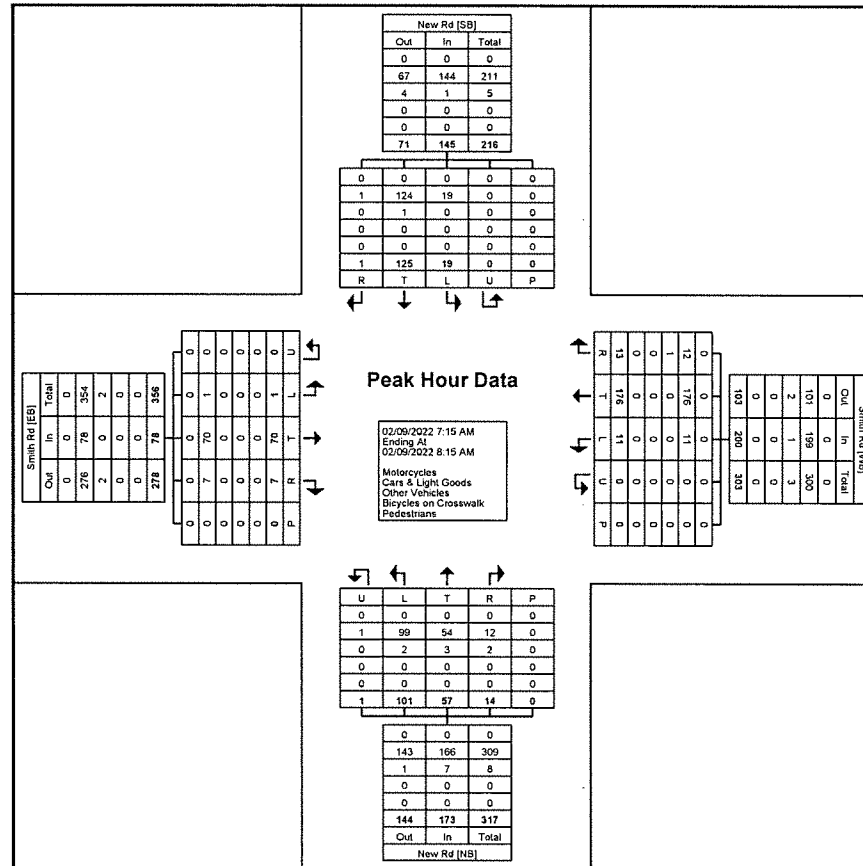
Start Time	New Rd Southbound						Smith Rd Westbound						New Rd Northbound						Smith Rd Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
7:15 AM	0	27	3	0	0	30	2	35	2	0	0	39	1	8	24	1	0	34	3	21	0	0	0	24	127
7:30 AM	1	38	7	0	0	46	5	54	5	0	0	64	8	11	36	0	0	55	1	16	0	0	0	17	182
7:45 AM	0	29	4	0	0	33	1	53	2	0	0	56	3	17	27	0	0	47	2	20	0	0	0	22	158
8:00 AM	0	31	5	0	0	36	5	34	2	0	0	41	2	21	14	0	0	37	1	13	1	0	0	15	129
Total	1	125	19	0	0	145	13	176	11	0	0	200	14	57	101	1	0	173	7	70	1	0	0	78	596
Approach %	0.7	86.2	13.1	0.0	-	-	6.5	88.0	5.5	0.0	-	-	8.1	32.9	58.4	0.6	-	-	9.0	89.7	1.3	0.0	-	-	-
Total %	0.2	21.0	3.2	0.0	-	24.3	2.2	29.5	1.8	0.0	-	33.6	2.3	9.6	16.9	0.2	-	29.0	1.2	11.7	0.2	0.0	-	-	13.1
PHF	0.250	0.822	0.679	0.000	-	0.788	0.650	0.815	0.550	0.000	-	0.781	0.438	0.679	0.701	0.250	-	0.786	0.583	0.833	0.250	0.000	-	0.813	0.819
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	0.0	0.0	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	1	124	19	0	-	144	12	176	11	0	-	199	12	54	99	1	-	166	7	70	1	0	-	78	587
% Cars & Light Goods	100.0	99.2	100.0	-	-	99.3	92.3	100.0	100.0	-	-	99.5	85.7	94.7	98.0	100.0	-	96.0	100.0	100.0	100.0	-	-	100.0	98.5
Other Vehicles	0	1	0	0	-	1	1	0	0	0	-	1	2	3	2	0	-	7	0	0	0	0	-	0	9
% Other Vehicles	0.0	0.8	0.0	-	-	0.7	7.7	0.0	0.0	-	-	0.5	14.3	5.3	2.0	0.0	-	4.0	0.0	0.0	0.0	-	-	0.0	1.5
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: New Rd/Smith Rd
Site Code:
Start Date: 02/09/2022
Page No: 5



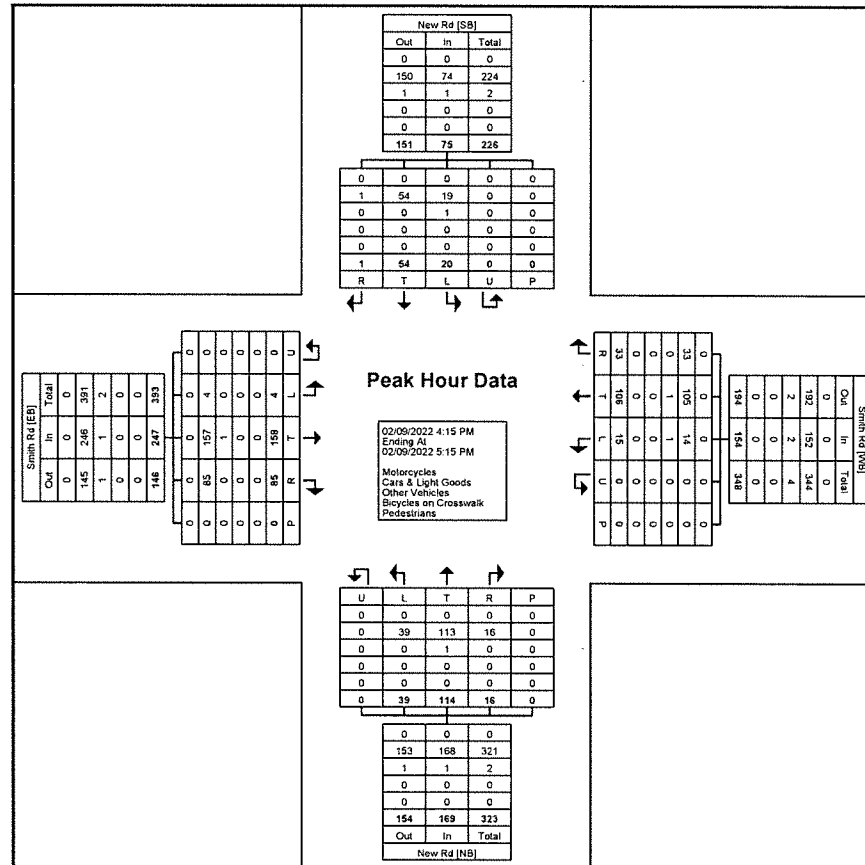
Turning Movement Peak Hour Data Plot (7:15 AM)

TRI-STATE
TRAFFIC DATA

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville, Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: New Rd/Smith Rd
Site Code:
Start Date: 02/09/2022
Page No: 7



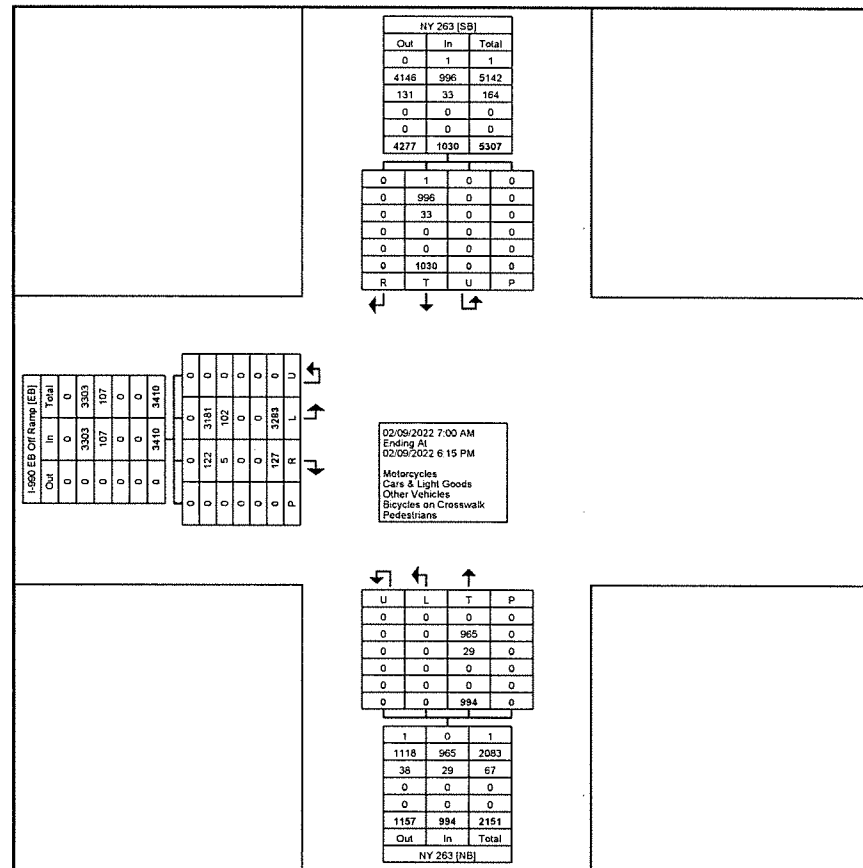
Turning Movement Peak Hour Data Plot (4:15 PM)

TRI-STATE TRAFFIC DATA

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville, Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 263/1-990 EB Off Ramp
Site Code:
Start Date: 02/09/2022
Page No: 2



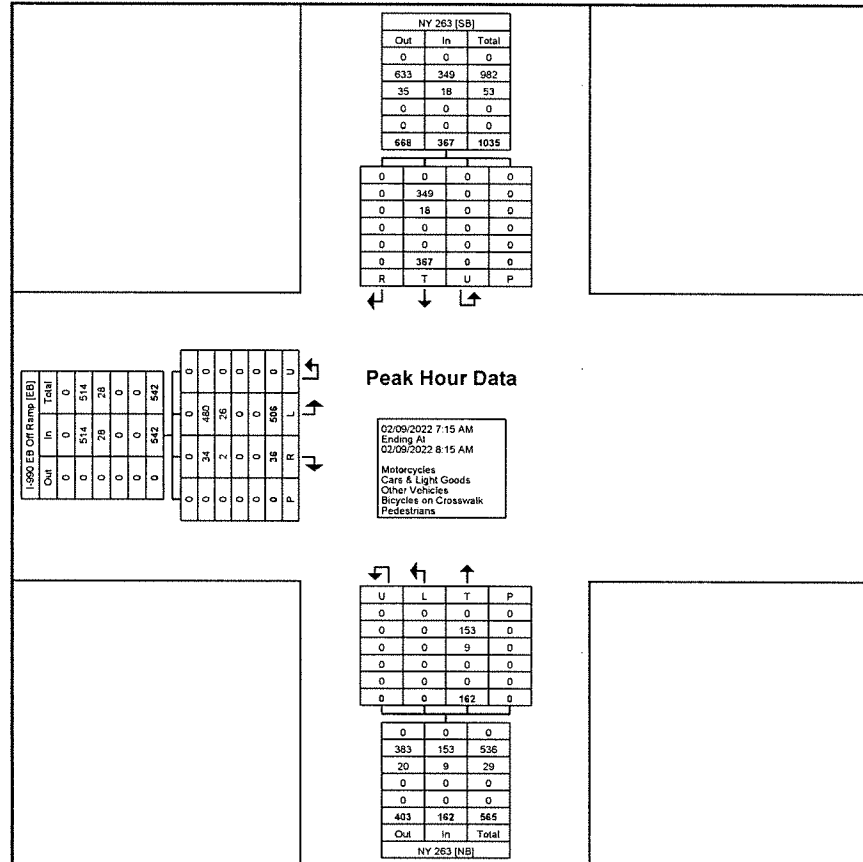
Turning Movement Data Plot

TRI-STATE
TRAFFIC DATA

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville, Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 263/I-990 EB Off Ramp
Site Code:
Start Date: 02/09/2022
Page No: 4



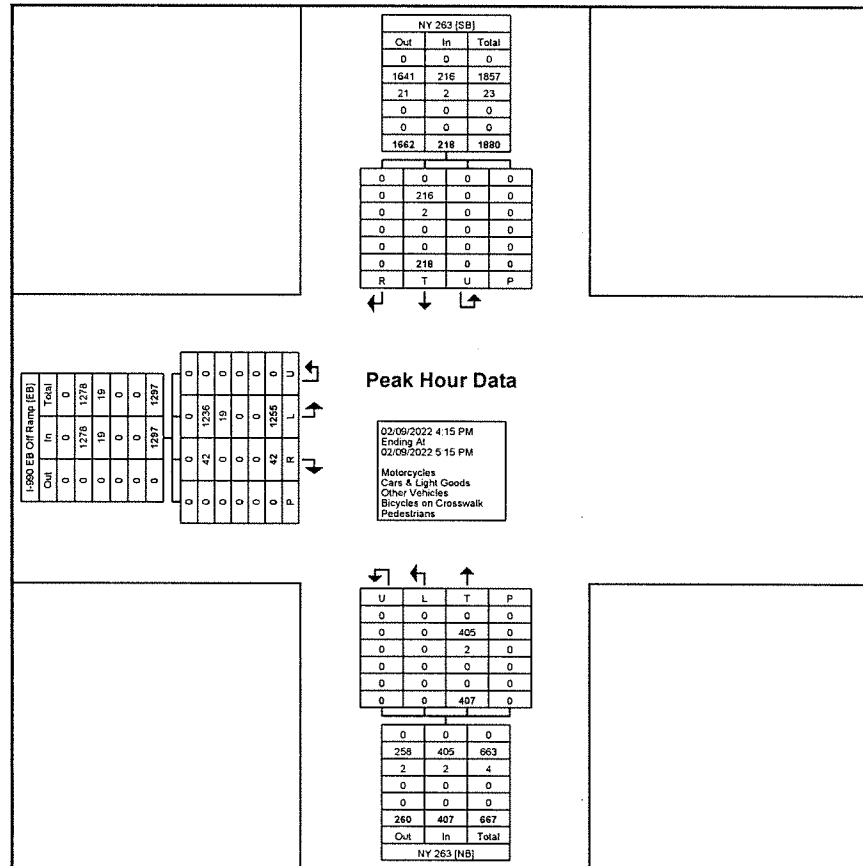
Turning Movement Peak Hour Data Plot (7:15 AM)

TRI-STATE
TRAFFIC DATA

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville, Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 263/I-990 EB Off Ramp
Site Code:
Start Date: 02/09/2022
Page No: 6



Turning Movement Peak Hour Data Plot (4:15 PM)

TRI-STATE TRAFFIC DATA

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville, Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 263/I-990 WB On Ramp
Site Code:
Start Date: 02/09/2022
Page No: 1

Turning Movement Data

Start Time	NY 263 Southbound					NY 263 Northbound					I-990 WB On Ramp Eastbound					Int. Total
	Right	Thru	U-Turn	Peds	App. Total	Thru	Left	U-Turn	Peds	App. Total	Right	Left	U-Turn	Peds	App. Total	
7:00 AM	325	76	0	0	401	127	2	0	0	129	0	85	0	0	85	615
7:15 AM	356	84	0	0	440	172	9	0	0	181	0	143	0	0	143	764
7:30 AM	371	104	0	0	475	167	10	0	0	177	0	130	0	0	130	782
7:45 AM	351	100	0	0	451	172	7	0	0	179	0	130	0	0	130	760
Hourly Total	1403	364	0	0	1767	638	28	0	0	666	0	488	0	0	488	2921
8:00 AM	256	81	0	0	337	133	7	0	1	140	0	103	0	0	103	580
8:15 AM	307	75	0	0	382	147	8	0	0	155	0	140	0	0	140	677
8:30 AM	274	70	0	0	344	144	9	0	0	153	0	159	0	0	159	656
8:45 AM	206	64	0	0	270	152	7	1	0	160	0	134	1	0	135	565
Hourly Total	1043	290	0	0	1333	576	31	1	1	608	0	536	1	0	537	2478
9:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:00 PM	151	39	0	0	190	350	11	0	0	361	0	0	0	0	0	551
4:15 PM	156	42	0	0	198	383	5	0	0	388	0	0	0	0	0	586
4:30 PM	163	54	0	0	217	426	11	0	0	437	0	0	0	0	0	654
4:45 PM	167	60	0	0	227	381	8	0	0	389	0	0	0	0	0	616
Hourly Total	637	195	0	0	832	1540	35	0	0	1575	0	0	0	0	0	2407
5:00 PM	170	68	0	0	238	388	5	0	0	393	0	0	0	0	0	631
5:15 PM	174	41	0	0	215	396	3	0	0	399	0	0	0	0	0	614
5:30 PM	168	24	0	0	192	341	6	0	0	347	0	0	0	0	0	539
5:45 PM	136	40	0	0	176	259	3	0	0	262	0	0	0	0	0	438
Hourly Total	648	173	0	0	821	1384	17	0	0	1401	0	0	0	0	0	2222
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	3731	1023	0	0	4754	4138	111	1	1	4250	0	1024	1	0	1025	10029
Approach %	78.5	21.5	0.0	-	-	97.4	2.6	0.0	-	-	0.0	99.9	0.1	-	-	-
Total %	37.2	10.2	0.0	-	47.4	41.3	1.1	0.0	-	42.4	0.0	10.2	0.0	-	10.2	-
Motorcycles	0	1	0	-	1	0	0	0	-	0	0	4	0	-	4	5
% Motorcycles	0.0	0.1	-	-	0.0	0.0	0.0	0.0	-	0.0	-	0.4	0.0	-	0.4	0.0
Cars & Light Goods	3621	988	0	-	4609	4024	109	1	-	4134	0	959	1	-	960	9703
% Cars & Light Goods	97.1	96.6	-	-	96.9	97.2	98.2	100.0	-	97.3	-	93.7	100.0	-	93.7	96.7
Other Vehicles	110	34	0	-	144	114	2	0	-	116	0	61	0	-	61	321
% Other Vehicles	2.9	3.3	-	-	3.0	2.8	1.8	0.0	-	2.7	-	6.0	0.0	-	6.0	3.2
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	-

<p>% Pedestrians</p>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
----------------------	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

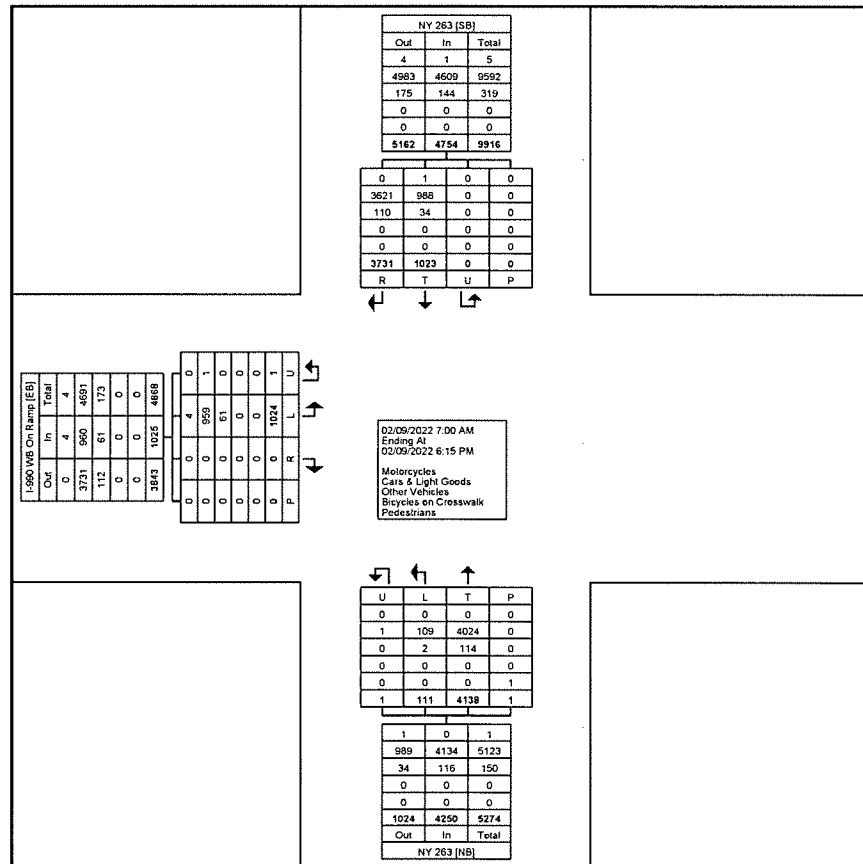
100%

TRI-STATE
TRAFFIC DATA

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville, Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 263/I-990 WB On Ramp
Site Code:
Start Date: 02/09/2022
Page No: 3



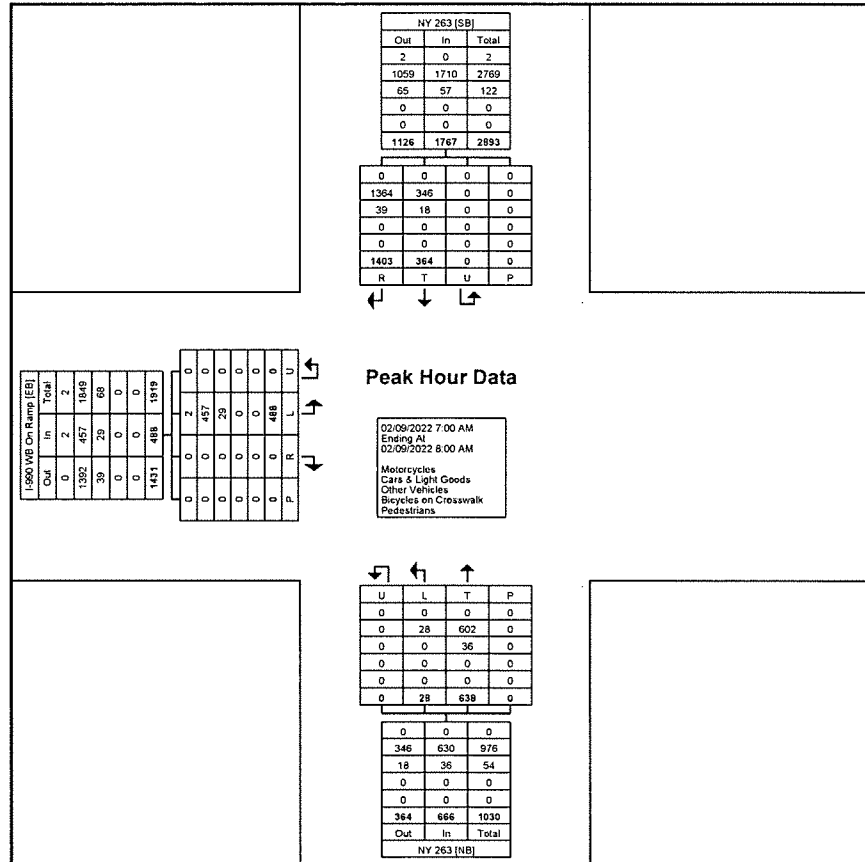
Turning Movement Data Plot

TRI-STATE
TRAFFIC DATA

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville, Pennsylvania, United States 19320
610-517-2338 bkarz@tsdata.com

