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APPENDIX M
TRANSPORTATION AND TRAFFIC

Jacobs

Traffic Impact Study

Version: Draft for Public Review

Micron Technology, Inc.
Micron New York Semiconductor Manufacturing, Clay, NY

Traffic Analysis & Modeling
June 2025

Traffic Impact Study

Client Name:	Micron Technology, Inc.		
Project Name:	Traffic Analysis & Modeling		
Client Reference:	Micron New York Semiconductor Manufacturing, Clay, NY	**Project No.:**	EBXH2200
Version:	Draft for Public Review	**Project** Manager:	Dana Crisino, Shankar Natarajan, Ryan White
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Acronyms and Abbreviations

Abbreviation	Definition
ALIS	Accident Location Information System
ATR	automatic traffic recorder
BRT	bus rapid transit
BSFR	base saturation flow rate
Centro	Central New York Regional Transit Authority
CLEAR	Crash Location and Engineering Analysis and Reporting
County	Onondaga County
CSX	CSX Corporation (freight rail owner)
CUB	central utility building
DDI	diverging diamond interchange
DRAM	dynamic random-access memory
EIS	Environmental Impact Statement
ETC	estimated time of completion
fab	fabrication facility
FHWA	Federal Highway Administration
ft^2	square foot or feet
GEH	Geoffrey E. Havers
GNM	Great Northern Mall
HCM	Highway Capacity Manual, 7th Edition
HDM	Highway Design Manual
HV%	heavy vehicle percentage
I-	Interstate

Abbreviation	Definition
ID	identification
LOS	level of service
LRTP	Long-Range Transportation Plan
Micron	Micron New York Semiconductor Manufacturing, LLC, a wholly owned subsidiary of Micron Technology, Inc.
MOE	measure of effectiveness
MPA	Metropolitan Planning Area
mph	mile(s) per hour
MPO	Metropolitan Planning Organization
MTP	Metropolitan Transportation Plan
MVM	million vehicle miles
N/A	not applicable
NEPA	National Environmental Policy Act
NYC DOT	New York City Department of Transportation
NYS	New York State
NYS&W	New York, Susquehanna, and Western Railway
NYSDOT	New York State Department of Transportation
NYSTA	New York State Thruway Authority
OCDOT	Onondaga County Department of Transportation
OCDWEP	Onondaga County Department of Water Environment Protection
OCIDA	Onondaga County Industrial Development Agency
OCWA	Onondaga County Water Authority
pc/mi/ln	passenger car(s) per mile per lane
PCE	passenger car equivalent

Abbreviation	Definition
pcphpl	passenger car(s) per hour per lane
PHF	peak-hour factor
RMSE	root mean squared error
RTOR	right turn on red
sec/veh	second(s) per vehicle
SEQRA	State Environmental Quality Review Act
SFR	saturation flow rate
SMTC	Syracuse Metropolitan Transportation Council
SYR	Syracuse Hancock International Airport
TAZ	traffic analysis zone
TIS	Traffic Impact Study
TMC	turning movement count
UAS	unmanned aircraft system
v/c	volume-to-capacity ratio
VCC	vehicle classification count
veh/ln/mi	vehicle(s) per lane per mile
vph	vehicle(s) per hour
WPCP	White Pine Commerce Park
WWTP	wastewater treatment plant

1. Introduction and Background

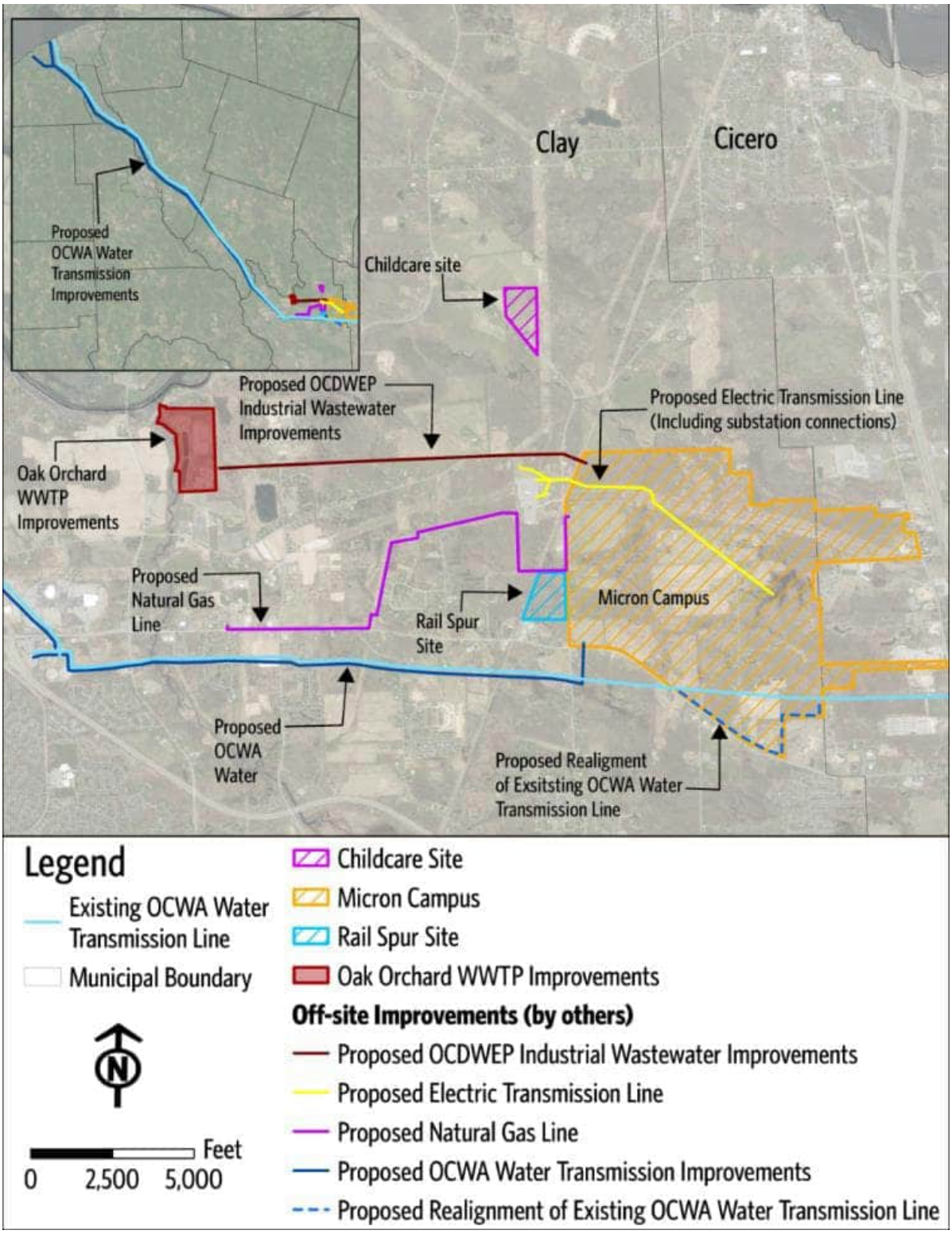
1.1 Proposed Project Overview

Micron New York Semiconductor Manufacturing, LLC, a wholly owned subsidiary of Micron Technology, Inc. (Micron), plans to construct a semiconductor manufacturing campus in Clay, New York, to increase the national production of dynamic random-access memory (DRAM) chips/wafers by 1,200 percent over the next two decades. The Proposed Project would enable the short-term manufacture of 13,000 DRAM wafers per week, starting in 2029, with production increasing to 52,000 wafers per week by 2041. This would require four 600,000-square-foot (ft^2) fabrication facilities (fabs) on a single site. The Proposed Project Components are shown in Figure 1-1.

The Proposed Project consists of the following elements:

- The "Micron Campus"
  - This is where the fabs and support buildings will be located.
  - Approximately 1,377 acres (the 1,376-acre White Pine Commerce Park (WPCP) and adjacent properties, plus 1 acre on the northwest side, across from Caughdenoy Road from the WPCP).
- The "Childcare Site"
  - This includes the "childcare center," "healthcare center," and "recreation center," and associated parking, fields, pickleball courts, and amenities.
  - Approximately 30 acres.
- The "Rail Spur Site"
  - Includes rail spur and conveyance facility for moving material from rail to the Micron Campus on an over-the-road conveyor system.
  - Approximately 38 acres.
  - Operated by a third party.
- The "Existing Warehouse Space"
  - The as-yet unascertained 360,000 to 500,000 ft^2 of existing warehouse space in the region that Micron will locate and lease.

Figure 1-1. Proposed Project Components



OCDWEP = Onondaga County Department of Water Environment Protection
OCWA = Onondaga County Water Authority
WWTP = wastewater treatment plant

The Proposed Project will have the following Connected Actions, which are not intrinsic to this Traffic Impact Study (TIS) analysis:

- Water supply system and transmission upgrades
- Industrial wastewater service and treatment
- Energy infrastructure upgrades/enhancements
- Telecommunication connection upgrades

Micron is projected to create approximately 9,000 high-paying jobs by 2045 to support the Micron Campus when operating at full capacity. It is expected to induce approximately 50,000 community jobs over 20-plus years, including jobs for suppliers, contractors, and other supporting roles within Onondaga County and its environs, including Cayuga, Cortland, Madison, and Oswego counties.

For the Environmental Impact Statement (EIS) of which this TIS is a part, the impacts from the construction and operation of the Connected Actions improvements are considered because they support and connect to the Micron Campus.

1.2 Transportation Evaluation Area

The Micron Campus is bordered by New York State (NYS) Route 31 to the south, Caughdenoy Road to the west, a line approximately 100 feet beyond National Grid overhead power lines to the north, and the Town of Clay/Town of Cicero boundary line to the east. Most of the Micron Campus is located within the Town of Clay and is accessible from the Interstate 81 (I-81) interchange with NYS Route 31.

The Transportation Evaluation Area encompasses the roadway network that could be affected by the Preferred Action Alternative and is located within a 5-mile radius of the Proposed Project. In support of the transportation analysis, this TIS was prepared to identify a Transportation Evaluation Area, assess traffic impacts, analyze alternative impacts, and identify potential transportation improvements to mitigate potential adverse impacts resulting from the Proposed Project. This TIS defines the Transportation Evaluation Area as the roadway network that could be affected by the Preferred Action Alternative within a 5-mile radius of the Proposed Project.

1.3 Study Purpose

The purpose of the TIS is to evaluate the transportation impacts of the Proposed Project in support of the EIS. The transportation analysis was built on traffic data collected in 2023 and 2024, existing transportation networks and systems, and forecasted changes to land use and transportation networks in the study area. This TIS provides detailed technical information, methodology, analysis results, and recommended mitigations as a reference to the EIS.

1.4 Organization of Traffic Impact Study

This TIS is organized as follows:

- **Section 1:** Introduction and Background—This section presents the context for the Proposed Project and introduces the TIS.
- **Section 2:** Methodology and Assumptions—This section summarizes the data collection process, describes the planned roadway network improvements and analysis scenarios, and explains the methodology used to conduct the analysis.

- **Section 3:** Existing Transportation System—This section discusses the existing transportation system, including roadway classifications, access control, intersection control, non-motorized transportation facilities, transit, and general travel patterns within the Transportation Evaluation Area.
- **Section 4:** Crash Analysis—This section highlights the crash analysis, including crash patterns, contributing causes, deficiencies, and potential mitigation measures.
- **Section 5:** Existing Traffic Operations—This section highlights findings from the collected data, discusses model calibration results, and presents results for the 2023/2024 traffic operations analysis.
- **Section 6:** Future Transportation System—This section discusses the travel demand forecasting process, summarizes the proposed developments and land use changes incorporated into it, and presents the trip generation and distribution for the Proposed Project.
- **Section 7:** Year 2027 Traffic Operations—This section presents the 2027 traffic operations analysis results.
- **Section 8:** Year 2031 Traffic Operations—This section presents the 2031 traffic operations analysis results.
- **Section 9:** Year 2041 Traffic Operations—This section presents the 2041 traffic operations analysis results.
- **Section 10:** Summary and Recommendations—This section summarizes the analysis scenarios, presents conclusions about the operational analysis results, and recommends mitigations to accommodate the Proposed Project-generated traffic volume demand.
- **Section 11:** References—This section provides bibliographic information for references cited in the report.

2. Methodology and Assumptions

This section summarizes the data collection, assumptions, and methodology used in this study.

2.1 Data Collection

A comprehensive data collection effort was conducted throughout Onondaga County in 2023 and 2024 on New York State Department of Transportation (NYSDOT), Onondaga County Department of Transportation (OCDOT), and New York State Thruway Authority (NYSTA) facilities. Traffic data were collected at the locations shown on Figure 2-1 and included automatic traffic recorder (ATR) counts, turning movement counts (TMCs), and vehicle classification counts (VCCs). This data was used to establish the existing traffic volumes. StreetLight Data metrics were also used to determine typical travel speeds and existing traffic patterns, and to supplement collected data. Travel times and speeds were also collected along the interstate and highway routes. The collected data was also verified using available NYSDOT Traffic Data Viewer data.

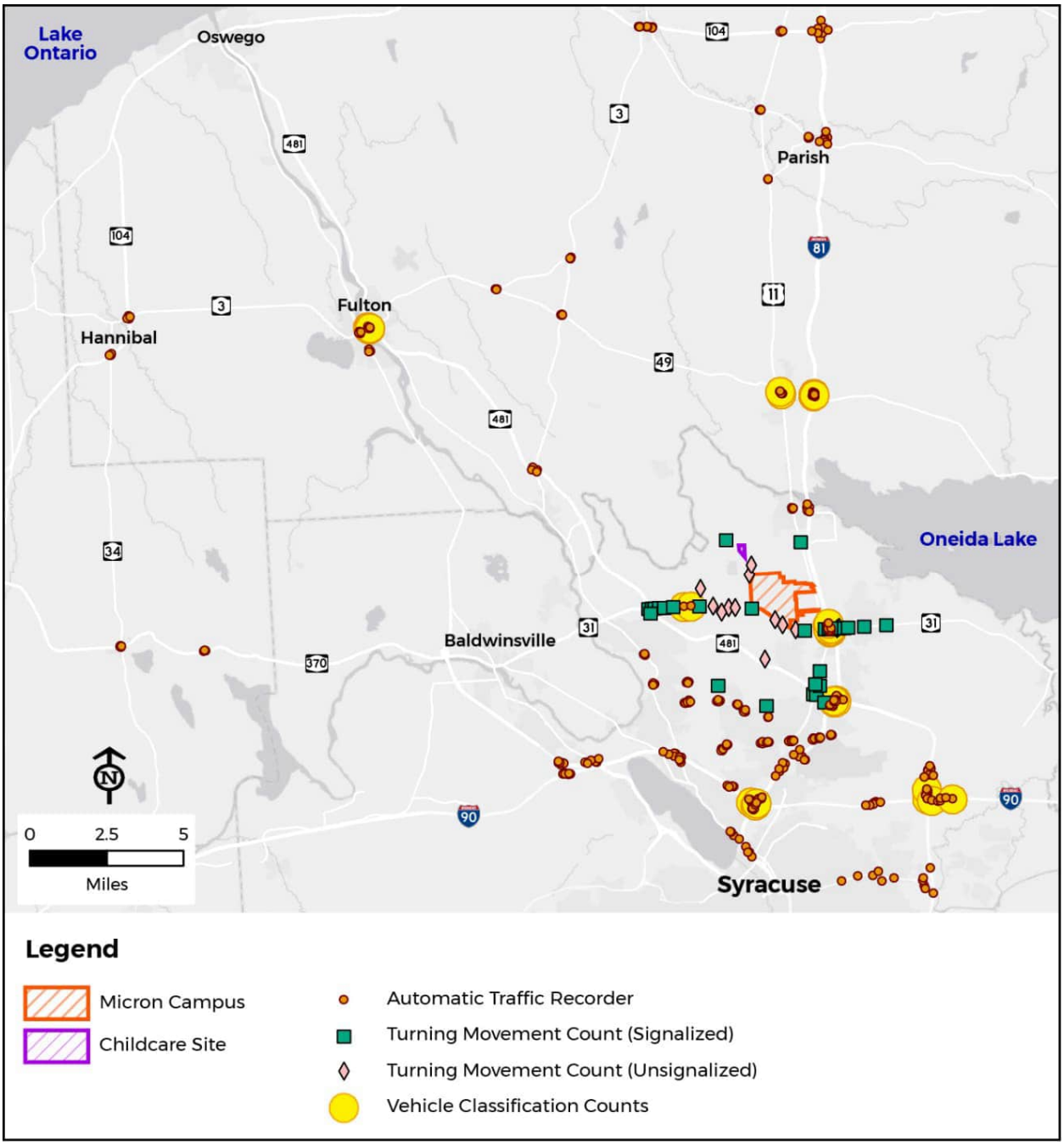
2.1.1 Automatic Traffic Recorder Counts

Continuous 24-hour, two-way ATR counts were collected at 190 locations within NYSDOT jurisdiction, 65 locations within OCDOT jurisdiction, and 12 locations within NYSTA jurisdiction, each for seven days. The ATR count locations were mainly along interstates, interstate ramps, and highways within a 45-minute radius of the Micron Campus. ATR counts were primarily used to determine traffic volumes throughout the Transportation Evaluation Area; therefore, the ATR count locations were selected to model regional and local traffic conditions accurately. Data provided by the ATRs were limited to vehicular volumes. The ATR counts were collected using traffic data collection cameras and pneumatic count tubes and summarized into 15-minute intervals. ATR counts were collected on a rolling basis across the count locations, with most data collection taking place from April 13, 2023, to May 27, 2023. The ATR count locations for each jurisdiction are listed in Appendix A.

2.1.2 Turning Movement Counts

TMCs were collected at 25 signalized and eight unsignalized intersections within NYSDOT jurisdiction and at three signalized and six unsignalized intersections within OCDOT jurisdiction (Figure 2-1). The TMC data were collected at major intersections along NYS Route 31 and major highway intersections within the study area. TMCs were collected using camera recordings for two five-hour periods (5:00 a.m. to 10:00 a.m. and 3:00 p.m. to 8:00 p.m.), which were selected to capture the peak periods. Traffic recorded in the TMCs was sorted into four classifications: autos, buses (including non-articulated buses, articulated buses, and jitneys), medium trucks, and heavy trucks. Pedestrian and bicyclist movements at the intersections were counted simultaneously with vehicle TMCs. The pedestrians and bicyclists represent conflicting movements against vehicle traffic and were included in the analysis to provide an accurate traffic analysis model. TMC data were collected on a rolling basis across the count locations, with most of the data collection completed on April 19, 2023, and the remainder collected on April 25, 2023, and May 10, 2023. Additional traffic counts collected in May 2024 during the peak period related to the Great Northern Mall (GNM) redevelopment are also incorporated into the study. The TMC locations for each jurisdiction are listed in Appendix A.

Figure 2-1. Traffic Volume Data Collection Locations



2.1.3 Vehicle Classification Counts

The VCC locations are at the major highway intersections and interstate interchanges within a 45-minute radius of the Micron Campus. VCCs were collected over 24 hours during one of the three representative mid-weekdays (Tuesday, Wednesday, or Thursday). The VCCs were categorized into four vehicle classes: autos (passenger cars), buses (including non-articulated buses, articulated buses, and jitneys), medium trucks, and heavy trucks. VCCs were collected on a rolling basis across the count locations, with most of

the data collected on April 19, 2023, and the remainder collected on April 25, 2023, and May 10, 2023. The VCC locations for each jurisdiction are listed in Appendix A.

2.1.4 StreetLight Data

StreetLight Data provided historical data for Onondaga County to supplement the data collection program. StreetLight Data is a big data provider that offers insight into origin-destination patterns, regional routing, travel times, travel speeds, and other information that is difficult to obtain through traditional onsite data collection methods. StreetLight Data outputs were used to supplement the previously discussed data collection program and assist with balancing volumes through the existing conditions network.

2.1.5 Signal Timing

Existing timing plans for the signalized intersections in the Transportation Evaluation Area were received from NYSDOT and OCDOT to analyze the existing conditions and as a basis for developing future timing plans. The existing timing plans for these signalized intersections are provided in Appendix A.

2.1.6 Roadway Geometry

Existing lane configurations, turn lane lengths, and posted speed limits were obtained from aerial imagery.

2.1.7 Planned Roadway Improvements

The future scenarios included foreseeable planned transportation improvements to the Transportation Evaluation Area. They have been identified from various sources listed in the following subsections.

2.1.7.1 Syracuse Metropolitan Transportation Council

The Syracuse Metropolitan Transportation Council (SMTC) is the state-designated Metropolitan Planning Organization (MPO) responsible for administering continuous, cooperative, and comprehensive transportation planning for its jurisdiction, called the Metropolitan Planning Area, covering Onondaga County, the Town of Sullivan in Madison County, and the Towns of Hastings, Schroeppel, West Monroe, and a small portion of Granby in Oswego County. SMTC maintains the region's Metropolitan Transportation Plan (MTP) and the Long-Range Transportation Plan (LRTP). The MTP articulates a 20-year vision for the future of the region's transportation system.

2.1.7.2 Onondaga County Comprehensive Plan

Onondaga County (County) adopted its current County Comprehensive Plan in 2023 with an amendment adopted in July 2024, which included the planned development by Micron. The plan notes that the County's transportation network serves as the foundation for land development and prioritizes maintenance and operations of the existing system. The plan further indicates that public infrastructure investments will support Micron and lead to growth within the County while maintaining consistency with the following themes: a strong center, housing and neighborhoods, community mobility, greenways and blueways, and agriculture.

2.1.7.3 NYSDOT Programmed Improvements

As part of its ongoing maintenance of the New York State roadway network, NYSDOT has programmed capital improvements within the Transportation Evaluation Area. These improvements are independent of the Proposed Project and include minor network changes, such as extending turn lanes to provide adequate storage, adding left- and right-turn lanes to separate movements, adding receiving lanes to accommodate turning traffic, reconfiguring lanes at intersection approaches to facilitate signal phasing modifications, optimizing peak-hour signal timing, upgrading unsignalized intersections to signal control, and access management changes.

2.2 Analysis Years, Scenarios, and Peak-Hour Time Periods

The traffic analysis evaluated the existing conditions, the No Action Alternative, the Preferred Action Alternative, and the Preferred Action Alternative with Mitigation Measures. This section describes the alternatives, analysis years, time periods, and various scenarios analyzed.

2.2.1 Analysis Years and Build-out Timeline

Construction of the Proposed Project is expected to commence in late 2025 and continue until full build-out in 2041. The facility would include four fabs built in phases over a 16-year period. The construction of the Micron Campus would require approximately 4,200 construction workers onsite daily during peak construction periods lasting roughly six months for each fab, with the actual number of construction workers onsite fluctuating depending on the type of work being conducted. During 2042, when Fab 4 would be outfitted internally for full production, the headcount would remain elevated.

Micron Campus operations would require at least 2,000 manufacturing employees for each fab, with the total number of manufacturing employees increasing sequentially as each fab comes online. Once Fab 1 becomes operational in 2029, there would be five manufacturing employee shifts, one working Monday through Friday from 8 a.m. to 5 p.m., and four shifts working overlapping 11.5-hour shifts to support the continuous 24-hour, seven-day-per-week manufacturing operation. Fabs 2 through 4 would use the same shifts as they come online.

Construction workers and manufacturing employees engaged in building the successive phases of the four-fab campus would be co-located at the campus until full build-out in 2041. Overall, the number of workers onsite would continually increase until the construction and internal outfitting of Fab 4 are complete, at which point the onsite construction workforce would be reduced to a continuous, nominal presence required for the implementation of each new memory chip production technology node. This process would result in continuous construction activity on the Micron Campus from 2025 to 2041. The facility would include four fabs built in phases over a 16-year period. The construction period (2025 to 2041) would conclude with the completion of the Fab 4 buildings. The headcount on the Micron Campus would peak in 2041 (12,436 employees and workers) as construction of Fab 4 is completed. In 2042, when Fab 4 would be fully outfitted for internal production, the headcount would remain elevated.

From 2043 to 2045, as the campus ramps up to full production, the operational workforce would increase while the construction workforce would decrease. At full production in 2045, the operational headcount of the Micron Campus, including manufacturing, business, and administrative employees, would be 9,005 employees, with a nominal remaining presence of approximately 300 construction workers.

2.2.2 Analysis Years and Scenarios

The traffic analysis evaluated the existing conditions and the No Action Alternative and Preferred Action Alternative scenarios for 2027, 2031, and 2041. Existing conditions represent the roadway network and traffic volumes in 2023 and 2024. Each analysis year is being evaluated under morning and evening peak periods identified based on the data collected and the Micron operations and construction shift schedule.

The year 2041 is projected to produce the most significant demand on the transportation network, based on the expected number of operations staff and construction workers onsite simultaneously. This is due to construction workers and manufacturing employees being engaged in building the successive phases of the four-fab campus, which will be co-located at the campus until full build-out in 2041. From 2043 to 2045, as the campus ramps up to full production, the operational workforce would increase while the construction workforce would decrease.

Therefore, 2041 was considered the worst-case scenario, and the mitigation scenarios were tested to evaluate the 2041 traffic demand. After reviewing the results and consulting with interested parties, the recommended mitigation scenario was chosen and evaluated with the 2031 traffic demand. The analysis scenarios and years are as follows:

- **2023/2024 Existing Conditions:** This scenario reflects the current roadway network and demand volumes.
- **2027 No Action Alternative:** This scenario does not include the Proposed Project and, therefore, represents the 2027 roadway network, which includes specific planned NYSDOT improvements (discussed in Section 7).
- **2027 Preferred Action Alternative:** This scenario represents the 2027 No Action roadway network and adds the Proposed Project.
- **2031 No Action Alternative:** This scenario represents the 2031 No Action roadway network and specific planned NYSDOT improvements (discussed in Section 8).
- **2031 Preferred Action Alternative:** This scenario represents the 2031 No Action roadway network and the Proposed Project.
- **2031 Preferred Action with Mitigation:** This scenario represents the 2031 No Action roadway network, the Proposed Project, and recommended roadway mitigations. This scenario builds on the 2031 Preferred Action Alternative and specific mitigations to improve traffic: (1) add an interchange to I-81 at Sneller Road, (2) upgrade the existing NYS Route 31/I-81 interchange, (3) widen NYS Route 31 and U.S. Route 11 within the Transportation Evaluation Area, (4) a new four-lane access road between NYS Route 481 and U.S. Route 11/Caughdenoy Road, and (5) an additional southbound ramp from Caughdenoy Road to southbound NYS Route 481.
- **2041 No Action Alternative:** This scenario represents the 2041 No Action roadway network, including all anticipated land use changes.
- **2041 Preferred Action Alternative:** This scenario represents the 2041 No Action roadway network and the Proposed Project.
- **2041 Recommended Mitigation Scenario A:** This scenario builds on the 2041 Preferred Action Alternative and specific major mitigations to improve traffic: (1) add an interchange to I-81 at Sneller Road, (2) upgrade the existing NYS Route 31/I-81 interchange, (3) upgrade existing NYS Route 31/NYS Route 481 interchange, and (4) widen NYS Route 31 and U.S. Route 11 within the Transportation Evaluation Area. NYS Route 31 is widened to two lanes per direction between Morgan Road and U.S. Route 11.

- **2041 Recommended Mitigation Scenario B:** This scenario builds on the 2041 Preferred Action Alternative and incorporates specific major mitigations to improve traffic. It adds all mitigations included in Scenario A, along with a new four-lane access road between NYS Route 481 and U.S. Route 11/Caughdenoy Road.
- **2041 Recommended Mitigation Scenario C:** This scenario builds on the 2041 Preferred Action Alternative and specific major mitigations to improve traffic: add all mitigations included in Scenarios A and B with an additional southbound ramp from Caughdenoy Road to southbound NYS Route 481.

2.2.3 Analysis Time Periods

Based on traffic data collected and the construction and operations shift schedule at the Micron Campus, two hours were analyzed in the morning and evening peak periods: 6:00 a.m. to 8:00 a.m. and 4:00 p.m. to 6:00 p.m. This range of hours encompasses both the existing commuter peaks, at 7:00 a.m. and 5:00 p.m., and the construction worker peaks, at 6:00 a.m. and 4:00 p.m.

2.2.4 Analysis Methodology

A tiered modeling approach was used for the traffic analysis. The tiered structure captures the dynamics among demographics, land use, development, people movements, and vehicular interactions. At the macro level, the travel demand forecast is based on regional demographics and socioeconomic projections. Using the results from the travel demand forecasts, parcel-level land use data, and development site plan information, a subarea model forecasted local-level trips and traffic volumes by time of day based on travel mode. A traffic microsimulation model analyzed traffic operations at the level of individual vehicle movements and was used to identify and assess improvement options.

The tiered modeling methodology serves as the basis for the traffic forecasts, which leverage existing methods utilizing the SMTC travel demand forecast model. A subnetwork covering the Proposed Project Transportation Evaluation Area was extracted from the SMTC model and analyzed at a more refined level using the Visum traffic modeling software. The Visum model was used to conduct existing, future No Action and Preferred Action Alternatives for the TIS. A high-level traffic engineering analysis for the local network within the Transportation Evaluation Area was conducted using microscopic Vissim and Synchro models, from which forecasted traffic patterns were extracted from the Visum models. The traffic operational analysis methodology ensures a consistent comparison between scenarios.

2.3 Travel Demand Forecasting Methodology

This section describes the travel demand modeling process to forecast future traffic volumes.

2.3.1 SMTC Subarea Extraction

SMTC maintains a regional travel demand model that has been reviewed and approved by the NYSDOT. A subarea of the SMTC regional travel demand model was extracted to create a Visum model for the Transportation Evaluation Area. The SMTC model was developed using TransCAD; therefore, the subarea extraction involved linking the demand matrix from the regional model to the Visum subarea model. To accomplish this, transportation analysis zones (TAZs) within the Transportation Evaluation Area were identified and compiled to form a corresponding database used for Visum modeling. Roadway network links within the Transportation Evaluation Area were also identified and compiled. Roadway network nodes at the Transportation Evaluation Area's outer limits were treated as external stations. They were modeled

as “sinks” and/or “sources” of trips, depending on whether the roadway link is unidirectional or bidirectional. Initial seed trip tables for the a.m. and p.m. peak hours, consisting of private autos, buses, medium trucks, and heavy trucks, were extracted from the SMTC model and subsequently fed into Visum for assignment and calibration. Trip tables for other time periods were developed using the seed trip tables and calibrated to field counts to capture the diurnal distribution of trip purpose and directionality.

2.3.2 Base Model Development

The base-year Visum network was initially extracted from the SMTC model and refined using geometry data from OpenStreetMap and Bing Aerials, as well as detailed intersection geometry, signal phasing, and timing data provided by each jurisdiction for high-volume intersections within the primary Transportation Evaluation Area. The main components for the base-year Visum network development included the following:

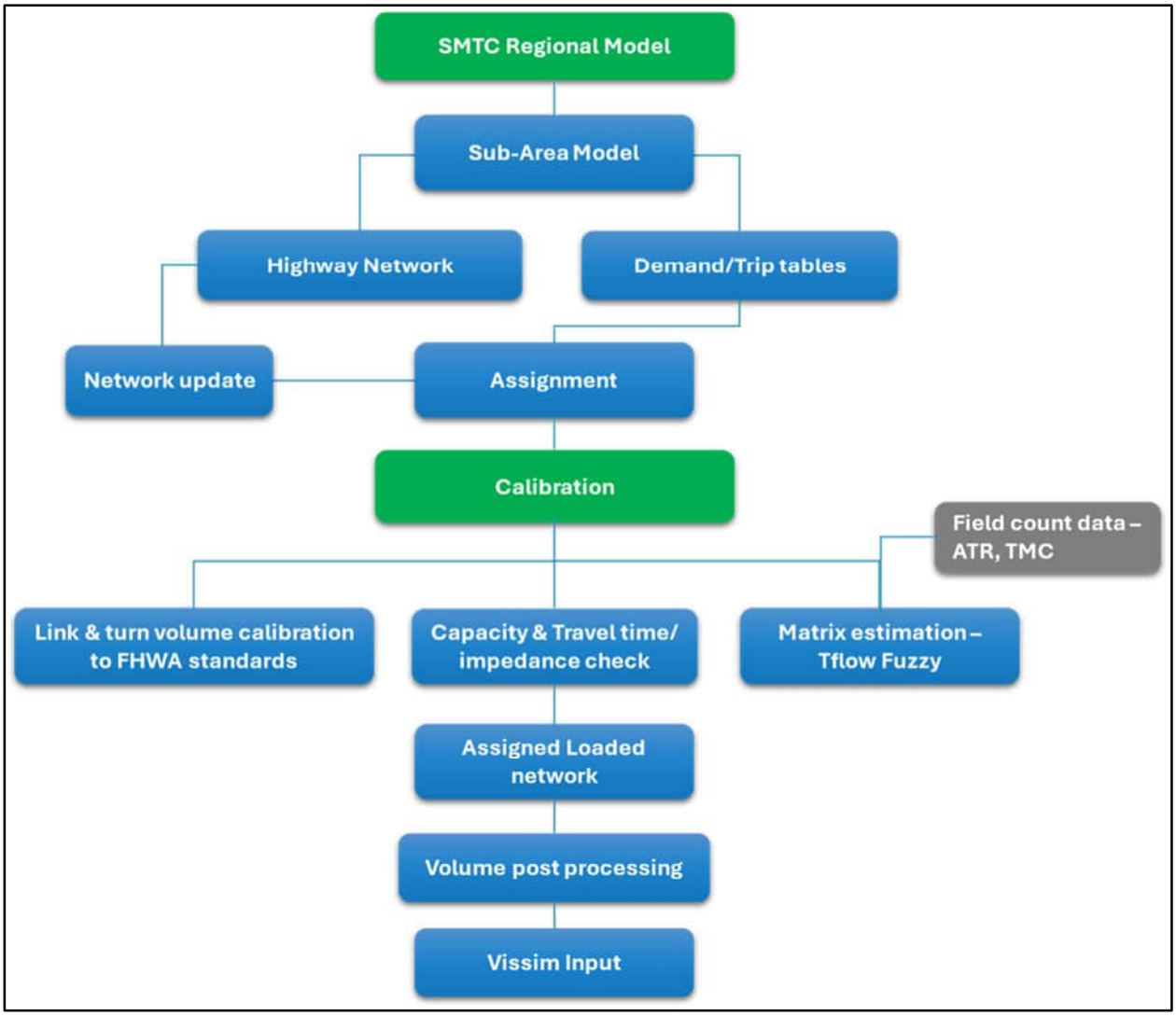
- Zones: Areas of trip origins (such as residences) and trip destinations (such as office buildings). SMTC provided a subnetwork from its regional model with 833 zones, including 737 TAZs and 96 external loading zones (10 external loading zones from the SMTC model and 86 external stations at the subarea outer limits). This network was imported into Visum as the base for model development.
- Trip Tables: A matrix summary of the number of trips generated and attracted to each zone in the model, to/from every other zone.
- Roadway Links: Roadway links from the SMTC model were maintained as the base. Additional local roads and significant driveways were added to the network within the local Transportation Evaluation Area. Local roads and major driveways are too detailed for the scale of the SMTC regional model. Still, they are required for the Visum subarea model to assign traffic to the local roadway network accurately.
- Centroid Connectors: Modeling objects that connect zones to roadway links, typically via driveways. Centroid connectors for each TAZ within the Transportation Evaluation Area were refined to connect with newly constructed site driveways, allowing the analyst to calibrate the model to account for instances such as “entrance only” or “exit only” driveways, which affect how traffic from a zone/development gets to and from public roads.
- Geometric Data/Network Attributes:
  - The number of lanes by travel direction for roadway links was carried over from the regional model and cross-checked against Google Maps.
  - Intersection geometry and signal timings for intersections were coded at the model's nodes that function as intersections.
  - Posted free-flow speeds for roadway links were extracted from the regional model and updated for the additional network links.
  - The link capacity is the number of vehicles that can theoretically traverse a link within the analysis period. Each link was coded with a functional class code. The link capacity was calculated using a lookup table from the SMTC model based on roadway type and number of lanes.
  - The turn capacity is the number of vehicles that can theoretically turn at an intersection within the analysis period.
  - Intersection movements that are not possible in the field or not allowed represent turn restrictions.
  - A turn delay is an attribute that accounts for a route with more turns, which takes longer to traverse in the real world than a route with fewer turns.

- Lane usage restrictions are commonly used to account for roadways that do not allow commercial vehicles but can be used to limit vehicle types based on the needs of the analysis.
- Roadway tolls are an attribute that factors in the direct additional cost of a toll, making the route potentially less desirable in favor of less costly routes with similar travel times.

2.3.3 Base Model Calibration

The demand matrix from the SMTC regional model was refined and updated using the TFlowFuzzy demand matrix correction procedure embedded in the Visum model, as shown in Figure 2-2. This procedure adjusted the demand matrix so that its assignment results could reasonably match field counts. The model was further refined by adjusting intersection turn delays, link capacity, free-flow speed, and centroid connector shares to achieve a closer match with the field count data.

Figure 2-2. Visum Calibration Process



Two statistical parameters are used to compare link assignment volumes to field counts: the coefficient of correlation (R-squared) and the root mean squared error (RMSE). The Federal Highway Administration (FHWA) recommends a minimum R-squared value of 0.88. RMSE should generally be less than 40 percent. Table 2--1 shows the calibration statistics of FHWA recommendations.

Table 2-1. Visum Calibration Threshold

Calibration Statistics	FHWA Recommendations
Coefficient of Correlation (R)	0.88
Percent Error Region-Wide	
Sum of Differences	+/- 5%
Freeways	+/- 7%
Principal Arterials	+/- 10%
Minor Arterials	+/- 15%
Collectors	+/- 25%

Source: FHWA, 2019.

Since the Visum base model was extracted from the SMTC-calibrated model, the R-squared value should be as good as, or better than, the SMTC calibration statistics. Table 2-2 presents the Visum calibration statistics at a regional level, with a coefficient of correlation of 0.9936 for the a.m. period and 0.9943 for the p.m. period. The R-squared value fit for the study area is better than the FHWA recommendation. The Geoffrey E. Havers (GEH) formula statistics were also used to compare the vehicle volume assigned by the model to the volume counted in the field. On the GEH statistical scale, a value of 5 or less is considered reasonably calibrated.

Table 2-2. Visum Calibration Statistics

Visum Calibration	AM	PM	FHWA Recommendations
Coefficient of Correlation (R)	0.9936	0.9943	0.88
Sum of Differences	-3.3%	-1.6%	+/- 5%
Freeways	-0.9%	-0.9%	+/- 7%
Principal Arterials	1.4%	-0.7%	+/- 10%
Minor Arterials	0.6%	-0.3%	+/- 15%
Collectors	-4.4%	0.3%	+/- 25%

2.3.4 Future Model Development

Using the calibrated Visum base models, the base-year network was updated to reflect future-year conditions within the Transportation Evaluation Area. Updates included planned roadway changes and planned developments that would increase or reduce the number of vehicle trips during the analysis hours. Future-year demand matrices were developed using a delta approach that calculates the difference between the number of trips in each zone of the SMTC base and SMTC future models and adds this difference to the same zones in the calibrated Visum base-year matrices. This approach allows the Visum model to maintain its calibrated trip matrices while incorporating new trips forecasted by the SMTC model. Trip matrices are further disaggregated to Micron to maintain the same background traffic for the No

Action Alternative and the Action Alternative. Future projects and No Action Alternative transportation improvements that have been included are detailed in the technical memorandum, which is contained in Appendix B.

The trip tables for the SMTC model represent travel between each pair of the defined TAZs within the Transportation Evaluation Area. However, the trips to and from the Micron Campus were calculated separately from the trip generation provided by Micron/SMTC. These trip generations are estimated based on the project's anticipated construction and operations timeline. In addition to the trip generations included, the SMTC model estimated the induced traffic based on zonal attraction trips. This required the development of customized trip tables (matrices) applicable to only the Micron Campus zones.

2.3.5 Micron Site Trips

As mentioned in Section 2.3.1, the main traffic generators in the Micron Campus will be the four fabs. The fabs will be constructed sequentially, and each will begin operations upon completion. Consequently, between the completion of Fab 1 and Fab 4, construction and operational activities will generate overlapping traffic demand. Transportation demand management (TDM) measures implemented by Micron include operating shuttles to bring construction workers to the Micron Campus and staggering work shifts of construction and operations employees. These have been incorporated into the demand forecasts. Table 2-3 summarizes person and truck trips to and from Micron Campus for both construction and operations staff.

Table 2-3. Trip Generation for Proposed Project

Year	Category	6-7 AM		7-8 AM		4-5 PM		5-6 PM	
		In	Out	In	Out	In	Out	In	Out
Micron Trip Generations - Person Trips									
2027	Employees/Visitors	0	0	835	0	0	0	0	725
	Contractors/Workers	1,367	0	683	0	0	683	0	1,367
2031	Employees/Visitors	0	0	2,560	0	0	0	0	2,223
	Contractors/Workers	1,233	0	617	0	0	617	0	1,233
2035	Employees/Visitors	0	0	4,450	0	0	0	0	3,863
	Contractors/Workers	1,233	0	617	0	0	617	0	1,233
2041	Employees/Visitors	0	0	5,312	0	0	0	0	4,612
	Contractors/Workers	1,400	0	700	0	0	700	0	1,400
2044	Employees/Visitors	0	0	5,808	0	0	0	0	5,043
	Contractors/Workers	100	0	50	0	0	50	0	100
Micron Trip Generations - Truck Trips									
2027	Employees/Visitors	0	0	0	0	0	0	0	0
	Contractors/Workers	16	16	16	16	16	16	16	16
2031	Employees/Visitors	0	0	0	0	5	5	0	0
	Contractors/Workers	16	16	16	16	16	16	16	16

Year	Category	6-7 AM		7-8 AM		4-5 PM		5-6 PM	
		In	Out	In	Out	In	Out	In	Out
2035	Employees/Visitors	0	0	0	0	10	10	0	0
	Contractors/Workers	16	16	16	16	16	16	16	16
2041	Employees/Visitors	0	0	0	0	15	15	0	0
	Contractors/Workers	16	16	16	16	16	16	16	16
2044	Employees/Visitors	0	0	0	0	20	20	0	0
	Contractors/Workers	8	8	8	8	8	8	8	8

2.4 Capacity Analysis Methodology

Capacity analysis was conducted following guidelines required by NYSDOT in the Highway Design Manual (HDM) Chapter 5 (NYSDOT, 2023a).[1] Synchro 11 and Vissim 2023 were used for the intersection and freeway analyses, respectively.

2.4.1 Guideline Exceptions

As described in Section 5.2.3.7 of the HDM, exceptions to the required capacity analysis methodology can be approved by NYSDOT with proper justification. In concurrence with NYSDOT Region 3 and the NYSDOT Main Office, the following exceptions from typical guidelines were made:

- Analysis Year 2041: It is standard practice for bridge or highway projects, such as those being considered for the Micron Draft EIS Recommended Mitigations scenarios, to use a design year of estimated time of completion (ETC) +20 years to evaluate the potential impacts and effectiveness of proposed infrastructure improvements. In this Proposed Project, peak traffic volumes in 2041 are anticipated to exceed the forecasted ETC +20 traffic demand because of the overlap of ongoing construction and active onsite operations. For this reason, 2041 was recommended as the analysis year, rather than ETC +20 years, for the Micron Draft EIS traffic analysis. Following the Micron Draft EIS, the anticipated NYSDOT/FHWA Draft EIS would provide a comprehensive environmental review of the proposed recommended mitigations and is expected to use a typical ETC +20 design year.
- Use of New York City Department of Transportation (NYC DOT) Calibration Guidelines and Impact Criteria: The recommended calibration of traffic models varies between federal, state, and local agencies. It was recommended that the NYC DOT traffic analysis guidelines[2] given their stricter calibration and impact standards, they can be used where appropriate, thus providing a more conservative analysis.
- Omission of SimTraffic and Handling of Queue Results: Given the use of NYC DOT guidelines and its strict criterion of potential impacts, NYSDOT agreed that SimTraffic is not needed for the Micron Draft EIS analyses. Vissim will be used to provide queue analysis results for the I-81 interstate and NYS Route 481 freeway segments within the Micron Draft EIS Transportation Evaluation Area. Synchro will be used to report queues for all intersections without using SimTraffic.

[1] NYSDOT HDM Chapter 5 used the revision dated May 15, 2023.

[2] Guidelines are detailed in the *City Environmental Quality Review Technical Manual* (City of New York, 2021).

2.4.2 Measures of Effectiveness

The Highway Capacity Manual, 7th Edition (HCM; National Academies, 2022) measures the quality of traffic flow using Level of Service (LOS) classifications. There are six Levels of Service, with LOS A indicating free-flow conditions and LOS F indicating high levels of delays associated with congestion. These represent a qualitative measure of operational conditions within a traffic stream and the perception of conditions by motorists and passengers. Depending on the type of facility being analyzed, LOS is based on density (freedom to maneuver), delay (traffic flow interruptions), and comfort and convenience (for nonmotorized road users).

LOS and capacity for signalized intersections are calculated for each lane group (a group of one or more movements through an intersection that shares a standard stop bar), each intersection approach, and the overall intersection. Levels of service at unsignalized intersections with two-way stops are calculated only for minor movements because intersection traffic control does not affect the through movement on the major street.

The LOS for freeway facilities is based on a measurement of density expressed as the number of passenger car equivalents (PCEs) per lane per mile. Higher densities reflect conditions where travel speed will likely fall below the roadway's free-flow speed. Changing lanes is more difficult because of the lack of available gaps between vehicles. The corresponding LOS grade represents the congestion of the roadway.

Tables 2-4- and 2-5 detail the LOS criteria for signalized intersections, unsignalized intersections, and freeways. After consulting with NYSDOT, it was recommended that roundabout analysis use the signalized intersection scale instead of the typical unsignalized LOS scale.

Table 2-4. LOS for Intersections

LOS	Congestion Level	Signalized	Unsignalized
		Average Delay (seconds/vehicle)	
A	Light Traffic	≤ 10	≤ 10
B		> 10–20	> 10–15
C		> 20–35	> 15–25
D	Moderate Traffic	> 35–55	> 25–35
E	Heavily Congested Traffic	> 55–80	> 35–50
F	Severely Congested Traffic	> 80	> 50

Sources: National Academies, 2022.

Table 2-5. LOS for Freeway Facilities

LOS	Congestion Level	Freeway Basic Segment	Freeway Merge or Diverge Segment	Freeway Weave Segment
		Average Density (pc/mi/ln)		
A	Light Traffic	≤ 10	≤ 11	≤ 11
B		> 10–18	> 11–20	> 11–20
C		> 18–26	> 20–28	> 20–28

LOS	Congestion Level	Freeway Basic Segment	Freeway Merge or Diverge Segment	Freeway Weave Segment
		Average Density (pc/mi/ln)		
D	Moderate Traffic	> 26–35	> 28–35	> 28–35
E	Heavily Congested Traffic	> 35–45	> 35–45	> 35–45
F	Severely Congested Traffic	> 45	> 45	> 45

Source: National Academies, 2022.

pc/mi/ln = passenger car(s) per mile per lane

2.4.3 Vissim Modeling Methodology

Vissim 2023 was used to analyze the performance of freeway segments (basic freeway segments, merge segments, diverge segments, and weaving segments) identified as requiring analysis based on the current traffic conditions and the importance of providing access to the project. Models were created for each analysis year and peak period. The analysis findings for 10 simulation runs per analysis, using variable seeds, were summarized for the following measures of effectiveness (MOEs):

- LOS (density)
- Queue lengths
- Average speed
- Travel time

2.4.3.1 Vissim Calibration and Validation

The parameters of the Vissim model were calibrated to match field data, measurements, and other observations, ensuring that the simulation model replicated existing operating conditions, with each base time period calibrated independently. The existing conditions models targeted two MOEs. First, the traffic volumes were calibrated to match volumes from the balanced vehicle counts for each hour. Second, model speeds were validated against 2023 speed run data and GPS data from StreetLight Data.

The observed existing speeds, travel times, queue evaluations, and standard GEH volume comparison were then used to determine if each model was adequately calibrated. Existing assumptions remained where applicable for the Preferred Action Alternative condition, and modifications were made to reflect proposed roadway and ramp conditions. The modeling guidelines used for the Vissim analysis are presented in Table 2-6.

Table 2-6. FHWA Recommended Calibration Criteria for Vissim Analysis

Criteria and Measures	Calibration Acceptance Targets
Hourly Flows, Model Versus Observed Individual Link Flows	
Within 15%, for 700 veh/hr < flow < 2,700 veh/hr	> 85% of cases
Within 100 veh/hr, for flow < 700 veh/hr	> 85% of cases
Within 400 veh/hr, for flow > 7,200 veh/hr	> 85% of cases
Sum of all link flows	Within 5% of the sum of all link counts
GEH statistic[a] < 5 for individual link flows	> 85% of cases

Criteria and Measures	Calibration Acceptance Targets
GEH statistics for sum of all link flows	GEH < 4 for sum of all link counts
Travel Time and Queues, Model Versus Observed	
Journey times, network within 15% (or 1 minute if higher)	> 85% of cases
Spot speeds	Within 10 miles per hour of field conditions
Queue lengths > 1,500 feet	Within 20%
Queue lengths < 1,500 feet	Within 300 feet
Visual Audits	
Individual link speed Visually acceptable speed-flow relationship	To analyst's satisfaction
Bottlenecks Visually acceptable queueing	To analyst's satisfaction

Source: FHWA, 2004.

[a] The GEH statistic is an empirical formula used in traffic modeling to compare two sets of traffic volumes., where *E* = model estimated volume, *V* = field count:

$$GEH = \sqrt{\frac{(E-V)^2}{(E+V)/2}}$$

2.4.3.2 Vissim Measures of Effectiveness

Network performance measures include freeway densities and LOS at basic freeway, merge, diverge, and weaving segments. Network performance is also evaluated by comparing demand and throughput at various segments.

The thresholds were developed in consultation with NYSDOT to define significant impacts for the No Action Alternative, Preferred Action Alternative, and Preferred Action with Mitigation. For freeway segments, the following criteria apply:

- A change from existing LOS A, B, C, or D (minimal to moderate congestion) in the No Action Alternative to LOS E or F (heavy to severe congestion) in the Preferred Action Alternative.
- A change from existing LOS E (heavy congestion) in the No Action Alternative to LOS F (severe congestion) in the Preferred Action Alternative.
- An increase in density at existing LOS F (heavy congestion) in the No Action Alternative, with a reduction in speed of 5 miles per hour (mph) or more along a freeway segment length of 500 feet or more in the Preferred Action Alternative.

2.4.4 Synchro Modeling Methodology

Synchro 11 was used to perform a detailed analysis of study intersections. Inputs to the model include traffic volumes, peak-hour factors (PHFs), heavy-vehicle percentages (HV%), the number of parking maneuvers, bus blockages, and conflicting pedestrians. An uncalibrated model was created and analyzed prior to initiating the calibration process. The uncalibrated model was maintained without any parameter adjustments and used for comparison with the calibrated models.

2.4.4.1 Synchro Calibration and Validation

This study adopted Synchro calibration procedures developed by the NYC DOT, based on extensive research into best practices for using Synchro to replicate real-world conditions.

Unreasonably low PHFs in the collected traffic data can lead to results that are not representative of typical field conditions, such as overestimating delay at low-volume intersections. As a safeguard, the following formula, developed by NYC DOT, was used to calculate PHF minimums:

$$PHF_{\text{Minimum}} = 0.8033 \times 1.000083^{\text{Volume}}$$

$$1 \leq \text{Volume} \leq 2{,}300$$

The 2023 existing conditions Synchro models were calibrated for all lane groups to have volume-to-capacity (v/c) ratios smaller or equal to 1.05 for any lane groups requiring calibration (lane groups with an uncalibrated v/c ratio greater than 1.05), the following adjustments were made sequentially to the degree necessary to reduce the lane group's v/c to an acceptable value:

1. Base Saturation Flow Rate (BSFR): Increased from the default 1,900 passenger cars per hour per lane (pcphpl) to the maximum allowable 2,050 pcphpl based on field-verifiable and quantifiable information.
2. Parking Maneuvers: Reduced the default 20 maneuvers/hour for an area with high parking turnover to 0 maneuvers/hour for intersections without on-street parking nearby to establish a reasonable adjusted saturation flow rate (SFR) (capacity).
3. Lost Time Adjustment: Reduced the default 0.0 second to as low as -2.0 seconds, if warranted. Any further decrease is done only if supported by field-verified/quantified information.
4. Lane Utilization Adjustment Factor: Increased up to 1.0 as demand approaches capacity. Conversely, it decreased for proper calibration if not all lanes are observed to be equally used by motorists, for example, far-side lane drops or lanes approaching tunnels or bridges, or to account for lost capacity, for example, spillback of a turn bay, double-parking, or illegal standing in a curbside travel lane. Adjustments to the Lane Utilization Factor are based on actual traffic volume data.
5. Right- and Left-turn Factors: Synchro default values were not modified unless supported by field-collected data.

Additional field observation inputs include the following:

- Bus Blockages: Applied where near- and/or far-side bus stops are present within 250 feet of an intersection. The bus blockages were applied to through-lane groups only and not to conflicting left or right turns. However, buses moving in the traffic stream (not stopping at bus stops) were considered part of the HV%.
- Bus Lanes: Because Synchro cannot model bus lanes, designated bus-only lanes are modeled by removing a through travel lane from the LOS analysis at intersections. Any associated bus volumes are removed from the through traffic, and the HV% is adjusted accordingly. However, if right turns are permitted from the bus lane, the lane is identified as an exclusive right-turn movement in the model.
- Timing/Phasing: Used existing signal timing plans received from facility owners and field verified.
- Right Turn on Red (RTOR): Unless a posted sign prohibiting RTOR has been observed in the field, RTOR is allowed in the model.

- Traffic Volumes: Whenever traffic volumes are not balanced between adjacent intersections, sinks, and sources are identified.
- Lane Widths: Field-verified widths were used in the Synchro analysis. Lane width modifications are part of recommended mitigations, and measures are rounded to the nearest foot.
- Heavy-Vehicle Percentages: Estimated based on VCCs collected concurrently with TMCs. According to the HCM, "The heavy-vehicle factor accounts for the additional space occupied by these vehicles and the difference in operating capabilities of heavy vehicles compared with passenger cars" (National Academies, 2022). Therefore, all buses account for the HV% because these buses occupy additional space in the traffic stream and have different operating capabilities than passenger cars.
- Conflicting Pedestrians: Used the number of pedestrians crossing at crosswalks collected concurrently with TMCs.
- Guidance regarding the left-turn phase is as follows:
  - Left-turn Phase: Permitted plus protected lagging left-turn phases are not proposed because of the left-turn trap unless there is no left turn in the opposing direction.
- The walking speed for pedestrian clearance time provided on official signal timing plans is used in the LOS analysis. If the pedestrian walking speed is not specified in the official signal timing plan, a walking speed of 3.0 feet per second is a conservative assumption for slow walking speeds associated with children, seniors, and other vulnerable street users.

When the Synchro analysis for existing conditions was calibrated and validated according to the guidelines, the adjusted values for the future conditions' models remained unchanged.

2.4.4.2 Synchro Measures of Effectiveness

The HCM reports from Synchro provided MOEs, including delay, v/c, and LOS, for both signalized and unsignalized intersections. The default Synchro reports also provide queue metrics such as the 50th and 95th percentile queue lengths.

The following thresholds were developed in consultation with NYSDOT to define significant impacts for the Preferred Action Alternative and the Preferred Action with Mitigation. For intersections, the following criteria apply.

- Overall intersection LOS change from LOS A, B, C, or D (minimal to moderate congestion) in the No Action Alternative to LOS E or F in the Preferred Action Alternative (heavy to severe congestion).
- Overall intersection delay increase of five seconds or more per vehicle in the Preferred Action Alternative if the intersection operates at LOS E or LOS F (severe and heavy congestion) in the No Action Alternative.

2.4.4.3 Synchro Model Documentation

The Synchro program generates reports that document data inputs and output results. The reports reflect the names assigned to the model files. The model files were developed using the nomenclature for the scenarios at the onset of this TIS. Partway through the study, the scenario names were revised to those used in this report. The model files were not renamed to avoid unnecessary rework, and reports were not regenerated in response to the changes in scenario names. Table 2-7 correlates the scenario names used in this TIS with the model output reports, located in Appendix D.

Table 2-7. Scenario Name Equivalents

Traffic Impact Study Documentation Name	Traffic Model Files Scenario Name
Existing Conditions	2023/24 Existing
2027 No Action Alternative	2027 No-Build
2027 Preferred Action Alternative	2027 Build
2031 No Action Alternative	2031 No-Build
2031 Preferred Action Alternative	2031 Build
2031 Preferred Action Alternative with Mitigation Scenario C	2031 Build Scenario C
2041 No Action Alternative	2041 No-Build
2041 Preferred Action Alternative	2041 Build (4-Fab)
2041 Preferred Action Alternative with Mitigation Scenario A	2041 Build Scenario A (4-Fab)
2041 Preferred Action Alternative with Mitigation Scenario B	2041 Build Scenario B (4-Fab)
2041 Preferred Action Alternative with Mitigation Scenario C	2041 Build Scenario C (4-Fab)

3. Existing Transportation System

This section presents the existing motorized and nonmotorized transportation facilities within the Transportation Evaluation Area. The Transportation Evaluation Area's primary roadway network comprises limited-access facilities, arterials, and collectors.

3.1 Roadway Network

Figure 3-1 shows the primary roadways within the Transportation Evaluation Area, their functional classification, and the number of lanes. The functional classifications were obtained from the NYSDOT Region 3 Functional Classification Map (NYSDOT, n.d.a). The posted speed limits are related to functional classification and vary from a low of 30 mph near a high school to a high of 65 mph on the limited-access freeway facilities.

A limited-access road is the highest functional classification and typically refers to an interstate, freeway, or expressway. As defined by the FHWA, freeways and expressways "have directional travel lanes, are usually separated by some type of physical barrier, and their access and egress points are limited to on- and off-ramp locations or a minimal number of at-grade intersections" (FHWA, 2013). An arterial street is "a street interrupted by traffic control devices (for example, signals, STOP signs, or YIELD signs) that primarily serves through traffic and that secondarily provides access to abutting properties" (National Academies, 2022). A collector street is "a surface street providing land access and traffic circulation within residential, commercial, and industrial areas" (National Academies, 2022).

The Transportation Evaluation Area's primary roadway network comprises limited-access facilities, arterials, and collectors, including I-81, U.S. Route 11, NYS Route 31, and NYS Route 481; details are provided in Table 3-1.

Figure 3-1. Primary Roadways in the Transportation Evaluation Area

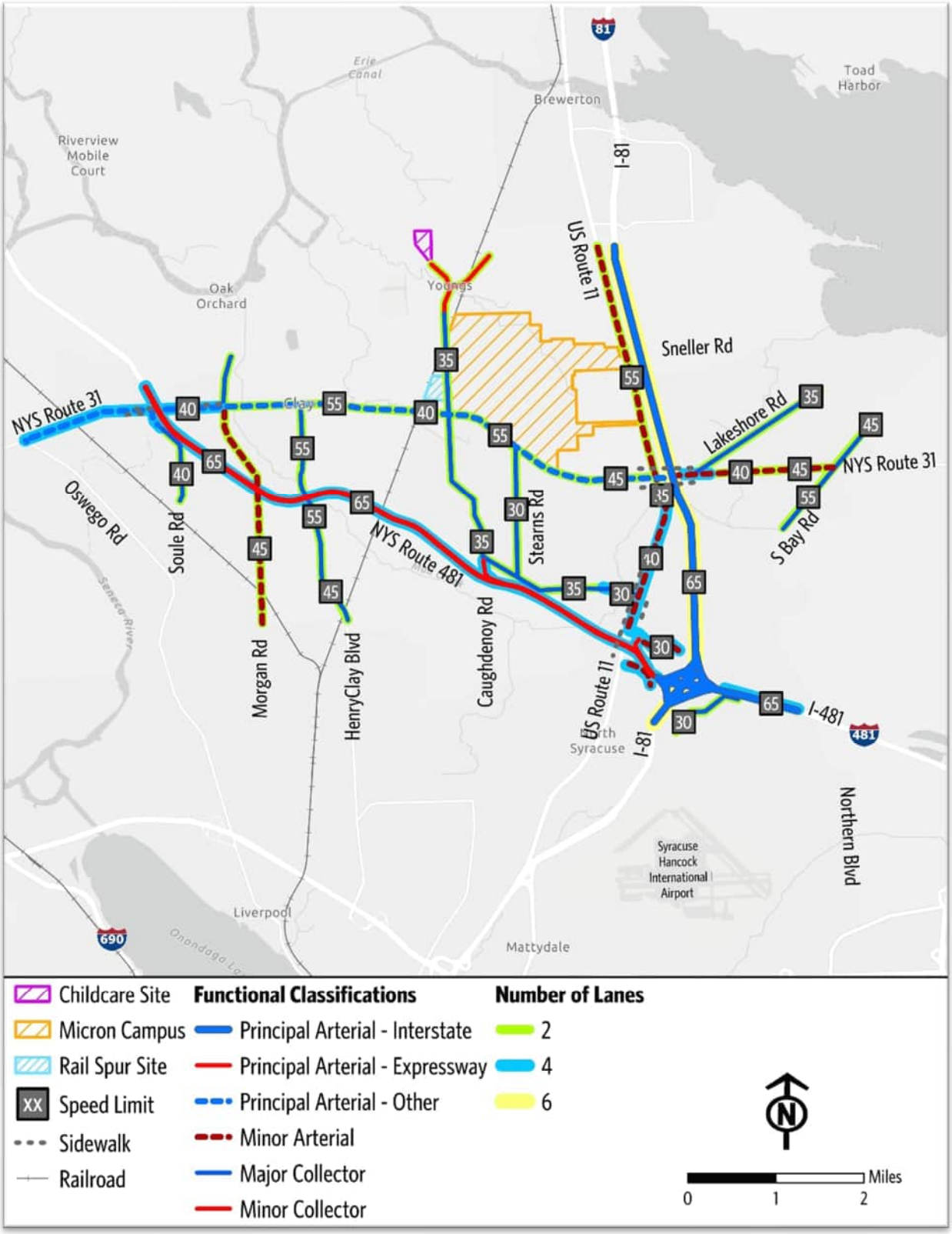


Table 3-1. Detailed Roadway Attributes

Roadway (by jurisdiction)	Functional Classification	Characteristics
State: I-81	Principal Arterial Interstate	A six-lane divided highway with 12-foot-wide travel lanes. Access is limited by an interchange with I-481, NYS Route 481, NYS Route 31, and Bartel Road.
State: NYS Route 481	Principal Arterial Expressway	A four-lane divided highway with 12-foot-wide travel lanes that serves as an extension of I-481 between Verplank Road and I-481. Access to this route is limited to two interchanges with U.S. Route 11/Bear Road and NYS Route 31 and a partial interchange with Caughdenoy Road.
State: NYS Route 31	Principal Arterial Other (NYS Route 481 to I-81); Minor Arterial (I-81 to Lakeshore Road)	A four-lane divided roadway with travel lanes of varying widths, marked medians, and turn lanes between Oswego Road and the east side of the Morgan Road intersection. Transitions to a two-lane undivided roadway with 11-foot-wide travel lanes from this location to the intersection with U.S. Route 11, and then it widens to a two-lane divided roadway with 12-foot-wide travel lanes and center two-way left-turn lanes to the east of the Lakeshore Road intersection. The eastern segment is a two-lane, undivided roadway with 11-foot-wide travel lanes. A CSX rail line crosses at-grade just west of the Caughdenoy Road intersection.
State: U.S Route 11	Minor Arterial (Bartel Road to NYS Route 481)	A four-lane road with two 12-foot-wide lanes in each direction. U.S. Route 11 between NYS Route 481 and NYS Route 31 features several at-grade signalized intersections, with large commercial spaces on both sides. Beyond NYS Route 31, the route transitions into a two-lane road with some shoulder space, maintaining this configuration until Bartel Road. At Bartel Road, a small connection provides access to a ramp to I-81.
Local: Caughdenoy Road	Major Collector (U.S. Route 11 to Verplank Road); Minor Collector (Verplank Road to County Road 12)	A two-lane road with 11-foot-wide lanes in each direction, except for the intersection with U.S. Route 11. The collector route provides local access to the adjacent roadway network through at-grade signalized and unsignalized intersections. Access from NYS Route 481 is provided to Caughdenoy Road through a northbound off-ramp.
Local: Verplank Road	Major Collector (Caughdenoy Road to NYS Route 481)	A two-lane road with 11-foot-wide lanes in each direction. The intersections on this route are primarily unsignalized, relying on stop signs. From the Caughdenoy Road intersection, three roads connect south to NYS Route 31.

Roadway (by jurisdiction)	Functional Classification	Characteristics
Local: Morgan Road	Major Collector (Verplank Road to NYS Route 31); Minor Arterial (NYS Route 31 to Wetzel Road)	A two-lane road with 12-foot-wide lanes in each direction. It has an unsignalized intersection that connects to an access road leading to a commercial space along NYS Route 31. The major at-grade signalized intersection is at NYS Route 31, beyond which the route is a minor arterial, expanding to four lanes with two 11-foot-wide lanes in each direction. The route connects to major residential areas with multiple unsignalized intersections and an at-grade signalized intersection at Wetzel Road.
Local: Henry Clay Boulevard	Major Collector (NYS Route 31 to Wetzel Road)	A two-lane road with 12-foot-wide lanes in each direction accessing residential parcels and private driveways. The route has two major at-grade signalized intersections: NYS Route 31 and Wetzel Road. Several unsignalized intersections exist.
Local: Soule Road	Major Collector (NYS Route 31 to Fairway Road E)	A two-lane road with 11-foot-wide lanes in each direction. This part of the route features several unsignalized intersections and two major at-grade signalized intersections: one at the corner of Streamwood Drive and Pine Gate Parkway North and another at NYS Route 31. Soule Road ties into the on-ramps to NYS Route 481 eastbound.
Local: Stearns Road	Major Collector (NYS Route 31 to Caughdenoy Road)	A two-lane road with 11-foot-wide lanes in each direction. It mainly consists of unsignalized intersections, two of which are significant: Caughdenoy Road and NYS Route 31. The connections along this route serve residential areas and private driveways.
Local: Bartel Road	Minor Arterial (U.S. Route 11 to I-81)	A 2-lane road with 12-foot lanes in each direction. This route section connects U.S. Route 11 and I-81. The route primarily consists of unsignalized intersections, including an at-grade intersection at U.S. Route 11.
Local: Lakeshore Road	Major Collector (NYS Route 31 to South Bay Road)	A two-lane road with 11-foot-wide lanes in each direction. Primarily consisting of unsignalized intersections, this part of the collector connects NYS Route 31 to residential areas.
Local: South Bay Road	Major Collector (Lakeshore Road to NYS Route 31); Minor Arterial (NYS Route 31 to Church Street)	A two-lane road with 10-foot-wide lanes in each direction. The collector section of this route has three unsignalized intersections serving residential areas and an at-grade signalized intersection at NYS Route 31. Beyond this, the arterial section extends as a two-lane road with a 12-foot-wide travel lane in each direction to Church Street, with two additional at-grade signalized intersections and several unsignalized intersections.

Roadway (by jurisdiction)	Functional Classification	Characteristics
Local: Thompson Road	Minor Arterial (NYS Route 31 to South Bay Road)	A two-lane road with 11-foot-wide lanes in each direction. The arterial has two at-grade signalized intersections: one at NYS Route 31 and the other at South Bay Road. It primarily provides access to local residential roads or private driveways.
Local: Hamilton Road	Major Collector (Thompson Road to Church Street)	A two-lane road with 10-foot-wide lanes in each direction. This road facilitates access to local residential lanes via unsignalized intersections.
Local: Bear Road	Minor Arterial (South Bay Road to U.S. Route 11)	A 2-lane road with 11-foot-wide lanes in each direction from South Bay Road. It then expands to four lanes with a 30-foot-wide median divider until it reaches the NYS Route 481 on-/off-ramp intersection. This route section features three at-grade intersections: U.S. Route 11, NYS Route 481 (providing access to the on-/off-ramps), and South Bay Road.
Local: Circle Drive East	Minor Arterial (South Bay Road to U.S. Route 11)	A two-lane road with 12-foot-wide lanes in each direction. This route has access to NYS Route 481 on-/off-ramps, South Hogan Drive, U.S. Route 11, and South Bay Road via four major at-grade intersections.

CSX = CSX Corporation (freight rail owner)

3.1.1 Intersection Traffic Control

The analysis includes 37 signalized and 18 stop-controlled existing intersections, representing all the signalized intersections in the Transportation Evaluation Area. The signalized intersections are concentrated along NYS Route 31, U.S. Route 11, NYS Route 481 ramps, Bear Road, and Henry Clay Boulevard. The tables and figures in subsequent sections depicting the operations analysis results indicate the type of control for each intersection.

3.2 Multimodal Transportation

Multimodal transportation includes pedestrian, bicycle, bus transit, air, and rail networks and facilities. These facilities and networks typically augment the roadway transportation network and are directly or indirectly connected.

3.2.1 Pedestrian Network

As the Transportation Evaluation Area is primarily rural, sidewalks exist along only a small proportion of the roadway network in the local Transportation Evaluation Area and typically front commercial and retail developments. Thus, the local Transportation Evaluation Area has no continuous pedestrian network. Based on aerial imagery, ramps are present for the sidewalks adjacent to marked crosswalks and appear in

good condition. Likewise, the sidewalks and curbs appear to be in good condition. Sidewalks are not present along or within the Micron Campus boundary.

- NYS Route 31: Concrete sidewalks exist along limited sections of NYS Route 31 within the northwest corner of the Transportation Evaluation Area. A detached sidewalk exists along the north side of the route around the Morgan Road intersection and then terminates at the east entrance to GNM. Attached sidewalks extend west of the Soule Road intersection for approximately 900 feet on both sides. From this point, the attached sidewalk continues along the north side only for another half mile. A short section is provided along the north side of NYS Route 31 adjacent to a restaurant near the at-grade railroad crossing. On the east side of the local Transportation Evaluation Area, detached sidewalks are provided along both sides of the route in the vicinity of the I-81 interchange between U.S. Route 11/ Brewerton Road and Lakeshore Road. A detached sidewalk runs along the south side to approximately the Damon Road intersection.
- U.S. Route 11: Concrete sidewalks exist along limited sections of U.S. Route 11 within the local Transportation Evaluation Area. A sidewalk is present along the west side of the route between the NYS Route 481 overpass and approximately Stevens Drive, alternating between attached and detached. This roadway segment also provides short sections of detached sidewalk along the east side. Short sections of attached and detached sidewalk run adjacent to several businesses on both sides of the route in the vicinity of the NYS Route 31 intersection.

3.2.2 Bicycle Facilities

NYSDOT maintains a network of signed on-road bicycle routes throughout the state. Bicycle travel along these routes typically occurs in shared lanes with vehicles or within the shoulders; marked bike lanes are not provided. Portions of NYS Bicycle Routes 5 and 11 are located within the Transportation Evaluation Area and run concurrently in the eastern portion between U.S. Route 11/Brewerton Road and Thompson Road. A summary is provided based on information obtained online from the NYS Bike Routes Viewer (NYSDOT, n.d.b):

- Bicycle Route 5: Traverses NYS from west to east for 365 miles between Niagara Falls and the Massachusetts state line. This route follows NYS Route 31 through the Transportation Evaluation Area. The pavement surface condition is generally good to the west of U.S. Route 11/Brewerton Road and poor to the east of this intersection. Shoulders are narrow in the western portion between NYS Route 481 and Morgan Road and then widen to approximately seven feet until the intersection with U.S. Route 11/Brewerton Road. The shoulders are narrow to nonexistent through the I-81 interchange area and then widen to seven feet.
- Bicycle Route 11: Traverses NYS from south to northeast for 320 miles from the Pennsylvania state line to near the Canadian border. This route follows Thompson Road, NYS Route 31, and U.S. Route 11/Brewerton Road through the Transportation Evaluation Area. The pavement surface condition is generally good except for the section shared with NYS Route 5, which is rated as poor. Shoulders are 7 feet wide except for the section within the I-81 interchange, which is narrow to nonexistent.

3.2.3 Bus Transit

The Central New York Regional Transit Authority (Centro) provides comprehensive public transportation services throughout Onondaga County and neighboring regions. Eight Centro bus routes operate daily, primarily along U.S. Route 11 and NYS Route 31. These routes are regional rather than local; thus, the stops are spread out and infrequent within the local Transportation Evaluation Area. Table 3-2 lists and describes the Centro bus routes within or connected to the Transportation Evaluation Area.

Table 3-2. Bus Routes Within or Connected to the Transportation Evaluation Area

Bus Route	Description
Route 46 (Liverpool – Route 57 – GNM)	This route follows NYS Route 31 for a short segment in the northwest portion of the Transportation Evaluation Area. This route provides access to the Clay Park-and-Ride Lot but does not serve anywhere else in the study area. The bus services this lot approximately seven times each weekday at approximately 2-hour intervals in both directions between Liverpool and downtown Syracuse.
Route 88 (N. Syracuse)	This route follows U.S. Route 11 to service the Cicero Park-and-Ride Lot northeast of the NYS Route 481 interchange with U.S. Route 11. The route runs three times daily to the Cicero Park-and-Ride Lot, arriving in the morning and evening peak periods.
Route 188 (N. Syracuse – Cicero)	This route follows U.S. Route 11 through the Transportation Evaluation Area to Central Square. The route parallels the eastern boundary of the Micron Campus. The service supplements Route 88 with weekday stops at the Cicero Park-and-Ride Lot at 9:30 a.m. and 11:20 a.m. before continuing north to Central Square.
Route 246 (Oswego – Syracuse via Fulton/ Phoenix)	This route overlaps Route 46 within the Transportation Evaluation Area to serve the Clay Park-and-Ride Lot. The service supplements northbound Route 46 with morning, afternoon, and early evening stops between those for Route 46. In the southbound direction, this route makes one stop at the park-and-ride lot mid-morning.
Route 288 (N. Syracuse – Cicero – Central Square)	This route overlaps Route 188 within the Transportation Evaluation Area and parallels the eastern boundary of the Micron Campus. This route runs from Central Square to Syracuse, with stops at the Cicero Park-and-Ride Lot in the morning and evening peak periods.
Route 388 (Central Square)	This route follows NYS Route 481 within the Transportation Evaluation Area between I-81 and U.S. Route 11 and then along U.S. Route 11 through the northeast portion of the Transportation Evaluation Area to Central Square. This route overlaps with Routes 188 and 288 to the north/east of the NYS Route 481 interchange with U.S. Route 11, paralleling the eastern boundary of the Micron Campus. The service supplements Route 88 with weekday northbound stops at the Cicero Park-and-Ride Lot in the evening peak period.
Clay Park-and-Ride Lot	Routes 46 and 246 service this lot at the GNM in the northwest portion of the local Transportation Evaluation Area. The lot is accessed from NYS Route 31, approximately 2.5 miles west of the Micron Campus.
Cicero Park-and-Ride Lot	Routes 188, 288, and 388 service this lot, located at the Wegmans parking lot, accessed from the U.S. Route 11 intersection with Caughdenoy Road. GNM is in the northwest portion of the local Transportation Evaluation Area. The lot is approximately 1.5 miles southeast of the Micron Campus.

3.2.4 Rail System

The Proposed Project is located near two rail systems: the CSX freight rail line and the New York, Susquehanna, and Western Railway (NYS&W) Main Line. The CSX line runs east-west across New York state and is a vital freight corridor connecting intermodal hubs, such as the Port of Albany, to the national rail

network and international markets. The CSX line also feeds into the NYS&W Main Line, providing regional freight connections throughout Central New York. Amtrak operates passenger trains on CSX-owned tracks under lease agreements; however, the rail lines used for passenger service are beyond the Transportation Evaluation Area. These rail lines form an interconnected network supporting industries reliant on efficient and reliable rail transport for raw materials, goods distribution, and passenger movement.

Rail crossings within the Transportation Evaluation Area include the following:

- NYS Route 31, an at-grade rail crossing, is approximately 1,800 feet west of the Caughdenoy Road intersection. The crossing has signage, flashing lights, a stop arm, and a painted stop bar on the roadway.
- Caughdenoy Road, an at-grade rail crossing, is approximately 1,500 feet south of the Verplank Road intersection. The crossing has signage, flashing lights, a stop arm, and a painted stop bar on the roadway.
- Mud Mill Road, an at-grade rail crossing, is approximately 1,110 feet northeast of the Caughdenoy Road intersection. The crossing has signage, flashing lights, a stop arm, and a painted stop bar on the roadway.
- Maple Road, an at-grade rail crossing, is approximately 1.2 miles west of the Caughdenoy Road intersection. The crossing has signage, flashing lights, a stop arm, and a painted stop bar on the roadway.

3.2.5 Airport

The Syracuse Hancock International Airport (SYR) is the only internationally designated airport in Onondaga County, located approximately 5.6 miles from the Proposed Project. SYR provides service to several passenger and air cargo destinations across the northeast. The airport has two usable runways, measuring 9,003 feet and 7,500 feet long (each 150 feet wide). Designated as a medium hub airport by the Federal Aviation Administration, SYR served more than 1.5 million passenger enplanements in 2024.

SYR is updating and modernizing its Master Plan to meet the area's growing needs, including COVID recovery efforts, expanding unmanned aircraft systems (UASs), deicing upgrades, increasing cargo, and reviewing nonaeronautical land development. By 2040, SYR is expected to serve approximately two million passenger enplanements.

3.3 Adjacent Land Use

The adjacent land surrounding the Proposed Project is primarily suburban development and agriculture, with several tracts of vacant land. East of the Proposed Project along NYS Route 31, land use is predominantly commercial and residential, with greater commercial use concentration along the I-81 corridor. To the west of the Proposed Project along NYS Route 31, the land use is primarily agricultural, with residential and commercial uses closer to the NYS Route 481 corridor. The land use is predominantly agricultural and vacant land north of the Proposed Project site, with some residential uses. To the south, land use is primarily agricultural, vacant, and residential.

3.3.1 White Pine Science & Technology Park

The White Pine Science & Technology Park is not part of the Proposed Project. It was included as part of the background conditions for analysis purposes. The White Pine Science & Technology Park is directly adjacent to the Micron Campus in Clay, New York. Owned by the Onondaga County Industrial

Development Agency, this development is strategically positioned to attract additional economic development in Onondaga County, including warehouses, manufacturing plants, and research and development centers, some of which could include supply chain companies that could support Micron's operations.