Count Name: NY 263/I-990 WB On Ramp
Site Code:
Start Date: 02/09/2022
Page No: 5



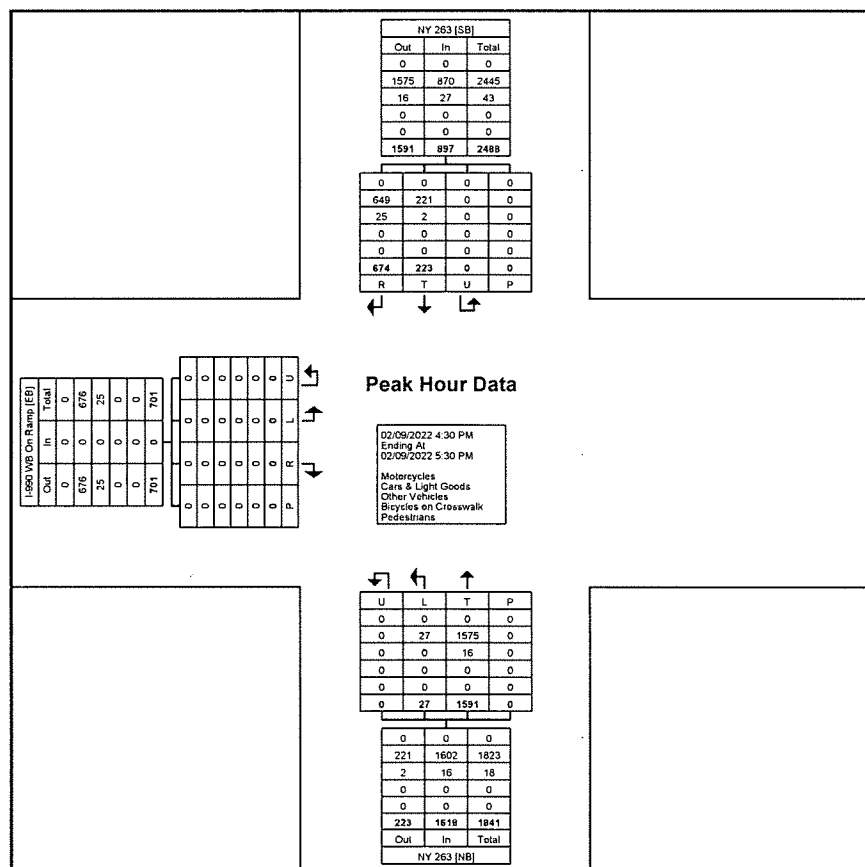
Turning Movement Peak Hour Data Plot (7:00 AM)

TRI-STATE TRAFFIC DATA

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville, Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 263/I-990 WB On Ramp
Site Code:
Start Date: 02/09/2022
Page No: 7



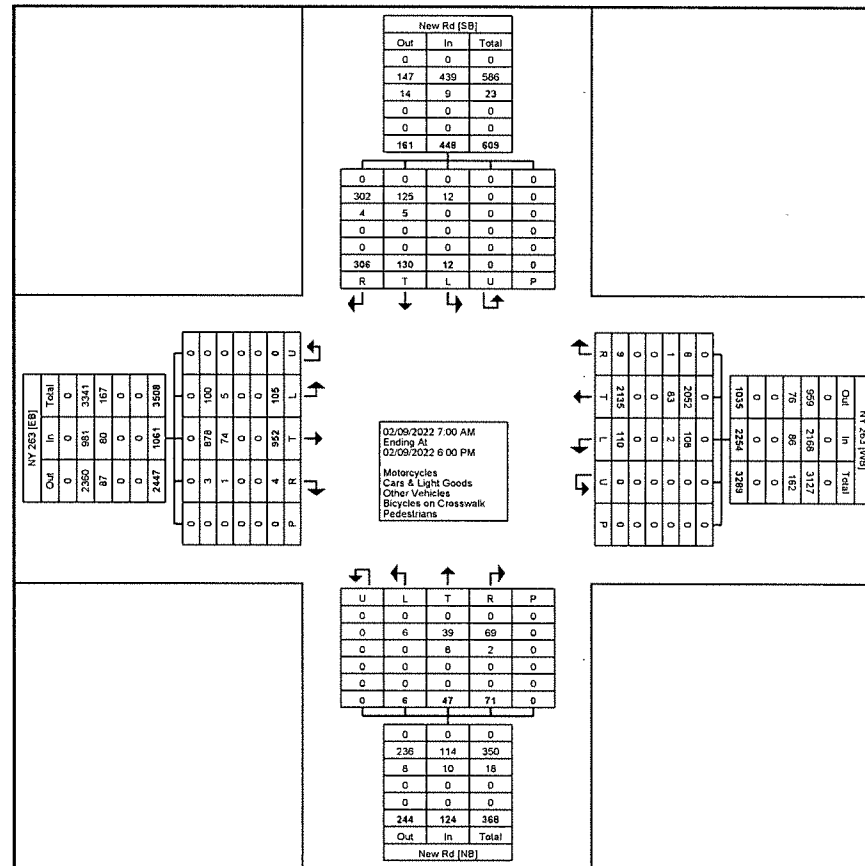
Turning Movement Peak Hour Data Plot (4:30 PM)

TRI-STATE
TRAFFIC DATA

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 263/New Rd
Site Code:
Start Date: 02/09/2022
Page No: 3



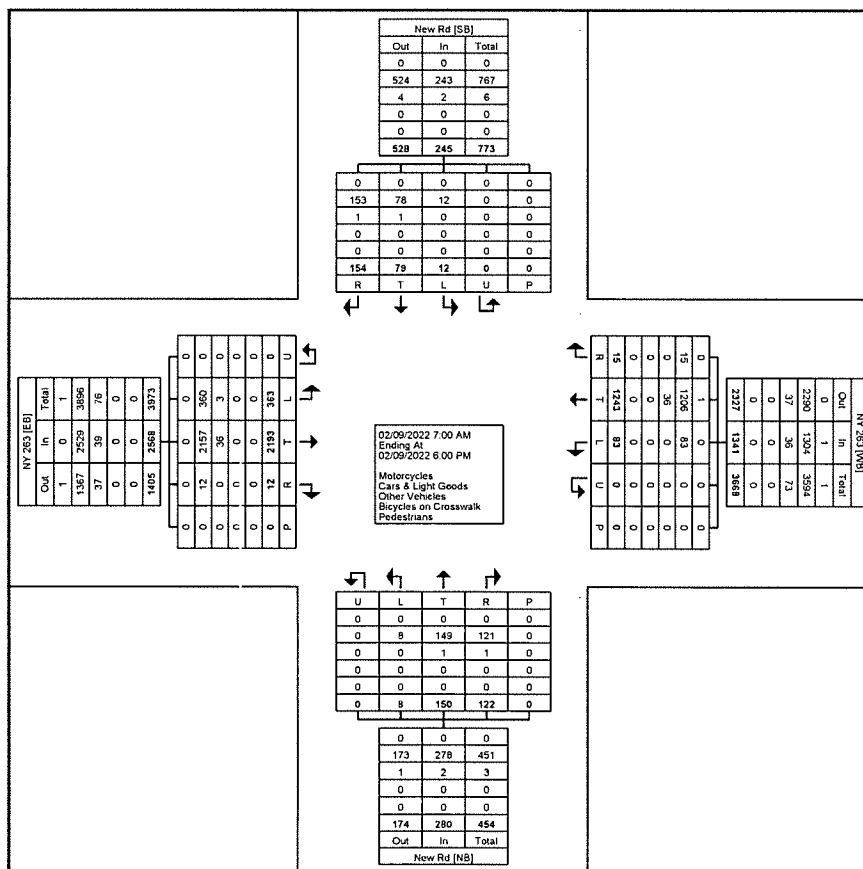
Turning Movement Data Plot

TRI-STATE TRAFFIC DATA

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville, Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 263/New Rd
Site Code:
Start Date: 02/09/2022
Page No: 3



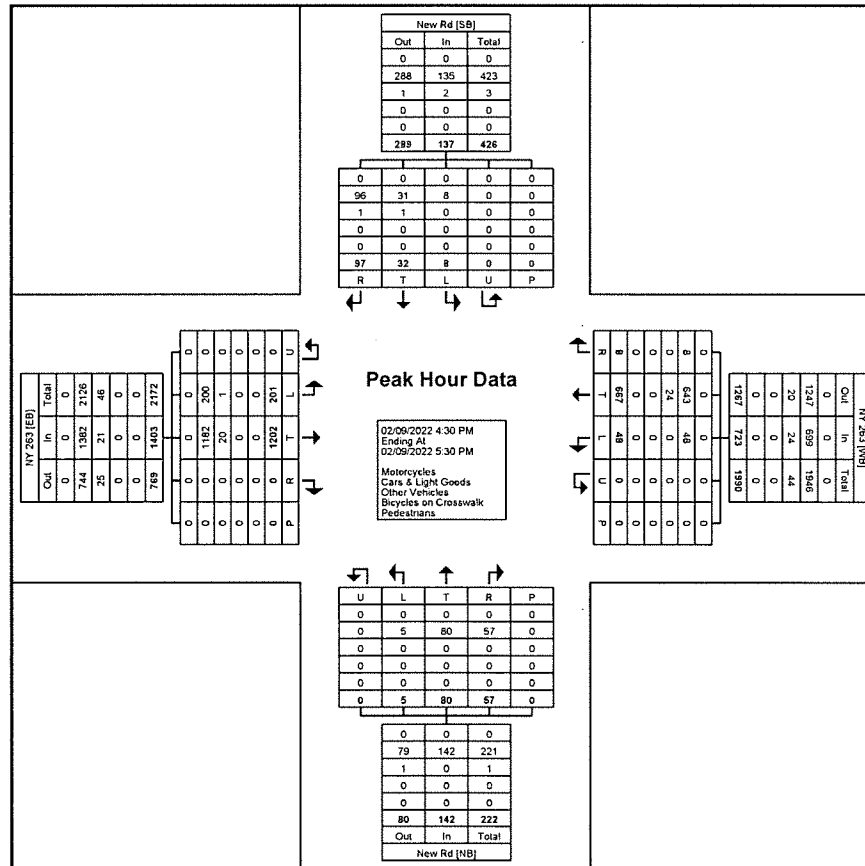
Turning Movement Data Plot

TRI-STATE TRAFFIC DATA

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville, Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 263/New Rd
Site Code:
Start Date: 02/09/2022
Page No: 7



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

TRI-STATE
TRAFFIC DATA

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville, Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 263/Smith Rd
Site Code:
Start Date: 02/09/2022
Page No: 1

Turning Movement Data

Start Time	NY 263 Southbound							Smith Rd Westbound							NY 263 Northbound							Smith Rd Eastbound							Int. Total
	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	
7:00 AM	2	0	297	2	0	0	301	0	0	5	65	0	0	70	10	0	116	0	0	0	126	6	1	4	1	0	0	12	509
7:15 AM	0	0	386	1	0	0	387	0	0	5	54	0	0	59	13	5	150	0	0	0	168	2	2	9	1	0	0	14	628
7:30 AM	0	0	366	1	0	0	367	1	1	4	85	0	0	91	10	2	141	0	0	0	153	2	1	8	2	0	0	13	624
7:45 AM	2	0	350	0	0	0	352	1	0	3	72	0	0	76	11	0	144	0	0	0	155	5	1	12	0	0	0	18	601
Hourly Total	4	0	1399	4	0	0	1407	2	1	17	276	0	0	296	44	7	551	0	0	0	602	15	5	33	4	0	0	57	2362
8:00 AM	0	0	272	1	0	0	273	1	0	4	47	0	0	52	11	1	97	2	0	0	111	2	4	6	0	0	0	12	448
8:15 AM	0	0	337	0	0	0	337	0	0	2	47	0	0	49	10	0	137	1	0	0	148	3	1	7	0	0	0	11	545
8:30 AM	0	0	272	1	0	0	273	0	0	0	68	0	0	68	10	5	117	1	0	0	133	5	2	5	0	0	0	12	486
8:45 AM	0	0	200	0	0	0	200	0	0	0	39	0	0	39	9	4	122	2	0	0	137	0	3	7	0	0	0	10	386
Hourly Total	0	0	1081	2	0	0	1083	1	0	6	201	0	0	208	40	10	473	6	0	0	529	10	10	25	0	0	0	45	1865
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	2	1	157	2	0	0	162	0	0	8	18	0	0	26	40	2	311	4	0	0	357	0	1	6	2	0	0	9	554
4:15 PM	0	1	188	1	0	0	190	1	1	6	18	0	0	26	54	3	331	6	0	0	394	1	0	9	0	0	0	10	620
4:30 PM	0	0	192	1	0	0	193	2	0	3	28	0	0	33	45	3	367	5	0	0	420	1	2	6	1	0	0	10	656
4:45 PM	0	0	185	1	0	0	186	0	0	14	28	0	0	42	40	6	354	6	0	0	406	0	2	9	2	0	0	13	647
Hourly Total	2	2	722	5	0	0	731	3	1	31	92	0	0	127	179	14	1363	21	0	0	1577	2	5	30	5	0	0	42	2477
5:00 PM	0	0	184	3	0	0	187	0	0	11	30	0	0	41	53	3	318	3	0	0	377	2	6	6	0	0	0	14	619
5:15 PM	0	0	201	2	0	0	203	0	0	7	19	0	0	26	39	5	328	4	0	0	376	1	0	7	0	0	0	8	613
5:30 PM	2	0	150	0	0	0	152	1	0	3	26	0	0	30	52	3	279	2	0	0	336	0	1	7	2	0	0	10	528
5:45 PM	2	0	158	2	0	0	162	0	0	4	10	0	0	14	43	5	212	1	0	0	261	0	6	2	0	0	0	8	445
Hourly Total	4	0	693	7	0	0	704	1	0	25	85	0	0	111	187	16	1137	10	0	0	1350	3	13	22	2	0	0	40	2205
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	10	2	3895	18	0	0	3925	7	2	79	654	0	0	742	450	47	3524	37	0	0	4058	30	33	110	11	0	0	184	8909
Approach %	0.3	0.1	99.2	0.5	0.0	-	-	0.9	0.3	10.6	88.1	0.0	-	-	11.1	1.2	86.8	0.9	0.0	-	-	16.3	17.9	59.8	6.0	0.0	-	-	-
Total %	0.1	0.0	43.7	0.2	0.0	-	44.1	0.1	0.0	0.9	7.3	0.0	-	8.3	5.1	0.5	39.6	0.4	0.0	-	45.5	0.3	0.4	1.2	0.1	0.0	-	2.1	-
Motorcycles	0	0	1	0	0	-	1	0	0	0	0	0	-	0	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	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	8	2	3768	18	0	-	3796	7	2	78	650	0	-	737	446	46	3408	36	0	-	3936	27	33	103	9	0	-	172	8641
% Cars & Light Goods	80.0	100.0	96.7	100.0	-	-	96.7	100.0	100.0	98.7	99.4	-	-	99.3	99.1	97.9	96.7	97.3	-	-	97.0	90.0	100.0	93.6	81.8	-	-	93.5	97.0
Other Vehicles	2	0	126	0	0	-	128	0	0	1	4	0	-	5	4	1	116	1	0	-	122	3	0	7	2	0	-	12	267
% Other Vehicles	20.0	0.0	3.2	0.0	-	-	3.3	0.0	0.0	1.3	0.6	-	-	0.7	0.9	2.1	3.3	2.7	-	-	3.0	10.0	0.0	6.4	18.2	-	-	6.5	3.0
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-

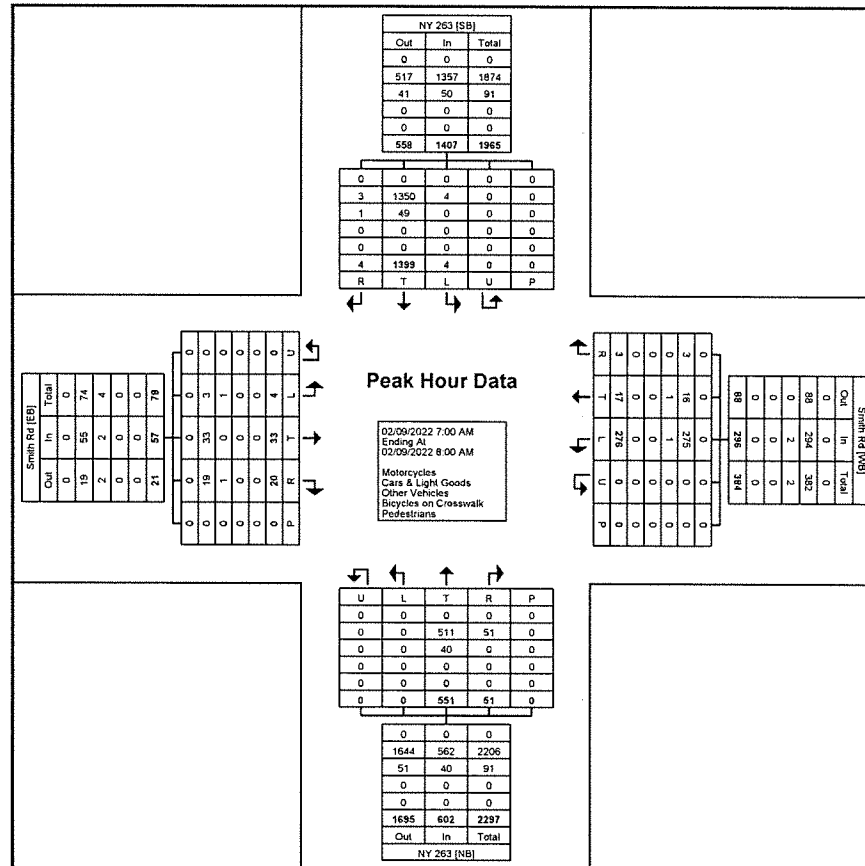
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

TRI-STATE
TRAFFIC DATA

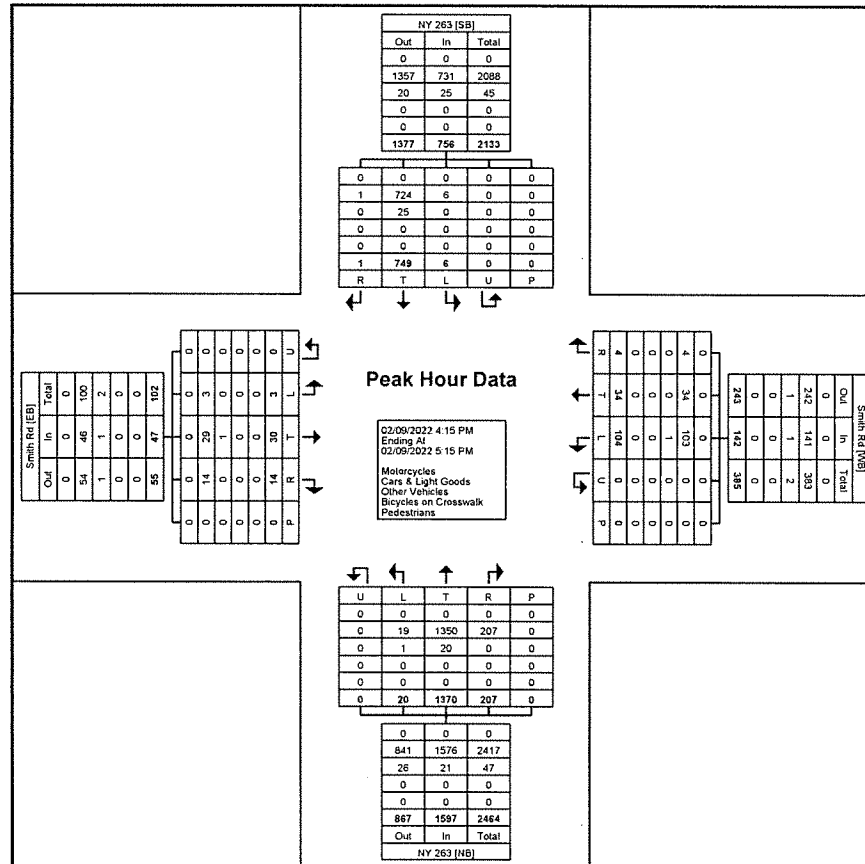
Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville, Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 263/Smith Rd
Site Code:
Start Date: 02/09/2022
Page No: 5



Turning Movement Peak Hour Data Plot (7:00 AM)



Turning Movement Peak Hour Data Plot (4:15 PM)

A2

Miscellaneous Traffic Data and Calculations



Proposed 4300 Millersport Highway Development, Town of Amherst, Erie County, NY

Documentation of Ambient Traffic Volume Growth

Roadway	Segment starts at	Segment end at	2011	2014	2017	2020	Annual Growth (2011-2017)
Millersport Hwy	Dodge Rd	French Rd	21,085	21,812	22,592	17,931	1.16%

<u>INTERSECTION TYPE</u>	ALL TYPES ACC/MEV	WET ROAD ACC/MEV	LEFT TURN ACC/MEV	REAR END CC/ME	OVER- TAKING ACC/MEV	RIGHT ANGLE ACC/MEV	RIGHT TURN ACC/MEV	HEAD ON ACC/MEV	SIDE- SWIPE ACC/MEV
URBAN FUNCTION CLASS									
3 LEGGED INTERSECTIONS									
SIGNAL 1-4 LANES	0.32	0.06	0.03	0.13	0.04	0.04	0.01	0	0.01
SIGNAL W/ LEFT TURN 5 & :	0.17	0.03	0.01	0.07	0.03	0.02	0	0	0
SIGNAL W/O LEFT TURN 5 & :	0.13	0.02	0.01	0.05	0.02	0.01	0.01	0	0
SIGN 1-3 LANES	0.19	0.03	0.01	0.06	0.01	0.03	0.01	0	0
SIGN 4 LANES	0.13	0.02	0.01	0.04	0.02	0.02	0	0	0
SIGN 5 & > LANES	0.07	0.01	0	0.03	0.01	0.01	0	0	0
NO CONTROL ALL LANI	0.06	0.01	0	0.02	0.01	0.01	0	0	0
4 LEGGED &> INTERSECTIONS									
SIGNAL 1-4 LANES	0.56	0.1	0.05	0.21	0.08	0.09	0.02	0.01	0.01
SIGNAL W/ LEFT T	0.26	0.04	0.02	0.11	0.05	0.03	0.01	0	0
SIGNAL W/O LEFT	0.24	0.04	0.02	0.07	0.04	0.05	0.01	0	0
SIGN 1-3 LANES	0.31	0.06	0.02	0.08	0.02	0.08	0.01	0	0.01
SIGN 4 & > LANES	0.15	0.03	0.01	0.05	0.02	0.03	0	0	0
NO CONTROL ALL	0.12	0.03	0.01	0.04	0.02	0.02	0	0	0
ON RAMP (ALL CONTROL)									
MERGE W/ 1 LANE	0.04	0	0	0.01	0.01	0	0	0	0
MERGE W/ 2 LANES	0.02	0	0	0.01	0.01	0	0	0	0
MERGE W/ 3&> LANE	0.02	0	0	0.01	0	0	0	0	0
OFF RAMP (ALL CONTROL)									
MERGE W/ 1 LANE	0.05	0.01	0	0.02	0.01	0.01	0	0	0
MERGE W/ 2 LANES	0.03	0.01	0	0.01	0.01	0	0	0	0
MERGE W/ 3&> LANE	0.02	0	0	0.01	0.01	0	0	0	0

Int #	Millersport Highway/New Road												Total	Injury	Non Injury	Non-Repo	Sum
1	Left turn	Rear-end	Overtaking	Right Angle	Right Turn	Head On	Side-swipe	Fixed Object	Backing	Other	Animal	Bike/Ped	6	1	5	0	6
	1	4	1	0	0	0	0	0	0	0	0	0					
TOTALS	1	4	1	0	0	0	0	0	0	0	0	0		1	5	0	

	Northbound	Southbound	Eastbound	Westbound	Unknown	Totals
Left turn	1					1
Rear-end	1	3				4
Overtaking	1					1
Right Angle						0
Right Turn						0
Head On						0
Side-swipe						0
Fixed Object						0
Backing						0
Other						0
Bike/Ped						0
Animal						0
Totals	3	3	0	0	0	6

ADT = Peak hour entering volume / k factor

ADT = 2389 VPH / 0.10 = 25147.3684 VPD

Rate = $\frac{6}{25147.3684} \times \frac{\text{Acc.}}{\text{VPD}} \times \frac{1,000,000}{365 \text{ Days}} \times \frac{3,000 \text{ Yrs.}}{1} = 0.22 \text{ Crash / MEV}$

Int #	New Road/Smith Road												Total	Injury	Non Injury	Non-Repo	Sum
1	Left turn	Rear-end	Overtaking	Right Angle	Right Turn	Head On	Side-swipe	Fixed Object	Backing	Other	Animal	Bike/Ped	3	2	1	0	3
		1		2													
TOTALS	0	1	0	2	0	0	0	0	0	0	0	0		2	1	0	

	Northbound	Southbound	Eastbound	Westbound	Unknown	Totals
Left turn						0
Rear-end			1			1
Overtaking						0
Right Angle	1	1				2
Right Turn						0
Head On						0
Side-swipe						0
Fixed Object						0
Backing						0
Other						0
Bike/Ped						0
Animal						0
Totals	1	1	1	0	0	3