3.4 Travel Patterns

Based on the SMTC regional models and existing traffic patterns, the following distribution of trips is descriptive of the Transportation Evaluation Area:

- 20% travel to/from the south on NYS Route 481
- 16% travel to/from the south on Morgan Road
- 15% travel to/from the west on NYS Route 31
- 9% travel to/from the east on NYS Route 31
- 8% travel to/from the north on Morgan Road
- 6% travel to/from the south on Soule Road
- 5% travel to/from the north on NYS Route 481
- 5% travel to/from the south on Henry Clay Boulevard
- 5% travel to/from the north on Caughdenoy Road
- 4% travel to/from the north on Oswego Road
- 3% travel to/from the north on Henry Clay Boulevard
- 2% travel to/from the south on Oswego Road
- 2% travel to/from the northwest via the Home Depot and Dell Center driveways
- 1% travel to/from the south on Caughdenoy Road

4. Crash Analysis

NYSDOT maintains a database known as the Accident Location Information System (ALIS), which catalogs information about crashes throughout the state. Recently, NYSDOT transitioned its database from ALIS to Crash Location and Engineering Analysis and Reporting (CLEAR). The study used the ALIS/CLEAR database to perform a crash analysis in accordance with HDM Chapter 5 (NYSDOT, 2023a) and the Safety Investigation Procedures Manual, also known as the Yellow Book (NYSDOT, 2023b).

The analysis was performed with five years of complete crash data from 2018 to 2022 to provide input into developing alternatives to address safety concerns. The entire Transportation Evaluation Area recorded 2,738 crashes, including fatalities, injuries, and property damage only, with three fatal crashes during this time. Out of these, 186 (6.8 percent) crashes were not reported. Crashes are categorized as "intersection" or "non-intersection" (segment) crashes. Crashes within the Transportation Evaluation Area are more likely to occur at intersections. There are 52 primary intersections along NYS Route 31, Caughdenoy Road, and U.S. Route 11. The segment area of the study stretches along both directions of the mainlines and interchanges/ramps of I-81 and NYS Route 481.

4.1 Total Crashes by Year

Within the entire Transportation Evaluation Area, 2,738 crashes were examined during this period. Of these crashes, 58 percent occurred at intersections, with the majority occurring on the U.S. Route 11 corridor. For the non-intersection (segment) crashes, 13 percent were on NYS Route 481, 16 percent were on I-81, and 2 percent were on the ramps. Crashes are classified as "reportable" or "non-reportable" by the Department of Motor Vehicles. A crash is classified as reportable if it results in death, personal injury, or property damage only to any single motor vehicle that meets a threshold of at least $1,000.

All other crashes that do not meet these criteria are considered non-reportable. Figure 4-1 illustrates the distribution of reportable and non-reportable total crashes at segments and intersections. The segments/mainlines experienced lower traffic due to COVID-19, resulting in fewer crashes during 2020 and 2021; however, the number gradually increased during the period. Figure 4-2 illustrates the yearly distribution of crashes on non-intersection segments: NYS Route 481 (eastbound, westbound), I-81 (northbound, southbound), and the ramps, with associated annual average daily traffic for 2023. There was a 34.8 percent reduction in overall crashes in 2020 compared to 2019. With the resumption of normalcy, there is an 8.6 percent increase in total crashes in 2022 compared to 2020.

Figure 4-1. Total Crashes in Transportation Evaluation Area (2018-2022)

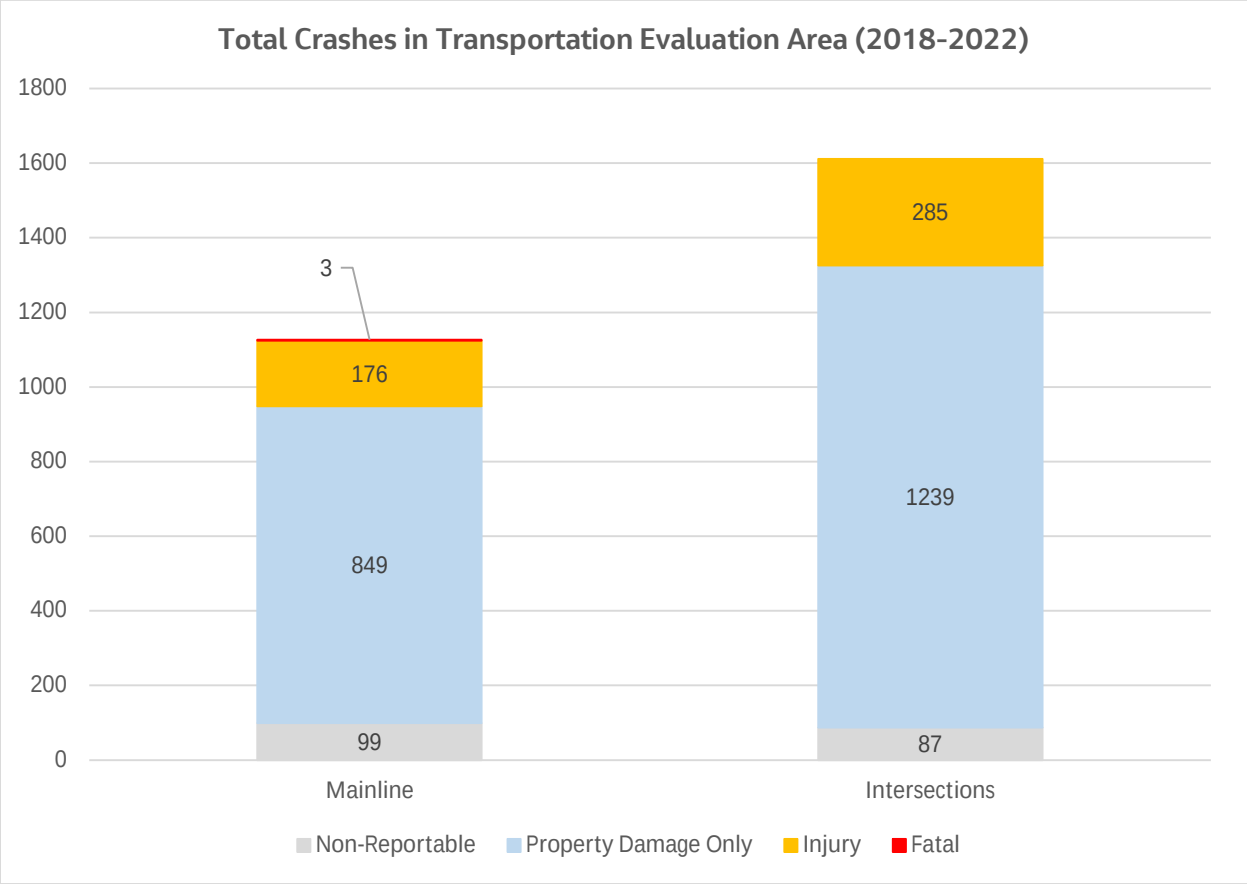
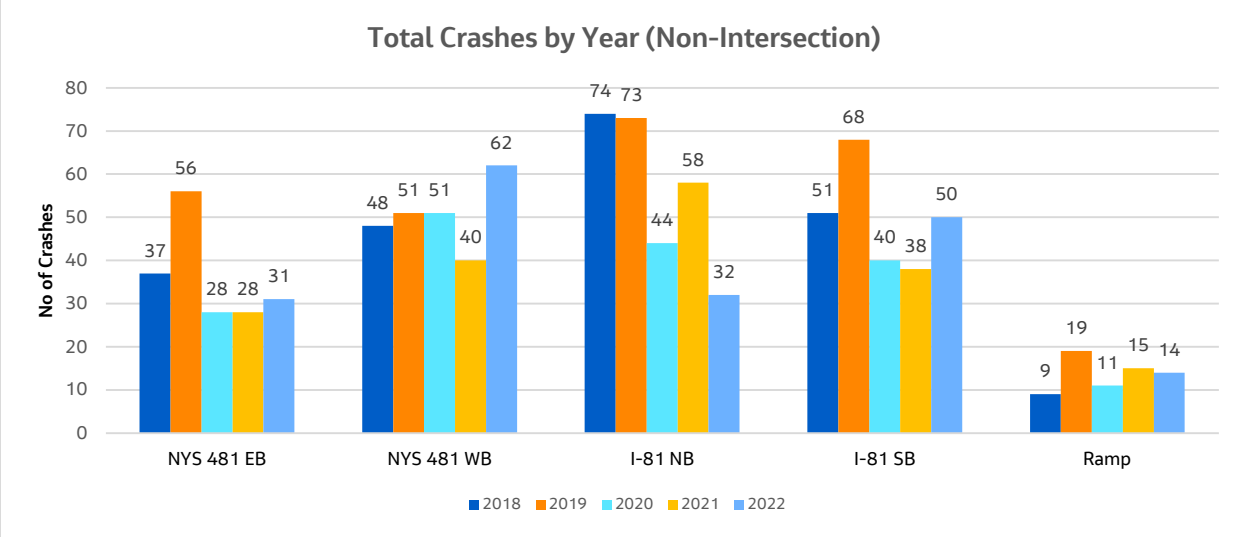


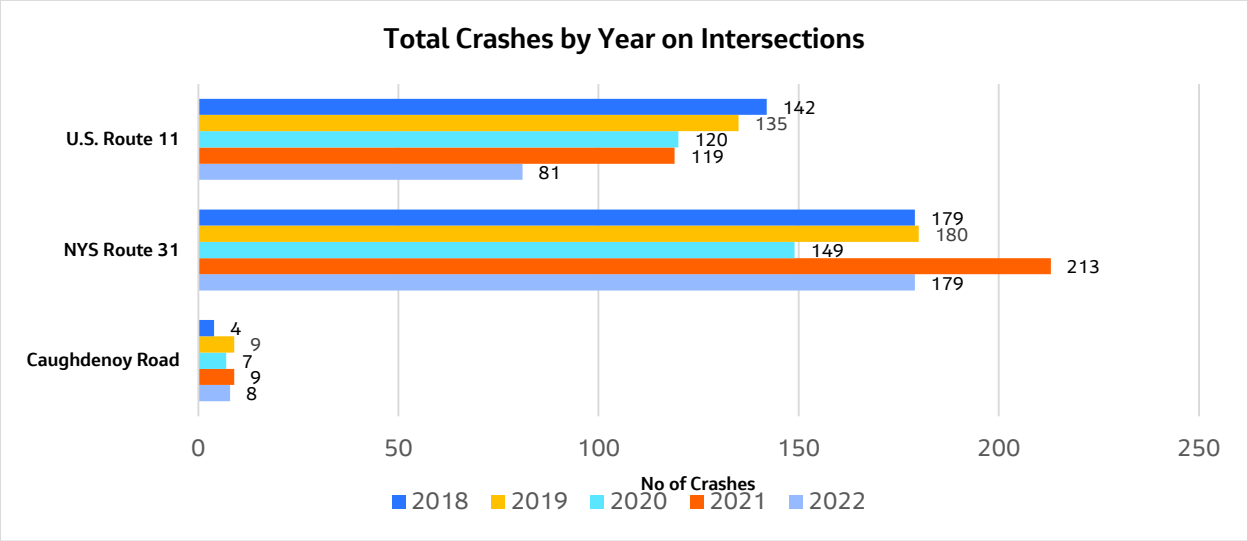
Figure 4-2. Total Non-Intersection Crashes by the year (2018-2022)



The study evaluated 1,524 reportable crashes for 52 intersections along the primary roadways of NYS Route 31, Caughdenoy Road, and U.S. Route 11. The predominant crash types for these 52 intersections involved property-damage-only crashes. As shown in Figure 4-3, the intersections on U.S. Route 11 have a

higher number of crashes (U.S. Route 11 and Hogan Drive and U.S. Route 11 and NYS Route 31). Rear-end and right-angle crashes account for nearly 49 percent of the crashes at these intersections. The lack of visibility or awareness of signal controls may contribute to crashes due to driver indecision, late lane changes, or speeding within the intersection approach area. Overtaking crashes were the third most common crash type and, together with left-turn crashes, accounted for 21 percent of the primary intersection crashes. In the most recent year of crash data (2021), crashes along NYS Route 481 westbound were observed to be higher than the other roadways, as shown in Figure 4-2.

Figure 4-3. Total Intersection Crashes by the year (2018-2022)



4.1.1 Crash Severity

All the reportable crashes are categorized by severity outcome into fatal, injury, and property damage only. A crash is categorized according to the highest severity level; thus, a crash that results in a fatality and an injury is categorized as a fatal crash.

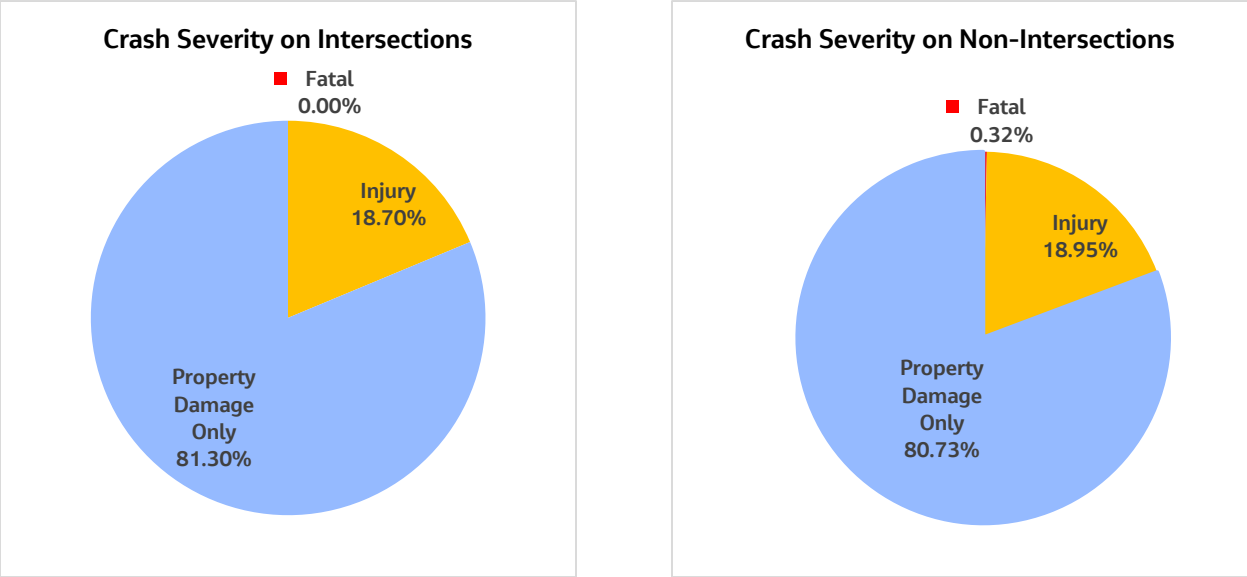
For the non-intersection crashes, as shown in Figure 4-4, slightly more than 18 percent of all crashes resulted in injuries, while 80.73 percent of crashes involved only personal property damage. Three fatalities are reported on the NYS Route 481 corridor. Motor vehicle-related crashes are the primary source of both injury and property damage only. Injury-related crashes account for approximately 20 percent of crashes that occur at intersections. There were no fatal crashes at the intersections within the study period.

Fixed objects and animal-related crashes comprise more than 24 percent of crashes along the corridor. On the ramp, crash rates are higher than the respective NYSDOT average crash rates by facility type, indicating that crashes occur more frequently than expected and are more severe than those in local areas.

Figure 4-4 illustrates the crash-type distribution at the primary intersections along the corridor. While most severe crashes involve multiple vehicles, pedestrian- and bicycle-related crashes account for only 1.19 percent of the primary intersection crashes. Rear-end collisions are the most common type of intersection crash, accounting for 47 percent of total crashes as seen in Figure 4-5. The crash types that represent a higher proportion of severe crashes were prioritized over the respective total crashes, suggesting the potential for improvement and implementation. Most of the narratives for these severe

crashes suggest the primary contributing factors were related to driver error, driving under the influence, or cell phone usage while driving.

Figure 4-4. Crash Severity at Intersections and Non-Intersections

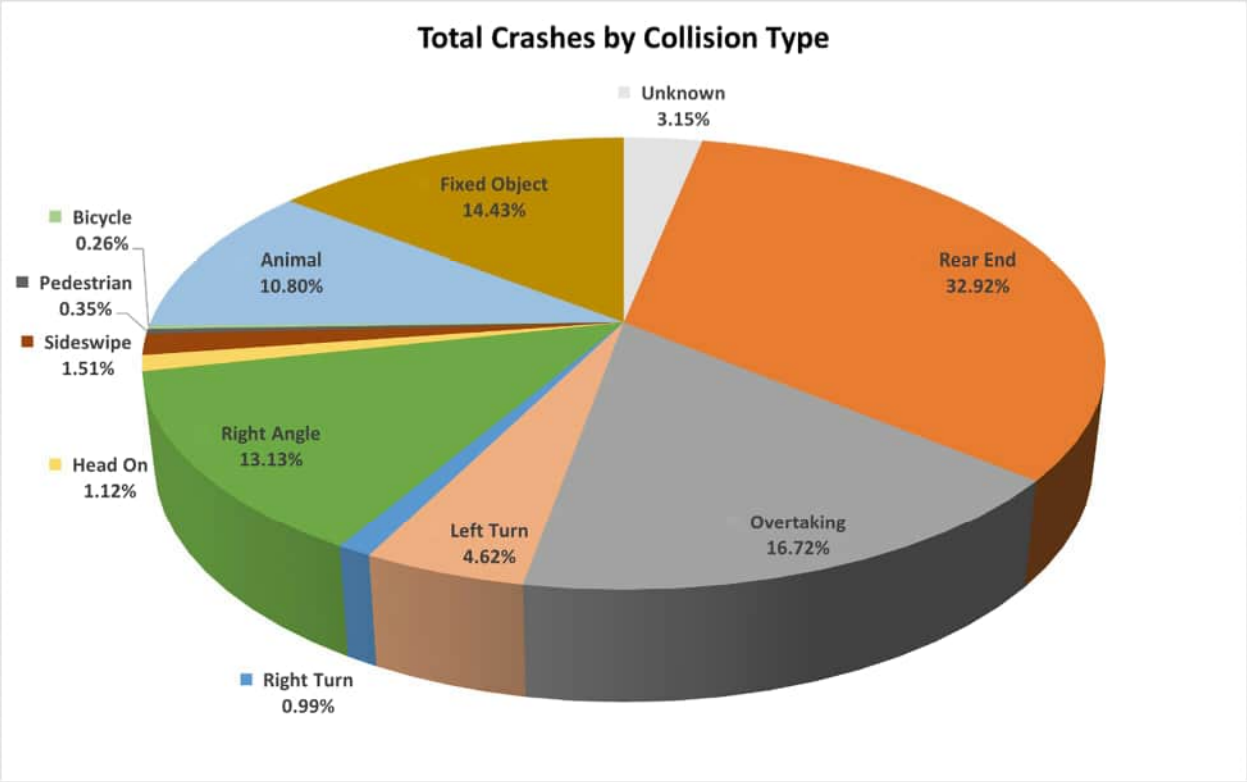


4.1.1.1 Collision Type and Contributing Factors

For all the evaluated crashes, the type of collision (rear end, right angle) is noted, and all recorded crashes must also have at least one apparent contributing factor indicated (human, vehicular, or environmental). The most common collision types within the Transportation Evaluation Area were rear end, right angle, overtaking, and left turn (against another car). The most common contributing factors were failure to yield the right-of-way, following too closely, driver inattention, and backing up in an unsafe manner.

As shown in Figure 4-5, the predominant collision types (nearly 33 percent) for all crashes were related to rear-end crashes. Right-angle and overtaking crashes account for nearly 30 percent of collisions, which are more prevalent during congested conditions. Two of the three highest hours for crash frequency and traffic volume overlap between 4:00 p.m. and 6:00 p.m. A weather event or wet/icy road surfaces were listed as contributing factors to approximately four percent of fixed object crashes and less than one percent of all crashes, indicating weather conditions were not a predominant contributing factor to corridor crashes.

Figure 4-5. Summary by Collision Type



4.1.2 Crashes Involving a Bicyclist or a Pedestrian

Over the 5-year period, there were 11 crashes involving a pedestrian and 15 crashes involving a bicyclist. All pedestrian and bicyclist crashes are intersection crashes, and 76.92 percent of those crashes result in serious injury. Of these collisions involving bicyclists or pedestrians, the following trends appeared:

- 20% of crashes occurred in wet road conditions
- 32% of crashes occurred in low light conditions between 5:00 p.m. and 6:00 p.m.

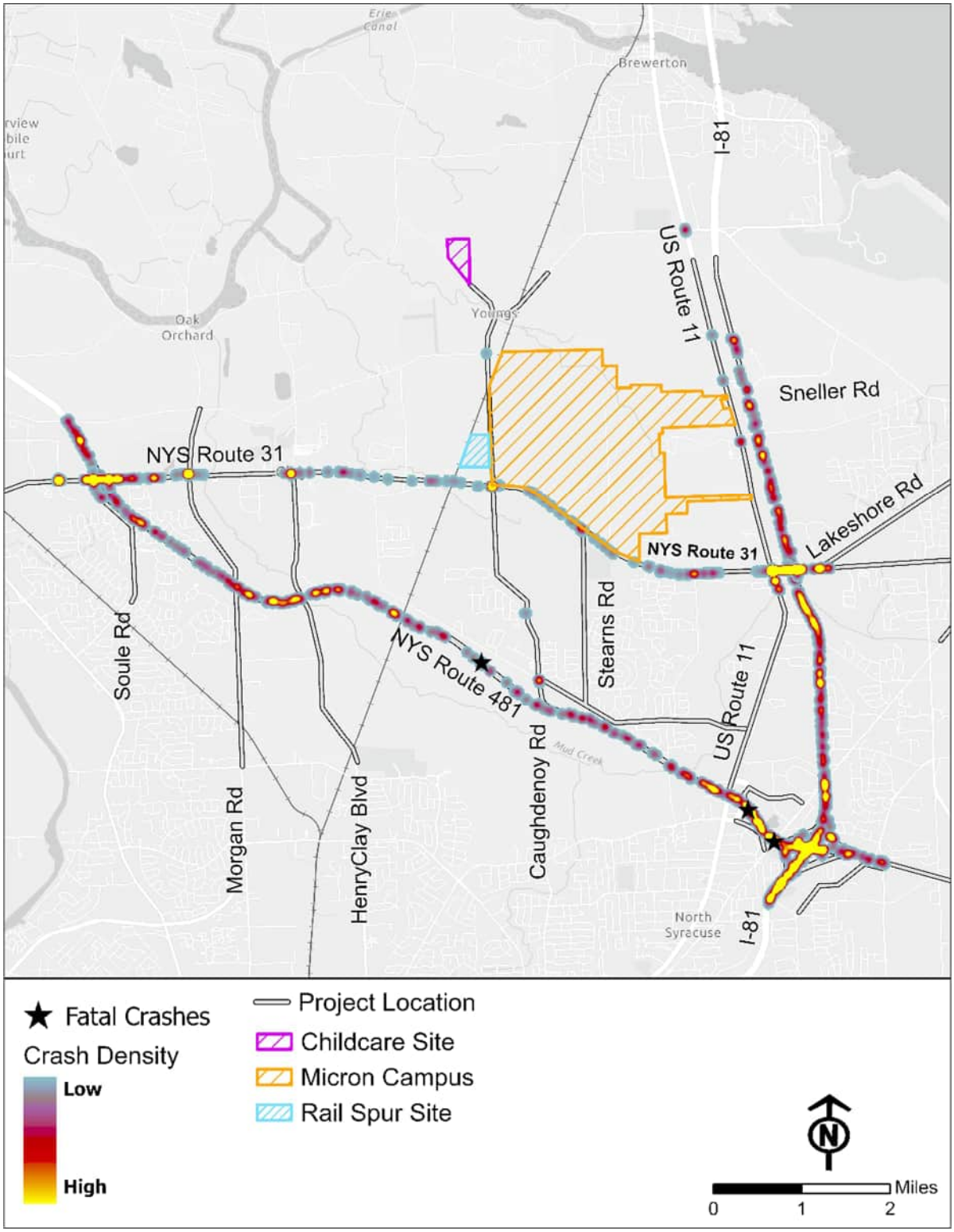
Potential contributing factors include: "driver inattention," "failure to yield right-of-way," "aggressive driving," and "glare."

4.1.3 Crash Distribution

Figure 4-6 is a heat map depicting crash frequency over the evaluated five-year period. The yellow locations indicate higher concentrations of crashes, and the blue locations have fewer crashes. Yellow areas occur along the arterial roadways that service higher traffic volumes and typically encompass at-grade intersections. The interchanges and ramps connecting I-81 and NYS Route 481 experience higher crash rates. All three fatal crashes occurred on NYS Route 481, denoted with a black star on Figure 4-6. Intersections between NYS Route 31 and Brewerton Road, NYS Route 31 and Pardee Road, Caughdenoy Road and NYS Route 31, and U.S. Route 11 and Hogan Drive exhibit a higher agglomeration of crashes. This is an expected result because higher traffic volumes increase exposure and potential for crashes. Likewise, conflicting traffic flows, alternative-mode users, and changing conditions at intersections increase the potential for crashes.

The collision diagrams in Appendix C provide a more accurate representation of the dynamics occurring at intersections and non-intersections.

Figure 4-6. Heat Map of Total Crashes (Intersection and Non-Intersection)



4.2 Accident Rate Comparison

Highway crash analysis was performed along the mainlines and interchanges/ramps along a 10.5-mile stretch of I-81 northbound, 8.5 miles of I-81 southbound, 11.3 miles of NYS Route 481 eastbound, and 11.2 miles of NYS Route 481 westbound. To better identify crash clusters and analyze the data, the directional mainline stretches of I-81 and NYS Route 481 were divided into basic, merge, diverge, or weaving segments for analysis. Crashes along the highways were then grouped into the segments on which they occurred, while individual ramps and interchanges were assigned as unique segments. The crash rates for the highway segments were calculated in crashes per million vehicle miles (ACC/MVM). The calculated crash rate for each Transportation Evaluation Area segment used the following equation:

$$\text{Segment Crash Rate (acc/MVM)} = \frac{1{,}000{,}000 \times \text{No. of crashes per year}}{365 \times \text{AADT} \times \text{segment length (in miles)}}$$

The calculated crash rates for highway crashes were compared to the statewide average crash rates for segments along this type of facility (NYSDOT (2020) Average Accident Rates). The highways in the Transportation Evaluation Area all fell within the Urban Function Class. The comparison includes crash rates for all types, fixed object, and wet-road crashes. Tables 4-1, 4-2, and 4-3 summarize the statewide average crash rates used in this analysis.

Table 4-4 presents a summary by severity and type of crash for the crashes recorded during the 5-year crash study period within the Transportation Evaluation Area. This table also compares crash rates along the highway segments with the NYSDOT average crash data, and the segments with higher crash rates compared to the NYSDOT average are highlighted. Figures 4-7 through 4-11 present the limits of highway crash segments for NYS Route 481 eastbound; NYS Route 481 westbound, northbound, and southbound; and ramps.

Table 4-1. 2020 NYSDOT Average Crash Rates: Urban Function Class - Highway Mainline

Free Access Controlled Urban Function Class	Mainline Accidents Only			Mainline and Junction Accidents		
	All Types ACC/MVM	Rear End ACC/MVM	Fixed Object ACC/MVM	All Types ACC/MVM	Rear End ACC/MVM	Fixed Object ACC/MVM
Undivided						
2 Lanes	2.32	0.39	0.33	3.57	0.61	0.42
3 Lanes	3.39	0.57	0.29	5.42	0.92	0.39
4 Lanes	3.46	0.63	0.22	6.11	1.13	0.33
All Lanes	2.57	0.44	0.31	4.08	0.71	0.4
Divided						
2 Lanes	3.27	0.58	0.20	5.28	0.92	0.31
4 Lanes	2.93	0.54	0.18	4.54	0.84	0.24
6 Lanes	3.75	0.70	0.15	5.04	0.92	0.19

Free Access Controlled Urban Function Class	Mainline Accidents Only			Mainline and Junction Accidents		
	All Types ACC/MVM	Rear End ACC/MVM	Fixed Object ACC/MVM	All Types ACC/MVM	Rear End ACC/MVM	Fixed Object ACC/MVM
7 Lanes	2.88	0.55	0.08	3.42	0.68	0.14
All Lanes	3.22	0.59	0.18	4.82	0.88	0.24

Table 4-2. 2020 NYSDOT Average Crash Rates: Urban Function Class - Highway On-Ramp

On-Ramp (All Control)	All Types ACC/MVM	Rear End ACC/ MVM	Over-taking ACC/ MVM	Left Turn ACC/ MVM	Right Turn ACC/ MVM	Right Angle ACC/ MVM	Head On AVV/ MVM	Side-swipe ACC/ MVM	Wet Road ACC/ MVM
Merge w/1 Lane	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Merge w/2 Lanes	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Merge w/3 &> Lanes	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 4-3. 2020 NYSDOT Average Crash Rates: Urban Function Class - Highway Off-Ramp

Off-Ramp (All Control)	All Types ACC/ MVM	Rear End ACC/ MVM	Over-taking ACC/ MVM	Left Turn ACC/ MVM	Right Turn ACC/ MVM	Right Angle ACC/ MVM	Head On AVV/ MVM	Sidesw ipe ACC/ MVM	Wet Road ACC/ MVM
Merge w/1 Lane	0.06	0.01	0.03	0.00	0.00	0.01	0.00	0.00	0.01
Merge w/2 Lanes	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.01
Merge w/ 3 &> Lanes	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00

Table 4-4. Crash Summary by Type and Severity and Comparison of Crash Rate to NYSDOT Average Crash Rate by Functional Class: Highway Segments

Segment ID	Crash Severity					Crash Type												Accident Rate (from 1/1/2015 to 12/31/2020)									
	Fatal	Injury	Property Damage	Non-Reportable	Total	Unknown	Rear End	Overtaking	Left Turn	Right Turn	Right Angle	Head On	Sideswipe	Pedestrian	Bicycle	Animal	Fixed Object	Total	Crashes Per 1 MVM	CR, Wet Road	CR, Left Turn	CR, Rear End	CR, Overtaking	CR, Right Angle	CR, Right Turn	CR, Head On	CR, Sideswipe	CR, Fixed Object
Mainline: NYS Route 481 EB																												
NYS Route 481EB_001_S	0	1	3	0	4	0	0	0	0	0	0	0	0	0	0	3	1	4	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
NYS Route 481 EB_002_D	0	0	10	0	10	0	0	3	0	0	0	0	0	0	0	6	1	10	2.45	0.49	0.00	0.00	0.74	0.00	0.00	0.00	0.00	0.25
NYS Route 481 EB_003_S	0	0	5	0	5	0	2	0	0	0	0	0	0	0	0	0	3	5	1.77	0.71	0.00	0.71	0.00	0.00	0.00	0.00	0.00	1.06
NYS Route 481 EB_004_M	0	1	5	1	7	2	0	5	0	0	0	0	0	0	0	0	0	5	0.90	0.00	0.00	0.00	0.75	0.00	0.00	0.00	0.00	0.00
NYS Route 481 EB_005_S	0	12	65	5	82	13	7	8	0	0	2	0	0	0	0	33	19	69	0.61	0.22	0.00	0.06	0.06	0.02	0.00	0.00	0.00	0.15
NYS Route 481 EB_006_D	0	1	13	1	15	4	3	4	0	0	0	0	0	0	0	2	2	11	2.10	0.90	0.00	0.45	0.60	0.00	0.00	0.00	0.00	0.30
NYS Route 481 EB_007_S	1	1	4	1	7	1	0	2	0	0	0	0	0	0	0	0	4	6	2.17	0.72	0.00	0.00	0.72	0.00	0.00	0.00	0.00	1.45
NYS Route 481 EB_008_W	1	7	21	3	32	9	3	7	0	0	1	1	0	0	0	1	10	23	1.62	0.84	0.00	0.17	0.39	0.06	0.00	0.06	0.00	0.56
NYS Route 481 EB_009_W	0	6	16	1	23	5	5	5	0	0	0	0	0	0	0	1	7	18	1.94	0.88	0.00	0.44	0.44	0.00	0.00	0.00	0.00	0.62
NYS Route 481 EB_010_S	0	0	2	0	2	0	0	1	0	0	0	0	0	0	0	0	1	2	0.28	0.28	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.14
NYS Route 481 EB_011_M	0	1	4	0	5	0	0	0	0	0	0	0	0	0	0	4	1	5	0.53	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11
Mainline: NYS Route 481 WB																												
NYS Route 481 WB_002_D	0	0	6	0	6	0	0	1	0	0	0	0	0	0	0	1	4	6	0.67	0.34	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.45
NYS Route 481 WB_003_S	0	2	3	0	5	0	0	0	0	0	1	0	0	0	0	0	4	5	1.18	0.71	0.00	0.00	0.00	0.24	0.00	0.00	0.00	0.94
NYS Route 481 WB_004_W	0	9	37	4	50	14	8	12	0	0	0	1	0	0	0	2	13	36	2.71	1.12	0.00	0.47	0.71	0.00	0.00	0.06	0.00	0.77
NYS Route 481 WB_005_S	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	1	1.03	0.00	0.00	0.00	1.03	0.00	0.00	0.00	0.00	0.00
NYS Route 481 WB_006_W	0	7	35	3	45	13	6	7	1	0	0	0	0	0	0	0	18	32	1.87	0.98	0.04	0.27	0.31	0.00	0.00	0.00	0.00	0.80
NYS Route 481 WB_007_S	0	1	7	0	8	3	1	1	0	0	0	0	0	0	0	0	3	5	2.53	0.63	0.00	0.32	0.32	0.00	0.00	0.00	0.00	0.95
NYS Route 481 WB_008_M	0	2	9	1	12	5	3	2	0	0	0	0	0	0	0	2	0	7	1.37	0.37	0.00	0.37	0.25	0.00	0.00	0.00	0.00	0.00
NYS Route 481 WB_009_S	0	4	13	1	18	3	2	4	0	0	0	0	0	0	0	6	3	15	0.61	0.11	0.00	0.07	0.14	0.00	0.00	0.00	0.00	0.11
NYS Route 481 WB_010_D	0	2	3	0	5	0	1	0	0	0	0	0	0	0	0	2	2	5	0.62	0.12	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.25
NYS Route 481 WB_011_S	1	14	70	5	90	14	12	6	1	0	0	0	0	0	0	37	20	76	0.91	0.28	0.01	0.13	0.06	0.00	0.00	0.00	0.00	0.21
NYS Route 481 WB_012_D	0	2	7	0	9	3	0	2	0	0	0	0	0	0	0	1	3	6	1.37	0.46	0.00	0.00	0.30	0.00	0.00	0.00	0.00	0.46
NYS Route 481 WB_013_S	0	1	6	1	8	2	2	3	0	0	0	0	0	0	0	0	1	6	1.98	0.57	0.00	0.57	0.85	0.00	0.00	0.00	0.00	0.28
NYS Route 481 WB_014_M	0	2	7	0	9	3	1	4	0	0	0	0	0	0	0	1	0	6	1.99	0.22	0.00	0.22	0.89	0.00	0.00	0.00	0.00	0.00
NYS Route 481 WB_015_S	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mainline: I-81 SB																												
I-81 SB_002_D	0	2	6	0	8	1	1	3	0	0	0	1	0	0	0	1	1	7	0.84	0.21	0.00	0.10	0.31	0.00	0.00	0.10	0.00	0.10
I-81 SB_003_S	0	4	16	4	24	8	7	1	0	0	1	0	0	0	0	4	3	16	2.33	0.58	0.00	0.82	0.12	0.12	0.00	0.00	0.00	0.35
I-81 SB_004_M	0	1	7	0	8	0	1	1	0	0	0	0	0	0	0	1	5	8	0.66	0.33	0.00	0.08	0.08	0.00	0.00	0.00	0.00	0.42
I-81 SB_005_S	0	10	59	6	75	19	11	5	0	0	2	0	0	0	0	29	9	56	0.54	0.16	0.00	0.09	0.04	0.02	0.00	0.00	0.00	0.07

Segment ID	Crash Severity					Crash Type												Accident Rate (from 1/1/2015 to 12/31/2020)									
	Fatal	Injury	Property Damage	Non-Reportable	Total	Unknown	Rear End	Overtaking	Left Turn	Right Turn	Right Angle	Head On	Sideswipe	Pedestrian	Bicycle	Animal	Fixed Object	Total	Crashes Per 1 MVM	CR, Wet Road	CR, Left Turn	CR, Rear End	CR, Overtaking	CR, Right Angle	CR, Right Turn	CR, Head On	CR, Sideswipe	CR, Fixed Object
I-81 SB_006_D	0	1	8	1	10	3	1	2	0	0	0	0	0	0	0	2	2	7	0.75	0.25	0.00	0.08	0.17	0.00	0.00	0.00	0.00	0.17
I-81 SB_007_S	0	1	7	1	9	1	2	2	0	0	1	0	0	0	0	0	3	8	0.54	0.27	0.00	0.13	0.13	0.07	0.00	0.00	0.00	0.20
I-81 SB_008_M	0	0	18	2	20	10	2	5	0	0	1	0	0	0	0	0	2	10	1.34	0.30	0.00	0.15	0.37	0.07	0.00	0.00	0.00	0.15
I-81 SB_009_S	0	8	35	6	49	15	7	11	0	0	0	0	0	0	0	9	7	34	0.66	0.29	0.00	0.11	0.17	0.00	0.00	0.00	0.00	0.11
I-81 SB_010_D	0	1	10	1	12	1	3	1	0	0	0	0	0	0	0	3	4	11	0.82	0.22	0.00	0.22	0.07	0.00	0.00	0.00	0.00	0.30
I-81 SB_011_S	0	0	2	0	2	0	0	1	0	0	0	0	0	0	0	0	1	2	0.34	0.00	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.17
I-81 SB_012_W	0	5	23	6	34	11	8	5	0	0	0	0	0	0	0	2	8	23	1.48	0.58	0.00	0.42	0.26	0.00	0.00	0.00	0.00	0.42
I-81 SB_013_S	0	0	5	1	6	1	0	4	0	0	1	0	0	0	0	0	0	5	1.71	0.34	0.00	0.00	1.37	0.34	0.00	0.00	0.00	0.00
I-81 SB_014_M	0	0	18	4	22	5	2	9	0	0	0	0	0	0	0	3	3	17	1.13	0.31	0.00	0.13	0.57	0.00	0.00	0.00	0.00	0.19
Mainline: I-81 NB																												
I-81 NB_002_D	0	11	30	6	47	14	11	4	0	0	1	0	0	0	0	2	15	33	2.64	0.97	0.00	0.71	0.26	0.06	0.00	0.00	0.00	0.97
I-81 NB_003_S	0	7	11	2	20	6	6	3	0	0	0	1	0	0	0	2	2	14	1.88	0.73	0.00	0.63	0.31	0.00	0.00	0.10	0.00	0.21
I-81 NB_004_W	0	10	40	6	56	15	22	10	0	0	0	0	0	0	0	3	6	41	3.03	1.03	0.00	1.33	0.61	0.00	0.00	0.00	0.00	0.36
I-81 NB_005_S	0	1	6	1	8	3	0	3	0	0	0	0	0	0	0	1	1	5	0.75	0.32	0.00	0.00	0.32	0.00	0.00	0.00	0.00	0.11
I-81 NB_006_M	0	3	16	2	21	4	1	7	0	0	0	0	0	0	0	2	7	17	1.56	0.57	0.00	0.08	0.57	0.00	0.00	0.00	0.00	0.57
I-81 NB_007_S	0	8	31	6	45	14	8	8	0	0	1	0	0	0	0	8	6	31	0.73	0.32	0.00	0.15	0.15	0.02	0.00	0.00	0.00	0.11
I-81 NB_008_D	0	2	15	1	18	4	3	5	0	0	0	0	0	0	0	3	3	14	1.39	0.49	0.00	0.25	0.41	0.00	0.00	0.00	0.00	0.25
I-81 NB_009_S	0	2	6	1	9	4	0	1	0	0	0	0	0	0	0	1	3	5	0.69	0.26	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.26
I-81 NB_010_M	0	2	6	1	9	3	1	3	0	0	0	1	0	0	0	1	0	6	0.82	0.51	0.00	0.10	0.31	0.00	0.00	0.10	0.00	0.00
I-81 NB_011_S	0	11	53	8	72	24	5	10	0	0	0	0	1	0	0	21	11	48	0.51	0.17	0.00	0.04	0.08	0.00	0.00	0.00	0.01	0.09
I-81 NB_012_D	0	2	3	1	6	2	0	0	0	0	0	1	0	0	0	1	2	4	0.45	0.09	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.18
I-81 NB_013_S	0	0	2	0	2	0	0	0	1	0	0	0	0	0	0	0	1	2	0.50	0.25	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.25
I-81 NB_014_M	0	0	3	0	3	0	0	1	0	0	0	0	0	0	0	1	1	3	0.31	0.10	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.10
Entry/Exit Ramps																												
I-81 NB_to_NYS Route 481 EB	0	0	4	0	4	0	1	0	0	0	0	0	0	0	0	0	3	4	1.48	0.74	0.00	0.37	0.00	0.00	0.00	0.00	0.00	1.11
I-81 NB_to_NYS Route 481 WB	0	2	12	1	15	1	2	0	0	0	0	0	0	0	0	0	12	14	2.29	1.15	0.00	0.33	0.00	0.00	0.00	0.00	0.00	1.97
I-81 SB_to_NYS Route 481 WB	0	0	2	1	3	1	1	0	0	0	0	0	1	0	0	0	0	2	1.35	0.00	0.00	0.67	0.00	0.00	0.00	0.00	0.67	0.00
I-81 SB_to_NYS Route 481 EB	0	0	6	0	6	0	3	0	0	0	0	0	0	0	0	0	3	6	2.36	0.79	0.00	1.18	0.00	0.00	0.00	0.00	0.00	1.18
NYS Route 481 EB_to_I-81 SB	0	1	5	0	6	0	0	0	0	0	0	0	0	0	0	0	6	6	0.90	0.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.90
NYS Route 481 EB_to_I-81 NB	0	1	3	0	4	0	0	0	0	0	0	0	0	0	0	0	4	4	3.91	2.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.91
NYS Route 481 WB_to_I-81 NB	0	0	6	1	7	1	1	2	0	0	0	0	0	0	0	1	2	6	1.15	0.58	0.00	0.19	0.38	0.00	0.00	0.00	0.00	0.38
NYS Route 481 WB_to_I-81 SB	0	2	12	2	16	1	0	0	0	0	0	0	1	0	0	0	14	15	14.47	11.37	0.00	0.00	0.00	0.00	0.00	0.00	1.03	14.47
I-81 NB_to Bartell Road	0	0	4	0	4	0	1	1	0	0	0	0	0	0	0	0	2	4	2.53	0.63	0.00	0.63	0.63	0.00	0.00	0.00	0.00	1.27

Segment ID	Crash Severity					Crash Type												Accident Rate (from 1/1/2015 to 12/31/2020)									
	Fatal	Injury	Property Damage	Non-Reportable	Total	Unknown	Rear End	Overtaking	Left Turn	Right Turn	Right Angle	Head On	Sideswipe	Pedestrian	Bicycle	Animal	Fixed Object	Total	Crashes Per 1 MVM	CR, Wet Road	CR, Left Turn	CR, Rear End	CR, Overtaking	CR, Right Angle	CR, Right Turn	CR, Head On	CR, Sideswipe	CR, Fixed Object
I-81 SB_to_NYS Route 31	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0.75	0.75	0.00	0.75	0.00	0.00	0.00	0.00	0.00	0.00
Pardee Road_to_I-81 NB	0	1	1	0	2	0	1	0	0	0	0	0	0	0	0	0	1	2	5.75	2.88	0.00	2.88	0.00	0.00	0.00	0.00	0.00	2.88
NYS Route 481 EB_to_Bear Road	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.08
Bear Road_to_NYS Route 481 EB	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0.19	0.00	0.00	0.00	0.19	0.00	0.00	0.00	0.00	0.00
NYS Route 481 WB_to_Circle Drive E	0	0	2	0	2	0	1	0	0	0	0	0	0	0	0	0	1	2	0.48	0.24	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.24
Soule Road_to_NYS Route 481 EB	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0.37	0.00	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.00
Total	**3**	**176**	**849**	**99**	**1127**	**267**	**171**	**187**	**3**	**0**	**12**	**6**	**3**	**0**	**0**	**203**	**275**	**1127**										

CR = crash rate
Red = values exceeding the NYSDOT Average Accident Rates

4.2.1.1 Intersection Crash Data

During the analyzed period intersection crash data was collected for NYS Route 31 from Carling Road to Lakeshore Road, NYS Route 481 from Verplank Road to Thompson Road, I-81 from Church Street to NYS Route 31, Caughdenoy Road from Maple Road to Verplank Road, and U.S. Route 11 from Baily Road to Mud Mill Road. Further interchange/ramp crash data were collected from on/off ramps along I-81 and NYS Route 481 within the Transportation Evaluation Area, and at the 42 TMC locations. The crash rates for the intersections were calculated in crashes per million entering vehicles (ACC/MEV). The calculated crash rate for each Transportation Evaluation Area intersection used the following equation:

$$Intersection\left(\frac{crash}{MEV}\right) = \frac{1,000,000 * Total\ Number\ of\ Crashes}{365 * Number\ of\ Years * AADT}$$

The calculated crash rates for intersection crashes were compared to the statewide average crash rates for intersections along this type of facility (NYSDOT (2020) Average Accident Rates). The comparison includes crash rates for all types, including rear-end, overtaking, left-turn, right-turn, right-angle, head-on, sideswipe, and wet-road crashes. Tables 4-5 and 4-6 summarize the statewide average crash rates used in this analysis. Table 4-7 presents a summary by severity and crash type for the crashes recorded during the 5-year crash study period within the Transportation Evaluation Area. This table also compares crash rates at the studied intersections with the NYSDOT average crash data, and the intersections with higher crash rates compared to the NYSDOT average are highlighted.

Table 4-5. 2020 NYSDOT Average Crash Rates: Urban Function Class – Three-Legged Intersection

3 Legged Intersections	All Types ACC/ MEV	Rear End ACC/ MEV	Over-taking ACC/ MEV	Left Turn ACC/ MEV	Right Turn ACC/ MEV	Right Angle ACC/ MEV	Head On ACC/ MEV	Side-swipe ACC/ MEV	Wet Road ACC/ MEV
Signal 1-4 Lanes	0.31	0.12	0.04	0.03	0.01	0.04	0.01	0.01	0.06
Signal w/ Left Turn 5 &> Lanes	0.16	0.07	0.03	0.01	0.00	0.03	0.00	0.00	0.02
Signal w/o Left Turn 5 &> Lanes	0.10	0.04	0.02	0.01	0.00	0.01	0.00	0.00	0.01
Sign 1-3 Lanes	0.17	0.06	0.01	0.01	0.00	0.02	0.00	0.00	0.03
Sign 4 Lanes	0.12	0.04	0.02	0.01	0.00	0.02	0.00	0.00	0.02
Sign 5 &> Lanes	0.06	0.02	0.01	0.00	0.00	0.01	0.00	0.00	0.01
No Control All Lanes	0.06	0.02	0.01	0.00	0.00	0.01	0.00	0.00	0.01

Table 4-6. 2020 NYSDOT Average Crash Rates: Urban Function Class – Four-Legged Intersection

4 Legged & > Intersections	All Types ACC/ MEV	Rear End ACC/ MEV	Over-taking ACC/ MEV	Left Turn ACC/ MEV	Right Turn ACC/ MEV	Right Angle ACC/ MEV	Head On ACC/ MEV	Side-swipe ACC/ MEV	Wet Road ACC/ MEV
Signal 1-4 Lanes	0.53	0.20	0.07	0.04	0.02	0.09	0.01	0.01	0.10
Signal w/ Left Turn 4 &> Lanes	0.24	0.11	0.04	0.01	0.01	0.03	0.00	0.00	0.04

4 Legged & > Intersections	All Types ACC/ MEV	Rear End ACC/ MEV	Over-taking ACC/ MEV	Left Turn ACC/ MEV	Right Turn ACC/ MEV	Right Angle ACC/ MEV	Head On ACC/ MEV	Side-swipe ACC/ MEV	Wet Road ACC/ MEV
Signal w/o Left Turn 4 &> Lanes	0.25	0.07	0.04	0.02	0.00	0.06	0.00	0.00	0.05
Signal 1-3 Lanes	0.28	0.07	0.02	0.02	0.01	0.08	0.00	0.01	0.05
Signal 4 &> Lanes	0.15	0.04	0.02	0.01	0.00	0.03	0.00	0.00	0.03
No Control All Lanes	0.13	0.04	0.04	0.01	0.01	0.02	0.00	0.01	0.02

Table 4-7. Crash Summary by Type and Severity and Comparison of Crash Rate to NYSDOT Average Crash Rate by Functional Class: Intersections

Intersection ID	Intersection	Crash Severity					Crash Type													Accident Rate (from 1/1/2015 to 12/31/2020)								
		Fatal	Injury	Property Damage Only	Non-Reportable	Total	Unknown	Rear End	Overtaking	Left Turn	Right Turn	Right Angle	Head On	Sideswipe	Pedestrian	Bicycle	Animal	Fixed Object	Total	Crashes Per 1 MEV	CR, Wet Road	CR, Left Turn	CR, Rear End	CR, Overtaking	CR, Right Angle	CR, Right Turn	CR, Head On	CR, Sideswipe
1	NYS Route 31 & Soule Rd	0	17	108	8	133	0	65	20	1	4	14	0	3	1	0	0	6	114	1.56	0.56	0.01	0.81	0.25	0.17	0.05	0.00	0.04
2	NYS Route 31 & NYS Route 481 NB Off-Ramp	0	14	60	7	81	0	42	8	5	0	10	0	0	0	0	1	1	67	1.21	0.29	0.08	0.68	0.13	0.16	0.00	0.00	0.00
3	NYS Route 31 & Marketfair North	0	10	22	4	36	0	11	6	1	0	9	0	1	0	0	0	0	28	0.71	0.24	0.02	0.24	0.13	0.20	0.00	0.00	0.02
4	NYS Route 31 & GNM W	0	1	10	0	11	0	3	3	1	0	4	0	0	0	0	0	0	11	0.26	0.02	0.02	0.07	0.07	0.09	0.00	0.00	0.00
5	NYS Route 31 & Dunkin Donuts Parking	0	1	19	3	23	0	13	1	1	0	3	0	0	0	0	0	1	19	0.49	0.20	0.02	0.32	0.02	0.07	0.00	0.00	0.00
6	NYS Route 31 & Morgan Rd	0	19	46	4	69	0	31	6	11	0	15	0	0	0	0	1	0	64	1.34	0.37	0.23	0.64	0.12	0.31	0.00	0.00	0.00
7	NYS Route 31 & Henry Clay Blvd	0	9	24	1	34	0	8	0	5	0	8	1	3	0	1	1	2	29	0.96	0.23	0.15	0.23	0.00	0.23	0.00	0.03	0.09
8	NYS Route 31 & Grange Rd W	0	3	11	0	14	0	0	1	0	0	3	1	0	0	0	7	1	13	0.61	0.09	0.00	0.00	0.04	0.13	0.00	0.04	0.00
9	NYS Route 31 & Van Hoesen Rd	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	1	1	2	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	NYS Route 31 & Grange Rd E	0	4	2	0	6	0	1	1	0	0	0	1	1	0	0	0	2	6	0.30	0.10	0.00	0.05	0.05	0.00	0.00	0.05	0.05
11	NYS Route 31 & Caughdenoy Rd	0	10	27	5	42	0	12	1	1	0	7	2	0	0	0	8	2	33	1.60	0.48	0.04	0.52	0.04	0.30	0.00	0.09	0.00
12	NYS Route 31 & Stearns Rd	0	4	16	3	23	0	5	1	0	0	0	0	1	0	0	8	4	19	0.95	0.43	0.00	0.24	0.05	0.00	0.00	0.00	0.05
13	NYS Route 31 & Burnet Rd	0	2	4	0	6	0	1	0	0	0	2	0	0	0	0	3	0	6	0.31	0.10	0.00	0.05	0.00	0.10	0.00	0.00	0.00
14	NYS Route 31 & Legionnaire Dr	0	0	10	0	10	0	1	0	0	0	1	0	0	0	0	4	4	10	0.46	0.18	0.00	0.05	0.00	0.05	0.00	0.00	0.00
15	NYS Route 31 & Lawton Rd	0	5	26	4	35	0	12	2	2	0	5	0	2	0	0	3	2	28	1.16	0.45	0.07	0.45	0.07	0.19	0.00	0.00	0.07
16	NYS Route 31 & Brewerton Rd	0	22	128	15	165	2	50	26	19	4	26	1	5	1	2	0	3	139	2.90	0.77	0.37	0.97	0.50	0.50	0.08	0.02	0.10
17	NYS Route 31 & I-81 SB	0	7	27	4	38	0	11	9	2	0	6	0	0	0	0	1	1	30	0.57	0.15	0.03	0.18	0.15	0.10	0.00	0.00	0.00
18	NYS Route 31 & Pardee Rd	0	36	120	18	174	0	49	24	8	2	42	0	3	1	1	3	8	141	2.58	0.71	0.13	0.81	0.40	0.69	0.03	0.00	0.05
19	NYS Route 31 & Lakeshore Rd	0	6	39	8	53	0	22	5	1	0	9	0	0	0	0	1	4	42	0.98	0.31	0.02	0.48	0.11	0.20	0.00	0.00	0.00
20	NYS Route 31 & Lake Shore Rd Spur	0	1	10	3	14	1	7	0	1	0	0	0	0	0	0	1	0	10	0.35	0.13	0.03	0.22	0.00	0.00	0.00	0.00	0.00
21	NYS Route 31 & New Country Dr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	NYS Route 31 & Cicero North Syracuse High	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	NYS Route 31 & Thompson Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	NYS Route 31 & S Bay Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	Verplank Rd & Henry Clay Blvd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Verplank Rd & Caughdenoy Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	Mud Mill Rd & Caughdenoy Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Oak Orchard Rd & Caughdenoy Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	Mud Mill Rd & Brewerton Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
288	NYS Route 481 SB On-Ramp & Soule Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Wetzel Rd & Henry Clay Blvd	0	3	5	0	8	0	2	2	1	1	1	0	0	0	0	0	1	8	0.23	0.03	0.03	0.06	0.06	0.03	0.03	0.00	0.00
33	Bear Rd & Allen Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Intersection ID	Intersection	Crash Severity					Crash Type												Accident Rate (from 1/1/2015 to 12/31/2020)								
		Fatal	Injury	Property Damage Only	Non-Reportable	Total	Unknown	Rear End	Overtaking	Left Turn	Right Turn	Right Angle	Head On	Sideswipe	Pedestrian	Bicycle	Animal	Fixed Object	Total	Crashes Per 1 MEV	CR, Wet Road	CR, Left Turn	CR, Rear End	CR, Overtaking	CR, Right Angle	CR, Right Turn	CR, Head On	CR, Sideswipe
34	Bear Rd & Brewerton Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	Bear Rd & NYS Route 481 EB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36	Bear Rd & S Bay Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37	Cr Dr E & NYS Route 481 WB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38	Cr D E & Brewerton Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39	Caughdenoy Rd & Brewerton Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	Maple Rd & Caughdenoy Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41	Grange Rd & Maple Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	Caughdenoy Rd & NYS Route 31	0	9	15	0	24	3	11	1	1	0	5	2	0	0	0	0	1	24	6.55	2.18	0.27	3.00	0.27	1.36	0.00	0.55	0.00
40	Caughdenoy Rd & Maple Rd	0	2	10	0	12	0	3	0	0	0	9	0	0	0	0	0	0	12	1.89	0.31	0.00	0.47	0.00	1.42	0.00	0.00	0.00
26	Caughdenoy Rd & Verplank Rd	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	U.S. Route 11 & Bear Rd	0	24	81	0	105	11	42	16	14	1	15	3	2	2	0	0	1	107	1.99	0.68	0.27	0.80	0.30	0.28	0.02	0.06	0.04
39	U.S. Route 11 & Caughdenoy Rd	0	12	70	0	82	10	28	13	6	3	9	3	3	1	0	1	5	82	1.56	0.47	0.11	0.53	0.25	0.17	0.06	0.06	0.06
38	U.S. Route 11 & Circle Dr	0	12	71	0	83	8	35	8	3	2	21	1	0	0	0	0	4	82	1.58	0.36	0.06	0.66	0.15	0.40	0.04	0.02	0.00
43	U.S. Route 11 & Crabtree Ln	0	4	17	0	21	4	3	5	1	0	8	0	0	0	0	0	0	21	0.66	0.25	0.03	0.09	0.16	0.25	0.00	0.00	0.00
246	U.S. Route 11 & Hogan Dr	0	22	113	0	135	14	65	14	1	3	29	2	3	0	0	0	4	135	2.56	0.55	0.02	1.23	0.27	0.55	0.06	0.04	0.06
260	U.S. Route 11 & Home Depot Driveway	0	4	32	0	36	8	9	4	2	0	11	2	0	1	0	0	0	37	0.68	0.13	0.04	0.17	0.08	0.21	0.00	0.04	0.00
16	U.S. Route 11 & NYS Route 31	0	18	107	0	125	11	44	22	16	3	18	1	5	1	2	0	1	124	1.90	0.49	0.24	0.67	0.33	0.27	0.05	0.02	0.08
29	U.S. Route 11 & Mud Mill Rd	0	1	6	0	7	0	4	0	0	0	2	0	0	0	0	1	0	7	0.45	0.13	0.00	0.26	0.00	0.13	0.00	0.00	0.00
77	U.S. Route 11 & Sneller Rd	0	2	1	0	3	0	1	1	0	0	0	0	0	0	0	1	0	3	0.19	0.00	0.00	0.06	0.06	0.00	0.00	0.00	0.00
Total		**0**	**285**	**1239**	**87**	**1611**	**72**	**591**	**200**	**104**	**23**	**292**	**20**	**32**	**8**	**6**	**47**	**59**	**1454**									

Red = values exceeding the NYSDOT Average Accident Rates

4.3 Identified Safety Deficiencies and Mitigation Measures

Along the freeway facilities, all mainline freeway segments exhibit crash rates lower than the statewide averages for similar facility types. All ramp locations within the Transportation Evaluation Area exhibit higher crash rates than the statewide averages for similar types of facilities. For non-intersection crashes, the ramps pose a higher risk for travelers, as the majority of the crashes are aggregated at these locations. Out of 15 ramps evaluated, 10 of them experience higher-than-average crash rates due to rear-end collisions, indicating that these ramps are narrow or congested and may have low merge angles.

Reviewing the capacity mitigations identified in Section 9, the reconfiguration of the NYS Route 481/ NYS Route 31 and the I-81/NYS Route 481 interchanges to divergent diamond interchanges (DDIs) would be expected to mitigate the above-average crash rates at those locations. The additional interchanges proposed at the New Access Road/NYS Route 481 and I-81/Sneller Road would also be expected to relieve traffic from all other interchanges and reduce the crash rates occurring. Specific to the I-81/ NYS Route 481 interchange, the ongoing NYSDOT project to reconfigure that interchange should address the above-average crash rates occurring along those ramps. Additionally, improved lighting and widening of the ramps can enhance safety along them. Figure 4-6 illustrates the proposed mitigation measures in relation to the crash locations. To illustrate the impacts of the mitigations above, statistics were identified for the following interventions that can reduce non-intersection crashes

- Adding new lanes, especially an auxiliary lane for the interchange, can reduce rear-end and overtaking crashes by 52%, right-angle crashes by 45%, and head-on or sideswipe crashes by 44%
- Adding additional lanes within the same alignment can reduce right-angle crashes by 45%, head-on crashes by 44%, and rear-end or overtaking crashes by 52%

Of the 52 study intersections, 28 exhibit crash rates higher than the statewide averages for similar types of facilities. These higher-than-average locations are concentrated along specific corridors, with 18 occurring along NYS Route 31, two along Caughdenoy Road, and eight along U.S. Route 11. Reviewing the capacity mitigations identified in Section 9, the proposed widening and other improvements along NYS Route 31 are expected to address the above-average crash rates at those locations. The majority (13 out of 18, 70 percent) of the crashes that occurred on NYS Route 31 are due to rear-ending and overtaking. With better signage, road marking, and proposed road widening, along with a passing lane, safety can be significantly improved for NYS Route 31. Along U.S. Route 11, the proposed widening between NYS Route 31 and Sneller Road is expected to mitigate a portion of the intersections that experience higher-than-average crash rates. The reconfiguration of the Caughdenoy Road/NYS Route 481 intersection and the reconfiguration of the ramp should also reduce the crash rate occurring along this corridor. Figure 4-8 presents the crash heat map with recommended mitigation.

To illustrate the impacts of the mitigations above, statistics were identified for the following interventions that can reduce crashes at the intersection locations:

- Adding a left-turn lane with painted separation can reduce rear-end and overtaking crashes by 39%
- Updating signals red/yellow/green can reduce right-angle crashes by 37%, rear-end and overtaking crashes by 26%, left-turn crashes by 26%, and head-on or sideswipe crashes by 52%

The prevailing crashes in the Transportation Evaluation Area can be attributed to congestion, narrow lanes, and poor signage. The proposed interventions and mitigation can significantly improve traffic safety and overall road user experience.

Figure 4-7. Crash Heat Map with Recommended Mitigation

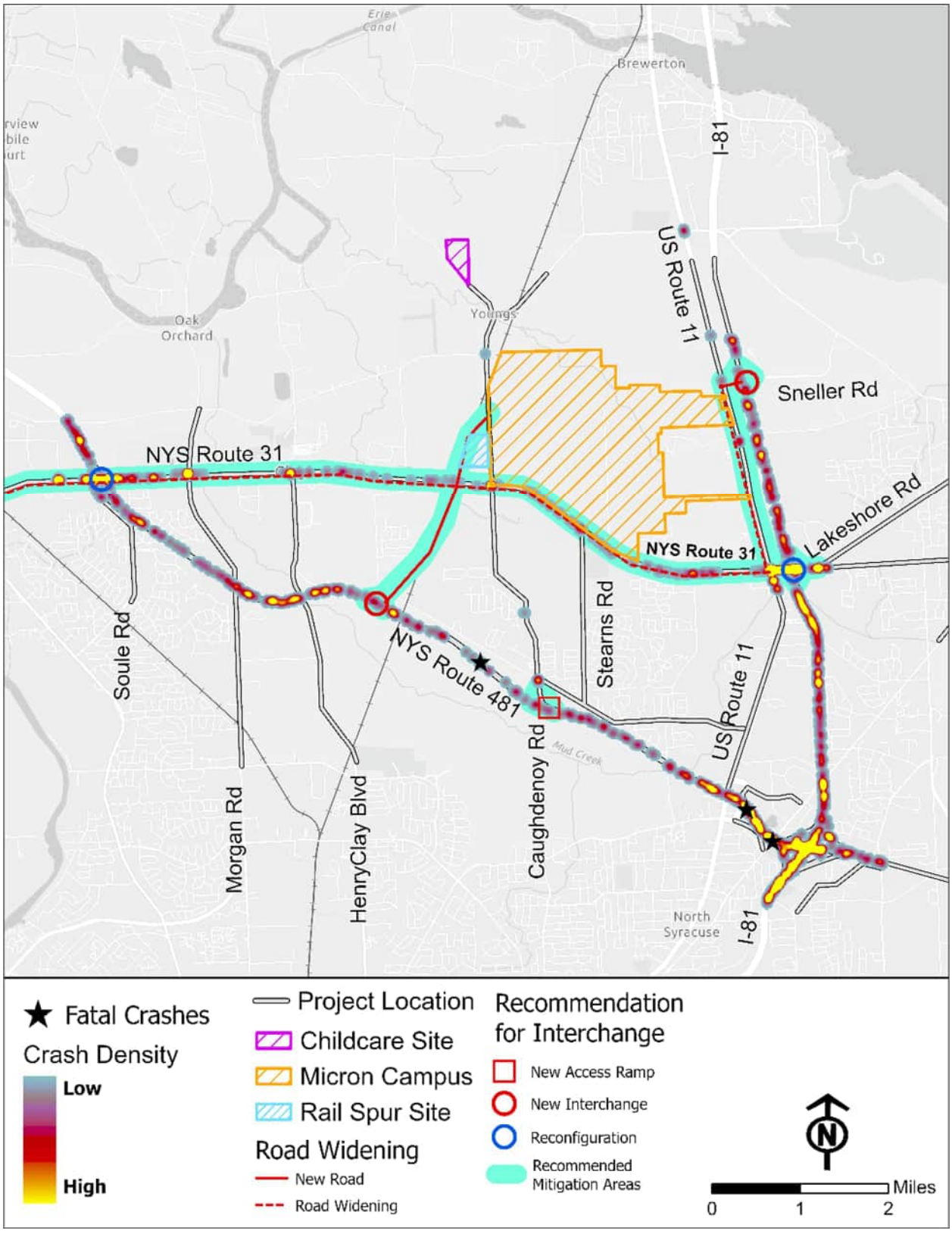
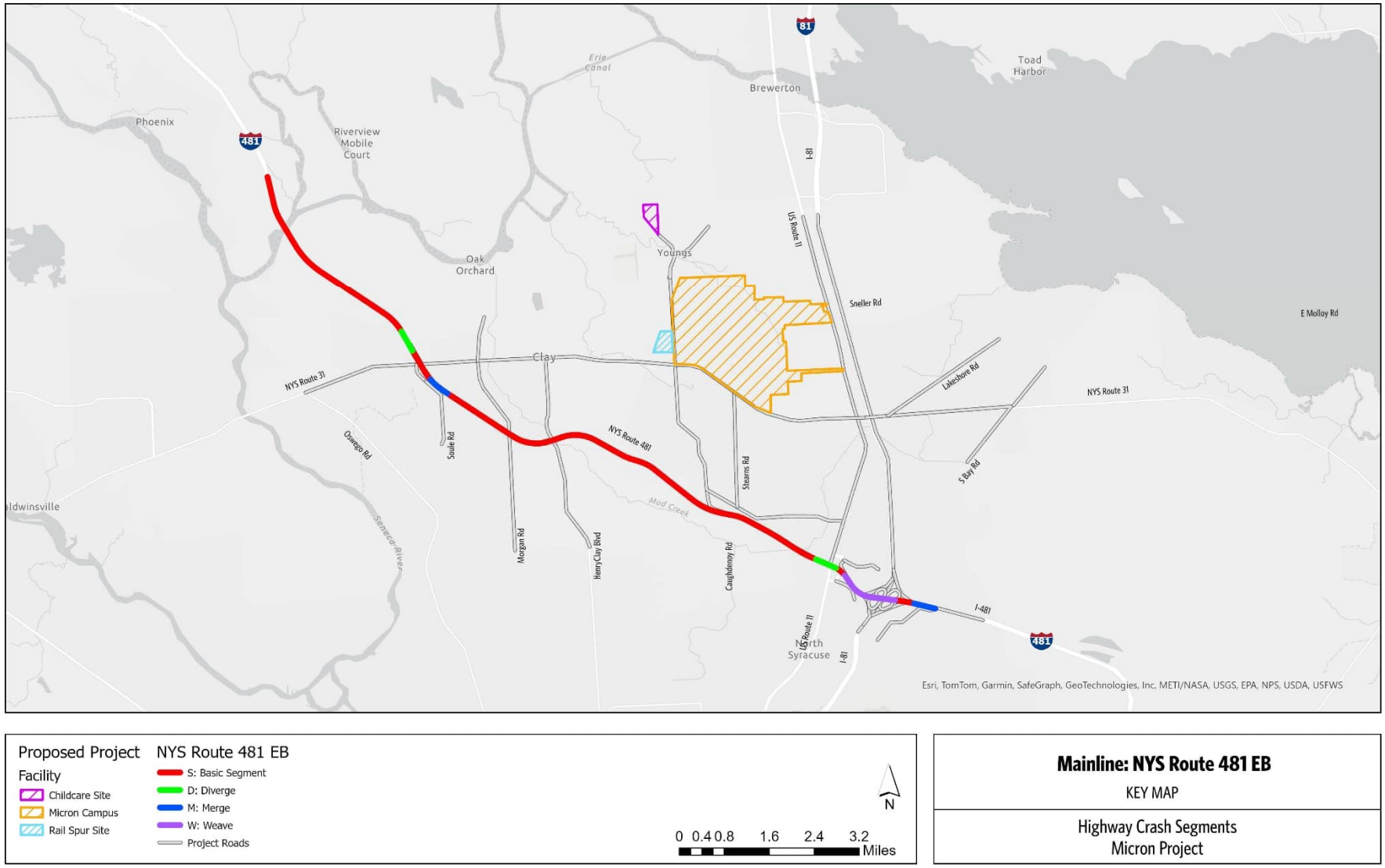
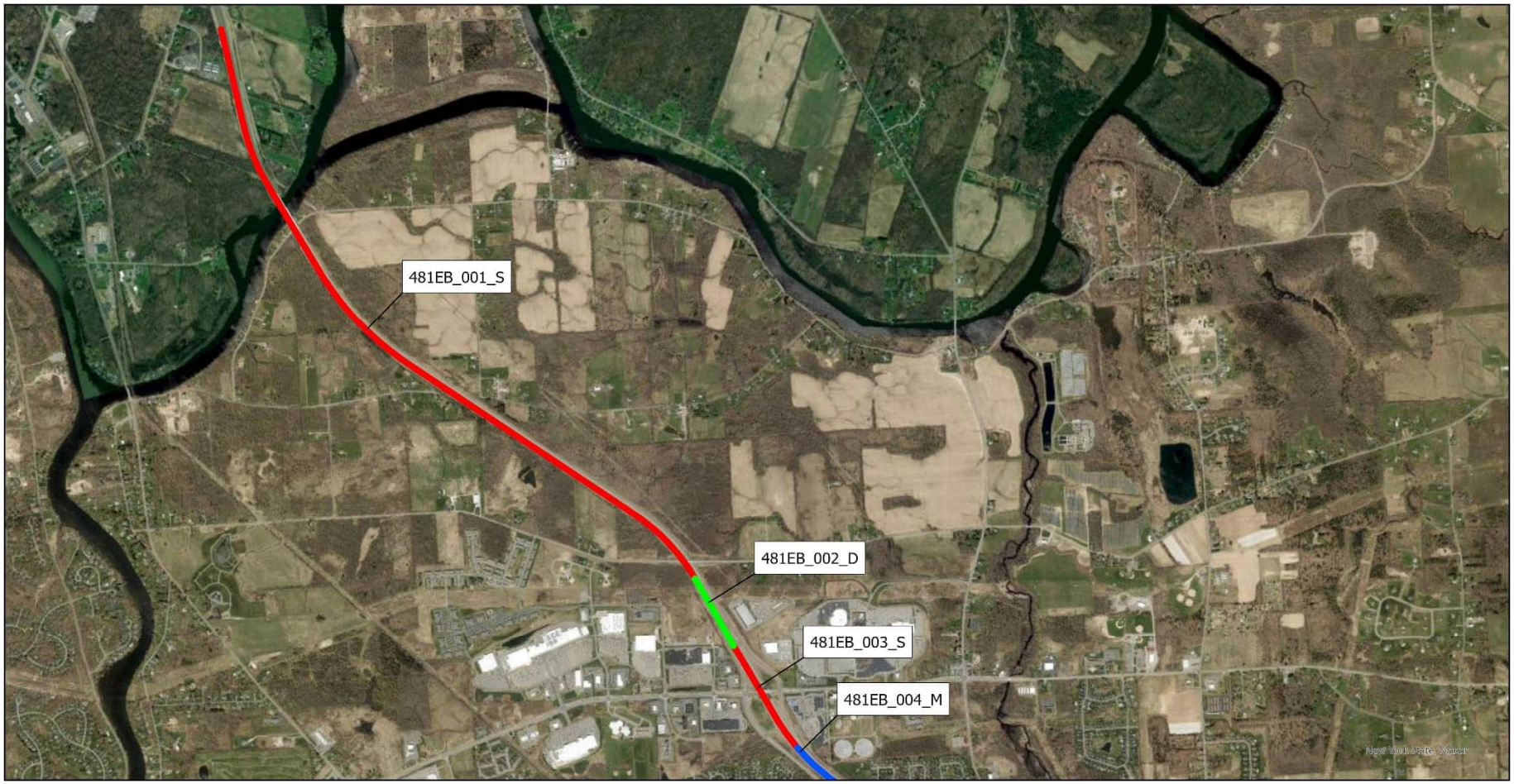


Figure 4-8. Highway Crash Segment along NYS Route 481 – EB




481EB_001_S
481EB_002_D
481EB_003_S
481EB_004_M
NYS Route 481 EB
S: Basic Segment
D: Diverge
M: Merge
W: Weave
N
0 0.15 0.3 0.6
Miles
Mainline: NYS Route 481 EB
Sheet 1 of 2
Highway Crash Segments
Micron Project