ADT = Peak hour entering volume / k factor
 ADT = $\frac{644}{0.10}$ VPH / = 6778.94737 VPD

Rate = $\frac{3}{6778.94737} \times \frac{1,000,000}{365 \text{ Days}} \times 3.000 \text{ Yrs.}$ = 0.40 Crash / MEV

Int #	Millersport Highway/Smith Road												Total	Injury	Non Injury	Non-Repo	Sum
1	Left turn	Rear-end	Overtaking	Right Angle	Right Turn	Head On	Side-swipe	Fixed Object	Backing	Other	Animal	Bike/Ped	7	2	4	1	7
		5	1	1													
TOTALS	0	5	1	1	0	0	0	0	0	0	0	0		2	4	1	

	Northbound	Southbound	Eastbound	Westbound	Unknown	Totals
Left turn						0
Rear-end	1	4				5
Overtaking		1				1
Right Angle		1				1
Right Turn						0
Head On						0
Side-swipe						0
Fixed Object						0
Backing						0
Other						0
Bike/Ped						0
Animal						0
Totals	1	6	0	0	0	7

ADT = Peak hour entering volume / k factor
ADT = $\frac{2542}{1}$ VPH / 0.10 = 26757.8947 VPD

Rate = $\frac{7}{26757.8947} \times \frac{1,000,000}{365 \text{ Days}} \times 3.000 \text{ Yrs.}$ = 0.24 Crash / MEV

Int #	Millersport Highway/I-990 On-ramp												Total	Injury	Non Injury	Non-Repo	Sum
1	Left turn	Rear-end	Overtaking	Right Angle	Right Turn	Head On	Side-swipe	Fixed Object	Backing	Other	Animal	Bike/Ped	3	1	2	0	3
TOTALS	0	0	1	0	1	0	0	0	0	0	1	0		1	2	0	

	Northbound	Southbound	Eastbound	Westbound	Unknown	Totals
Left turn						0
Rear-end						0
Overtaking		1				1
Right Angle						0
Right Turn		1				1
Head On						0
Side-swipe						0
Fixed Object						0
Backing						0
Other						0
Bike/Ped						0
Animal		1				1
Totals	0	3	0	0	0	3

ADT = Peak hour entering volume / k factor
ADT = VPH / 0.10 = 26178.9474 VPD

Rate = $\frac{3}{26178.9474} \text{ Acc. VPD} \times \frac{1,000,000}{365 \text{ Days}} \times 3,000 \text{ Yrs.} = 0.10 \text{ Crash / MEV}$

Int #	Millersport Highway/I-990 Off-ramp												Total	Injury	Non Injury	Non-Repo	Sum
1	Left turn	Rear-end	Overtaking	Right Angle	Right Turn	Head On	Side-swipe	Fixed Object	Backing	Other	Animal	Bike/Ped	14	5	7	2	14
	1	10	1					2									
TOTALS	1	10	1	0	0	0	0	2	0	0	0	0		5	7	2	

	Northbound	Southbound	Eastbound	Westbound	Unknown	Totals
Left turn	1					1
Rear-end	5	3	2			10
Overtaking		1				1
Right Angle						0
Right Turn						0
Head On						0
Side-swipe						0
Fixed Object	1	1				2
Backing						0
Other						0
Bike/Ped						0
Animal						0
Totals	7	5	2	0	0	14

ADT = Peak hour entering volume / k factor
 ADT = $\frac{1922}{1}$ VPH / 0.10 = 20231.5789 VPD

Rate = $\frac{14}{20231.5789} \times \frac{1,000,000}{365 \text{ Days}} \times 3.000 \text{ Yrs.} = 0.63 \text{ Crash / MEV}$

Single-Family Detached Housing (210)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 192

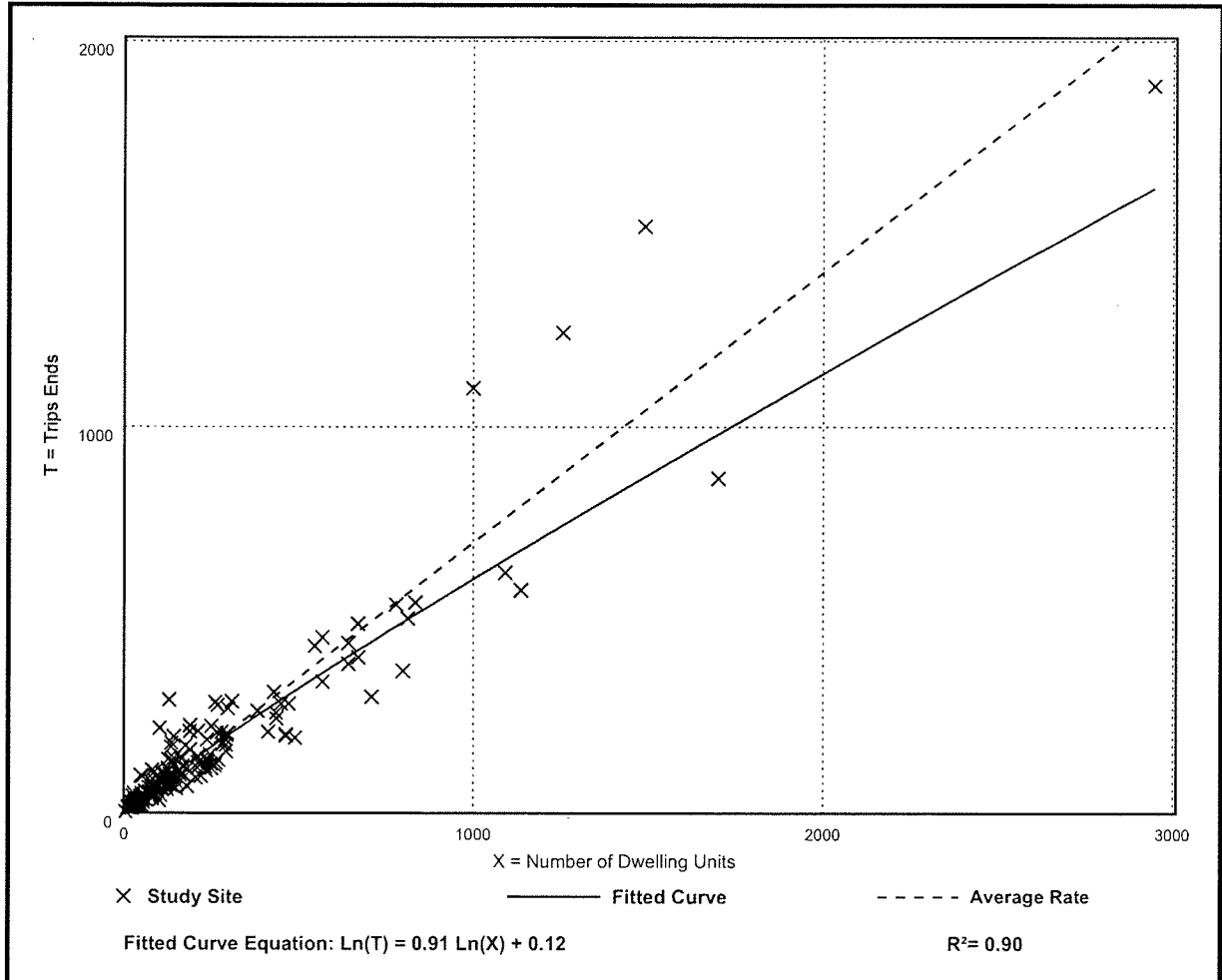
Avg. Num. of Dwelling Units: 226

Directional Distribution: 26% entering, 74% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.70	0.27 - 2.27	0.24

Data Plot and Equation



Single-Family Detached Housing (210)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 208

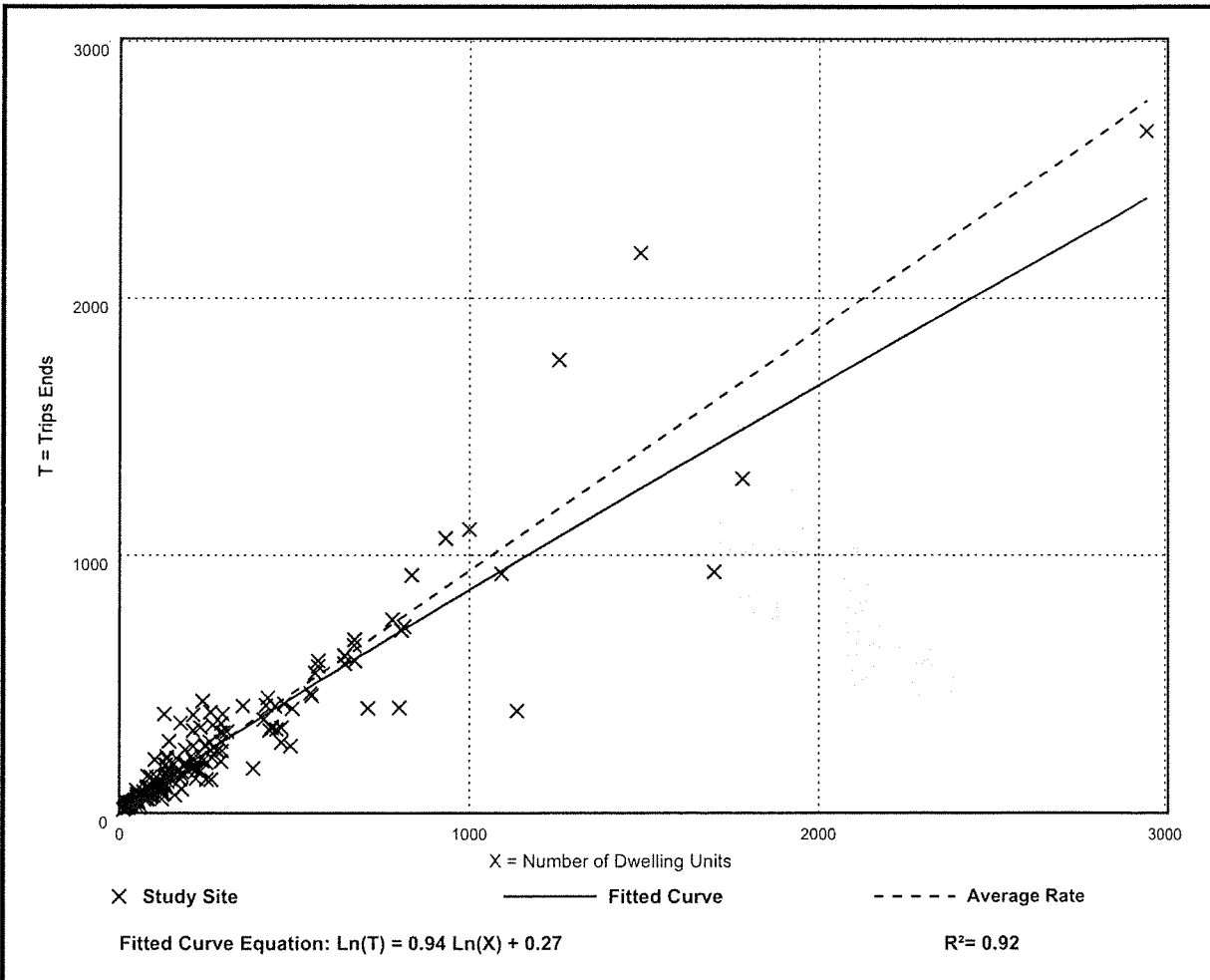
Avg. Num. of Dwelling Units: 248

Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.94	0.35 - 2.98	0.31

Data Plot and Equation



Multifamily Housing (Low-Rise) (220)

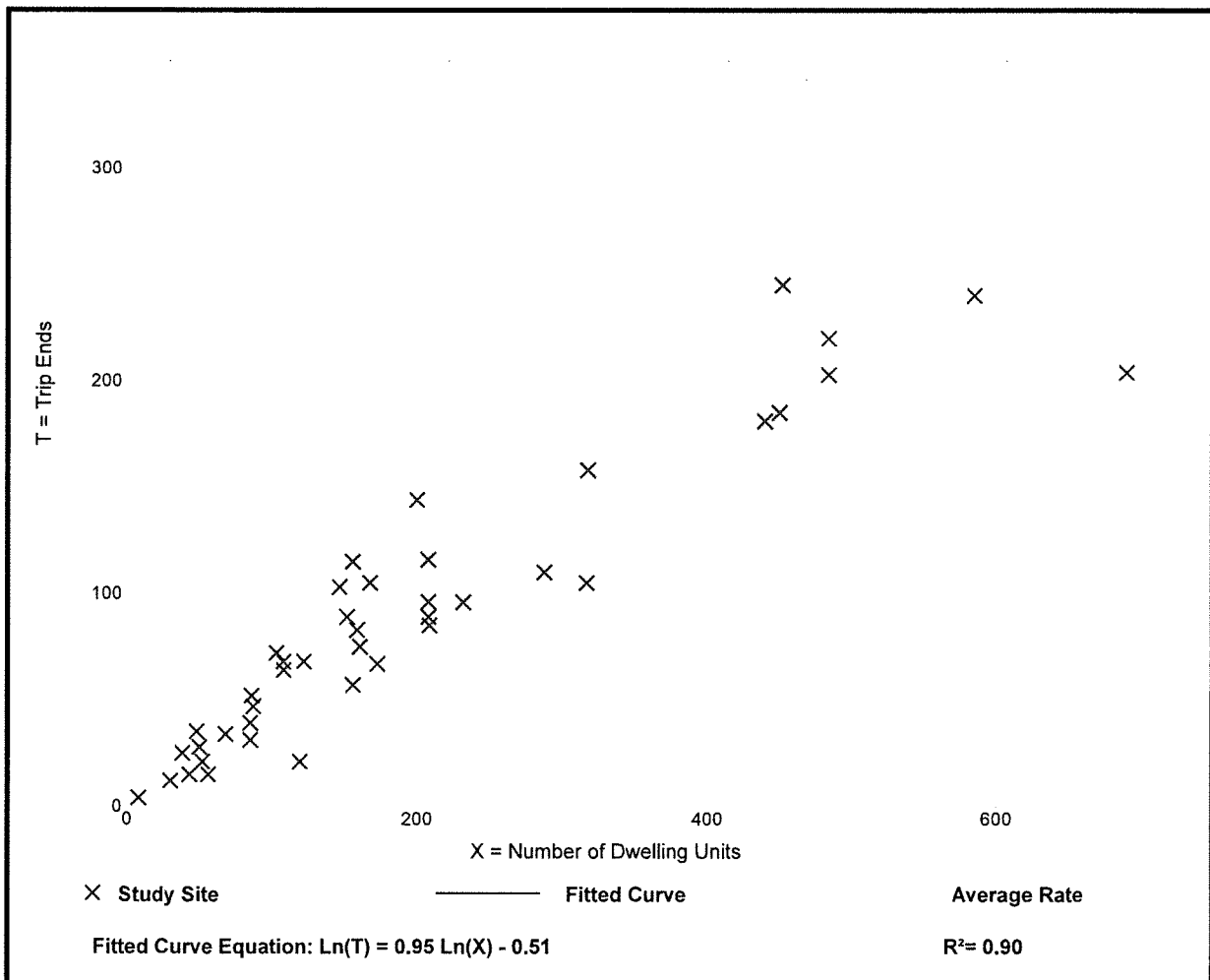
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban
 Number of Studies: 42
 Avg. Num. of Dwelling Units: 199
 Directional Distribution: 23% entering, 77% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.46	0.18 - 0.74	0.12

Data Plot and Equation



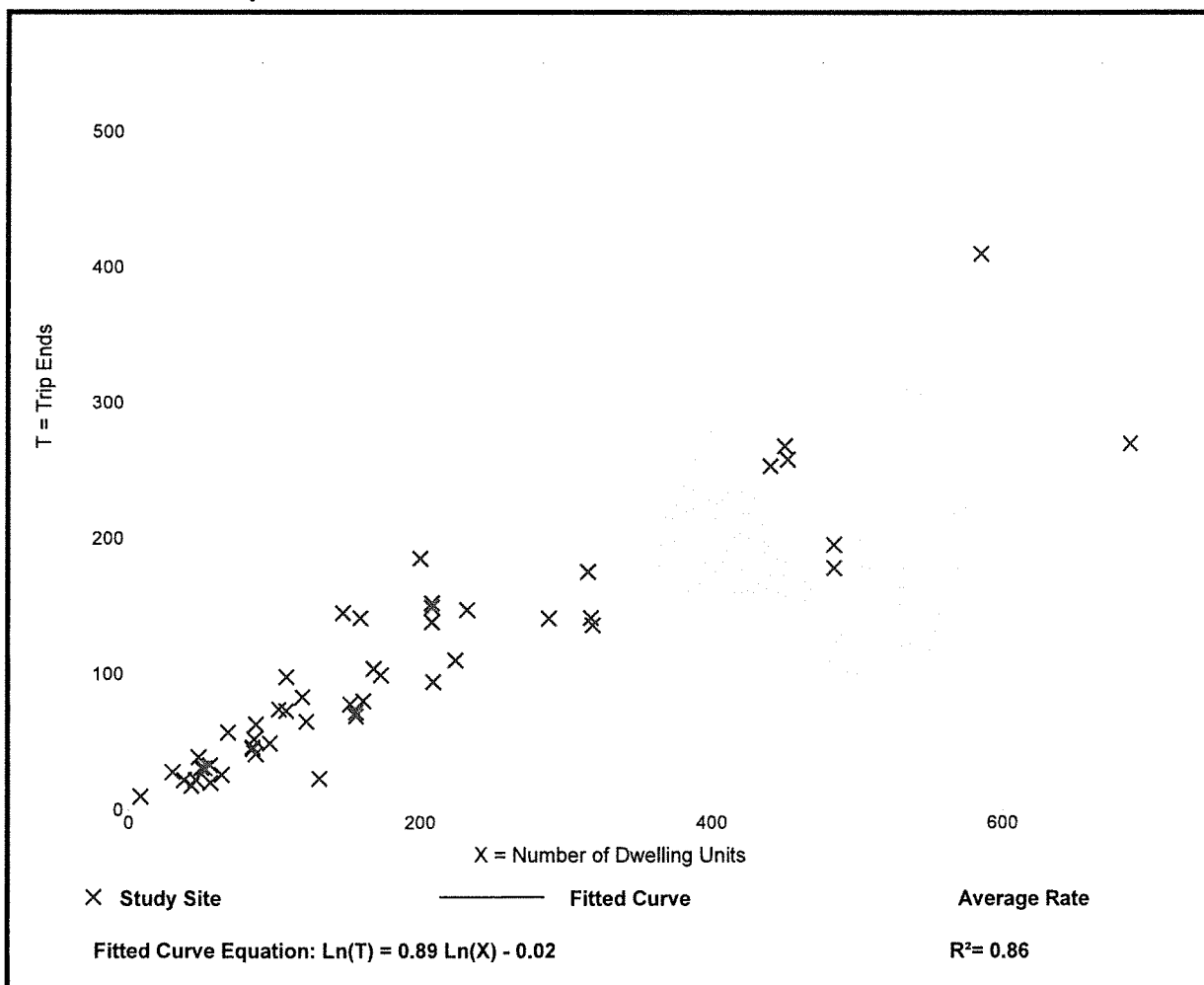
Multifamily Housing (Low-Rise) (220)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 50
 Avg. Num. of Dwelling Units: 187
 Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.56	0.18 - 1.25	0.16

Data Plot and Equation



Trip Gen Manual, 10th Ed + Supplement • Institute of Transportation Engineers

Strip Retail Plaza (<40k) (822)

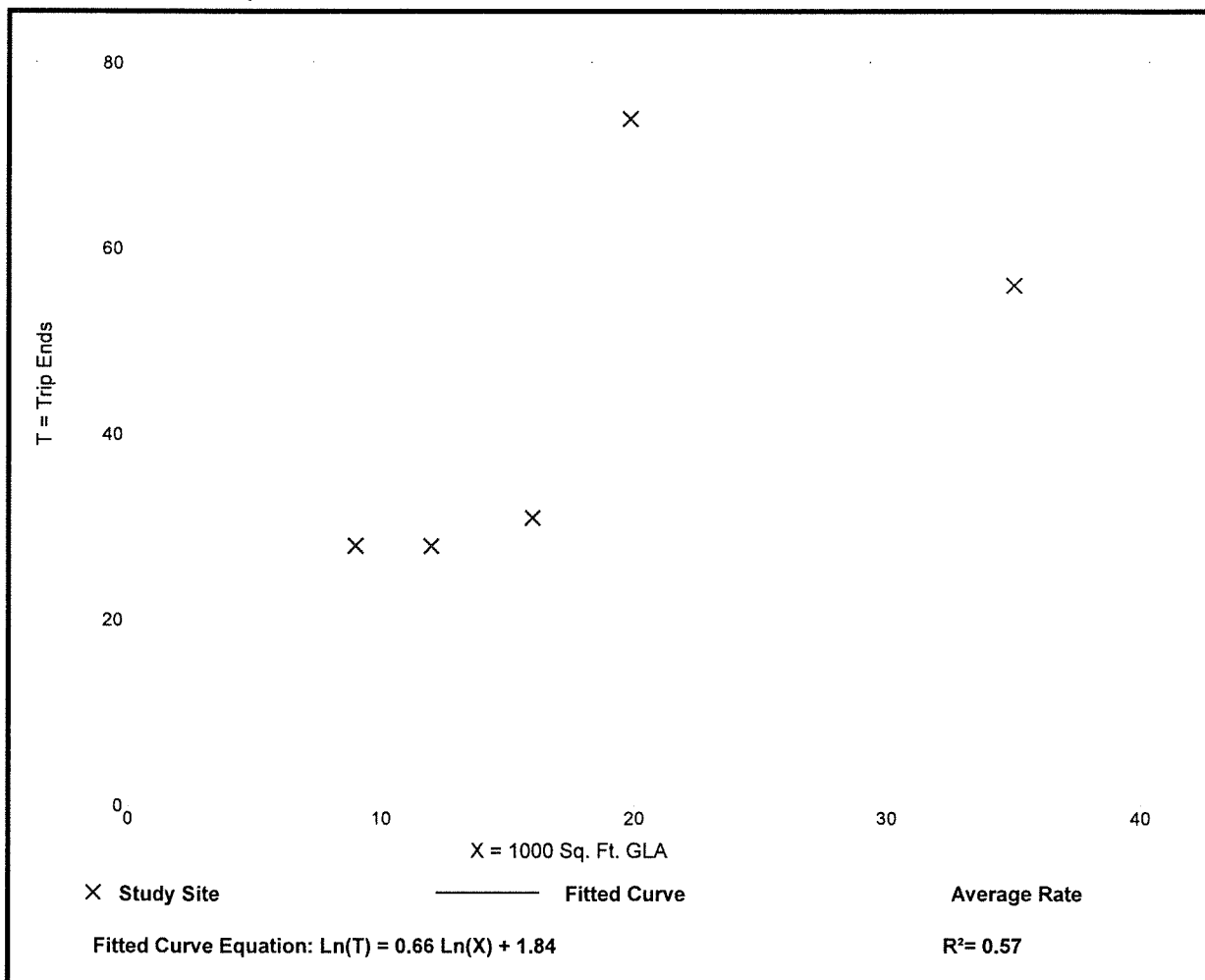
Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 5
 Avg. 1000 Sq. Ft. GLA: 18
 Directional Distribution: 60% entering, 40% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
2.36	1.60 - 3.73	0.94

Data Plot and Equation

Caution – Small Sample Size



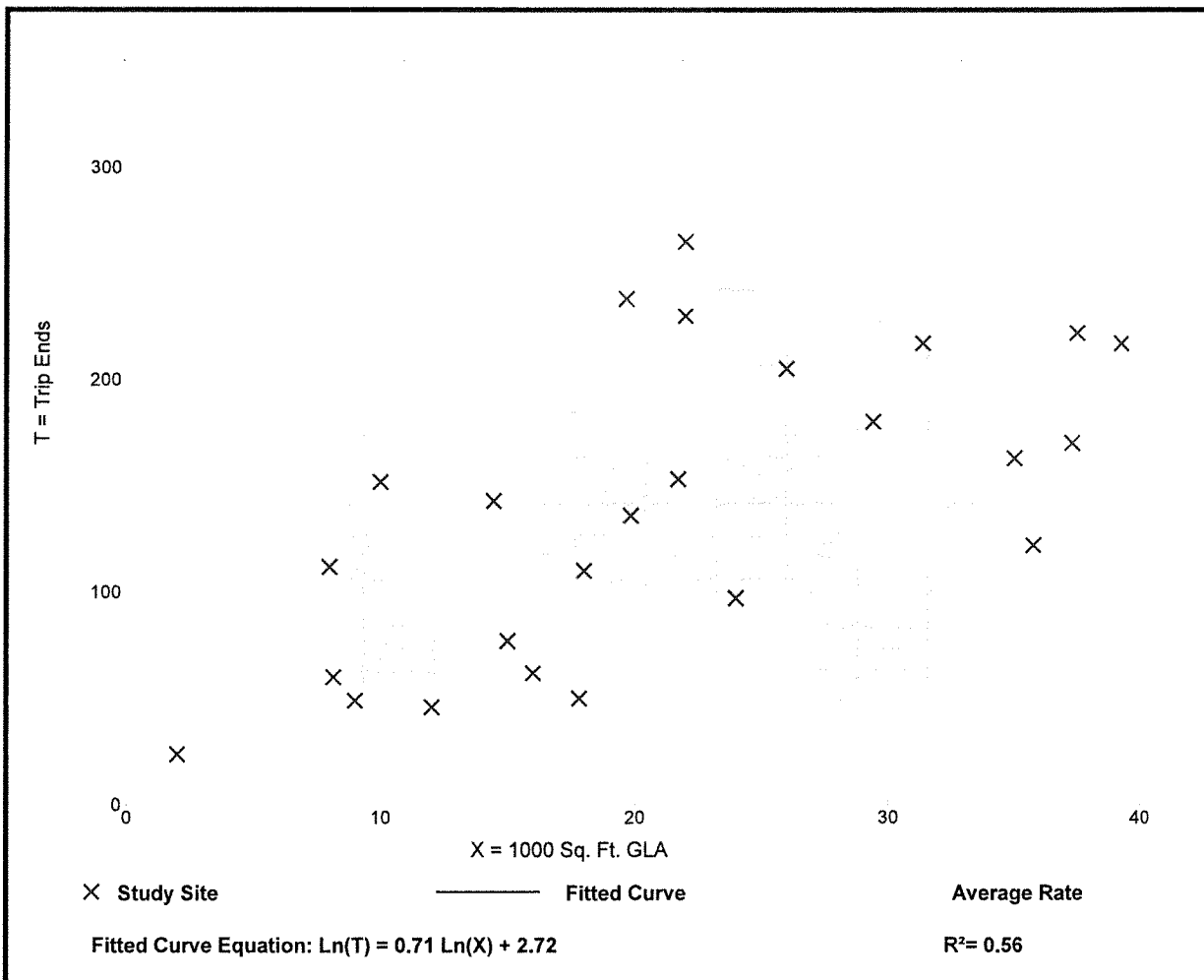
Strip Retail Plaza (<40k) (822)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 25
 Avg. 1000 Sq. Ft. GLA: 21
 Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
6.59	2.81 - 15.20	2.94

Data Plot and Equation



PROJECT: Proposed Mixed-Use Development
 LOCATION: 4300 Millersport Hwy, Town of Amherst, New York
 PEAK HOUR: AM Peak

Figure Number: 3 4 6A 7A 6B 7B 7D 8
 Num of yrs
 3

LOCATION NUMBER	INTERSECTION DESCRIPTION	2022 Existing	BKgd Volume 0.50%	Residential				Commercial				Total Site Trips	Full Build Volumes
				Enter Dist. %	Exit Dist. %	Trips IN 12	Trips OUT 35	Enter Dist. %	Exit Dist. %	Trips IN 32	Trips OUT 21		
1	Millersport Highway/ New Road												
	SR	184	187	5%		1		5%		2		3	180
	ST - New Road	71	72										72
	SL	5	5										5
	WR	3	3										3
	WT - Millersport Highway	1219	1237	20%		2		55%		18		20	1257
	WL	61	62										62
NR	32	32										32	
NT - New Road	23	23										23	
NL	3	3										3	
ER	1	1										1	
ET - Millersport Highway	501	509		20%		7		55%		12	19	528	
EL	61	62		5%		2		5%		1	3	65	
2	New Road/ Smith Road												
	SR	1	1										1
	ST	108	110										110
	SL	23	23										23
	WR	9	9										9
	WT	186	189	5%		1		5%		2	3	192	
	WL	10	10										10
NR	13	13										13	
NT	41	42										42	
NL	113	115										115	
ER	7	7		5%		2				1	3	7	
ET	69	70						5%				73	
EL													
3	Millersport Highway/ Smith Road												
	SR	4	4										4
	ST - Millersport Highway	1399	1420		15%		5		34%		7	12	1432
	SL	4	4					5%	5%		1	1	5
	WR	3	3	1%		0				2		2	5
	WT - Smith Road	17	17	4%		1						1	18
	WL	276	280										280
NR	51	52										52	
NT - Millersport Highway	551	559	15%		2		34%		11		13	572	
NL			54%		6						6	6	
ER	20	20		54%		19					19	39	
ET - Smith Road	33	33		5%		2					2	35	
EL	4	4		15%		5		15%		3	8	12	
4	Millersport Highway/ Proposed Driveway												
	SR			25%		3		60%		19		22	22
	ST - Millersport Highway	1407	1428										1428
	SL												
	WR												
	WT												
	WL												
NR													
NT - Millersport Highway	558	566	15%	15%	2	5	39%	15%	12	3	8	574	
NL												14	
ER				15%		5		39%		8	13	13	
ET - Proposed Driveway				10%		4		45%		9	13	13	
EL													
5	Smith Road/ Proposed Driveway												
	SR				1%		0		1%		1	1	1
	ST				74%		26		15%		3	29	29
	SL												
	WR			58%		7						7	7
	WT	21	21										21
	WL												
NR													
NT													
NL													
ER													
ET	57	58										58	
EL								1%		1	1	1	
6	Millersport Highway/ I-990 On-Ramp												
	SR	1403	1424		55%		19		24%		5	24	1448
	ST	364	369		14%		5		10%		2	7	376
	SL												
	WR												
	WT												
	WL												
NR													
NT	638	648	69%		8		34%		11		19	667	
NL	28	28										28	
ER													
ET													
EL													
7	Millersport Highway/ I-990 Off-Ramp												
	SR												
	ST	367	373		14%		5		10%		2	7	380
	SL												
	WR												
	WT												
	WL												
NR													
NT	162	164	14%		2		10%		3		5	169	
NL													
ER	36	37										37	
ET													
EL	506	514	55%		6		24%		8		14	528	

PROJECT: Proposed Mixed-Use Development
LOCATION: 4300 Millersport Hwy, Town of Amherst, New York
PEAK HOUR: PM Peak

Figure Number: 3 4 6A 7A 6B 7B 7C 7D 8
 Num of yrs 3

LOCATION NUMBER	INTERSECTION DESCRIPTION	2022 Existing	Bkgd Volume 0.50%	Residential				Commercial				Pass-by Trips	Total Site Trips	Full Build Volumes	
				Enter Dist. %	Exit Dist. %	Trips IN 37	Trips OUT 23	Enter Dist. %	Exit Dist. %	Trips IN 59	Trips OUT 59				
1	Millersport Highway/ New Road														
	SR	93	94	5%		2		5%		3			5	99	28
	ST - New Road	28	28												9
	SL	9	9												8
	WR	8	8												8
	WT - Millersport Highway	646	656	20%		7		55%		32				39	695
2	WT - New Road	40	41												64
	NL	63	64												77
	NR	76	77												6
	ER	6	6												3
	ET - Millersport Highway	1204	1222	20%		5		55%		32				37	1259
	EL	213	216	5%		1		5%		3				4	220
3	New Road/ Smith Road														
	SR	1	1												1
	ST	54	55												55
	SL	20	20												20
	WR	33	33												33
	WT - Smith Road	106	108	5%		1		5%		3				4	112
4	NL	15	15												15
	NR	16	16												16
	NT - Millersport Highway	114	116												116
	NL	39	40												40
	ER	85	86												86
	ET - Smith Road	158	160	5%		1		5%		3				4	164
5	EL	4	4												4
	Millersport Highway/ Smith Road														
	SR	1	1												1
	ST - Millersport Highway	749	760	15%		3		34%		20				23	783
	SL	6	6					5%		3				3	9
	WR	4	4	1%		0		5%		3				3	7
6	WT - Smith Road	34	35	4%		1								1	36
	NL	104	106												106
	NR	207	210												210
	NT - Millersport Highway	1370	1391	15%		6		34%		20				26	1417
	NL	20	20	54%		20								20	40
	ER	14	14												13
7	ET - Smith Road	30	30	5%		1		5%						1	31
	EL	3	3	15%		3		15%		9				12	15
	Millersport Highway/ Proposed Driveway														
	SR			25%		9		60%		35				5	50
	ST - Millersport Highway	756	767											-5	-5
	SL														762
8	WR														
	WT														
	NL														
	NR														
	NT - Millersport Highway	1377	1398	15%	15%	6	3	38%	15%	23	9	-10	2	39	1400
	NL													10	39
9	ER														31
	ET - Proposed Driveway			10%		2		45%		26	10		38	38	
	EL														
	Millersport Highway/ Proposed Driveway														
	SR				1%		1		1%		1			2	2
	ST				74%		17		15%		9			26	26
10	SL														21
	WR			58%		21								21	21
	WT	55	56												56
	NL														
	NR														
	NT														
11	NL														
	ER														
	ET	47	48												48
	EL			1%		1		1%		1				2	2
	Millersport Highway/ I-990 On-Ramp														
	SR	656	666		55%		13		24%		14			27	693
12	ST	224	227		14%		3		10%		6			9	236
	SL														
	WR														
	WT														
	NL														
	NR														
13	NT	1578	1602	69%		26		34%		20				46	1648
	NL	29	29												29
	ER														
	ET														
	EL														
	Millersport Highway/ I-990 Off-Ramp														
14	SR														
	ST														
	SL	218	221		14%		3		10%		6			9	230
	WR														
	WT														
	NL														
15	NR														
	NT														
	NL	407	413	14%		5		10%		6				11	424
	ER														
	ET	42	43												43
	EL	1255	1274	55%		21		24%		14				35	1309

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
3: Millersport Highway & New Road

4300 Millersport Highway
2022 Existing AM

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	↔		↔		↔		↔		↔		↔	
Traffic Volume (vph)	3	23	32	5	71	184	61	501	1	61	1219	3
Future Volume (vph)	3	23	32	5	71	184	61	501	1	61	1219	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0	0	0	0	100	0	100	0	100	0
Storage Lanes	0	0	0	0	0	0	1	0	1	0	1	0
Taper Length (ft)	25			25			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt	0.925		0.904		0.950		0.950		0.950		0.950	
Flt Protected	0.998		0.999		0.999		0.999		0.999		0.999	
Satd. Flow (prot)	0	1667	0	0	1704	0	1752	3374	0	1770	3471	0
Flt Permitted	0.969		0.994		0.115		0.443		0.443		0.443	
Satd. Flow (perm)	0	1618	0	0	1695	0	212	3374	0	825	3471	0
Right Turn on Red	Yes		Yes		Yes		Yes		Yes		Yes	
Satd. Flow (RTOR)	35		144		144		144		144		144	
Link Speed (mph)	40		40		40		40		40		40	
Link Distance (ft)	1060		576		1323		1361		1361		1361	
Travel Time (s)	18.1		9.8		16.4		16.9		16.9		16.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	9%	3%	0%	0%	1%	3%	7%	0%	2%	4%	0%
Adj. Flow (vph)	3	25	35	5	77	200	66	545	1	66	1325	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	63	0	0	282	0	66	546	0	66	1328	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		12	
Link Offset(ft)	0		0		0		0		0		0	
Crosswalk Width(ft)	16		16		16		16		16		16	
Two way Left Turn Lane	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	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		2	3		2	3	
Detector Template	Left		Left		Left		Left		Left		Left	
Leading Detector (ft)	20	49		20	49		49	466		49	466	
Trailing Detector (ft)	0	-1		0	-1		-1	-1		-1	-1	
Detector 1 Position(ft)	0	-1		0	-1		-1	-1		-1	-1	
Detector 1 Size(ft)	20	20		20	20		20	20		20	20	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)	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	
Detector 3 Position(ft)	460		460		460		460		460		460	
Detector 3 Size(ft)	6		6		6		6		6		6	

Lanes, Volumes, Timings
3: Millersport Highway & New Road

4300 Millersport Highway
2022 Existing AM

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Detector 3 Type	CI+Ex											CI+Ex
Detector 3 Channel												
Detector 3 Extend (s)	0.0											0.0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3		3		3		1		6		5	
Permitted Phases	3			3			6			2		
Detector Phase	3	3		3	3		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	25.0		6.0	25.0	
Minimum Split (s)	48.9	48.9		48.9	48.9		11.9	31.0		11.9	31.0	
Total Split (s)	30.0	30.0		30.0	30.0		15.0	40.0		15.0	40.0	
Total Split (%)	35.3%	35.3%		35.3%	35.3%		17.6%	47.1%		17.6%	47.1%	
Maximum Green (s)	24.1	24.1		24.1	24.1		9.1	34.0		9.1	34.0	
Yellow Time (s)	3.9	3.9		3.9	3.9		3.9	5.0		3.9	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	1.0		2.0	1.0	
Lost Time Adjust (s)	0.0		0.0		0.0		0.0		0.0		0.0	
Total Lost Time (s)	5.9		5.9		5.9		5.9		5.9		5.9	
Lead/Lag	Lead		Lag		Lead		Lag		Lead		Lag	
Lead-Lag Optimize?	Yes		Yes		Yes		Yes		Yes		Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		4.0	4.0		4.0	4.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	36.0	36.0		36.0	36.0		15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	11.7		11.7		11.7		39.4		35.0		39.4	
Actuated g/C Ratio	0.18		0.18		0.18		0.59		0.53		0.59	
v/c Ratio	0.20		0.68		0.22		0.31		0.11		0.73	
Control Delay	15.7		22.1		7.4		11.9		6.0		18.3	
Queue Delay	0.0		0.0		0.0		0.0		0.0		0.0	
Total Delay	15.7		22.1		7.4		11.9		6.0		18.3	
LOS	B		C		A		B		A		B	
Approach Delay	15.7		22.1		11.4		17.7		17.7		17.7	
Approach LOS	B		C		B		B		B		B	
Queue Length 50th (ft)	11		56		8		73		8		242	
Queue Length 95th (ft)	41		132		27		135		27		#457	
Internal Link Dist (ft)	980		496		1243		1281		1281		1281	
Turn Bay Length (ft)	100											
Base Capacity (vph)	626		724		344		1779		629		1830	
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	0.10		0.39		0.19		0.31		0.10		0.73	

Intersection Summary
Area Type: Other
Cycle Length: 85
Actuated Cycle Length: 66.4
Natural Cycle: 105
Control Type: Actuated-Uncoordinated

Lanes, Volumes, Timings
3: Millersport Highway & New Road

4300 Millersport Highway
2022 Existing AM

Maximum v/c Ratio: 0.73
 Intersection Signal Delay: 16.6
 Intersection Capacity Utilization 70.4%
 Analysis Period (min) 15
 # : 95th percentile volume exceeds capacity; queue may be longer.
 Queue shown is maximum after two cycles.

Intersection LOS: B
 ICU Level of Service C

Splits and Phases: 3: Millersport Highway & New Road

15 s	40 s	30 s
15 s	40 s	

Lanes, Volumes, Timings
6: Millersport Highway & Smith Road

4300 Millersport Highway
2022 Existing AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔	↔		↕	↕	↔	↔	
Traffic Volume (vph)	4	33	20	276	17	3	0	551	51	4	1399	4
Future Volume (vph)	4	33	20	276	17	3	0	551	51	4	1399	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		25	0		25	100		0	100		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			55			40		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Fit			0.850			0.850		0.987				
Fit Protected		0.995			0.955					0.950		
Satd. Flow (prot)	0	1843	1538	0	1791	1615	1900	3348	0	1805	3469	0
Fit Permitted		0.968			0.710					0.394		
Satd. Flow (perm)	0	1793	1538	0	1332	1615	1900	3348	0	749	3469	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			41			41		19				1
Link Speed (mph)		35			35			55				55
Link Distance (ft)		1683			779			2581				1323
Travel Time (s)		32.8			15.2			32.0				16.4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	25%	0%	5%	1%	6%	0%	0%	7%	0%	0%	4%	25%
Adj. Flow (vph)	4	35	21	294	18	3	0	586	54	4	1488	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	39	21	0	312	3	0	640	0	4	1492	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			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane							Yes				Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		15
Number of Detectors	1	3	0	1	3	0	2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	79	0	20	79	0	49	19		49	19	
Trailing Detector (ft)	0	-1	0	0	-1	0	-1	-1		-1	-1	
Detector 1 Position(ft)	0	-1	-1	0	-1	-1	-1	-1		-1	-1	
Detector 1 Size(ft)	20	20	20	20	20	20	20	20		20	20	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	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	
Detector 1 Delay (s)	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		
Detector 2 Size(ft)		20			20		20			20		
Detector 2 Type		CI+Ex			CI+Ex		CI+Ex			CI+Ex		
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0		0.0			0.0		
Detector 3 Position(ft)					59							
Detector 3 Size(ft)					20							

Lanes, Volumes, Timings
6: Millersport Highway & Smith Road

4300 Millersport Highway
2022 Existing AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Type	CI+Ex			CI+Ex								
Detector 3 Channel												
Detector 3 Extend (s)	0.0			0.0								
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	2	Perm	NA	6
Protected Phases	8											
Permitted Phases	4	4	4	8	8	8	2	2	6	6	6	6
Detector Phase	4	4	4	8	8	8	2	2	6	6	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	20.0	20.0	20.0	20.0	20.0	20.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	26.0	26.0	26.0	26.0	26.0	26.0
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	50.0	50.0	50.0	50.0	50.0	50.0
Total Split (%)	37.5%	37.5%	37.5%	37.5%	37.5%	37.5%	62.5%	62.5%	62.5%	62.5%	62.5%	62.5%
Maximum Green (s)	25.4	25.4	25.4	25.4	25.4	25.4	44.0	44.0	44.0	44.0	44.0	44.0
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.4	1.4	1.4	1.4	1.4	1.4	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0											
Total Lost Time (s)	4.6											
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	Min	Min	Min	Min	Min	Min
Act Efect Green (s)	21.3	21.3	21.3	21.3	21.3	21.3	37.7	37.7	37.7	37.7	37.7	37.7
Actuated g/C Ratio	0.30	0.30	0.30	0.30	0.30	0.30	0.54	0.54	0.54	0.54	0.54	0.54
v/c Ratio	0.07	0.04	0.07	0.77	0.01	0.35	0.01	0.80	0.01	0.80	0.01	0.80
Control Delay	19.4	3.1	38.2	0.0	9.8	8.2	17.3	17.3	17.3	17.3	17.3	17.3
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	19.4	3.1	38.2	0.0	9.8	8.2	17.3	17.3	17.3	17.3	17.3	17.3
LOS	B	A	D	A	A	A	B	B	B	B	B	B
Approach Delay	13.7		37.8		9.8		17.3	17.3	17.3	17.3	17.3	17.3
Approach LOS	B		D		A		B	B	B	B	B	B
Queue Length 50th (ft)	13	0	135	0	81	1	280	280	280	280	280	280
Queue Length 95th (ft)	35	8	#258	0	117	5	376	376	376	376	376	376
Internal Link Dist (ft)	1803		699		2501		1243	1243	1243	1243	1243	1243
Turn Bay Length (ft)		25		25		100	100	100	100	100	100	100
Base Capacity (vph)	676	605	502	634	2193	488	2266	2266	2266	2266	2266	2266
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.03	0.62	0.00	0.29	0.01	0.66	0.66	0.66	0.66	0.66	0.66

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 70
 Natural Cycle: 60
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.80
 Intersection Signal Delay: 17.9
 Intersection Capacity Utilization 76.0%

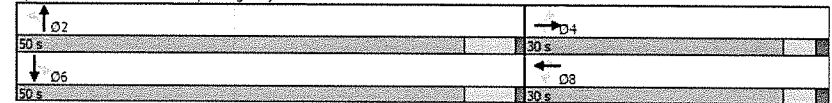
Intersection LOS: B
 ICU Level of Service D

Lanes, Volumes, Timings
6: Millersport Highway & Smith Road

4300 Millersport Highway
2022 Existing AM

Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 6: Millersport Highway & Smith Road



Lanes, Volumes, Timings
7: New Road & Smith Road

4300 Millersport Highway
2022 Existing AM

	↖	→	↗	↖	←	↖	↖	↖	↖	↖	↖	↖
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↔			↔			↔		
Traffic Volume (vph)	0	69	7	10	186	9	113	41	13	23	108	1
Future Volume (vph)	0	69	7	10	186	9	113	41	13	23	108	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.987			0.994			0.990			0.999		
Flt Protected				0.997			0.967			0.991		
Satd. Flow (prot)	0	1875	0	0	1866	0	0	1753	0	0	1866	0
Flt Permitted				0.997			0.967			0.991		
Satd. Flow (perm)	0	1875	0	0	1866	0	0	1753	0	0	1866	0
Link Speed (mph)	35			35			40			40		
Link Distance (ft)	779			931			1347			1060		
Travel Time (s)	15.2			18.1			23.0			18.1		
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	2%	5%	15%	0%	1%	0%
Adj. Flow (vph)	0	86	9	13	233	11	141	51	16	29	135	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	95	0	0	257	0	0	208	0	0	165	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	0			0			0			0		
Link Offset(ft)	0			0			0			0		
Crosswalk Width(ft)	16			16			16			16		
Two way Left Turn Lane												
Headway Factor	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		
Sign Control	Stop			Stop			Stop			Stop		

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 40.1% ICU Level of Service A
 Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis
7: New Road & Smith Road

4300 Millersport Highway
2022 Existing AM

	↖	→	↗	↖	←	↖	↖	↖	↖	↖	↖	↖
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↔			↔			↔		
Sign Control	Stop			Stop			Stop			Stop		
Traffic Volume (vph)	0	69	7	10	186	9	113	41	13	23	108	1
Future Volume (vph)	0	69	7	10	186	9	113	41	13	23	108	1
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	0	86	9	12	232	11	141	51	16	29	135	1
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	95	255	208	165								
Volume Left (vph)	0	12	141	29								
Volume Right (vph)	9	11	16	1								
Hadj (s)	-0.06	0.00	0.15	0.05								
Departure Headway (s)	5.2	5.1	5.2	5.2								
Degree Utilization, x	0.14	0.36	0.30	0.24								
Capacity (veh/h)	618	666	642	638								
Control Delay (s)	9.1	10.8	10.5	9.8								
Approach Delay (s)	9.1	10.8	10.5	9.8								
Approach LOS	A	B	B	A								

Intersection Summary

Delay 10.3
 Level of Service B
 Intersection Capacity Utilization 40.1% ICU Level of Service A
 Analysis Period (min) 15

Lanes, Volumes, Timings
10: Millersport Highway & I-990 SB

4300 Millersport Highway
2022Existing AM

	↖	↘	↙	↑	↓	↗
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations			↘	↑↑	↑↗	
Traffic Volume (vph)	0	0	28	638	364	1403
Future Volume (vph)	0	0	28	638	364	1403
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	95			0
Storage Lanes	0	0	1			0
Taper Length (ft)	25		50			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt					0.881	
Frt Protected			0.950			
Satd. Flow (prot)	0	0	1805	3406	3075	0
Frt Permitted			0.950			
Satd. Flow (perm)	0	0	1805	3406	3075	0
Link Speed (mph)	65			55	55	
Link Distance (ft)	1332			352	2581	
Travel Time (s)	14.0			4.4	32.0	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	6%	5%	3%
Adj. Flow (vph)	0	0	30	686	391	1509
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	30	686	1900	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane					Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 91.1% ICU Level of Service F
Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis
10: Millersport Highway & I-990 SB

4300 Millersport Highway
2022Existing AM

	↖	↘	↙	↑	↓	↗
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations			↘	↑↑	↑↗	
Traffic Volume (veh/h)	0	0	28	638	364	1403
Future Volume (Veh/h)	0	0	28	638	364	1403
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	0	30	686	391	1509
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	TWLT	
Median storage (veh)					2	
Upstream signal (ft)				352		
pX, platoon unblocked	0.99					
vC, conflicting volume	1548	950	1900			
vC1, stage 1 conf vol	1146					
vC2, stage 2 conf vol	403					
vCu, unblocked vol	1540	950	1900			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	91			
cM capacity (veh/h)	249	265	318			