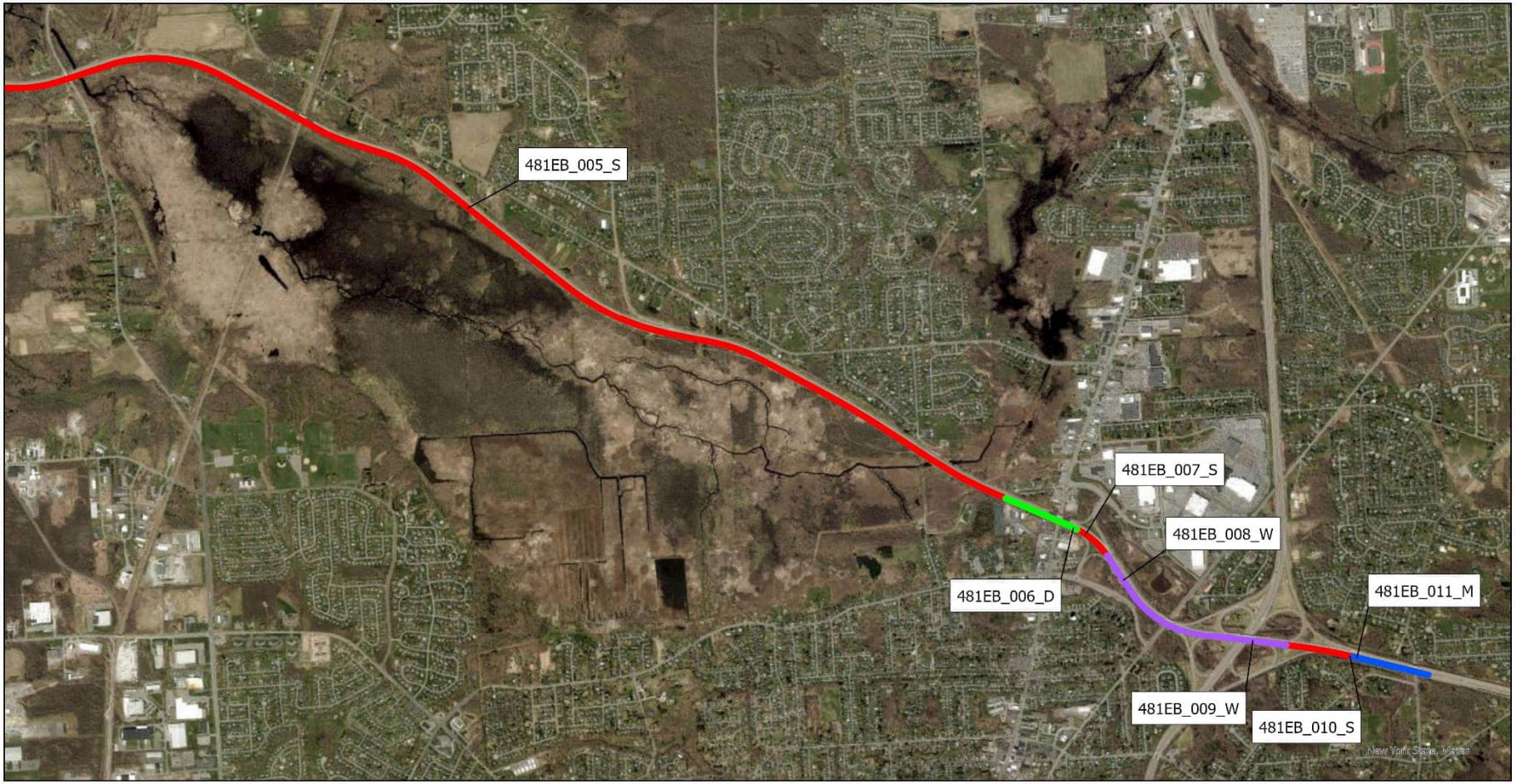
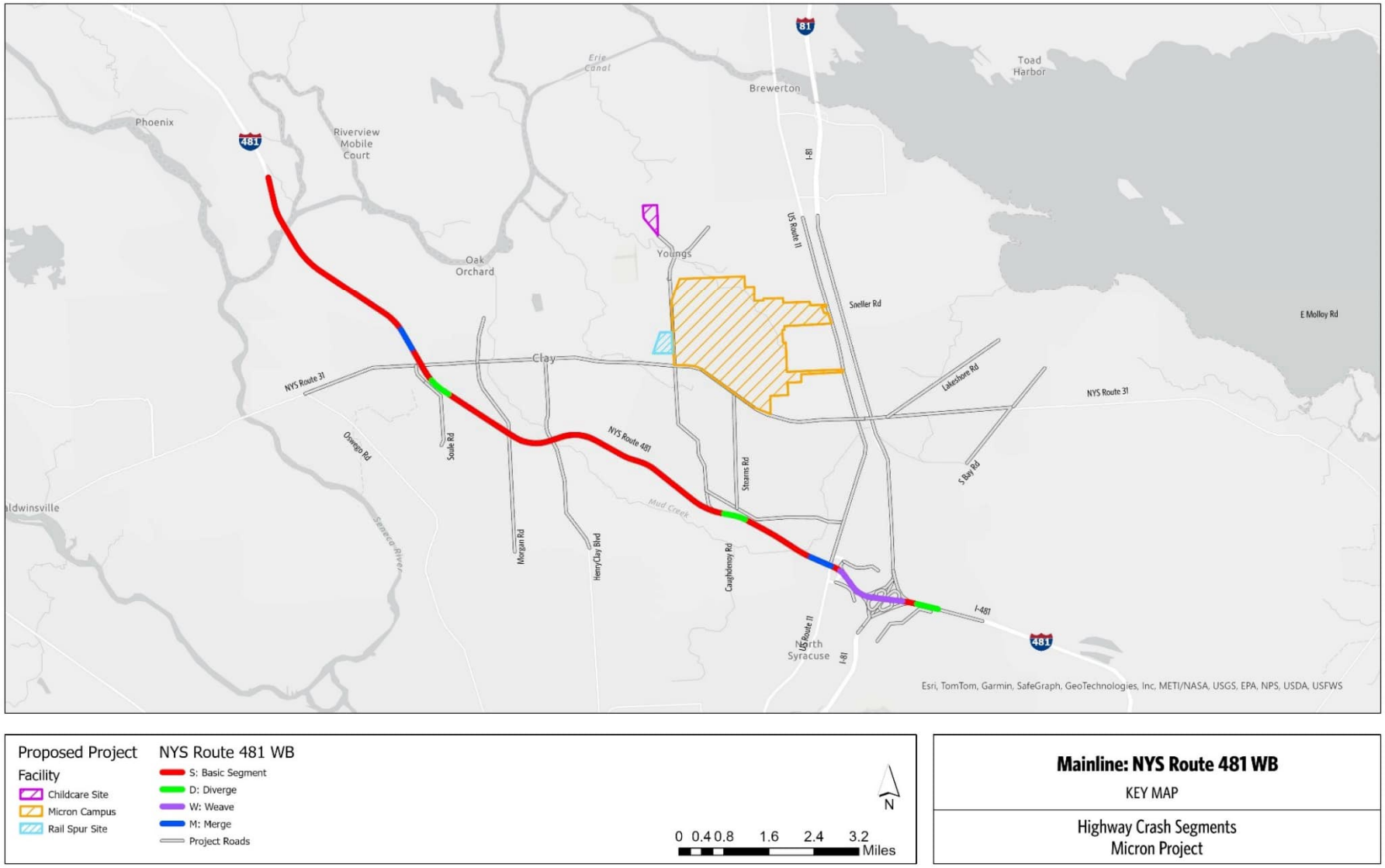
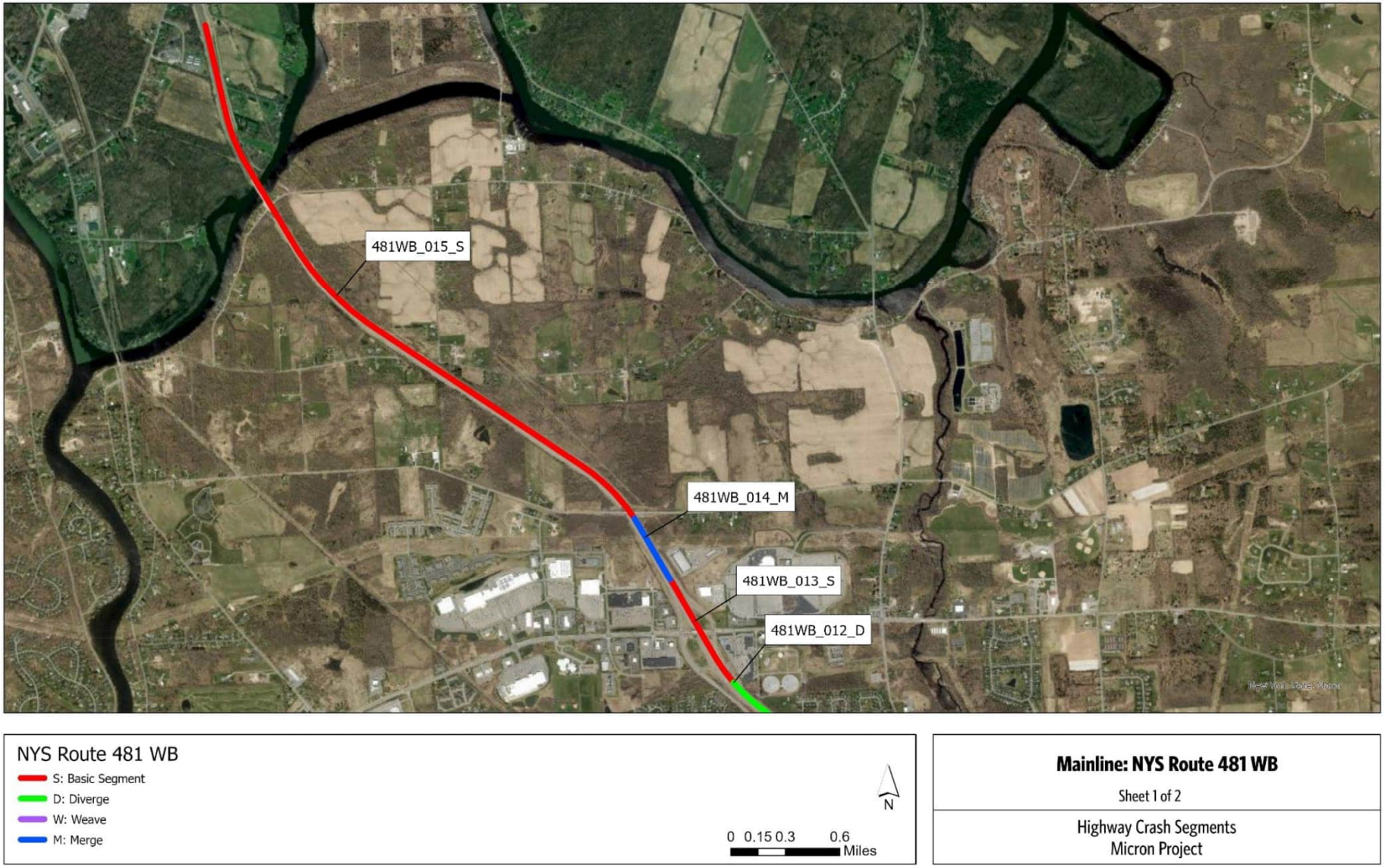

481EB_005_S
481EB_007_S
481EB_008_W
481EB_006_D
481EB_011_M
481EB_009_W
481EB_010_S
NYS Route 481 EB
S: Basic Segment
D: Diverge
M: Merge
W: Weave
N
0 0.15 0.3 0.6
Miles
Mainline: NYS Route 481 EB
Sheet 2 of 2
Highway Crash Segments
Micron Project

Figure 4-9. Highway Crash Segments along I-81 – WB




481WB_015_S
481WB_014_M
481WB_013_S
481WB_012_D
NYS Route 481 WB
S: Basic Segment
D: Diverge
W: Weave
M: Merge
N
0 0.15 0.3 0.6
Miles
Mainline: NYS Route 481 WB
Sheet 1 of 2
Highway Crash Segments
Micron Project

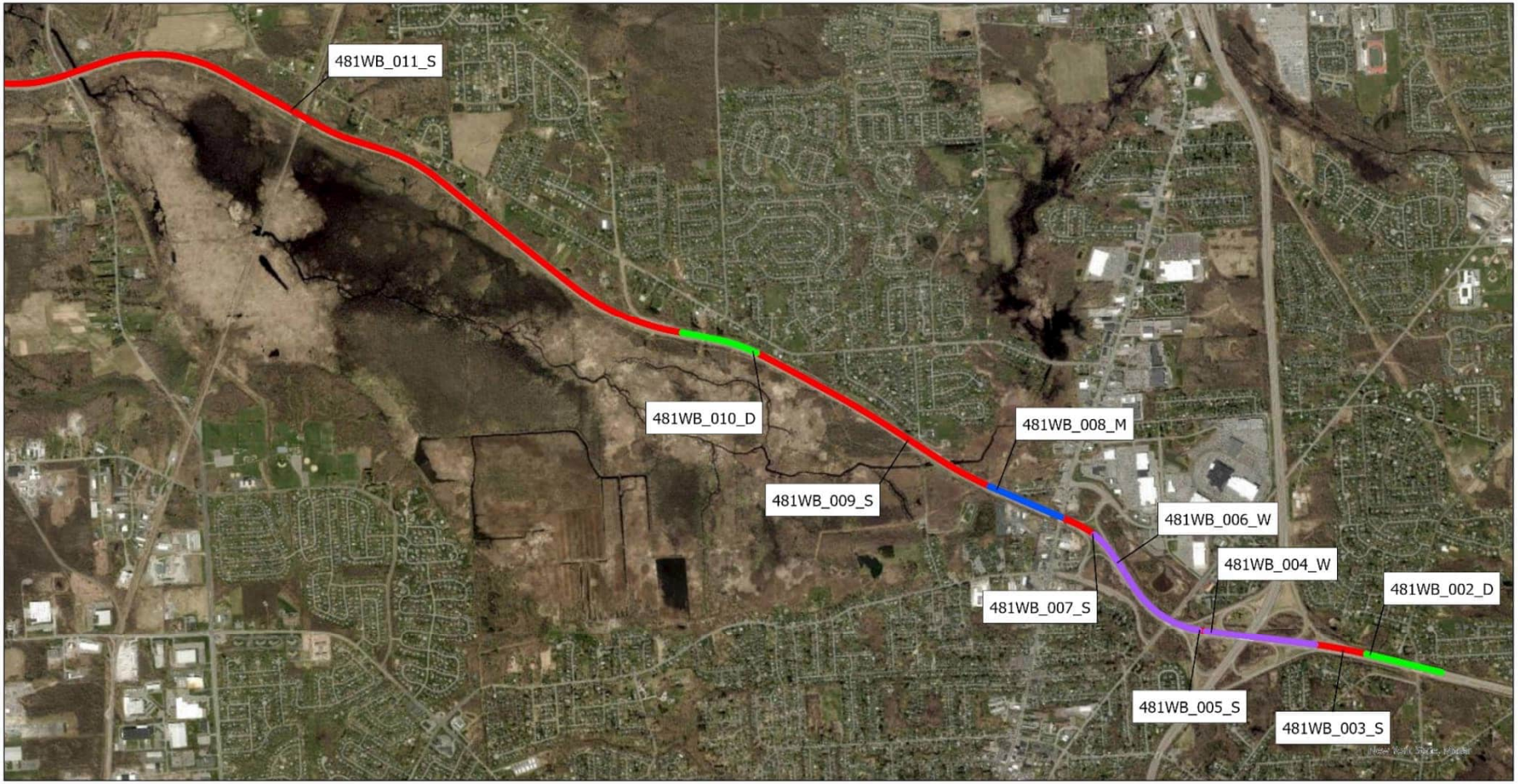
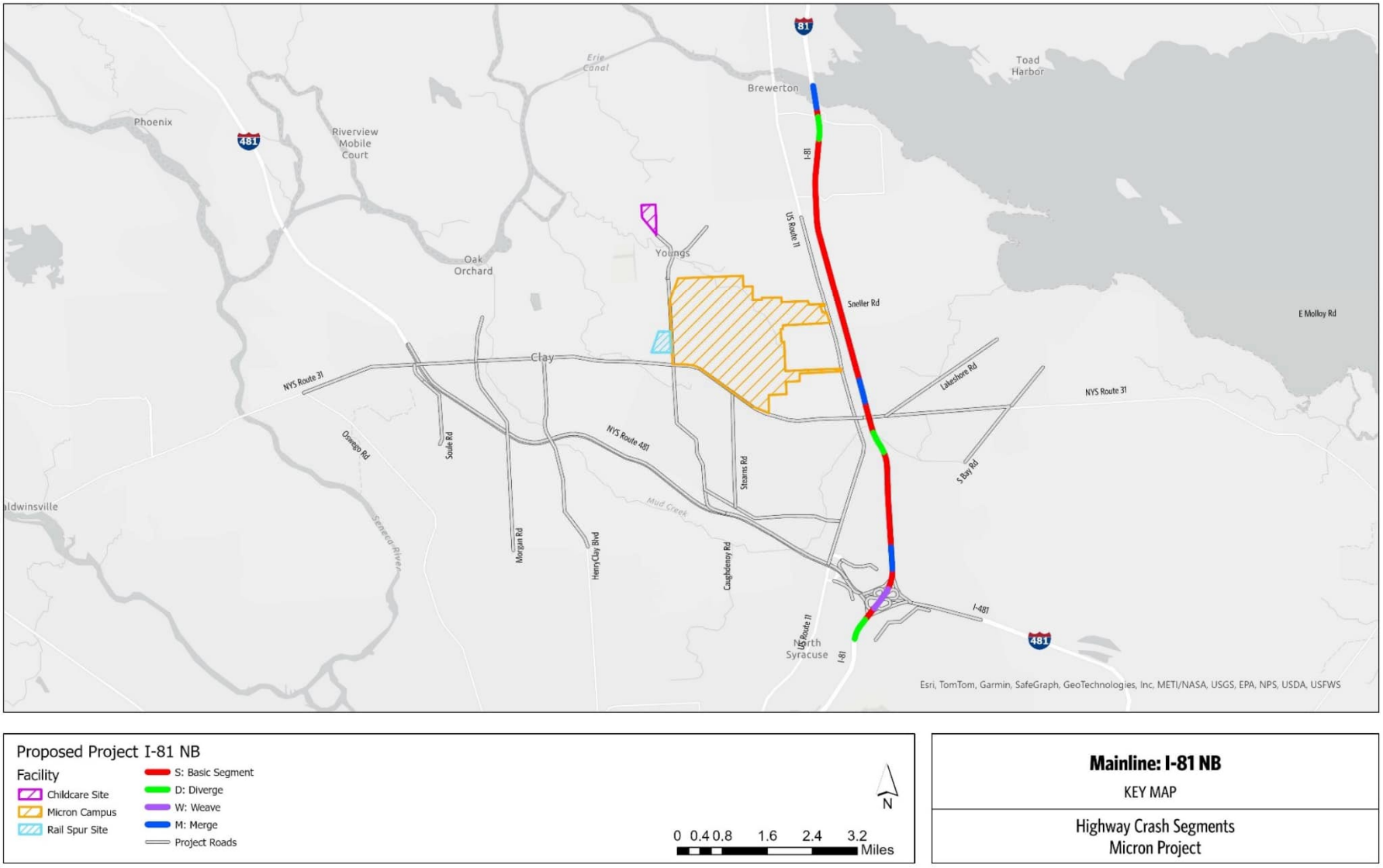
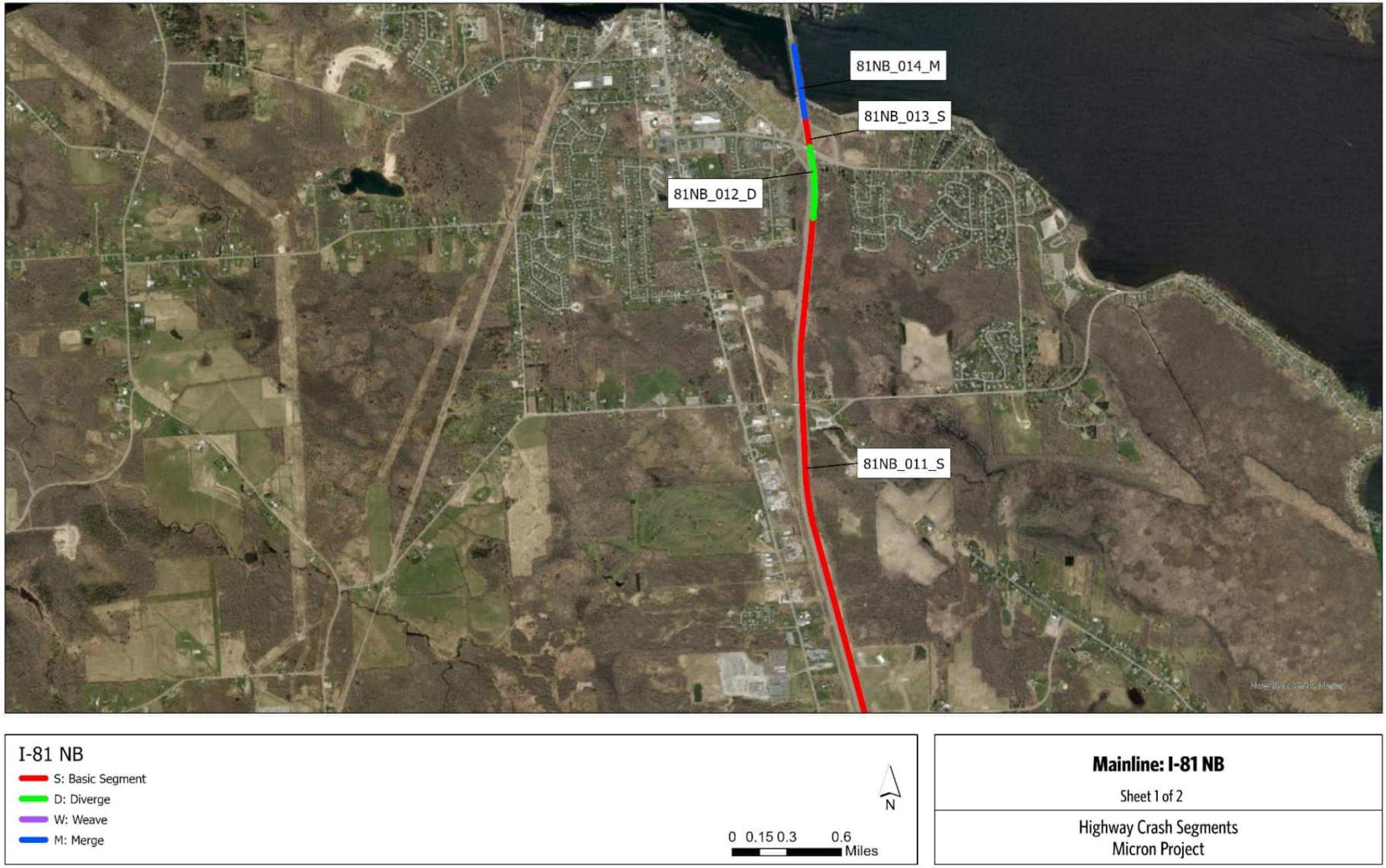

481WB_011_S
481WB_010_D
481WB_009_S
481WB_008_M
481WB_006_W
481WB_004_W
481WB_002_D
481WB_007_S
481WB_005_S
481WB_003_S
NYS Route 481 WB
S: Basic Segment
D: Diverge
W: Weave
M: Merge
N
0 0.15 0.3 0.6
Miles
Mainline: NYS Route 481 WB
Sheet 2 of 2
Highway Crash Segments
Micron Project

Figure 4-10. Highway Crash Segments along I-81 – NB




81NB_014_M
81NB_013_S
81NB_012_D
81NB_011_S
I-81 NB
S: Basic Segment
D: Diverge
W: Weave
M: Merge
N
0 0.15 0.3 0.6
Miles
Mainline: I-81 NB
Sheet 1 of 2
Highway Crash Segments
Micron Project

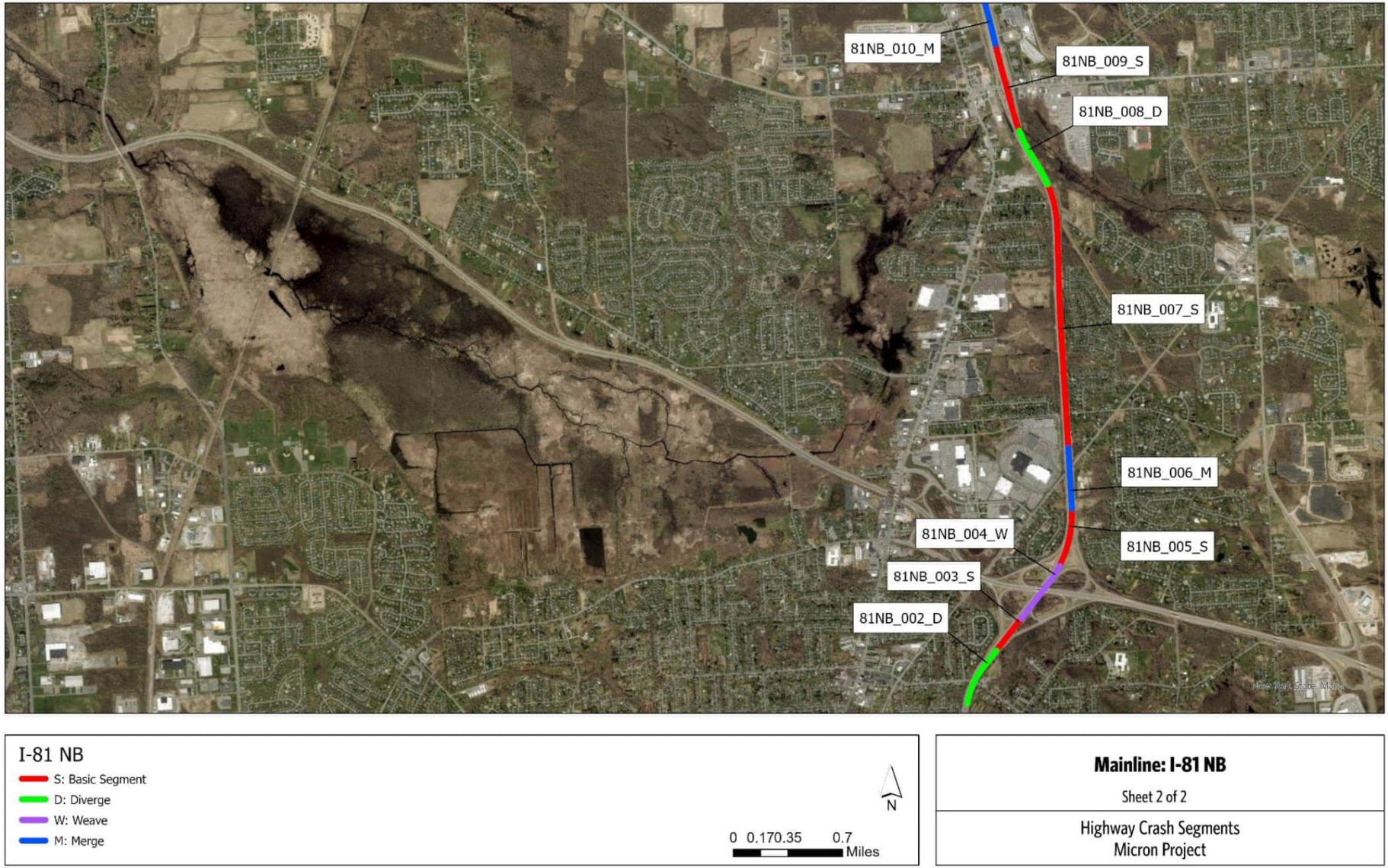
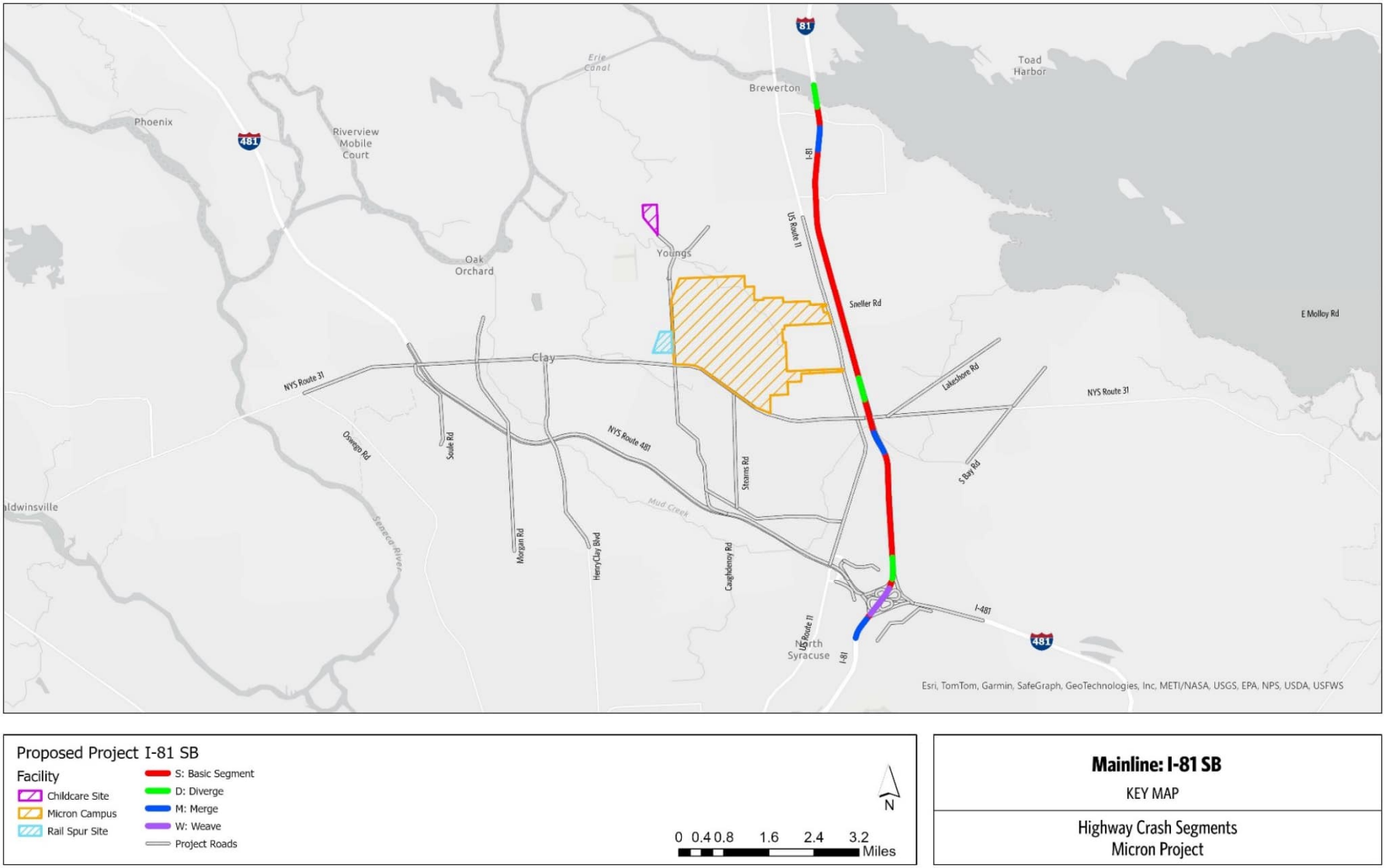
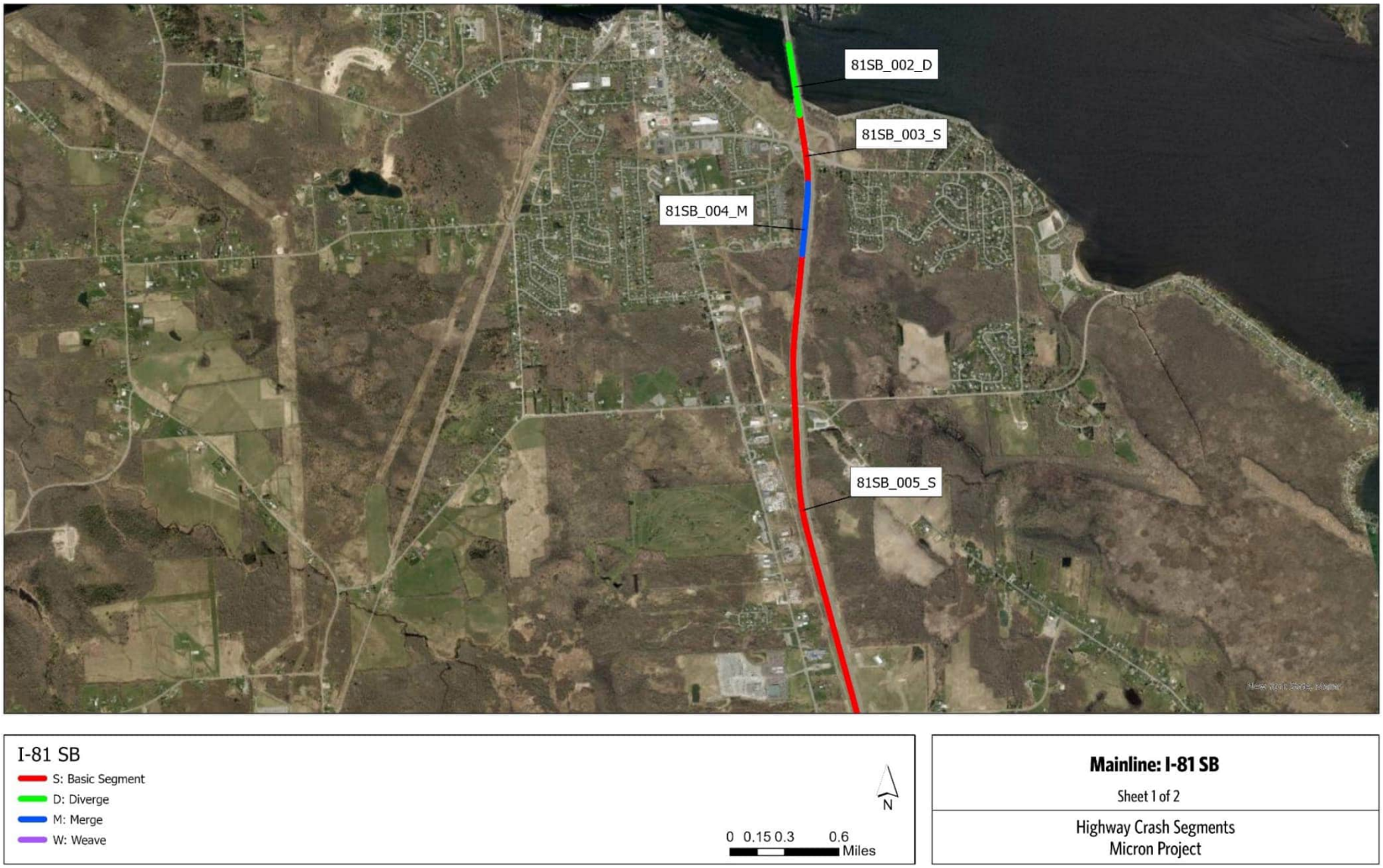

81NB_010_M
81NB_009_S
81NB_008_D
81NB_007_S
81NB_006_M
81NB_004_W
81NB_005_S
81NB_003_S
81NB_002_D
I-81 NB
S: Basic Segment
D: Diverge
W: Weave
M: Merge
N
0 0.170.35 0.7
Miles
Mainline: I-81 NB
Sheet 2 of 2
Highway Crash Segments
Micron Project

Figure 4-11. Highway Crash Segments along I-81 – SB




81SB_002_D
81SB_003_S
81SB_004_M
81SB_005_S
I-81 SB
S: Basic Segment
D: Diverge
M: Merge
W: Weave
N
0 0.15 0.3 0.6
Miles
Mainline: I-81 SB
Sheet 1 of 2
Highway Crash Segments
Micron Project

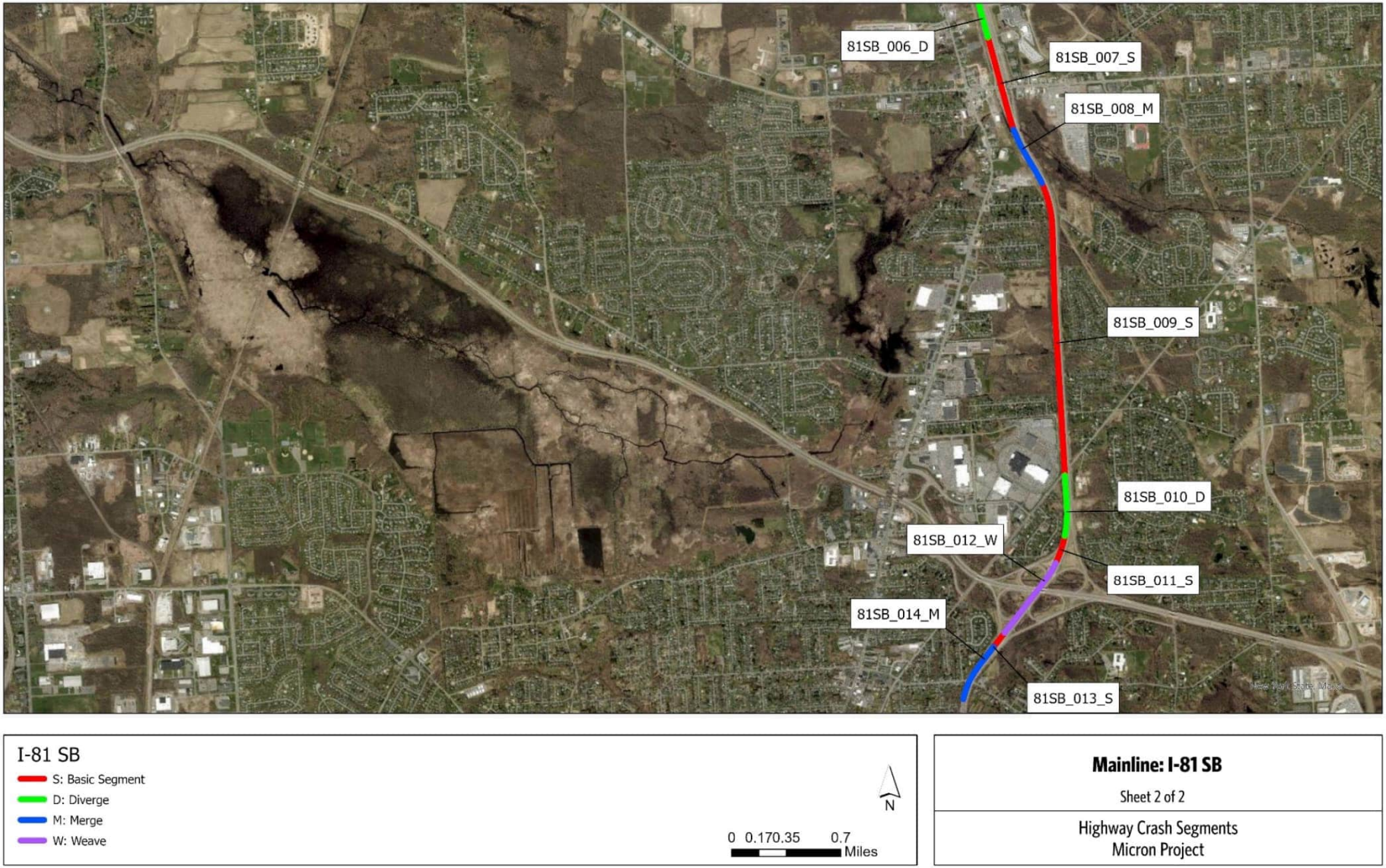
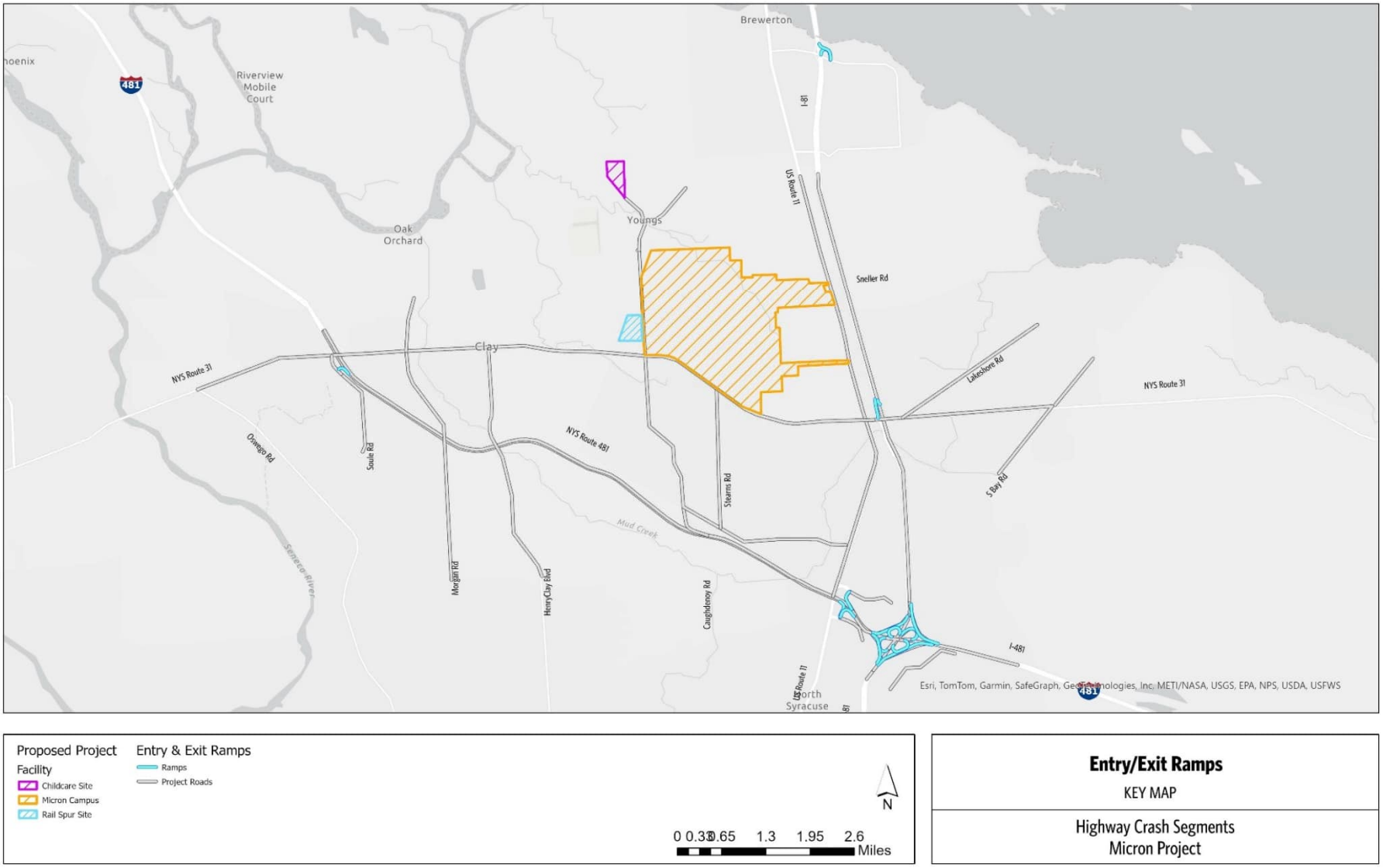
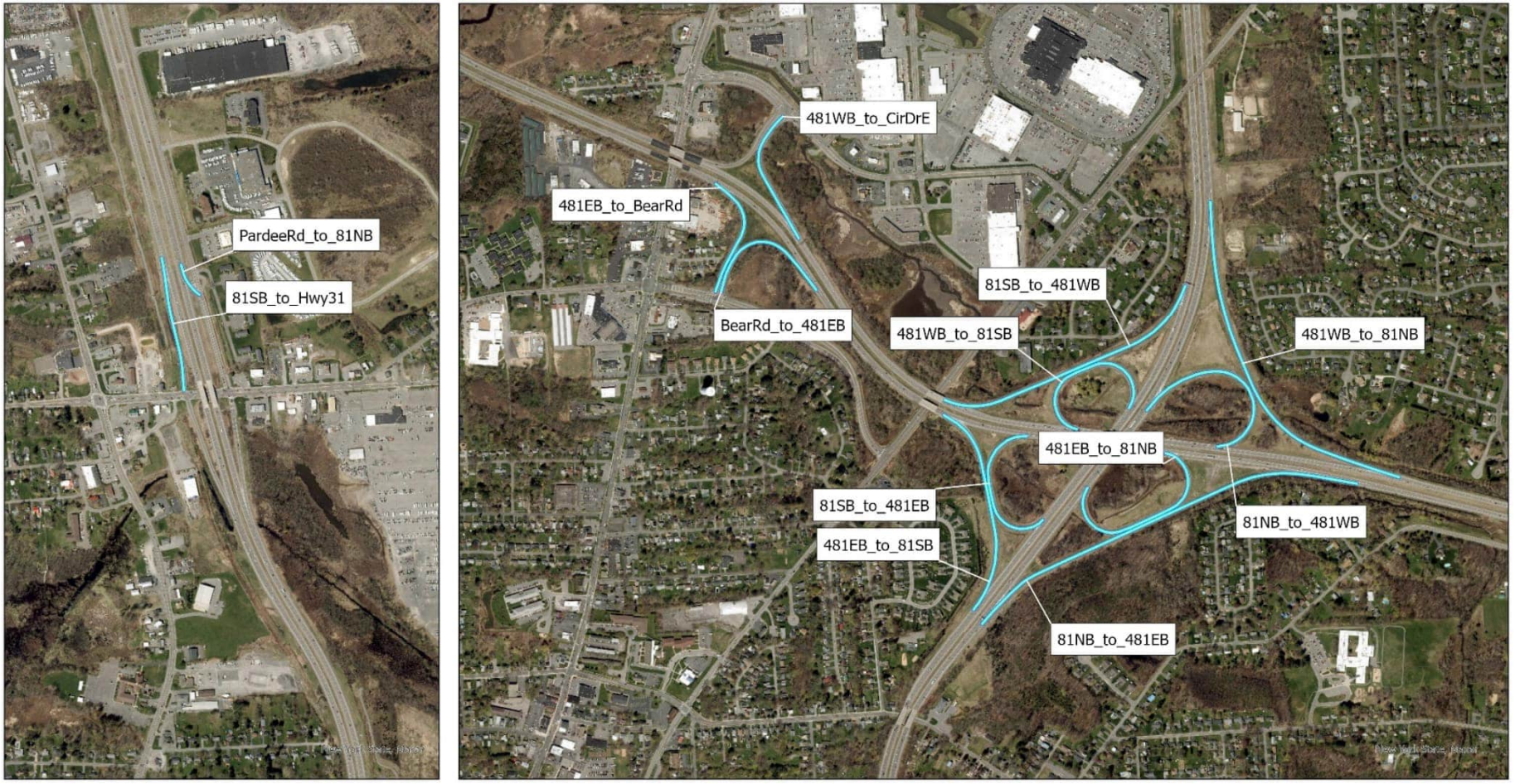

81SB_006_D
81SB_007_S
81SB_008_M
81SB_009_S
81SB_010_D
81SB_012_W
81SB_011_S
81SB_014_M
81SB_013_S
I-81 SB
S: Basic Segment
D: Diverge
M: Merge
W: Weave
N
0 0.170.35 0.7
Miles
Mainline: I-81 SB
Sheet 2 of 2
Highway Crash Segments
Micron Project

Figure 4-12. Highway Crash Segments - Ramps




SouleRd_to_481EB
BartellRd_to_81NB
81NB_to BartellRd
Entry & Exit Ramps
Ramps
N
0 0.050.1 0.2
Miles
Entry/Exit Ramps
Sheet 1 of 2
Highway Crash Segments
Micron Project



Entry & Exit Ramps

Ramps

N

0 0.05 0.1 0.2 Miles

Entry/Exit Ramps

Sheet 2 of 2

Highway Crash Segments
Micron Project

5. Existing Traffic Operations

This section describes the findings of the data collection effort and the operations analysis results for the existing conditions.

5.1 Peak-Hour Identification

The MOEs the traffic operational analyses produced represent typical weekday traffic conditions for 2 hours during the a.m. and p.m. peak periods. After post-processing the existing conditions data collected and accounting for the anticipated operations and construction shift schedules, it was determined that a single peak hour in the morning and the evening did not represent the peak volume condition in every scenario. Typically, a 1-hour peak-hour approach is used to determine the maximum vehicle volume on the transportation network in the morning and evening peak periods. The peak-hour volumes were generated through travel demand forecasting, reflecting background conditions in the absence of the Proposed Project.

Aggregated diurnal traffic volumes collected on the freeway mainline and key arterials, as well as for intersection turning movements, were initially used to determine the system's peak hours for analysis. Based on a comprehensive review of existing traffic volumes, the primary purpose of this study, the unique characteristics of shift work for the Micron Campus, and data review, the existing commuter volume peak was determined to be 7:00 a.m. In contrast, the predicted construction shift volume would peak at 6:00 a.m., with different movements and travel patterns to access the site. This information was reviewed with NYSDOT, who recommended that the system peak hours to be analyzed for this Proposed Project represent the existing 6:00 a.m. and projected 7:00 a.m. peak periods. The same rationale was applied to the existing 4:00 p.m. and 5:00 p.m. peak periods.

The process to reconcile pre-existing traffic data with data collected for the Proposed Project to establish existing year volumes included the following steps:

- The existing volume count data for 42 intersections collected in spring 2023 were analyzed, along with existing volume data for roadway segments, and adjusted to remove data anomalies, as necessary. Data was collected in coordination with NYSDOT, OCDOT, and the NYSTA.
- The spring 2023 counts for all intersections were compared to historical count data from publicly available resources and previous studies. Traffic volumes were then balanced to correct data discrepancies, and major driveways and side streets were noted where necessary to account for significant volume changes.
- Traffic volumes generated by approved developments not included in the SMTC regional model background growth were added to the network.

5.1.1 Peak-Hour Traffic Volumes

The 2-hour a.m. and p.m. peak-hour volumes, as well as the a.m. and p.m. peak-hour freeway, highway, and roadway volumes, and intersection TMCs, were balanced within the Transportation Evaluation Area for use in the Vissim and Synchro models. Figures 5-1 through 5-4 illustrate the peak-hour volumes in the transportation evaluation network.

Figure 5-1: Year 2023 Existing 6AM/4PM Peak Hour Traffic Volumes -Intersections - Sheet 1 of 5

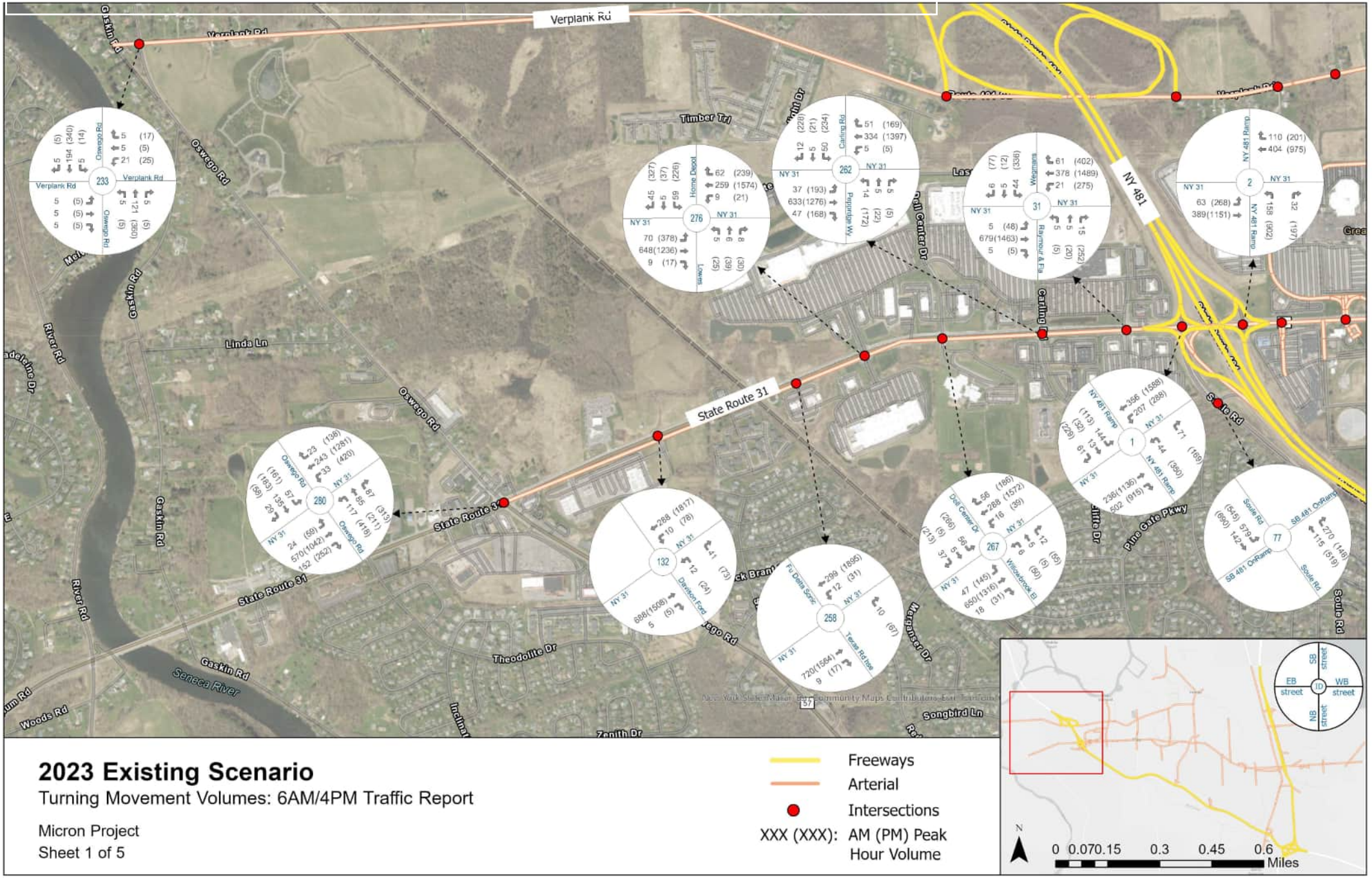
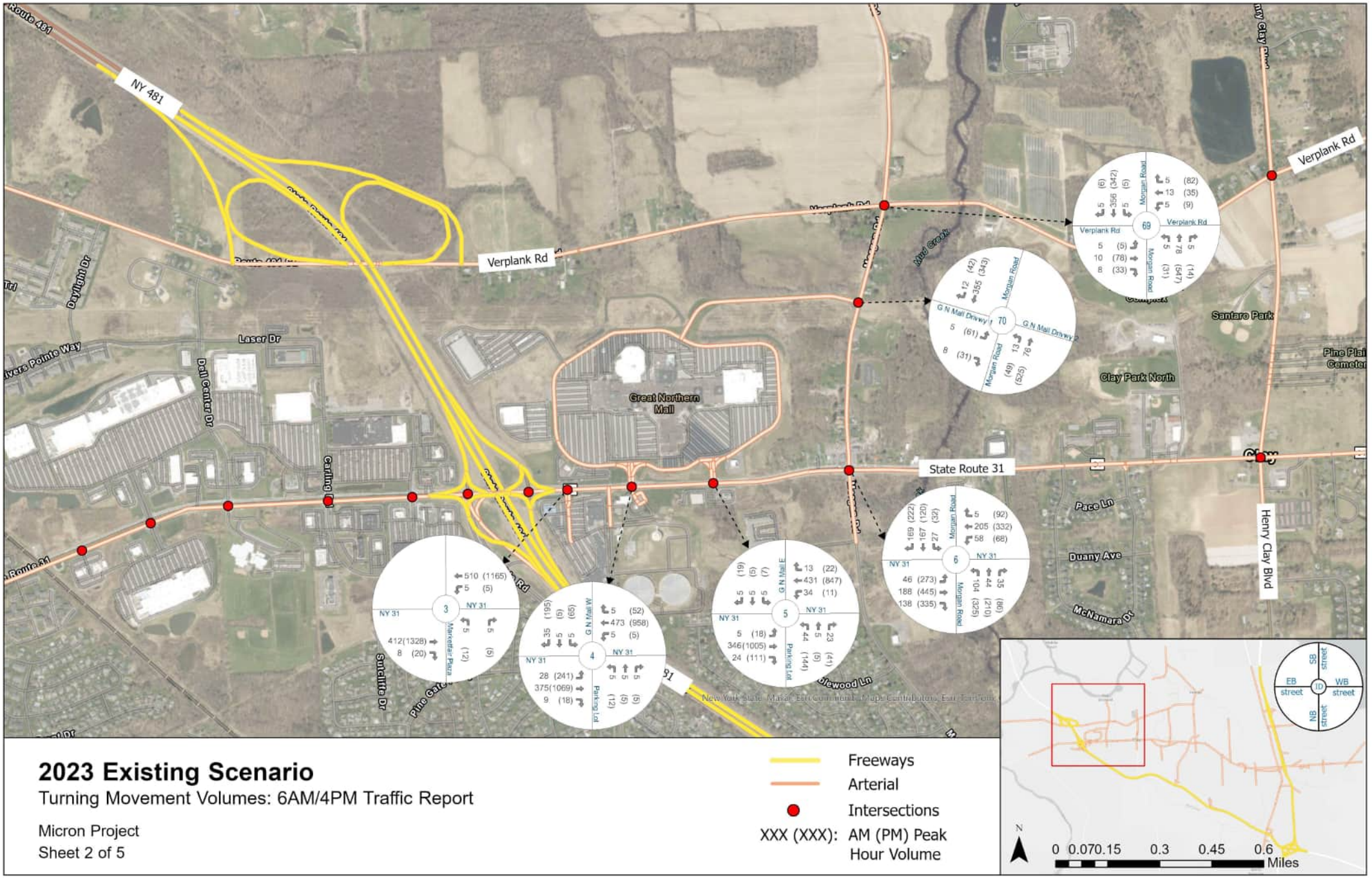


Figure 5-1: Year 2023 Existing 6AM/4PM Peak Hour Traffic Volumes - Intersections - Sheet 2 of 5



2023 Existing Scenario

Turning Movement Volumes: 6AM/4PM Traffic Report

Micron Project

Sheet 2 of 5

Figure 5-1: Year 2023 Existing 6AM/4PM Peak Hour Traffic Volumes - Intersections- Sheet 3 of 5

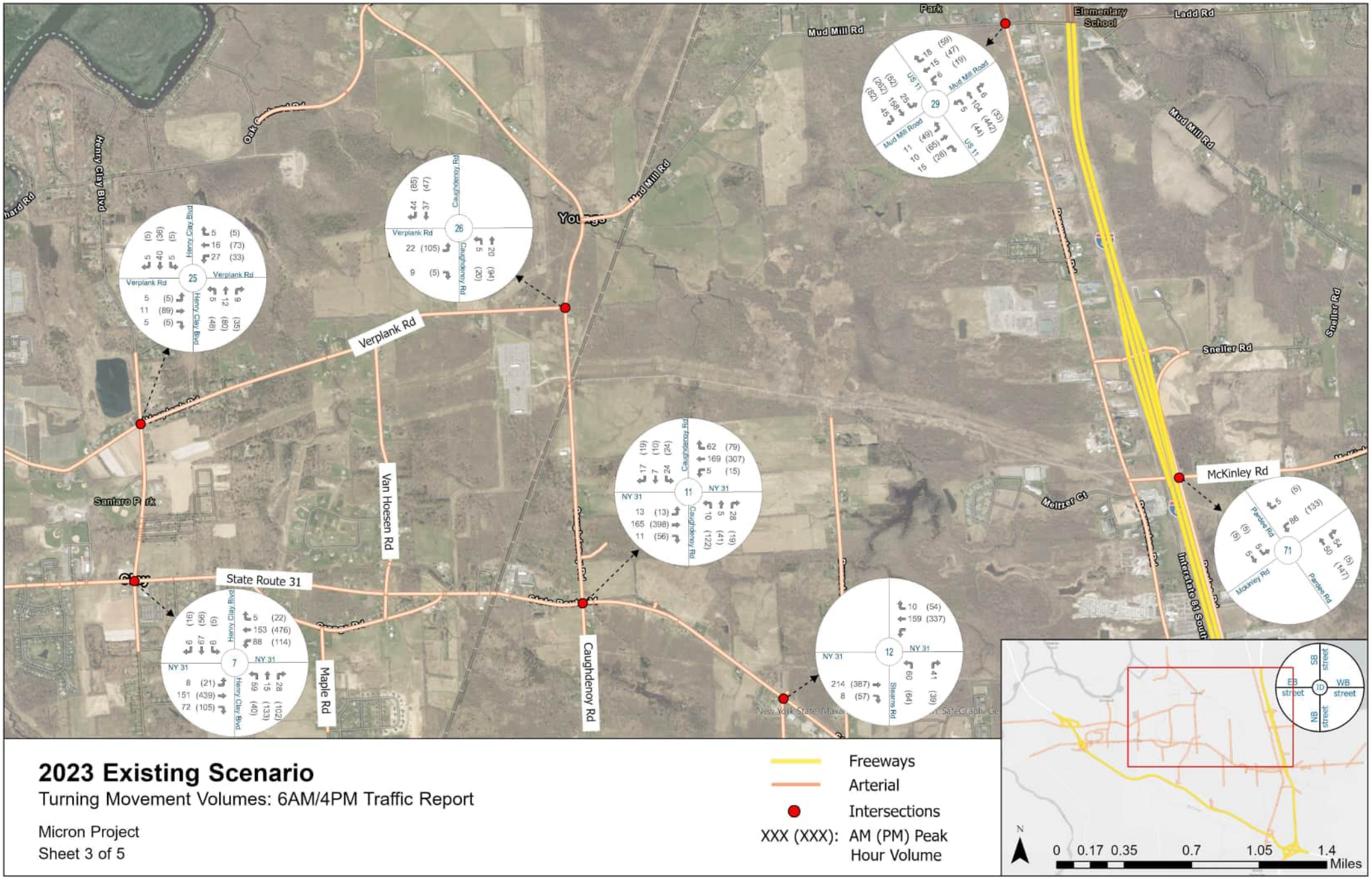


Figure 5-1: Year 2023 Existing 6AM/4PM Peak Hour Traffic Volumes - Intersections - Sheet 4 of 5

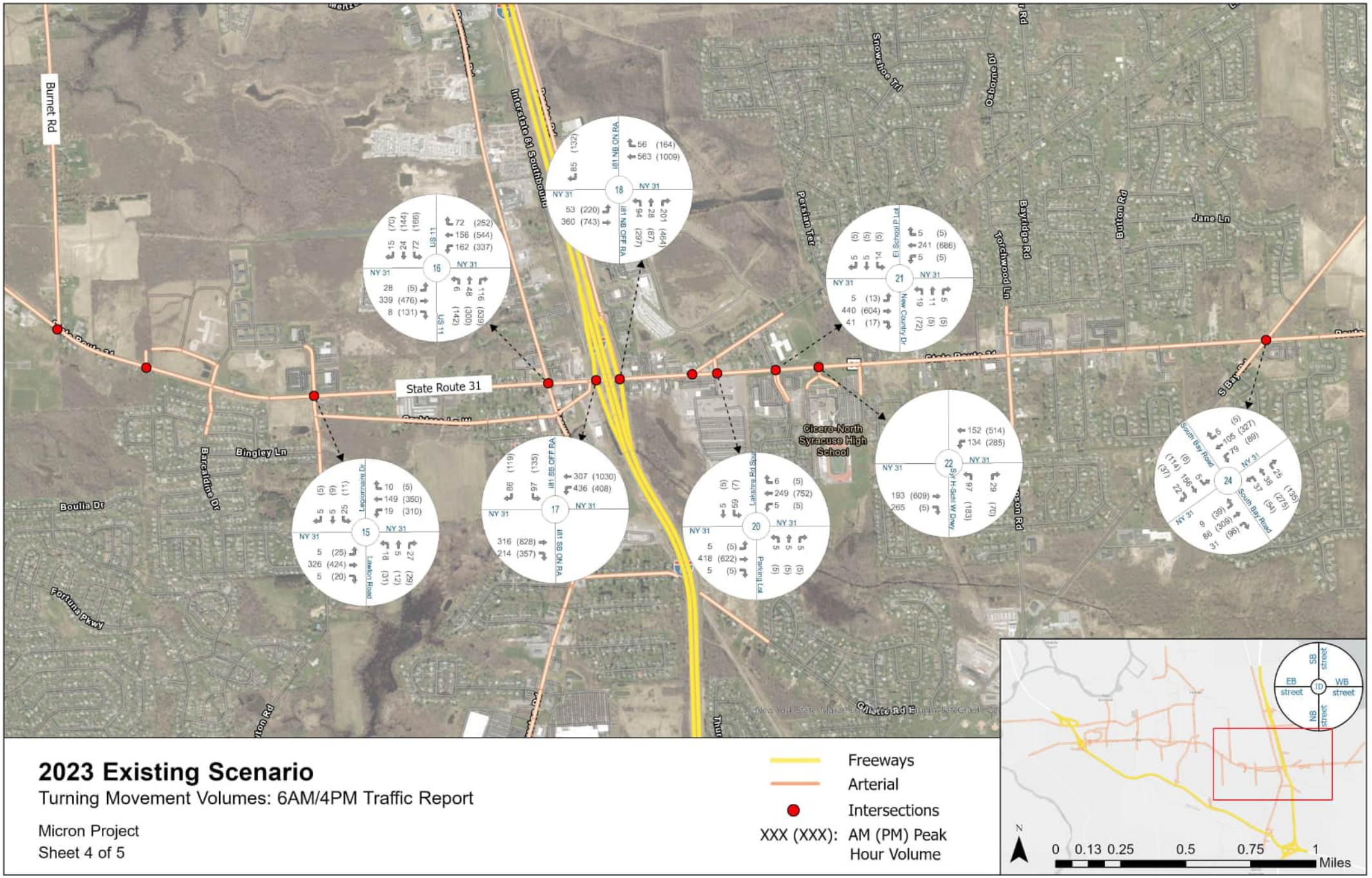


Figure 5-1: Year 2023 Existing 6AM/4PM Peak Hour Traffic Volumes - Intersections - Sheet 5 of 5

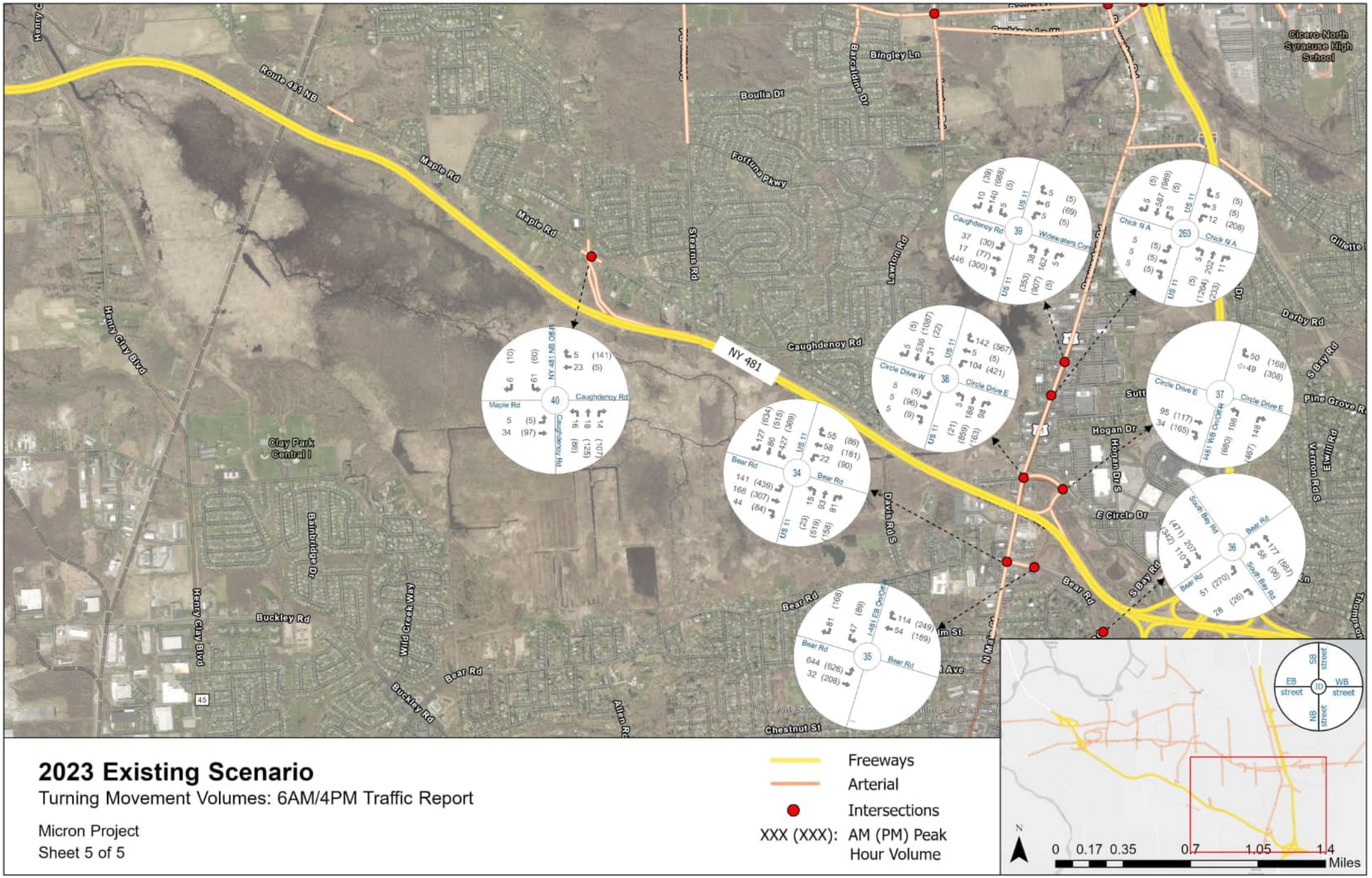
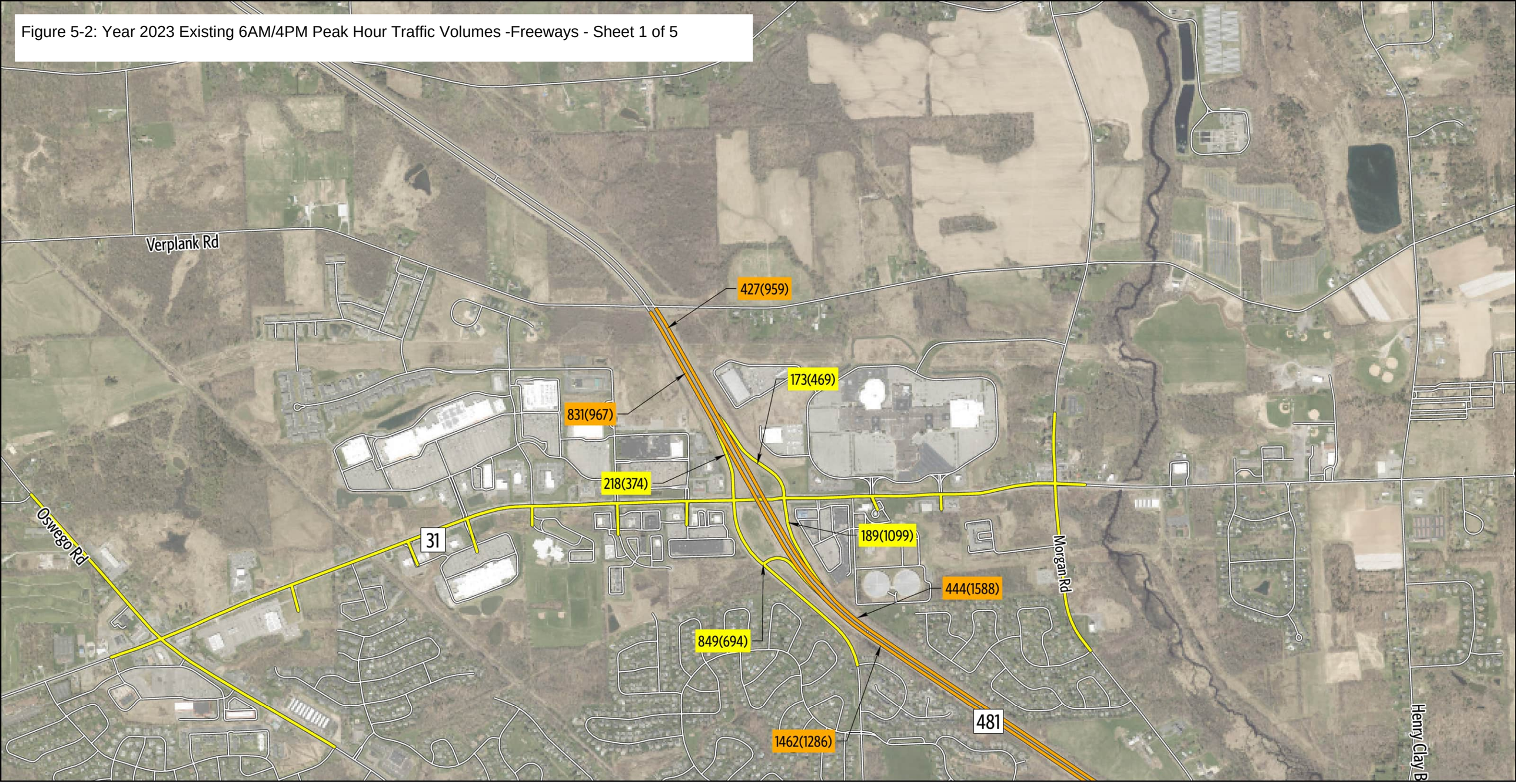


Figure 5-2: Year 2023 Existing 6AM/4PM Peak Hour Traffic Volumes -Freeways - Sheet 1 of 5



Mainline Volumes — Freeways

Ramp Volumes — Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

0 1,000 2,000 Feet

2023 Existing

Sheet 1 of 5

6 AM & 4 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 5-2: Year 2023 Existing 6AM/4PM Peak Hour Traffic Volumes -Freeways - Sheet 2 of 5

Mainline Volumes
Freeways

Ramp Volumes
Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

0 1,000 2,000 Feet

2023 Existing

Sheet 2 of 5

6 AM & 4 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 5-2: Year 2023 Existing 6AM/4PM Peak Hour Traffic Volumes -Freeways - Sheet 3 of 5

Mainline Volumes — Freeways

Ramp Volumes — Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

0 1,000 2,000 Feet

2023 Existing

Sheet 3 of 5

6 AM & 4 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 5-2: Year 2023 Existing 6AM/4PM Peak Hour Traffic Volumes -Freeways - Sheet 4 of 5

Mainline Volumes **Ramp Volumes** XXX(XXX) - AM Volumes(PM Volumes)

Freeways Ramps

N

0 1,000 2,000 Feet

2023 Existing

Sheet 4 of 5

6 AM & 4 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 5-2: Year 2023 Existing 6AM/4PM Peak Hour Traffic Volumes -Freeways - Sheet 5 of 5

Mainline Volumes
Freeways

Ramp Volumes
Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

0 1,000 2,000 Feet

2023 Existing

Sheet 5 of 5

6 AM & 4 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 5-3: Year 2023 Existing 7AM/5PM Peak Hour Traffic Volumes - Intersections - Sheet 1 of 5

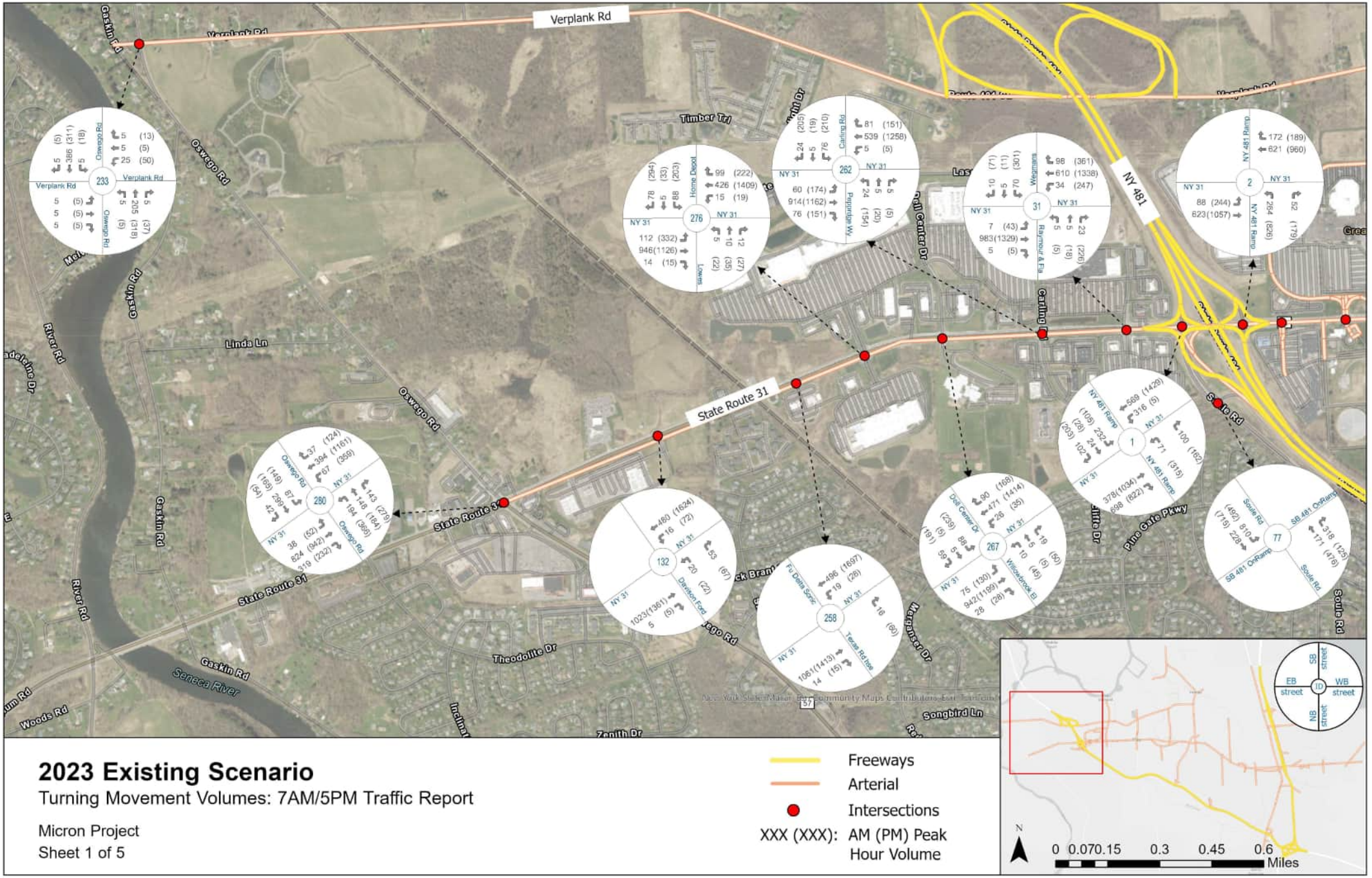


Figure 5-3: Year 2023 Existing 7AM/5PM Peak Hour Traffic Volumes - Intersections - Sheet 2 of 5

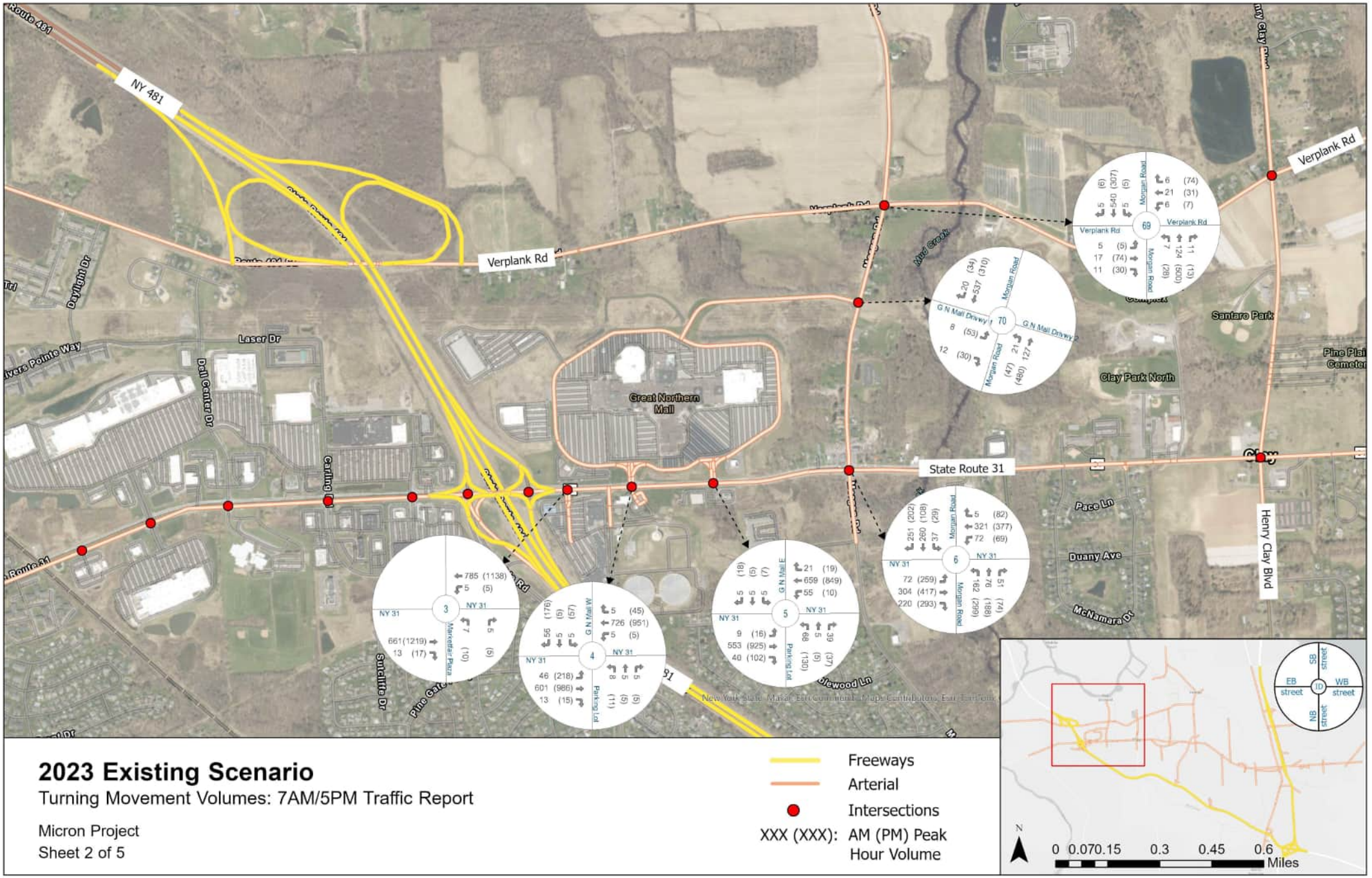


Figure 5-3: Year 2023 Existing 7AM/5PM Peak Hour Traffic Volumes - Intersections - Sheet 3 of 5