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	30	343	343	261	1639
Volume Left	30	0	0	0	0
Volume Right	0	0	0	0	1509
cSH	318	1700	1700	1700	1700
Volume to Capacity	0.09	0.20	0.20	0.15	0.96
Queue Length 95th (ft)	8	0	0	0	0
Control Delay (s)	17.5	0.0	0.0	0.0	0.0
Lane LOS	C				
Approach Delay (s)	0.7			0.0	
Approach LOS					

Intersection Summary

Average Delay 0.2
Intersection Capacity Utilization 91.1% ICU Level of Service F
Analysis Period (min) 15

Lanes, Volumes, Timings
12: Millersport Highway & I-990 NB

4300 Millersport Highway
2022 Existing AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	506	0	36	0	0	0	0	162	0	0	367	0
Future Volume (vph)	506	0	36	0	0	0	0	162	0	0	367	0
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	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Fit Protected	0.950	0.958										
Satd. Flow (prot)	1633	1612	0	0	0	0	0	3406	0	0	3438	0
Fit Permitted	0.950	0.958										
Satd. Flow (perm)	1633	1612	0	0	0	0	0	3406	0	0	3438	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36										
Link Speed (mph)		40			30			55			55	
Link Distance (ft)		1256			239			439			352	
Travel Time (s)		21.4			5.4			5.4			4.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	0%	6%	0%	0%	0%	0%	6%	0%	0%	5%	0%
Adj. Flow (vph)	538	0	38	0	0	0	0	172	0	0	390	0
Shared Lane Traffic (%)	46%											
Lane Group Flow (vph)	291	285	0	0	0	0	0	172	0	0	390	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			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		9	15		9	15		9	15		9
Number of Detectors	2	2						1			1	
Detector Template												
Leading Detector (ft)	49	49						19			19	
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	CI+Ex	CI+Ex						CI+Ex			CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0			0.0	
Detector 1 Queue (s)	0.0	0.0						0.0			0.0	
Detector 1 Delay (s)	0.0	0.0						0.0			0.0	
Detector 2 Position(ft)	29	29										
Detector 2 Size(ft)	20	20										
Detector 2 Type	CI+Ex	CI+Ex										
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0										
Turn Type	Split	NA						NA			NA	
Protected Phases	3	3						1			1	
Permitted Phases												
Detector Phase	3	3						1			1	
Switch Phase												

Lanes, Volumes, Timings
12: Millersport Highway & I-990 NB

4300 Millersport Highway
2022 Existing AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	6.0	6.0						10.0			10.0	
Minimum Split (s)	22.7	22.7						24.0			24.0	
Total Split (s)	50.0	50.0						40.0			40.0	
Total Split (%)	55.6%	55.6%						44.4%			44.4%	
Maximum Green (s)	45.3	45.3						34.0			34.0	
Yellow Time (s)	3.2	3.2						5.0			5.0	
All-Red Time (s)	1.5	1.5						1.0			1.0	
Lost Time Adjust (s)	0.0	0.0						0.0			0.0	
Total Lost Time (s)	4.7	4.7						6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0						4.0			4.0	
Recall Mode	None	None						Min			Min	
Act Effct Green (s)	23.8	23.8						55.5			55.5	
Actuated g/C Ratio	0.26	0.26						0.62			0.62	
v/c Ratio	0.67	0.63						0.08			0.18	
Control Delay	36.6	30.6						8.5			8.9	
Queue Delay	0.0	0.0						0.0			0.0	
Total Delay	36.6	30.6						8.5			8.9	
LOS	D	C						A			A	
Approach Delay		33.6						8.5			8.9	
Approach LOS		C						A			A	
Queue Length 50th (ft)	155	131						18			45	
Queue Length 95th (ft)	211	188						41			87	
Internal Link Dist (ft)		1176			159			359			272	
Turn Bay Length (ft)												
Base Capacity (vph)	821	829						2099			2119	
Starvation Cap Reductn	0	0						0			0	
Spillback Cap Reductn	0	0						0			0	
Storage Cap Reductn	0	0						0			0	
Reduced v/c Ratio	0.35	0.34						0.08			0.18	
Intersection Summary												
Area Type:	Other											
Cycle Length:	90											
Actuated Cycle Length:	90											
Offset:	0 (0%), Referenced to phase 2: and 6:, Start of Green											
Natural Cycle:	50											
Control Type:	Actuated-Coordinated											
Maximum v/c Ratio:	0.67											
Intersection Signal Delay:	21.4						Intersection LOS: C					
Intersection Capacity Utilization:	91.1%						ICU Level of Service F					
Analysis Period (min):	15											
Splits and Phases: 12: Millersport Highway & I-990 NB												

Lanes, Volumes, Timings
3: Millersport Highway & New Road

4300 Millersport Highway
2022 Existing PM

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕		↕			↗	↗		↗	↗	
Traffic Volume (vph)	6	76	63	9	28	93	213	1204	3	40	646	8
Future Volume (vph)	6	76	63	9	28	93	213	1204	3	40	646	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0	0	0	0	100	0	100	0	100	0
Storage Lanes	0	0	0	0	0	0	1	0	1	0	1	0
Taper Length (ft)	25			25			50		50			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.941			0.903						0.998	
Flt Protected		0.998			0.997		0.950			0.950		
Satd. Flow (prot)	0	1769	0	0	1684	0	1787	3539	0	1805	3499	0
Flt Permitted		0.986			0.974		0.312			0.169		
Satd. Flow (perm)	0	1748	0	0	1645	0	587	3539	0	321	3499	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)	46				97						2	
Link Speed (mph)	40				40			55			55	
Link Distance (ft)	1060				576			1323			1361	
Travel Time (s)	18.1				9.8			16.4			16.9	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	2%	0%	4%	1%	1%	2%	0%	0%	3%	0%
Adj. Flow (vph)	6	79	66	9	29	97	222	1254	3	42	673	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	151	0	0	135	0	222	1257	0	42	681	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	Right	Left	Left	Right	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane							Yes			Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9		15		9	15		9	15	9
Number of Detectors	1	2		1	2		2	3		2	3	
Detector Template	Left			Left								
Leading Detector (ft)	20	49		20	49		49	466		49	466	
Trailing Detector (ft)	0	-1		0	-1		-1	-1		-1	-1	
Detector 1 Position(ft)	0	-1		0	-1		-1	-1		-1	-1	
Detector 1 Size(ft)	20	20		20	20		20	20		20	20	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		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	
Detector 3 Position(ft)								460			460	
Detector 3 Size(ft)								6			6	

Lanes, Volumes, Timings
3: Millersport Highway & New Road

4300 Millersport Highway
2022 Existing PM

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Detector 3 Type												
Detector 3 Channel												
Detector 3 Extend (s)										0.0		0.0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		3			3		1	6		5	2	
Permitted Phases	3			3			6			2		
Detector Phase	3	3		3	3		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	25.0		6.0	25.0	
Minimum Split (s)	48.9	48.9		48.9	48.9		11.9	31.0		11.9	31.0	
Total Split (s)	30.0	30.0		30.0	30.0		15.0	40.0		15.0	40.0	
Total Split (%)	35.3%	35.3%		35.3%	35.3%		17.6%	47.1%		17.6%	47.1%	
Maximum Green (s)	24.1	24.1		24.1	24.1		9.1	34.0		9.1	34.0	
Yellow Time (s)	3.9	3.9		3.9	3.9		3.9	5.0		3.9	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	1.0		2.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.9			5.9		5.9	6.0		5.9	6.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		4.0	4.0		4.0	4.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0			7.0		
Flash Dont Walk (s)	36.0	36.0		36.0	36.0		15.0			15.0		
Pedestrian Calls (#/hr)	0	0		0	0		0			0		
Act Effct Green (s)		9.6			9.6		42.0	36.9		36.8	29.6	
Actuated g/C Ratio		0.15			0.15		0.64	0.56		0.56	0.45	
v/c Ratio		0.52			0.42		0.42	0.64		0.12	0.43	
Control Delay		25.7			14.6		7.1	14.0		5.4	13.7	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		25.7			14.6		7.1	14.0		5.4	13.7	
LOS		C			B		A	B		A	B	
Approach Delay		25.7			14.6		13.0			13.2		
Approach LOS		C			B		B			B		
Queue Length 50th (ft)		41			14		27	203		5	94	
Queue Length 95th (ft)		95			60		61	322		15	151	
Internal Link Dist (ft)		980			496		1243			1281		
Turn Bay Length (ft)					100					100		
Base Capacity (vph)		675			670		541	1979		396	1828	
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		0.22			0.20		0.41	0.64		0.11	0.37	
Intersection Summary												
Area Type:		Other										
Cycle Length:		85										
Actuated Cycle Length:		65.9										
Natural Cycle:		95										
Control Type:		Actuated-Uncoordinated										

Lanes, Volumes, Timings
3: Millersport Highway & New Road

4300 Millersport Highway
2022 Existing PM

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 13.9

Intersection LOS: B

Intersection Capacity Utilization 64.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 3: Millersport Highway & New Road

15 s	40 s	30 s
15 s	40 s	

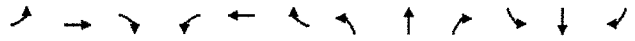
Lanes, Volumes, Timings
6: Millersport Highway & Smith Road

4300 Millersport Highway
2022 Existing PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	30	14	104	34	4	20	1370	207	6	749	1
Future Volume (vph)	3	30	14	104	34	4	20	1370	207	6	749	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		25	0		25	100		0	100		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			55			40		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Fit Protected		0.996			0.964		0.950			0.950		
Satd. Flow (prot)	0	1842	1615	0	1818	1615	1719	3477	0	1805	3505	0
Fit Permitted		0.972			0.757		0.358			0.103		
Satd. Flow (perm)	0	1798	1615	0	1428	1615	648	3477	0	196	3505	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			41			41		33				
Link Speed (mph)		35			35			55				55
Link Distance (ft)		1683			779			2581				1323
Travel Time (s)		32.8			15.2			32.0				16.4
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	3%	0%	1%	0%	0%	5%	2%	0%	0%	3%	0%
Adj. Flow (vph)	3	31	14	107	35	4	21	1412	213	6	772	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	34	14	0	142	4	21	1625	0	6	773	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			12				12
Link Offset(ft)					0			0				0
Crosswalk Width(ft)					16			16				16
Two way Left Turn Lane							Yes				Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3	0	1	3	0	2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	79	0	20	79	0	49	19		49	19	
Trailing Detector (ft)	0	-1	0	0	-1	0	-1	-1		-1	-1	
Detector 1 Position(ft)	0	-1	-1	0	-1	-1	-1	-1		-1	-1	
Detector 1 Size(ft)	20	20	20	20	20	20	20	20		20	20	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	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	
Detector 1 Delay (s)	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
Detector 2 Size(ft)					20			20				20
Detector 2 Type					CI+Ex			CI+Ex				CI+Ex
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0				0.0
Detector 3 Position(ft)					59							59
Detector 3 Size(ft)					20			20				20

Lanes, Volumes, Timings
6: Millersport Highway & Smith Road

4300 Millersport Highway
2022 Existing PM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Type	CI+Ex			CI+Ex								
Detector 3 Channel												
Detector 3 Extend (s)	0.0			0.0								
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4		8		8	2	2		6	6	
Permitted Phases	4	4	4	8	8	8	2	2		6	6	
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	20.0	20.0		20.0	20.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	26.0	26.0		26.0	26.0	
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	50.0	50.0		50.0	50.0	
Total Split (%)	37.5%	37.5%	37.5%	37.5%	37.5%	37.5%	62.5%	62.5%		62.5%	62.5%	
Maximum Green (s)	25.4	25.4	25.4	25.4	25.4	25.4	44.0	44.0		44.0	44.0	
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	5.0	5.0		5.0	5.0	
All-Red Time (s)	1.4	1.4	1.4	1.4	1.4	1.4	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	
Total Lost Time (s)	4.6	4.6		4.6	4.6	6.0	6.0			6.0	6.0	
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	
Recall Mode	None	None	None	None	None	None	Min	Min		Min	Min	
Act Effct Green (s)	13.3	13.3		13.3	13.3	41.5	41.5			41.5	41.5	
Actuated g/C Ratio	0.22	0.22		0.22	0.22	0.69	0.69			0.69	0.69	
v/c Ratio	0.09	0.04		0.45	0.01	0.05	0.67			0.04	0.32	
Control Delay	21.7	1.8		27.8	0.0	5.8	9.7			6.5	6.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0			0.0	0.0	
Total Delay	21.7	1.8		27.8	0.0	5.8	9.7			6.5	6.0	
LOS	C	A		C	A	A	A			A	A	
Approach Delay	15.9			27.0			9.6				6.0	
Approach LOS	B			C			A				A	
Queue Length 50th (ft)	11	0		48	0	3	189			1	63	
Queue Length 95th (ft)	32	3		103	0	12	334			6	114	
Internal Link Dist (ft)	1603			699			2501				1243	
Turn Bay Length (ft)		25			25	100				100		
Base Capacity (vph)	796	737		632	737	487	2624			147	2637	
Starvation Cap Reductn	0	0		0	0	0	0			0	0	
Spillback Cap Reductn	0	0		0	0	0	0			0	0	
Storage Cap Reductn	0	0		0	0	0	0			0	0	
Reduced v/c Ratio	0.04	0.02		0.22	0.01	0.04	0.62			0.04	0.29	

Intersection Summary	
Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	59.9
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.67
Intersection Signal Delay:	9.6
Intersection Capacity Utilization:	73.8%
	Intersection LOS: A
	ICU Level of Service D

Lanes, Volumes, Timings
6: Millersport Highway & Smith Road

4300 Millersport Highway
2022 Existing PM



Analysis Period (min) 15	
Splits and Phases: 6: Millersport Highway & Smith Road	
↑ O2	→ O4
50 s	30 s
↓ O6	← O8
50 s	30 s

Lanes, Volumes, Timings
7: New Road & Smith Road

4300 Millersport Highway
2022 Existing PM

	↖	→	↘	↙	←	↖	↙	↑	↘	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕		↕		↕		↕		↕		↕	
Traffic Volume (vph)	4	158	85	15	106	33	39	114	16	20	54	1
Future Volume (vph)	4	158	85	15	106	33	39	114	16	20	54	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.954		0.971		0.987		0.998		0.987		0.998	
Flt Protected	0.999		0.995		0.989		0.987		0.987		0.987	
Satd. Flow (prot)	0	1799	0	0	1811	0	0	1842	0	0	1847	0
Flt Permitted	0.999		0.995		0.989		0.987		0.987		0.987	
Satd. Flow (perm)	0	1799	0	0	1811	0	0	1842	0	0	1847	0
Link Speed (mph)	35		35		40		40		40		40	
Link Distance (ft)	779		931		1347		1060		1060		1060	
Travel Time (s)	15.2		18.1		23.0		18.1		18.1		18.1	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	0%	7%	1%	0%	0%	1%	0%	5%	0%	0%
Adj. Flow (vph)	4	168	90	16	113	35	41	121	17	21	57	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	262	0	0	164	0	0	179	0	0	79	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	
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	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9		15		9		15		9	
Sign Control	Stop		Stop		Stop		Stop		Stop		Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 34.8% ICU Level of Service A
 Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis
7: New Road & Smith Road

4300 Millersport Highway
2022 Existing PM

	↖	→	↘	↙	←	↖	↙	↑	↘	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕		↕		↕		↕		↕		↕	
Sign Control	Stop		Stop		Stop		Stop		Stop		Stop	
Traffic Volume (vph)	4	158	85	15	106	33	39	114	16	20	54	1
Future Volume (vph)	4	158	85	15	106	33	39	114	16	20	54	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	4	168	90	16	113	35	41	121	17	21	57	1
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	262	164	179	79								
Volume Left (vph)	4	16	41	21								
Volume Right (vph)	90	35	17	1								
Hadj (s)	-0.19	-0.09	0.00	0.07								
Departure Headway (s)	4.6	4.8	5.0	5.3								
Degree Utilization, x	0.34	0.22	0.25	0.12								
Capacity (veh/h)	733	691	648	612								
Control Delay (s)	9.9	9.2	9.7	9.0								
Approach Delay (s)	9.9	9.2	9.7	9.0								
Approach LOS	A	A	A	A								

Intersection Summary

Delay 9.6
 Level of Service A
 Intersection Capacity Utilization 34.8% ICU Level of Service A
 Analysis Period (min) 15

Lanes, Volumes, Timings
10: Millersport Highway & I-990 SB

4300 Millersport Highway
2022 Existing PM

	↖	↗	↖	↑	↓	↗
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations			↖	↑↑	↑↑	
Traffic Volume (vph)	0	0	29	1578	224	656
Future Volume (vph)	0	0	29	1578	224	656
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	95			
Storage Lanes	0	0	1			0
Taper Length (ft)	25		50			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ft				0.888		
Ft Protected			0.950			
Satd. Flow (prot)	0	0	1805	3574	3105	0
Ft Permitted			0.950			
Satd. Flow (perm)	0	0	1805	3574	3105	0
Link Speed (mph)	65			55	55	
Link Distance (ft)	1332			352	2581	
Travel Time (s)	14.0			4.4	32.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	1%	1%	4%
Adj. Flow (vph)	0	0	31	1661	236	691
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	31	1661	927	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane					Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 86.9%
Analysis Period (min) 15
ICU Level of Service E

HCM Unsignalized Intersection Capacity Analysis
10: Millersport Highway & I-990 SB

4300 Millersport Highway
2022 Existing PM

	↖	↗	↖	↑	↓	↗
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations			↖	↑↑	↑↑	
Traffic Volume (veh/h)	0	0	29	1578	224	656
Future Volume (Veh/h)	0	0	29	1578	224	656
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	31	1661	236	691
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	TWTL	
Median storage (veh)					2	
Upstream signal (ft)				352		
pX, platoon unblocked	0.92					
vC, conflicting volume	1474	464	927			
vC1, stage 1 conf vol	582					
vC2, stage 2 conf vol	892					
vCu, unblocked vol	1342	464	927			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	96			
cM capacity (veh/h)	333	551	746			

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	31	830	830	157	770
Volume Left	31	0	0	0	0
Volume Right	0	0	0	0	691
cSH	746	1700	1700	1700	1700
Volume to Capacity	0.04	0.49	0.49	0.09	0.45
Queue Length 95th (ft)	3	0	0	0	0
Control Delay (s)	10.0	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	0.2			0.0	
Approach LOS					

Intersection Summary

Average Delay 0.1
Intersection Capacity Utilization 86.9%
Analysis Period (min) 15
ICU Level of Service E

A5

**Level of Service Calculations:
Background Conditions**

Lanes, Volumes, Timings
3: Millersport Highway & New Road

4300 Millersport Highway
2025 Background AM

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕		↕			↕	↕		↕	↕	
Traffic Volume (vph)	3	23	32	5	72	187	62	509	1	62	1237	3
Future Volume (vph)	3	23	32	5	72	187	62	509	1	62	1237	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0	0	0	100	0	100	0	100	0	0
Storage Lanes	0	0	0	0	0	1	0	1	0	1	0	0
Taper Length (ft)	25			25		50		50		50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95	0.95
Frt		0.925			0.904							
Fit Protected		0.998			0.999		0.950		0.950			
Satd. Flow (prot)	0	1667	0	0	1704	0	1752	3374	0	1770	3471	0
Fit Permitted		0.968			0.994		0.114		0.438			
Satd. Flow (perm)	0	1617	0	0	1695	0	210	3374	0	816	3471	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		35			145							
Link Speed (mph)		40			40		55		55		55	
Link Distance (ft)		1060			576		1323		1361		1361	
Travel Time (s)		18.1			9.8		16.4		16.9		16.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	9%	3%	0%	0%	1%	3%	7%	0%	2%	4%	0%
Adj. Flow (vph)	3	25	35	5	78	203	67	553	1	67	1345	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	63	0	0	286	0	67	554	0	67	1348	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	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							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	1.00
Turning Speed (mph)	15	9	15	15	15	9	15	15	9	15	15	9
Number of Detectors	1	2	1	2	2	3	3	3	2	3	3	9
Detector Template	Left		Left									
Leading Detector (ft)	20	49	20	49	49	466	49	466	49	466	49	466
Trailing Detector (ft)	0	-1	0	-1	-1	-1	-1	-1	-1	-1	-1	-1
Detector 1 Position(ft)	0	-1	0	-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	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
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
Detector 3 Position(ft)						460		460		460		460
Detector 3 Size(ft)						6		6		6		6

Lanes, Volumes, Timings
3: Millersport Highway & New Road

4300 Millersport Highway
2025 Background AM

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Detector 3 Type												
Detector 3 Channel												
Detector 3 Extend (s)										0.0		0.0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		3			3		1	6		5	2	
Permitted Phases	3			3			6			2		
Detector Phase	3	3		3	3		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	25.0		6.0	25.0	
Minimum Split (s)	48.9	48.9		48.9	48.9		11.9	31.0		11.9	31.0	
Total Split (s)	30.0	30.0		30.0	30.0		15.0	40.0		15.0	40.0	
Total Split (%)	35.3%	35.3%		35.3%	35.3%		17.6%	47.1%		17.6%	47.1%	
Maximum Green (s)	24.1	24.1		24.1	24.1		9.1	34.0		9.1	34.0	
Yellow Time (s)	3.9	3.9		3.9	3.9		3.9	5.0		3.9	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	1.0		2.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.9			5.9		5.9	6.0		5.9	6.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		4.0	4.0		4.0	4.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	36.0	36.0		36.0	36.0		15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		11.8			11.8		39.5	35.1		39.5	35.1	
Actuated g/C Ratio		0.18			0.18		0.59	0.53		0.59	0.53	
v/c Ratio		0.20			0.68		0.22	0.31		0.11	0.74	
Control Delay		15.6			22.3		7.5	12.0		6.0	18.8	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		15.6			22.3		7.5	12.0		6.0	18.8	
LOS		B			C		A	B		A	B	
Approach Delay		15.6			22.3		11.5	18.2		18.2	18.2	
Approach LOS		B			C		B	B		B	B	
Queue Length 50th (ft)		11			57		9	75		9	249	
Queue Length 95th (ft)		41			135		27	138		27	#472	
Internal Link Dist (ft)		980			496		1243	1281		1281	1281	
Turn Bay Length (ft)							100	100		100	100	
Base Capacity (vph)		625			723		343	1776		624	1826	
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		0.10			0.40		0.20	0.31		0.11	0.74	

Intersection Summary

Area Type: Other
 Cycle Length: 85
 Actuated Cycle Length: 66.6
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated

Lanes, Volumes, Timings
3: Millersport Highway & New Road

4300 Millersport Highway
2025 Background AM

Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 16.9
 Intersection Capacity Utilization 71.2%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 3: Millersport Highway & New Road

↖ O1	↗ O2	↕ O3
15 s	40 s	30 s
↙ O5	↘ O6	
15 s	40 s	

Lanes, Volumes, Timings
6: Millersport Highway & Smith Road

4300 Millersport Highway
2025 Background AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↖	↗	↖	↗	↖	↗	↖	↗
Traffic Volume (vph)	4	33	20	280	17	3	0	559	52	4	1420	4
Future Volume (vph)	4	33	20	280	17	3	0	559	52	4	1420	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		25	0		25	100		0	100	0	
Storage Lanes	0		1	0		1	1		0	1	0	
Taper Length (ft)	25			25			55		40			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	
Frt			0.850			0.850		0.987				
Flt Protected		0.995		0.955					0.950			
Satd. Flow (prot)	0	1843	1538	0	1791	1615	1900	3349	0	1805	3469	0
Flt Permitted		0.968		0.710					0.389			
Satd. Flow (perm)	0	1793	1538	0	1332	1615	1900	3349	0	739	3469	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			41			41		19				1
Link Speed (mph)		35		35			55		55			
Link Distance (ft)		1683		779			2581		1323			
Travel Time (s)		32.8		15.2			32.0		16.4			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	25%	0%	5%	1%	6%	0%	0%	7%	0%	0%	4%	25%
Adj. Flow (vph)	4	35	21	298	18	3	0	595	55	4	1511	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	39	21	0	316	3	0	650	0	4	1515	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			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane							Yes				Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3	0	1	3	0	2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	79	0	20	79	0	49	19		49	19	
Trailing Detector (ft)	0	-1	0	0	-1	0	-1	-1		-1	-1	
Detector 1 Position(ft)	0	-1	-1	0	-1	-1	-1	-1		-1	-1	
Detector 1 Size(ft)	20	20	20	20	20	20	20	20		20	20	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	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	
Detector 1 Delay (s)	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	
Detector 2 Size(ft)		20			20			20			20	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Detector 3 Position(ft)		59			59			59			59	
Detector 3 Size(ft)		20			20			20			20	

Lanes, Volumes, Timings
6: Millersport Highway & Smith Road

4300 Millersport Highway
2025 Background AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Type	CH+X			CH+X								
Detector 3 Channel												
Detector 3 Extend (s)	0.0			0.0								
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			8	2		6	
Permitted Phases	4		4	8		8	2			6		6
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	20.0	20.0		20.0	20.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	26.0	26.0		26.0	26.0	
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	50.0	50.0		50.0	50.0	
Total Split (%)	37.5%	37.5%	37.5%	37.5%	37.5%	37.5%	62.5%	62.5%		62.5%	62.5%	
Maximum Green (s)	25.4	25.4	25.4	25.4	25.4	25.4	44.0	44.0		44.0	44.0	
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	5.0	5.0		5.0	5.0	
All-Red Time (s)	1.4	1.4	1.4	1.4	1.4	1.4	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	
Total Lost Time (s)		4.6	4.6		4.6	4.6	6.0	6.0		6.0	6.0	
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	
Recall Mode	None	None	None	None	None	None	Min	Min		Min	Min	
Act Effct Green (s)	21.6	21.6		21.6	21.6		38.6	38.6		38.6	38.6	
Actuated g/C Ratio	0.30	0.30		0.30	0.30		0.54	0.54		0.54	0.54	
v/c Ratio	0.07	0.04		0.78	0.01		0.36	0.01		0.80		
Control Delay	19.4	3.1		39.3	0.0		9.8	8.2		17.7		
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	19.4	3.1		39.3	0.0		9.8	8.2		17.7		
LOS	B	A		D	A		A	A		B		
Approach Delay	13.7			38.9			9.8			17.6		
Approach LOS	B			D			A			B		
Queue Length 50th (ft)	14	0		140	0		84	1		293		
Queue Length 95th (ft)	35	8		#264	0		119	5		387		
Internal Link Dist (ft)	1603			699			2501			1243		
Turn Bay Length (ft)		25			25					100		
Base Capacity (vph)	661	593		490	621		2146	472		2216		
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.06	0.04		0.64	0.00		0.30	0.01		0.68		

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 71.2

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 18.2

Intersection Capacity Utilization 76.8%

Intersection LOS: B

ICU Level of Service D

Lanes, Volumes, Timings
6: Millersport Highway & Smith Road

4300 Millersport Highway
2025 Background AM

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 6: Millersport Highway & Smith Road



Lanes, Volumes, Timings
7: New Road & Smith Road

4300 Millersport Highway
2025 Background AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↔			↔			↔		
Traffic Volume (vph)	0	70	7	10	189	9	115	42	13	23	110	1
Future Volume (vph)	0	70	7	10	189	9	115	42	13	23	110	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.987			0.994			0.990			0.999		
Fit Protected				0.998			0.967			0.991		
Satd. Flow (prot)	0	1875	0	0	1868	0	0	1754	0	0	1866	0
Fit Permitted				0.998			0.967			0.991		
Satd. Flow (perm)	0	1875	0	0	1868	0	0	1754	0	0	1866	0
Link Speed (mph)	35			35			40			40		
Link Distance (ft)	779			931			1347			1060		
Travel Time (s)	15.2			18.1			23.0			18.1		
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	2%	5%	15%	0%	1%	0%
Adj. Flow (vph)	0	88	9	13	236	11	144	53	16	29	138	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	97	0	0	260	0	0	213	0	0	168	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	Right	Left	Left	Right	Right
Median Width(ft)	0											
Link Offset(ft)	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		9		15		9		15		9	
Sign Control	Stop			Stop			Stop			Stop		

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 40.4% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis
7: New Road & Smith Road

4300 Millersport Highway
2025 Background AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↔			↔			↔		
Sign Control	Stop			Stop			Stop			Stop		
Traffic Volume (vph)	0	70	7	10	189	9	115	42	13	23	110	1
Future Volume (vph)	0	70	7	10	189	9	115	42	13	23	110	1
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	0	88	9	12	236	11	144	52	16	29	138	1
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	97	259	212	168								
Volume Left (vph)	0	12	144	29								
Volume Right (vph)	9	11	16	1								
Hadj (s)	-0.06	0.00	0.15	0.04								
Departure Headway (s)	5.3	5.1	5.3	5.2								
Degree Utilization, x	0.14	0.37	0.31	0.24								
Capacity (veh/h)	613	662	639	634								
Control Delay (s)	9.2	11.0	10.6	9.9								
Approach Delay (s)	9.2	11.0	10.6	9.9								
Approach LOS	A	B	B	A								
Intersection Summary												
Delay				10.4								
Level of Service				B								
Intersection Capacity Utilization				40.4%		ICU Level of Service		A				
Analysis Period (min)				15								

Lanes, Volumes, Timings
10: Millersport Highway & I-990 SB

4300 Millersport Highway
2025 Background AM

	↖	↗	↙	↑	↓	↘
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations			↖	↑↑	↑↑	
Traffic Volume (vph)	0	0	28	648	369	1424
Future Volume (vph)	0	0	28	648	369	1424
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	95			0
Storage Lanes	0	0	1			0
Taper Length (ft)	25		50			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Fit				0.881		
Fit Protected			0.950			
Satd. Flow (prot)	0	0	1805	3406	3075	0
Fit Permitted			0.950			
Satd. Flow (perm)	0	0	1805	3406	3075	0
Link Speed (mph)	65			55	55	
Link Distance (ft)	1332			352	2581	
Travel Time (s)	14.0			4.4	32.0	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	6%	5%	3%
Adj. Flow (vph)	0	0	30	697	397	1531
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	30	697	1928	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 92.2% ICU Level of Service F
Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis
10: Millersport Highway & I-990 SB

4300 Millersport Highway
2025 Background AM

	↖	↗	↙	↑	↓	↘
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations			↖	↑↑	↑↑	
Traffic Volume (veh/h)	0	0	28	648	369	1424
Future Volume (Veh/h)	0	0	28	648	369	1424
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	0	30	697	397	1531
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	TWLT	
Median storage (veh)					2	
Upstream signal (ft)				352		
pX, platoon unblocked	0.99					
vC, conflicting volume	1571	964	1928			
vC1, stage 1 conf vol	1162					
vC2, stage 2 conf vol	408					
vCu, unblocked vol	1562	964	1928			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	90			
cM capacity (veh/h)	244	259	310			

Direction	Lane #	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total		30	348	348	265	1663
Volume Left		30	0	0	0	0
Volume Right		0	0	0	0	1531
cSH		310	1700	1700	1700	1700
Volume to Capacity		0.10	0.20	0.20	0.16	0.98
Queue Length 95th (ft)		8	0	0	0	0
Control Delay (s)		17.9	0.0	0.0	0.0	0.0
Lane LOS		C				
Approach Delay (s)		0.7			0.0	
Approach LOS						

Intersection Summary

Average Delay 0.2
Intersection Capacity Utilization 92.2% ICU Level of Service F
Analysis Period (min) 15

Lanes, Volumes, Timings
12: Millersport Highway & I-990 NB

4300 Millersport Highway
2025 Background AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔		↔		↔		↑↑		↔		↑↑	
Traffic Volume (vph)	514	0	37	0	0	0	0	164	0	0	373	0
Future Volume (vph)	514	0	37	0	0	0	0	164	0	0	373	0
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	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	0.980											
Fit Protected	0.950	0.958										
Satd. Flow (prot)	1633	1612	0	0	0	0	0	3406	0	0	3438	0
Fit Permitted	0.950	0.958										
Satd. Flow (perm)	1633	1612	0	0	0	0	0	3406	0	0	3438	0
Right Turn on Red	Yes				Yes				Yes			
Satd. Flow (RTOR)	36											
Link Speed (mph)	40				30				55			
Link Distance (ft)	1256				239				439			
Travel Time (s)	21.4				5.4				5.4			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	0%	6%	0%	0%	0%	0%	6%	0%	0%	5%	0%
Adj. Flow (vph)	547	0	39	0	0	0	0	174	0	0	397	0
Shared Lane Traffic (%)	46%											
Lane Group Flow (vph)	295	291	0	0	0	0	0	174	0	0	397	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				12			
Link Offset(ft)	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	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15			9	15		9	15	9
Number of Detectors	2	2										
Detector Template												
Leading Detector (ft)	49								19			
Trailing Detector (ft)	-1								-1			
Detector 1 Position(ft)	-1								-1			
Detector 1 Size(ft)	20								20			
Detector 1 Type	CI+Ex	CI+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)	29	29										
Detector 2 Size(ft)	20	20										
Detector 2 Type	CI+Ex	CI+Ex										
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0										
Turn Type	Split	NA										
Protected Phases	3	3										
Permitted Phases												
Detector Phase	3	3										
Switch Phase												

Lanes, Volumes, Timings
12: Millersport Highway & I-990 NB

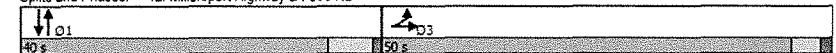
4300 Millersport Highway
2025 Background AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Minimum Initial (s)	6.0	6.0							10.0				
Minimum Split (s)	22.7	22.7							24.0				
Total Split (s)	50.0	50.0							40.0				
Total Split (%)	55.6%	55.6%							44.4%				
Maximum Green (s)	45.3	45.3							34.0				
Yellow Time (s)	3.2	3.2							5.0				
All-Red Time (s)	1.5	1.5							1.0				
Lost Time Adjust (s)	0.0	0.0							0.0				
Total Lost Time (s)	4.7	4.7							6.0				
Lead/Lag													
Lead-Lag Optimize?													
Vehicle Extension (s)	4.0	4.0							4.0				
Recall Mode	None	None							Min	Min			
Act Effect Green (s)	24.1	24.1							55.2				
Actuated g/C Ratio	0.27	0.27							0.61				
v/c Ratio	0.68	0.64							0.08				
Control Delay	36.5	30.7							8.6				
Queue Delay	0.0	0.0							0.0				
Total Delay	36.5	30.7							8.6				
LOS	D		C		A		A		A		A		
Approach Delay	33.6												
Approach LOS	C												
Queue Length 50th (ft)	157	134							19				
Queue Length 95th (ft)	213	190							42				
Internal Link Dist (ft)	1176						159		359		272		
Turn Bay Length (ft)													
Base Capacity (vph)	821	829							2089				
Starvation Cap Reductn	0	0							0				
Spillback Cap Reductn	0	0							0				
Storage Cap Reductn	0	0							0				
Reduced v/c Ratio	0.36	0.35							0.08				

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2, and 6., Start of Green
 Natural Cycle: 50
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.68
 Intersection Signal Delay: 21.4
 Intersection Capacity Utilization 92.2%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service F

Splits and Phases: 12: Millersport Highway & I-990 NB



Lanes, Volumes, Timings
3: Millersport Highway & New Road

4300 Millersport Highway
2025 Background AM

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↔			↔		↗	↖		↗	↖	
Traffic Volume (vph)	6	77	64	9	28	94	216	1222	3	41	656	8
Future Volume (vph)	6	77	64	9	28	94	216	1222	3	41	656	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0	0	0	100	0	100	0	100	0	0
Storage Lanes	0	0	0	0	0	1	0	1	0	1	0	0
Taper Length (ft)	25			25		50		50		50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95	0.95
Frt		0.941			0.903						0.998	
Flt Protected		0.998			0.997		0.950		0.950			
Satd. Flow (prot)	0	1769	0	0	1684	0	1787	3539	0	1805	3499	0
Flt Permitted		0.986			0.974		0.308		0.161			
Satd. Flow (perm)	0	1748	0	0	1645	0	579	3539	0	306	3499	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		46			98						2	
Link Speed (mph)		40			40		55		55		55	
Link Distance (ft)		1060			576		1323		1361		1361	
Travel Time (s)		18.1			9.8		16.4		16.9		16.9	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	2%	0%	4%	1%	2%	0%	0%	0%	3%	0%
Adj. Flow (vph)	6	80	67	9	29	98	225	1273	3	43	683	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	153	0	0	136	0	225	1276	0	43	691	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		12		12		12	
Link Offset(ft)		0			0		0		0		0	
Crosswalk Width(ft)		16			16		16		16		16	
Two way Left Turn Lane							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	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		2	3		2	3	
Detector Template	Left			Left								
Leading Detector (ft)	20	49		20	49		49	466		49	466	
Trailing Detector (ft)	0	-1		0	-1		-1	-1		-1	-1	
Detector 1 Position(ft)	0	-1		0	-1		-1	-1		-1	-1	
Detector 1 Size(ft)	20	20		20	20		20	20		20	20	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		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	
Detector 3 Position(ft)							460	460		460	460	
Detector 3 Size(ft)							6	6		6	6	

Lanes, Volumes, Timings
3: Millersport Highway & New Road

4300 Millersport Highway
2025 Background AM

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Detector 3 Type										CI+Ex		CI+Ex
Detector 3 Channel												
Detector 3 Extend (s)										0.0		0.0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		3			3		1	6		5	2	
Permitted Phases	3			3			6			2		
Detector Phase	3	3		3	3		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	25.0		6.0	25.0	
Minimum Split (s)	48.9	48.9		48.9	48.9		11.9	31.0		11.9	31.0	
Total Split (s)	30.0	30.0		30.0	30.0		15.0	40.0		15.0	40.0	
Total Split (%)	35.3%	35.3%		35.3%	35.3%		17.6%	47.1%		17.6%	47.1%	
Maximum Green (s)	24.1	24.1		24.1	24.1		9.1	34.0		9.1	34.0	
Yellow Time (s)	3.9	3.9		3.9	3.9		3.9	5.0		3.9	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	1.0		2.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.9			5.9		5.9	6.0		5.9	6.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		4.0	4.0		4.0	4.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	36.0	36.0		36.0	36.0		15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		9.7			9.7		42.0	36.9		37.0	29.7	
Actualized g/C Ratio		0.15			0.15		0.64	0.56		0.56	0.45	
v/c Ratio		0.52			0.42		0.43	0.65		0.13	0.44	
Control Delay		25.9			14.5		7.3	14.3		5.5	13.8	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		25.9			14.5		7.3	14.3		5.5	13.8	
LOS		C			B		A	B		A	B	
Approach Delay		25.9			14.5		13.2	13.3				
Approach LOS		C			B		B	B				
Queue Length 50th (ft)		42			14		28	209		5	96	
Queue Length 95th (ft)		96			60		62	330		16	153	
Internal Link Dist (ft)		980			496		1243	1281				
Turn Bay Length (ft)							100	100				
Base Capacity (vph)		674			669		536	1975		389	1823	
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		0.23			0.20		0.42	0.65		0.11	0.38	

Intersection Summary

Area Type: Other
 Cycle Length: 85
 Actuated Cycle Length: 66.1
 Natural Cycle: 95
 Control Type: Actuated-Uncoordinated

Lanes, Volumes, Timings
3: Millersport Highway & New Road

4300 Millersport Highway
2025 Background AM

Maximum v/c Ratio: 0.65
Intersection Signal Delay: 14.1
Intersection Capacity Utilization 64.8%
Analysis Period (min) 15
Intersection LOS: B
ICU Level of Service C

Splits and Phases: 3: Millersport Highway & New Road

15 s	40 s	30 s
15 s	40 s	

Lanes, Volumes, Timings
6: Millersport Highway & Smith Road

4300 Millersport Highway
2025 Background AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		←	→		←	→	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	3	30	14	106	35	4	20	1391	210	6	760	1
Future Volume (vph)	3	30	14	106	35	4	20	1391	210	6	760	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	25	0	0	25	0	100	0	100	0	100	0
Storage Lanes	0	1	0	0	1	0	1	0	1	0	1	0
Taper Length (ft)	25			25			55			40		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.850			0.850		0.980					
Flt Protected		0.996		0.964		0.950		0.950		0.950		
Satd. Flow (prot)	0	1842	1615	0	1818	1615	1719	3477	0	1805	3505	0
Flt Permitted		0.972		0.757		0.352		0.099		0.099		
Satd. Flow (perm)	0	1798	1615	0	1428	1615	637	3477	0	188	3505	0
Right Turn on Red			Yes			Yes		Yes	Yes			Yes
Satd. Flow (RTOR)			41			41		33				
Link Speed (mph)		35			35		55					55
Link Distance (ft)		1683			779		2581					1323
Travel Time (s)		32.8			15.2		32.0					16.4
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	3%	0%	1%	0%	0%	5%	2%	0%	0%	3%	0%
Adj. Flow (vph)	3	31	14	109	36	4	21	1434	216	6	784	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	34	14	0	145	4	21	1650	0	6	785	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		12			12		12
Link Offset(ft)		0			0		0			0		0
Crosswalk Width(ft)		16			16		16			16		16
Two way Left Turn Lane							Yes					Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3	0	1	3	0	2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	79	0	20	79	0	49	19		49	19	
Trailing Detector (ft)	0	-1	0	0	-1	0	-1	-1		-1	-1	
Detector 1 Position(ft)	0	-1	-1	0	-1	-1	-1	-1		-1	-1	
Detector 1 Size(ft)	20	20	20	20	20	20	20	20		20	20	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	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	
Detector 1 Delay (s)	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		
Detector 2 Size(ft)		20			20		20			20		
Detector 2 Type		CI+Ex			CI+Ex		CI+Ex			CI+Ex		
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0		0.0			0.0		
Detector 3 Position(ft)		59			59							
Detector 3 Size(ft)		20			20							

Lanes, Volumes, Timings
6: Millersport Highway & Smith Road

4300 Millersport Highway
2025 Background AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Type	Ch+Ex			Ch+Ex								
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0							
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4		8		8	2			6		
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	20.0	20.0		20.0	20.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	26.0	26.0		26.0	26.0	
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	50.0	50.0		50.0	50.0	
Total Split (%)	37.5%	37.5%	37.5%	37.5%	37.5%	37.5%	62.5%	62.5%		62.5%	62.5%	
Maximum Green (s)	25.4	25.4	25.4	25.4	25.4	25.4	44.0	44.0		44.0	44.0	
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	5.0	5.0		5.0	5.0	
All-Red Time (s)	1.4	1.4	1.4	1.4	1.4	1.4	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	
Total Lost Time (s)		4.6	4.6		4.6	4.6	6.0	6.0		6.0	6.0	
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	
Recall Mode	None	None	None	None	None	None	Min	Min		Min	Min	
Act Effct Green (s)		13.5	13.5		13.5	13.5	42.2	42.2		42.2	42.2	
Actuated g/C Ratio		0.22	0.22		0.22	0.22	0.70	0.70		0.70	0.70	
v/c Ratio		0.09	0.04		0.46	0.01	0.05	0.68		0.05	0.32	
Control Delay		21.8	1.8		28.3	0.0	5.8	9.9		6.7	6.1	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		21.8	1.8		28.3	0.0	5.8	9.9		6.7	6.1	
LOS		C	A		C	A	A	A		A	A	
Approach Delay		16.0			27.5			9.8			6.1	
Approach LOS		B			C			A			A	
Queue Length 50th (ft)		11	0		51	0	3	195		1	64	
Queue Length 95th (ft)		32	3		105	0	12	348		6	117	
Internal Link Dist (ft)		1603			699			2501			1243	
Turn Bay Length (ft)			25			25	100			100		
Base Capacity (vph)		787	730		625	730	474	2596		139	2608	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.04	0.02		0.23	0.01	0.04	0.64		0.04	0.30	

Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 60.6
 Natural Cycle: 60
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.68
 Intersection Signal Delay: 9.8
 Intersection Capacity Utilization 74.5%

Intersection LOS: A
 ICU Level of Service D

Lanes, Volumes, Timings
6: Millersport Highway & Smith Road

4300 Millersport Highway
2025 Background AM

Analysis Period (min) 15

Splits and Phases: 6: Millersport Highway & Smith Road

↑ Ø2	→ Ø4
50 s	30 s
↓ Ø6	← Ø8
50 s	30 s

Lanes, Volumes, Timings
7: New Road & Smith Road

4300 Millersport Highway
2025 Background AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↔			↔			↔		
Traffic Volume (vph)	4	160	86	15	108	33	40	116	16	20	55	1
Future Volume (vph)	4	160	86	15	108	33	40	116	16	20	55	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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	0.954			0.972			0.987			0.998		
Fit Protected	0.999			0.995			0.988			0.987		
Satd. Flow (prot)	0	1799	0	0	1813	0	0	1840	0	0	1848	0
Fit Permitted	0.999			0.995			0.988			0.987		
Satd. Flow (perm)	0	1799	0	0	1813	0	0	1840	0	0	1848	0
Link Speed (mph)	35			35			40			40		
Link Distance (ft)	779			931			1347			1060		
Travel Time (s)	15.2			18.1			23.0			18.1		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	0%	7%	1%	0%	0%	1%	0%	5%	0%	0%
Adj. Flow (vph)	4	170	91	16	115	35	43	123	17	21	59	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	265	0	0	166	0	0	183	0	0	81	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	Right	Left	Left	Left	Right
Median Width(ft)	0											
Link Offset(ft)	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			9			15			9		
Sign Control	Stop			Stop			Stop			Stop		

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 35.2% ICU Level of Service A
 Analysis Period (min): 15

HCM Unsignalized Intersection Capacity Analysis
7: New Road & Smith Road

4300 Millersport Highway
2025 Background AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↔			↔			↔		
Sign Control	Stop			Stop			Stop			Stop		
Traffic Volume (vph)	4	160	86	15	108	33	40	116	16	20	55	1
Future Volume (vph)	4	160	86	15	108	33	40	116	16	20	55	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	4	170	91	16	115	35	43	123	17	21	59	1
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	265	166	183	81								
Volume Left (vph)	4	16	43	21								
Volume Right (vph)	91	35	17	1								
Hadj (s)	-0.19	-0.08	0.00	0.07								
Departure Headway (s)	4.6	4.9	5.1	5.3								
Degree Utilization, x	0.34	0.22	0.26	0.12								
Capacity (veh/h)	729	686	655	609								
Control Delay (s)	10.0	9.3	9.8	9.0								
Approach Delay (s)	10.0	9.3	9.8	9.0								
Approach LOS	B	A	A	A								
Intersection Summary												
Delay				9.7								
Level of Service				A								
Intersection Capacity Utilization				35.2%		ICU Level of Service		A				
Analysis Period (min)	15											

Lanes, Volumes, Timings
10: Millersport Highway & I-990 SB

4300 Millersport Highway
2025 Background AM

	↖	↗	↙	↑	↓	↘
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations			↖	↗	↖	↗
Traffic Volume (vph)	0	0	29	1602	227	666
Future Volume (vph)	0	0	29	1602	227	666
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	95			0
Storage Lanes	0	0	1			0
Taper Length (ft)	25		50			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt				0.888		
Flt Protected			0.950			
Satd. Flow (prot)	0	0	1805	3574	3105	0
Flt Permitted			0.950			
Satd. Flow (perm)	0	0	1805	3574	3105	0
Link Speed (mph)	65			55	55	
Link Distance (ft)	1332			352	2581	
Travel Time (s)	14.0			4.4	32.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	1%	1%	4%
Adj. Flow (vph)	0	0	31	1686	239	701
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	31	1686	940	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane					Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 88.1%
Analysis Period (min) 15

ICU Level of Service E

HCM Unsignalized Intersection Capacity Analysis
10: Millersport Highway & I-990 SB

4300 Millersport Highway
2025 Background AM

	↖	↗	↙	↑	↓	↘
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations			↖	↗	↖	↗
Traffic Volume (veh/h)	0	0	29	1602	227	666
Future Volume (Veh/h)	0	0	29	1602	227	666
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	31	1686	239	701
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	TWLTL	
Median storage (veh)					2	
Upstream signal (ft)				352		
pX, platoon unblocked	0.92					
vC, conflicting volume	1494	470	940			
vC1, stage 1 conf vol	590					
vC2, stage 2 conf vol	905					
vCu, unblocked vol	1361	470	940			
IC, single (s)	6.8	6.9	4.1			
IC, 2 stage (s)	5.8					
IF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	96			
cM capacity (veh/h)	329	545	737			