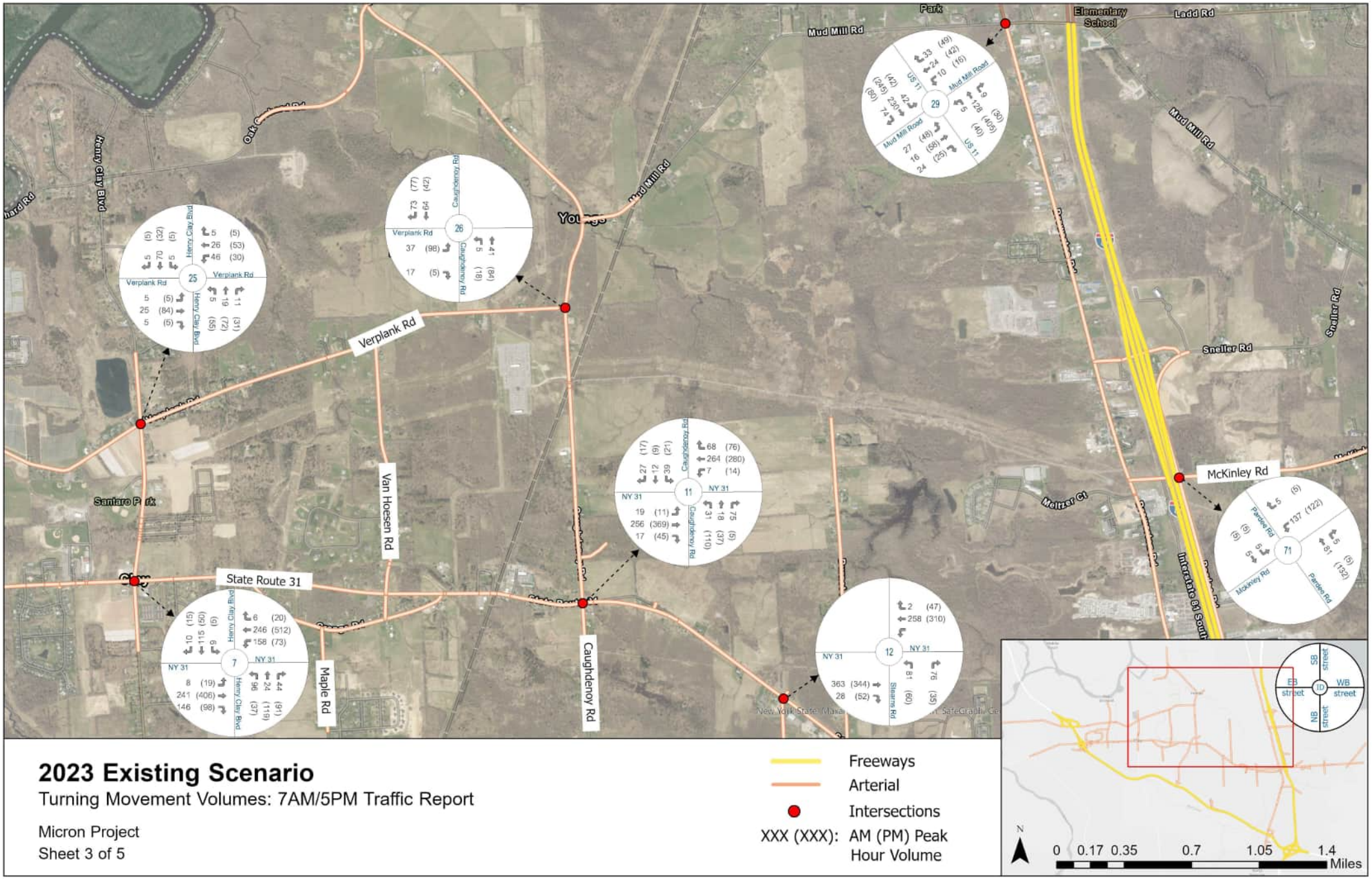


Figure 5-3: Year 2023 Existing 7AM/5PM Peak Hour Traffic Volumes - Intersections - Sheet 4 of 5

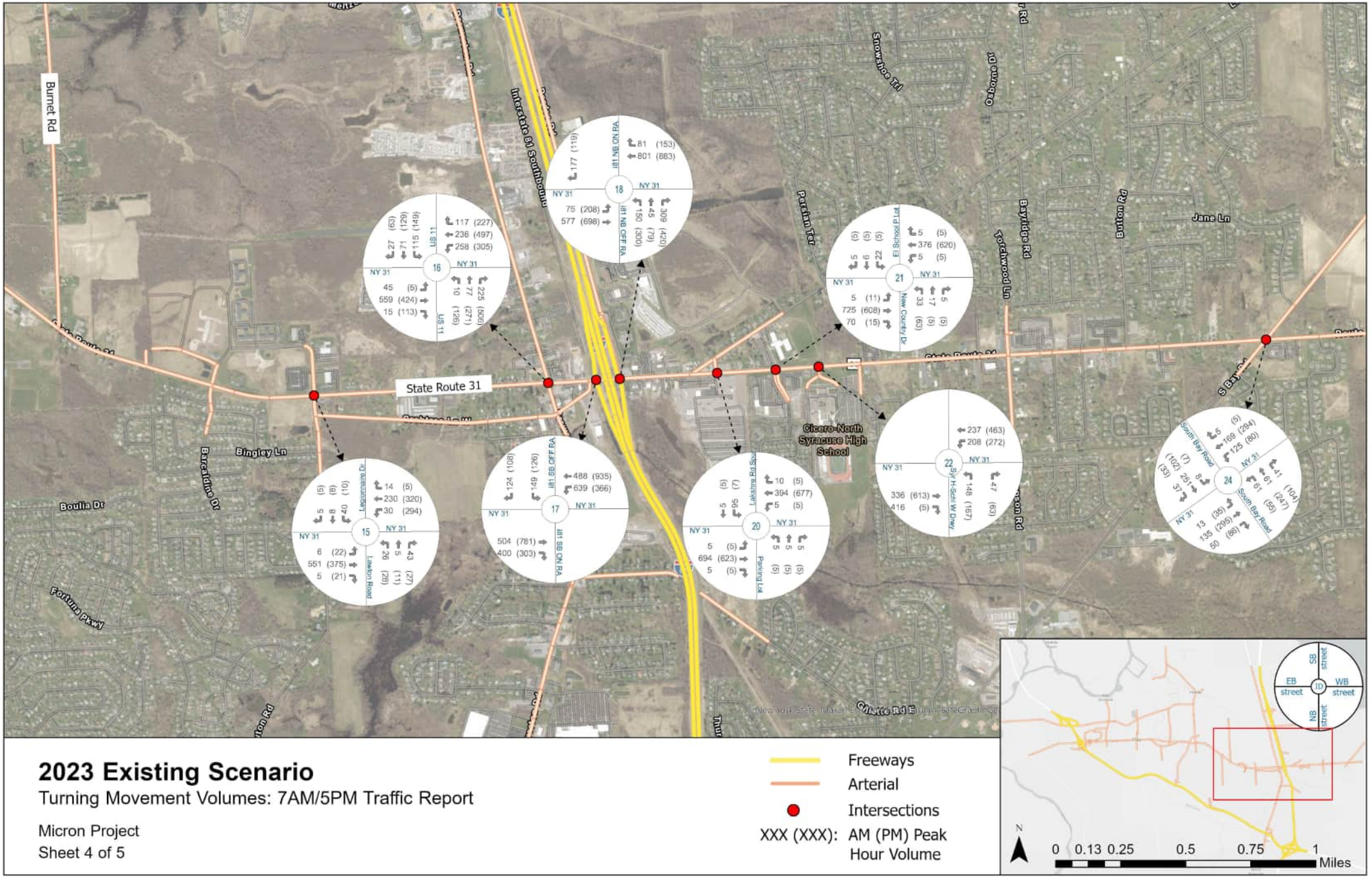
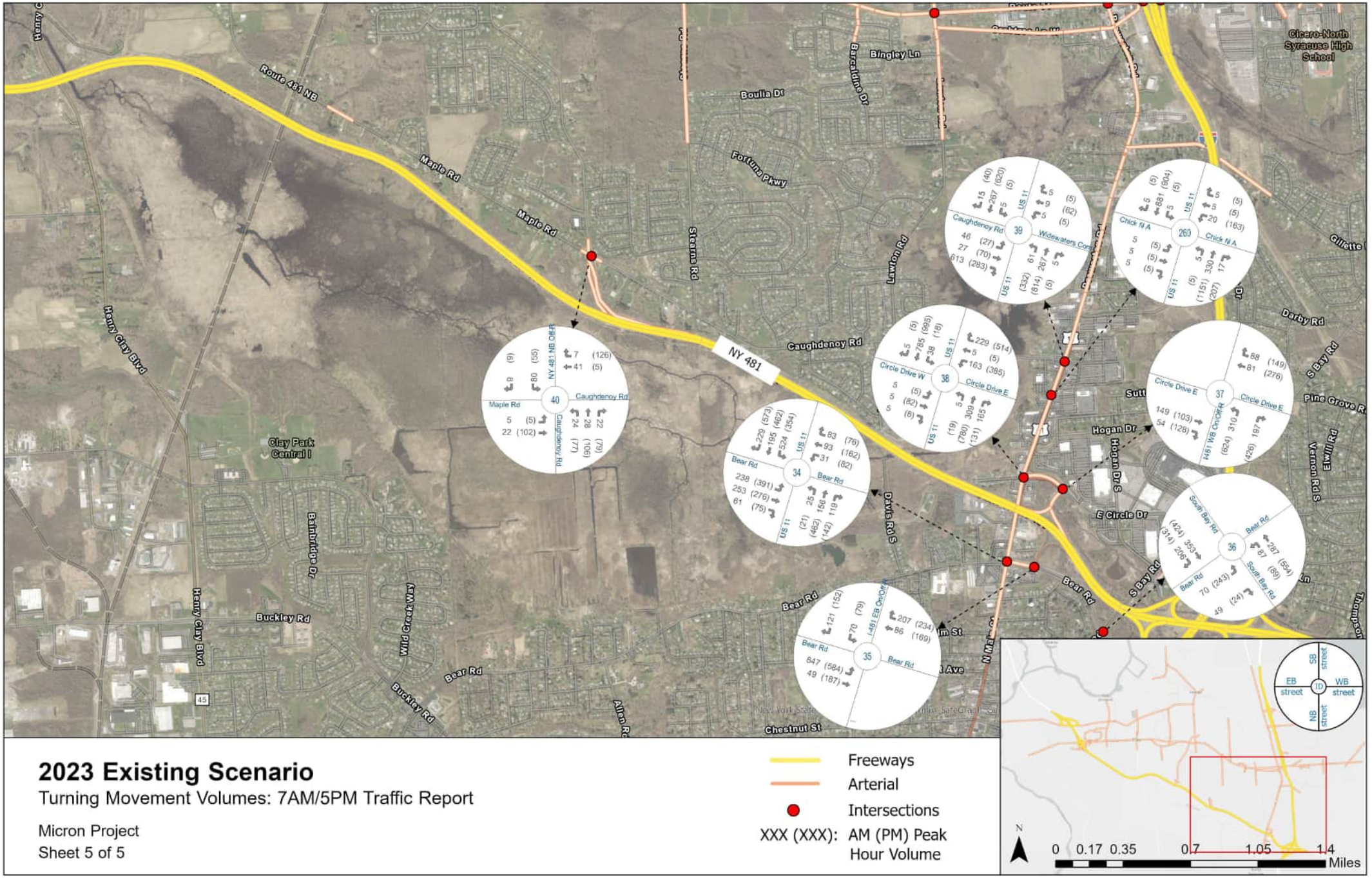


Figure 5-3: Year 2023 Existing 7AM/5PM Peak Hour Traffic Volumes - Intersections - Sheet 5 of 5



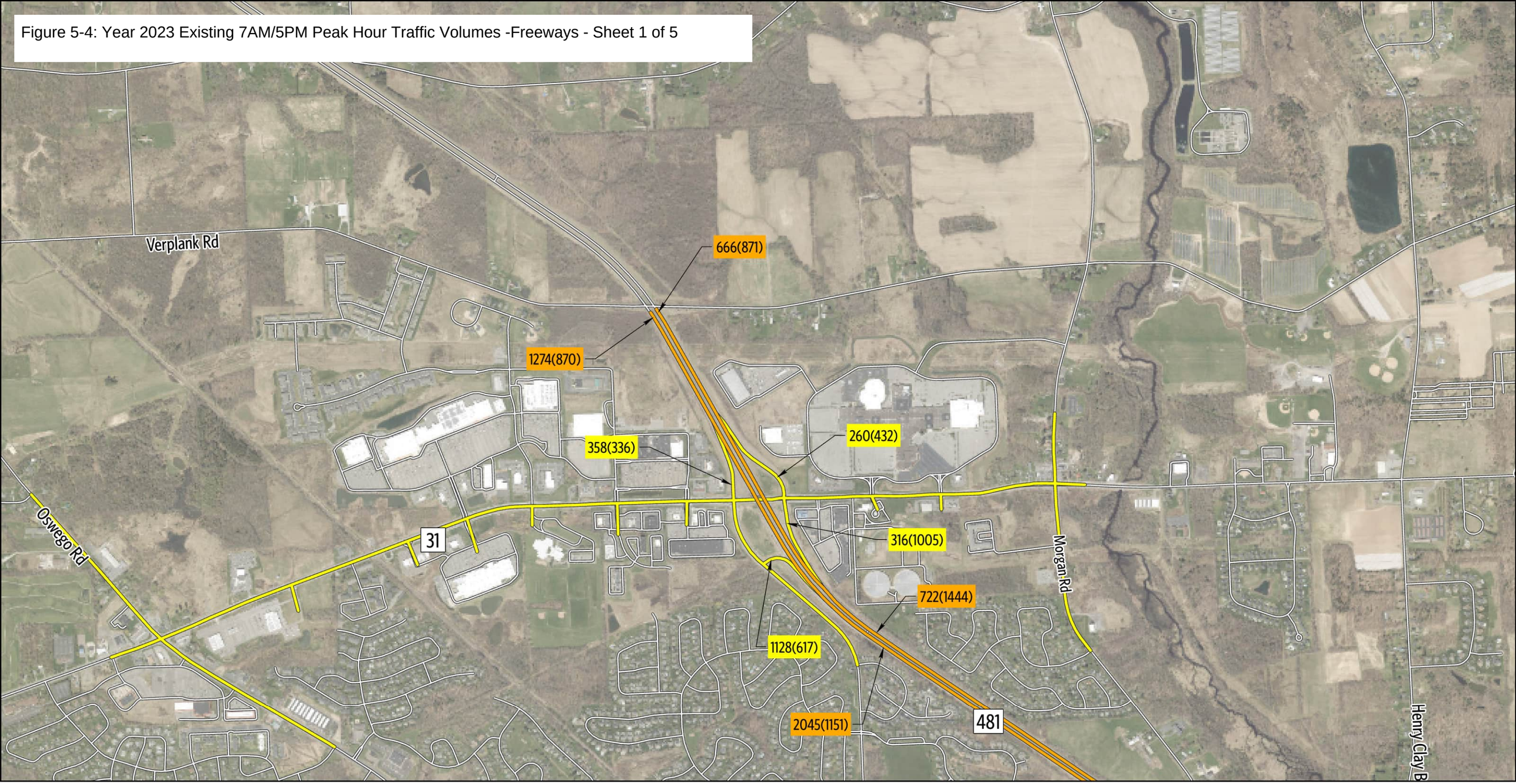
2023 Existing Scenario

Turning Movement Volumes: 7AM/5PM Traffic Report

Micron Project

Sheet 5 of 5

Figure 5-4: Year 2023 Existing 7AM/5PM Peak Hour Traffic Volumes -Freeways - Sheet 1 of 5



Mainline Volumes

Freeways

Ramp Volumes

Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

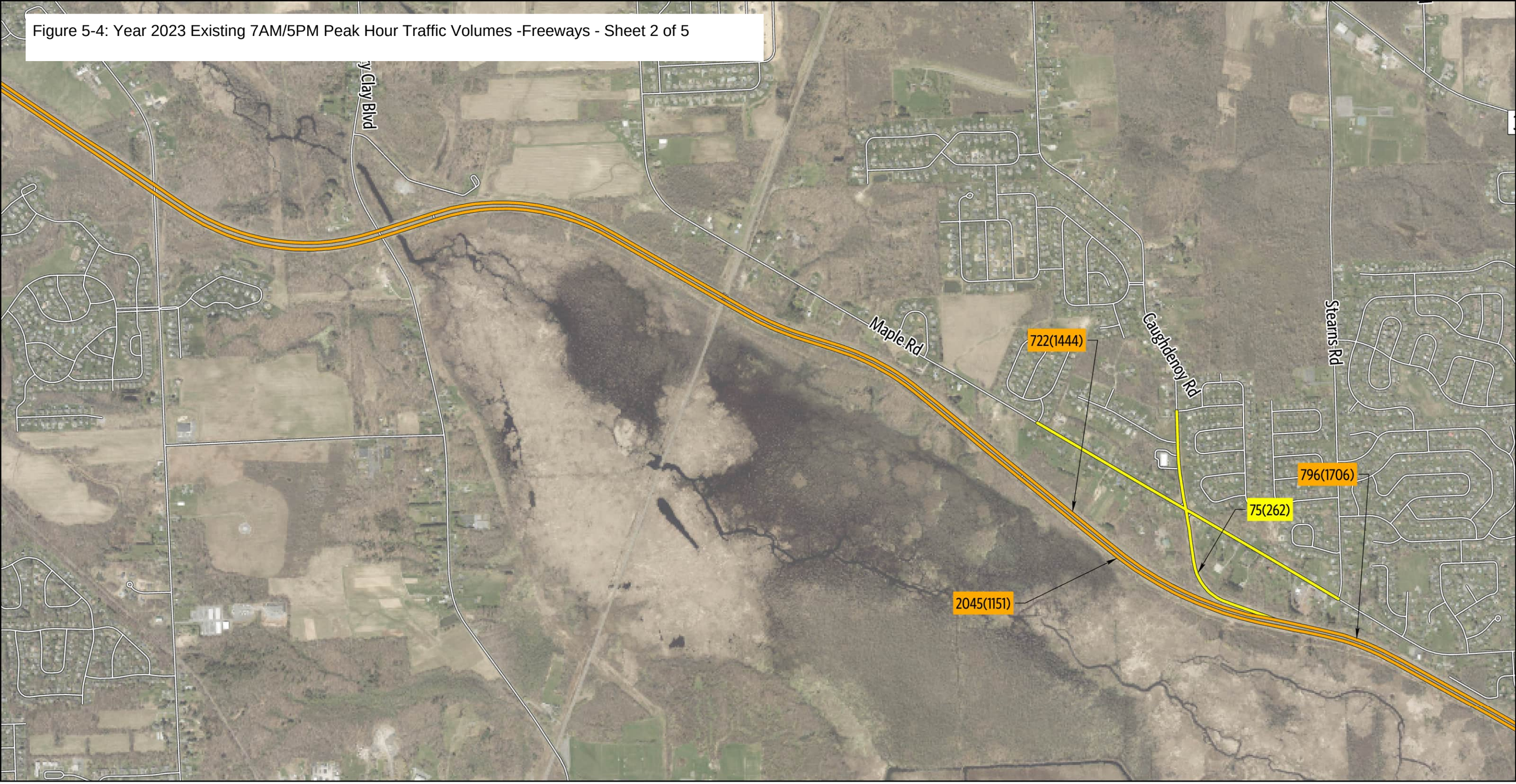
0 1,000 2,000 Feet

2023 Existing

Sheet 1 of 5

7 AM & 5 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 5-4: Year 2023 Existing 7AM/5PM Peak Hour Traffic Volumes -Freeways - Sheet 2 of 5



Mainline Volumes
Freeways

Ramp Volumes
Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

0 1,000 2,000 Feet

2023 Existing

Sheet 2 of 5

7 AM & 5 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 5-4: Year 2023 Existing 7AM/5PM Peak Hour Traffic Volumes -Freeways - Sheet 3 of 5

Mainline Volumes

Freeways

Ramp Volumes

Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

0 1,000 2,000 Feet

2023 Existing

Sheet 3 of 5

7 AM & 5 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 5-4: Year 2023 Existing 7AM/5PM Peak Hour Traffic Volumes -Freeways - Sheet 4 of 5

Mainline Volumes — Freeways

Ramp Volumes — Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

0 1,000 2,000 Feet

2023 Existing

Sheet 4 of 5

7 AM & 5 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 5-4: Year 2023 Existing 7AM/5PM Peak Hour Traffic Volumes -Freeways - Sheet 5 of 5

Mainline Volumes
Freeways

Ramp Volumes
Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

0 1,000 2,000 Feet

2023 Existing

Sheet 5 of 5

7 AM & 5 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

5.1.2 Heavy-Vehicle Percentages

Heavy commercial vehicle percentages were determined from the 48-hour continuous vehicular classification counts. Within the NYSDOT jurisdiction, 29 ATR locations were identified for VCC, and 4 ATR locations were identified within the NYSTA jurisdiction. The heavy-vehicle volumes were collected primarily at the major highway intersections and interstate interchanges within a 45-minute radius of the Proposed Project site. Table 5-1 summarizes the existing HV% on mainlines at key corridors within the Transportation Evaluation Area.

Truck traffic accounts for a relatively small proportion of the Transportation Evaluation Area's traffic volume. On the I-81 freeway corridor within the Transportation Evaluation Area, medium and heavy trucks account for 1.1 to 4.5 percent of all vehicle trips in the a.m. peak-hour period and 0.5 to 1.9 percent in the p.m. peak-hour period. The percentage of trucks on the NYS Route 481 corridor within the Transportation Evaluation Area is slightly higher than that of the freeways, varying from 0.9 to 6.1 percent.

HV% data was input into the Vissim model by the facility type and the HV% indicated from the 24-hour tube counts. The Vissim model also accounted for the distribution of single-unit and articulated trucks within the network.

Table 5-1. Heavy-Vehicle Percentages Within the Transportation Evaluation Area

Time	NYS Route 481				I-81			
	Private Autos	Bus	Medium Truck	Heavy Truck	Private Autos	Bus	Medium Truck	Heavy Truck
AM Peak	91.2%	1.3%	6.1%	1.4%	93.0%	1.4%	4.5%	1.1%
PM Peak	95.3%	0.3%	3.5%	0.9%	97.3%	0.3%	1.9%	0.5%

Source: Jacobs (2025) NY Micron Calibration Memo

5.1.3 Movements

The pedestrian and bicyclist movements at the intersections were counted simultaneously with the vehicle TMCs. The pedestrian and bicyclist volumes represent movements that conflict with vehicle traffic and were included in the analysis to provide a more accurate traffic analysis model. Pedestrian and bicycle movements were minimal to nonexistent within the existing travel patterns.

5.1.4 Measured Travel Speeds

Average operating speeds were field-collected in both directions for I-81, the I-81/I-690/NYS Route 481 loop, and NYS Route 31 roadways during the spring 2023 data collection effort. The average operating speeds for NYS Route 481 in both directions were obtained from StreetLight Data. Table 5-2 summarizes the existing travel speeds and posted speed limits.

Table 5-2. Speed Data

Route	Direction	Posted Speed Limit	Average Operating Speed (AM)	Average Operating Speed (PM)
I-81	Northbound	65 mph	65 mph	66 mph
I-81	Southbound	65 mph	66 mph	68 mph
I-81/I-690/ NYS Route 481 Loop	Clockwise	65 mph	59 mph	61 mph
I-81/I-690/ NYS Route 481 Loop	Counterclockwise	65 mph	58 mph	61 mph
NYS Route 31	Eastbound	Varies	38 mph	32 mph
NYS Route 31	Westbound	Varies	38 mph	32 mph
NYS Route 481	Northbound	65 mph	64 mph	66 mph
NYS Route 481	Southbound	65 mph	66 mph	65 mph

5.2 Existing Traffic Operational Conditions

The existing year reflects current roadway capacity and traffic volumes. Existing traffic operational conditions were assessed to calibrate to field conditions. Following calibration, existing traffic operations models were used to evaluate future year conditions.

5.2.1 Vissim Existing Model Calibration Results

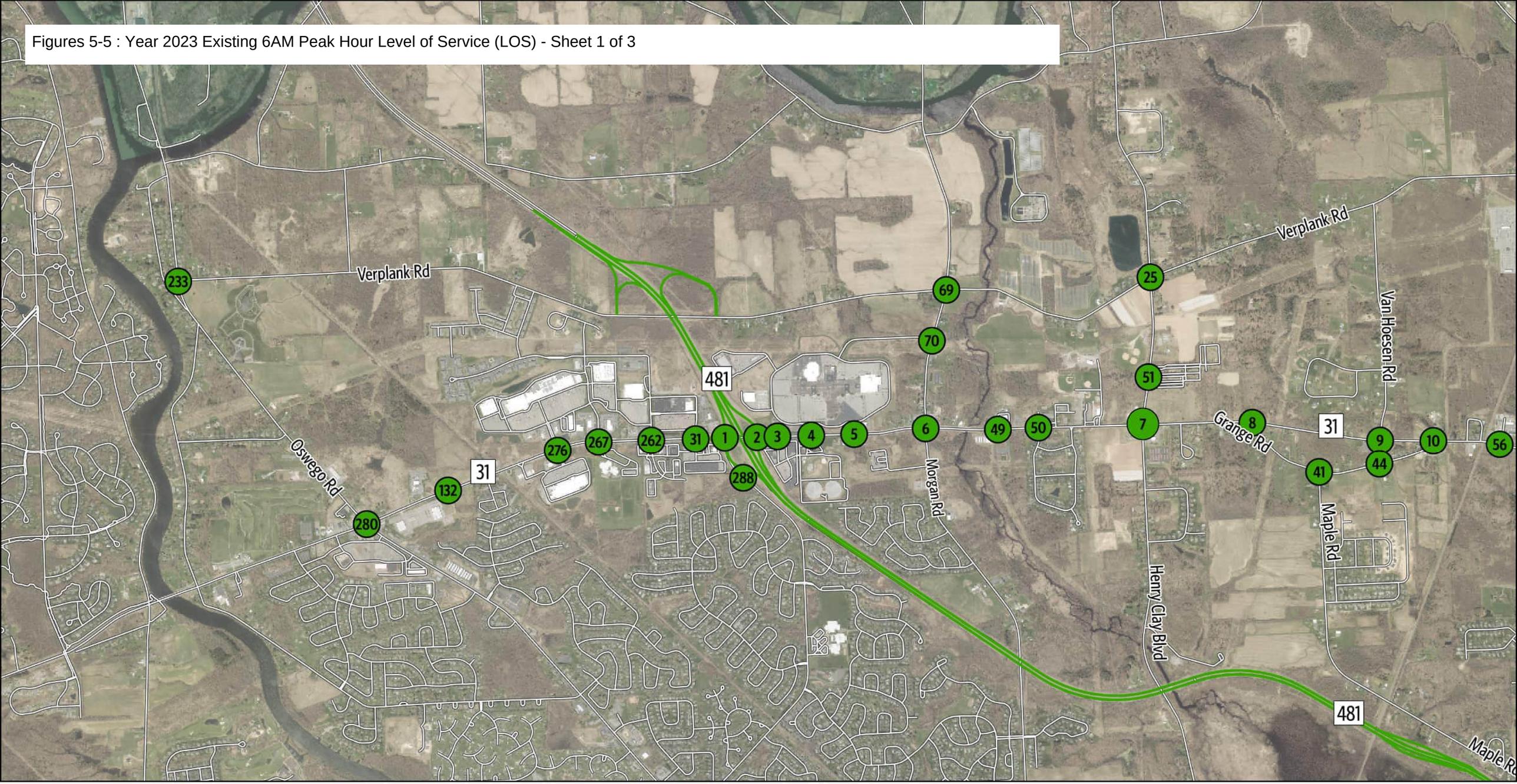
PTV Vissim Microsimulation, version 2023, models were developed to perform a detailed analysis of the performance of the key interstate and highway segments (basic freeway segments, merge segments, diverge segments, and weaving segments) identified as requiring analysis. To accurately model the traffic operations of the network within the Transportation Evaluation Area, key intersections that feed into the interstate and highway segments were also included in the model.

The existing a.m. and p.m. peak period Vissim models were calibrated based on traffic operations results and their comparison with field data. These models were used to develop future conditions models for the analysis. The analytical methods, assumptions, criteria, and thresholds used for existing Vissim calibration are summarized in the Microsimulation Calibration Memorandum (Jacobs, 2025).

5.2.2 Traffic Operations Analysis Results

The following sections present key MOEs and review the traffic operational analysis results for the existing year using Vissim and Synchro. The existing roadway network depicts operations for the peak hour with the lowest LOS within the peak period of the freeway mainline segments, merge/diverge areas, weaving areas, ramp segments, ramp terminal intersections, and surface street intersections expressed as LOS based on the color coding shown in Tables 2-3 and 2-4 in Section 2.4.2. Figures 5-5 through 5-8 show the LOS information for all key intersections and freeways within the transportation evaluation network.

Figures 5-5 : Year 2023 Existing 6AM Peak Hour Level of Service (LOS) - Sheet 1 of 3



Intersection Level Of Service

- A, B, C

Roadway Level Of Service

- A, B, C
- Streets

N

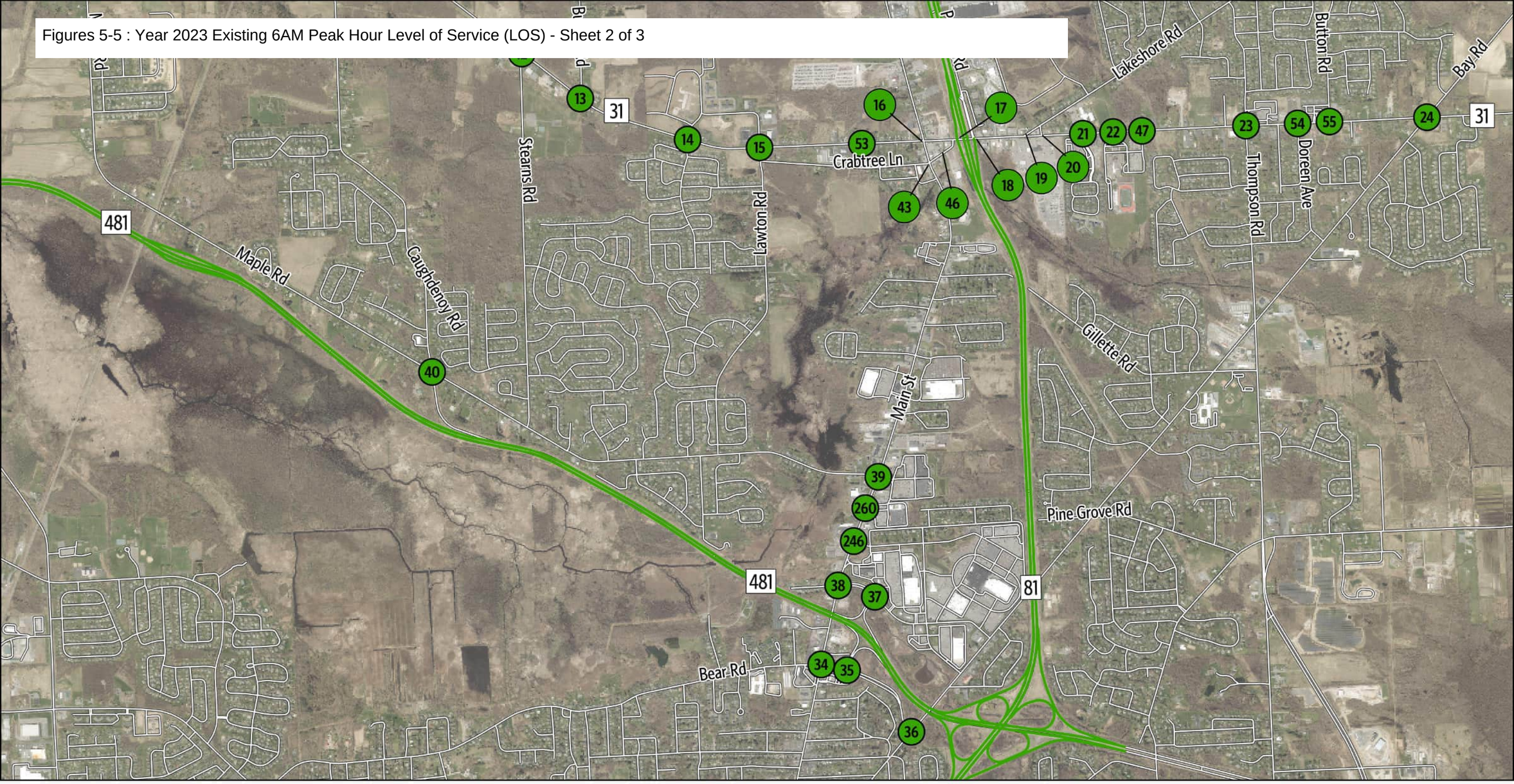
0 2,000 4,000 Feet

2023 Existing

Sheet 1 of 3

6 AM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figures 5-5 : Year 2023 Existing 6AM Peak Hour Level of Service (LOS) - Sheet 2 of 3



Intersection Level Of Service

- A, B, C

Roadway Level Of Service

- A, B, C
- Streets

N

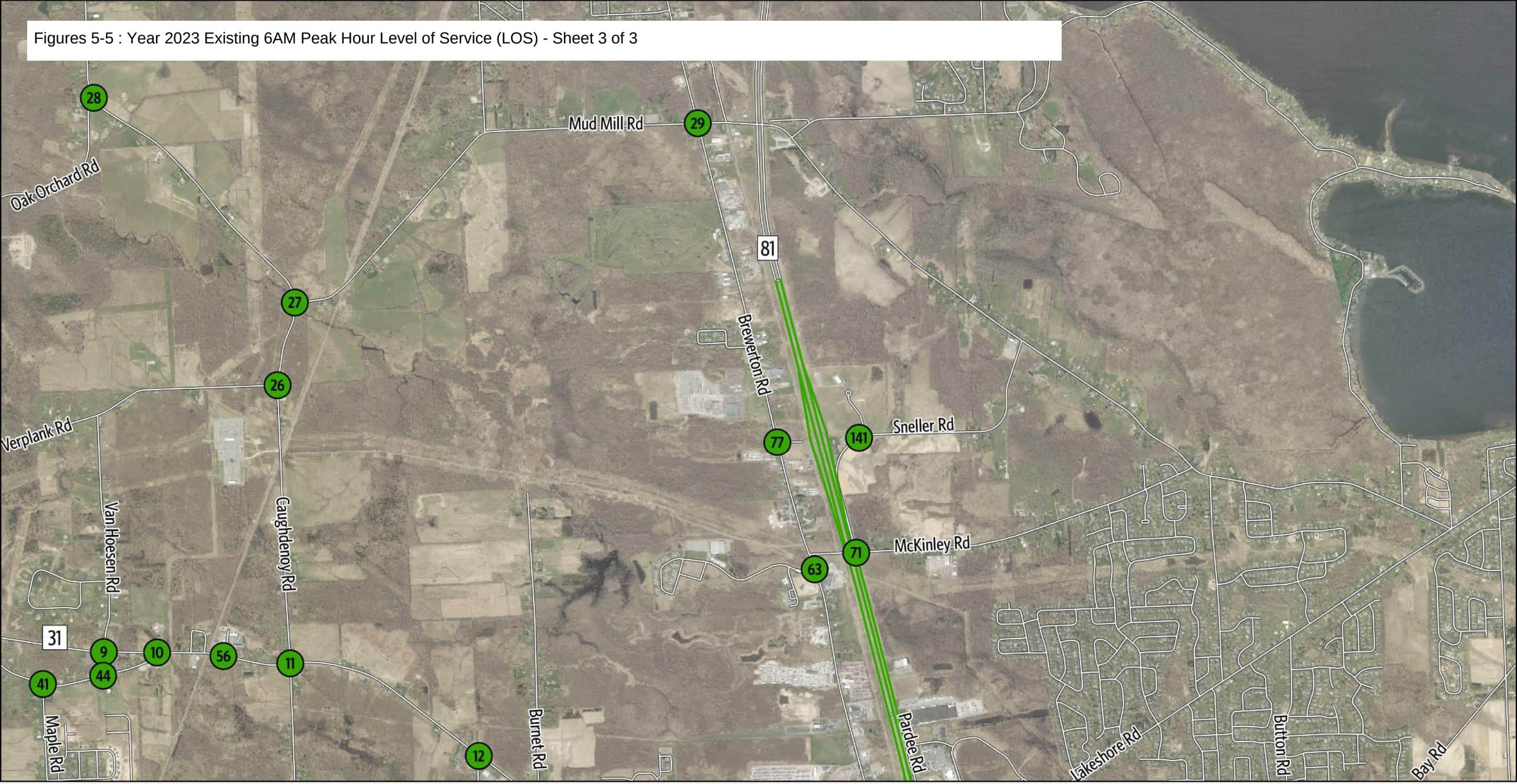
0 2,000 4,000 Feet

2023 Existing

Sheet 2 of 3

6 AM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figures 5-5 : Year 2023 Existing 6AM Peak Hour Level of Service (LOS) - Sheet 3 of 3



Intersection Level Of Service

- A, B, C

Roadway Level Of Service

- A, B, C
- Streets

N

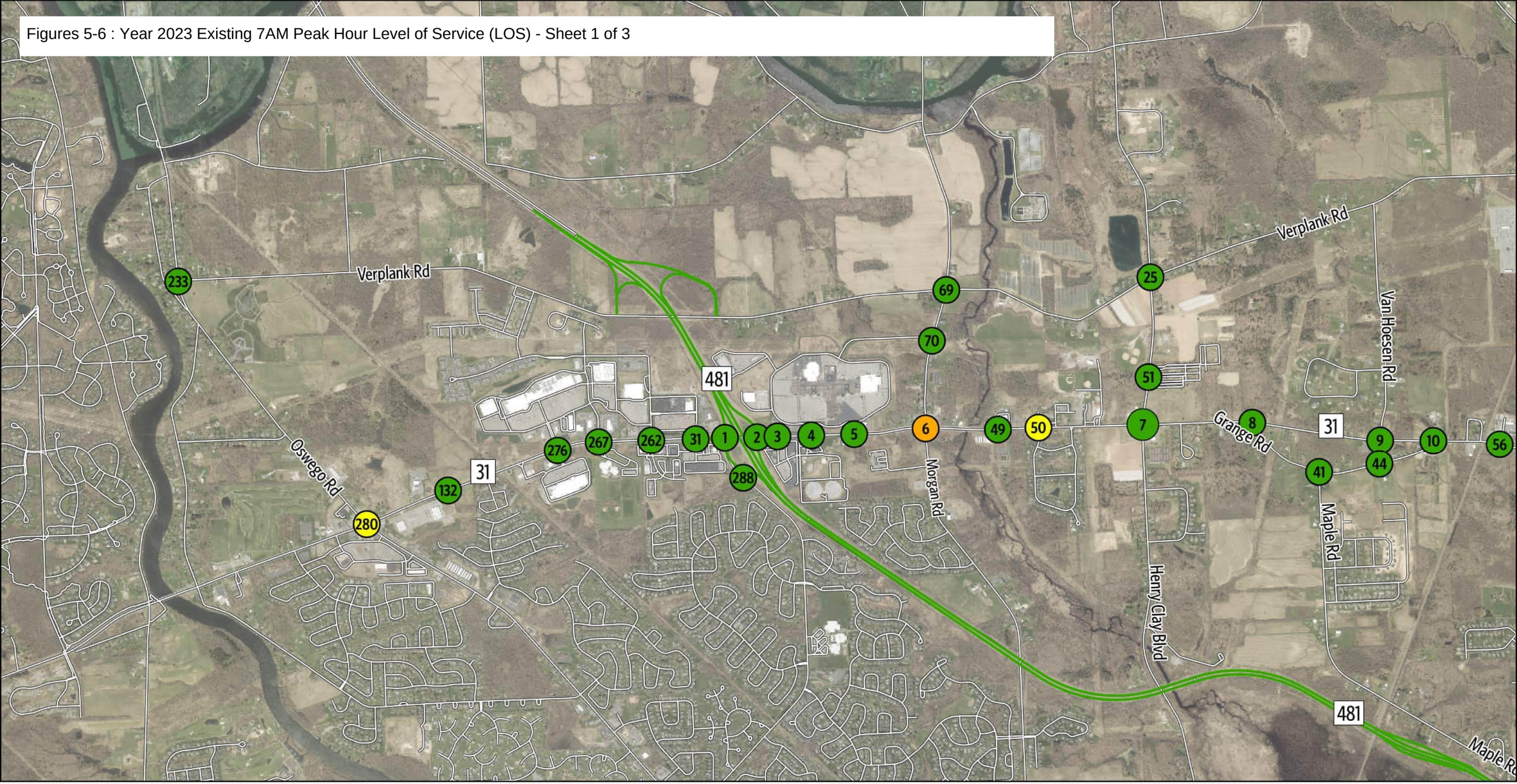
0 2,000 4,000 Feet

2023 Existing

Sheet 3 of 3

6 AM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figures 5-6 : Year 2023 Existing 7AM Peak Hour Level of Service (LOS) - Sheet 1 of 3



Intersection Level Of Service

- A, B, C
- D
- E

Roadway Level Of Service

- A, B, C
- Streets

N

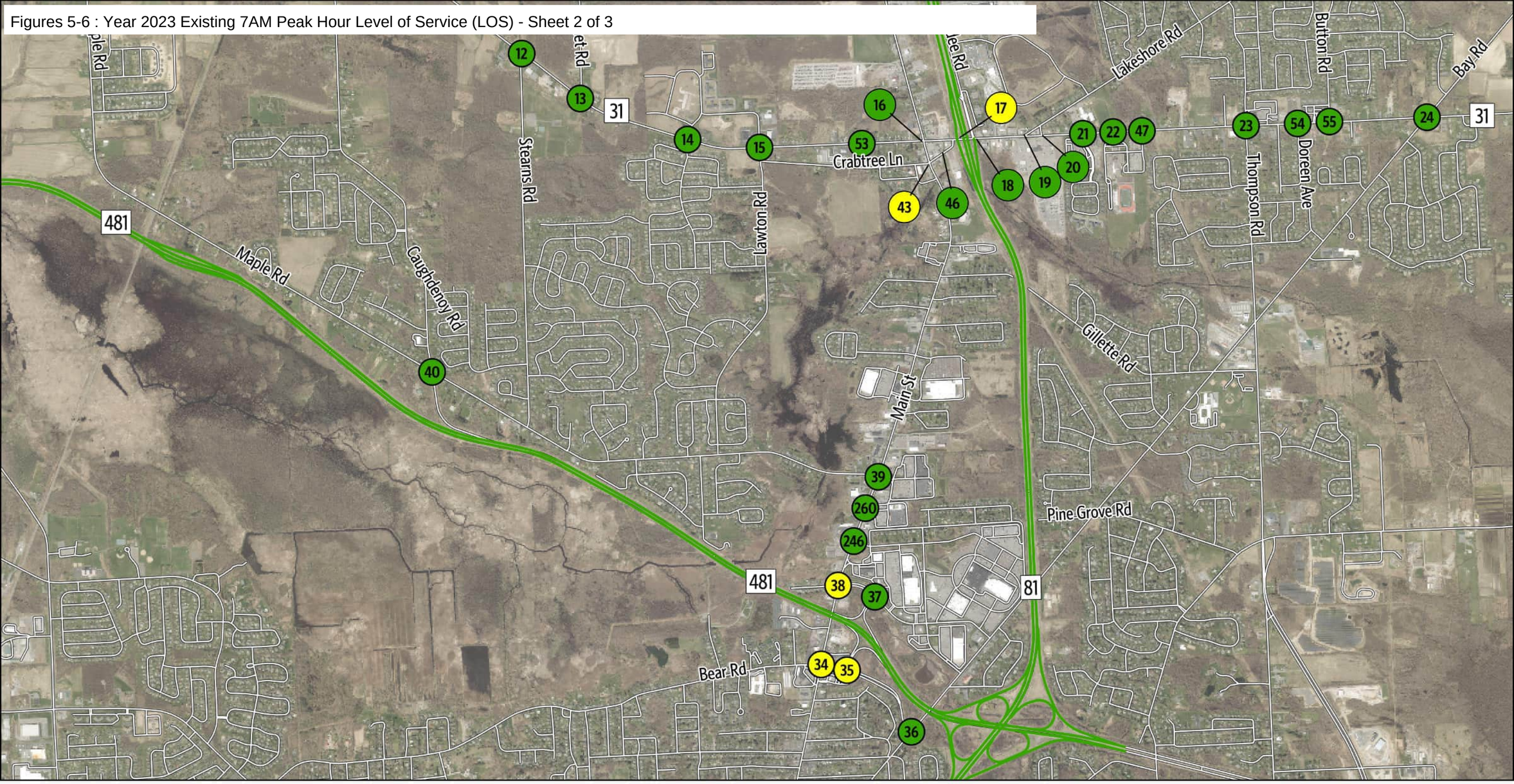
0 2,000 4,000 Feet

2023 Existing

Sheet 1 of 3

7 AM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figures 5-6 : Year 2023 Existing 7AM Peak Hour Level of Service (LOS) - Sheet 2 of 3



Intersection Level Of Service

- A, B, C
- D
- E

Roadway Level Of Service

- A, B, C
- Streets

N

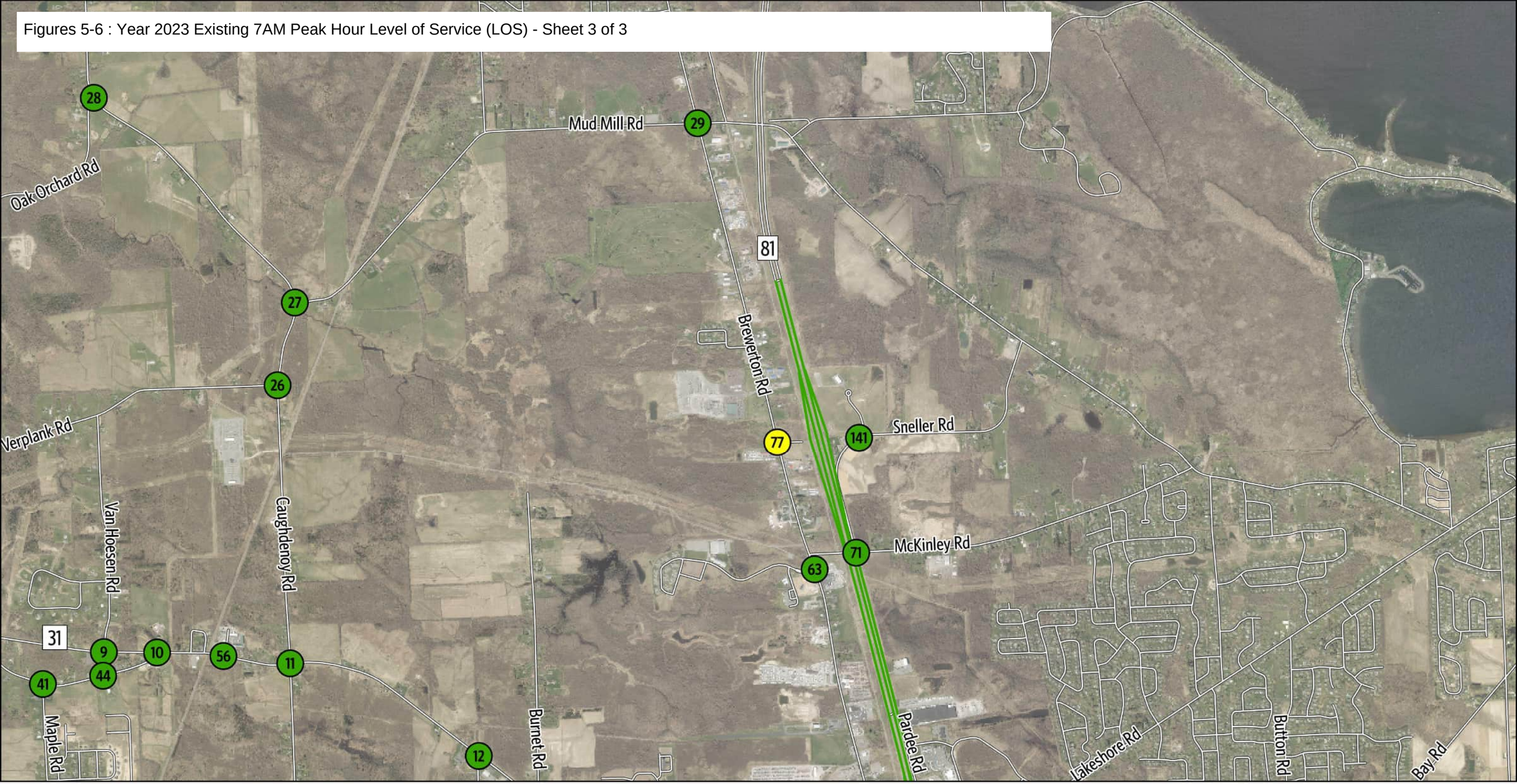
0 2,000 4,000 Feet

2023 Existing

Sheet 2 of 3

7 AM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figures 5-6 : Year 2023 Existing 7AM Peak Hour Level of Service (LOS) - Sheet 3 of 3



Intersection Level Of Service

- A, B, C
- D
- E

Roadway Level Of Service

- A, B, C
- Streets

N

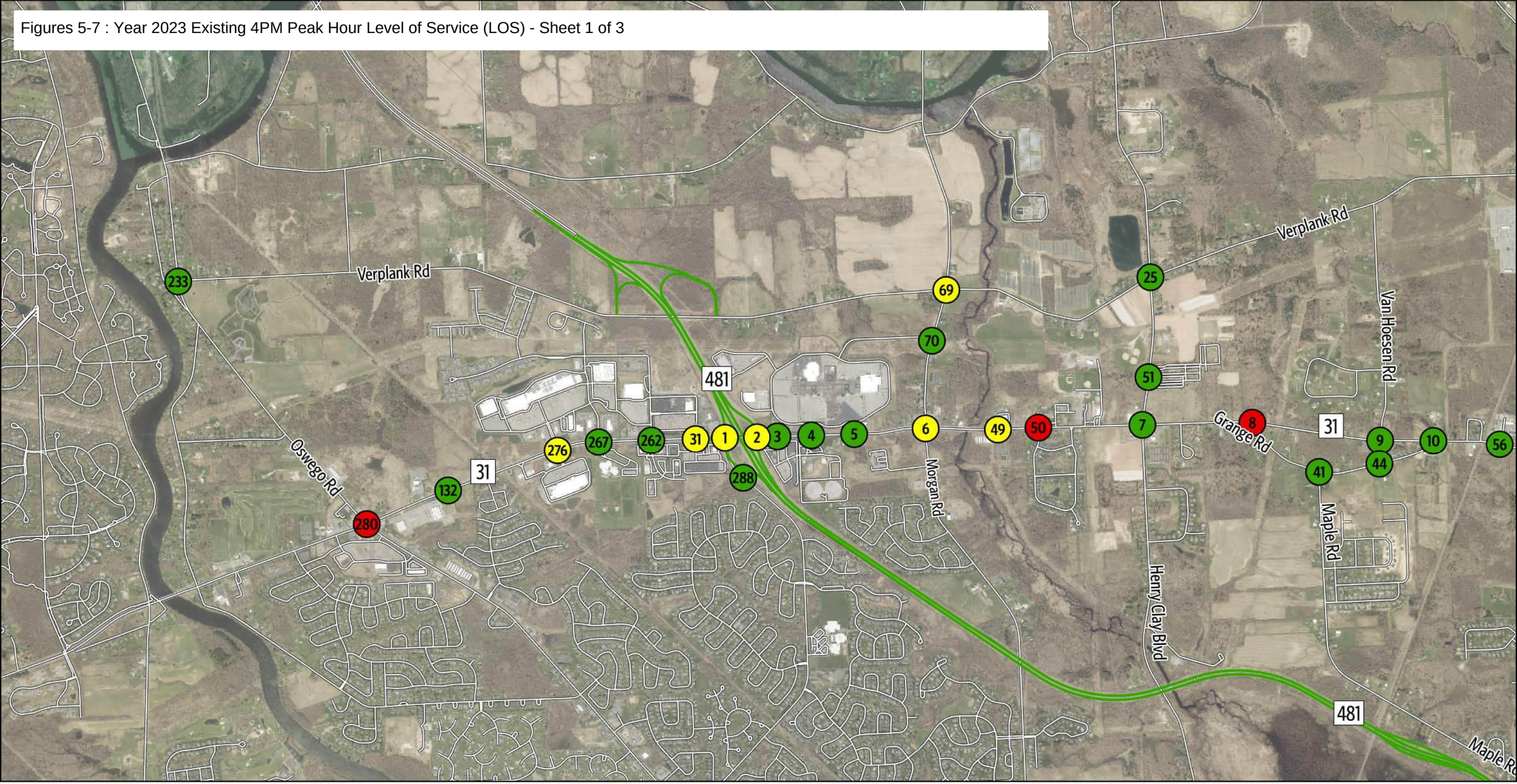
0 2,000 4,000 Feet

2023 Existing

Sheet 3 of 3

7 AM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figures 5-7 : Year 2023 Existing 4PM Peak Hour Level of Service (LOS) - Sheet 1 of 3



Intersection Level Of Service

- A, B, C
- D
- E
- F

Roadway Level Of Service

- A, B, C
- Streets

N

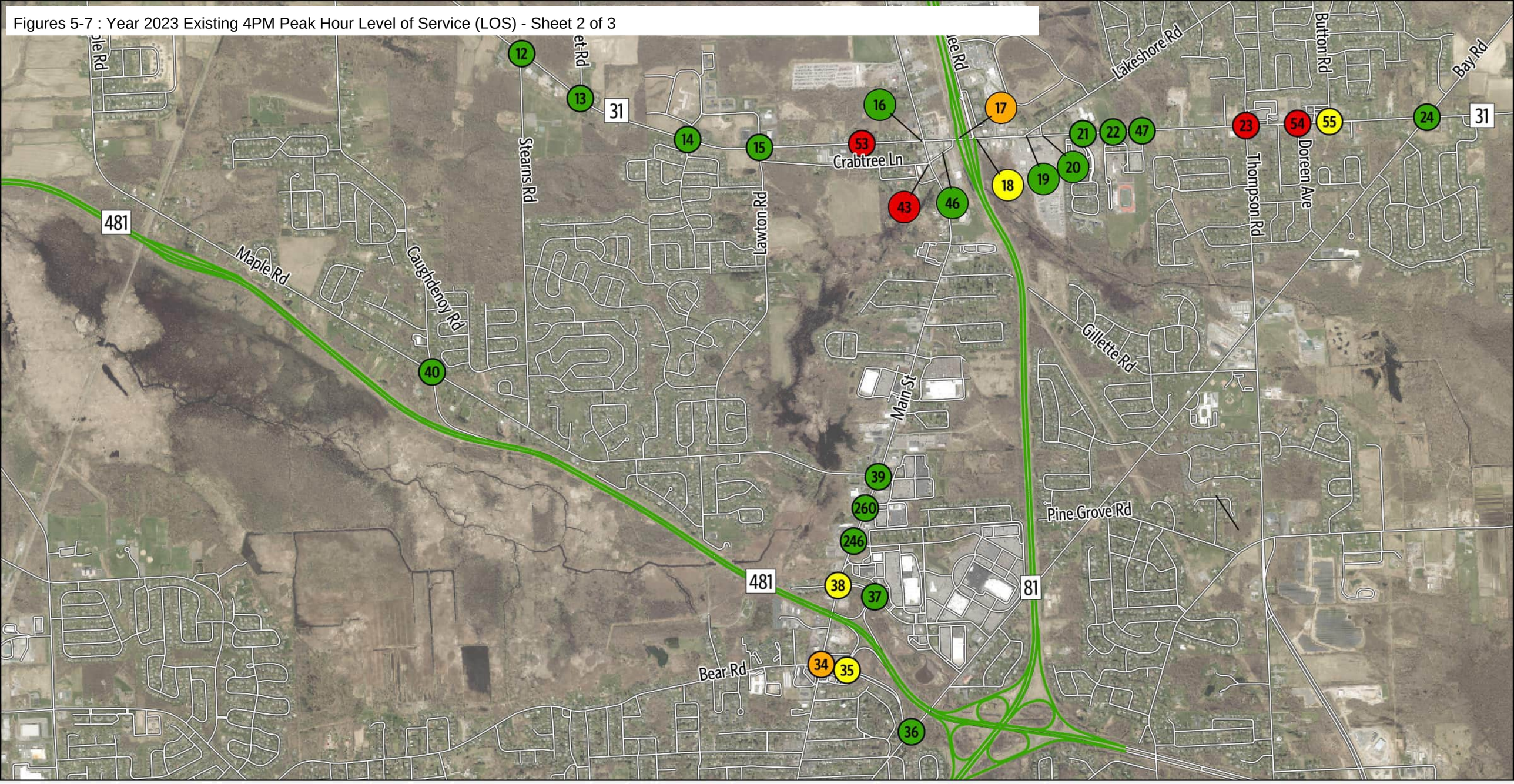
0 2,000 4,000 Feet

2023 Existing

Sheet 1 of 3

4 PM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figures 5-7 : Year 2023 Existing 4PM Peak Hour Level of Service (LOS) - Sheet 2 of 3



Intersection Level Of Service

- A, B, C
- D
- E
- F

Roadway Level Of Service

- A, B, C
- Streets

N

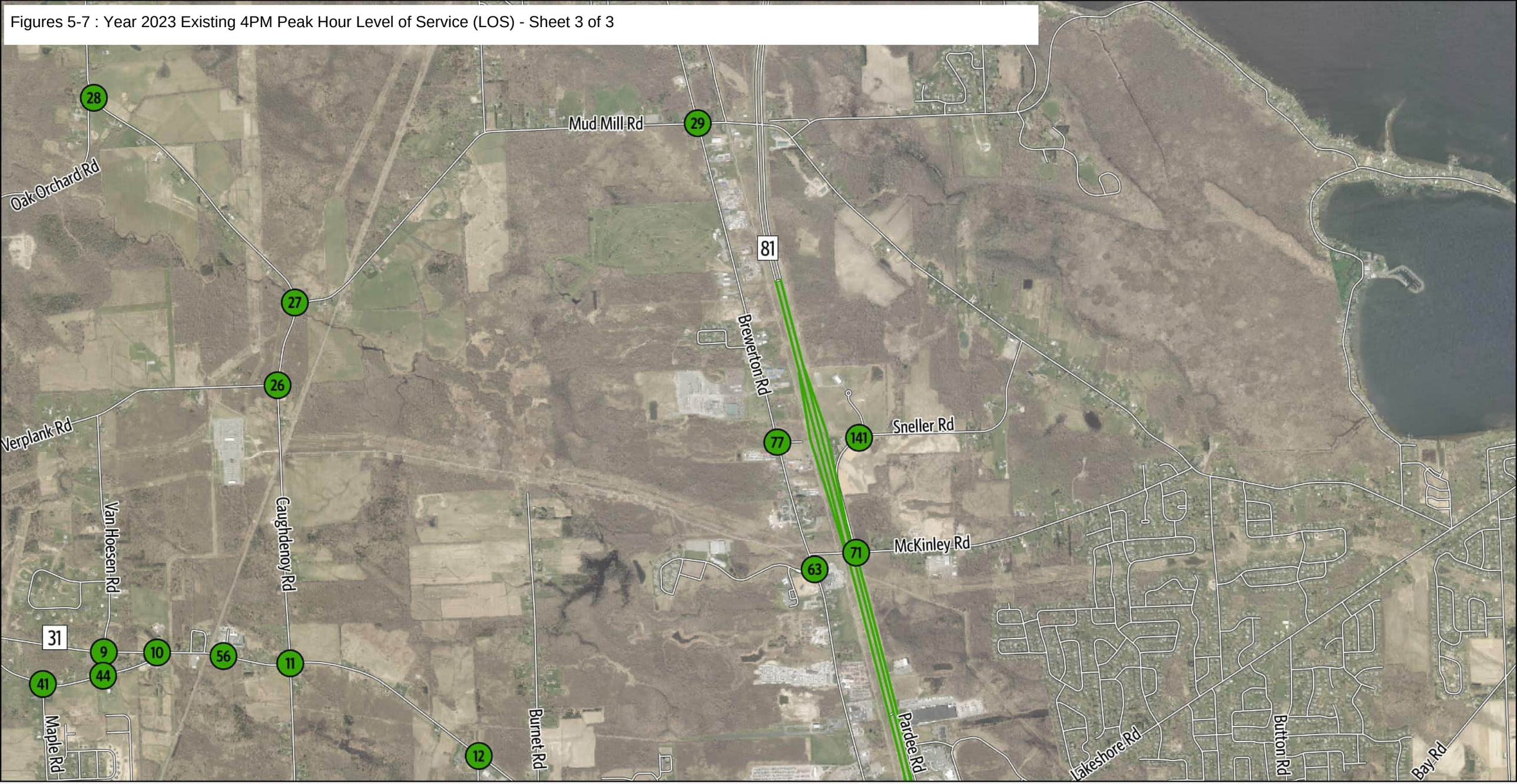
0 2,000 4,000 Feet

2023 Existing

Sheet 2 of 3

4 PM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figures 5-7 : Year 2023 Existing 4PM Peak Hour Level of Service (LOS) - Sheet 3 of 3



Intersection Level Of Service

- A, B, C
- D
- E
- F

Roadway Level Of Service

- A, B, C
- Streets

N

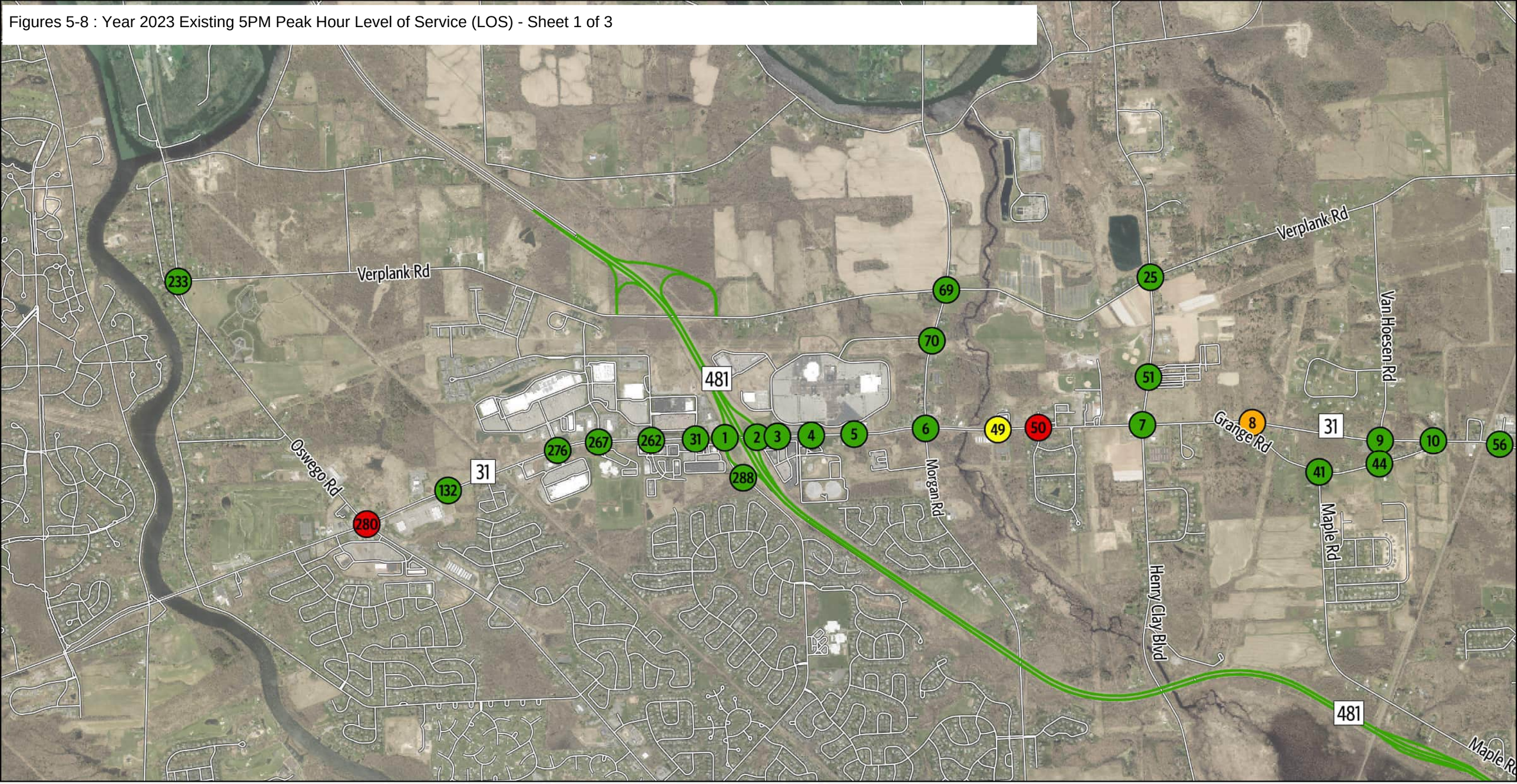
0 2,000 4,000 Feet

2023 Existing

Sheet 3 of 3

4 PM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figures 5-8 : Year 2023 Existing 5PM Peak Hour Level of Service (LOS) - Sheet 1 of 3



Intersection Level Of Service

- A, B, C
- D
- E
- F

Roadway Level Of Service

- A, B, C
- Streets

N

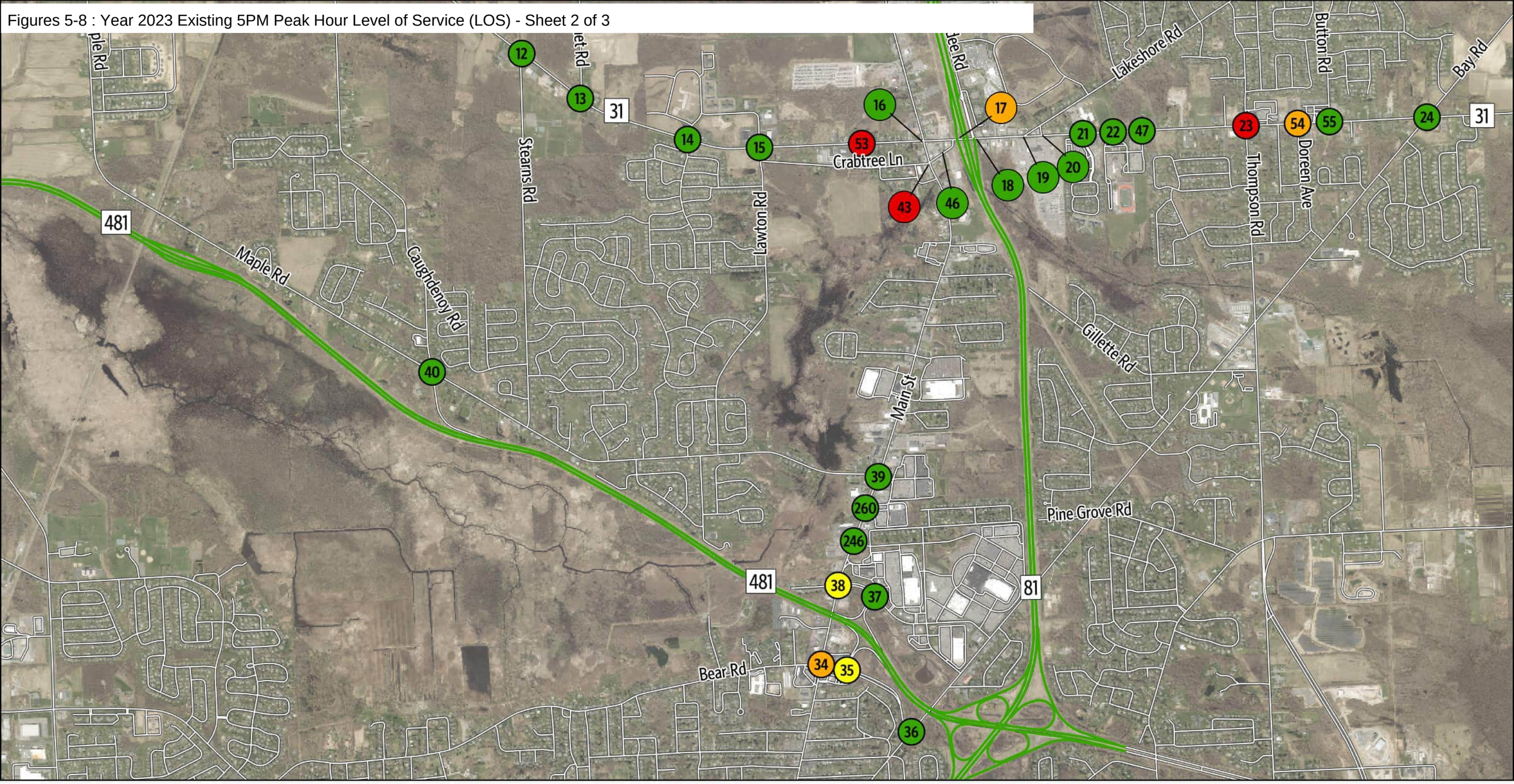
0 2,000 4,000 Feet

2023 Existing

Sheet 1 of 3

5 PM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figures 5-8 : Year 2023 Existing 5PM Peak Hour Level of Service (LOS) - Sheet 2 of 3



Intersection Level Of Service

- A, B, C
- D
- E
- F

Roadway Level Of Service

- A, B, C
- Streets

N

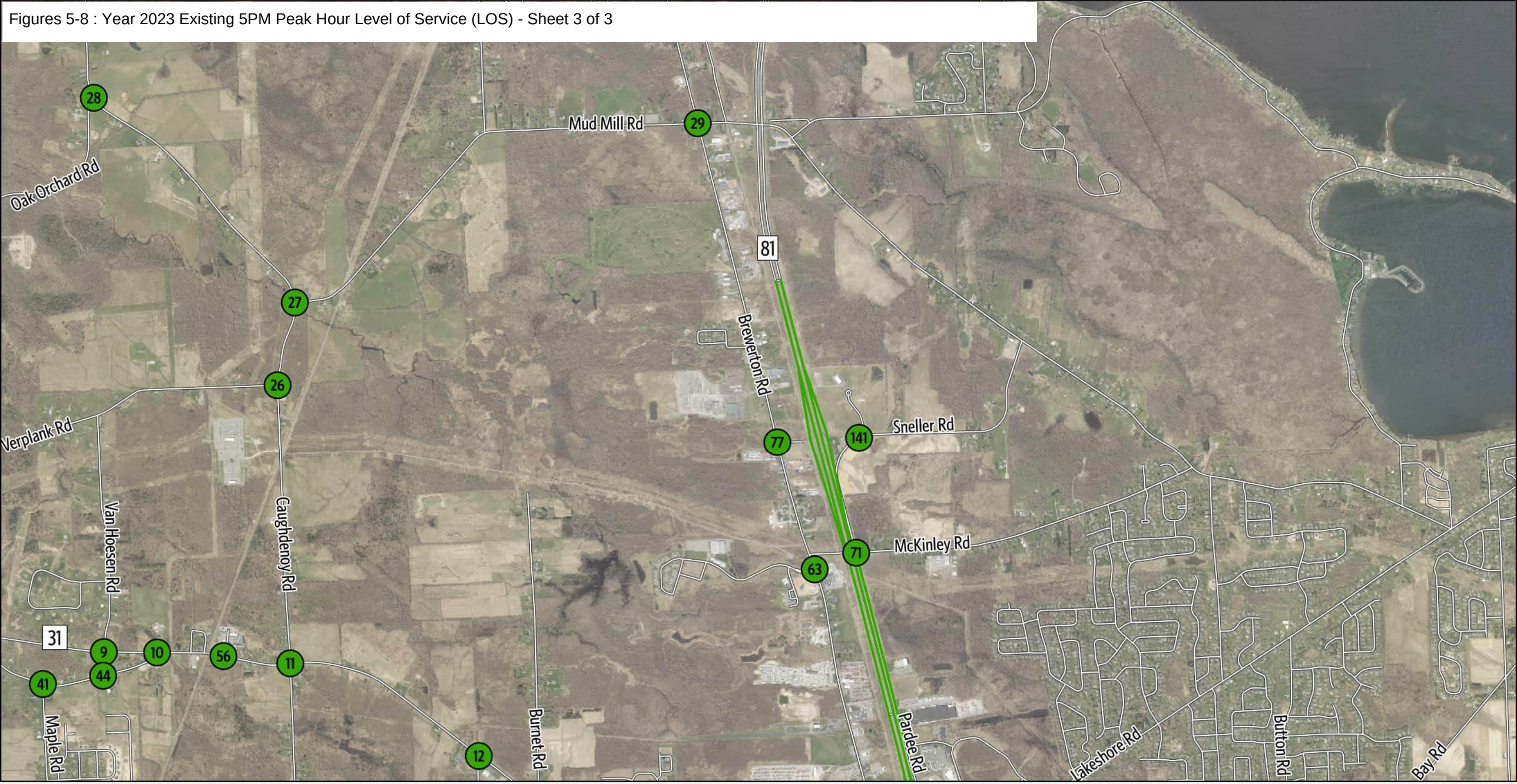
0 2,000 4,000 Feet

2023 Existing

Sheet 2 of 3

5 PM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figures 5-8 : Year 2023 Existing 5PM Peak Hour Level of Service (LOS) - Sheet 3 of 3



Intersection Level Of Service

- A, B, C
- D
- E
- F

Roadway Level Of Service

- A, B, C
- Streets

N

0 2,000 4,000 Feet

2023 Existing

Sheet 3 of 3

5 PM Peak Hour - Operational Analysis Results - LOS
Micron Project

5.2.2.1 Existing Intersection Operations

Table 5-3 summarizes the results for existing Transportation Evaluation Area intersections, including delay values and LOS expressed as a letter designation and by color coding shown in Table 2-3. The delay values reflect the overall intersection LOS for signalized intersections. For unsignalized intersections, the table shows the average delay for the highest-delay movement.

All intersections operate acceptably at LOS D or better in the 6:00 a.m. peak hour. In the 7:00 a.m. peak hour, all intersections operate at LOS D or better except for Morgan Road and NYS Route 31, a signalized intersection, which operates at LOS E and Lakeshore Road and NYS Route 31, an unsignalized intersection, which operates at LOS F. Morgan Road and NYS Route 31 operates at LOS E because of heavy northbound and southbound traffic volumes with limited lane capacities. Lakeshore Road and NYS Route 31 operate at LOS F because the stop-controlled Lakeshore Road approach has difficulty finding gaps in the heavy traffic of NYS Route 31.

The evening peak period demand generally results in higher average delays and deteriorated LOS at several intersections beginning in the 4:00 p.m. peak hour. Nine intersections operate at LOS E or F in the 4:00 p.m. peak hour and nine at LOS E or F in the 5:00 p.m. peak hour.

The following intersections operate at LOS E or F in the 4:00 p.m. peak hour:

- Grange Road W and NYS Route 31 (LOS F)
- NYS Route 31 and I-81 SB Ramp (LOS E)
- Thompson Road/Torchwood Lane and NYS Route 31 (LOS F)
- U.S. Route 11 and Bear Road (LOS E)
- U.S. Route 11 and Crabtree Lane (LOS F)
- McNamara Drive/Driveway and NYS Route 31 (LOS F)
- Doreen Avenue and NYS Route 31 (LOS F)
- Lakeshore Road and NYS Route 31 (LOS F)
- Oswego Road and NYS Route 31 (LOS F)

The following intersections operate at LOS E or F in the 5:00 p.m. peak hour:

- Grange Road W and NYS Route 31 (LOS E)
- NYS Route 31 and I-81 SB Ramp (LOS E)
- Thompson Road/Torchwood Lane and NYS Route 31 (LOS F)
- U.S. Route 11 and Bear Road (LOS E)
- U.S. Route 11 and Crabtree Lane (LOS F)
- McNamara Drive/Driveway and NYS Route 31 (LOS F)
- Doreen Avenue and NYS Route 31 (LOS E)
- Lakeshore Road and NYS Route 31 (LOS F)
- Oswego Road and NYS Route 31 (LOS F)

5.2.2.2 Existing Freeway Operations

Tables 5-4 and 5-5 summarize the I-81 and NYS Route 481 freeway and ramp densities, along with their corresponding LOS. The I-81 and NYS Route 481 freeways operate with uncongested conditions during both peak periods, with all segments operating at LOS C or better. For locations where the demand increases in the second hour of each peak period, the corresponding increases in density do not cause a drop to unacceptable operating conditions within the Transportation Evaluation Area.

Table 5-3. Year 2023 Existing AM and PM Peak-Hour Intersection Operations – Delay and LOS

Intersection	Intersection Name	Intersection Control	6 AM			7 AM			4 PM			5 PM		
			Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c
1	NYS Route 31 and NYS Route 481 SB	Signalized	28	C	0.38	22	C	0.7	41	D	1.06	31	C	0.92
2	NYS Route 31 and NYS Route 481 NB	Signalized	10	A	0.24	11	B	0.38	38	D	0.93	34	C	0.85
3	Marketfair Plaza and NYS Route 31	Signalized	3	A	0.19	4	A	0.29	5	A	0.49	5	A	0.43
4	NYS Route 31 and GNM West	Signalized	9	A	0.25	10	A	0.38	17	B	0.55	18	B	0.5
5	Parking Lot/GNM East and NYS Route 31	Signalized	7	A	0.24	8	A	0.38	12	B	0.59	9	A	0.49
6	Morgan Road and NYS Route 31	Signalized	30	C	0.47	59	E	0.74	44	D	0.97	35	C	0.85
8	Grange Road West and NYS Route 31	Unsignalized	12	B	N/A	17	C	N/A	52	F	N/A	48	E	N/A
9	Van Hoesen Road and NYS Route 31	Unsignalized	12	B	N/A	15	C	N/A	21	C	N/A	19	C	N/A
10	Grange Road East and NYS Route 31	Unsignalized	10	B	N/A	11	B	N/A	12	B	N/A	12	B	N/A
11	Caughdenoy Road and NYS Route 31	Signalized	6	A	0.25	7	A	0.37	11	B	0.61	9	A	0.55
12	Stearns Road and NYS Route 31	Unsignalized	12	B	N/A	17	C	N/A	19	C	N/A	15	C	N/A
13	NYS Route 31 and Burnet Road	Unsignalized	11	B	N/A	13	B	N/A	12	B	N/A	12	B	N/A
14	Barcaldine Drive/Legionnaire Drive and NYS Route 31	Unsignalized	11	B	N/A	14	B	N/A	12	B	N/A	11	B	N/A
15	Lawton Road/Legionnaire Drive and NYS Route 31	Signalized	8	A	0.34	11	B	0.51	14	B	0.61	12	B	0.54
16	U.S. Route 11 and NYS Route 31	Signalized	18	B	0.3	22	C	0.55	34	C	0.79	33	C	0.78
17	NYS Route 31 and I-81 SB Ramp	Signalized	28	C	0.57	53	D	0.93	79	E	0.87	59	E	0.79
18	NYS Route 31 and Pardee Road/I-81 NB Ramp	Signalized	20	B	0.39	26	C	0.62	41	D	0.95	34	C	0.82
19	NYS Route 31 and Lakeshore Road	Unsignalized	16	C	N/A	51	F	N/A	288	F	N/A	155	F	N/A
20	Parking Lot/Lakeshore Spur and NYS Route 31	Signalized	9	A	0.27	10	B	0.42	11	B	0.61	9	A	0.54
21	New Country Drive/Cicero Elementary School Parking Lot and NYS Route 31	Signalized	7	A	0.22	8	A	0.36	8	A	0.62	7	A	0.55
22	Cicero North Syracuse High School, West Driveway and NYS Route 31	Signalized	9	A	0.26	11	B	0.46	24	C	0.85	19	B	0.75
23	Thompson Road/Torchwood Lane and NYS Route 31	Signalized	9	A	0.46	16	B	0.58	217	F	1.81	145	F	1.5
24	South Bay Road and NYS Route 31	Signalized	12	B	0.42	16	B	0.61	30	C	0.87	22	C	0.75
25	Henry Clay Boulevard and Verplank Road	Unsignalized	7	A	N/A	8	A	N/A	9	A	N/A	9	A	N/A
26	Caughdenoy Road and Verplank Road	Unsignalized	9	A	N/A	10	A	N/A	11	B	N/A	11	B	N/A
27	Caughdenoy Road and Mud Mill Road	Unsignalized	9	A	N/A	10	B	N/A	11	B	N/A	11	B	N/A
28	Caughdenoy Road and Oak Orchard Road	Unsignalized	9	A	N/A	10	A	N/A	11	B	N/A	11	B	N/A
29	U.S. Route 11 and Mud Mill Road	Signalized	7	A	0.24	8	A	0.38	11	B	0.61	10	B	0.55
31	Raymour and Flanigan/Wegmans East and NYS Route 31	Signalized	7	A	0.25	8	A	0.39	44	D	0.9	28	C	0.73
32	Henry Clay Boulevard and Wetzel Road	Signalized	18	B	0.3	20	C	0.49	28	C	0.7	26	C	0.64

Intersection	Intersection Name	Intersection Control	6 AM			7 AM			4 PM			5 PM		
			Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c
33	Allen Road and Bear Road	Signalized	9	A	0.26	10	A	0.42	18	B	0.78	15	B	0.67
34	U.S. Route 11 and Bear Road	Signalized	32	C	0.63	42	D	0.87	66	E	0.99	56	E	0.89
35	Bear Road and I-481 EB On/Off-Ramp	Signalized	31	C	0.53	43	D	0.74	46	D	0.72	39	D	0.64
36	South Bay Road and Bear Road	Signalized	7	A	0.25	9	A	0.38	17	B	0.74	16	B	0.75
37	I-481 WB On/Off-Ramp and Circle Drive E	Signalized	33	C	0.14	31	C	0.23	28	C	0.69	25	C	0.6
38	U.S. Route 11 and Circle Drive W/Circle Drive E	Signalized	32	C	0.26	39	D	0.37	42	D	0.78	35	D	0.66
39	U.S. Route 11 and Caughdenoy Road/Widewaters Commons	Signalized	31	C	0.13	27	C	0.4	23	C	0.57	23	C	0.51
40	NYS Route 481 NB Off-Ramp and Maple Road and Caughdenoy Road	Unsignalized	10	A	N/A	10	A	N/A	9	A	N/A	9	A	N/A
41	Maple Road and Grange Road	Unsignalized	9	A	N/A	9	A	N/A	11	B	N/A	10	B	N/A
43	U.S. Route 11 and Crabtree Lane	Unsignalized	9	B	N/A	9	D	N/A	752	F	N/A	309	F	N/A
44	Grange Road/Grange Road East and Van Hoesen Road	Unsignalized	9	A	N/A	9	A	N/A	8	A	N/A	8	A	N/A
47	Cicero North Syracuse High School, East Driveway and NYS Route 31	Unsignalized	10	A	N/A	11	B	N/A	0	A	N/A	0	A	N/A
50	McNamara Drive/Driveway and NYS Route 31	Unsignalized	16	C	N/A	31	D	N/A	330	F	N/A	229	F	N/A
51	Henry Clay Boulevard and Pine Plains Cemetery	Unsignalized	9	A	N/A	9	A	N/A	10	A	N/A	10	A	N/A
54	Doreen Avenue and NYS Route 31	Unsignalized	11	B	N/A	14	B	N/A	58	F	N/A	39	E	N/A
55	NYS Route 31 and Button Road	Unsignalized	10	A	N/A	12	B	N/A	30	D	N/A	13	B	N/A
56	NYS Route 31 and Weller Canning Road	Unsignalized	11	B	N/A	12	B	N/A	16	C	N/A	15	C	N/A
63	U.S. Route 11 and Micron Driveway 6	Unsignalized	10	A	N/A	11	B	N/A	9	A	N/A	9	A	N/A
69	Morgan Road and Verplank Road	Unsignalized	12	B	N/A	16	C	N/A	33	D	N/A	23	C	N/A
70	Morgan Road and GNM Driveway 1	Unsignalized	11	B	N/A	14	B	N/A	23	C	N/A	18	C	N/A
71	Pardee Road and McKinley Road	Unsignalized	10	A	N/A	10	B	N/A	11	B	N/A	10	B	N/A
77	Sneller Road and U.S. Route 11	Signalized	5	A	0.79	39	D	1.23	14	B	0.91	7	A	0.8
19	NYS Route 31 and Lakeshore Road	Unsignalized	16	C	N/A	51	F	N/A	288	F	N/A	155	F	N/A
7	Henry Clay Boulevard and NYS Route 31	Signalized	13	B	0.35	19	B	0.58	24	C	0.72	21	C	0.66
132	Davidson and NYS Route 31	Signalized	5	A	0.27	6	A	0.39	7	A	0.69	6	A	0.6
141	Sneller Road and Pardee Road	Unsignalized	7	A	N/A	9	A	N/A	8	A	N/A	9	A	N/A
233	Oswego Road and Verplank Road	Unsignalized	12	B	N/A	16	C	N/A	16	C	N/A	14	B	N/A
246	U.S. Route 11 and Hogan Drive	Signalized	7	A	0.21	7	A	0.3	16	B	0.75	13	B	0.68
260	U.S. Route 11 and Chick-fil-A	Signalized	4	A	0.22	4	A	0.33	13	B	0.73	8	A	0.64
262	NYS Route 31 and Carling Road	Signalized	12	B	0.26	13	B	0.36	29	C	0.88	22	C	0.77
267	NYS Route 31 and Dell Center Dr	Signalized	14	B	0.26	16	B	0.38	22	C	0.86	20	C	0.75

Intersection	Intersection Name	Intersection Control	6 AM			7 AM			4 PM			5 PM		
			Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c
276	Lowes/Home Depot and NYS Route 31	Signalized	20	B	0.23	26	C	0.34	51	D	0.88	35	C	0.76
280	NYS Route 31 and Oswego Road	Signalized	28	C	0.45	38	D	0.77	125	F	1.09	80	F	0.95
288	Soule Road and Carling Road, and the I-481 SB Ramp	Unsignalized	10	A	N/A	11	B	N/A	15	B	N/A	14	B	N/A

N/A = not applicable
sec/veh = second(s) per vehicle

Table 5-4. Year 2023 Existing AM and PM Peak-Hour Freeway I-81 Operations – Delay and LOS

Segment Direction	Segment Description	Segment Type	Density (veh/ln/mi)	LOS	Density (veh/ln/mi)	LOS	Density (veh/ln/mi)	LOS	Density (veh/ln/mi)	LOS
			6 AM		7 AM		4 PM		5 PM	
I-81 NB	I-81 NB Between E Taft Road and NYS Route 481	Basic	5.3	A	7.4	A	17.7	B	15.9	B
	I-81 NB Off-Ramp to NYS Route 481	Diverge	4.1	A	5.6	A	13.6	B	12.2	B
	I-81 NB Between Off/On-Ramps to/from NYS Route 481	Basic	4.4	A	6.9	A	16.6	B	15.1	B
	I-81 NB Between Off/On-Ramps to/from NYS Route 481	Weave	3.7	A	5.8	A	14.1	B	12.8	B
	I-81 NB after Off-Ramp to NYS Route 481	Basic	3.1	A	4.9	A	10.8	A	9.9	A
	I-81 NB On-Ramp from NYS Route 481	Merge	2.9	A	4.6	A	10.6	A	9.7	A
	I-81 NB Between NYS Route 481 and NYS Route 31	Basic	3.8	A	6.2	A	14.0	B	13.0	B
	I-81 NB Off-Ramp to NYS Route 31	Diverge	3.0	A	4.9	A	14.6	B	12.4	B
	I-81 NB Between Off/On-Ramps to/from NYS Route 31	Basic	2.2	A	3.6	A	9.1	A	8.6	A
	I-81 NB On-Ramp from NYS Route 31	Merge	2.1	A	3.3	A	8.5	A	8.5	A
	I-81 NB Between NYS Route 31 and Bartell Road	Basic	2.6	A	4.2	A	10.6	A	10.7	A
	I-81 NB Off-Ramp to Bartell Road	Diverge	2.0	A	3.3	A	8.3	A	8.7	A
	I-81 NB Off/On-Ramps to/from Bartell Road	Basic	2.0	A	3.3	A	8.1	A	8.5	A
	I-81 On-Ramp from Bartell Road	Merge	1.7	A	2.8	A	6.7	A	7.0	A
	I-81 NB Between Bartell Road and East Avenue	Basic	2.2	A	3.7	A	8.8	A	9.2	A
I-81 SB	I-81 SB Between East Avenue and Bartell Road	Basic	6.2	A	9.7	A	5.3	A	4.8	A
	I-81 SB Off-Ramp to Bartell Road	Diverge	4.7	A	7.3	A	4.1	A	3.7	A
	I-81 SB Between Off-Ramp and On-Ramp to Bartell Road	Basic	5.8	A	9.1	A	4.6	A	4.2	A
	I-81 SB On-Ramp from Bartell Road	Merge	5.8	A	9.3	A	5.4	A	4.9	A
	I-81 SB Between Bartell Road and NYS Route 31	Basic	7.5	A	12.0	B	6.8	A	6.3	A
	I-81 SB Off-Ramp to NYS Route 31	Diverge	5.8	A	10.1	A	5.3	A	5.5	A
	I-81 SB Between Off-Ramp and On-Ramp from NYS Route 31	Basic	6.5	A	10.6	A	5.5	A	5.2	A

Segment Direction	Segment Description	Segment Type	Density (veh/ln/mi)	LOS	Density (veh/ln/mi)	LOS	Density (veh/ln/mi)	LOS	Density (veh/ln/mi)	LOS
			6 AM		7 AM		4 PM		5 PM	
I-81 SB (continued)	I-81 SB On-Ramp from NYS Route 31	Merge	7.6	A	12.4	B	6.7	A	6.7	A
	I-81 SB Between NYS Route 31 and NYS Route 481	Basic	9.6	A	15.6	B	8.8	A	8.9	A
	I-81 SB Off-Ramp to NYS Route 481	Diverge	7.3	A	12.4	B	6.7	A	6.8	A
	I-81 SB after Off-Ramp to NYS Route 481	Basic	9.0	A	14.9	B	8.1	A	8.3	A
	I-81 SB Between Off/On-Ramps to/from NYS Route 481	Weave	8.0	A	13.7	B	7.0	A	7.2	A
	I-81 SB Between Off/On-Ramps to/from NYS Route 481	Basic	7.5	A	12.5	B	7.2	A	7.3	A
	I-81 SB On-Ramp from NYS Route 481	Merge	9.3	A	14.2	B	9.0	A	9.5	A
	I-81 SB Between E Taft Road and NYS Route 481	Basic	12.0	B	18.6	C	11.6	B	12.2	B

Table 5-5. Year 2023 Existing AM and PM Peak-Hour Freeway NYS Route 481 Operations – Delay and LOS

Segment Direction	Segment Description	Segment Type	Density (veh/ln/mi)	LOS	Density (veh/ln/mi)	LOS	Density (veh/ln/mi)	LOS	Density (veh/ln/mi)	LOS
			6 AM		7 AM		4 PM		5 PM	
NYS Route 481 EB	NYS Route 481 EB Between Verplank Road and NYS Route 31	Basic	6.2	A	9.6	A	7.2	A	6.6	A
	NYS Route 481 EB Off-Ramp to NYS Route 31	Diverge	4.7	A	7.4	A	6.7	A	8.4	A
	NYS Route 481 Between Off-Ramp and On-Ramp from NYS Route 31	Basic	4.5	A	6.9	A	4.3	A	4.0	A
	NYS Route 481 EB On-Ramp from NYS Route 31	Merge	7.8	A	11.3	B	6.4	A	6.3	A
	NYS Route 481 EB Between NYS Route 31 and Bear Road	Basic	10.5	A	16.0	B	8.6	A	8.9	A
	NYS Route 481 EB Off-Ramp to Bear Road	Diverge	7.5	A	11.9	B	6.5	A	7.0	A
	NYS Route 481 EB Between Off-Ramp and On-Ramp from Bear Road	Basic	9.3	A	14.5	B	6.9	A	7.3	A
	NYS Route 481 Between U.S. Route 11 and I-81	Weave	10.8	A	16.8	B	9.2	A	9.9	A
	NYS Route 481 EB Off-Ramp to I-81 NB	Diverge	7.9	A	13.0	B	6.0	A	6.4	A
	NYS Route 481 EB Between Off-Ramp and On-Ramp from I-81	Basic	8.2	A	13.3	B	6.2	A	6.6	A
	NYS Route 481 EB On-Ramp from I-81 NB	Merge	11.1	B	18.2	C	7.5	A	8.0	A
	NYS Route 481 EB On-Ramp from I-81 SB	Merge	8.5	A	12.9	B	6.2	A	6.4	A
	NYS Route 481 EB Between I-81 and Northern Boulevard	Basic	12.5	B	19.1	C	9.0	A	9.5	A
NYS Route 481 WB	NYS Route 481 WB Between Northern Boulevard and I-81	Basic	5.1	A	7.6	A	16.5	B	14.9	B
	NYS Route 481 WB Off-Ramp to I-81	Diverge	3.5	A	5.4	A	12.3	B	11.0	B
	NYS Route 481 WB Between Off-Ramp and On-Ramp from I-81 NB	Basic	3.8	A	5.6	A	11.4	B	10.5	A
	NYS Route 481 WB Between On-Ramp and Off-Ramp to I-81	Weave	4.5	A	6.8	A	15.2	B	14.1	B
	NYS Route 481 WB Between Off-Ramp and On-Ramp from I-81 SB	Basic	4.8	A	7.7	A	20.2	C	18.7	C

Segment Direction	Segment Description	Segment Type	Density (veh/ln/mi)	LOS	Density (veh/ln/mi)	LOS	Density (veh/ln/mi)	LOS	Density (veh/ln/mi)	LOS
			6 AM		7 AM		4 PM		5 PM	
NYS Route 481 WB (continued)	NYS Route 481 WB Between I-81 and U.S. Route 11	Weave	3.7	A	5.9	A	14.0	B	15.3	B
	NYS Route 481 WB Off-Ramp and On-Ramp from Circle Drive	Basic	3.1	A	5.0	A	12.0	B	11.1	B
	NYS Route 481 WB On-Ramp from Circle Drive	Merge	2.5	A	4.1	A	10.1	A	9.2	A
	NYS Route 481 WB Between U.S. Route 11 and Caughdenoy Road	Basic	3.6	A	5.9	A	14.1	B	13.2	B
	NYS Route 481 WB Off-Ramp to Caughdenoy Road	Diverge	2.5	A	4.1	A	10.6	A	9.9	A
	NYS Route 481 WB Between Maple Road and NYS Route 31	Basic	3.1	A	5.3	A	11.5	B	11.7	B
	NYS Route 481 WB Off-Ramp to NYS Route 31	Diverge	2.4	A	4.2	A	13.0	B	25.8	C
	NYS Route 481 WB Between Off-Ramp and On-Ramp from NYS Route 31	Basic	1.7	A	2.9	A	3.3	A	3.4	A
	NYS Route 481 WB On-Ramp from NYS Route 31	Merge	2.1	A	3.3	A	4.5	A	4.8	A
	NYS Route 481 WB Between NYS Route 31 and Verplank Road	Basic	2.9	A	4.9	A	6.6	A	6.9	A

veh/ln/mi = vehicle(s) per lane per mile

6. Future Transportation System

This section discusses the volume forecasting process and planned improvements to the roadway network that were incorporated into the future transportation network modeling.

6.1 Future Land Use and Roadway Network Changes

To accurately model the No Action Alternative for future years, it was essential to include future developments in the Transportation Study Area that will alter existing traffic volumes and projects that will change the Transportation Evaluation Area's roadway network, thereby altering existing traffic operations. Approved future developments and planned roadway improvement projects in the Transportation Evaluation Area were identified with NYSDOT, OCDOT, SMTC, and the Towns of Clay and Cicero and incorporated into future analysis year study scenarios. The following sections outline the approved or reasonably anticipated developments and roadway network changes included in the future year analyses.

6.1.1 Analysis Year 2027

Table 6-1 provides the approved or otherwise considered reasonably anticipated developments independent of the Proposed Project by analysis year 2027.

Table 6-1 Anticipated Development in the Transportation Evaluation Area

Development	Description
Clay Marketplace	30,000 ft^2 of mixed-use space just northeast of the NYS Route 31 and Henry Clay Boulevard intersection, approved for residential (apartment), office, dining, retail, and pharmaceutical space.
Delta Sonic	49,000 ft^2 approved for the construction of a Delta Sonic Car Wash. The site is located on NYS Route 31, approximately a mile west of the NYS Route 31/I-481 interchange. It includes a convenience store, 18 fueling positions, 12 outdoor vacuums, a double-tunnel car wash, and a detailing building.
Horner Subdivision	45 single-family homes were approved for construction on the land south of Lakeshore Road between Alizarin Avenue and Hardwood Lane.
Aquarium at Syracuse Inner Harbor	80,000-ft^2 aquarium was approved for construction in Syracuse's Inner Harbor. The aquarium will be built on the edge of Onondaga Creek, right next to the Inner Harbor and I-298.
Clinton's Ditch Coop.	135,000- ft^2 expansion of a 270,000-ft^2 warehouse on Pardee Road and Carmenica Drive was approved. The project is expected to add over 200 parking spaces.
Carmenica Drive Housing	730 multi-family housing units were approved for construction in the area above Lakeshore Road and around Carmenica Drive.
Lyons Runne	73 single-family homes were approved to be built north of NYS Route 31 and Cicero Center Road.

Development	Description
Miller Road Apartments	10 residential units are approved for construction on Miller Circle, located directly off Miller Road.
Tocco Villagio	260 apartment units are approved for construction on the eastern side of the Micron Campus.
Apartment Complex	240 apartment units and 100,000 ft^2 of retail and commercial space are approved for construction between Sharon Chevrolet and the proposed Delta Sonic Car Wash.
Taft Senior Housing	96 units have been approved for construction on the Inverse Development on Taft Road.
Metro North	220 market-rate apartments and an 89-room hotel between U. S. Route 11 and I-81 around Lincoln/Fairview Avenue.

Table 6-2 indicates that roadway improvements are programmed to be implemented within the Transportation Evaluation Area roadway network by NYSDOT and FHWA by the year 2027.

Table 6-2 Planned Roadway Improvements

Roadway	Description of Improvement
NYS Route 31 & NYS Route 481 Northbound	Improvements at this intersection include widening the I-481 northbound off-ramp to increase storage capacity for the through-left and right-turn lanes at the NY 31 intersection. This work will require full-depth construction for lane and shoulder widening, along with a mill and fill operation and restriping to accommodate the modifications. Existing drainage patterns will be maintained.
NYS Route 481 Southbound On-Ramp & Soule Road	A northbound right-turn lane will be added, and right-on-red permission will be disallowed.
NYS Route 481 & I-81 Interchange	Reconfigure the SB I-81 Ramp to EB I-481 to a flyover ramp.
NYS Route 31 & Caughdenoy Road	Northbound, eastbound, and southbound left-turn lanes will be added. Additionally, eastbound and westbound receiving lanes will be added.
NYS Route 31 & I-81 Northbound	Extension of the northbound left-turn lane.
NYS Route 31 & I-81 Southbound	Eastbound right-turn lane and southbound receiving lanes will be added. Signal timing will be optimized.
NYS Route 31 & Crabtree Lane	Intersection and access to NYS Route 31 will be closed.
NYS Route 31 & Lakeshore Road	Remove the left turn at Lakeshore Road and replace it with the left-turn lane at Lakeshore Road Spur. Signalize the Lakeshore Road southwest leg to have two approach lanes running concurrent with the Lakeshore Road Spur intersection.

Roadway	Description of Improvement
U.S. Route 11 & Bear Road	Southbound approach lanes will be reconfigured to provide two left-turn lanes, one through lane, and one right-turn lane, and the permitted left-turn phase will be removed.
Bear Road/NYS Route 481 Eastbound Ramps	The eastbound left-turn bay will be extended, and the eastbound lanes will be reconfigured to two eastbound left lanes and one through lane.
Caughdenoy Road & Maple Road & NYS 481 Off-Ramp	A temporary signal with wood poles is currently being installed at the NYS Route 481 Off-ramp at the Caughdenoy Road/Maple Road intersection.

6.1.2 Analysis Year 2031

In addition to the developments included in the analysis for the year 2027, developments for the analysis year 2031 include the following:

- GNM Redevelopment Project—A 541,651-ft^2 complex of commercial, retail, supermarket, and hotel space and 755,850 ft^2 of medical office space, along with 1,636 apartment units and 875 hotel rooms to be built by 2034 at the site of the former GNM. Although the build-out year for the site is 2034, the analysis for this TIS accounted for the full build-out of GNM as it is a phased project and it is not known how much of the site will be completed by 2031. Roadway network changes for the analysis year 2031, in addition to those included in the analysis year 2027, include the following:
- GNM Redevelopment Project Roadway Improvements – Roadway geometry updates include additional access points along Morgan Road, NYS Route 31, and Verplank Road.
- I-81 Project – All project phases are expected to be completed by 2028. The related changes to the roadway network are included in the model from that date onwards, reflecting the modifications to the I-81 project geometry and operational changes within the Transportation Evaluation Area.

6.1.3 Analysis Year 2041

In addition to the developments included in the analysis year 2031, developments in the analysis year 2041 include the following:

- District East (Shoppingtown Mall)—A 775,000-ft^2 retail, office, supermarket, commercial, and apartment complex was approved to replace the existing Shoppingtown Mall at Erie Boulevard East and Kinne Road. The existing mall is expected to be demolished to make room for the new complex.
- Lakeshore Villages—The existing golf course will be converted into a residential community. The site, located on the coast near Yacht Club Boulevard and Lakeshore Road, will feature space for residences, offices, stores, and restaurants. Expected mitigation measures will include lane extensions and widenings, new lanes, and the installation of a new traffic signal. The community is currently being designed.

6.1.4 Excluded Developments and Transportation Evaluation Area Roadway Network Changes

The following network changes were not included in the analysis because they have not yet been approved or received construction funding to be considered as reasonably anticipated:

- Caughdenoy Road and NYS Route 31—SMTC anticipated modifying the existing geometry to include left-turn lanes at all approaches and right-turn lanes for the north, east, and west approaches. These improvements have been modified to be included in the 2027 improvements and as part of the mitigation measures.
- North, South, East, and West Corridor Interconnections—This project coordinates signals to link approximately 50 signals.
- I-81 Interchange Improvements—SMTC anticipates changes to the existing I-81 and NYS Route 31 interchange, including several design concepts. The analysis assumes these modifications would not be in place in the No Action models.
- NYS Route 31 Widening—SMTC anticipated potential future widening of NYS Route 31, but the analysis assumes these modifications would not be in place in the No Action models.
- Centro Headway—The existing headway used by Centro for transit planning will be reviewed for potential decrease.
- Centro Bus Rapid Transit (BRT)—Potential introduction of a new BRT line in Onondaga County.

7. Year 2027 Traffic Operations

The year 2027 marks the ramp-up of construction activity at the Micron Campus. The Preferred Action Alternative adds trips attributable to the construction of the Micron Campus to the 2027 No Action Alternative roadway network. Additionally, there will be four driveways providing access to the Micron Campus. All driveways will be signalized.

Year 2027 No Action Alternative: This scenario does not include the Proposed Project and, therefore, represents the current roadway network plus some of the initial improvements planned to be implemented by NYSDOT. Planned NYSDOT improvements are displayed in Table 6-2.

Year 2027 Preferred Action Alternative: This scenario incorporates the Proposed Project trips generated by construction and operations employees into the background volume, representing the 2027 No Action Alternative roadway network.

7.1 No Action Alternative

The following sections present key MOEs and evaluate the traffic operational analysis results for the interim year without the Proposed Project using Vissim and Synchro. The existing roadway network and planned roadway network, when compared, depict operations for the peak hour with the lowest LOS within the peak period of the freeway mainline segments, merge/diverge areas, weaving areas, ramp segments, ramp terminal intersections, and surface street intersections expressed as LOS based on the color coding shown in Tables 2-3 and 2-4 in Section 2.4.2. Appendix D summarizes the model output detailing the link and node results summarized in the figures and tables.

7.1.1 Traffic Volumes

Traffic volumes for the 2027 No Action Alternative reflect background growth and trips generated by the planned developments discussed in Section 5.2. Generally, traffic volumes in the 2027 No Action Alternative are higher than existing conditions; they are presented in Figures 7-1 through 7-4.

Figure 7-1: Year 2027 No Action Alternative 6AM/4PM Peak Hour Traffic Volumes - Intersections - Sheet 1 of 5

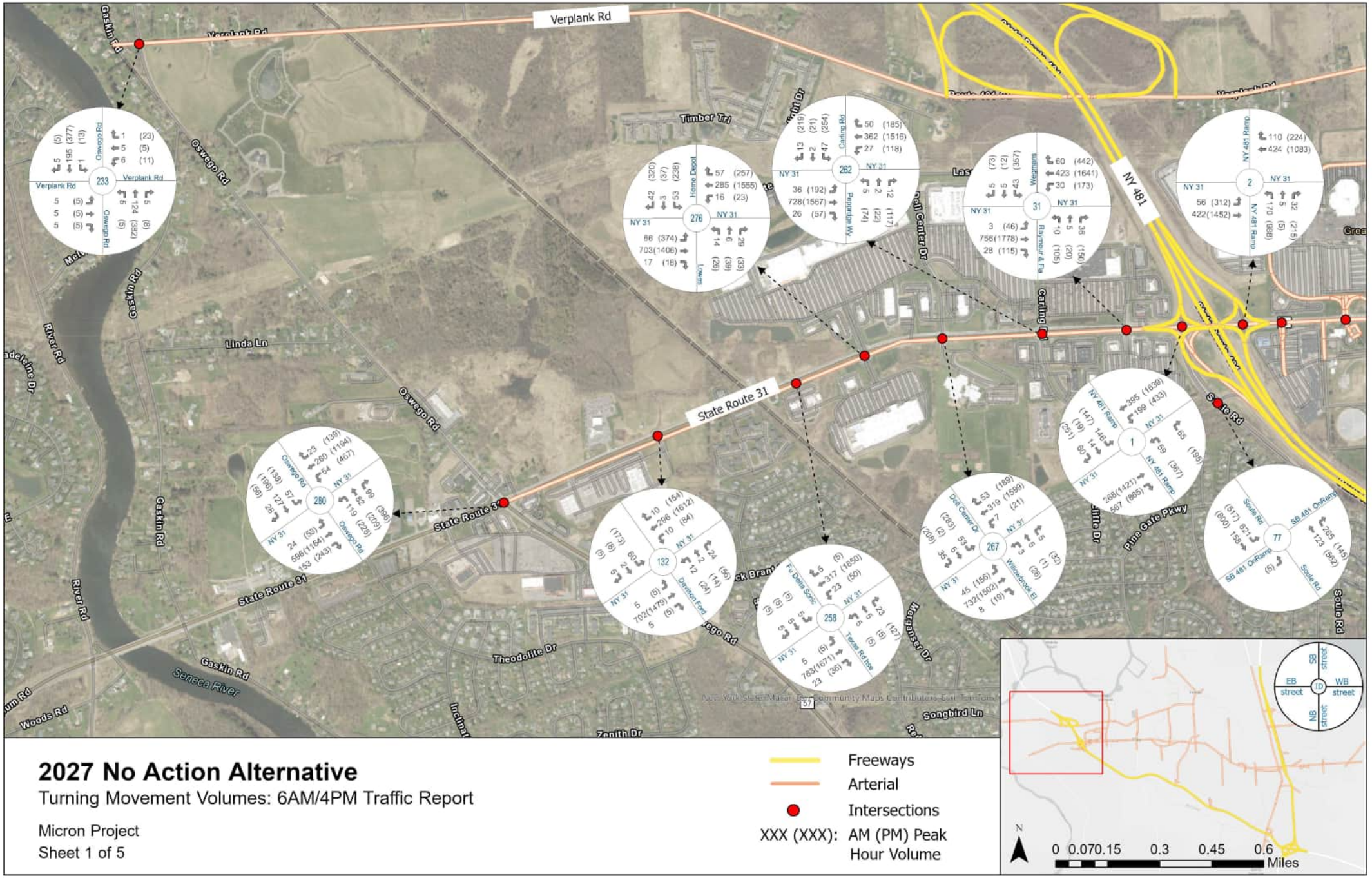


Figure 7-1: Year 2027 No Action Alternative 6AM/4PM Peak Hour Traffic Volumes - Intersections - Sheet 2 of 5

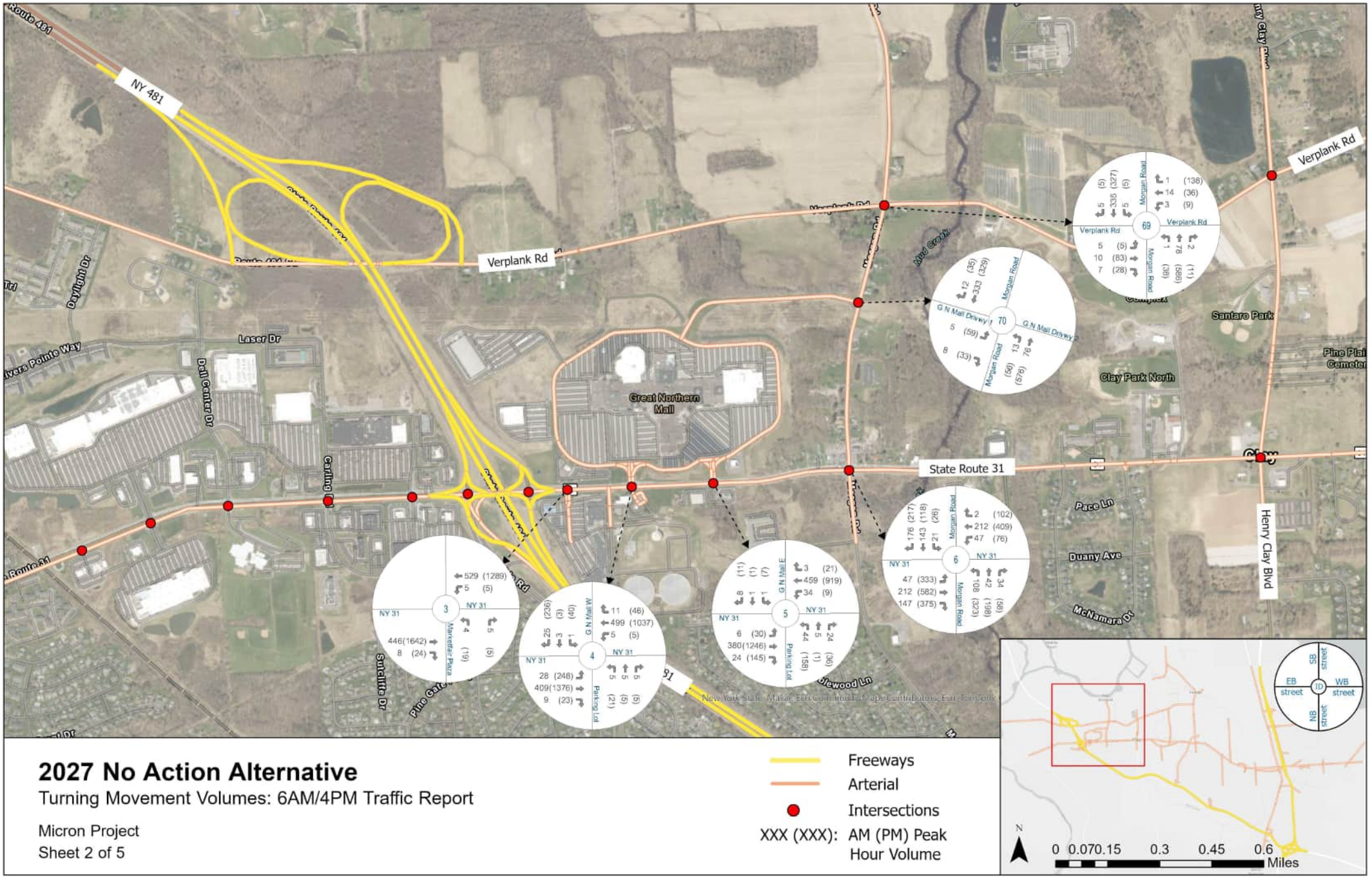


Figure 7-1: Year 2027 No Action Alternative 6AM/4PM Peak Hour Traffic Volumes - Intersections - Sheet 3 of 5

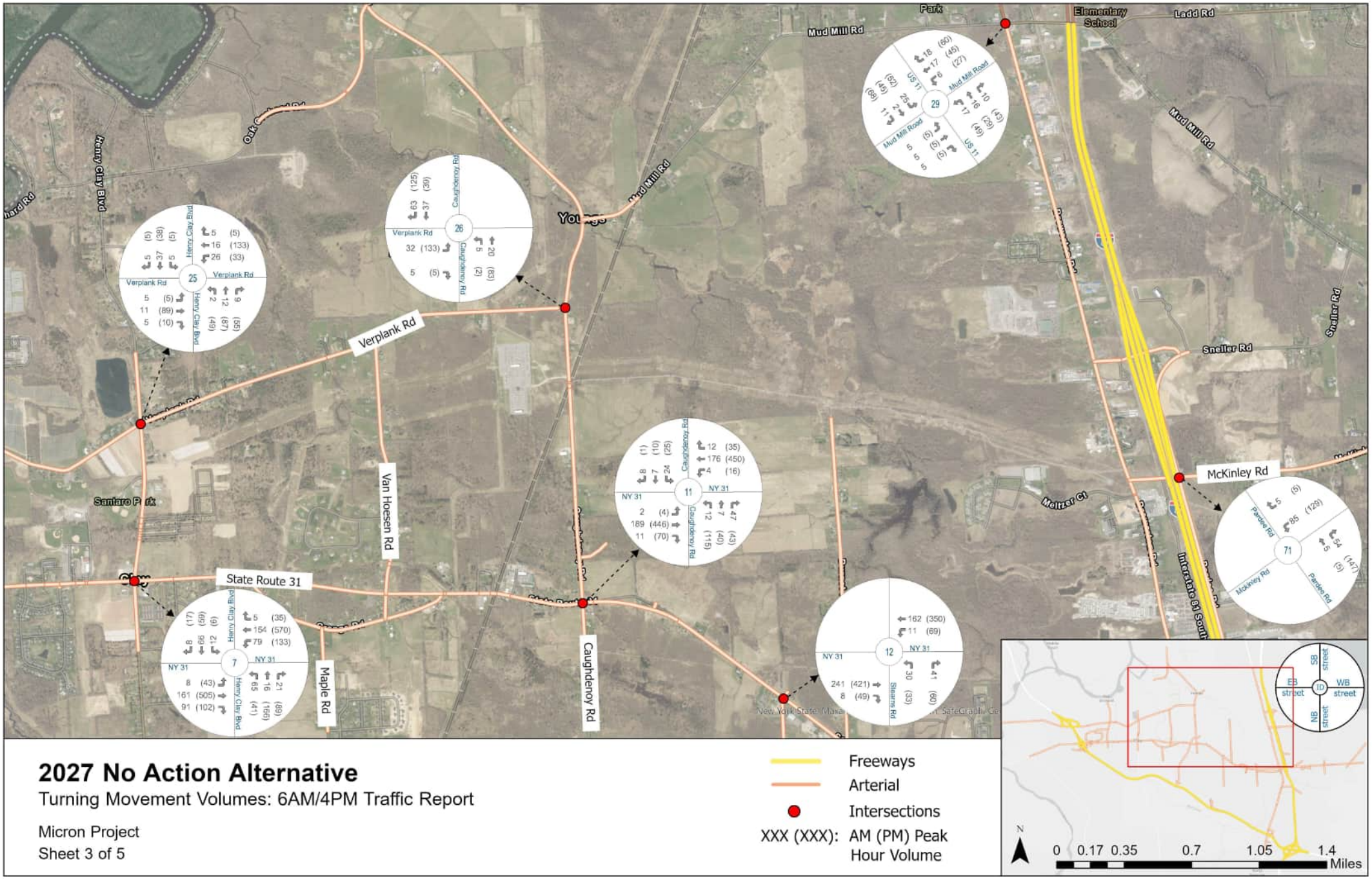


Figure 7-1: Year 2027 No Action Alternative 6AM/4PM Peak Hour Traffic Volumes - Intersections - Sheet 4 of 5

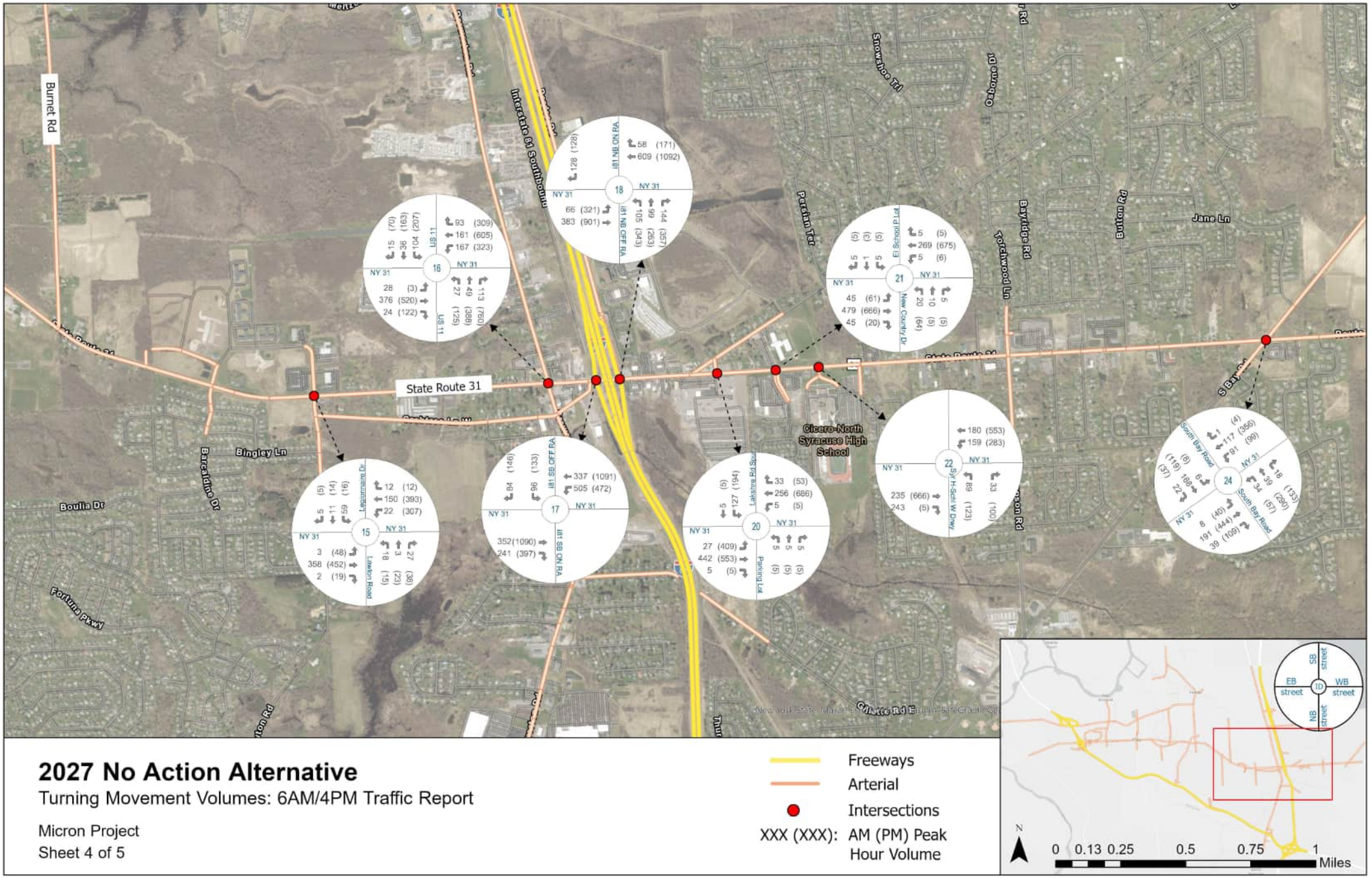


Figure 7-1: Year 2027 No Action Alternative 6AM/4PM Peak Hour Traffic Volumes - Intersections - Sheet 5 of 5

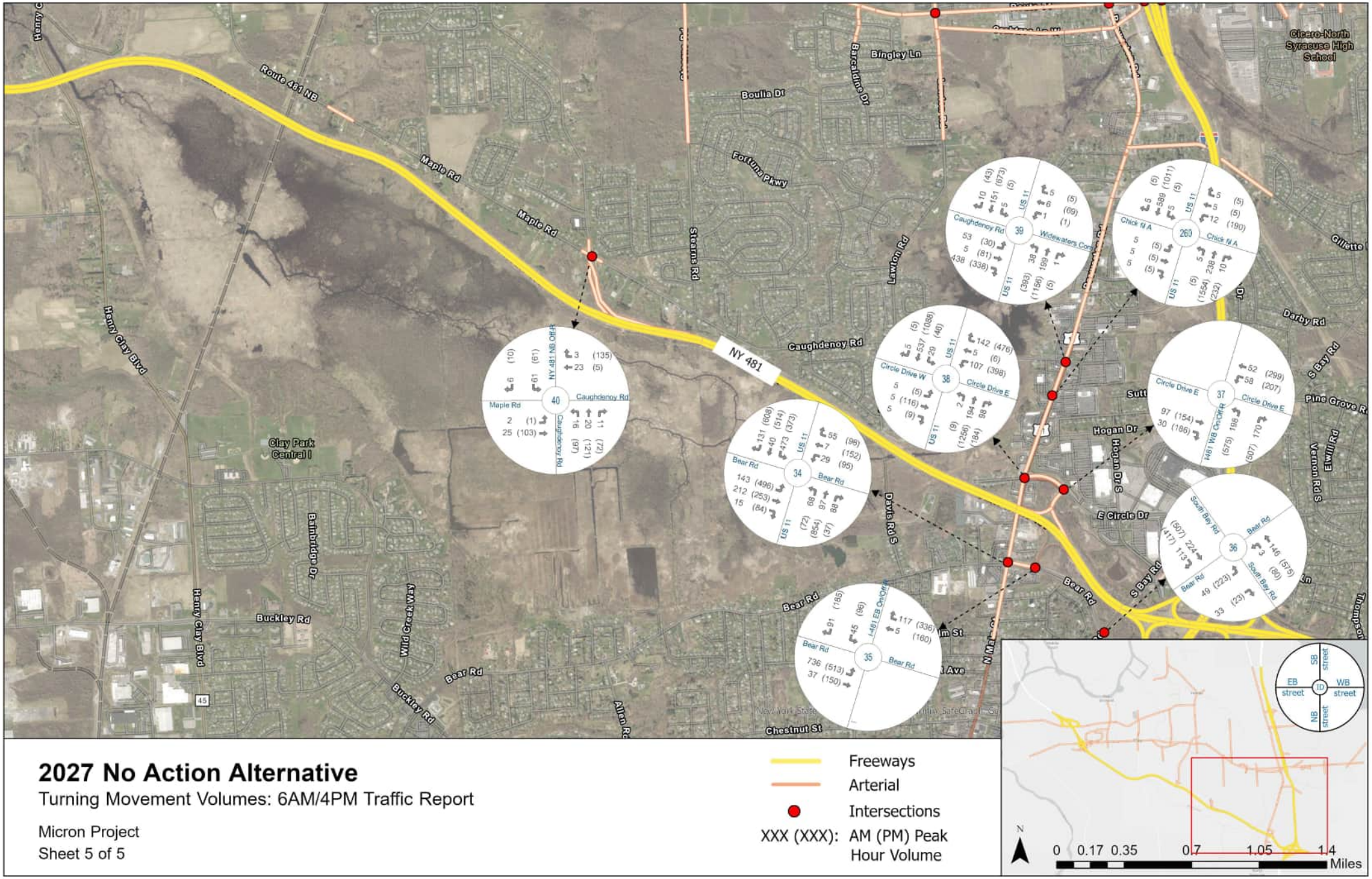
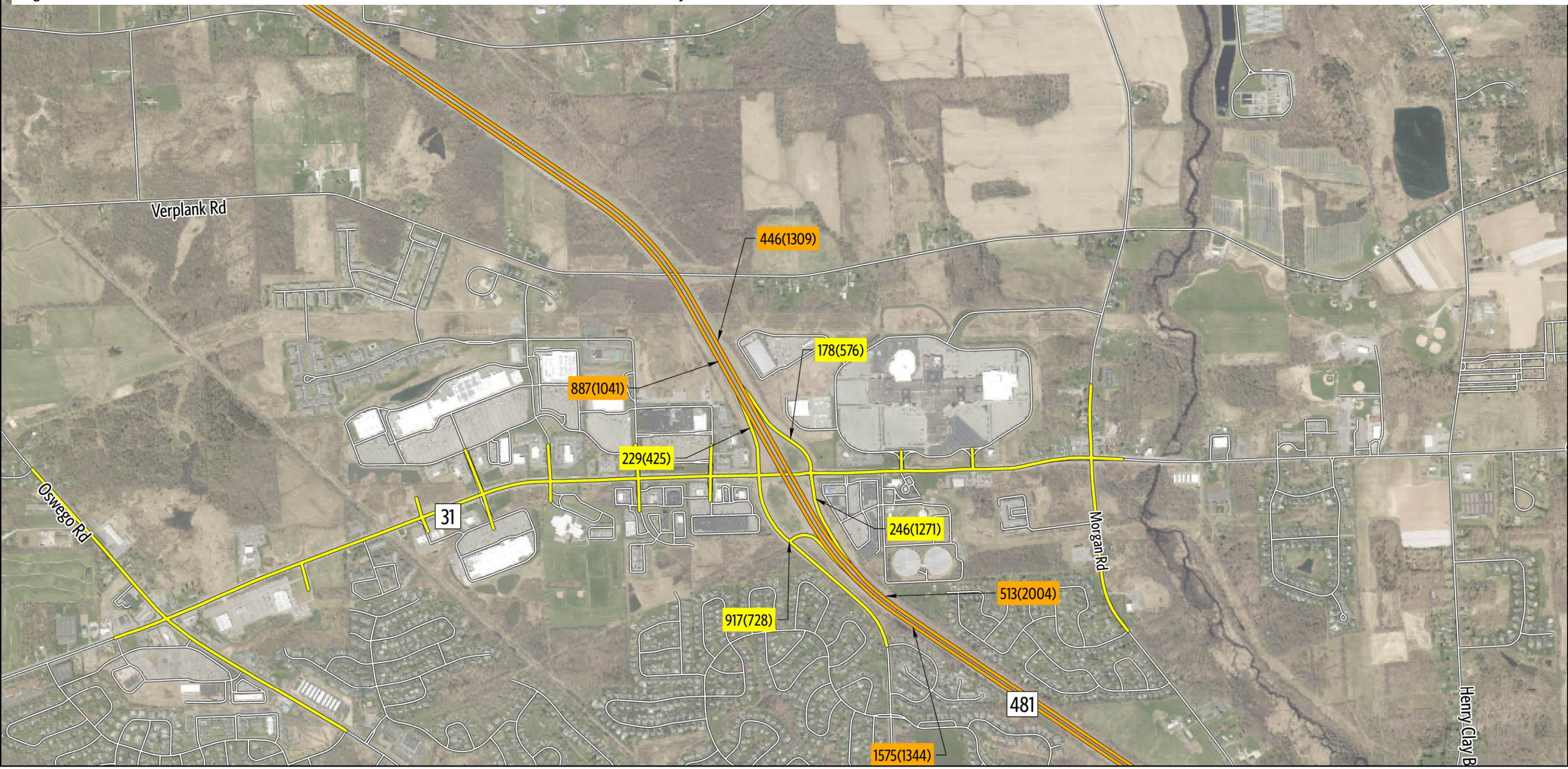


Figure 7-2: Year 2027 No Action Alternative 6AM/4PM Peak Hour Traffic Volumes - Freeways - Sheet 1 of 5



Mainline Volumes — Freeways

Ramp Volumes — Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

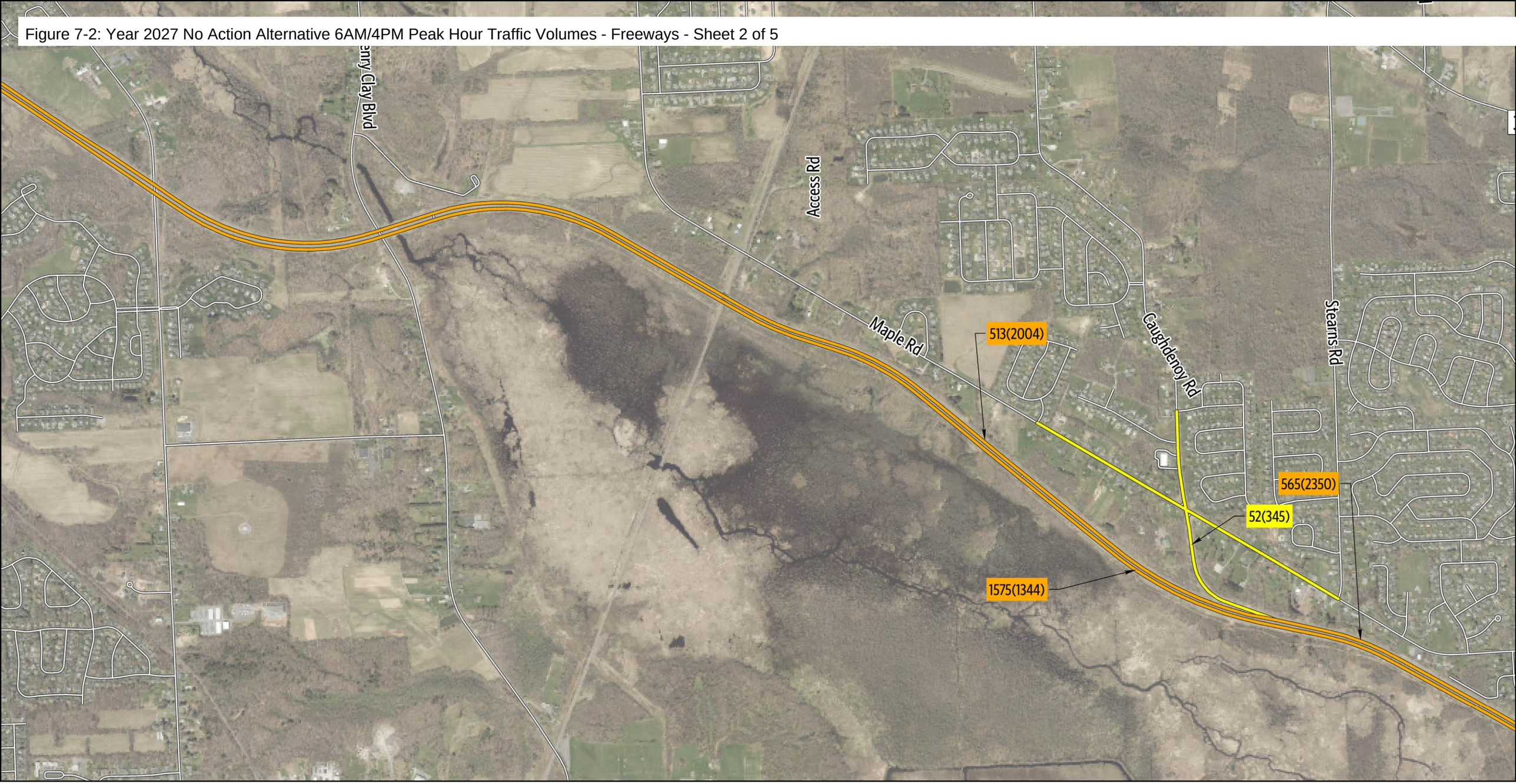
0 1,000 2,000 Feet

2027 Preferred Action Alternative

Sheet 1 of 5

6 AM & 4 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 7-2: Year 2027 No Action Alternative 6AM/4PM Peak Hour Traffic Volumes - Freeways - Sheet 2 of 5



Mainline Volumes
Freeways

Ramp Volumes
Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

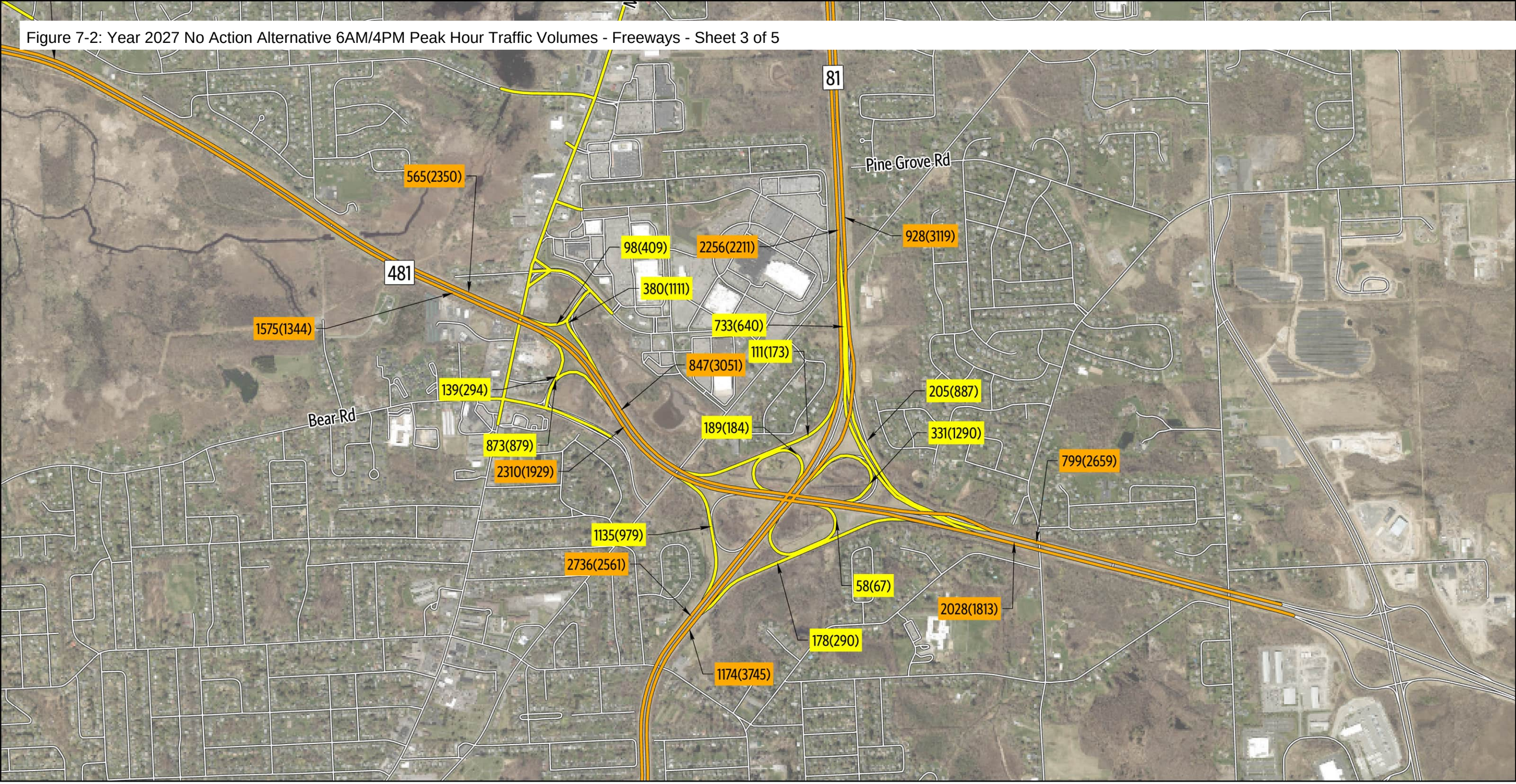
0 1,000 2,000 Feet

2027 Preferred Action Alternative

Sheet 2 of 5

6 AM & 4 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 7-2: Year 2027 No Action Alternative 6AM/4PM Peak Hour Traffic Volumes - Freeways - Sheet 3 of 5



Mainline Volumes — Freeways

Ramp Volumes — Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

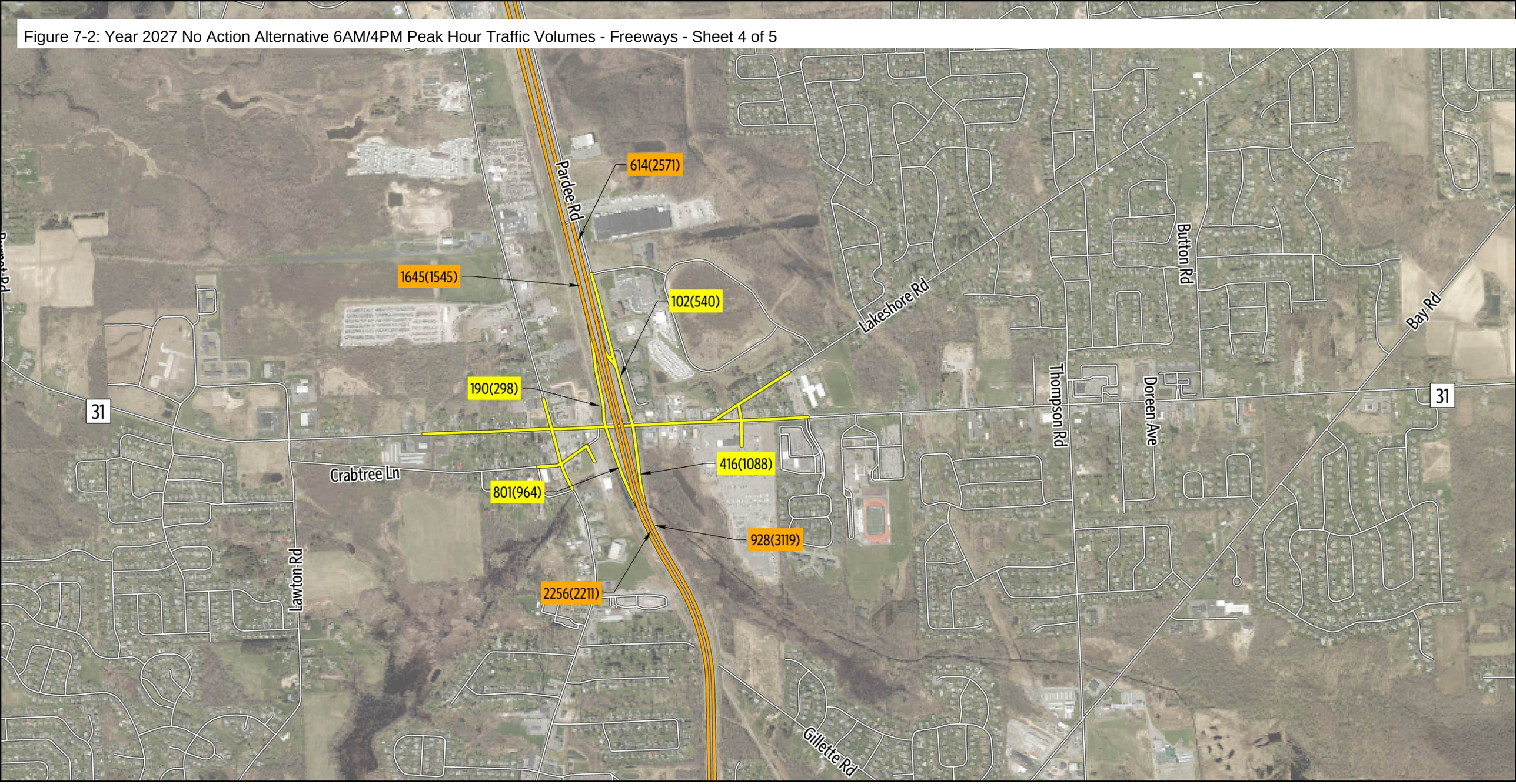
0 1,000 2,000 Feet

2027 Preferred Action Alternative

Sheet 3 of 5

6 AM & 4 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 7-2: Year 2027 No Action Alternative 6AM/4PM Peak Hour Traffic Volumes - Freeways - Sheet 4 of 5



Mainline Volumes — Freeways

Ramp Volumes — Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

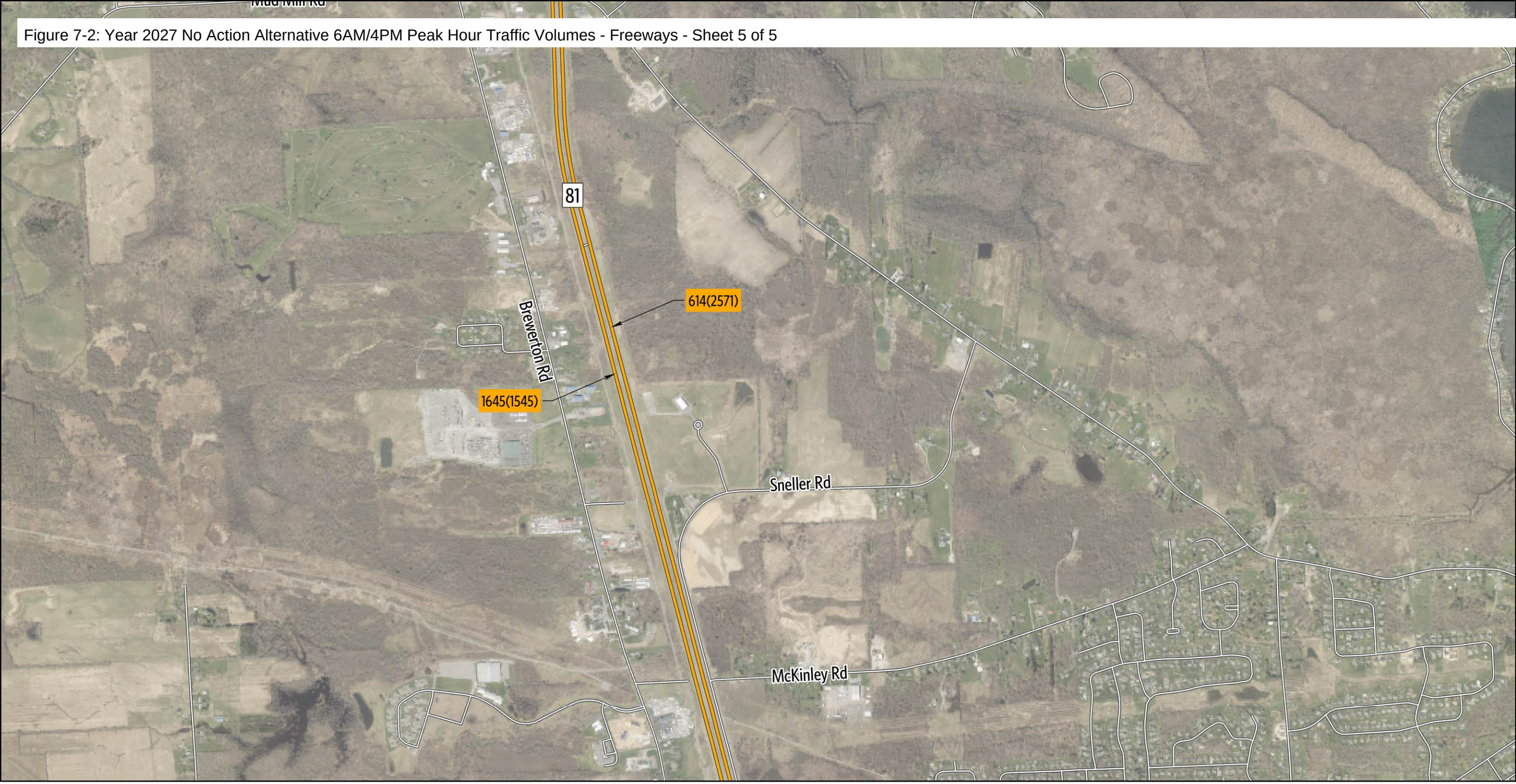
0 1,000 2,000 Feet

2027 Preferred Action Alternative

Sheet 4 of 5

6 AM & 4 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 7-2: Year 2027 No Action Alternative 6AM/4PM Peak Hour Traffic Volumes - Freeways - Sheet 5 of 5



Mainline Volumes — Freeways

Ramp Volumes — Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

0 1,000 2,000 Feet

2027 Preferred Action Alternative

Sheet 5 of 5

6 AM & 4 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 7-3: Year 2027 No Action Alternative 7AM/5PM Traffic Volumes - Intersections - Sheet 1 of 5

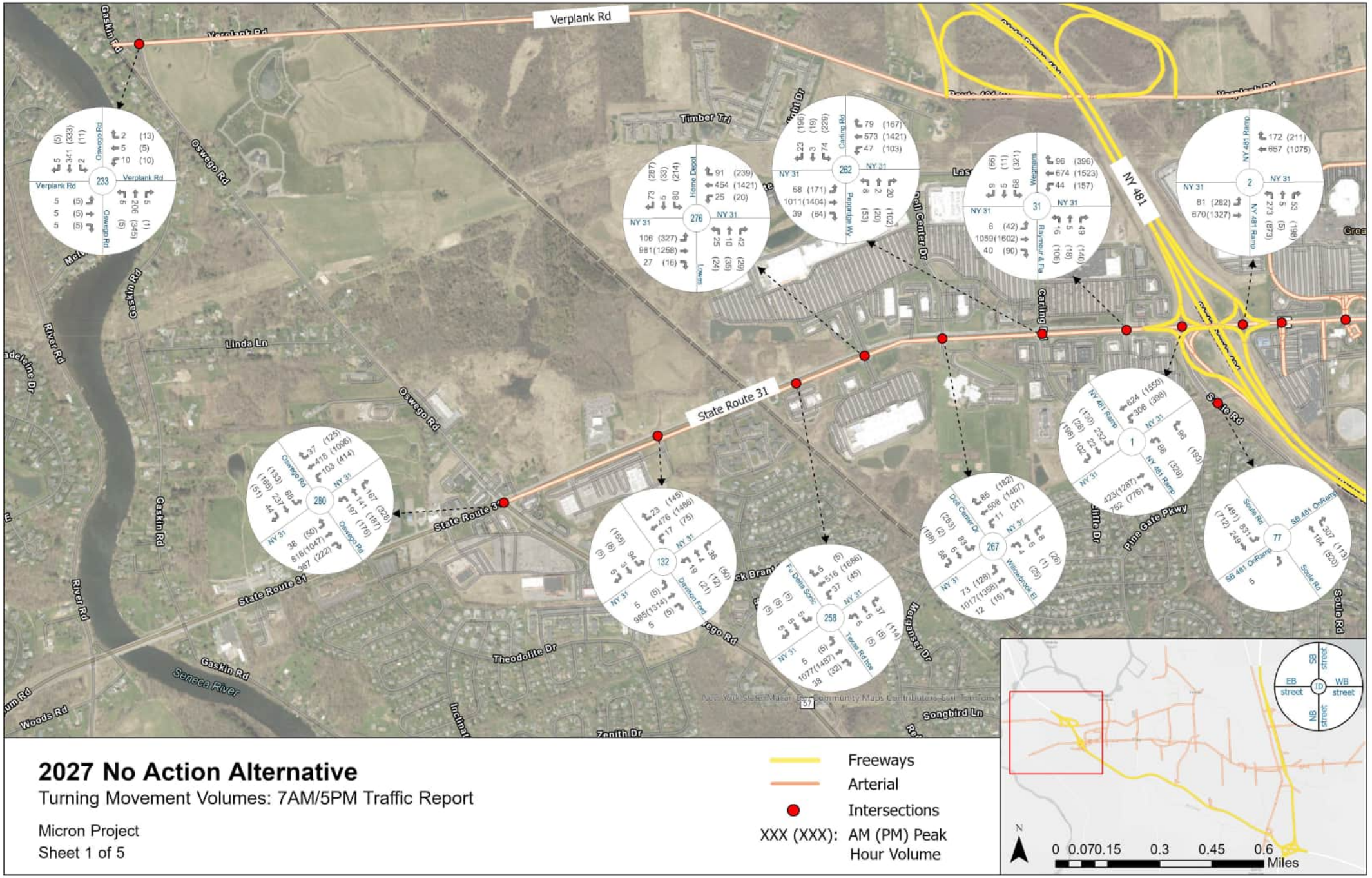


Figure 7-3: Year 2027 No Action Alternative 7AM/5PM Traffic Volumes - Intersections - Sheet 2 of 5

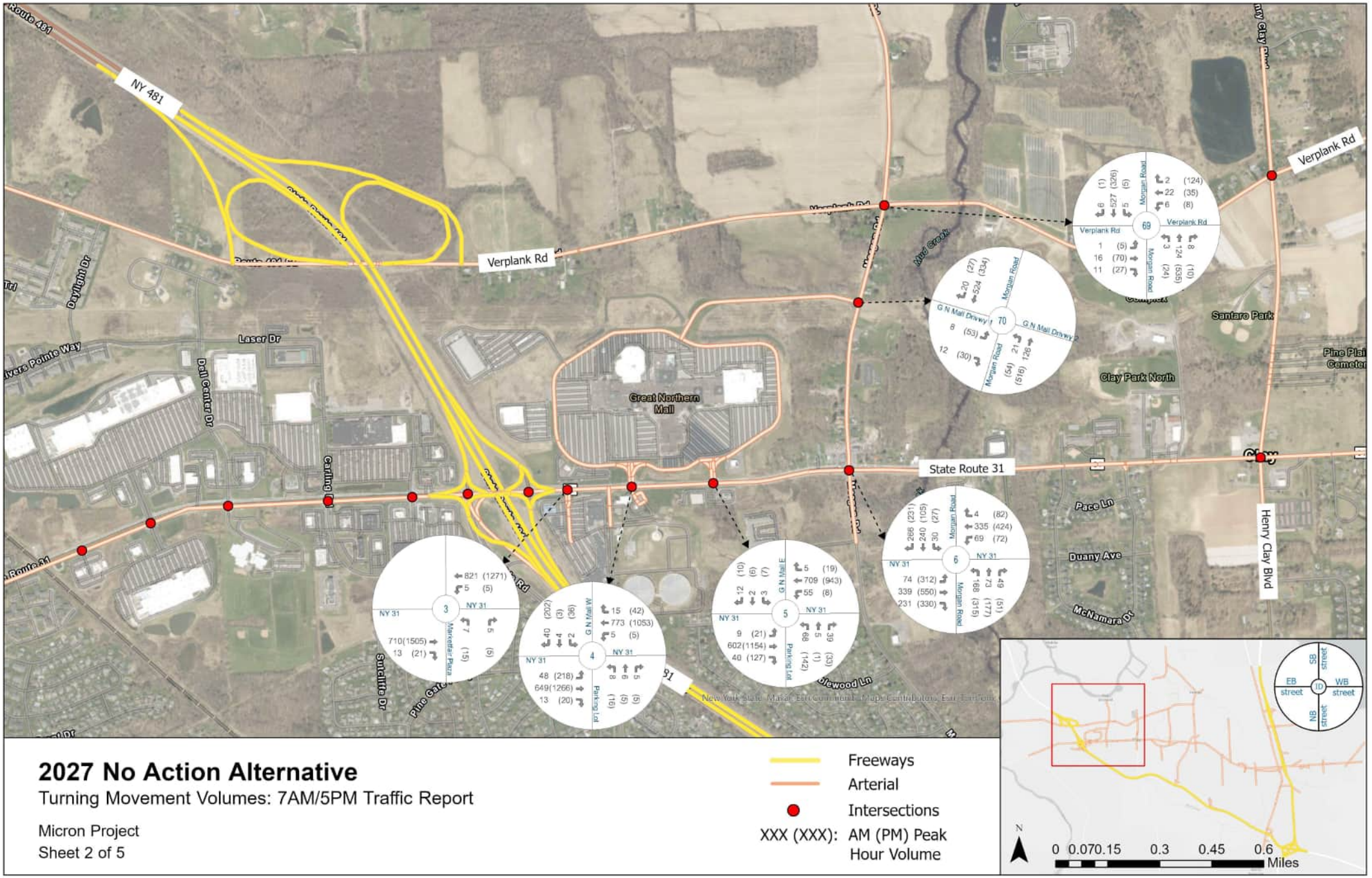


Figure 7-3: Year 2027 No Action Alternative 7AM/5PM Traffic Volumes - Intersections- Sheet 3 of 5

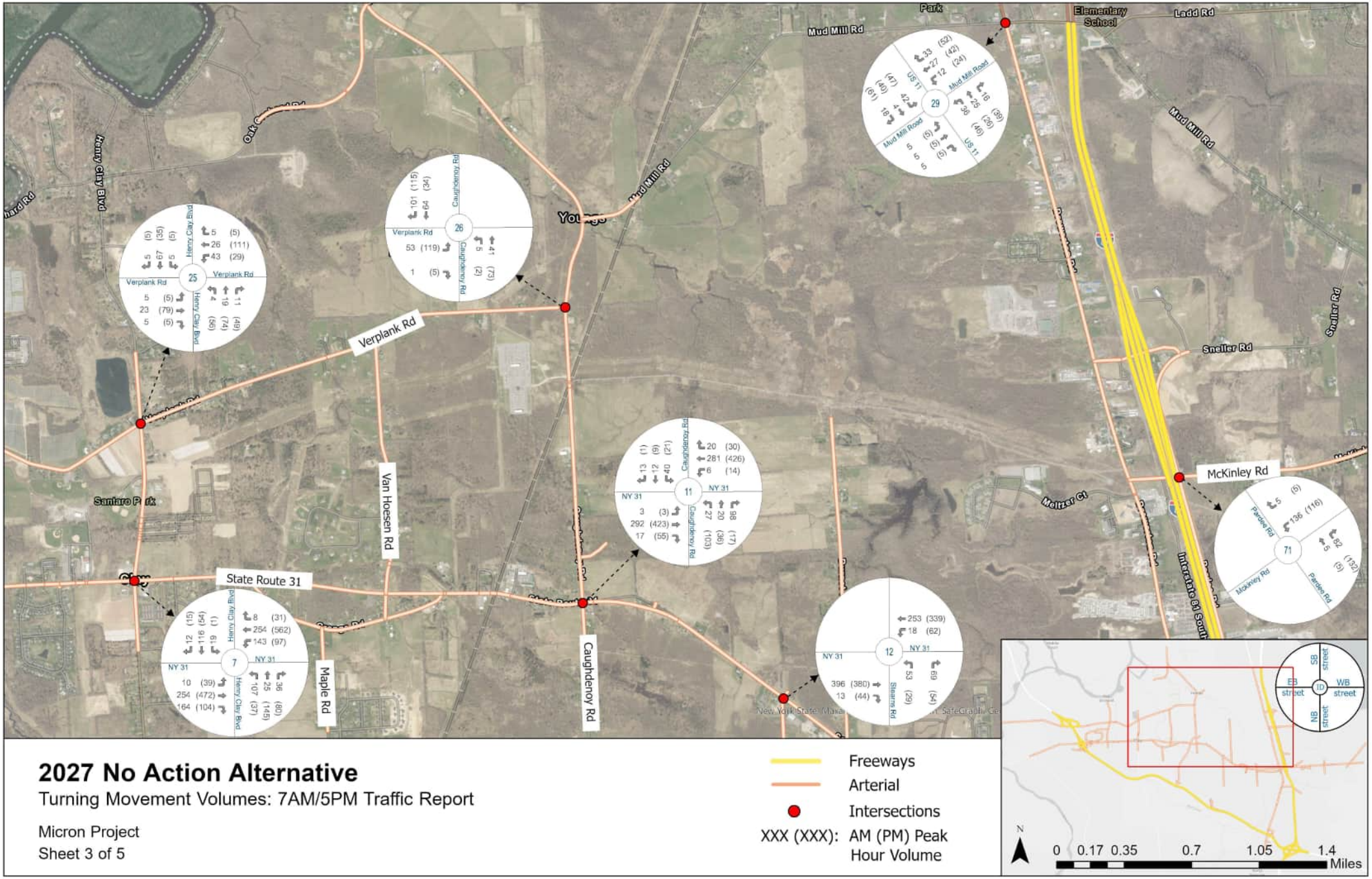


Figure 7-3: Year 2027 No Action Alternative 7AM/5PM Traffic Volumes - Intersections - Sheet 4 of 5