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	31	843	843	159	781
Volume Left	31	0	0	0	0
Volume Right	0	0	0	0	701
cSH	737	1700	1700	1700	1700
Volume to Capacity	0.04	0.50	0.50	0.09	0.46
Queue Length 95th (ft)	3	0	0	0	0
Control Delay (s)	10.1	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	0.2			0.0	
Approach LOS					

Intersection Summary

Average Delay 0.1
Intersection Capacity Utilization 88.1%
Analysis Period (min) 15

ICU Level of Service E

Lanes, Volumes, Timings
12: Millersport Highway & I-990 NB

4300 Millersport Highway
2025 Background AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔		↔		↔		↑↑		↔		↔	
Traffic Volume (vph)	1274	0	43	0	0	0	0	413	0	0	221	0
Future Volume (vph)	1274	0	43	0	0	0	0	413	0	0	221	0
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	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	0.990											
Flt Protected	0.950 0.955											
Satd. Flow (prot)	1681	1675	0	0	0	0	0	3574	0	0	3574	0
Flt Permitted	0.950 0.955											
Satd. Flow (perm)	1681	1675	0	0	0	0	0	3574	0	0	3574	0
Right Turn on Red			Yes				Yes				Yes	
Satd. Flow (RTOR)	36											
Link Speed (mph)	40				30		55				55	
Link Distance (ft)	1256				239		439				352	
Travel Time (s)	21.4				5.4		5.4				4.4	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%
Adj. Flow (vph)	1327	0	45	0	0	0	0	430	0	0	230	0
Shared Lane Traffic (%)	48%											
Lane Group Flow (vph)	690	682	0	0	0	0	0	430	0	0	230	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											
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	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				1	
Detector Template												
Leading Detector (ft)	49		49				19				19	
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	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	
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	CI+Ex	CI+Ex										
Detector 2 Channel												
Detector 2 Extend (s)	0.0		0.0									
Turn Type	Split		NA				NA				NA	
Protected Phases	3		3				1				1	
Permitted Phases												
Detector Phase	3		3				1				1	
Switch Phase												

Lanes, Volumes, Timings
12: Millersport Highway & I-990 NB

4300 Millersport Highway
2025 Background AM

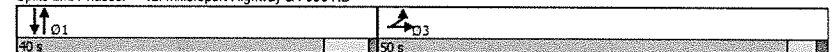
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	6.0		6.0				10.0				10.0	
Minimum Split (s)	22.7		22.7				24.0				24.0	
Total Split (s)	50.0		50.0				40.0				40.0	
Total Split (%)	55.6%		55.6%				44.4%				44.4%	
Maximum Green (s)	45.3		45.3				34.0				34.0	
Yellow Time (s)	3.2		3.2				5.0				5.0	
All-Red Time (s)	1.5		1.5				1.0				1.0	
Lost Time Adjust (s)	0.0		0.0				0.0				0.0	
Total Lost Time (s)	4.7		4.7				6.0				6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0		4.0				4.0				4.0	
Recall Mode	None		None				Min				Min	
Act Effect Green (s)	45.7		45.7				33.6				33.6	
Actuated g/C Ratio	0.51		0.51				0.37				0.37	
v/c Ratio	0.81		0.79				0.32				0.17	
Control Delay	26.1		23.5				22.7				21.3	
Queue Delay	0.0		0.0				0.0				0.0	
Total Delay	26.1		23.5				22.7				21.3	
LOS	C		C				C				C	
Approach Delay	24.8						22.7				21.3	
Approach LOS	C						C				C	
Queue Length 50th (ft)	322		297				91				45	
Queue Length 95th (ft)	363		338				154				86	
Internal Link Dist (ft)	1176		159				359				272	
Turn Bay Length (ft)												
Base Capacity (vph)	898		911				1444				1444	
Starvation Cap Reductn	0		0				0				0	
Spillback Cap Reductn	0		0				0				0	
Storage Cap Reductn	0		0				0				0	
Reduced v/c Ratio	0.77		0.75				0.30				0.16	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2: and 6., Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 24.0
 Intersection Capacity Utilization 88.1%
 Analysis Period (min) 15

Intersection LOS: C
 ICU Level of Service E

Splits and Phases: 12: Millersport Highway & I-990 NB



A6

Level of Service Calculations: Full Development Conditions

Lanes, Volumes, Timings
1: Millersport Highway & New Road

4300 Millersport Highway
2025 Full AM

	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Group												
Lane Configurations	↔			↔			↕	↕↕		↕	↕↕	
Traffic Volume (vph)	3	23	32	5	72	190	65	528	1	62	1257	3
Future Volume (vph)	3	23	32	5	72	190	65	528	1	62	1257	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0	0	0	100	0	100	0	100	0	0
Storage Lanes	0	0	0	0	0	1	0	1	0	1	0	0
Taper Length (ft)	25			25			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.925			0.904							
Flt Protected		0.998			0.999		0.950			0.950		
Satd. Flow (prot)	0	1667	0	0	1704	0	1752	3374	0	1770	3471	0
Flt Permitted		0.962			0.995		0.107			0.436		
Satd. Flow (perm)	0	1607	0	0	1697	0	197	3374	0	812	3471	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		35			147							
Link Speed (mph)		40			40			55			55	
Link Distance (ft)		1060			576			732			1361	
Travel Time (s)		18.1			9.8			9.1			16.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	9%	3%	0%	0%	1%	3%	7%	0%	2%	4%	0%
Adj. Flow (vph)	3	25	35	5	78	207	71	574	1	67	1366	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	63	0	0	290	0	71	575	0	67	1369	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	Right	Left	Left	Right	Right
Median Width (ft)		0			0			12			12	
Link Offset (ft)		0			0			0			0	
Crosswalk Width (ft)		16			16			16			16	
Two way Left Turn Lane							Yes			Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		2	3		2	3	
Detector Template	Left			Left								
Leading Detector (ft)	20	49		20	49		49	466		49	466	
Trailing Detector (ft)	0	-1		0	-1		-1	-1		-1	-1	
Detector 1 Position (ft)	0	-1		0	-1		-1	-1		-1	-1	
Detector 1 Size (ft)	20	20		20	20		20	20		20	20	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position (ft)		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	
Detector 3 Position (ft)								460			460	
Detector 3 Size (ft)								6			6	

Lanes, Volumes, Timings
1: Millersport Highway & New Road

4300 Millersport Highway
2025 Full AM

	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Group												
Detector 3 Type								CI+Ex				CI+Ex
Detector 3 Channel												
Detector 3 Extend (s)								0.0				0.0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		3			3		1	6		5	2	
Permitted Phases	3			3			6			2		
Detector Phase	3	3		3	3		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	25.0		6.0	25.0	
Minimum Split (s)	48.9	48.9		48.9	48.9		11.9	31.0		11.9	31.0	
Total Split (s)	30.0	30.0		30.0	30.0		15.0	40.0		15.0	40.0	
Total Split (%)	35.3%	35.3%		35.3%	35.3%		17.6%	47.1%		17.6%	47.1%	
Maximum Green (s)	24.1	24.1		24.1	24.1		9.1	34.0		9.1	34.0	
Yellow Time (s)	3.9	3.9		3.9	3.9		3.9	5.0		3.9	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	1.0		2.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.9			5.9		5.9	6.0		5.9	6.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		4.0	4.0		4.0	4.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0			7.0		
Flash Dont Walk (s)	36.0	36.0		36.0	36.0		15.0			15.0		
Pedestrian Calls (#/hr)	0	0		0	0		0			0		
Act Effct Green (s)		11.9			11.9		42.1	37.4		40.8	34.8	
Actuated g/C Ratio		0.17			0.17		0.61	0.54		0.59	0.50	
v/c Ratio		0.21			0.70		0.24	0.32		0.11	0.79	
Control Delay		15.5			23.6		7.8	12.0		6.0	21.3	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		15.5			23.6		7.8	12.0		6.0	21.3	
LOS		B			C		A	B		A	C	
Approach Delay		15.5			23.6		11.5			20.6		
Approach LOS		B			C		B			C		
Queue Length 50th (ft)		11			58		9	78		9	257	
Queue Length 95th (ft)		41			136		29	144		27	#486	
Internal Link Dist (ft)		980			496		652			1281		
Turn Bay Length (ft)							100			100		
Base Capacity (vph)		594			698		329	1823		618	1741	
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		0.11			0.42		0.22	0.32		0.11	0.79	

Intersection Summary
Area Type: Other
Cycle Length: 85
Actuated Cycle Length: 69.3
Natural Cycle: 105
Control Type: Actuated-Uncoordinated

Lanes, Volumes, Timings
1: Millersport Highway & New Road

4300 Millersport Highway
2025 Full AM

Maximum v/c Ratio: 0.79
 Intersection Signal Delay: 18.4
 Intersection Capacity Utilization 71.9%
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Millersport Highway & New Road

15 s	40 s	30 s
15 s	40 s	

Lanes, Volumes, Timings
2: New Road & Smith Road

4300 Millersport Highway
2025 Full AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	0	73	7	10	192	9	115	42	13	23	110	1
Future Volume (vph)	0	73	7	10	192	9	115	42	13	23	110	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988			0.994			0.990			0.999	
Flt Protected					0.998			0.967			0.991	
Satd. Flow (prot)	0	1877	0	0	1868	0	0	1754	0	0	1866	0
Flt Permitted					0.998			0.967			0.991	
Satd. Flow (perm)	0	1877	0	0	1868	0	0	1754	0	0	1866	0
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		779			931			1347			1060	
Travel Time (s)		15.2			18.1			23.0			18.1	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	2%	5%	15%	0%	1%	0%
Adj. Flow (vph)	0	91	9	13	240	11	144	53	16	29	138	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	100	0	0	264	0	0	213	0	0	168	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	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		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 40.6%
 Analysis Period (min) 15
 ICU Level of Service A

HCM Unsignalized Intersection Capacity Analysis
2: New Road & Smith Road

4300 Millersport Highway
2025 Full AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↔			↔			↔		
Sign Control	Stop			Stop			Stop			Stop		
Traffic Volume (vph)	0	73	7	10	192	9	115	42	13	23	110	1
Future Volume (vph)	0	73	7	10	192	9	115	42	13	23	110	1
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	0	91	9	12	240	11	144	52	16	29	138	1
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	100	263	212	168								
Volume Left (vph)	0	12	144	29								
Volume Right (vph)	9	11	16	1								
Hadj (s)	-0.05	0.00	0.15	0.04								
Departure Headway (s)	5.3	5.1	5.3	5.3								
Degree Utilization, x	0.15	0.37	0.31	0.25								
Capacity (veh/h)	611	661	635	630								
Control Delay (s)	9.2	11.1	10.7	10.0								
Approach Delay (s)	9.2	11.1	10.7	10.0								
Approach LOS	A	B	B	A								
Intersection Summary												
Delay	10.5											
Level of Service	B											
Intersection Capacity Utilization	40.6%			ICU Level of Service								
Analysis Period (min)	15											

Lanes, Volumes, Timings
3: Millersport Highway & Smith Road

4300 Millersport Highway
2025 Full AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↔			↔			↔		
Traffic Volume (vph)	12	35	39	280	18	3	6	572	52	5	1432	4
Future Volume (vph)	12	35	39	280	18	3	6	572	52	5	1432	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	25	0	25	100	0	100	0	100	0	100	0
Storage Lanes	0	1	0	1	1	0	1	0	1	0	1	0
Taper Length (ft)	25	25	25	55	40	40	40	40	40	40	40	40
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt	0.850			0.850			0.988			0.988		
Flt Protected	0.987			0.955			0.950			0.950		
Satd. Flow (prot)	0	1761	1538	0	1791	1615	1805	3352	0	1805	3469	0
Flt Permitted	0.901			0.702			0.103			0.381		
Satd. Flow (perm)	0	1607	1538	0	1317	1615	196	3352	0	724	3469	0
Right Turn on Red	Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)	41			41			19			19		
Link Speed (mph)	35			35			55			55		
Link Distance (ft)	938			779			2581			591		
Travel Time (s)	18.3			15.2			32.0			7.3		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	25%	0%	5%	1%	6%	0%	0%	7%	0%	0%	4%	25%
Adj. Flow (vph)	13	37	41	298	19	3	6	609	55	5	1523	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	50	41	0	317	3	6	664	0	5	1527	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											
Link Offset (ft)	0											
Crosswalk Width (ft)	16											
Two way Left Turn Lane	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	1.00
Turning Speed (mph)	15	9	15	9	15	9	15	9	15	9	15	9
Number of Detectors	1	3	0	1	3	0	2	1	2	1	2	1
Detector Template	Left			Left			Left			Left		
Leading Detector (ft)	20	79	0	20	79	0	49	19	49	19	49	19
Trailing Detector (ft)	0	-1	0	0	-1	0	-1	-1	-1	-1	-1	-1
Detector 1 Position (ft)	0	-1	-1	0	-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	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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											
Detector 2 Size (ft)	20											
Detector 2 Type	CI+Ex			CI+Ex			CI+Ex			CI+Ex		
Detector 2 Channel												
Detector 2 Extend (s)	0.0											
Detector 3 Position (ft)	59											
Detector 3 Size (ft)	20											

Lanes, Volumes, Timings
3: Millersport Highway & Smith Road

4300 Millersport Highway
2025 Full AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Type	CH+X			CH+X								
Detector 3 Channel												
Detector 3 Extend (s)	0.0			0.0								
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	4		4		8		8		2		6	
Permitted Phases	4	4	4	8	8	8	2	2		6	6	
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	20.0	20.0		20.0	20.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	26.0	26.0		26.0	26.0	
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	50.0	50.0		50.0	50.0	
Total Split (%)	37.5%	37.5%	37.5%	37.5%	37.5%	37.5%	62.5%	62.5%		62.5%	62.5%	
Maximum Green (s)	25.4	25.4	25.4	25.4	25.4	25.4	44.0	44.0		44.0	44.0	
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	5.0	5.0		5.0	5.0	
All-Red Time (s)	1.4	1.4	1.4	1.4	1.4	1.4	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	
Total Lost Time (s)	4.6		4.6		4.6		6.0		6.0		6.0	
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	
Recall Mode	None	None	None	None	None	None	Min	Min		Min	Min	
Act Effct Green (s)	21.8	21.8		21.8	21.8	38.9	38.9			38.9	38.9	
Actuated g/C Ratio	0.30	0.30		0.30	0.30	0.54	0.54			0.54	0.54	
v/c Ratio	0.10	0.08		0.79	0.01	0.06	0.36			0.01	0.81	
Control Delay	19.8	7.2		40.1	0.0	10.0	9.9			8.4	18.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0			0.0	0.0	
Total Delay	19.8	7.2		40.1	0.0	10.0	9.9			8.4	18.0	
LOS	B	A		D	A	A	A			A	B	
Approach Delay	14.2			39.7			9.9			18.0		
Approach LOS	B			D			A			B		
Queue Length 50th (ft)	17	0		141	0	1	87			1	299	
Queue Length 95th (ft)	42	21		#267	0	7	122			6	392	
Internal Link Dist (ft)	858			699			2501			511		
Turn Bay Length (ft)	25		25		100		100		100		100	
Base Capacity (vph)	588	589		482	617	124	2133			459	2199	
Starvation Cap Reductn	0	0		0	0	0	0			0	0	
Spillback Cap Reductn	0	0		0	0	0	0			0	0	
Storage Cap Reductn	0	0		0	0	0	0			0	0	
Reduced v/c Ratio	0.09	0.07		0.66	0.00	0.05	0.31			0.01	0.69	

Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 71.6
 Natural Cycle: 60
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 18.4
 Intersection Capacity Utilization 77.2%

Intersection LOS: B
 ICU Level of Service D

Lanes, Volumes, Timings
3: Millersport Highway & Smith Road

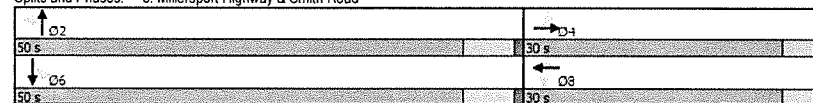
4300 Millersport Highway
2025 Full AM

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 3: Millersport Highway & Smith Road



Lanes, Volumes, Timings
4: Millersport Highway & Proposed Driveway

4300 Millersport Highway
2025 Full AM

	↖	↗	↙	↑	↓	↘
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↙	↑↑	↑↓	
Traffic Volume (vph)	13	13	14	574	1428	22
Future Volume (vph)	13	13	14	574	1428	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.850			0.998	
Fit Protected	0.950		0.950			
Satd. Flow (prot)	1805	1615	1805	3374	3466	0
Fit Permitted	0.950		0.950			
Satd. Flow (perm)	1805	1615	1805	3374	3466	0
Link Speed (mph)	30			55	55	
Link Distance (ft)	658			591	732	
Travel Time (s)	15.0			7.3	9.1	
Peak Hour Factor	0.80	0.80	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	7%	4%	0%
Adj. Flow (vph)	16	16	15	611	1519	23
Shared Lane Traffic (%)						
Lane Group Flow (vph)	16	16	15	611	1542	0
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				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	50.2%
ICU Level of Service A	
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis
4: Millersport Highway & Proposed Driveway

4300 Millersport Highway
2025 Full AM

	↖	↗	↙	↑	↓	↘
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↙	↑↑	↑↓	
Traffic Volume (veh/h)	13	13	14	574	1428	22
Future Volume (Veh/h)	13	13	14	574	1428	22
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	16	16	15	611	1519	23
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage (veh)				2	2	
Upstream signal (ft)				591	732	
pX, platoon unblocked	0.71	0.67	0.67			
vC, conflicting volume	1866	771	1542			
vC1, stage 1 conf vol	1530					
vC2, stage 2 conf vol	336					
vCu, unblocked vol	824	0	810			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	94	98	97			
cM capacity (veh/h)	267	726	549			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	16	16	15	306	306	1013	529
Volume Left	16	0	15	0	0	0	0
Volume Right	0	16	0	0	0	0	23
cSH	267	726	549	1700	1700	1700	1700
Volume to Capacity	0.06	0.02	0.03	0.18	0.18	0.60	0.31
Queue Length 95th (ft)	5	2	2	0	0	0	0
Control Delay (s)	19.3	10.1	11.7	0.0	0.0	0.0	0.0
Lane LOS	C	B	B				
Approach Delay (s)	14.7		0.3			0.0	
Approach LOS	B						

Intersection Summary	
Average Delay	0.3
Intersection Capacity Utilization	50.2%
ICU Level of Service	A
Analysis Period (min)	15

Lanes, Volumes, Timings
5: Smith Road & Proposed Driveway

4300 Millersport Highway
2025 Full AM

	↖	→	←	↗	↘	↙
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (vph)	1	58	21	7	29	1
Future Volume (vph)	1	58	21	7	29	1
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		0.965		0.996		
Fit Protected		0.999		0.954		
Satd. Flow (prot)	0	1826	1781	0	1805	0
Fit Permitted		0.999		0.954		
Satd. Flow (perm)	0	1826	1781	0	1805	0
Link Speed (mph)		35	35		30	
Link Distance (ft)		745	938		727	
Travel Time (s)		14.5	18.3		16.5	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	4%	4%	0%	0%	0%
Adj. Flow (vph)	1	73	26	9	36	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	74	35	0	37	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	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)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 13.9%
Analysis Period (min) 15
ICU Level of Service A

HCM Unsignalized Intersection Capacity Analysis
5: Smith Road & Proposed Driveway

4300 Millersport Highway
2025 Full AM

	↖	→	←	↗	↘	↙
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (veh/h)	1	58	21	7	29	1
Future Volume (Veh/h)	1	58	21	7	29	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	1	72	26	9	36	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)			938			
pX, platoon unblocked						
vC, conflicting volume	35				104	30
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	35				104	30
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				96	100
cM capacity (veh/h)	1589				898	1050

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	73	35	37
Volume Left	1	0	36
Volume Right	0	9	1
cSH	1589	1700	901
Volume to Capacity	0.00	0.02	0.04
Queue Length 95th (ft)	0	0	3
Control Delay (s)	0.1	0.0	9.2
Lane LOS	A		A
Approach Delay (s)	0.1	0.0	9.2
Approach LOS			A

Intersection Summary

Average Delay 2.4
Intersection Capacity Utilization 13.9%
Analysis Period (min) 15
ICU Level of Service A

Lanes, Volumes, Timings
6: Millersport Highway & I-990 SB

4300 Millersport Highway
2025 Full AM

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations			↖	↖	↖	↖
Traffic Volume (vph)	0	0	28	667	376	1448
Future Volume (vph)	0	0	28	667	376	1448
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	95			0
Storage Lanes	0	0	1			0
Taper Length (ft)	25		50			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt				0.881		
Flt Protected			0.950			
Satd. Flow (prot)	0	0	1805	3406	3075	0
Flt Permitted			0.950			
Satd. Flow (perm)	0	0	1805	3406	3075	0
Link Speed (mph)	65			55	55	
Link Distance (ft)	1332			352	2581	
Travel Time (s)	14.0			4.4	32.0	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	6%	5%	3%
Adj. Flow (vph)	0	0	30	717	404	1557
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	30	717	1961	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane					Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 93.6%
ICU Level of Service F
Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis
6: Millersport Highway & I-990 SB

4300 Millersport Highway
2025 Full AM

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations			↖	↖	↖	↖
Traffic Volume (veh/h)	0	0	28	667	376	1448
Future Volume (Veh/h)	0	0	28	667	376	1448
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	0	30	717	404	1557
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	TWLT	
Median storage (veh)					2	
Upstream signal (ft)				352		
pX, platoon unblocked	0.99					
vC, conflicting volume	1601	980	1961			
vC1, stage 1 conf vol	1182					
vC2, stage 2 conf vol	418					
vCu, unblocked vol	1590	980	1961			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	90			
cM capacity (veh/h)	238	253	301			

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	30	358	358	269	1692
Volume Left	30	0	0	0	0
Volume Right	0	0	0	0	1557
cSH	301	1700	1700	1700	1700
Volume to Capacity	0.10	0.21	0.21	0.16	1.00
Queue Length 95th (ft)	8	0	0	0	0
Control Delay (s)	18.3	0.0	0.0	0.0	0.0
Lane LOS	C				
Approach Delay (s)	0.7			0.0	
Approach LOS					

Intersection Summary

Average Delay 0.2
Intersection Capacity Utilization 93.6%
ICU Level of Service F
Analysis Period (min) 15

Lanes, Volumes, Timings
7: Millersport Highway & I-990 NB

4300 Millersport Highway
2025 Full AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↔		↖	↔		↖	↔		↖	↔	
Traffic Volume (vph)	528	0	37	0	0	0	0	169	0	0	380	0
Future Volume (vph)	528	0	37	0	0	0	0	169	0	0	380	0
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	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Fr		0.980										
Flt Protected	0.950	0.958										
Satd. Flow (prot)	1633	1612	0	0	0	0	0	3406	0	0	3438	0
Flt Permitted	0.950	0.958										
Satd. Flow (perm)	1633	1612	0	0	0	0	0	3406	0	0	3438	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36										
Link Speed (mph)		40			30			55			55	
Link Distance (ft)		1256			239			439			352	
Travel Time (s)		21.4			5.4			5.4			4.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	0%	6%	0%	0%	0%	0%	6%	0%	0%	5%	0%
Adj. Flow (vph)	562	0	39	0	0	0	0	180	0	0	404	0
Shared Lane Traffic (%)	46%											
Lane Group Flow (vph)	303	298	0	0	0	0	0	180	0	0	404	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			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		9	15		9	15		9	15		9
Number of Detectors	2	2						1			1	
Detector Template												
Leading Detector (ft)	49	49						19			19	
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	CI+Ex	CI+Ex						CI+Ex			CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0			0.0	
Detector 1 Queue (s)	0.0	0.0						0.0			0.0	
Detector 1 Delay (s)	0.0	0.0						0.0			0.0	
Detector 2 Position(ft)	29	29										
Detector 2 Size(ft)	20	20										
Detector 2 Type	CI+Ex	CI+Ex										
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0										
Turn Type	Split	NA						NA			NA	
Protected Phases	3	3						1			1	
Permitted Phases												
Detector Phase	3	3						1			1	
Switch Phase												