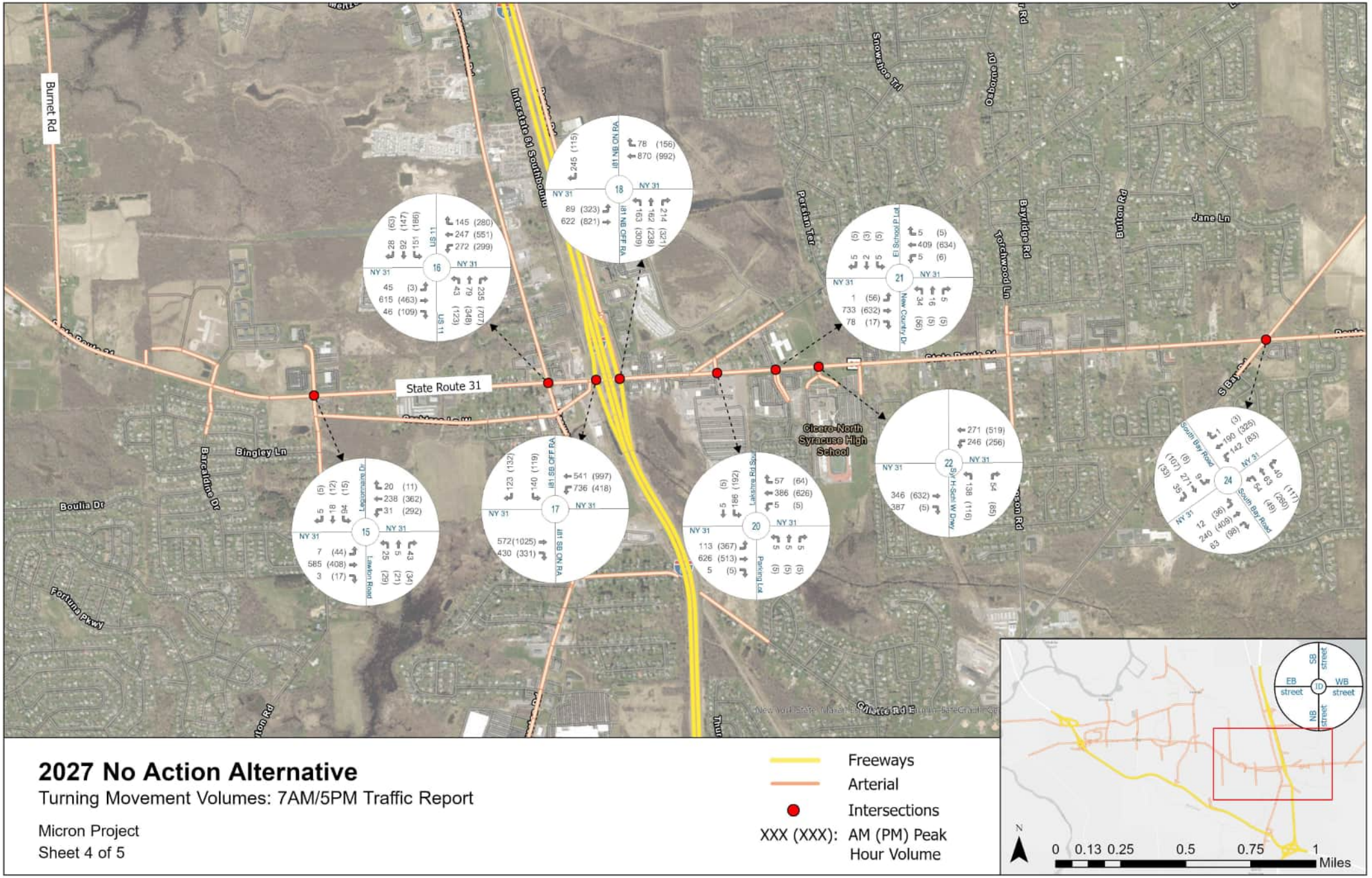


Figure 7-3: Year 2027 No Action Alternative 7AM/5PM Traffic Volumes - Intersections - Sheet 5 of 5

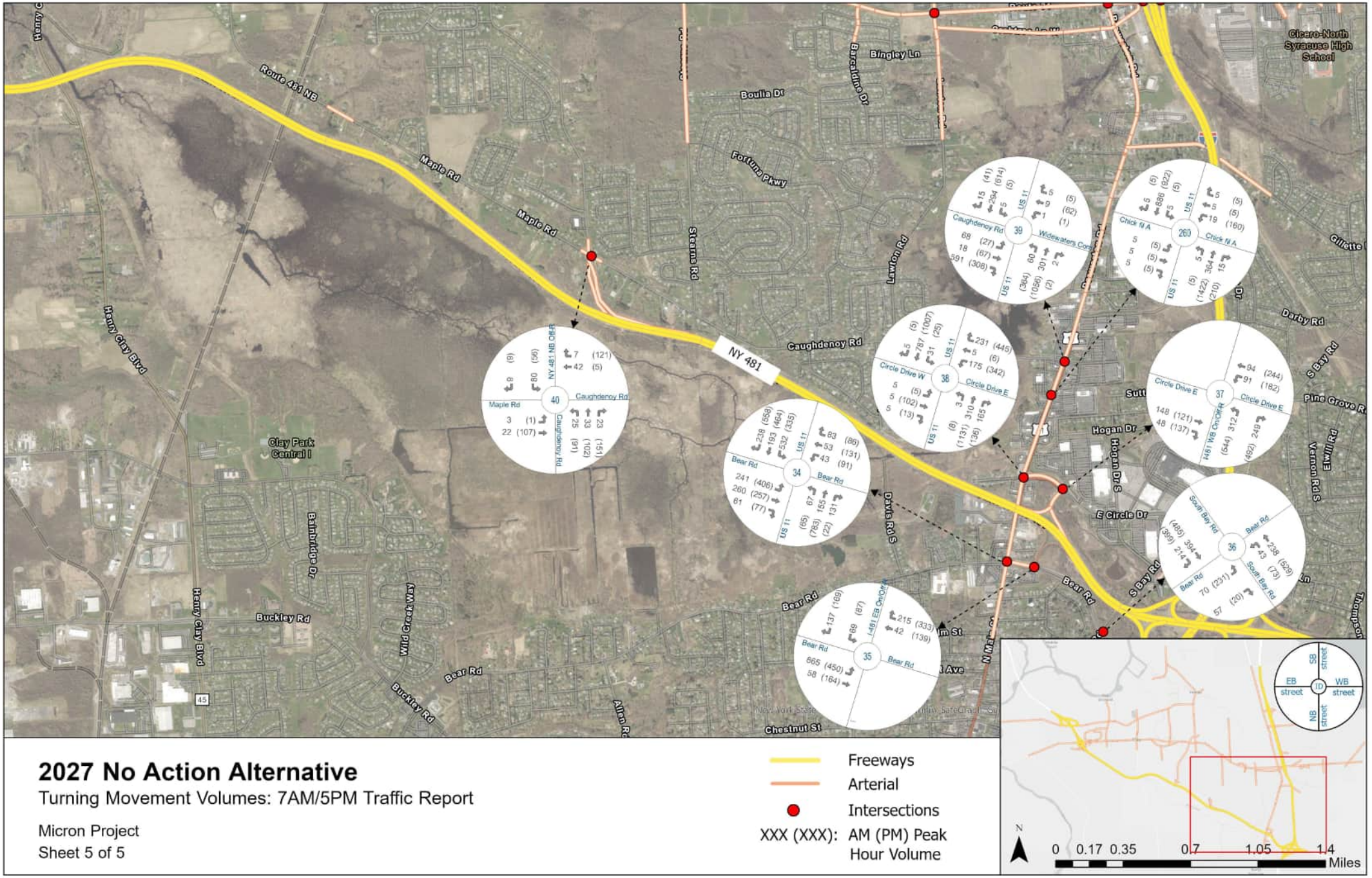
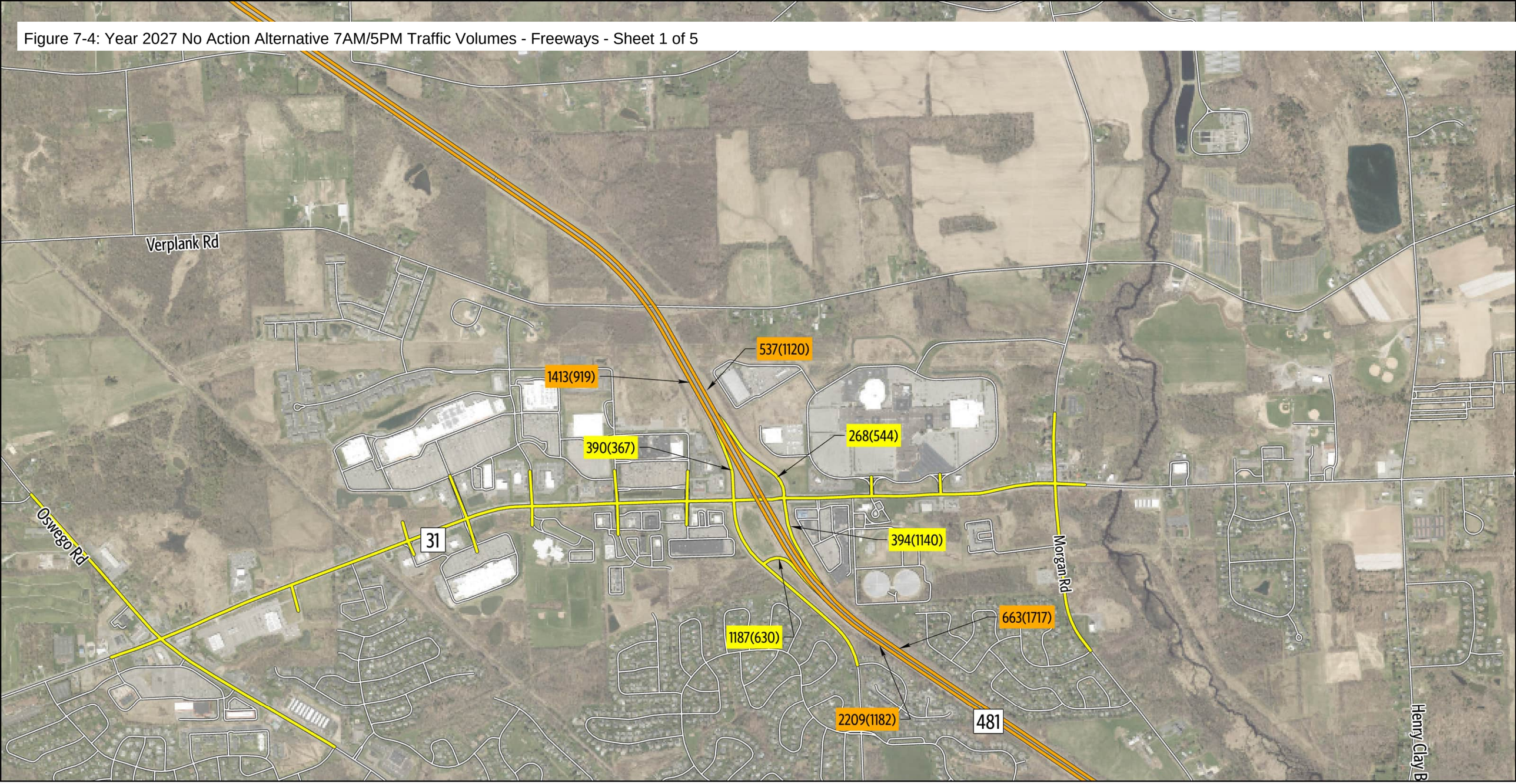


Figure 7-4: Year 2027 No Action Alternative 7AM/5PM Traffic Volumes - Freeways - Sheet 1 of 5



Mainline Volumes
Freeways

Ramp Volumes
Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

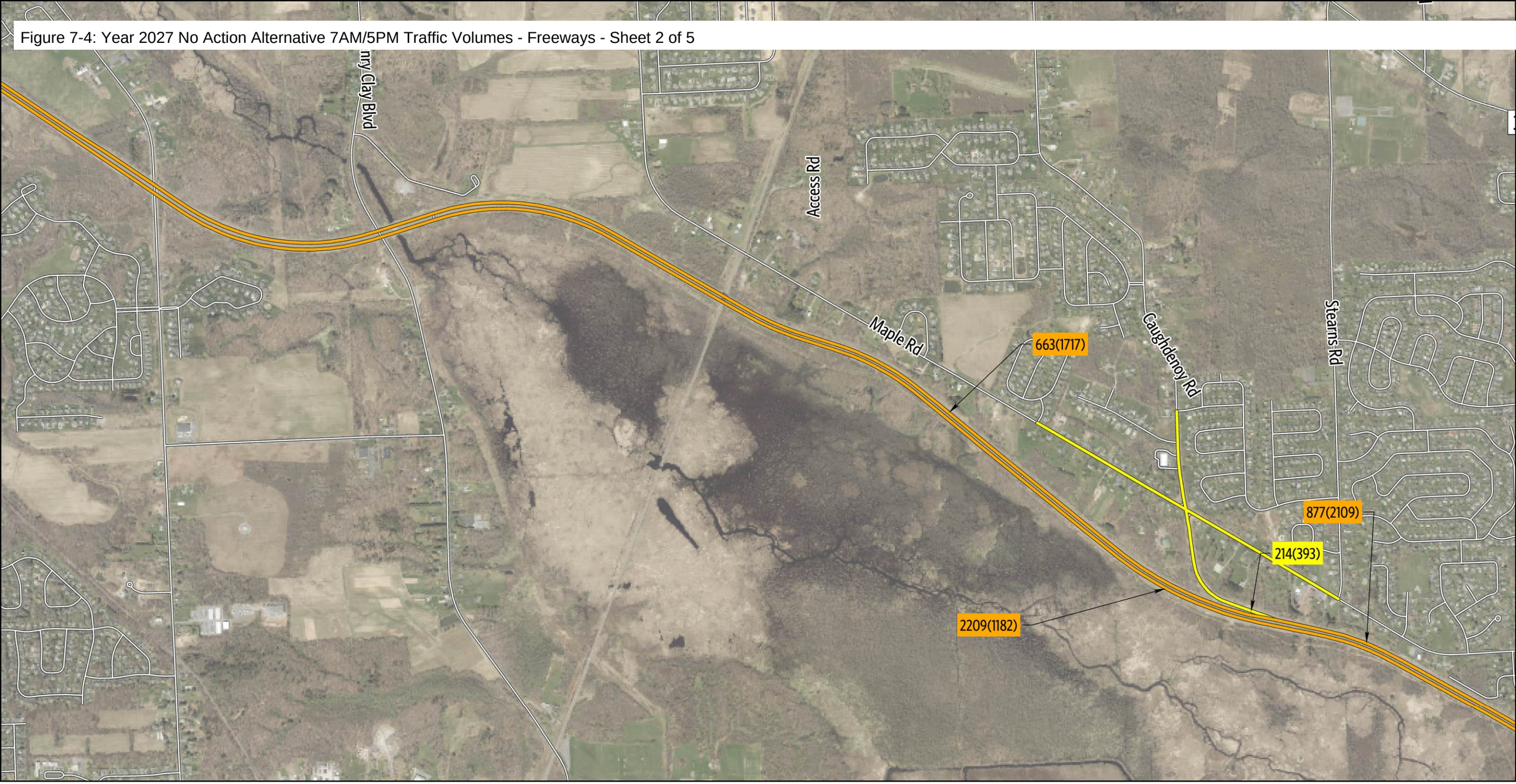
0 1,000 2,000 Feet

2027 Preferred Action Alternative

Sheet 1 of 5

7 AM & 5 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 7-4: Year 2027 No Action Alternative 7AM/5PM Traffic Volumes - Freeways - Sheet 2 of 5



Mainline Volumes
Freeways

Ramp Volumes
Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

0 1,000 2,000 Feet

2027 Preferred Action Alternative

Sheet 2 of 5

7 AM & 5 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 7-4: Year 2027 No Action Alternative 7AM/5PM Traffic Volumes - Freeways - Sheet 3 of 5

Mainline Volumes

Freeways

Ramp Volumes

Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

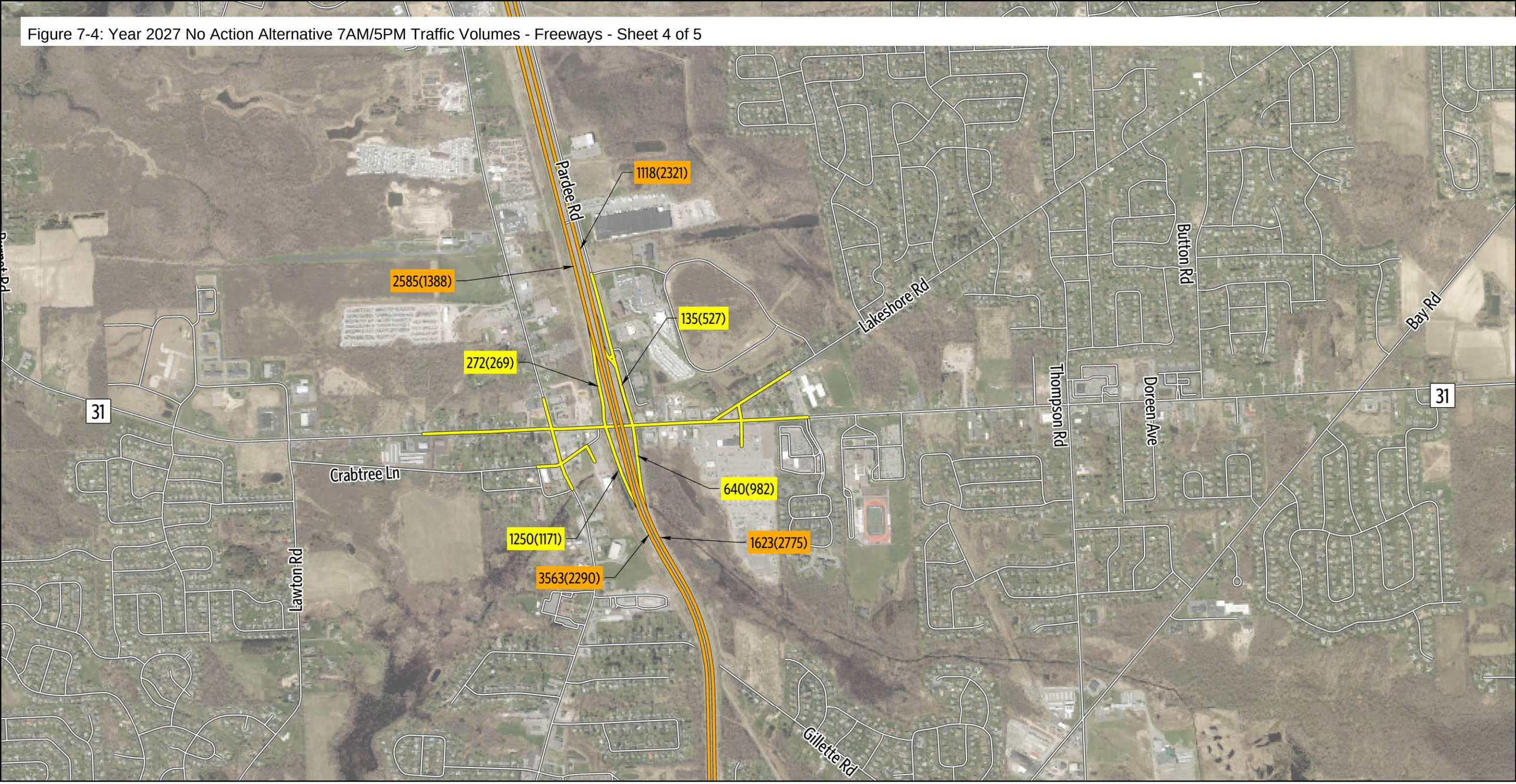
0 1,000 2,000 Feet

2027 Preferred Action Alternative

Sheet 3 of 5

7 AM & 5 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 7-4: Year 2027 No Action Alternative 7AM/5PM Traffic Volumes - Freeways - Sheet 4 of 5



Mainline Volumes — Freeways

Ramp Volumes — Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

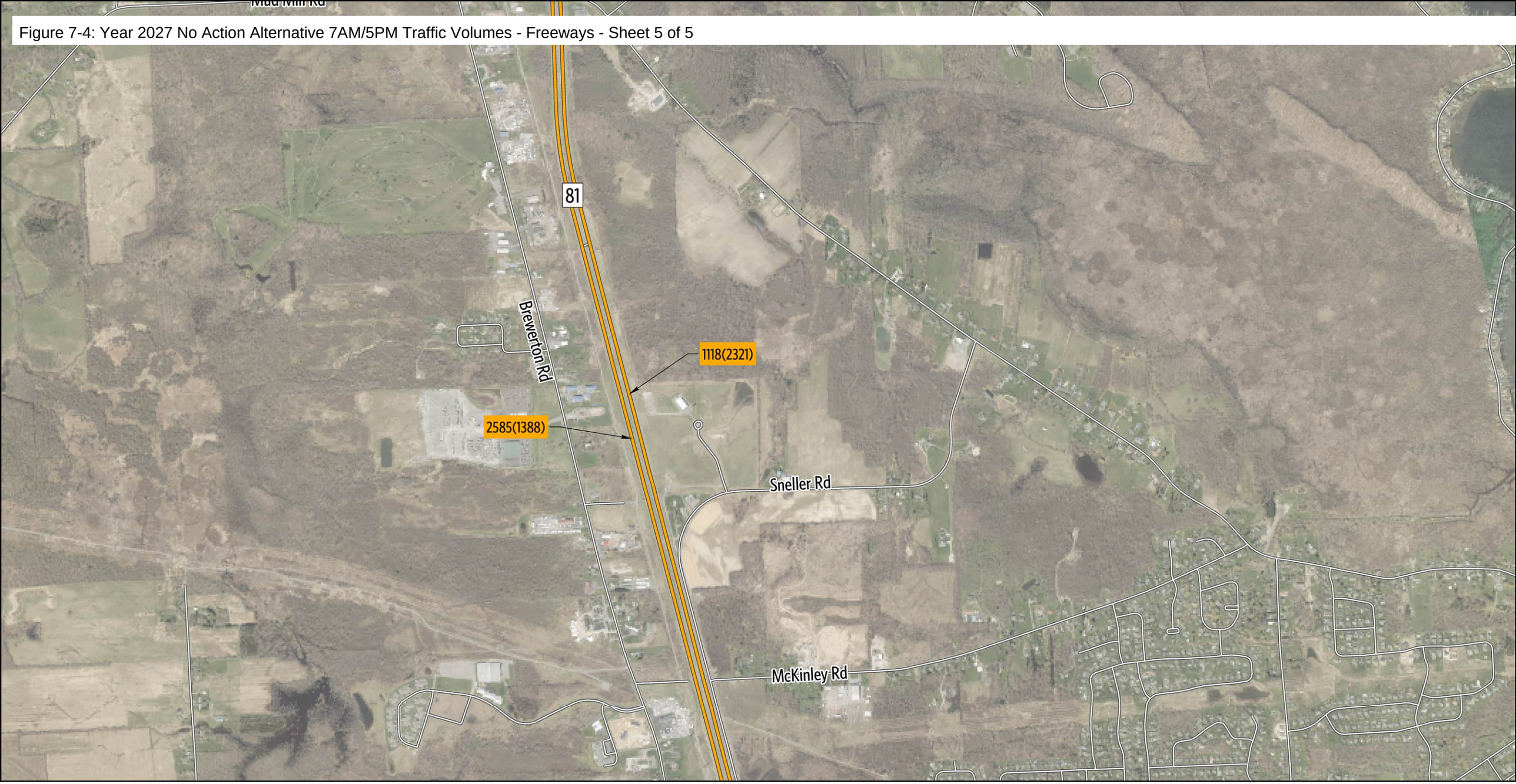
0 1,000 2,000 Feet

2027 Preferred Action Alternative

Sheet 4 of 5

7 AM & 5 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 7-4: Year 2027 No Action Alternative 7AM/5PM Traffic Volumes - Freeways - Sheet 5 of 5



Mainline Volumes
Freeways

Ramp Volumes
Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

0 1,000 2,000 Feet

2027 Preferred Action Alternative

Sheet 5 of 5

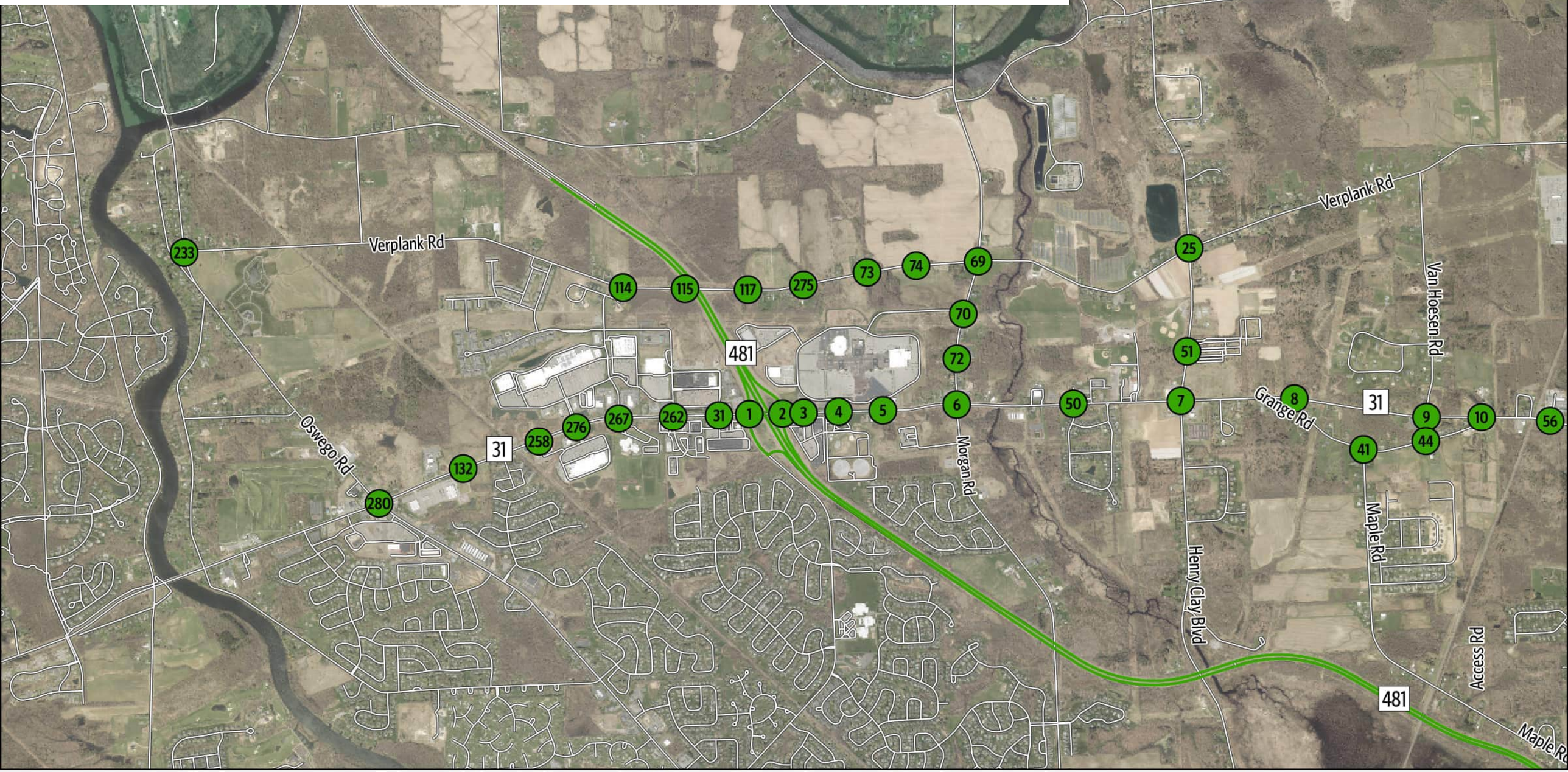
7 AM & 5 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

7.1.2 Intersection Operations

Table 7-1 summarizes the Synchro analysis results of the existing operational conditions at the 63 study intersections. The table shows the overall intersection delay. The LOS corresponding to the overall intersection delay is depicted in this table and Figures 7-5 through 7-8.

While most intersections operate acceptably at LOS D or better in both peak periods, several have higher delays and operate at LOS E or F, particularly in the evening peak period. As discussed in the following subsections, lower operating conditions occur for side streets intersecting NYS Route 31 and U.S. Route 11 in the central portion of the Transportation Evaluation Area. Drivers generally expect to wait longer to turn onto higher-volume primary roadways from side streets, so higher delays and lower LOS may be acceptable peak-period operating conditions in this Transportation Evaluation Area.

Figures 7-5 : Year 2027 No Action Alternative 6AM Peak Hour Level of Service (LOS) - Sheet 1 of 3



Intersection Level of Service

A, B, C

Roadway Level Of Service

A, B, C

Streets

N

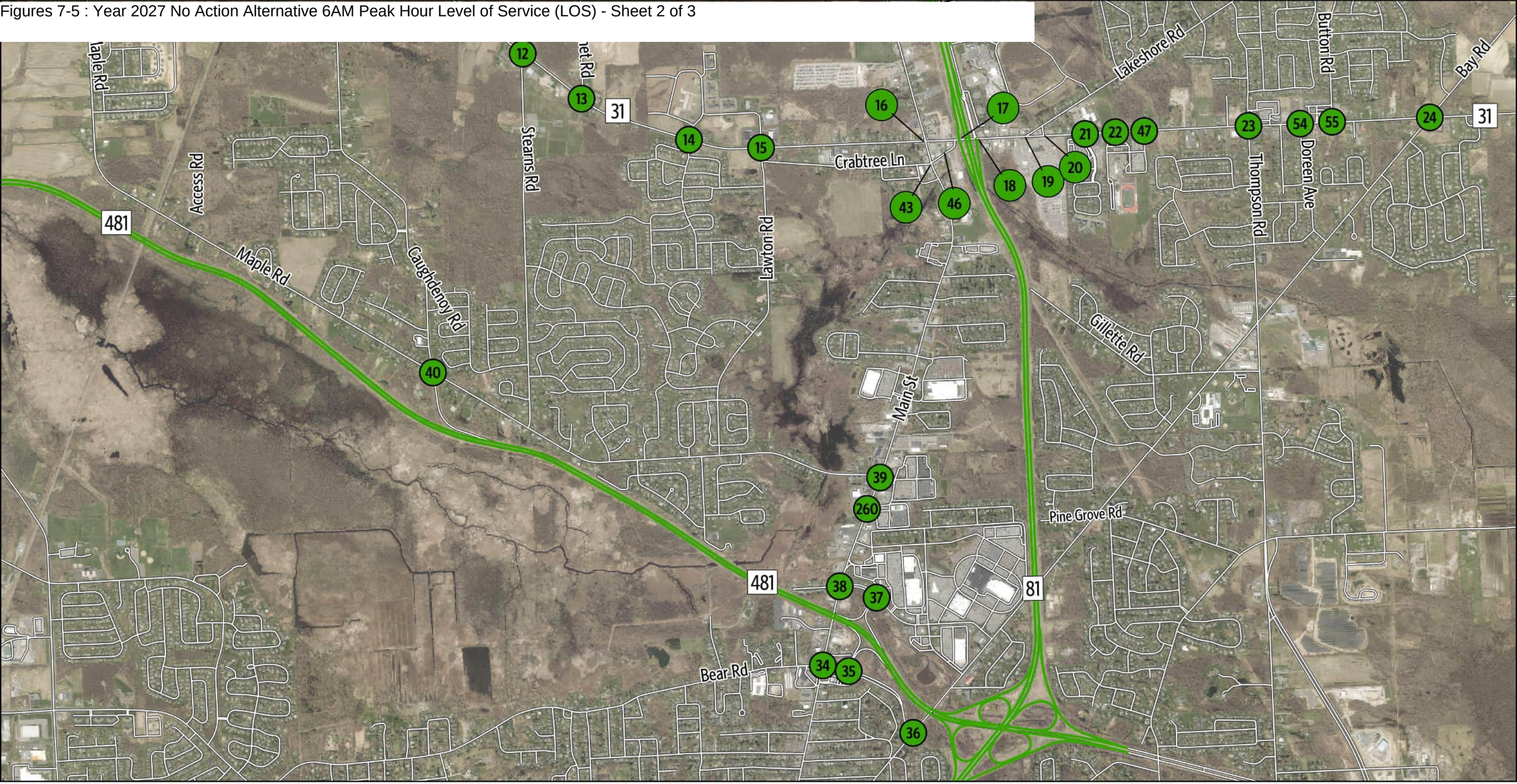
0 2,000 4,000 Feet

2027 No Action Alternative

Sheet 1 of 3

6 AM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figures 7-5 : Year 2027 No Action Alternative 6AM Peak Hour Level of Service (LOS) - Sheet 2 of 3



Intersection Level of Service

A, B, C

Roadway Level Of Service

A, B, C

Streets

N

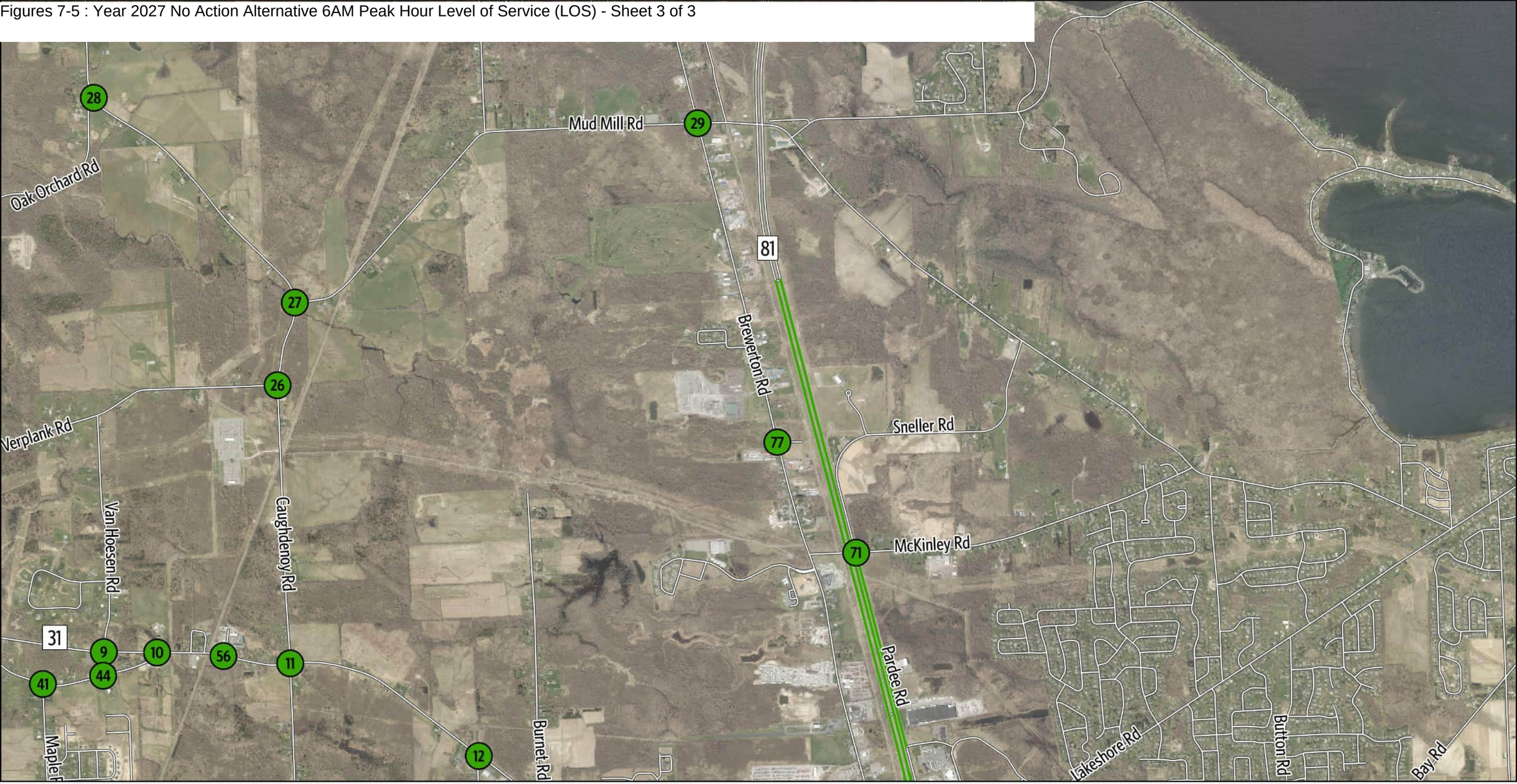
0 2,000 4,000 Feet

2027 No Action Alternative

Sheet 2 of 3

6 AM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figures 7-5 : Year 2027 No Action Alternative 6AM Peak Hour Level of Service (LOS) - Sheet 3 of 3



Intersection Level of Service

A, B, C

Roadway Level Of Service

A, B, C

Streets

N

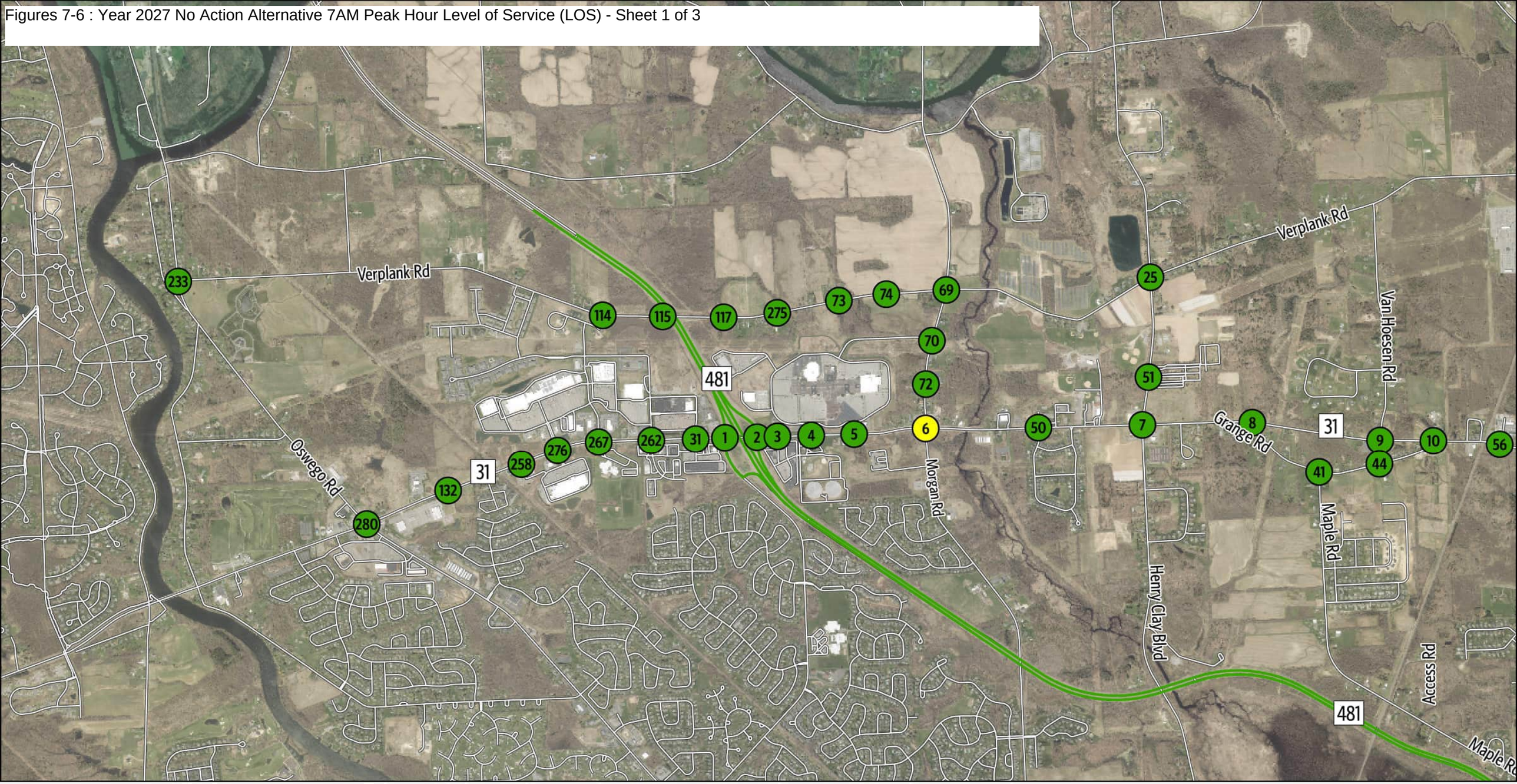
0 2,000 4,000 Feet

2027 No Action Alternative

Sheet 3 of 3

6 AM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figures 7-6 : Year 2027 No Action Alternative 7AM Peak Hour Level of Service (LOS) - Sheet 1 of 3



Intersection Level of Service

- A, B, C
- D

Roadway Level Of Service

- A, B, C
- Streets

N

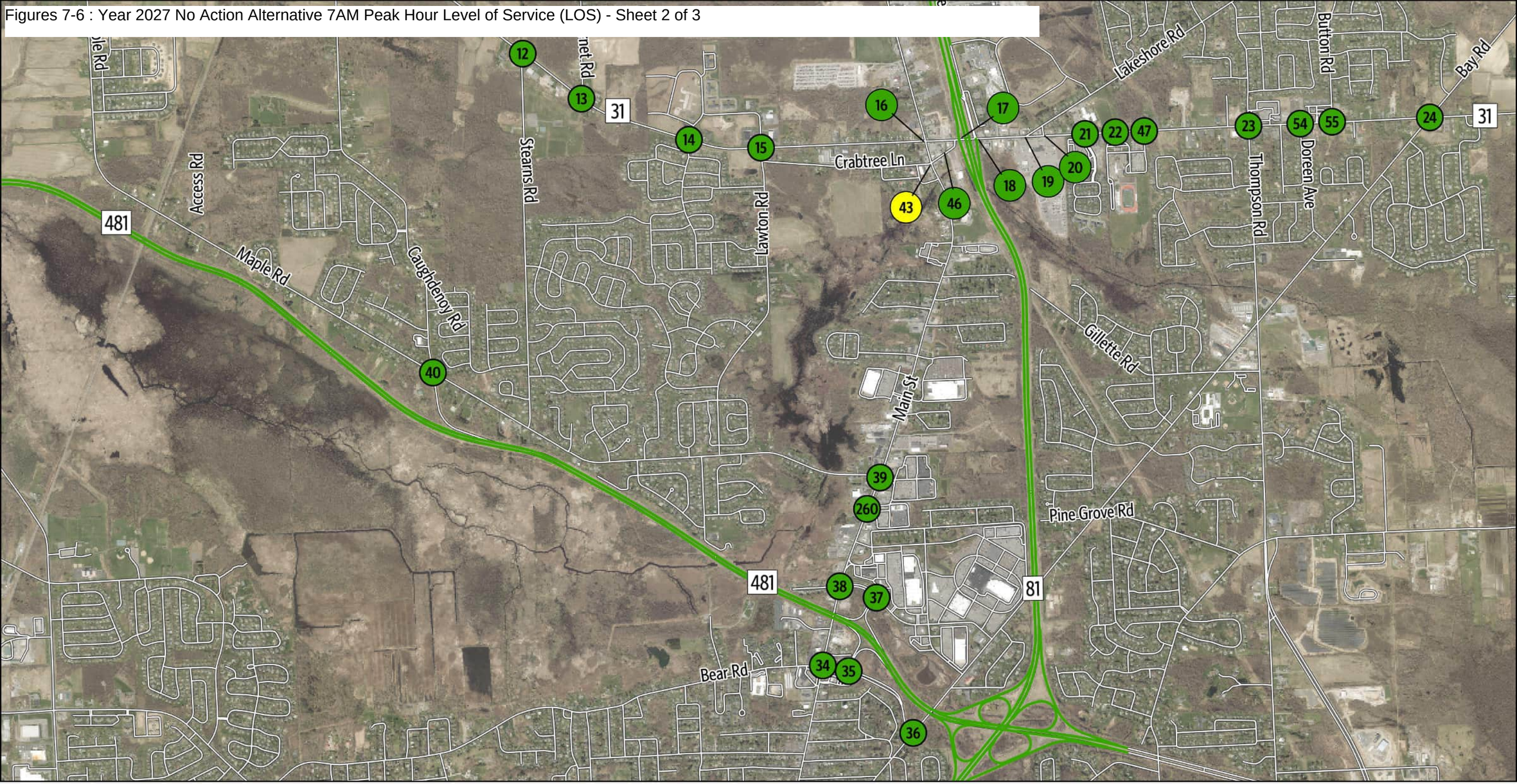
0 2,000 4,000 Feet

2027 No Action Alternative

Sheet 1 of 3

7 AM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figures 7-6 : Year 2027 No Action Alternative 7AM Peak Hour Level of Service (LOS) - Sheet 2 of 3



Intersection Level of Service

- A, B, C
- D

Roadway Level Of Service

- A, B, C
- Streets

N

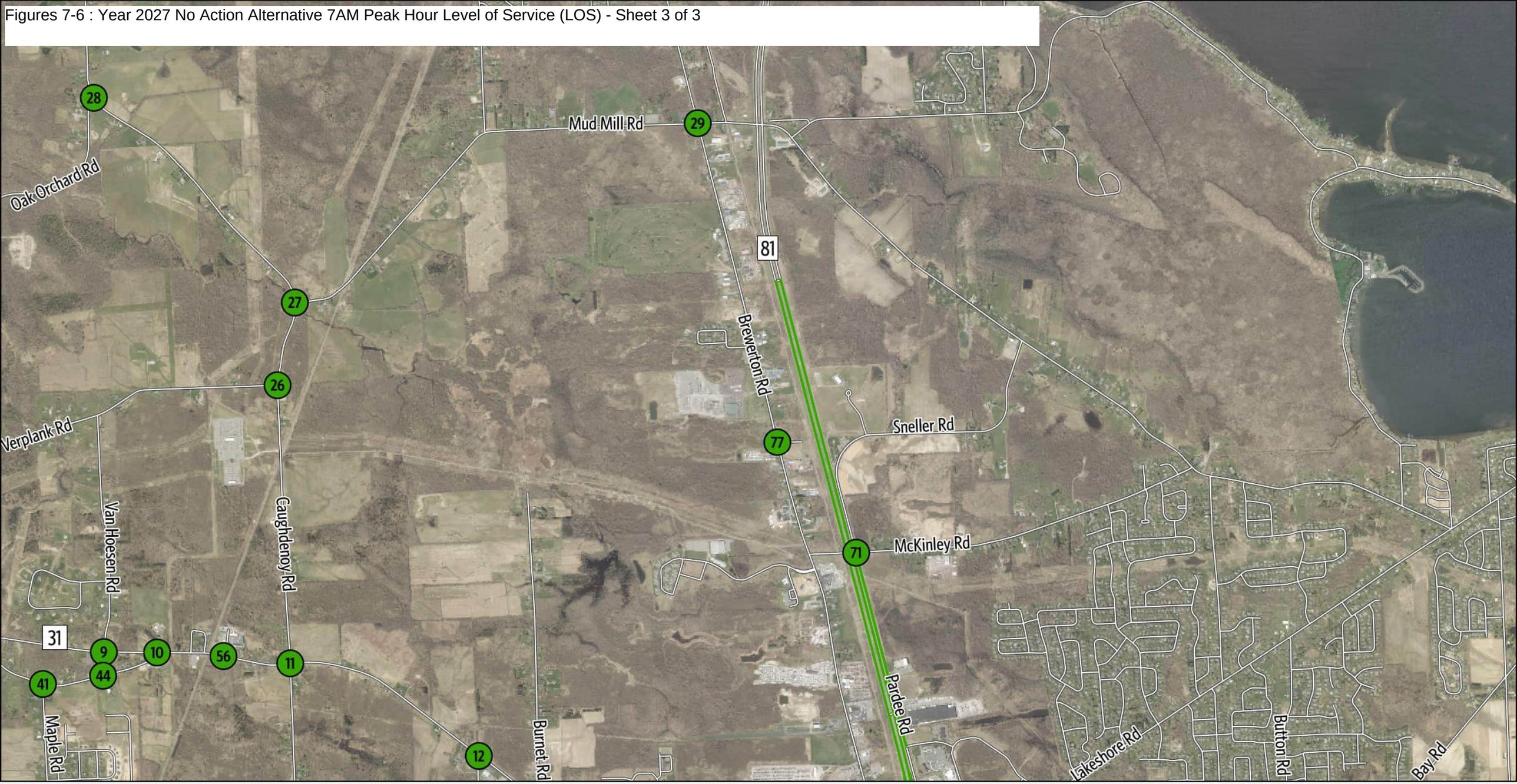
0 2,000 4,000 Feet

2027 No Action Alternative

Sheet 2 of 3

7 AM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figures 7-6 : Year 2027 No Action Alternative 7AM Peak Hour Level of Service (LOS) - Sheet 3 of 3



Intersection Level of Service

- A, B, C
- D

Roadway Level Of Service

- A, B, C
- Streets

N

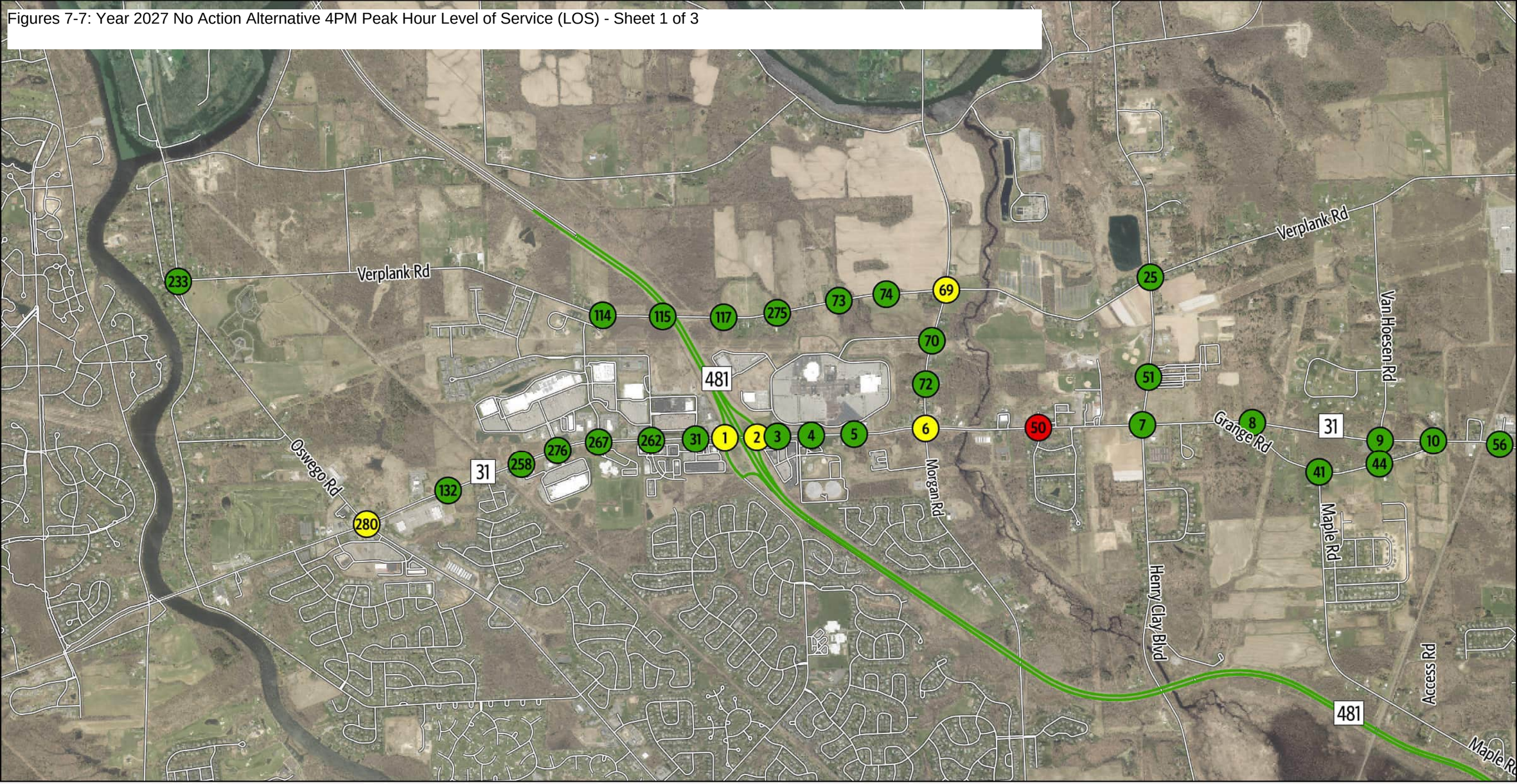
0 2,000 4,000 Feet

2027 No Action Alternative

Sheet 3 of 3

7 AM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figures 7-7: Year 2027 No Action Alternative 4PM Peak Hour Level of Service (LOS) - Sheet 1 of 3



Intersection Level of Service

- A, B, C
- D
- E
- F

Roadway Level Of Service

- A, B, C
- Streets

N

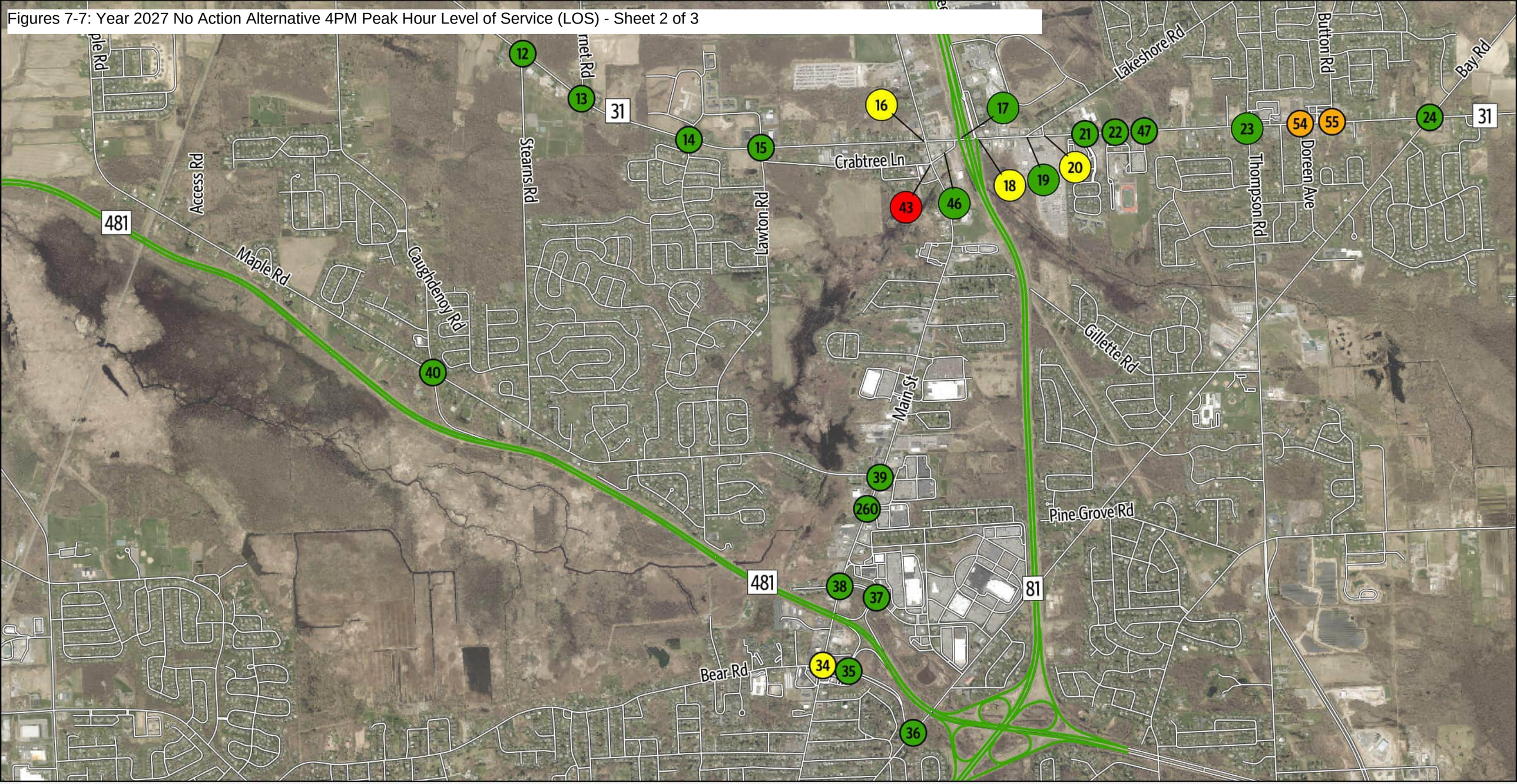
0 2,000 4,000 Feet

2027 No Action Alternative

Sheet 1 of 3

4 PM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figures 7-7: Year 2027 No Action Alternative 4PM Peak Hour Level of Service (LOS) - Sheet 2 of 3



Intersection Level of Service

- A, B, C
- D
- E
- F

Roadway Level Of Service

- A, B, C
- Streets

N

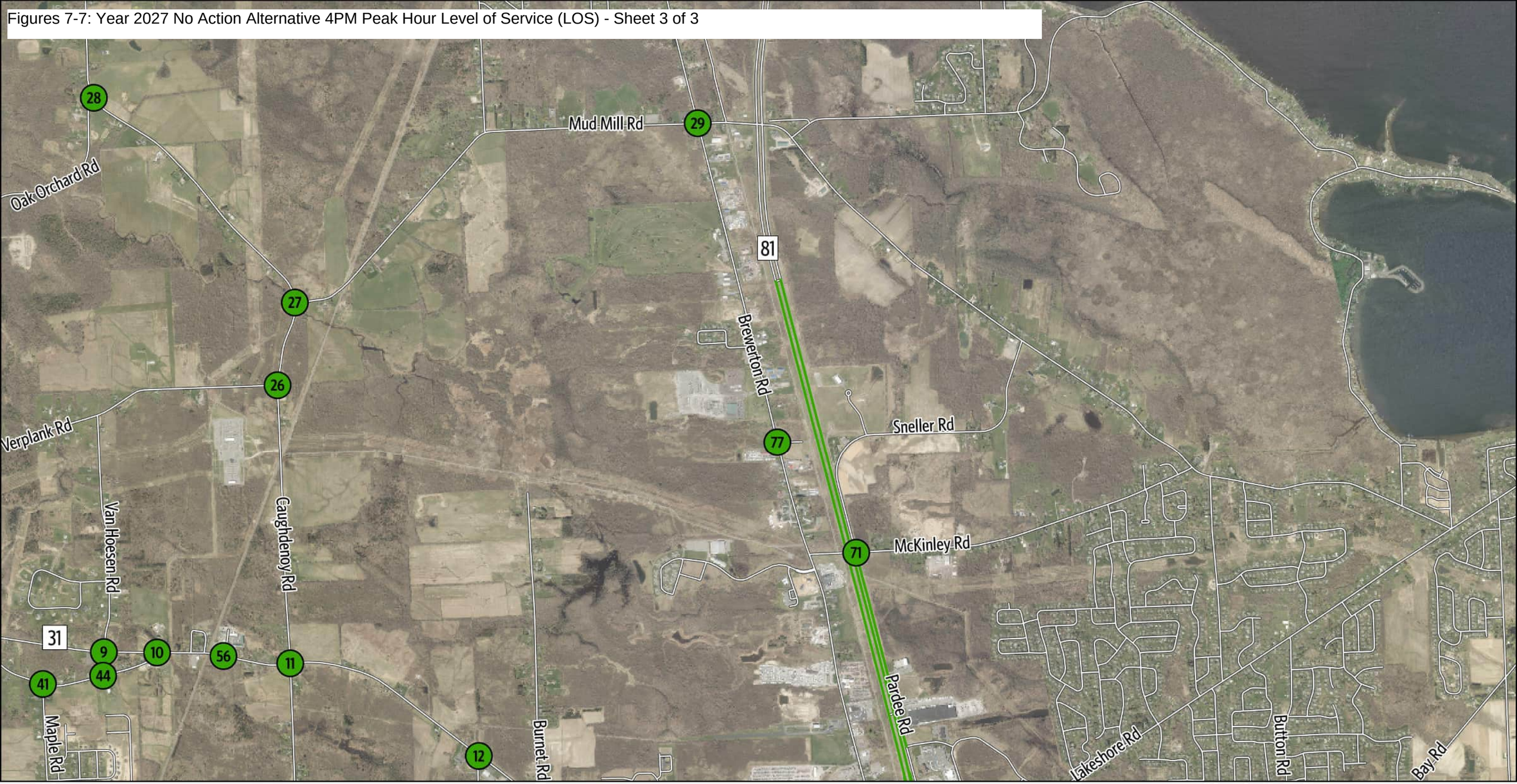
0 2,000 4,000 Feet

2027 No Action Alternative

Sheet 2 of 3

4 PM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figures 7-7: Year 2027 No Action Alternative 4PM Peak Hour Level of Service (LOS) - Sheet 3 of 3



Intersection Level of Service

- A, B, C
- D
- E
- F

Roadway Level Of Service

- A, B, C
- Streets

N

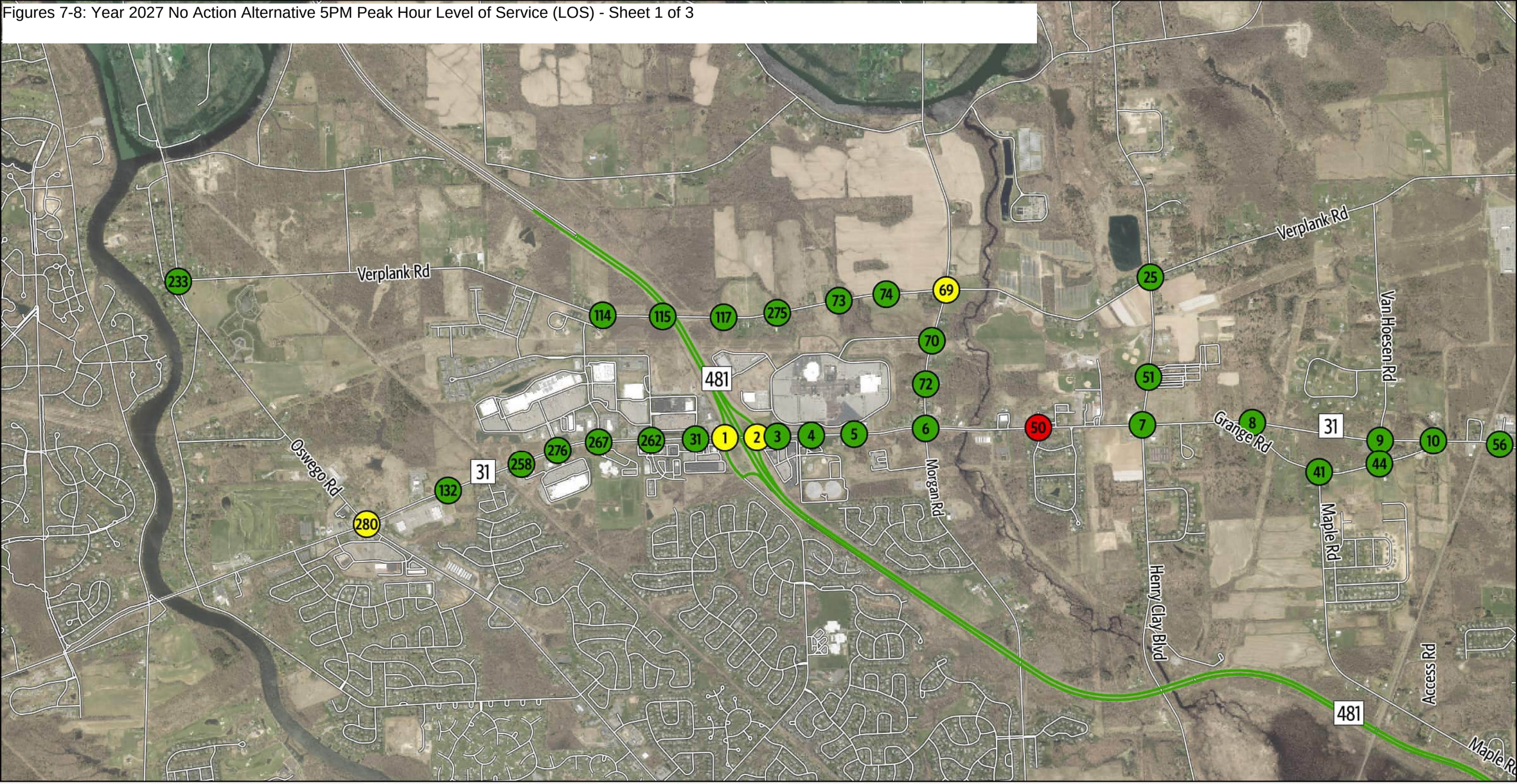
0 2,000 4,000 Feet

2027 No Action Alternative

Sheet 3 of 3

4 PM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figures 7-8: Year 2027 No Action Alternative 5PM Peak Hour Level of Service (LOS) - Sheet 1 of 3



Intersection Level of Service

- A, B, C
- D
- F

Roadway Level Of Service

- A, B, C
- Streets

N

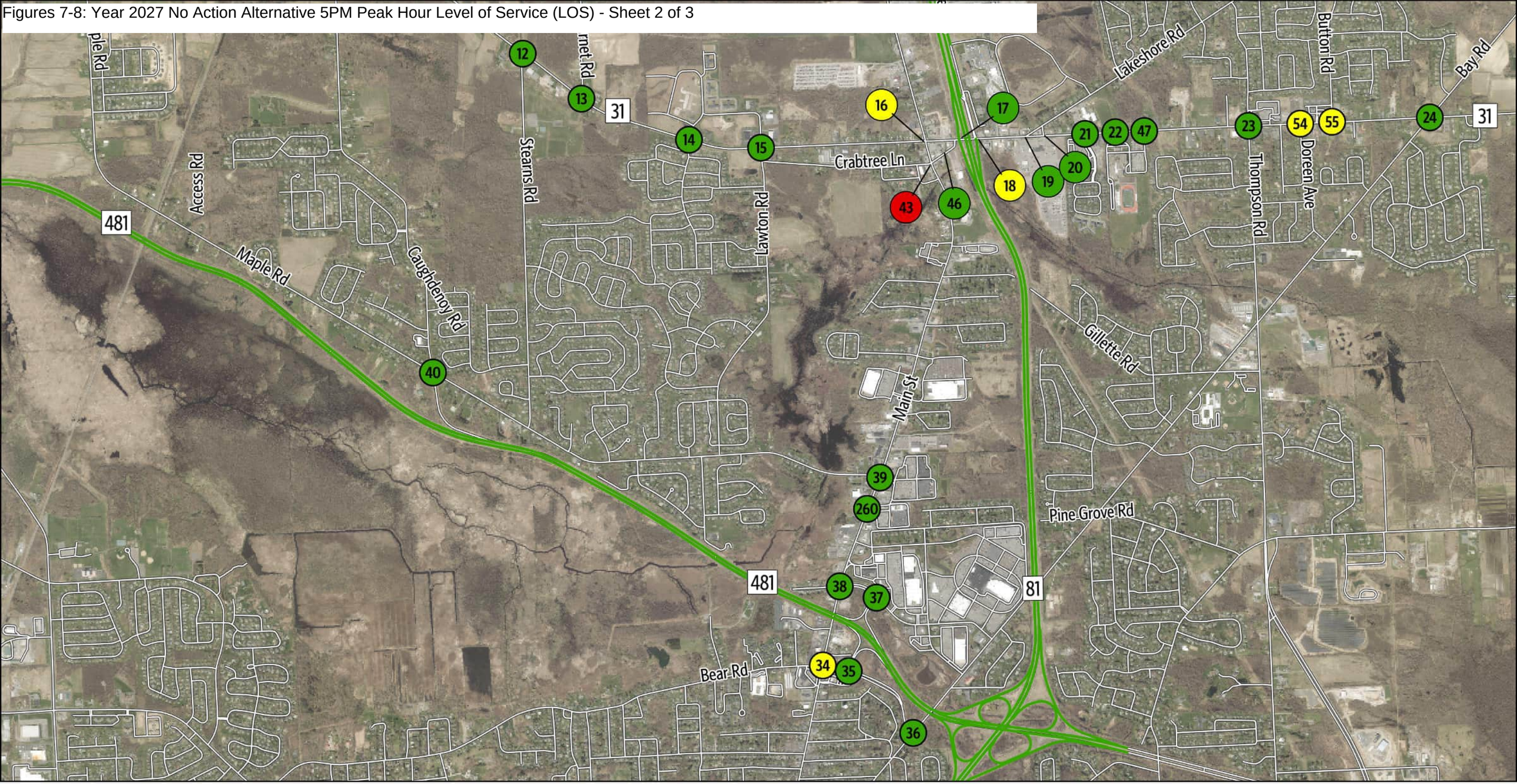
0 2,000 4,000 Feet

2027 No Action Alternative

Sheet 1 of 3

5 PM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figures 7-8: Year 2027 No Action Alternative 5PM Peak Hour Level of Service (LOS) - Sheet 2 of 3



Intersection Level of Service

- A, B, C
- D
- F

Roadway Level Of Service

- A, B, C
- Streets

N

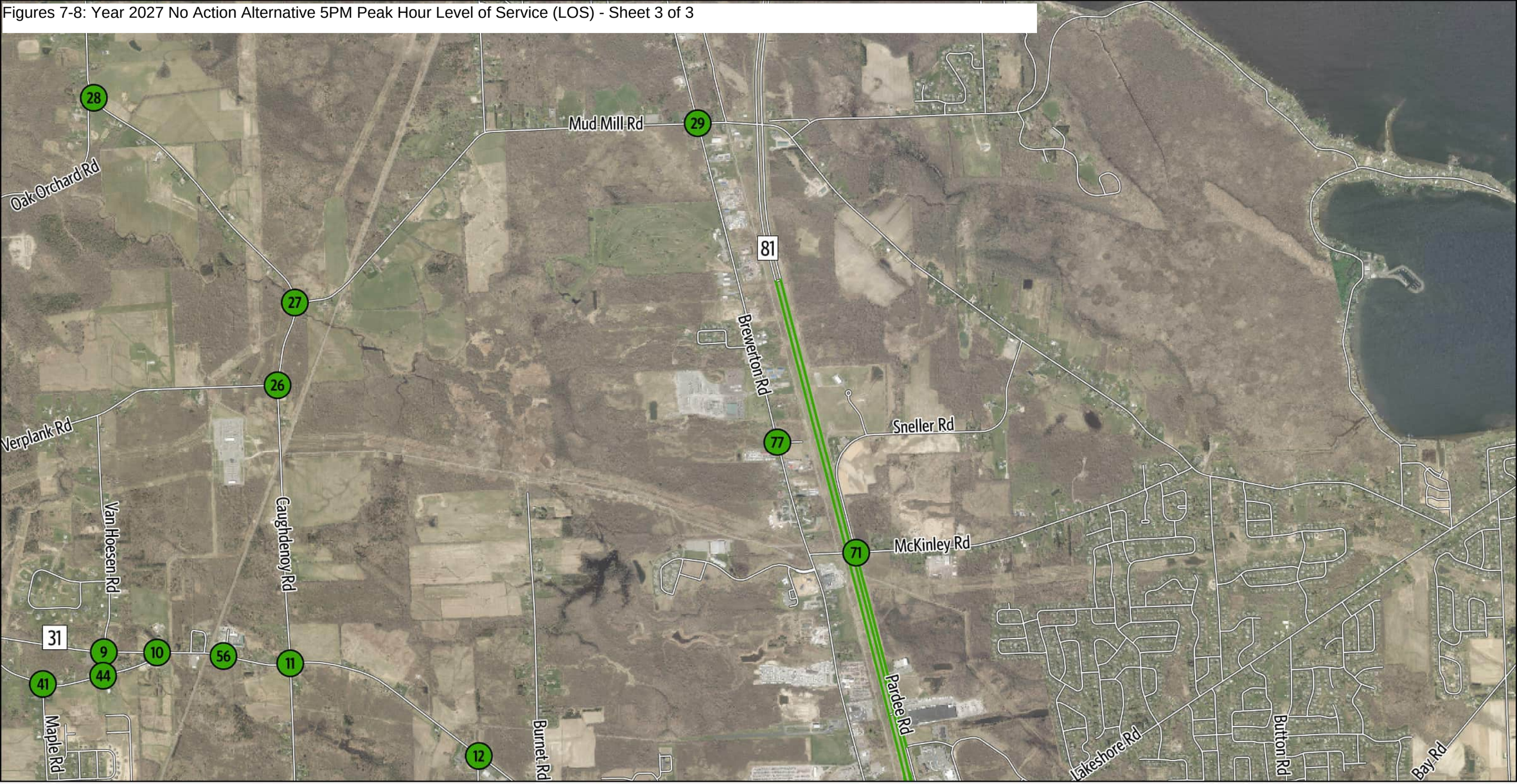
0 2,000 4,000 Feet

2027 No Action Alternative

Sheet 2 of 3

5 PM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figures 7-8: Year 2027 No Action Alternative 5PM Peak Hour Level of Service (LOS) - Sheet 3 of 3



Intersection Level of Service

- A, B, C
- D
- F

Roadway Level Of Service

- A, B, C
- Streets

N

0 2,000 4,000 Feet

2027 No Action Alternative

Sheet 3 of 3

5 PM Peak Hour - Operational Analysis Results - LOS
Micron Project

7.1.2.1 AM Peak Hour

All intersections operate acceptably at LOS C or better in the 6:00 a.m. peak hour. All intersections operate desirably at LOS D or better in the 7:00 a.m. peak hour.

7.1.2.2 PM Peak Hour

The evening peak-period demand generally results in higher average delays and lower LOS at several intersections beginning in the 4:00 p.m. peak hour. During the 4:00 p.m. peak hour, the following intersections operate at LOS E or F:

- #43: U.S. Route 11 and Crabtree Lane (LOS F)
- #50: McNamara Drive/Driveway and NYS Route 31 (LOS F)
- #54: Doreen Avenue and NYS Route 31 (LOS E)
- #55: NYS Route 31 and Button Road (LOS E)

During the 5:00 p.m. peak hour, the following intersections operate at LOS F:

- #43: U.S. Route 11 and Crabtree Lane
- #50: McNamara Drive/Driveway and NYS Route 31

Table 7-1. Year 2027 No Action Alternative AM and PM Peak Hour Intersection Operations – Delay and LOS

Intersection ID	Intersection Name	Intersection Control	6 AM			7 AM			4 PM			5 PM		
			Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c
1	NYS Route 31 and NYS Route 481 SB	Signalized	31.0	C	0.46	28.7	C	0.68	45.5	D	1.08	39.2	D	1.10
2	NYS Route 31 and NYS Route 481 NB	Signalized	14.5	B	0.32	16.6	B	0.46	45.9	D	1.00	39.2	D	0.98
3	Marketfair Plaza and NYS Route 31	Signalized	2.2	A	0.22	2.8	A	0.32	2.5	A	0.59	8.5	A	0.70
4	NYS Route 31 and GNM West	Signalized	5.2	A	0.27	7.3	A	0.38	14.8	B	0.68	17.8	B	0.75
5	Parking Lot/GNM East and NYS Route 31	Signalized	6.3	A	0.25	8.0	A	0.39	12.8	B	0.77	12.6	B	0.80
6	Morgan Road and NYS Route 31	Signalized	24.5	C	0.49	36.4	D	0.79	42.7	D	0.89	34.8	C	0.88
7	Henry Clay Boulevard and NYS Route 31	Signalized	10.8	B	0.30	13.6	B	0.52	20.6	C	0.79	16.7	B	0.68
8	Grange Road W and NYS Route 31	Signalized	9.6	A	0.26	8.5	A	0.41	12.6	B	0.65	12.0	B	0.61
9	Van Hoesen Road and NYS Route 31	Unsignalized	12.0	B	N/A	15.9	C	N/A	24.6	C	N/A	20.0	C	N/A
10	Grange Road E and NYS Route 31	Unsignalized	10.0	A	N/A	11.1	B	N/A	13.0	B	N/A	12.5	B	N/A
11	Caughdenoy Road and NYS Route 31	Signalized	11.7	B	0.27	14.3	B	0.41	15.4	B	0.68	14.3	B	0.61
12	Stearns Road and NYS Route 31	Signalized	9.7	A	0.30	8.6	A	0.46	8.4	A	0.48	8.8	A	0.47
13	NYS Route 31 and Burnet Road	Unsignalized	10.6	B	N/A	12.6	B	N/A	18.9	C	N/A	17.7	C	N/A
14	Barcaldine Drive/Legionnaire Drive and NYS Route 31	Unsignalized	11.0	B	N/A	14.2	B	N/A	13.6	B	N/A	12.9	B	N/A
15	Lawton Road/Legionnaire Drive and NYS Route 31	Signalized	9.0	A	0.41	11.5	B	0.59	10.2	B	0.58	9.5	A	0.53
16	U.S. Route 11 and NYS Route 31	Signalized	16.8	B	0.46	21.3	C	0.71	47.8	D	0.94	40.8	D	0.88
17	NYS Route 31 and I-81 SB Ramp	Signalized	12.2	B	0.72	20.8	C	0.98	25.0	C	0.78	23.9	C	0.72
18	NYS Route 31 and Pardee Road/I-81 NB Ramp	Signalized	13.4	B	0.49	23.0	C	0.70	43.4	D	0.92	36.1	D	0.92
20	Parking Lot/Lakeshore Spur and NYS Route 31	Signalized	9.3	A	0.46	13.5	B	0.60	42.0	D	0.94	34.2	C	0.85
21	New Country Drive/Cicero Elementary School Parking Lot and NYS Route 31	Signalized	4.8	A	0.27	4.1	A	0.38	9.7	A	0.60	8.8	A	0.57
22	Cicero North Syracuse High School West Driveway and NYS Route 31	Signalized	13.2	B	0.32	9.2	A	0.45	14.0	B	0.73	13.4	B	0.70
23	Thompson Road/Torchwood Lane and NYS Route 31	Roundabout	5.9	A	N/A	9.1	A	N/A	31.0	C	N/A	13.4	C	N/A
24	South Bay Road and NYS Route 31	Signalized	11.7	B	0.45	16.4	B	0.73	29.2	C	0.87	27.6	C	0.85
25	Henry Clay Boulevard and Verplank Road	Unsignalized	7.3	A	N/A	7.6	A	N/A	8.9	A	N/A	8.6	A	N/A
26	Caughdenoy Road and Verplank Road	Unsignalized	9.2	A	N/A	9.7	A	N/A	10.5	B	N/A	10.2	B	N/A
27	Caughdenoy Road and Mud Mill Road	Unsignalized	9.4	A	N/A	10.1	B	N/A	10.8	B	N/A	10.5	B	N/A
28	Caughdenoy Road and Oak Orchard Road	Unsignalized	9.1	A	N/A	9.6	A	N/A	10.6	B	N/A	10.2	B	N/A
29	U.S. Route 11 and Mud Mill Road	Signalized	9.4	A	0.06	8.4	A	0.12	8.1	A	0.22	8.0	A	0.19
31	Raymour and Flanigan/Wegmans East and NYS Route 31	Signalized	7.6	A	0.30	13.0	B	0.40	26.7	C	0.80	23.3	C	0.81
32	Henry Clay Boulevard and Wetzel Road	Signalized	28.2	C	0.26	19.5	B	0.43	26.4	C	0.72	23.7	C	0.65

Intersection ID	Intersection Name	Intersection Control	6 AM			7 AM			4 PM			5 PM		
			Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c
33	Allen Road and Bear Road	Signalized	7.1	A	0.28	8.9	A	0.47	16.5	B	0.77	13.7	B	0.70
34	U.S. Route 11 and Bear Road	Signalized	25.4	C	0.50	28.9	C	0.66	43.5	D	0.96	38.0	D	0.89
35	Bear Road and NYS Route 481 EB On-/Off-Ramp	Signalized	14.0	B	0.34	16.4	B	0.46	22.4	C	0.45	21.3	C	0.41
36	South Bay Road and Bear Road	Signalized	7.2	A	0.22	8.4	A	0.39	12.6	B	0.72	12.7	B	0.70
37	NYS Route 481 WB On-/Off-Ramp and Circle Drive E	Signalized	18.0	B	0.18	16.0	B	0.28	22.3	C	0.59	20.3	C	0.53
38	U.S. Route 11 and Circle Drive W/Circle Drive E	Signalized	11.0	B	0.30	9.6	A	0.48	30.4	C	0.89	28.5	C	0.82
39	U.S. Route 11 and Caughdenoy Road/Widewaters Commons	Signalized	21.4	C	0.17	20.6	C	0.43	19.6	B	0.63	19.8	B	0.58
40	NYS Route 481 NB Off-Ramp and Maple Road and Caughdenoy Road	Signalized	7.9	A	0.10	8.8	A	0.14	7.7	A	0.28	7.5	A	0.27
41	Maple Road and Grange Road	Unsignalized	8.9	A	N/A	9.2	A	N/A	10.6	B	N/A	10.4	B	N/A
43	U.S. Route 11 and Crabtree Lane	Unsignalized	13.1	B	N/A	28.0	D	N/A	> 300	F	N/A	> 300	F	N/A
44	Grange Road/Grange Road E and Van Hoesen Road	Unsignalized	8.6	A	N/A	8.6	A	N/A	8.8	A	N/A	8.8	A	N/A
47	Cicero North Syracuse High School East Driveway and NYS Route 31	Unsignalized	10.2	B	N/A	11.1	B	N/A	16.4	C	N/A	15.3	C	N/A
50	McNamara Drive/Driveway and NYS Route 31	Unsignalized	13.7	B	N/A	21.8	C	N/A	> 300	F	N/A	216.2	F	N/A
54	Doreen Avenue and NYS Route 31	Unsignalized	11.8	B	N/A	14.6	B	N/A	47.8	E	N/A	33.2	D	N/A
55	NYS Route 31 and Button Road	Unsignalized	9.6	A	N/A	12.3	B	N/A	41.6	E	N/A	29.7	D	N/A
56	NYS Route 31 and Weller Canning Road	Unsignalized	10.4	B	N/A	12.0	B	N/A	19.6	C	N/A	17.1	C	N/A
69	Morgan Road and Verplank Road	Unsignalized	12.3	B	N/A	15.9	C	N/A	31.6	D	N/A	26.5	D	N/A
70	Morgan Road and GNM Driveway 1	Signalized	5.7	A	0.27	6.9	A	0.40	9.7	A	0.49	8.8	A	0.48
71	Pardee Road and McKinley Road	Unsignalized	9.1	A	N/A	9.5	A	N/A	9.6	A	N/A	9.5	A	N/A
72	Morgan Road and GNM Driveway 2	Unsignalized	0.0	A	N/A	0.0	A	N/A	0.0	A	N/A	0.0	A	N/A
73	GNM Driveway 3 and Verplank Road	Unsignalized	0.0	A	N/A	0.0	A	N/A	0.0	A	N/A	0.0	A	N/A
74	GNM Driveway 4 and Verplank Road	Unsignalized	0.0	A	N/A	0.0	A	N/A	0.0	A	N/A	0.0	A	N/A
77	Sneller Road and U.S. Route 11	Signalized	10.8	B	1.01	26.4	C	1.00	16.1	B	0.98	11.1	B	0.92
132	Davidson and NYS Route 31	Signalized	10.4	B	0.38	11.9	B	0.51	22.0	C	0.74	19.1	B	0.73
233	Oswego Road and Verplank Road	Unsignalized	11.2	B	N/A	13.7	B	N/A	16.0	C	N/A	14.6	B	N/A
258	Texas Roadhouse/Delta Sonic and NYS Route 31	Signalized	3.9	A	0.25	5.4	A	0.34	9.7	A	0.70	6.1	A	0.66
260	U.S. Route 11 and Chick-fil-A	Signalized	4.1	A	0.24	3.6	A	0.36	15.0	B	0.86	9.2	A	0.78
262	NYS Route 31 and Carling Road	Signalized	7.7	A	0.29	12.3	B	0.38	29.0	C	0.81	23.0	C	0.79
267	NYS Route 31 and Dell Center Dr	Signalized	7.6	A	0.30	9.1	A	0.38	18.7	B	0.81	18.9	B	0.78
275	Verplank Road and Proposed Access #1	Unsignalized	0.0	A	N/A	0.0	A	N/A	0.0	A	N/A	0.0	A	N/A
276	Lowes/Home Depot and NYS Route 31	Signalized	13.7	B	0.29	18.0	B	0.39	26.7	C	0.83	19.3	B	0.79

Intersection ID	Intersection Name	Intersection Control	6 AM			7 AM			4 PM			5 PM		
			Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c
280	NYS Route 31 and Oswego Road	Signalized	23.2	C	0.52	33.8	C	0.78	50.4	D	0.96	43.2	D	0.93
287	Proposed Access #2 and Verplank Road	Unsignalized	0.0	A	N/A	0.0	A	N/A	0.0	A	N/A	0.0	A	N/A

7.1.3 Freeway Operations

Tables 7-2 and 7-3 summarize the freeway and ramp densities, along with the corresponding LOS. Generally, the I-81 and the NYS Route 481 freeways operate in relatively uncongested conditions in a.m. peak periods (LOS D or better). In the 4:00 p.m. peak hour, all freeway segments operate at either LOS A, B, or C. By the 5:00 p.m. peak hour, only one freeway segment operates at LOS E (NYS Route 481 WB off-ramp to NYS Route 31). In comparison, the remaining segments operate at LOS A, B, or C. For locations where the demand increases in the second hour of each peak period, the corresponding increases in density do not cause a drop to unacceptable operating conditions for most of the Transportation Evaluation Area.

Table 7-2. Year 2027 No Action Alternative AM and PM Peak Hour Freeway I-81 Operations – Delay and LOS

Segment Direction	Segment Description	Segment Type	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS
			6 AM					7 AM					4 PM					5 PM				
I-81 NB	I-81 NB Between E Taft Road and NYS Route 481	Basic	1,070	1,067	66	5.4	A	1,577	1,570	66	7.9	A	3,325	3,324	65	17.0	B	2,999	3,002	66	15.3	B
	I-81 NB Off-Ramp to NYS Route 481	Diverge	1,070	1,060	64	4.1	A	1,577	1,563	64	6.1	A	3,325	3,314	63	13.1	B	2,999	2,995	64	11.8	B
	I-81 NB Between Off-/On-Ramps to/from NYS Route 481	Basic	899	890	67	4.5	A	1,381	1,373	66	6.9	A	3,097	3,099	65	15.9	B	2,801	2,805	65	14.4	B
	I-81 NB Between Off-/On-Ramps to/from NYS Route 481	Weave	957	945	62	3.8	A	1,467	1,457	61	6.0	A	3,160	3,155	60	13.2	B	2,829	2,842	60	11.8	B
	I-81 NB after Off-Ramp to NYS Route 481	Basic	637	624	61	5.1	A	953	948	61	7.8	A	1,951	1,949	60	16.1	B	1,730	1,739	61	14.4	B
	I-81 NB On-Ramp from NYS Route 481	Merge	819	801	67	3.0	A	1,292	1,281	67	4.8	A	2,781	2,791	66	10.5	B	2,470	2,469	67	9.3	A
	I-81 NB Between NYS Route 481 and NYS Route 31	Basic	819	794	67	3.9	A	1,292	1,278	67	6.4	A	2,781	2,787	66	14.1	B	2,470	2,476	66	12.5	B
	I-81 NB Off-Ramp to NYS Route 31	Diverge	819	787	63	3.1	A	1,292	1,270	63	5.1	A	2,781	2,782	63	14.6	B	2,470	2,483	64	12.9	B
	I-81 NB Between Off-/On-Ramps to/from NYS Route 31	Basic	471	447	67	2.2	A	754	741	67	3.7	A	1,818	1,811	67	9.0	A	1,604	1,608	67	8.0	A
	I-81 NB On-Ramp from NYS Route 31	Merge	563	535	65	2.1	A	882	837	65	3.2	A	2,336	2,285	58	9.9	A	2,102	2,080	57	9.1	A
	I-81 NB Between NYS Route 31 and Bartell Road	Basic	563	531	67	2.6	A	882	837	67	4.2	A	2,336	2,288	57	13.4	B	2,102	2,082	57	12.2	B
	I-81 NB Off-Ramp to Bartell Road	Diverge	563	511	64	2.0	A	882	827	64	3.3	A	2,336	2,294	53	10.9	B	2,102	2,107	53	10.0	A
	I-81 NB Off-/On-Ramps to/from Bartell Road	Basic	443	403	67	2.0	A	693	647	67	3.2	A	1,822	1,785	56	10.7	A	1,643	1,647	55	9.9	A
	I-81 On-Ramp from Bartell Road	Merge	486	441	66	1.7	A	773	723	65	2.8	A	1,987	1,939	56	8.7	A	1,789	1,789	55	8.1	A
	I-81 NB Between Bartell Road and East Avenue	Basic	486	441	67	2.2	A	773	725	67	3.6	A	1,987	1,943	56	11.5	B	1,789	1,797	56	10.7	A
I-81 SB	I-81 SB Between East Avenue and Bartell Road	Basic	1,263	1,258	67	6.2	A	1,971	1,969	67	9.8	A	1,129	1,127	68	5.5	A	1,015	1,013	68	5.0	A
	I-81 SB Off-Ramp to Bartell Road	Diverge	1,263	1,246	66	4.7	A	1,971	1,953	65	7.5	A	1,129	1,118	65	4.3	A	1,015	1,007	66	3.8	A
	I-81 SB Between Off-Ramp and On-Ramp to Bartell Road	Basic	1,181	1,174	67	5.8	A	1,846	1,841	67	9.2	A	985	982	68	4.8	A	886	889	68	4.4	A
	I-81 SB On-Ramp from Bartell Road	Merge	1,538	1,525	65	5.9	A	2,428	2,414	64	9.4	A	1,443	1,432	64	5.5	A	1,296	1,295	65	5.0	A
	I-81 SB Between Bartell Road and NYS Route 31	Basic	1,538	1,522	67	7.6	A	2,428	2,411	66	12.2	B	1,443	1,437	67	7.1	A	1,296	1,299	67	6.4	A
	I-81 SB Off-Ramp to NYS Route 31	Diverge	1,538	1,499	66	5.7	A	2,428	2,392	64	9.3	A	1,443	1,439	66	5.4	A	1,296	1,304	66	4.9	A
	I-81 SB Between Off-Ramp and On-Ramp from NYS Route 31	Basic	1,357	1,327	67	6.6	A	2,165	2,135	66	10.8	A	1,165	1,162	67	5.8	A	1,045	1,055	67	5.2	A
	I-81 SB On-Ramp from NYS Route 31	Merge	2,103	2,032	62	8.1	A	3,332	3,119	61	12.8	B	2,033	1,994	63	8.0	A	1,794	1,803	63	7.2	A
	I-81 SB Between NYS Route 31 and I-81	Basic	2,103	2,029	66	10.2	A	3,332	3,120	64	16.3	B	2,033	2,012	67	10.1	A	1,794	1,816	67	9.1	A
	I-81 SB Off-Ramp to NYS Route 481 EB	Diverge	2,103	2,029	66	10.2	B	3,332	3,120	64	16.3	B	2,033	2,012	67	10.1	B	1,794	1,816	67	9.1	A
	I-81 SB Off-Ramp to I-81 EB and WB	Basic	1,412	1,346	66	10.2	A	2,157	2,030	63	16.0	B	1,456	1,450	66	11.0	A	1,298	1,322	66	10.0	A

Segment Direction	Segment Description	Segment Type	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS
			6 AM					7 AM					4 PM					5 PM				
I-81 SB (continued)	I-81 SB Off-Ramp to I-81 WB	Diverge	1,412	1,343	65	6.9	A	2,157	2,030	63	10.7	B	1,456	1,448	65	7.5	A	1,298	1,323	65	6.8	A
	I-81 SB Between Off-Ramp and On-Ramp from NYS Route 481	Basic	1,304	1,235	66	9.4	A	2,012	1,884	64	14.7	B	1,283	1,277	66	9.6	A	1,149	1,171	66	8.8	A
	I-81 SB On-Ramp from NYS Route 481 WB	Merge	1,477	1,409	66	7.2	A	2,242	2,114	65	10.9	B	1,454	1,451	66	7.3	A	1,308	1,327	66	6.7	A
	I-81 SB On-Ramp from NYS Route 481 EB	Merge	2,587	2,381	63	9.5	A	3,533	3,390	62	13.6	B	2,407	2,343	64	9.2	A	2,161	2,178	64	8.6	A
	I-81 NB Between NYS Route 481 and E Taft Road	Basic	2,587	2,388	65	12.2	B	3,533	3,408	64	17.7	B	2,407	2,356	66	11.9	B	2,161	2,192	66	11.1	B

Table 7-3. Year 2027 No Action Alternative AM and PM Peak Hour NYS Route 481 Operations – Delay and LOS

Segment Direction	Segment Description	Segment Type	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS
			6 AM					7 AM					4 PM					5 PM				
NYS Route 481 EB	NYS Route 481 EB Between Verplank Road and NYS Route 31	Basic	855	843	65	6.5	A	1,342	1,337	64	10.5	A	1,015	1,009	63	8.0	A	797	799	63	6.3	A
	NYS Route 481 EB Off-Ramp to NYS Route 31	Diverge	855	842	57	4.9	A	1,342	1,336	55	8.1	A	1,015	1,011	53	6.4	A	797	802	55	4.8	A
	NYS Route 481 Between Off-Ramp and On-Ramp from NYS Route 31	Basic	635	615	67	4.6	A	985	975	66	7.4	A	597	593	67	4.4	A	536	533	67	4.0	A
	NYS Route 481 EB On-Ramp from NYS Route 31	Merge	1,521	1,441	60	8.0	A	2,124	2,087	59	11.7	B	1,348	1,271	62	6.9	A	1,191	1,205	61	6.5	A
	NYS Route 481 EB Between NYS Route 31 and Bear Road	Basic	1,521	1,433	65	11.0	A	2,124	2,093	64	16.4	B	1,348	1,261	66	9.5	A	1,191	1,197	66	9.0	A
	NYS Route 481 EB Off-Ramp to Bear Road	Diverge	1,521	1,341	59	7.6	A	2,124	2,071	56	12.4	B	1,348	1,263	55	7.6	A	1,191	1,217	55	7.4	A
	NYS Route 481 EB Between Off-Ramp and On-Ramp from Bear Road	Basic	1,385	1,233	63	9.8	A	1,918	1,897	61	15.6	B	1,067	1,011	65	7.8	A	935	958	65	7.4	A
	NYS Route 481 Between U.S. Route 11 and I-81	Weave	2,237	2,016	60	11.1	B	2,998	2,976	59	16.9	B	1,916	1,838	61	10.0	B	1,719	1,745	61	9.5	A
	NYS Route 481 EB Off-Ramp to I-81 NB	Diverge	1,127	1,013	66	5.1	A	1,707	1,676	65	8.6	A	963	934	67	4.7	A	866	882	67	4.4	A
	NYS Route 481 EB Between Off-Ramp and On-Ramp from I-81	Basic	1,069	955	67	7.2	A	1,622	1,595	66	12.1	B	900	877	67	6.5	A	838	851	67	6.3	A
	NYS Route 481 EB On-Ramp from I-81 NB	Merge	1,240	1,122	65	5.7	A	1,817	1,792	64	9.4	A	1,129	1,102	65	5.6	A	1,035	1,053	65	5.4	A
	NYS Route 481 EB On-Ramp from I-81 SB	Merge	1,931	1,786	67	6.7	A	2,992	2,872	66	11.0	B	1,706	1,663	67	6.2	A	1,531	1,556	67	5.8	A
	NYS Route 481 EB Between I-81 and Northern Boulevard	Basic	1,931	1,782	67	8.9	A	2,992	2,868	66	14.6	B	1,706	1,661	67	8.2	A	1,531	1,558	67	7.7	A

Segment Direction	Segment Description	Segment Type	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS
			6 AM					7 AM					4 PM					5 PM				
NYS Route 481 WB	NYS Route 481 WB Between Northern Boulevard and I-81	Basic	717	712	68	5.3	A	1,159	1,156	67	8.6	A	2,492	2,483	66	18.8	C	2,216	2,212	67	16.6	B
	NYS Route 481 WB Off-Ramp to I-81	Diverge	717	710	67	3.5	A	1,159	1,158	67	5.8	A	2,492	2,491	65	12.7	B	2,216	2,219	66	11.3	B
	NYS Route 481 WB Between Off-Ramp and On-Ramp from I-81 NB	Basic	536	527	51	5.2	A	819	821	51	8.1	A	1,663	1,652	50	16.6	B	1,476	1,494	50	14.9	B
	NYS Route 481 WB Between On-Ramp and Off-Ramp to I-81	Weave	855	839	60	4.7	A	1,333	1,325	59	7.4	A	2,872	2,856	58	16.3	B	2,575	2,605	59	14.8	B
	NYS Route 481 WB Between Off-Ramp and On-Ramp from I-81 SB	Basic	683	664	65	5.1	A	1,103	1,099	64	8.6	A	2,701	2,694	63	21.5	C	2,416	2,462	63	19.5	C
	NYS Route 481 WB Between I-81 and U.S. Route 11	Weave	791	767	65	3.9	A	1,248	1,241	64	6.4	A	2,874	2,865	64	14.9	B	2,565	2,617	64	13.6	B
	NYS Route 481 WB Off-Ramp and On-Ramp from Circle Drive	Basic	423	410	64	3.2	A	688	678	64	5.3	A	1,791	1,775	64	13.9	B	1,528	1,556	64	12.2	B
	NYS Route 481 WB On-Ramp from Circle Drive	Merge	511	495	64	2.6	A	827	818	63	4.3	A	2,185	2,174	60	12.2	B	1,846	1,883	61	10.3	B
	NYS Route 481 WB Between U.S. Route 11 and Caughdenoy Road	Basic	511	491	67	3.7	A	827	815	66	6.2	A	2,185	2,174	64	16.9	B	1,846	1,889	65	14.6	B
	NYS Route 481 WB Off-Ramp to Caughdenoy Road	Diverge	511	480	64	2.5	A	827	799	63	4.2	A	2,185	2,140	59	12.1	B	1,846	1,862	59	10.5	B
	NYS Route 481 WB Between Maple Road and NYS Route 31	Basic	464	432	67	3.2	A	746	734	66	5.6	A	1,893	1,897	64	14.9	B	1,602	1,659	62	13.5	B
	NYS Route 481 WB Off-Ramp to NYS Route 31	Diverge	464	428	53	2.7	A	746	728	52	4.7	A	1,893	1,807	26	26.8	C	1,602	1,704	17	37.8	E
	NYS Route 481 WB Between Off-Ramp and On-Ramp from NYS Route 31	Basic	262	242	67	1.8	A	420	406	66	3.0	A	625	621	67	4.6	A	573	598	66	4.5	A
	NYS Route 481 WB On-Ramp from NYS Route 31	Merge	428	401	64	2.1	A	672	653	63	3.4	A	1,160	1,120	63	6.0	A	973	1,001	62	5.3	A
	NYS Route 481 WB Between NYS Route 31 and Verplank Road	Basic	428	400	66	3.0	A	672	652	65	5.0	A	1,160	1,119	66	8.5	A	973	1,001	66	7.6	A

vph = vehicle(s) per hour

7.2 Preferred Action Alternative

The following sections present key MOEs and evaluate the traffic operational analysis results for the interim year, with the Proposed Project trips added to the planned roadway network. The sections provide a high-level summary of traffic operational analysis results compared to the 2027 No Action Alternative. Hence, the results help identify transportation operational issues in the Transportation Evaluation Area compared to the 2027 No Action Alternative.

7.2.1 Traffic Volumes

The traffic volumes shown in Figures 7-9 through 7-12 are higher than those in the 2027 No Action Alternative due to the addition of Micron generated vehicle trips. The roadway network is the same as the No Action Alternative and, therefore, does not reflect any physical capacity improvements to support the additional Proposed Project-generated trips. However, the timing at each signalized intersection was optimized to account for the additional Micron trips. A minor shift in background traffic is observed from NYS Route 31 to alternative roads due to the accumulated congestion from additional Micron trips.

Figure 7-9: Year 2027 Preferred Action Alternative 6AM/4PM Traffic Volumes - Intersections - Sheet 1 of 5

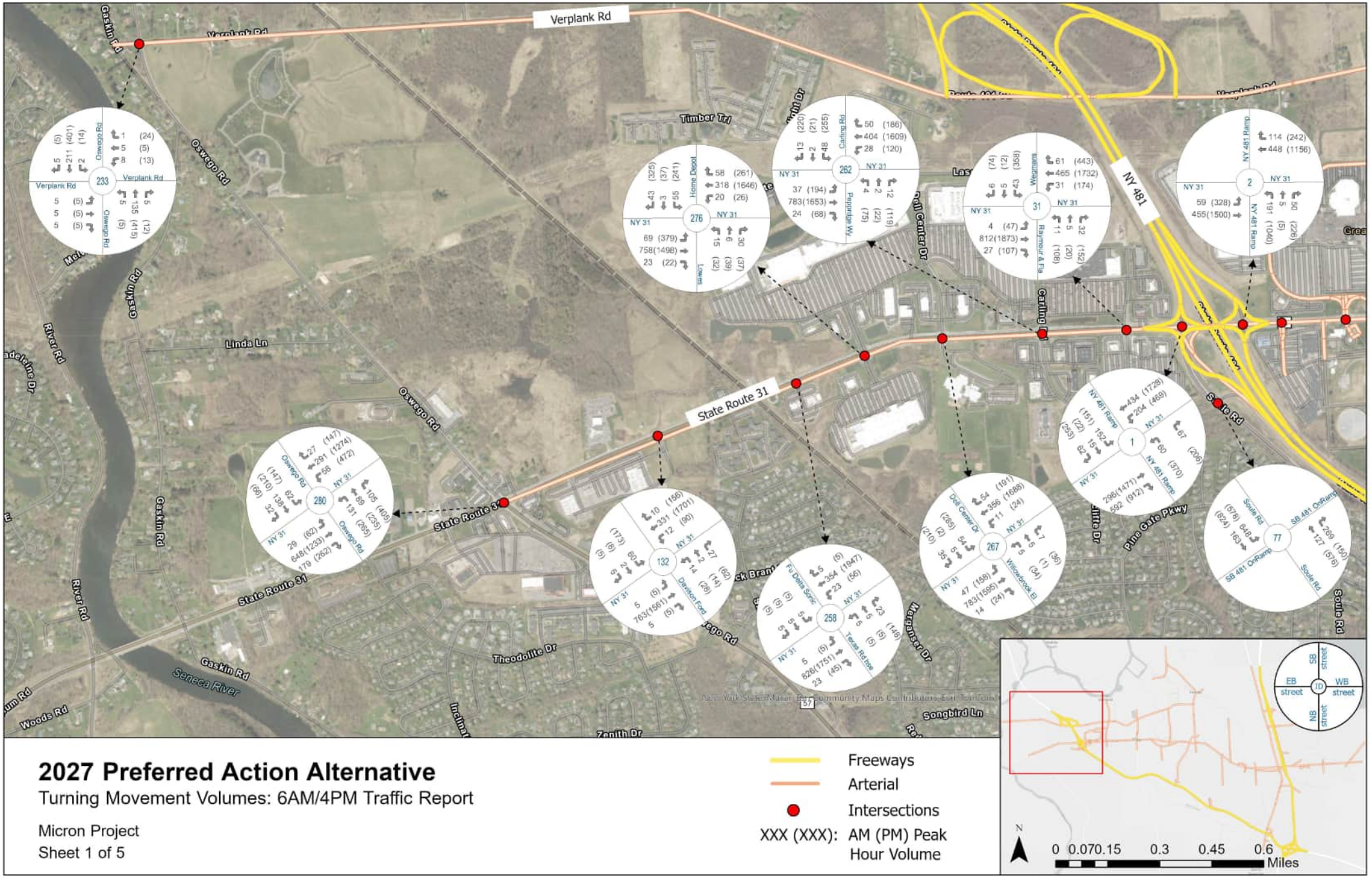
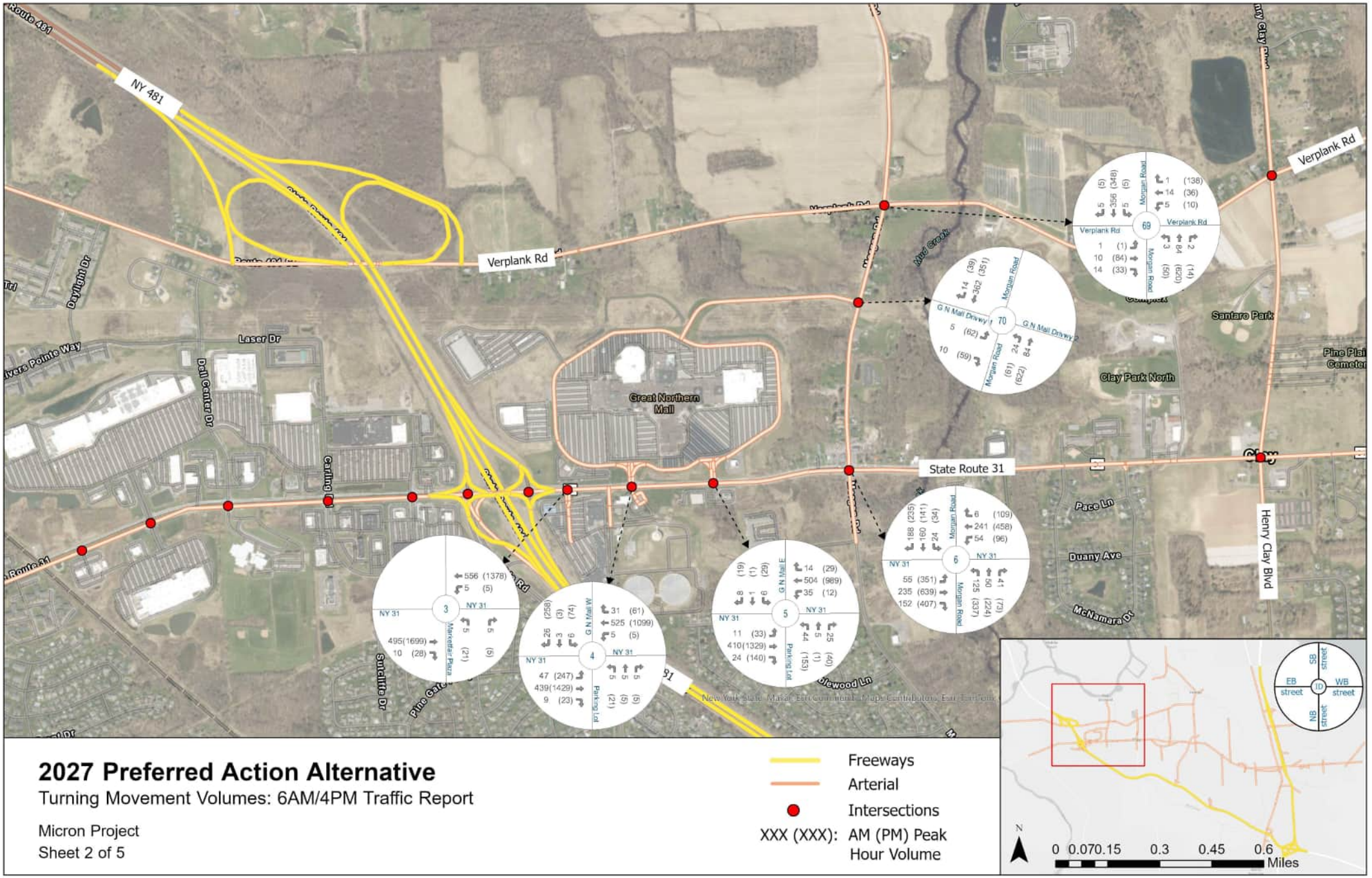


Figure 7-9: Year 2027 Preferred Action Alternative 6AM/4PM Traffic Volumes - Intersections - Sheet 2 of 5



2027 Preferred Action Alternative

Turning Movement Volumes: 6AM/4PM Traffic Report

Micron Project

Sheet 2 of 5

Figure 7-9: Year 2027 Preferred Action Alternative 6AM/4PM Traffic Volumes - Intersections - Sheet 3 of 5

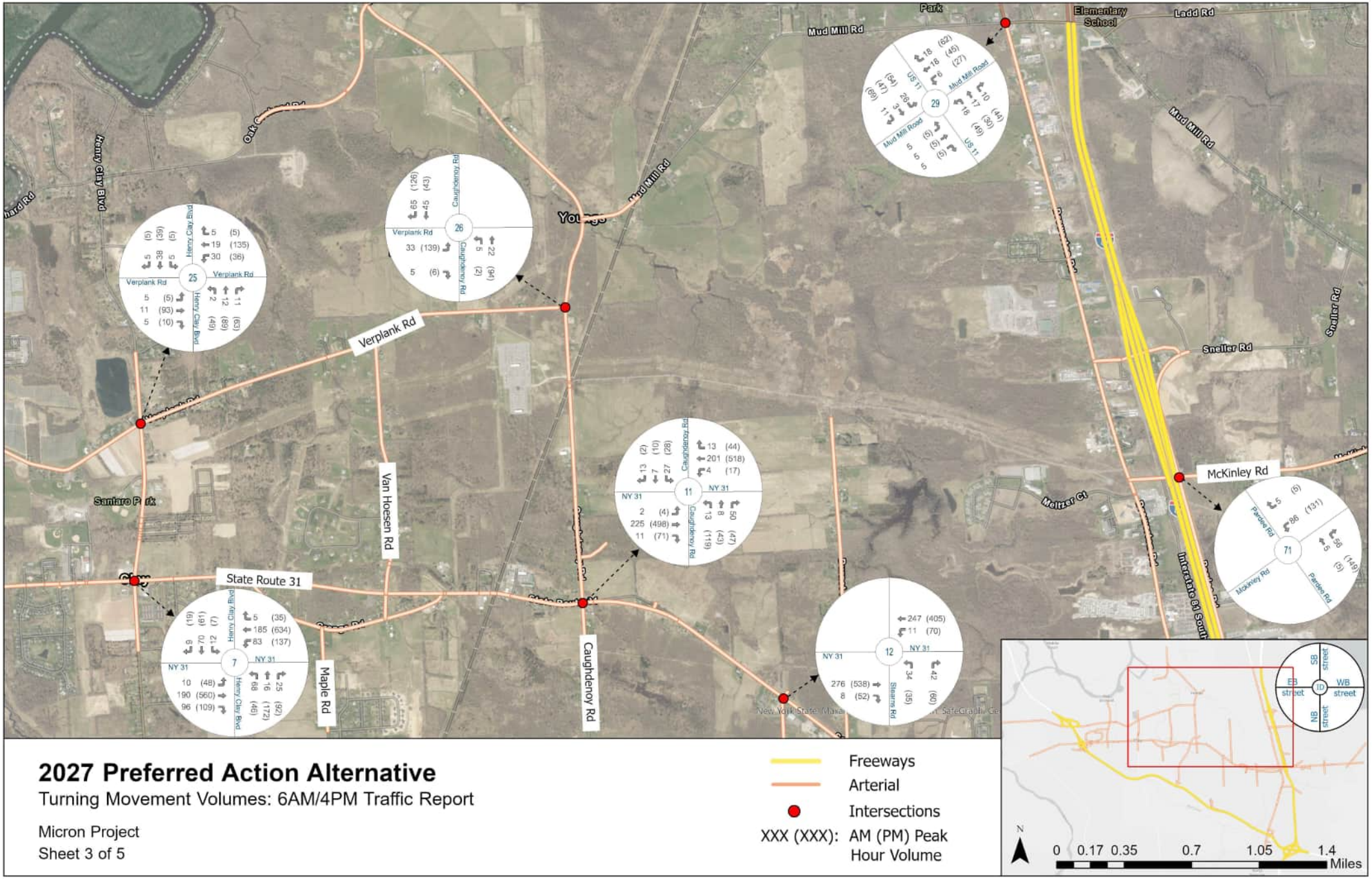


Figure 7-9: Year 2027 Preferred Action Alternative 6AM/4PM Traffic Volumes - Intersections - Sheet 4 of 5

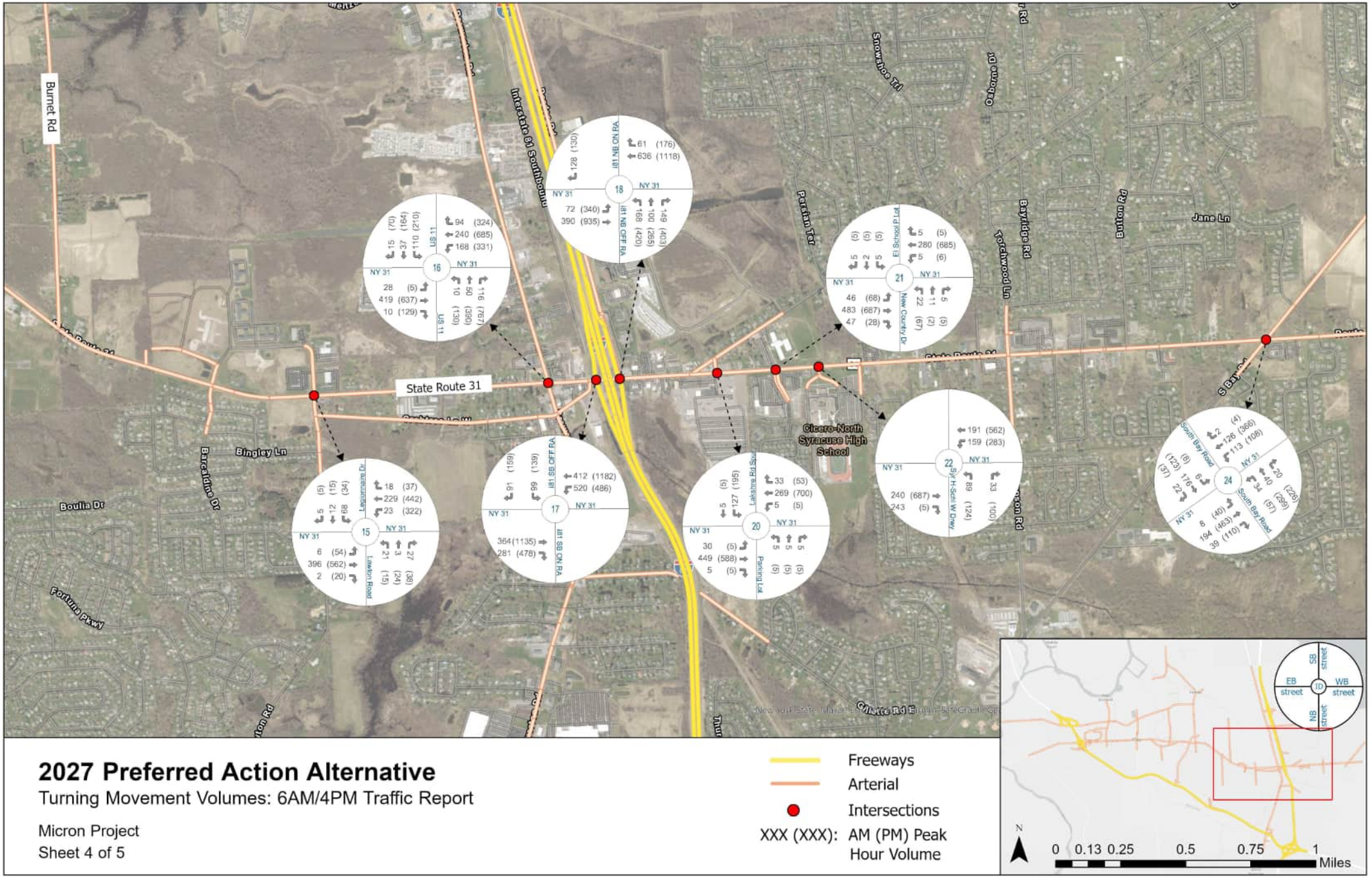


Figure 7-9: Year 2027 Preferred Action Alternative 6AM/4PM Traffic Volumes - Intersections - Sheet 5 of 5

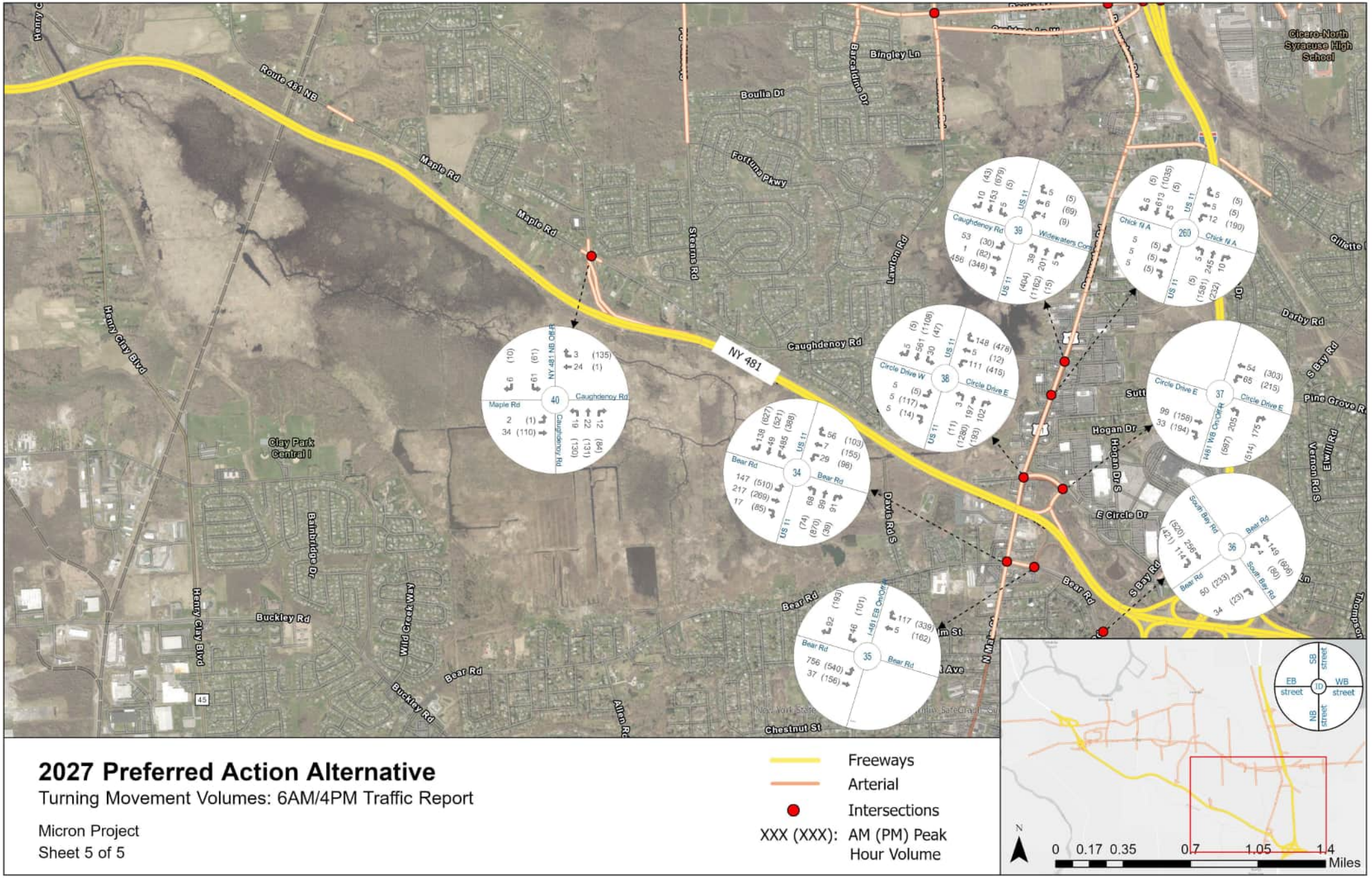
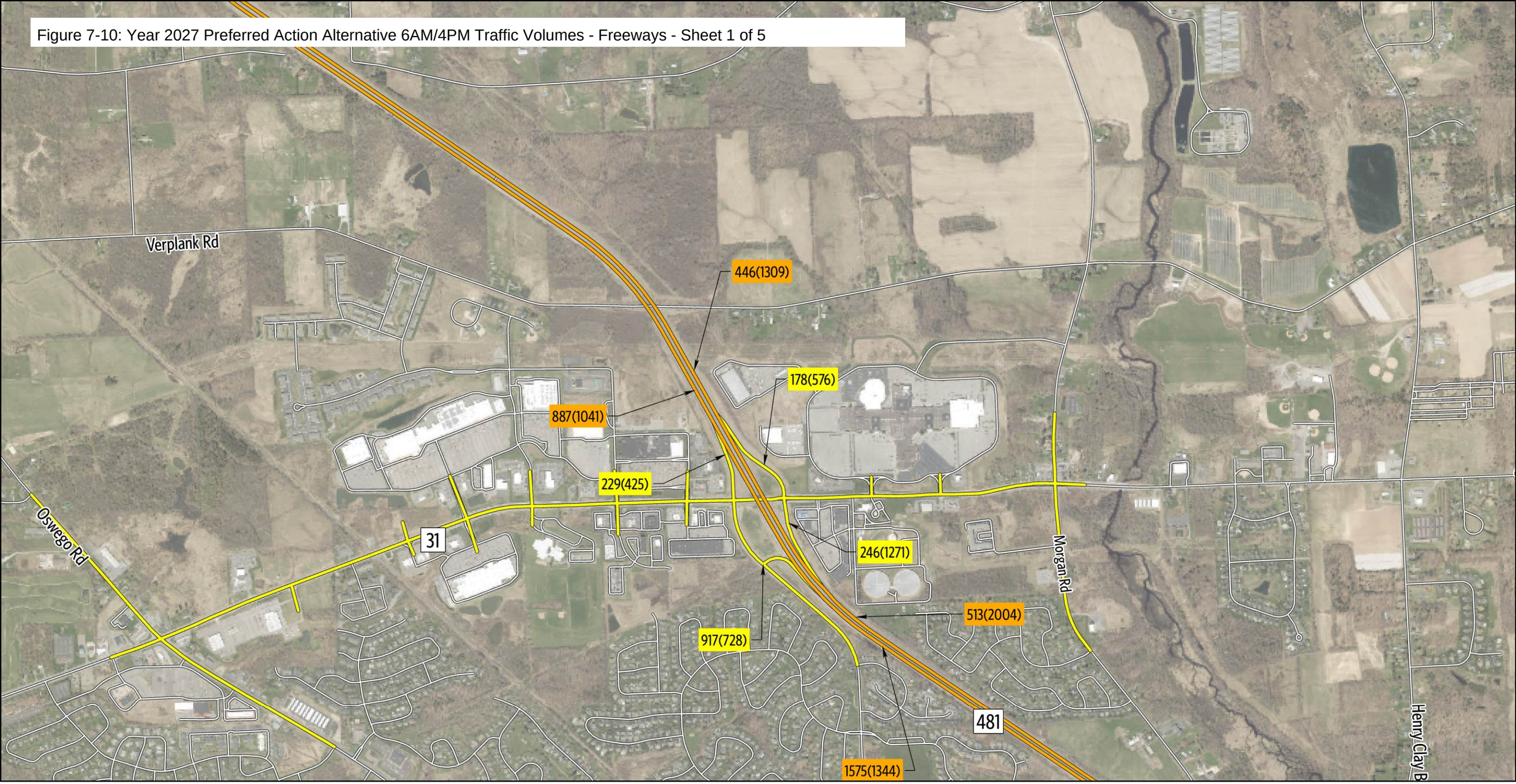


Figure 7-10: Year 2027 Preferred Action Alternative 6AM/4PM Traffic Volumes - Freeways - Sheet 1 of 5



Mainline Volumes — Freeways

Ramp Volumes — Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

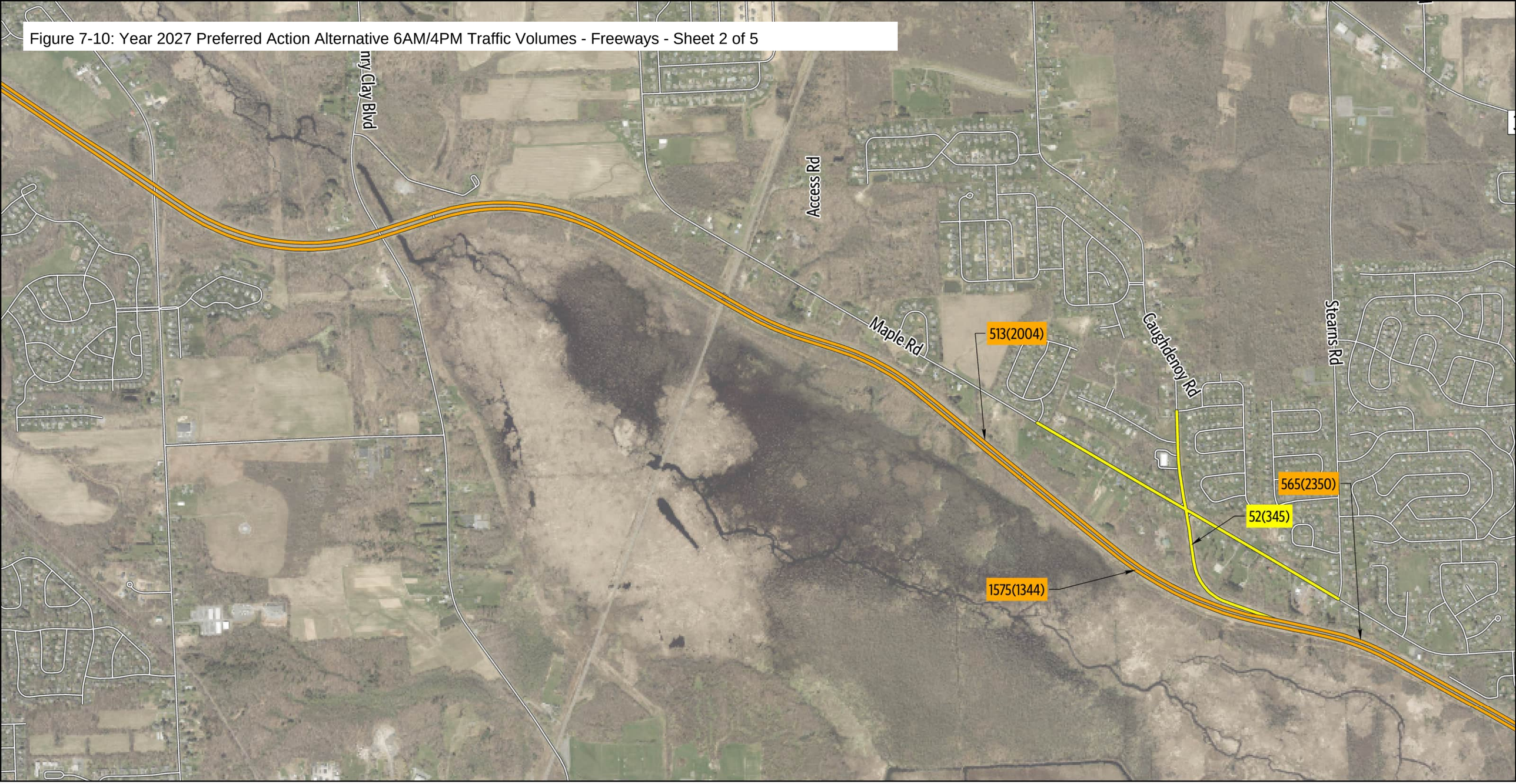
0 1,000 2,000 Feet

2027 Preferred Action Alternative

Sheet 1 of 5

6 AM & 4 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 7-10: Year 2027 Preferred Action Alternative 6AM/4PM Traffic Volumes - Freeways - Sheet 2 of 5



Mainline Volumes
Freeways

Ramp Volumes
Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

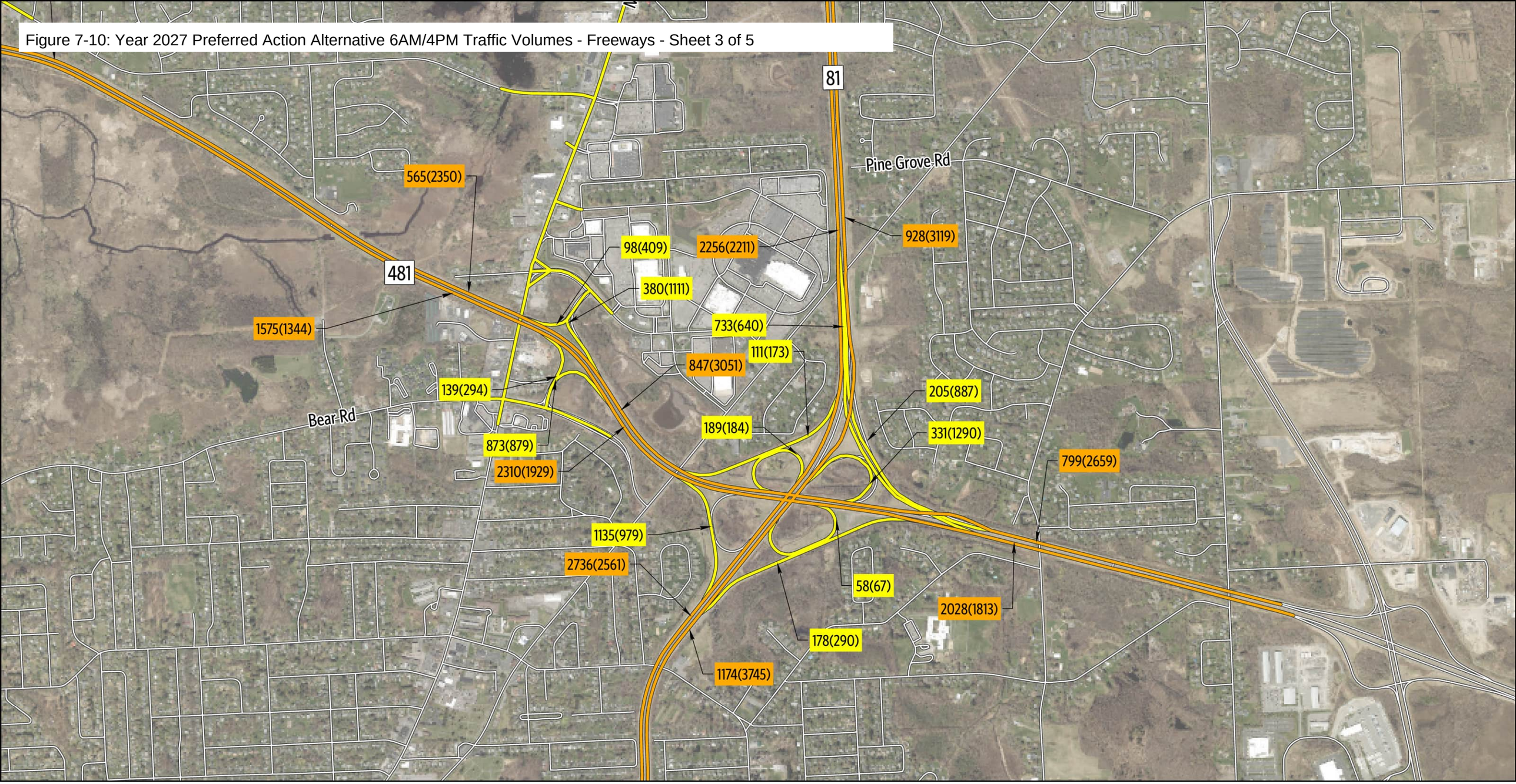
0 1,000 2,000 Feet

2027 Preferred Action Alternative

Sheet 2 of 5

6 AM & 4 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 7-10: Year 2027 Preferred Action Alternative 6AM/4PM Traffic Volumes - Freeways - Sheet 3 of 5



Mainline Volumes — Freeways

Ramp Volumes — Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

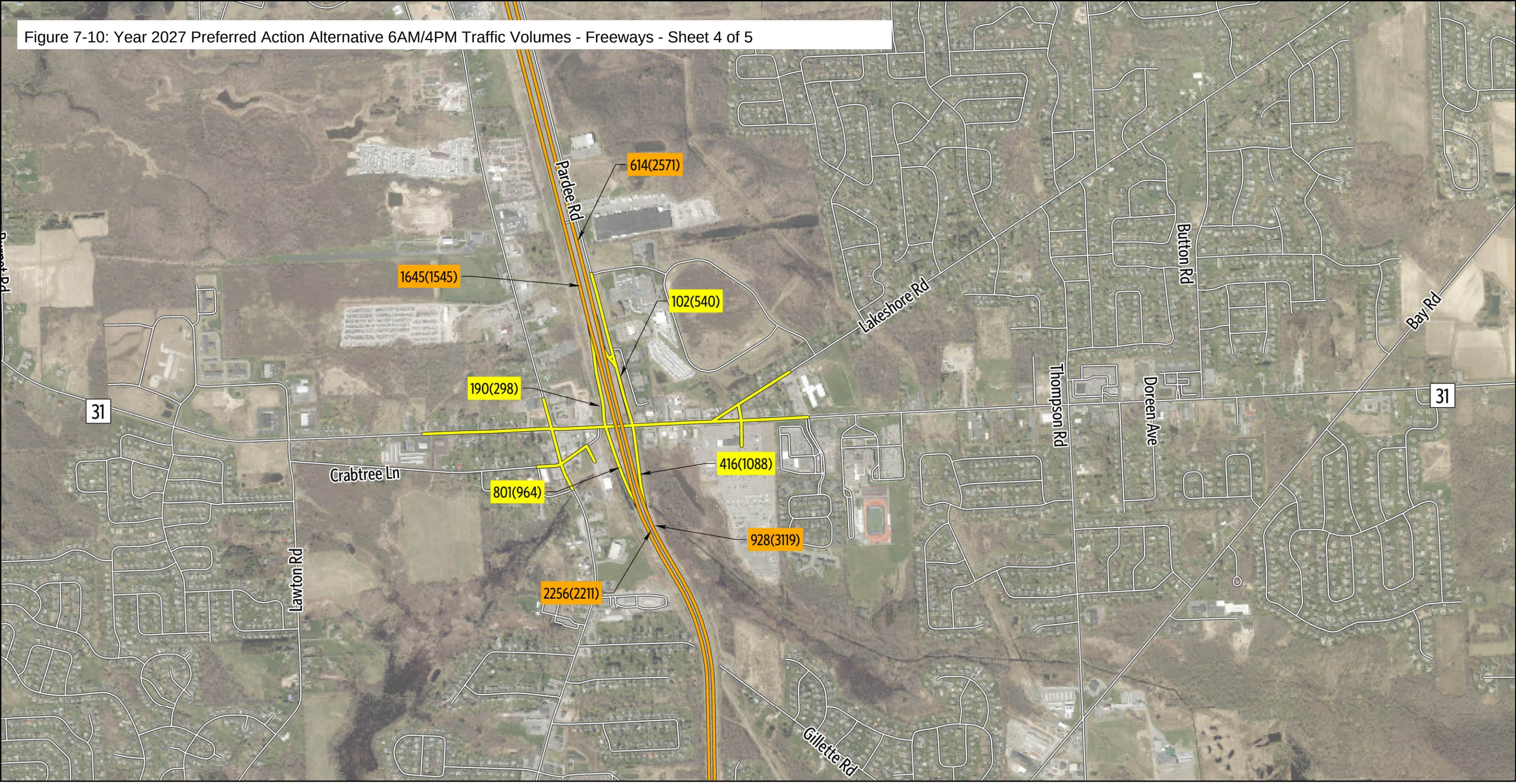
0 1,000 2,000 Feet

2027 Preferred Action Alternative

Sheet 3 of 5

6 AM & 4 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 7-10: Year 2027 Preferred Action Alternative 6AM/4PM Traffic Volumes - Freeways - Sheet 4 of 5



Mainline Volumes — Freeways

Ramp Volumes — Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

0 1,000 2,000 Feet

2027 Preferred Action Alternative

Sheet 4 of 5

6 AM & 4 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 7-10: Year 2027 Preferred Action Alternative 6AM/4PM Traffic Volumes - Freeways - Sheet 5 of 5

Mainline Volumes
Freeways

Ramp Volumes
Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

0 1,000 2,000 Feet

2027 Preferred Action Alternative

Sheet 5 of 5

6 AM & 4 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 7-11: Year 2027 Preferred Action Alternative 7AM/5PM Traffic Volumes - Intersections - Sheet 1 of 5

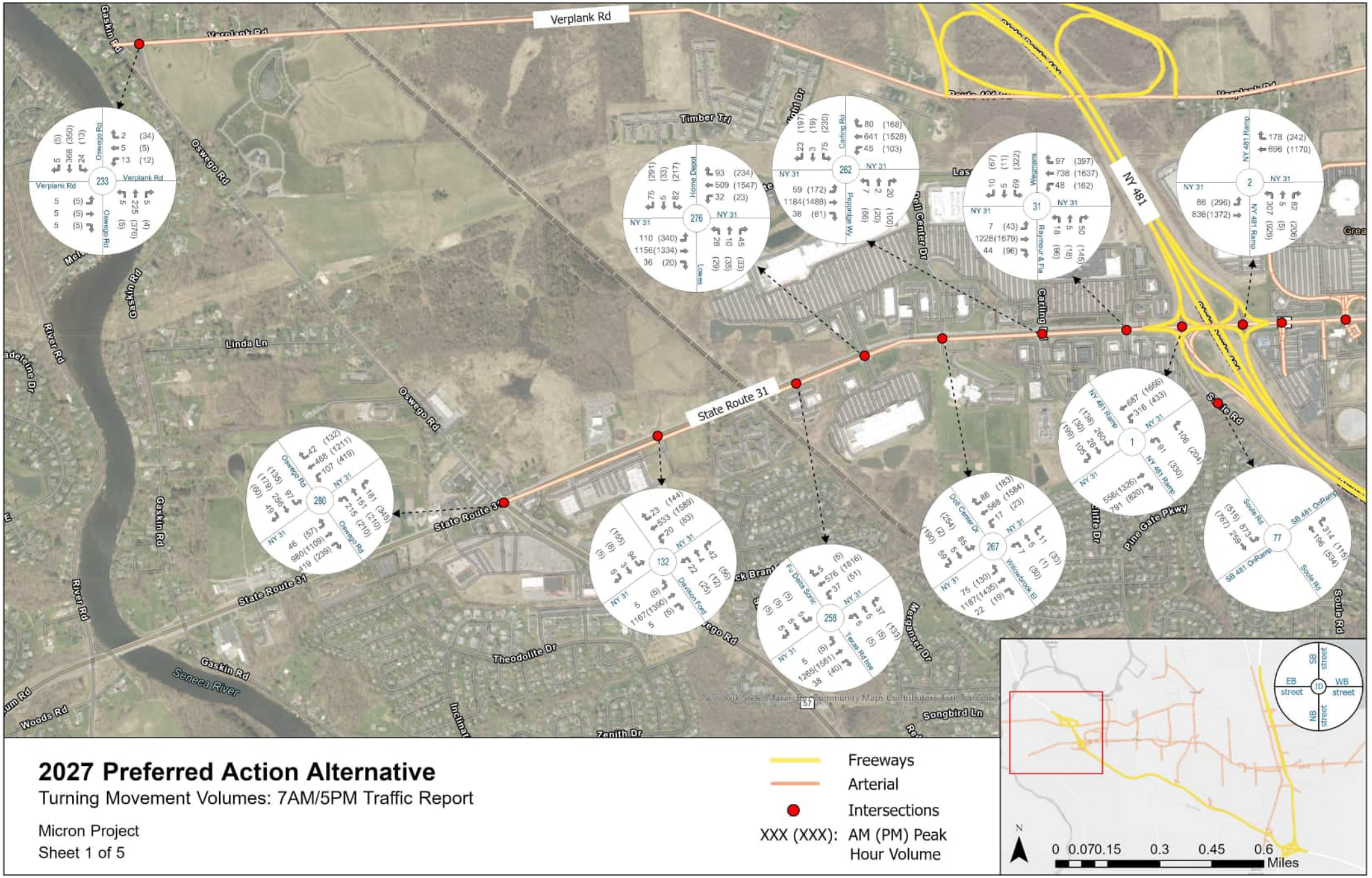


Figure 7-11: Year 2027 Preferred Action Alternative 7AM/5PM Traffic Volumes - Intersections - Sheet 2 of 5

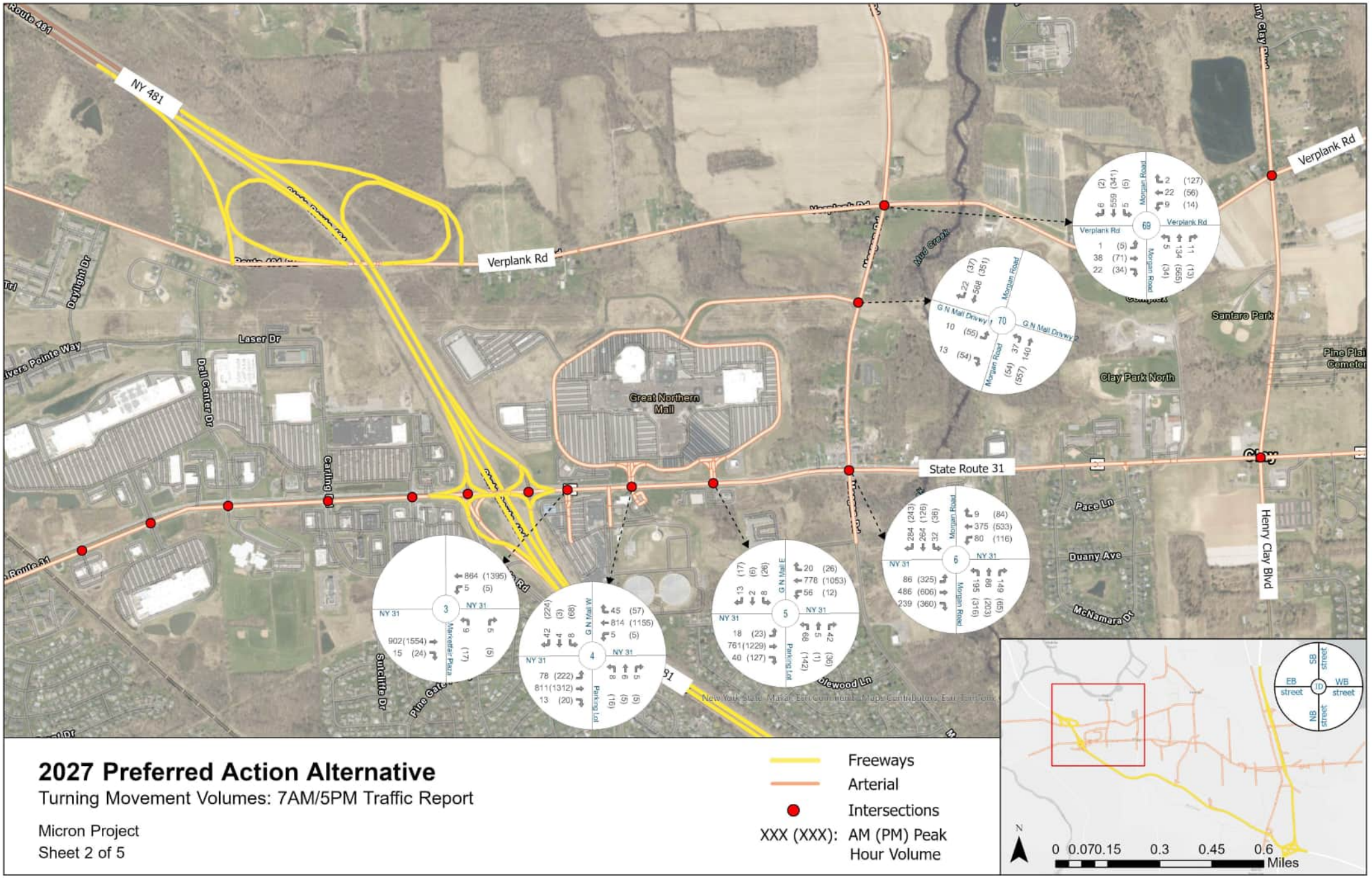


Figure 7-11: Year 2027 Preferred Action Alternative 7AM/5PM Traffic Volumes - Intersections - Sheet 3 of 5

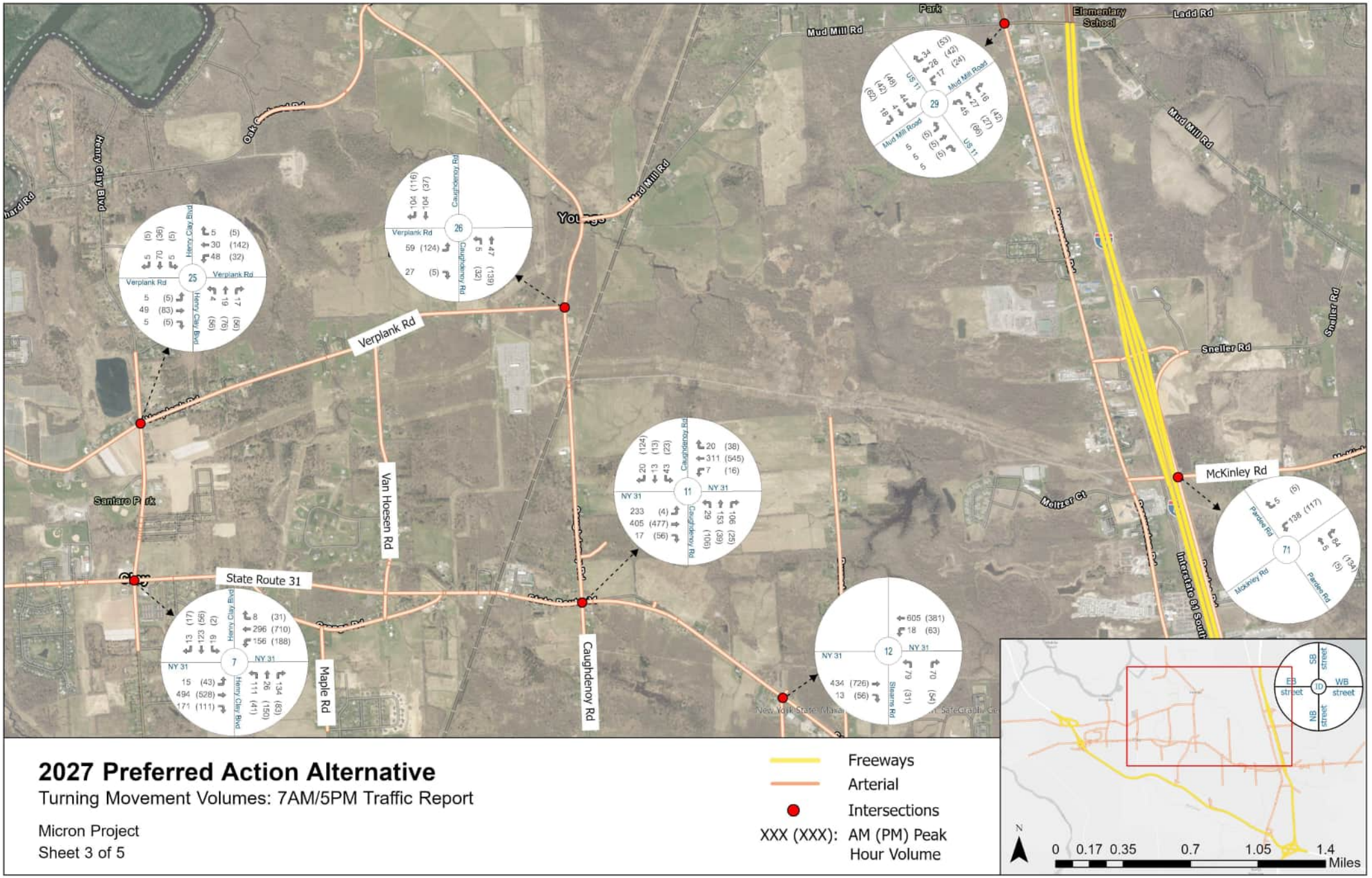


Figure 7-11: Year 2027 Preferred Action Alternative 7AM/5PM Traffic Volumes - Intersections - Sheet 4 of 5

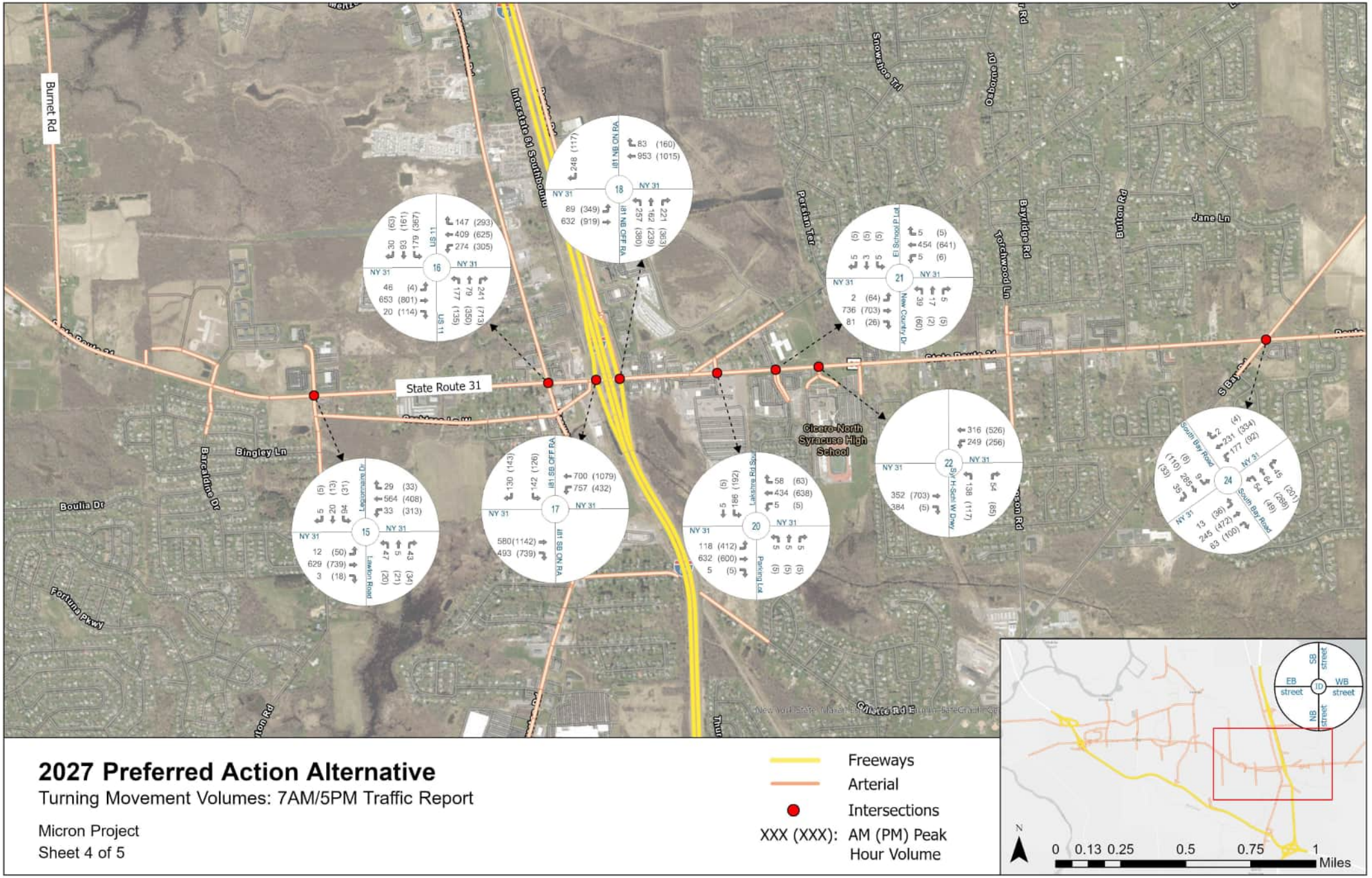


Figure 7-11: Year 2027 Preferred Action Alternative 7AM/5PM Traffic Volumes - Intersection - Sheet 5 of 5

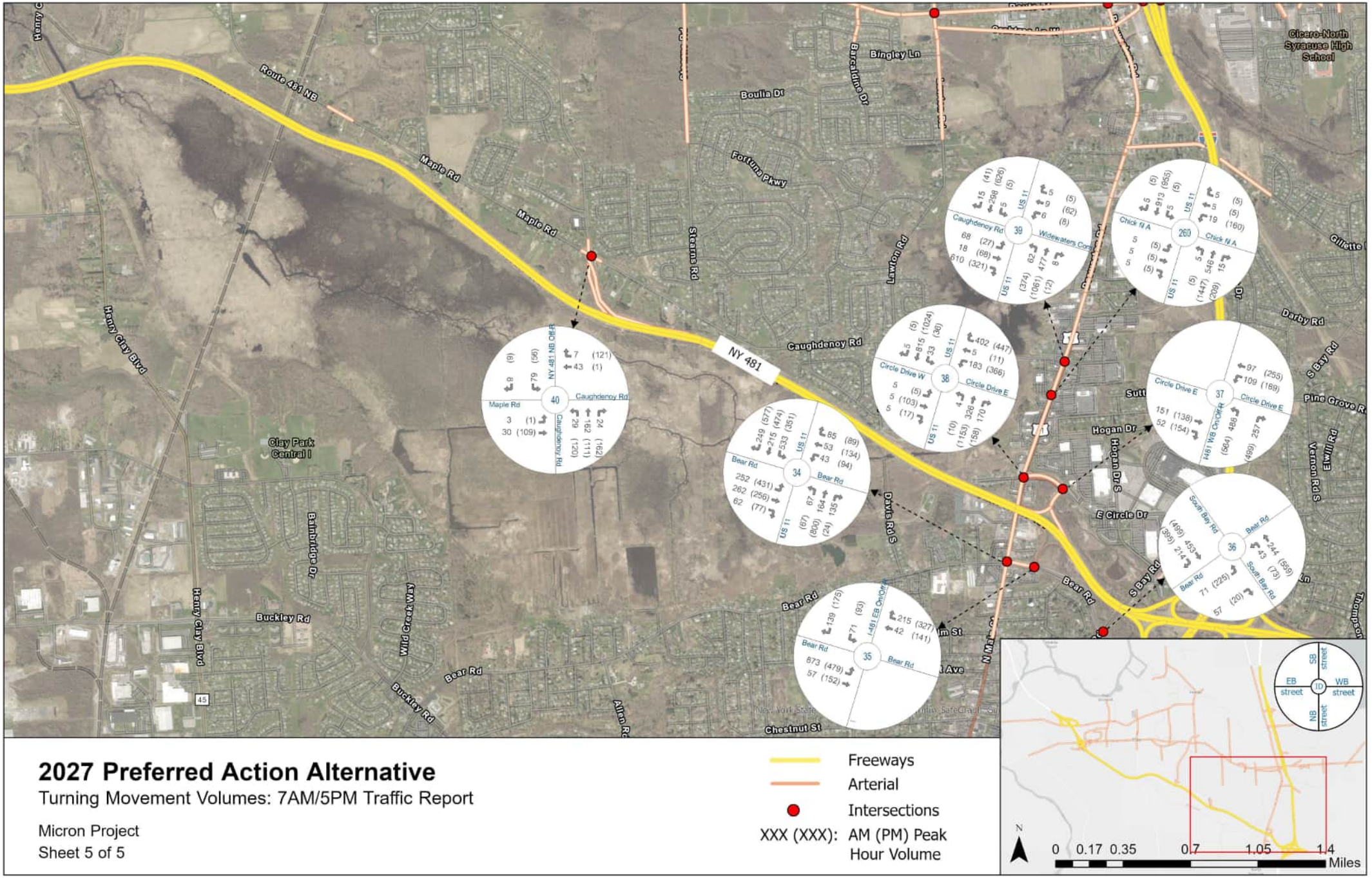
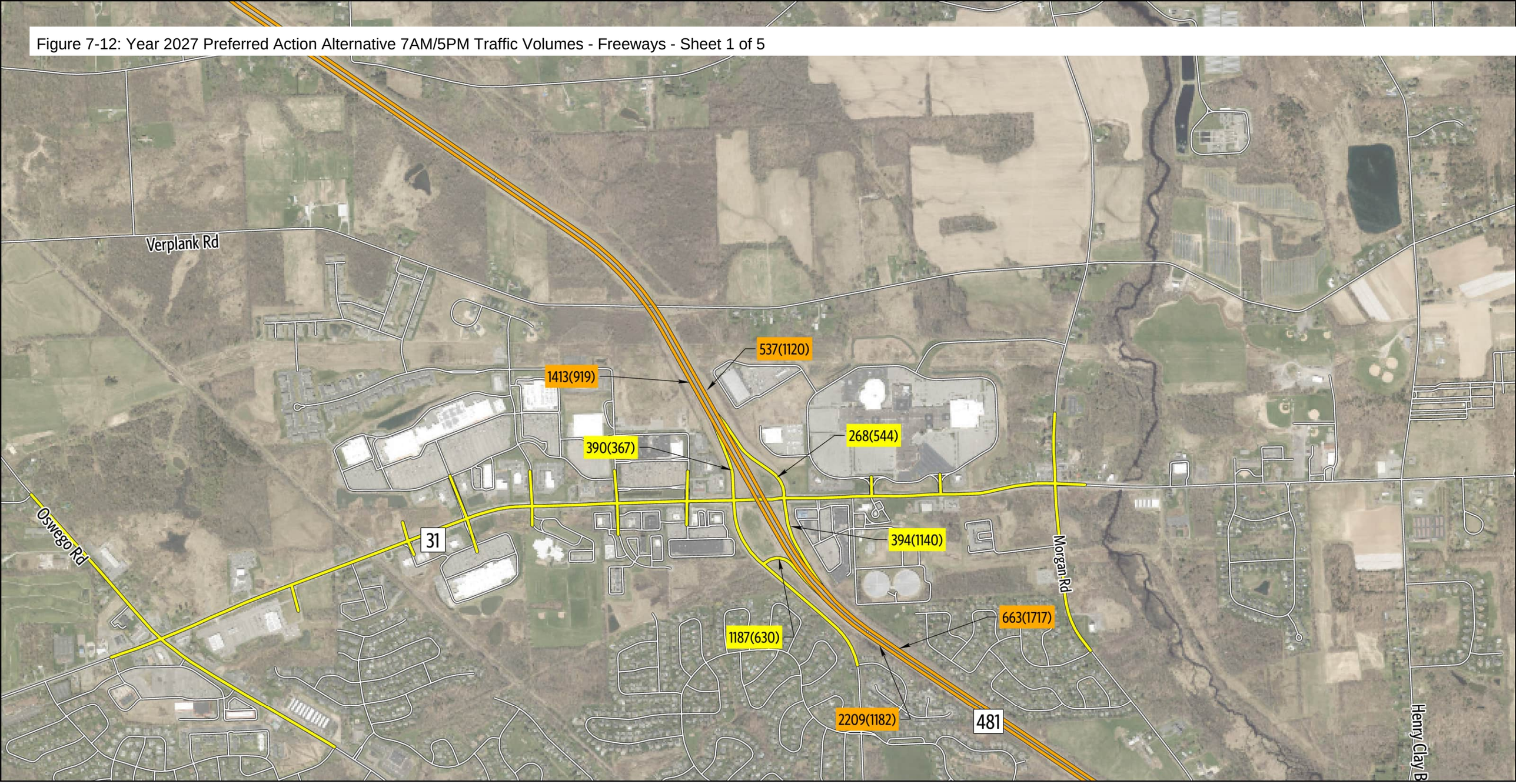