Lanes, Volumes, Timings
7: Millersport Highway & I-990 NB

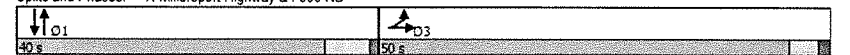
4300 Millersport Highway
2025 Full AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	6.0	6.0						10.0			10.0	
Minimum Split (s)	22.7	22.7						24.0			24.0	
Total Split (s)	50.0	50.0						44.0			44.0	
Total Split (%)	55.6%	55.6%						44.4%			44.4%	
Maximum Green (s)	45.3	45.3						34.0			34.0	
Yellow Time (s)	3.2	3.2						5.0			5.0	
All-Red Time (s)	1.5	1.5						1.0			1.0	
Lost Time Adjust (s)	0.0	0.0						0.0			0.0	
Total Lost Time (s)	4.7	4.7						6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0						4.0			4.0	
Recall Mode	None	None						Min			Min	
Act Effect Green (s)	24.5	24.5						54.8			54.8	
Actuated g/C Ratio	0.27	0.27						0.61			0.61	
v/c Ratio	0.68	0.64						0.09			0.19	
Control Delay	36.3	30.6						8.8			9.3	
Queue Delay	0.0	0.0						0.0			0.0	
Total Delay	36.3	30.6						8.8			9.3	
LOS	D	C						A			A	
Approach Delay		33.5						8.8			9.3	
Approach LOS		C						A			A	
Queue Length 50th (ft)	162	137						20			48	
Queue Length 95th (ft)	217	194						44			93	
Internal Link Dist (ft)		1176			159			359			272	
Turn Bay Length (ft)												
Base Capacity (vph)	821	829						2073			2092	
Starvation Cap Reductn	0	0						0			0	
Spillback Cap Reductn	0	0						0			0	
Storage Cap Reductn	0	0						0			0	
Reduced v/c Ratio	0.37	0.36						0.09			0.19	

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	0 (0%), Referenced to phase 2: and 6:, Start of Green
Natural Cycle:	50
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.68
Intersection Signal Delay:	21.5
Intersection Capacity Utilization:	93.6%
Analysis Period (min):	15
Intersection LOS:	C
ICU Level of Service F:	

Splits and Phases: 7: Millersport Highway & I-990 NB



Lanes, Volumes, Timings
1: Millersport Highway & New Road

4300 Millersport Highway
2025 Full PM

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	↔		↔		↔		↔		↔		↔	
Traffic Volume (vph)	6	77	64	9	28	99	220	1259	3	41	695	8
Future Volume (vph)	6	77	64	9	28	99	220	1259	3	41	695	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0	0	0	0	100	0	100	0	100	0
Storage Lanes	0	0	0	0	0	0	1	0	1	0	1	0
Taper Length (ft)	25			25			50		50		50	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt	0.941		0.901		0.998		0.950		0.950		0.998	
Frt Protected	0.998		0.997		0.950		0.950		0.950		0.998	
Satd. Flow (prot)	0	1769	0	0	1681	0	1787	3539	0	1805	3499	0
Frt Permitted	0.986		0.975		0.288		0.150		0.150		0.986	
Satd. Flow (perm)	0	1748	0	0	1644	0	542	3539	0	285	3499	0
Right Turn on Red	Yes		Yes		Yes		Yes		Yes		Yes	
Satd. Flow (RTOR)	46		103		1		1		1		1	
Link Speed (mph)	40		40		55		55		55		55	
Link Distance (ft)	1060		576		732		1361		1361		1361	
Travel Time (s)	18.1		9.8		9.1		16.9		16.9		16.9	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	2%	0%	4%	1%	2%	0%	0%	3%	0%	0%
Adj. Flow (vph)	6	80	67	9	29	103	229	1311	3	43	724	8
Shared Lane Traffic (%)	0											
Lane Group Flow (vph)	0	153	0	0	141	0	229	1314	0	43	732	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		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	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	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		2	3		2	3	
Detector Template	Left		Left		Left		Left		Left		Left	
Leading Detector (ft)	20	49		20	49		49	466		49	466	
Trailing Detector (ft)	0	-1		0	-1		-1	-1		-1	-1	
Detector 1 Position (ft)	0	-1		0	-1		-1	-1		-1	-1	
Detector 1 Size (ft)	20	20		20	20		20	20		20	20	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel	CI+Ex											
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position (ft)	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	CI+Ex											
Detector 2 Extend (s)	0.0		0.0		0.0		0.0		0.0		0.0	
Detector 3 Position (ft)					460		460		460		460	
Detector 3 Size (ft)					6		6		6		6	

Lanes, Volumes, Timings
1: Millersport Highway & New Road

4300 Millersport Highway
2025 Full PM

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Detector 3 Type	CI+Ex											
Detector 3 Channel	CI+Ex											
Detector 3 Extend (s)	0.0											
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3		3		3		1		6		5	
Permitted Phases	3		3		3		6		6		2	
Detector Phase	3	3		3	3		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	25.0		6.0	25.0	
Minimum Split (s)	48.9	48.9		48.9	48.9		11.9	31.0		11.9	31.0	
Total Split (s)	30.0	30.0		30.0	30.0		15.0	40.0		15.0	40.0	
Total Split (%)	35.3%	35.3%		35.3%	35.3%		17.6%	47.1%		17.6%	47.1%	
Maximum Green (s)	24.1	24.1		24.1	24.1		9.1	34.0		9.1	34.0	
Yellow Time (s)	3.9	3.9		3.9	3.9		3.9	5.0		3.9	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	1.0		2.0	1.0	
Lost Time Adjust (s)	0.0		0.0		0.0		0.0		0.0		0.0	
Total Lost Time (s)	5.9		5.9		5.9		5.9		6.0		6.0	
Lead/Lag							Lead		Lag		Lead	
Lead-Lag Optimize?	Yes		Yes		Yes		Yes		Yes		Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		4.0	4.0		4.0	4.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	36.0	36.0		36.0	36.0		15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)	0											
Act Effct Green (s)	9.7		9.7		37.0		37.0		29.8		29.8	
Actuated g/C Ratio	0.15		0.15		0.64		0.56		0.56		0.45	
v/c Ratio	0.52		0.43		0.45		0.66		0.13		0.47	
Control Delay	26.0		14.4		7.6		14.6		5.6		14.1	
Queue Delay	0.0		0.0		0.0		0.0		0.0		0.0	
Total Delay	26.0		14.4		7.6		14.6		5.6		14.1	
LOS	C		B		A		B		A		B	
Approach Delay	26.0		14.4		13.5		13.6		13.6		13.6	
Approach LOS	C		B		B		B		B		B	
Queue Length 50th (ft)	42		14		28		218		5		103	
Queue Length 95th (ft)	96		61		64		346		16		164	
Internal Link Dist (ft)	980		496		652		1281		1281		1281	
Turn Bay Length (ft)	100											
Base Capacity (vph)	673		671		518		1980		379		1820	
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	0.23		0.21		0.44		0.66		0.11		0.40	

Intersection Summary	
Area Type:	Other
Cycle Length:	85
Actuated Cycle Length:	66.2
Natural Cycle:	105
Control Type:	Actuated-Uncoordinated

Lanes, Volumes, Timings
1: Millersport Highway & New Road

4300 Millersport Highway
2025 Full PM

Maximum v/c Ratio: 0.66
Intersection Signal Delay: 14.4
Intersection Capacity Utilization 66.1%
Analysis Period (min) 15
Intersection LOS: B
ICU Level of Service C

Splits and Phases: 1: Millersport Highway & New Road

↗ O1	↖ O2	↕ O3
15 s	40 s	30 s
↙ O5	↘ O5	
15 s	40 s	

Lanes, Volumes, Timings
2: New Road & Smith Road

4300 Millersport Highway
2025 Full PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↔			↔			↔		
Traffic Volume (vph)	4	164	86	15	112	33	40	116	16	20	55	1
Future Volume (vph)	4	164	86	15	112	33	40	116	16	20	55	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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	0.954			0.972			0.987			0.998		
Fit Protected	0.999			0.995			0.988			0.987		
Satd. Flow (prot)	0	1799	0	0	1813	0	0	1840	0	0	1848	0
Fit Permitted	0.999			0.995			0.988			0.987		
Satd. Flow (perm)	0	1799	0	0	1813	0	0	1840	0	0	1848	0
Link Speed (mph)	35			35			40			40		
Link Distance (ft)	779			931			1347			1060		
Travel Time (s)	15.2			18.1			23.0			18.1		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	0%	7%	1%	0%	1%	0%	5%	0%	0%	0%
Adj. Flow (vph)	4	174	91	16	119	35	43	123	17	21	59	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	269	0	0	170	0	0	183	0	0	81	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											
Link Offset(ft)	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		9	15		9	15		9	15		9
Sign Control	Stop			Stop			Stop			Stop		

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 35.4%
Analysis Period (min) 15
ICU Level of Service A

HCM Unsignalized Intersection Capacity Analysis
2: New Road & Smith Road

4300 Millersport Highway
2025 Full PM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↔			↔			↔		
Sign Control	Stop			Stop			Stop			Stop		
Traffic Volume (vph)	4	164	86	15	112	33	40	116	16	20	55	1
Future Volume (vph)	4	164	86	15	112	33	40	116	16	20	55	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	4	174	91	16	119	35	43	123	17	21	59	1
Direction: Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	269	170	183	81								
Volume Left (vph)	4	16	43	21								
Volume Right (vph)	91	35	17	1								
Hadj (s)	-0.19	-0.08	0.00	0.07								
Departure Headway (s)	4.6	4.9	5.1	5.3								
Degree Utilization, x	0.35	0.23	0.26	0.12								
Capacity (veh/h)	727	685	651	605								
Control Delay (s)	10.1	9.3	9.9	9.0								
Approach Delay (s)	10.1	9.3	9.9	9.0								
Approach LOS	B	A	A	A								
Intersection Summary												
Delay	9.7											
Level of Service	A											
Intersection Capacity Utilization	35.4%			ICU Level of Service			A					
Analysis Period (min)	15											

Lanes, Volumes, Timings
3: Millersport Highway & Smith Road

4300 Millersport Highway
2025 Full PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↔			↔			↔		
Traffic Volume (vph)	15	31	27	106	36	7	40	1417	210	9	783	1
Future Volume (vph)	15	31	27	106	36	7	40	1417	210	9	783	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	25	0	25	100	0	100	0	100	0	100	0
Storage Lanes	0	1	0	1	1	0	1	0	1	0	1	0
Taper Length (ft)	25	25	25	55	40	40	40	40	40	40	40	40
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	0.95
Frt	0.850			0.850			0.981			0.981		
Flt Protected	0.984			0.964			0.950			0.950		
Satd. Flow (prot)	0	1832	1615	0	1818	1615	1719	3481	0	1805	3505	0
Flt Permitted	0.880			0.750			0.342			0.097		
Satd. Flow (perm)	0	1639	1615	0	1414	1615	619	3481	0	184	3505	0
Right Turn on Red	Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)	41			41			32			32		
Link Speed (mph)	35			35			55			55		
Link Distance (ft)	938			779			2581			591		
Travel Time (s)	18.3			15.2			32.0			7.3		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	3%	0%	1%	0%	0%	5%	2%	0%	0%	3%	0%
Adj. Flow (vph)	15	32	28	109	37	7	41	1461	216	9	807	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	47	28	0	146	7	41	1677	0	9	808	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											
Link Offset(ft)	0											
Crosswalk Width(ft)	16											
Two way Left Turn Lane	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	1.00
Turning Speed (mph)	15	9	15	9	15	9	15	9	15	9	15	9
Number of Detectors	1	3	0	1	3	0	2	1	2	1	2	1
Detector Template	Left											
Leading Detector (ft)	20	79	0	20	79	0	49	19	49	19	49	19
Trailing Detector (ft)	0	-1	0	0	-1	0	-1	-1	-1	-1	-1	-1
Detector 1 Position(ft)	0	-1	-1	0	-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	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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											
Detector 2 Size(ft)	20											
Detector 2 Type	CI+Ex											
Detector 2 Channel												
Detector 2 Extend (s)	0.0											
Detector 3 Position(ft)	59											
Detector 3 Size(ft)	20											

Lanes, Volumes, Timings
3: Millersport Highway & Smith Road

4300 Millersport Highway
2025 Full PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Type	CH+Ex			CH+Ex								
Detector 3 Channel												
Detector 3 Extend (s)	0.0			0.0								
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	4			8			2			6		
Permitted Phases	4	4	4	8	8	8	2	2		6	6	
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	20.0	20.0		20.0	20.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	26.0	26.0		26.0	26.0	
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	50.0	50.0		50.0	50.0	
Total Split (%)	37.5%	37.5%	37.5%	37.5%	37.5%	37.5%	62.5%	62.5%		62.5%	62.5%	
Maximum Green (s)	25.4	25.4	25.4	25.4	25.4	25.4	44.0	44.0		44.0	44.0	
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	5.0	5.0		5.0	5.0	
All-Red Time (s)	1.4	1.4	1.4	1.4	1.4	1.4	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0			0.0			0.0			0.0		
Total Lost Time (s)	4.6			4.6			6.0			6.0		
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	
Recall Mode	None	None	None	None	None	None	Min	Min		Min	Min	
Act Effct Green (s)	13.6	13.6		13.6	13.6	43.0	43.0	43.0		43.0	43.0	
Actuated g/C Ratio	0.22	0.22		0.22	0.22	0.70	0.70	0.70		0.70	0.70	
v/c Ratio	0.13	0.07		0.47	0.02	0.09	0.69	0.07		0.07	0.33	
Control Delay	22.6	5.9		28.9	0.1	6.2	10.0	7.3		6.1	6.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	22.6	5.9		28.9	0.1	6.2	10.0	7.3		6.1	6.1	
LOS	C	A		C	A	A	B	A		A	A	
Approach Delay	16.4			27.6			10.0			6.1		
Approach LOS	B			C			A			A		
Queue Length 50th (ft)	16	0		54	0	5	203	1		67		
Queue Length 95th (ft)	41	13		106	0	20	361	8		122		
Internal Link Dist (ft)	858			699			2501			511		
Turn Bay Length (ft)		25			25	100				100		
Base Capacity (vph)	707	720		610	720	453	2559	134		2568		
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.07	0.04		0.24	0.01	0.09	0.66	0.07		0.31		

Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 61.5
 Natural Cycle: 60
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 10.0
 Intersection Capacity Utilization 75.2%

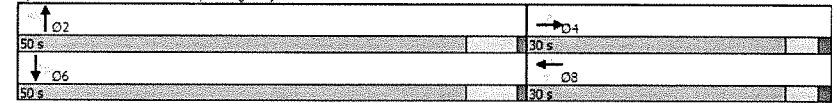
Intersection LOS: A
 ICU Level of Service D

Lanes, Volumes, Timings
3: Millersport Highway & Smith Road

4300 Millersport Highway
2025 Full PM

Analysis Period (min) 15

Splits and Phases: 3: Millersport Highway & Smith Road



Lanes, Volumes, Timings
4: Millersport Highway & Proposed Driveway

4300 Millersport Highway
2025 Full PM

	↖	↗	↙	↑	↓	↘
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↙	↑↑	↑↓	
Traffic Volume (vph)	38	31	39	1400	762	50
Future Volume (vph)	38	31	39	1400	762	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.850			0.991	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1805	1615	1805	3539	3480	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1805	1615	1805	3539	3480	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	658			591	732	
Travel Time (s)	15.0			13.4	16.6	
Peak Hour Factor	0.80	0.80	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	2%	3%	0%
Adj. Flow (vph)	48	39	40	1443	786	52
Shared Lane Traffic (%)						
Lane Group Flow (vph)	48	39	40	1443	838	0
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				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60			60
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	48.7%
ICU Level of Service A	
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis
4: Millersport Highway & Proposed Driveway

4300 Millersport Highway
2025 Full PM

	↖	↗	↙	↑	↓	↘
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↙	↑↑	↑↓	
Traffic Volume (veh/h)	38	31	39	1400	762	50
Future Volume (Veh/h)	38	31	39	1400	762	50
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	48	39	40	1443	786	52
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage (veh)				2	2	
Upstream signal (ft)				591	732	
pX, platoon unblocked	0.76	0.88	0.88			
vC, conflicting volume	1614	419	838			
vC1, stage 1 conf vol	812					
vC2, stage 2 conf vol	802					
vCu, unblocked vol	452	69	544			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	90	96	96			
cM capacity (veh/h)	480	869	911			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	48	39	40	722	722	524	314
Volume Left	48	0	40	0	0	0	0
Volume Right	0	39	0	0	0	0	52
cSH	480	869	911	1700	1700	1700	1700
Volume to Capacity	0.10	0.04	0.04	0.42	0.42	0.31	0.18
Queue Length 95th (ft)	8	4	3	0	0	0	0
Control Delay (s)	13.3	9.3	9.1	0.0	0.0	0.0	0.0
Lane LOS	B	A	A				
Approach Delay (s)	11.5		0.2			0.0	
Approach LOS	B						

Intersection Summary	
Average Delay	0.6
Intersection Capacity Utilization	48.7%
ICU Level of Service A	
Analysis Period (min)	15

Lanes, Volumes, Timings
5: Smith Road & Proposed Driveway

4300 Millersport Highway
2025 Full PM

	↖	→	←	↗	↘	↙
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (vph)	2	48	56	21	26	2
Future Volume (vph)	2	48	56	21	26	2
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		0.963		0.989		
Fit Protected		0.998		0.956		
Satd. Flow (prot)	0	1844	1803	0	1796	0
Fit Permitted		0.998		0.956		
Satd. Flow (perm)	0	1844	1803	0	1796	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		745	938		727	
Travel Time (s)		16.9	21.3		16.5	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	3%	2%	0%	0%	0%
Adj. Flow (vph)	3	60	70	26	33	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	63	96	0	36	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	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
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 14.2%
Analysis Period (min) 15
ICU Level of Service A

HCM Unsignalized Intersection Capacity Analysis
5: Smith Road & Proposed Driveway

4300 Millersport Highway
2025 Full PM

	↖	→	←	↗	↘	↙
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (veh/h)	2	48	56	21	26	2
Future Volume (Veh/h)	2	48	56	21	26	2
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	2	60	70	26	32	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)			938			
pX, platoon unblocked						
vC, conflicting volume	96				147	83
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	96				147	83
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				96	100
cM capacity (veh/h)	1510				849	982

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	62	96	34
Volume Left	2	0	32
Volume Right	0	26	2
cSH	1510	1700	856
Volume to Capacity	0.00	0.06	0.04
Queue Length 95th (ft)	0	0	3
Control Delay (s)	0.2	0.0	9.4
Lane LOS	A		A
Approach Delay (s)	0.2	0.0	9.4
Approach LOS			A

Intersection Summary

Average Delay 1.7
Intersection Capacity Utilization 14.2%
Analysis Period (min) 15
ICU Level of Service A

Lanes, Volumes, Timings
6: Millersport Highway & I-990 SB

4300 Millersport Highway
2025 Full PM

	↖	↘	↙	↑	↓	↗
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations			↘	↑↑	↑↑	
Traffic Volume (vph)	0	0	29	1648	236	693
Future Volume (vph)	0	0	29	1648	236	693
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	95			0
Storage Lanes	0	0	1			0
Taper Length (ft)	25		50			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt					0.888	
Flt Protected			0.950			
Satd. Flow (prot)	0	0	1805	3574	3105	0
Flt Permitted			0.950			
Satd. Flow (perm)	0	0	1805	3574	3105	0
Link Speed (mph)	65			55	55	
Link Distance (ft)	1332			352	2581	
Travel Time (s)	14.0			4.4	32.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	1%	1%	4%
Adj. Flow (vph)	0	0	31	1735	248	729
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	31	1735	977	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane					Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 90.5%
Analysis Period (min) 15
ICU Level of Service E

HCM Unsignalized Intersection Capacity Analysis
6: Millersport Highway & I-990 SB

4300 Millersport Highway
2025 Full PM

	↖	↘	↙	↑	↓	↗
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations			↘	↑↑	↑↑	
Traffic Volume (veh/h)	0	0	29	1648	236	693
Future Volume (Veh/h)	0	0	29	1648	236	693
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	31	1735	248	729
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	TWTL	
Median storage (veh)					2	
Upstream signal (ft)				352		
pX, platoon unblocked	0.91					
vC, conflicting volume	1542	488	977			
vC1, stage 1 conf vol	612					
vC2, stage 2 conf vol	930					
vCu, unblocked vol	1406	488	977			
IC, single (s)	6.8	6.9	4.1			
IC, 2 stage (s)	5.8					
IF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	96			
cM capacity (veh/h)	318	531	714			
Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	
Volume Total	31	868	868	165	812	
Volume Left	31	0	0	0	0	
Volume Right	0	0	0	0	729	
cSH	714	1700	1700	1700	1700	
Volume to Capacity	0.04	0.51	0.51	0.10	0.48	
Queue Length 95th (ft)	3	0	0	0	0	
Control Delay (s)	10.3	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s)	0.2			0.0		
Approach LOS						

Intersection Summary

Average Delay 0.1
Intersection Capacity Utilization 90.5%
Analysis Period (min) 15
ICU Level of Service E

Lanes, Volumes, Timings
7: Millersport Highway & I-990 NB

4300 Millersport Highway
2025 Full PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↔		↔	↔	↔	↑	↑		↔	↔	↔
Traffic Volume (vph)	1309	0	43	0	0	0	0	424	0	0	230	0
Future Volume (vph)	1309	0	43	0	0	0	0	424	0	0	230	0
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	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Fit		0.990										
Fit Protected	0.950	0.955										
Satd. Flow (prot)	1681	1675	0	0	0	0	0	3574	0	0	3574	0
Fit Permitted	0.950	0.955										
Satd. Flow (perm)	1681	1675	0	0	0	0	0	3574	0	0	3574	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36										
Link Speed (mph)		40			30			55			55	
Link Distance (ft)		1256			239			439			352	
Travel Time (s)		21.4			5.4			5.4			4.4	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%
Adj. Flow (vph)	1364	0	45	0	0	0	0	442	0	0	240	0
Shared Lane Traffic (%)	48%											
Lane Group Flow (vph)	709	700	0	0	0	0	0	442	0	0	240	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			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		9	15		9	15		9	15		9
Number of Detectors	2	2						1			1	
Detector Template												
Leading Detector (ft)	49	49						19			19	
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	CI+Ex	CI+Ex						CI+Ex			CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0			0.0	
Detector 1 Queue (s)	0.0	0.0						0.0			0.0	
Detector 1 Delay (s)	0.0	0.0						0.0			0.0	
Detector 2 Position(ft)	29	29										
Detector 2 Size(ft)	20	20										
Detector 2 Type	CI+Ex	CI+Ex										
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0										
Turn Type	Split	NA						NA			NA	
Protected Phases	3	3						1			1	
Permitted Phases												
Detector Phase	3	3						1			1	
Switch Phase												

Lanes, Volumes, Timings
7: Millersport Highway & I-990 NB

4300 Millersport Highway
2025 Full PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	6.0	6.0						10.0			10.0	
Minimum Split (s)	22.7	22.7						24.0			24.0	
Total Split (s)	50.0	50.0						40.0			40.0	
Total Split (%)	55.6%	55.6%						44.4%			44.4%	
Maximum Green (s)	45.3	45.3						34.0			34.0	
Yellow Time (s)	3.2	3.2						5.0			5.0	
All-Red Time (s)	1.5	1.5						1.0			1.0	
Lost Time Adjust (s)	0.0	0.0						0.0			0.0	
Total Lost Time (s)	4.7	4.7						6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0						4.0			4.0	
Recall Mode	None	None						Min			Min	
Act Effect Green (s)	46.2	46.2						33.1			33.1	
Actuated g/C Ratio	0.51	0.51						0.37			0.37	
v/c Ratio	0.82	0.80						0.34			0.18	
Control Delay	26.7	24.1						22.9			21.5	
Queue Delay	0.0	0.0						0.0			0.0	
Total Delay	26.7	24.1						22.9			21.5	
LOS	C	C						C			C	
Approach Delay		25.4						22.9			21.5	
Approach LOS		C						C			C	
Queue Length 50th (ft)	333	307						95			48	
Queue Length 95th (ft)	384	358						158			88	
Internal Link Dist (ft)		1176			159			359			272	
Turn Bay Length (ft)												
Base Capacity (vph)	898	911						1424			1424	
Starvation Cap Reductn	0	0						0			0	
Spillback Cap Reductn	0	0						0			0	
Storage Cap Reductn	0	0						0			0	
Reduced v/c Ratio	0.79	0.77						0.31			0.17	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2: and 6.; Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.82
 Intersection Signal Delay: 24.4
 Intersection Capacity Utilization 90.5%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service E

Splits and Phases: 7: Millersport Highway & I-990 NB