Figure 7-12: Year 2027 Preferred Action Alternative 7AM/5PM Traffic Volumes - Freeways - Sheet 1 of 5



Mainline Volumes
Freeways

Ramp Volumes
Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

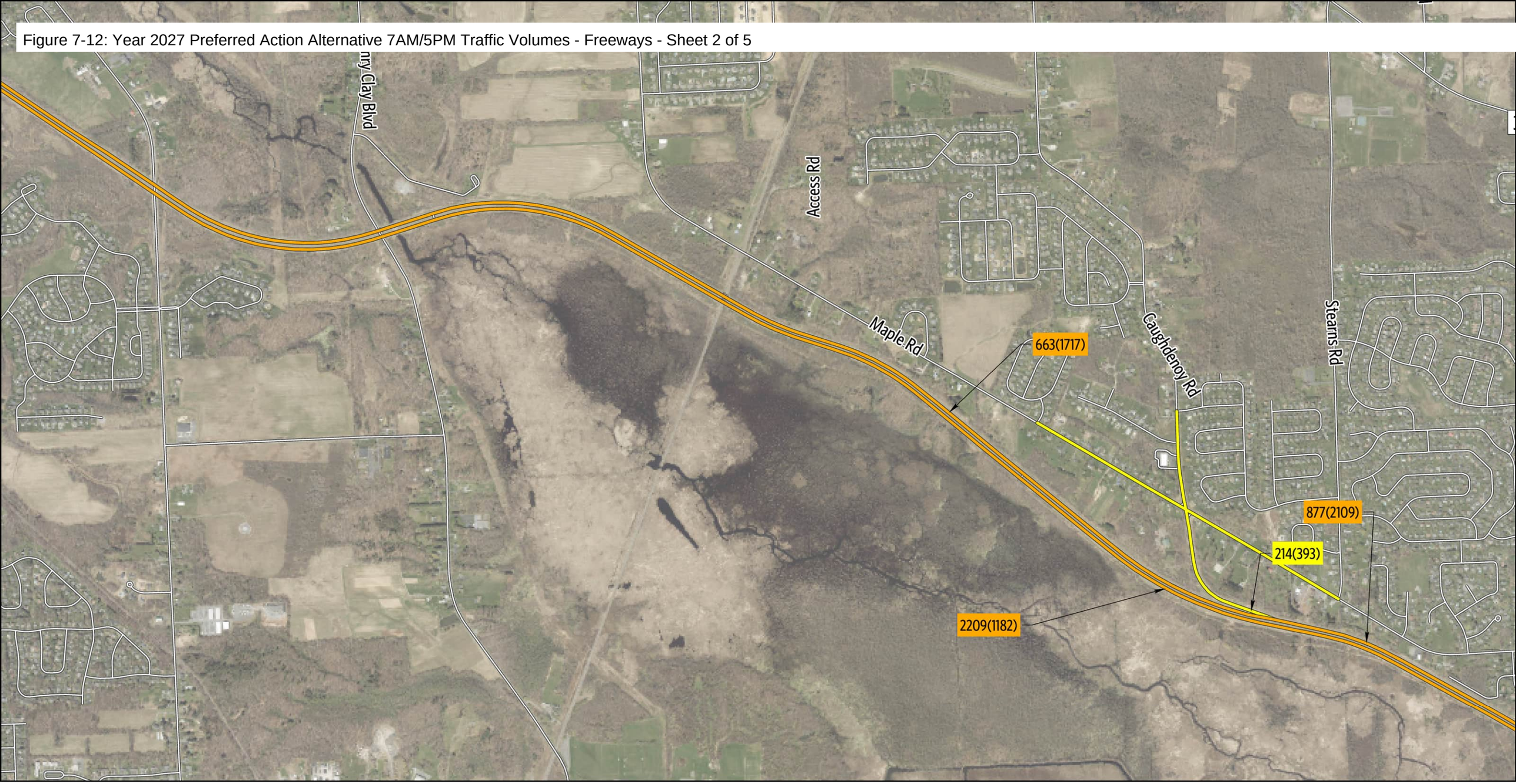
0 1,000 2,000 Feet

2027 Preferred Action Alternative

Sheet 1 of 5

7 AM & 5 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 7-12: Year 2027 Preferred Action Alternative 7AM/5PM Traffic Volumes - Freeways - Sheet 2 of 5



Mainline Volumes
Freeways

Ramp Volumes
Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

0 1,000 2,000 Feet

2027 Preferred Action Alternative

Sheet 2 of 5

7 AM & 5 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 7-12: Year 2027 Preferred Action Alternative 7AM/5PM Traffic Volumes - Freeways - Sheet 3 of 5

Mainline Volumes

Freeways

Ramp Volumes

Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

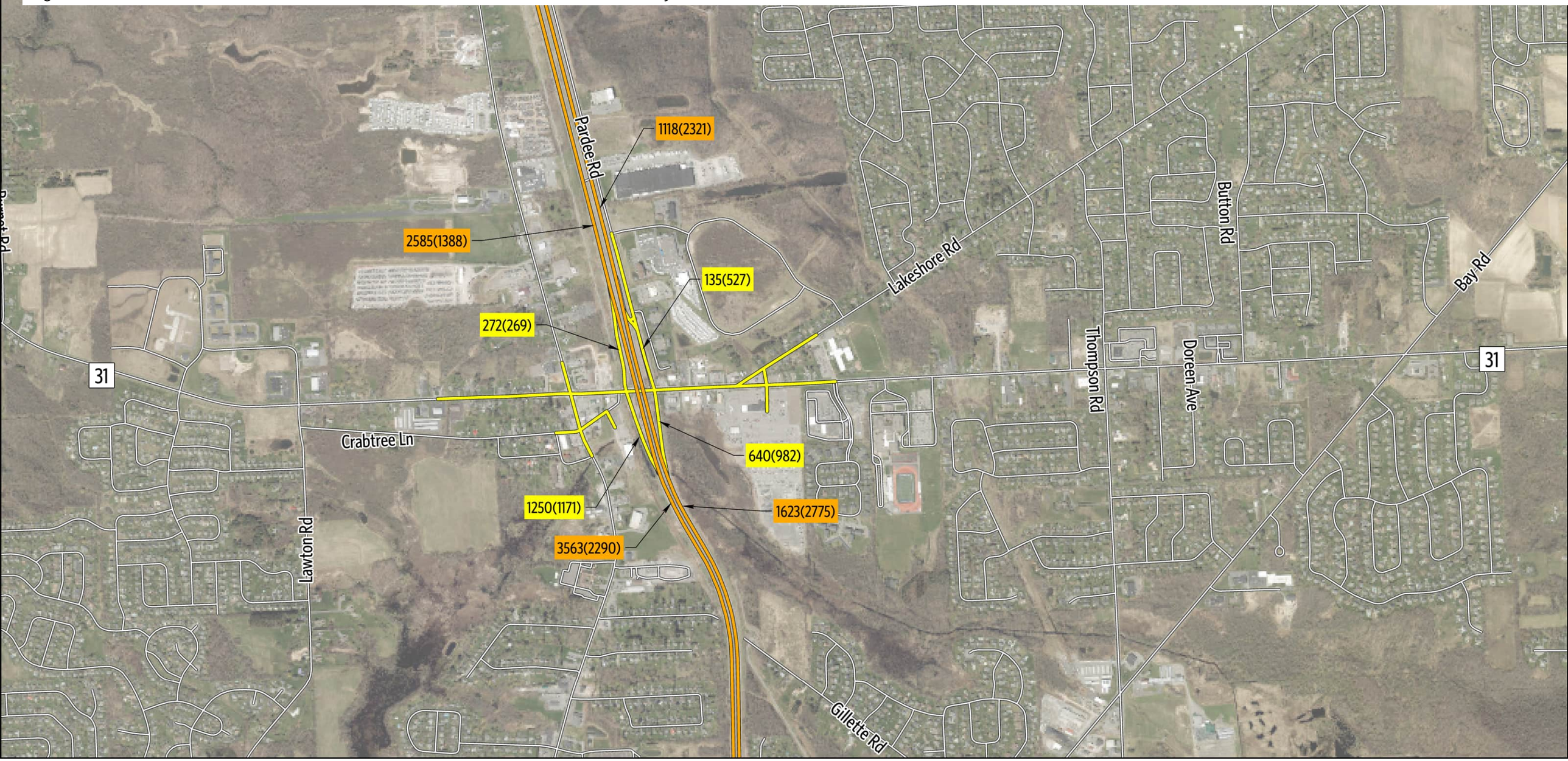
0 1,000 2,000 Feet

2027 Preferred Action Alternative

Sheet 3 of 5

7 AM & 5 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 7-12: Year 2027 Preferred Action Alternative 7AM/5PM Traffic Volumes - Freeways - Sheet 4 of 5



Mainline Volumes
Freeways

Ramp Volumes
Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

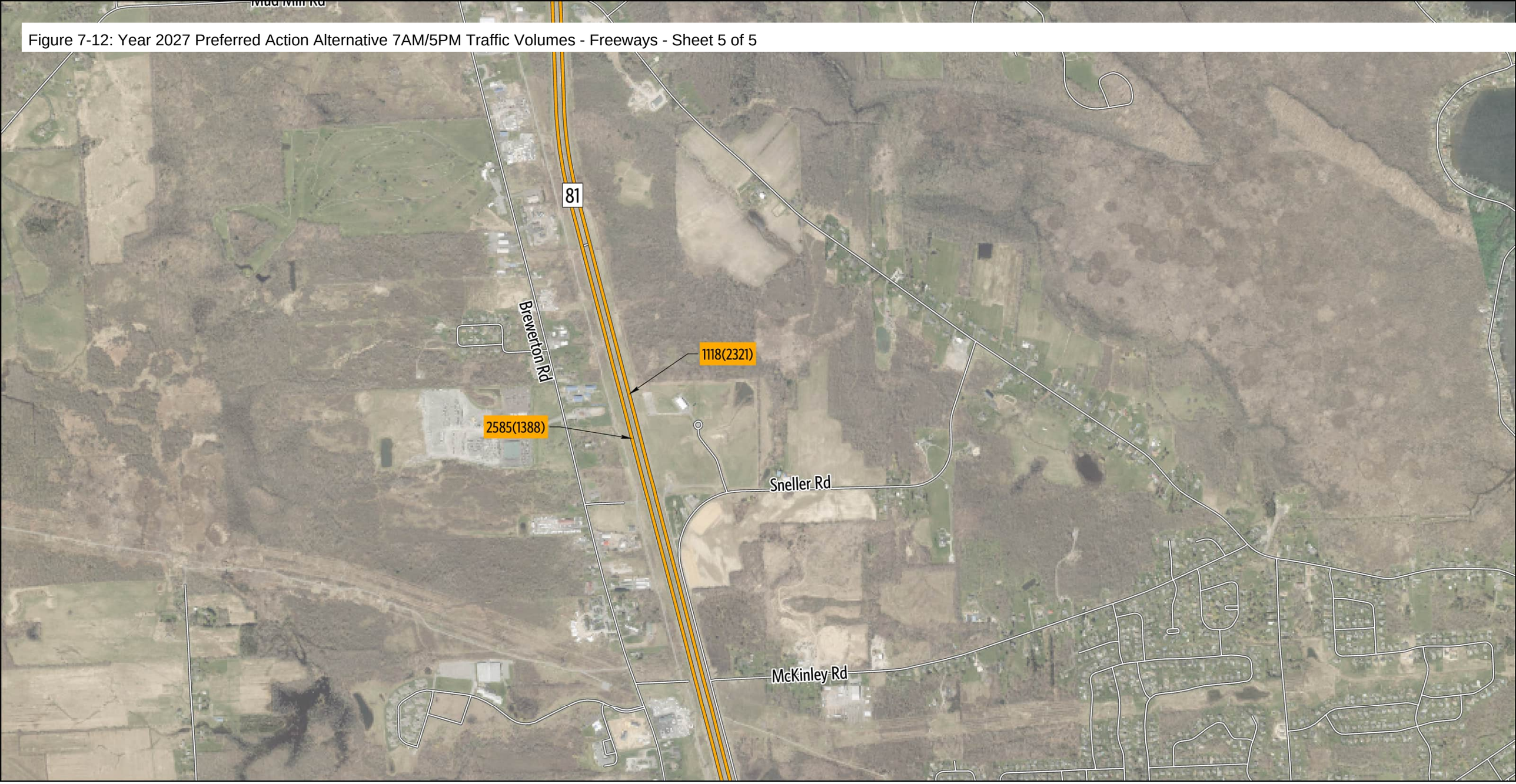
0 1,000 2,000 Feet

2027 Preferred Action Alternative

Sheet 4 of 5

7 AM & 5 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 7-12: Year 2027 Preferred Action Alternative 7AM/5PM Traffic Volumes - Freeways - Sheet 5 of 5



Mainline Volumes
Freeways

Ramp Volumes
Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

0 1,000 2,000 Feet

2027 Preferred Action Alternative

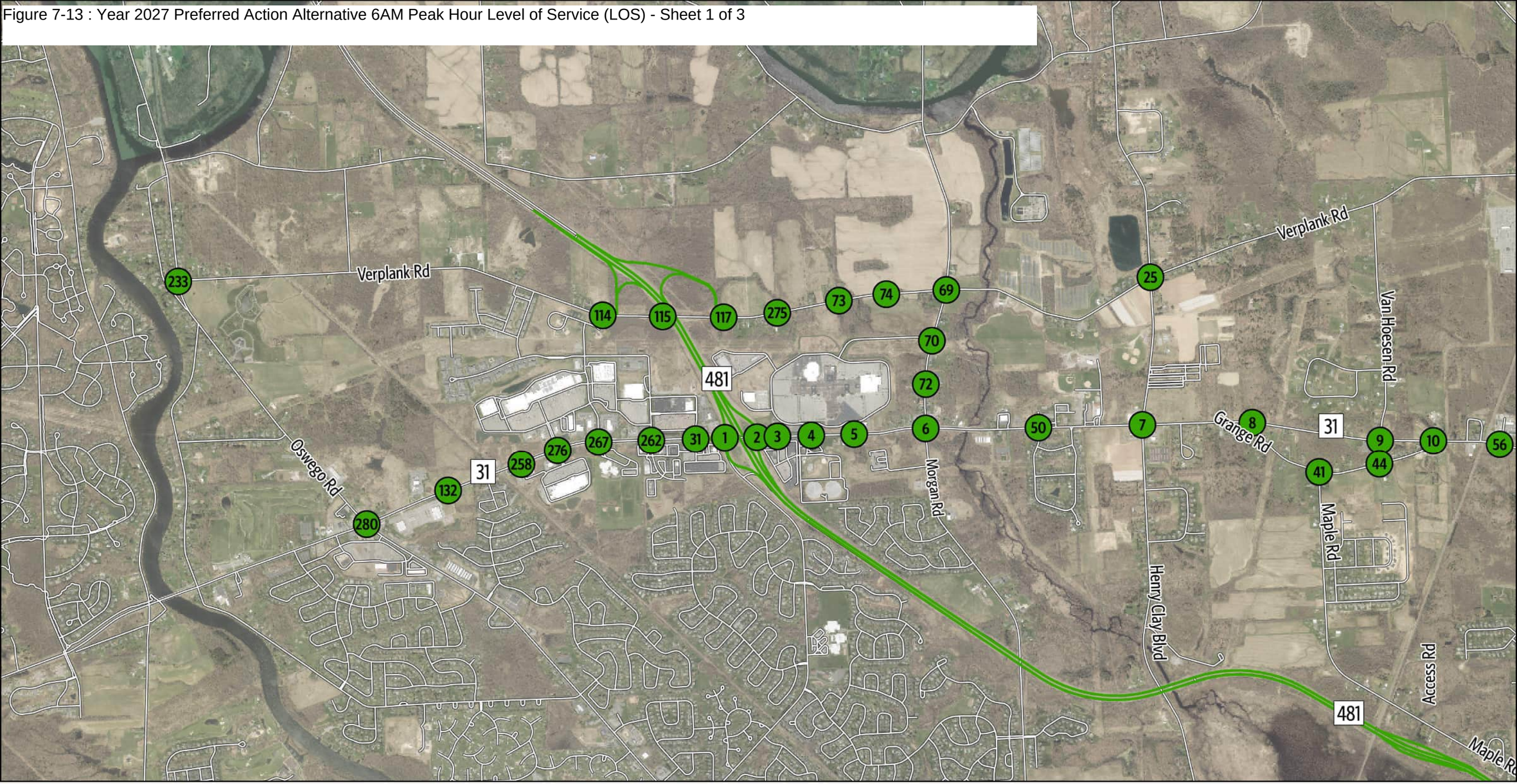
Sheet 5 of 5

7 AM & 5 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

7.2.2 Intersection Operations

Table 7-4 summarizes the results for the 68 intersections included in the No Action Alternative roadway network, including delay values and LOS expressed as a letter designation and by the color coding shown in Table 2-3. While most intersections operate acceptably at LOS D or better in both peak periods, several experience higher delays and operate at LOS E or F, particularly during the evening peak period. As discussed in the following subsections, poorly operating conditions occur for side streets intersecting NYS Route 31 and U.S. Route 11 in the central portion of the Transportation Evaluation Area. Drivers generally expect to wait longer to turn onto higher-volume primary roadways from side streets, so higher delays and lower LOS may be acceptable peak-period operating conditions in this Transportation Evaluation Area. Figures 7-13 through 7-16 show the intersection operational analysis LOS results.

Figure 7-13 : Year 2027 Preferred Action Alternative 6AM Peak Hour Level of Service (LOS) - Sheet 1 of 3



Intersection Level of Service

- A, B, C
- F

Roadway Level Of Service

- A, B, C
- Streets

N

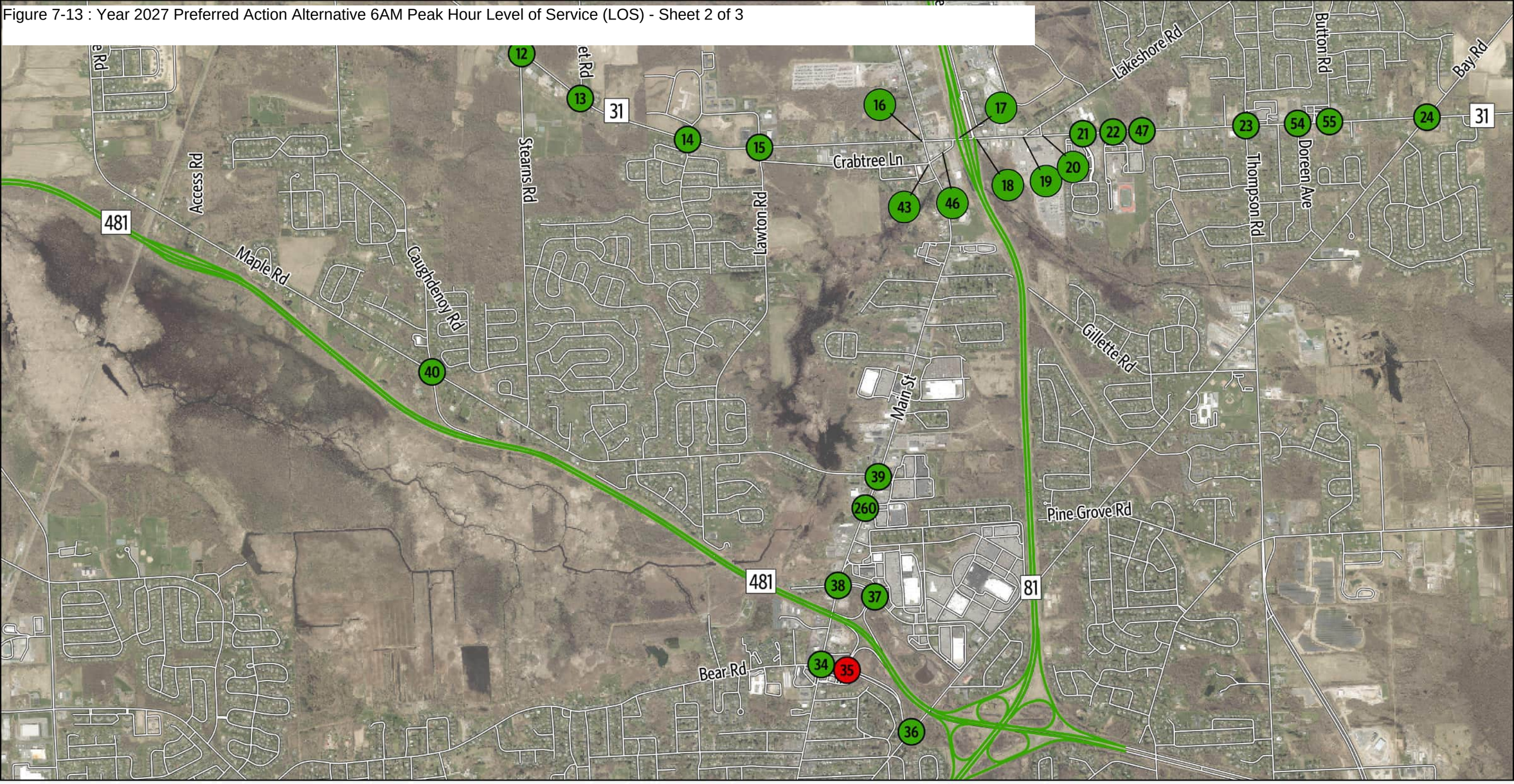
0 2,000 4,000 Feet

2027 Preferred Action Alternative

Sheet 1 of 3

6 AM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 7-13 : Year 2027 Preferred Action Alternative 6AM Peak Hour Level of Service (LOS) - Sheet 2 of 3



Intersection Level of Service

- A, B, C
- F

Roadway Level Of Service

- A, B, C
- Streets

N

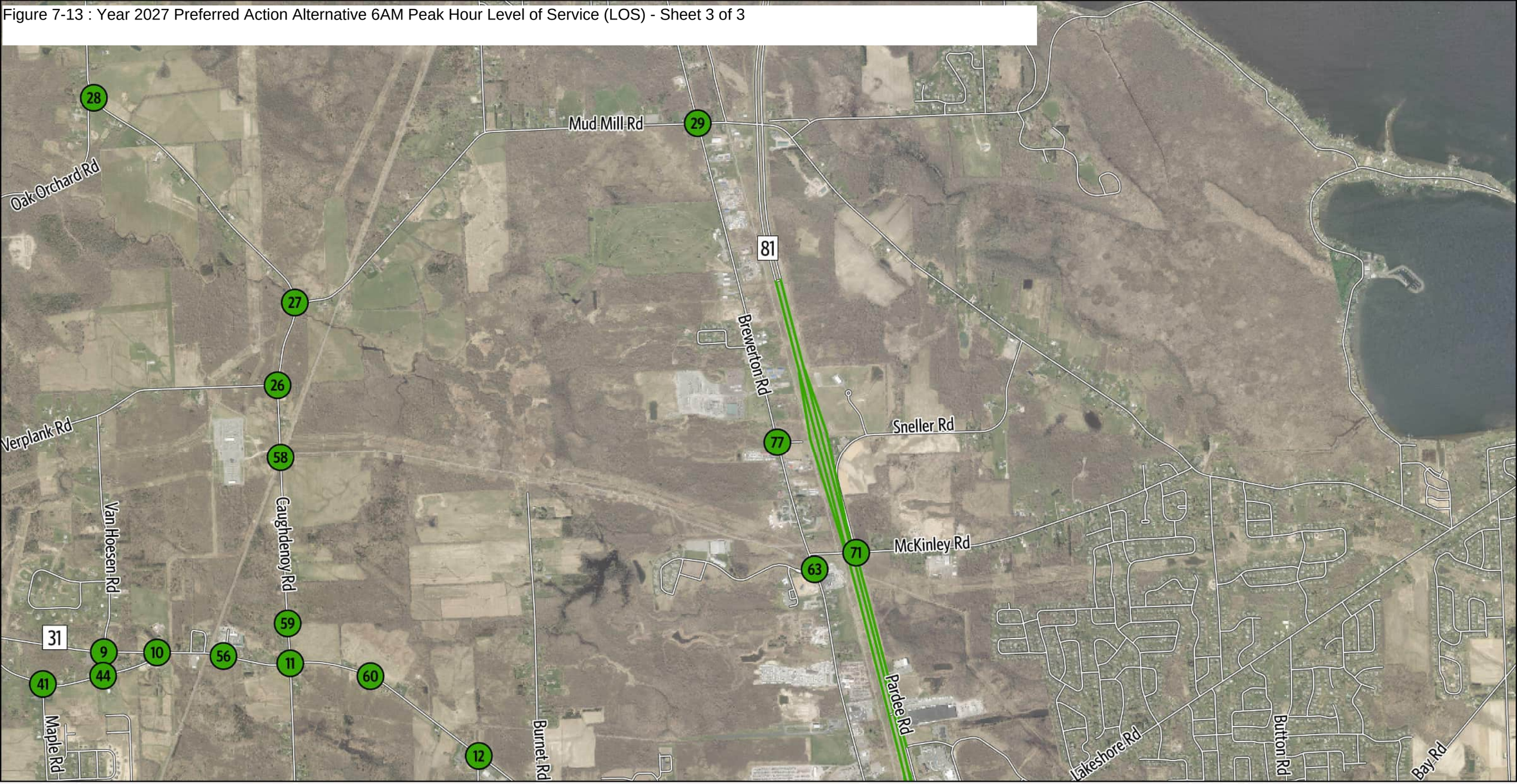
0 2,000 4,000 Feet

2027 Preferred Action Alternative

Sheet 2 of 3

6 AM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 7-13 : Year 2027 Preferred Action Alternative 6AM Peak Hour Level of Service (LOS) - Sheet 3 of 3



Intersection Level of Service

- A, B, C
- F

Roadway Level Of Service

- A, B, C
- Streets

N

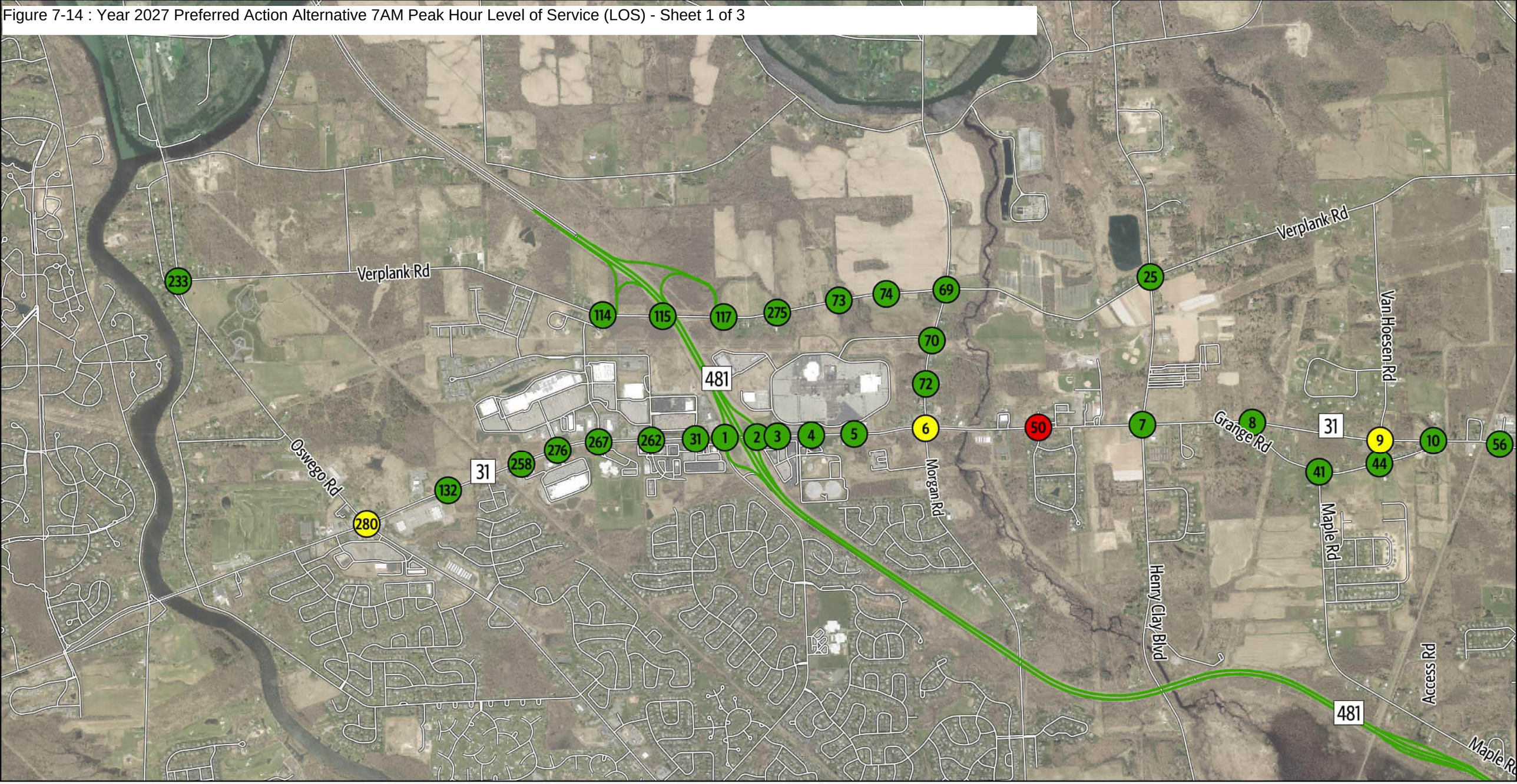
0 2,000 4,000 Feet

2027 Preferred Action Alternative

Sheet 3 of 3

6 AM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 7-14 : Year 2027 Preferred Action Alternative 7AM Peak Hour Level of Service (LOS) - Sheet 1 of 3



Intersection Level of Service

- A, B, C
- D
- E
- F

Roadway Level Of Service

- A, B, C
- Streets

N

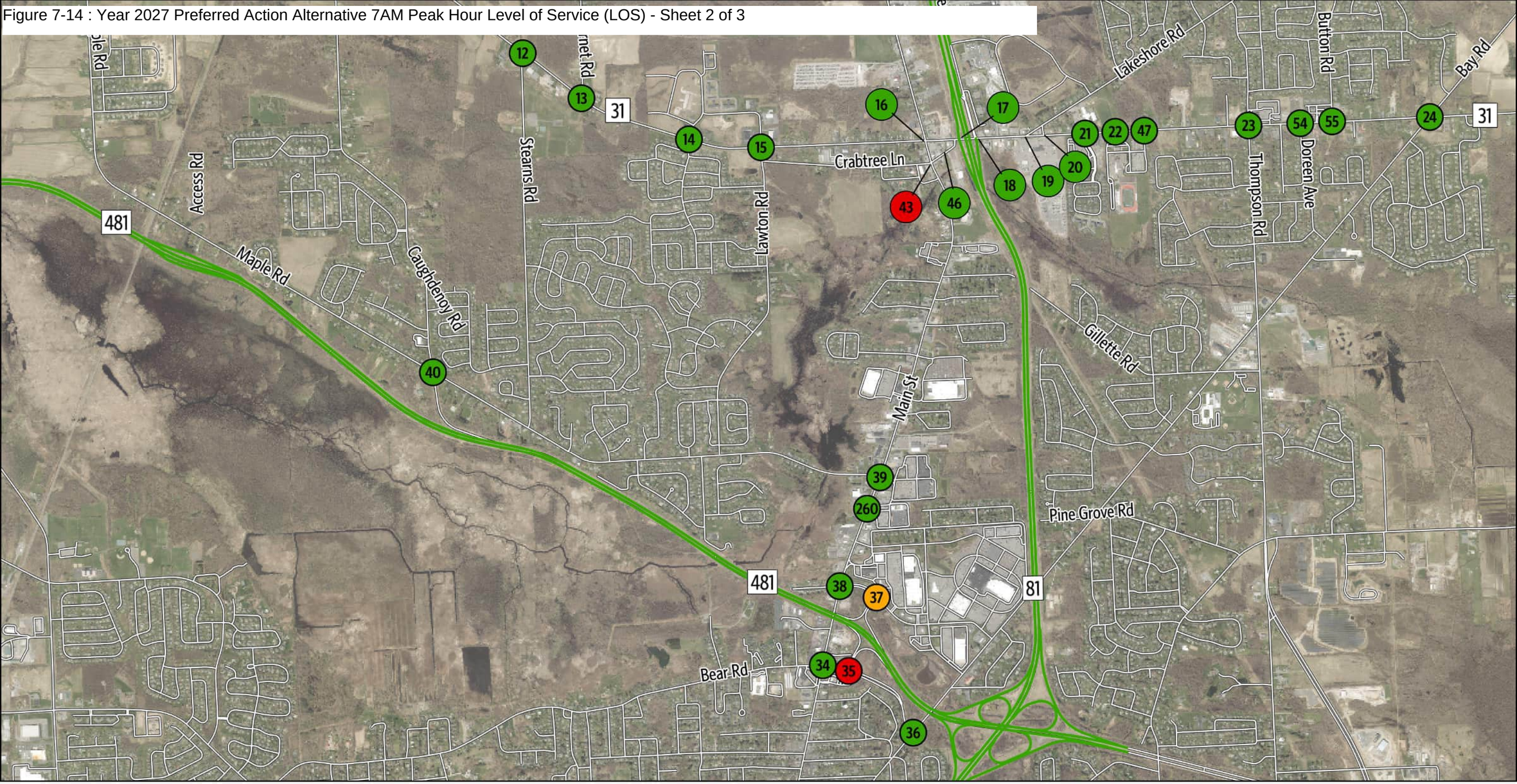
0 2,000 4,000 Feet

2027 Preferred Action Alternative

Sheet 1 of 3

7 AM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 7-14 : Year 2027 Preferred Action Alternative 7AM Peak Hour Level of Service (LOS) - Sheet 2 of 3



Intersection Level of Service

- A, B, C
- D
- E
- F

Roadway Level Of Service

- A, B, C
- Streets

N

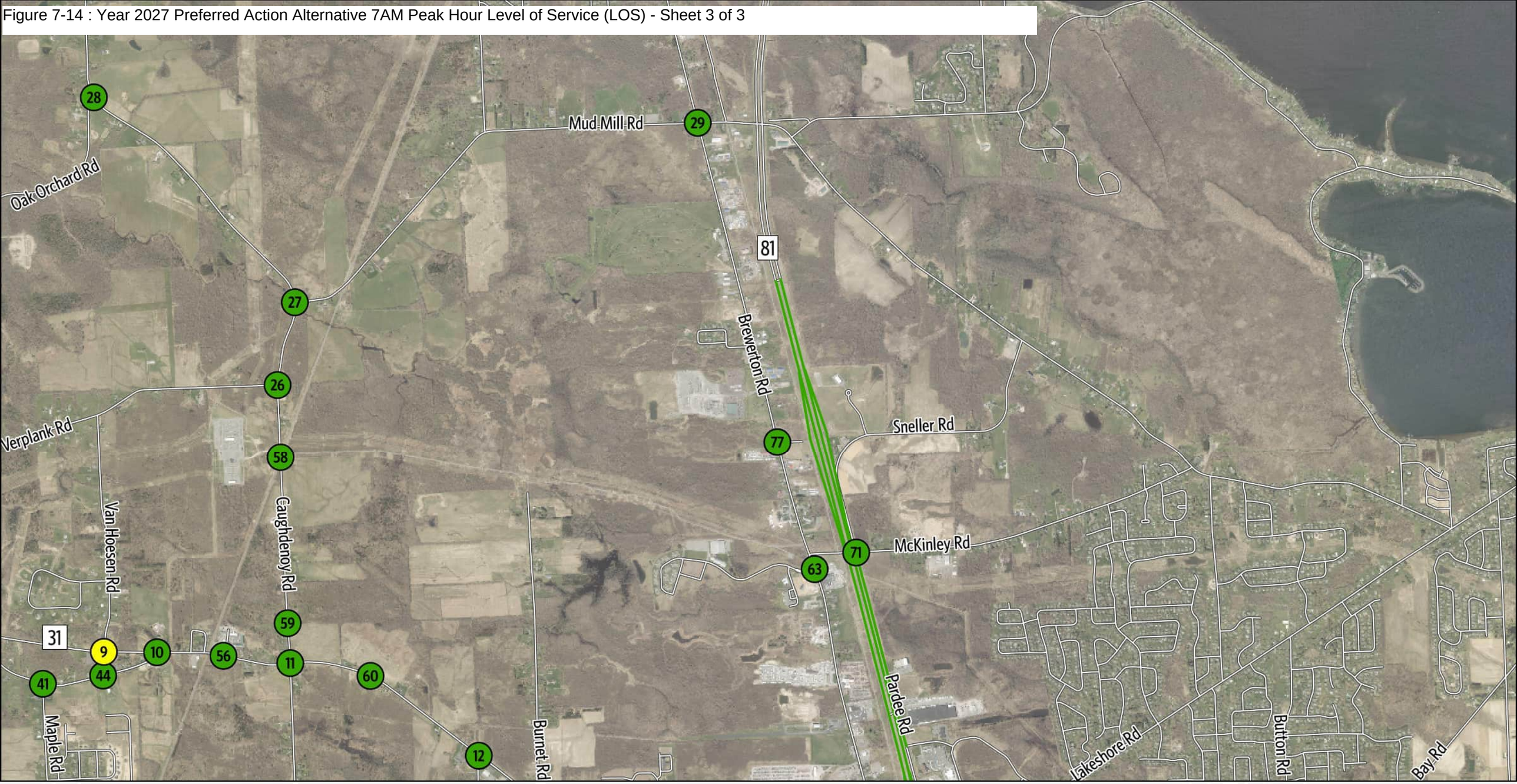
0 2,000 4,000 Feet

2027 Preferred Action Alternative

Sheet 2 of 3

7 AM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 7-14 : Year 2027 Preferred Action Alternative 7AM Peak Hour Level of Service (LOS) - Sheet 3 of 3



Intersection Level of Service

- A, B, C
- D
- E
- F

Roadway Level Of Service

- A, B, C
- Streets

N

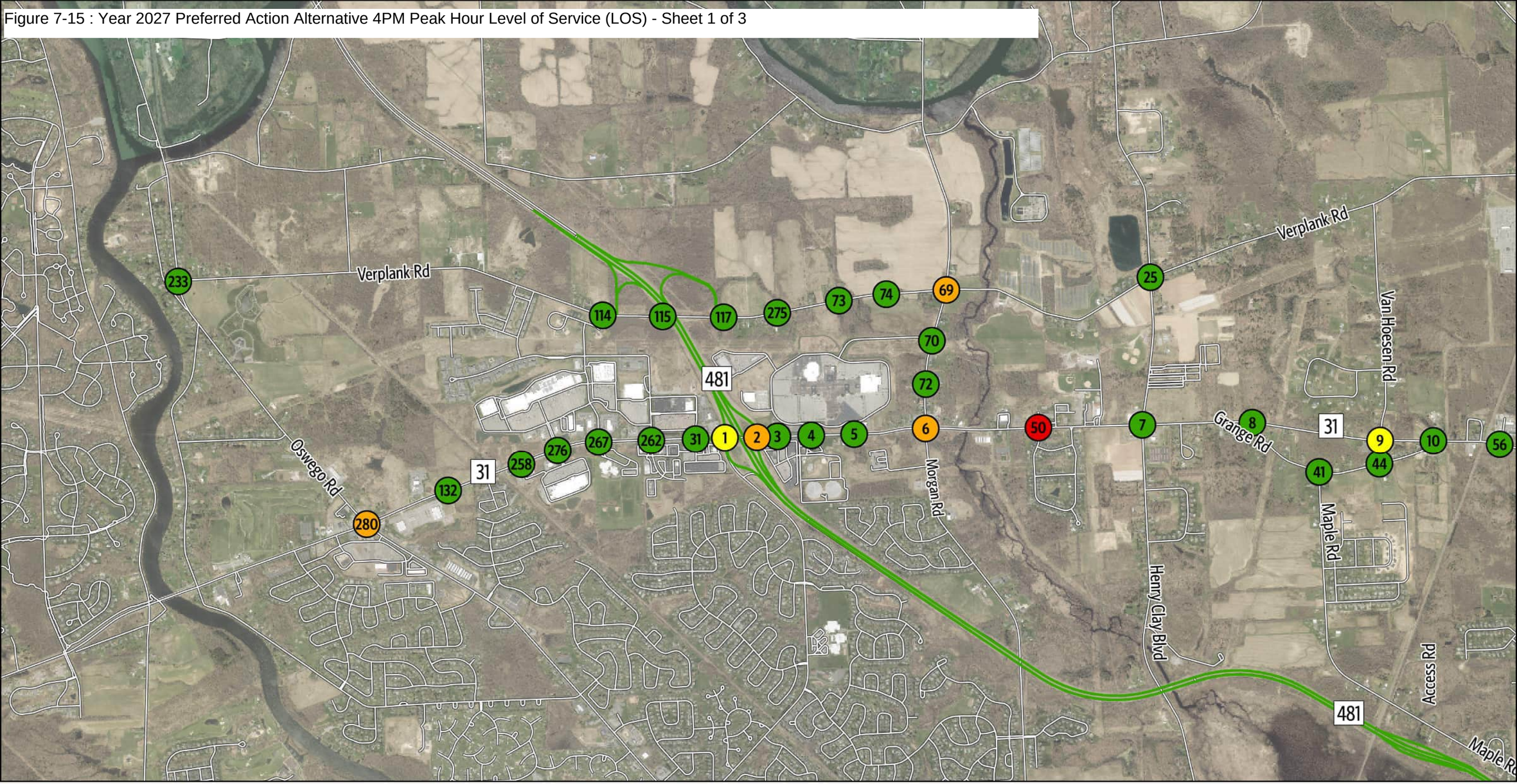
0 2,000 4,000 Feet

2027 Preferred Action Alternative

Sheet 3 of 3

7 AM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 7-15 : Year 2027 Preferred Action Alternative 4PM Peak Hour Level of Service (LOS) - Sheet 1 of 3



Intersection Level of Service

- A, B, C
- D
- E
- F

Roadway Level Of Service

- A, B, C
- Streets

N

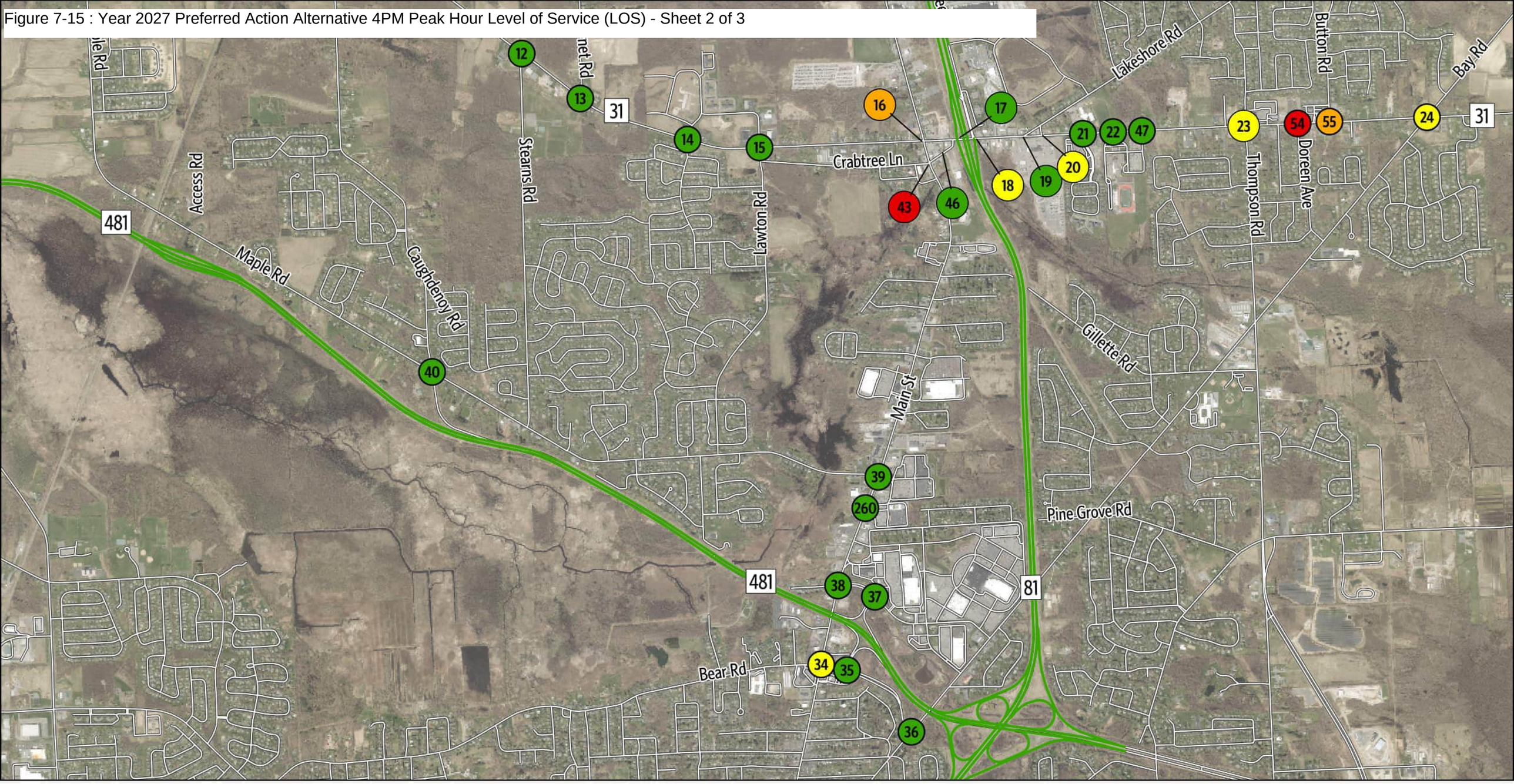
0 2,000 4,000 Feet

2027 Preferred Action Alternative

Sheet 1 of 3

4 PM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 7-15 : Year 2027 Preferred Action Alternative 4PM Peak Hour Level of Service (LOS) - Sheet 2 of 3



Intersection Level of Service

- A, B, C
- D
- E
- F

Roadway Level Of Service

- A, B, C
- Streets

N

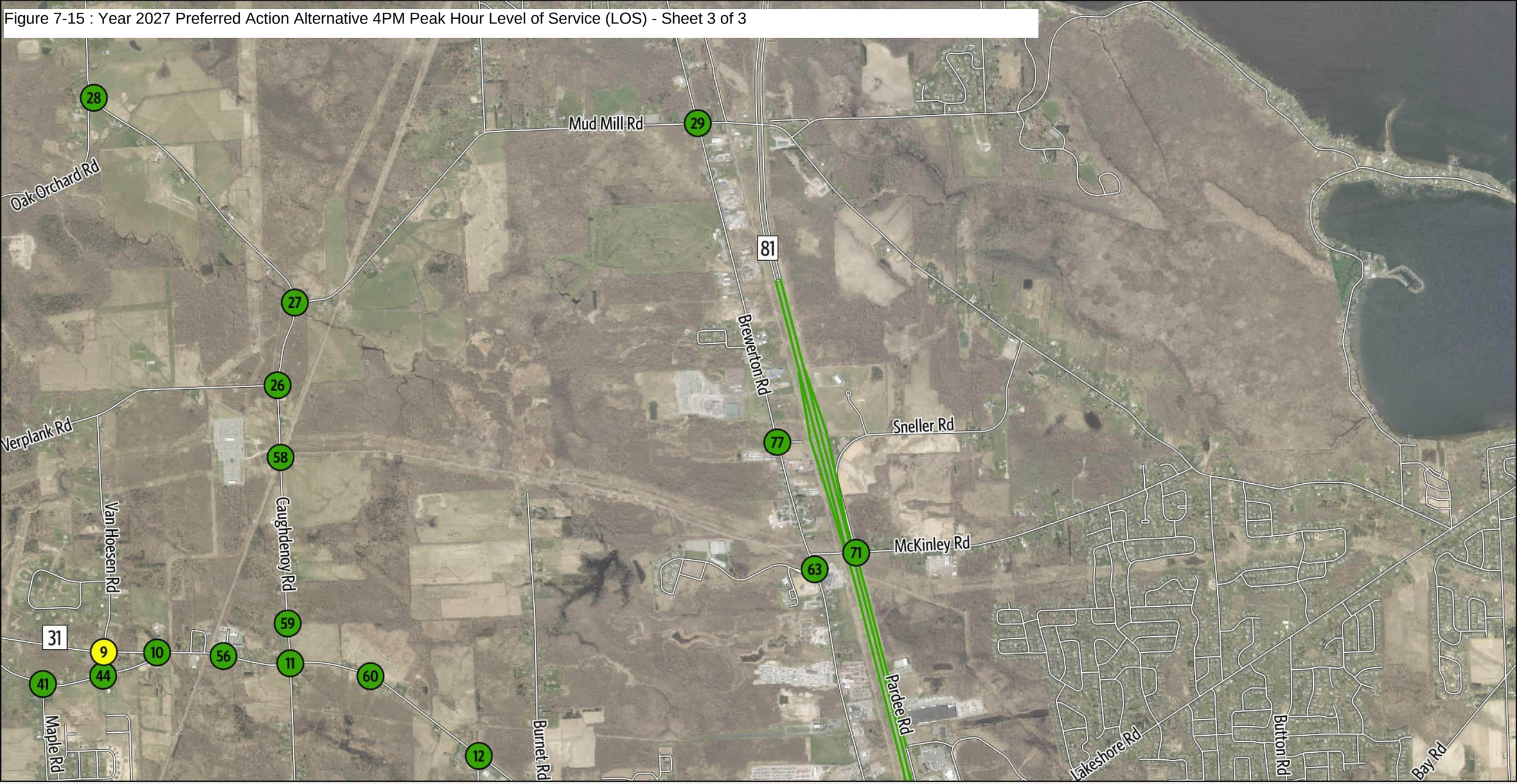
0 2,000 4,000 Feet

2027 Preferred Action Alternative

Sheet 2 of 3

4 PM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 7-15 : Year 2027 Preferred Action Alternative 4PM Peak Hour Level of Service (LOS) - Sheet 3 of 3



Intersection Level of Service

- A, B, C
- D
- E
- F

Roadway Level Of Service

- A, B, C
- Streets

N

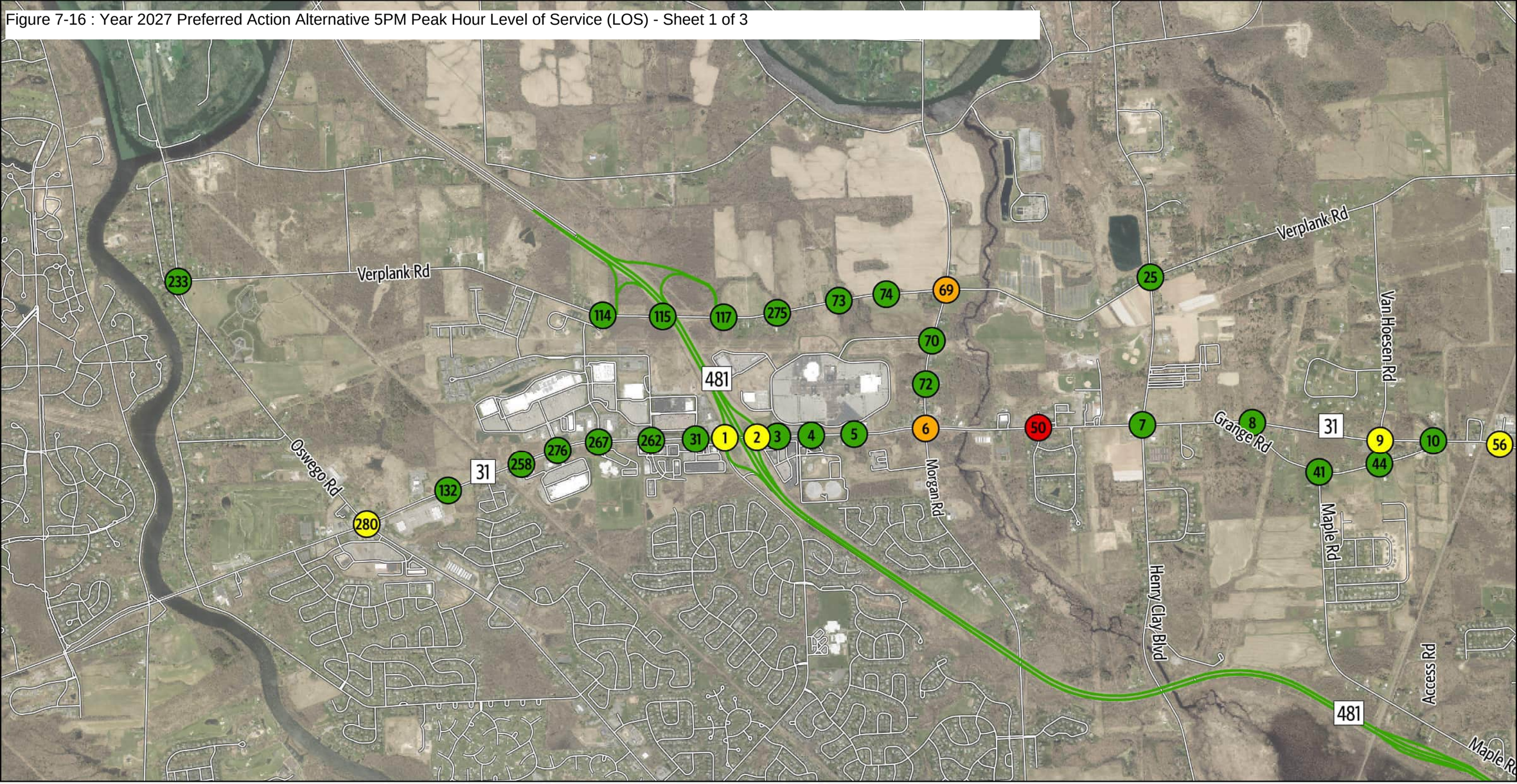
0 2,000 4,000 Feet

2027 Preferred Action Alternative

Sheet 3 of 3

4 PM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 7-16 : Year 2027 Preferred Action Alternative 5PM Peak Hour Level of Service (LOS) - Sheet 1 of 3



Intersection Level of Service

- A, B, C
- D
- E
- F

Roadway Level Of Service

- A, B, C
- Streets

N

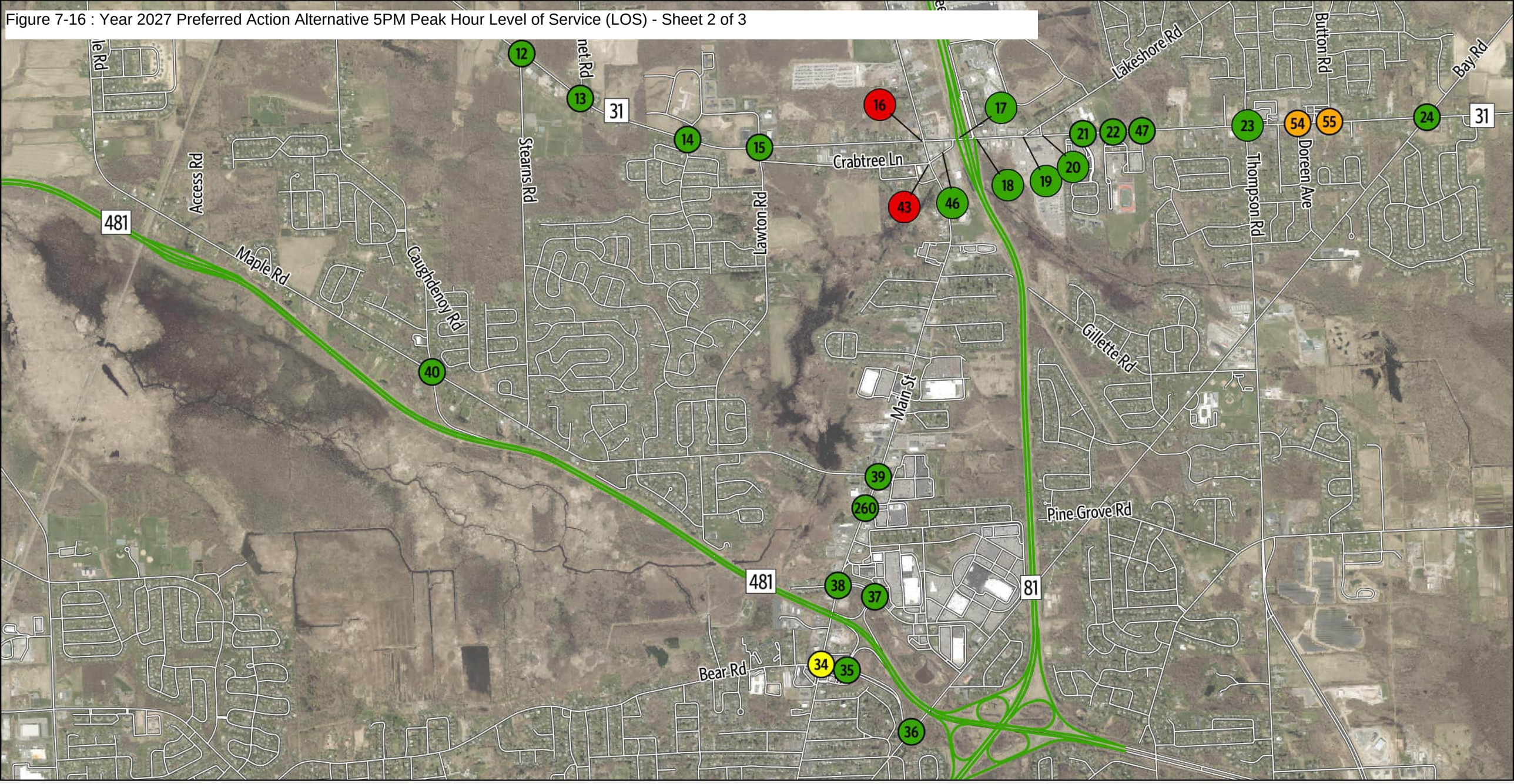
0 2,000 4,000 Feet

2027 Preferred Action Alternative

Sheet 1 of 3

5 PM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 7-16 : Year 2027 Preferred Action Alternative 5PM Peak Hour Level of Service (LOS) - Sheet 2 of 3



Intersection Level of Service

- A, B, C
- D
- E
- F

Roadway Level Of Service

- A, B, C
- Streets

N

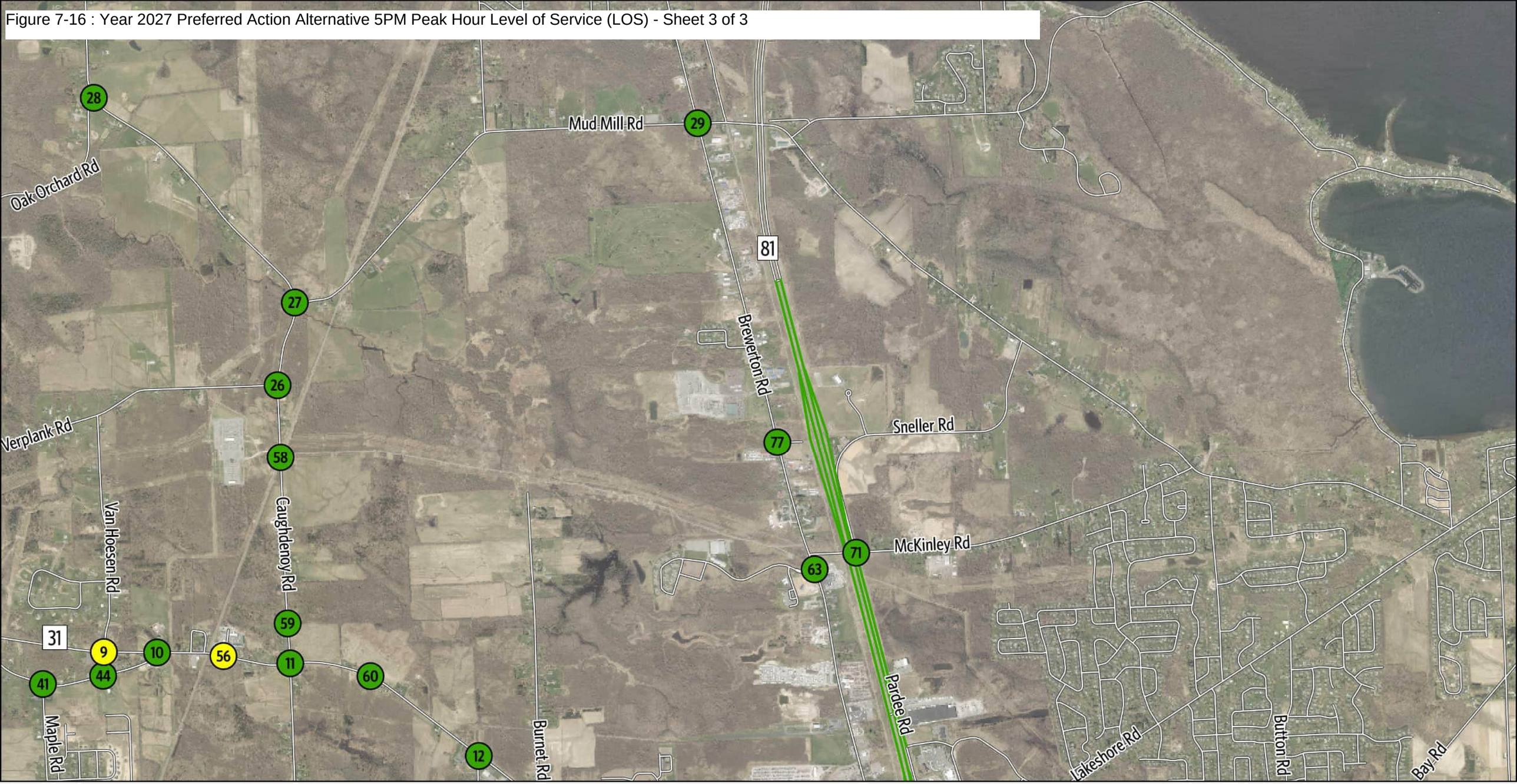
0 2,000 4,000 Feet

2027 Preferred Action Alternative

Sheet 2 of 3

5 PM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 7-16 : Year 2027 Preferred Action Alternative 5PM Peak Hour Level of Service (LOS) - Sheet 3 of 3



Intersection Level of Service

- A, B, C
- D
- E
- F

Roadway Level Of Service

- A, B, C
- Streets

N

0 2,000 4,000 Feet

2027 Preferred Action Alternative

Sheet 3 of 3

5 PM Peak Hour - Operational Analysis Results - LOS
Micron Project

7.2.2.1 AM Peak Hour

All intersections operate desirably at LOS D or better in the 6:00 a.m. peak hour, except for #35 Bear Road and the I-481 eastbound on-/off-ramp, which operate at LOS F. This intersection operates at LOS B in the 2027 No Action Alternative during the 6:00 a.m. peak hour.

During the 7:00 a.m. peak hour when Micron workers are commuting to the campus, four intersections are operating at LOS E or F.

- #35: Bear Road and I-481 EB On-/Off-Ramp (LOS F)
- #37: I-481 WB On-/Off-Ramp and Circle Drive E (LOS E)
- #43: U.S. Route 11 and Crabtree Lane (LOS F)
- #50: McNamara Drive/Driveway and NYS Route 31(LOS F)

In the 2027 No Action Alternative, these above intersections operate at LOS D or better in the 7:00 a.m. peak hour. In the 6:00 a.m. and 7:00 a.m. peak hours, all Micron Campus driveway intersections operate at LOS A or B. These intersections have sufficient capacity to handle traffic traveling toward the Micron Campus during the morning peak period, thereby preventing them from operating poorly.

7.2.2.2 PM Peak Hour

The evening peak-period demand generally results in higher average delays and lower LOS at several intersections beginning in the 4:00 p.m. peak hour. Six intersections operate at LOS E, and three intersections operate at LOS F in the 4:00 p.m. peak hour. All these intersections operated with the same LOS in the 2027 No Action Alternative with six exceptions: NYS Route 31 and NYS Route 481 northbound ramps, which operate at LOS E in 2027 Preferred Action and operates at LOS D in 2027 No Action Alternative; Morgan Road and NYS Route 31, which operates at LOS E in 2027 Preferred Action and LOS D in 2027 No Action Alternative; U.S. Route 11 and NYS Route 31, which operates at LOS E in 2027 Preferred Action and LOS D in 2027 No Action Alternative; Doreen Avenue and NYS Route 31, which operates at LOS F in 2027 Preferred Action and LOS E in 2027 No Action Alternative; Morgan Road and Verplank Road, which operates at LOS E in 2027 Preferred Action and LOS D in 2027 No Action Alternative; and NYS Route 31 and Oswego Road, which operates at LOS E in 2027 Preferred Action and LOS D in 2027 No Action Alternative. The LOS for these intersections decreases due to additional traffic traveling away from the Micron Campus during the 4:00 p.m. peak hour.

In the 4:00 p.m. peak hour, nine intersections are operating at LOS E or F.

- #2: NYS Route 31 and NYS Route 481 NB (LOS E)
- #6: Morgan Road and NYS Route 31 (LOS E)
- #16: U.S. Route 11 and NYS Route 31 (LOS E)
- #43: U.S. Route 11 and Crabtree Lane (LOS F)
- #50: McNamara Drive/Driveway and NYS Route 31(LOS F)
- #54: Doreen Avenue and NYS Route 31 (LOS F)
- #55: NYS Route 31 and Button Road (LOS E)
- #69: Morgan Road and Verplank Road (LOS E)
- #280: NYS Route 31 and Oswego Road (LOS E)

In the 5:00 p.m. peak hour, four intersections operate at LOS E, and three intersections operate at LOS F:

- #6: Morgan Road and NYS Route 31 (LOS E)
- #16: U.S. Route 11 and NYS Route 31 (LOS F)
- #43: U.S. Route 11 and Crabtree Lane (LOS F)

- #50: McNamara Drive/Driveway and NYS Route 31(LOS F)
- #54: Doreen Avenue and NYS Route 31 (LOS E)
- #55: NYS Route 31 and Button Road (LOS E)
- #69: Morgan Road and Verplank Road (LOS E)

Two of these intersections operate at the same LOS as the 2027 No Action Alternative during the 5:00 p.m. peak hour, which includes the McNamara Drive and NYS Route 31, as well as the Doreen Avenue and NYS Route 31 intersections. The remaining intersections have LOS that dropped to LOS E or F in the 2027 Preferred Action Alternative. The LOS for these intersections drops to LOS E or F because of higher traffic volumes traveling away from the Micron Campus during the 5:00 p.m. peak hour.

In the 4:00 p.m. and 5:00 p.m. peak hours, all Micron Campus driveway intersections operate at LOS A or B. These intersections have sufficient capacity to handle traffic traveling toward the Micron Campus during the evening peak period, thereby preventing them from operating poorly.

Table 7-4. Year 2027 Preferred Action Alternative AM and PM Peak Hour Intersection Operations – Delay and LOS

Intersection ID	Intersection Name	Intersection Control	6 AM			7 AM			4 PM			5 PM		
			Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c
1	NYS Route 31 and NYS Route 481 SB	Signalized	34.4	C	0.47	33.2	C	0.74	51.6	D	1.09	38.0	D	1.10
2	NYS Route 31 and NYS Route 481 NB	Signalized	13.0	B	0.35	16.1	B	0.52	56.2	E	1.05	43.8	D	1.06
3	Marketfair Plaza and NYS Route 31	Signalized	0.9	A	0.23	3.0	A	0.36	5.9	A	0.70	1.9	A	0.57
4	NYS Route 31 and GNM West	Signalized	6.5	A	0.29	8.5	A	0.42	14.1	B	0.72	13.4	B	0.58
5	Parking Lot/GNM East and NYS Route 31	Signalized	9.6	A	0.32	9.0	A	0.44	21.8	C	0.88	18.1	B	0.69
6	Morgan Road and NYS Route 31	Signalized	25.8	C	0.57	48.2	D	0.92	59.4	E	1.01	58.2	E	0.98
7	Henry Clay Boulevard and NYS Route 31	Signalized	13.2	B	0.42	31.4	C	0.85	27.1	C	0.85	25.2	C	0.86
8	Grange Road W and NYS Route 31	Signalized	10.7	B	0.30	11.5	B	0.70	15.4	B	0.73	14.5	B	0.77
9	Van Hoesen Road and NYS Route 31	Unsignalized	12.6	B	N/A	27.5	D	N/A	25.6	D	N/A	30.3	D	N/A
10	Grange Road E and NYS Route 31	Unsignalized	10.3	B	N/A	15.1	C	N/A	13.9	B	N/A	13.8	B	N/A
11	Caughdenoy Road and NYS Route 31	Signalized	10.9	B	0.35	16.5	B	0.70	17.3	B	0.76	16.1	B	0.69
12	Stearns Road and NYS Route 31	Signalized	11.4	B	0.37	10.5	B	0.63	8.1	A	0.54	9.3	A	0.64
13	NYS Route 31 and Burnet Road	Unsignalized	11.4	B	N/A	18.1	C	N/A	16.6	C	N/A	18.6	C	N/A
14	Barcaldine Drive/Legionnaire Drive and NYS Route 31	Unsignalized	11.5	B	N/A	16.4	C	N/A	15.8	C	N/A	19.8	C	N/A
15	Lawton Road/Legionnaire Drive and NYS Route 31	Signalized	9.3	A	0.46	12.1	B	0.62	11.2	B	0.65	16.6	B	0.72
16	U.S. Route 11 and NYS Route 31	Signalized	14.9	B	0.52	25.2	C	0.75	57.1	E	1.00	82.0	F	1.14
17	NYS Route 31 and I-81 SB Ramp	Signalized	11.4	B	0.79	22.6	C	0.96	27.8	C	0.81	23.6	C	0.76
18	NYS Route 31 and Pardee Road/I-81 NB Ramp	Signalized	13.4	B	0.61	22.7	C	0.79	41.7	D	1.03	34.7	C	0.96
20	Parking Lot/Lakeshore Spur and NYS Route 31	Signalized	9.1	A	0.50	13.9	B	0.62	44.4	D	0.98	33.5	C	0.89
21	New Country Drive/Cicero Elementary School Parking Lot and NYS Route 31	Signalized	6.0	A	0.28	6.7	A	0.49	10.2	B	0.59	7.8	A	0.56
22	Cicero North Syracuse High School West Driveway and NYS Route 31	Signalized	13.7	B	0.35	9.2	A	0.59	13.4	B	0.73	14.1	B	0.74
23	Thompson Road/Torchwood Lane and NYS Route 31	Roundabout	6.0	A	N/A	9.7	A	N/A	35.4	D	N/A	25.9	C	N/A
24	South Bay Road and NYS Route 31	Signalized	12.0	B	0.50	18.2	B	0.77	47.2	D	1.01	34.6	C	0.93
25	Henry Clay Boulevard and Verplank Road	Unsignalized	7.3	A	N/A	7.7	A	N/A	9.0	A	N/A	8.9	A	N/A
26	Caughdenoy Road and Verplank Road	Unsignalized	9.3	A	N/A	10.2	B	N/A	10.7	B	N/A	11.7	B	N/A
27	Caughdenoy Road and Mud Mill Road	Unsignalized	9.5	A	N/A	10.6	B	N/A	11.0	B	N/A	11.0	B	N/A
28	Caughdenoy Road and Oak Orchard Road	Unsignalized	9.1	A	N/A	9.8	A	N/A	10.9	B	N/A	10.7	B	N/A
29	U.S. Route 11 and Mud Mill Road	Signalized	9.4	A	0.06	8.1	A	0.14	8.1	A	0.22	7.9	A	0.20
31	Raymour and Flanigan/Wegmans East and NYS Route 31	Signalized	6.6	A	0.32	12.2	B	0.45	25.9	C	0.82	23.1	C	0.82

Intersection ID	Intersection Name	Intersection Control	6 AM			7 AM			4 PM			5 PM		
			Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c
32	Henry Clay Boulevard and Wetzel Road	Signalized	27.4	C	0.27	19.3	B	0.45	26.5	C	0.73	23.7	C	0.66
33	Allen Road and Bear Road	Signalized	7.1	A	0.29	8.9	A	0.48	16.2	B	0.77	14.3	B	0.72
34	U.S. Route 11 and Bear Road	Signalized	26.2	C	0.51	30.1	C	0.67	48.0	D	1.00	39.0	D	0.90
35	Bear Road and NYS Route 481 EB On-/Off-Ramp	Signalized	99.7	F	0.48	138.3	F	0.61	13.8	B	0.53	13.0	B	0.47
36	South Bay Road and Bear Road	Signalized	7.3	A	0.24	8.6	A	0.43	13.2	B	0.74	12.6	B	0.72
37	NYS Route 481 WB On-/Off-Ramp and Circle Drive E	Signalized	13.5	B	0.26	75.4	E	0.54	27.2	C	0.77	21.8	C	0.69
38	U.S. Route 11 and Circle Drive W/Circle Drive E	Signalized	10.6	B	0.36	8.7	A	0.54	25.0	C	0.91	24.7	C	0.89
39	U.S. Route 11 and Caughdenoy Road/Widewaters Commons	Signalized	21.4	C	0.17	21.1	C	0.41	20.7	C	0.63	20.2	C	0.59
40	NYS Route 481 NB Off-Ramp and Maple Road and Caughdenoy Road	Signalized	8.5	A	0.11	7.5	A	0.20	7.8	A	0.32	7.4	A	0.29
41	Maple Road and Grange Road	Unsignalized	8.9	A	N/A	9.3	A	N/A	10.7	B	N/A	10.5	B	N/A
43	U.S. Route 11 and Crabtree Lane	Unsignalized	12.4	B	N/A	52.6	F	N/A	> 300	F	N/A	> 300	F	N/A
44	Grange Road/Grange Road E and Van Hoesen Road	Unsignalized	8.6	A	N/A	8.7	A	N/A	8.8	A	N/A	8.9	A	N/A
47	Cicero North Syracuse High School East Driveway and NYS Route 31	Unsignalized	10.2	B	N/A	11.1	B	N/A	17.0	C	N/A	17.1	C	N/A
50	McNamara Drive/Driveway and NYS Route 31	Unsignalized	15.0	C	N/A	54.9	F	N/A	> 300	F	N/A	> 300	F	N/A
54	Doreen Avenue and NYS Route 31	Unsignalized	12.0	B	N/A	15.5	C	N/A	53.7	F	N/A	40.1	E	N/A
55	NYS Route 31 and Button Road	Unsignalized	9.7	A	N/A	12.9	B	N/A	45.3	E	N/A	35.2	E	N/A
56	NYS Route 31 and Weller Canning Road	Unsignalized	10.8	B	N/A	14.5	B	N/A	24.1	C	N/A	29.9	D	N/A
58	Caughdenoy Road and Micron Driveway 1	Signalized	8.9	A	0.04	9.1	A	0.10	4.5	A	0.13	8.3	A	0.13
59	Caughdenoy Road and Access Road/Micron Driveway 2	Signalized	4.5	A	0.03	8.0	A	0.16	6.6	A	0.07	9.9	A	0.17
60	NYS Route 31 and Micron Driveway 3	Signalized	10.8	B	0.20	14.4	B	0.46	12.6	B	0.34	13.0	B	0.52
63	U.S. Route 11 and Micron Driveway 6	Signalized	8.7	A	0.08	9.8	A	0.17	13.9	B	0.36	12.2	B	0.39
69	Morgan Road and Verplank Road	Unsignalized	12.8	B	N/A	17.6	C	N/A	41.6	E	N/A	36.4	E	N/A
70	Morgan Road and GNM Driveway 1	Signalized	7.2	A	0.30	10.2	B	0.59	10.6	B	0.51	9.7	A	0.50
71	Pardee Road and McKinley Road	Unsignalized	9.1	A	N/A	9.5	A	N/A	9.6	A	N/A	9.5	A	N/A
72	Morgan Road and GNM Driveway 2	Unsignalized	0.0	A	N/A	0.0	A	N/A	0.0	A	N/A	0.0	A	N/A
73	GNM Driveway 3 and Verplank Road	Unsignalized	0.0	A	N/A	0.0	A	N/A	0.0	A	N/A	0.0	A	N/A
74	GNM Driveway 4 and Verplank Road	Unsignalized	0.0	A	N/A	0.0	A	N/A	0.0	A	N/A	0.0	A	N/A
77	Sneller Road and U.S. Route 11	Signalized	11.2	B	1.00	32.3	C	1.01	19.1	B	0.97	13.2	B	0.91
101	Caughdenoy Road and Micron Driveway X	Signalized	3.2	A	0.04	2.6	A	0.09	6.9	A	0.13	6.4	A	0.12
132	Davidson and NYS Route 31	Signalized	10.7	B	0.41	14.5	B	0.58	18.4	B	0.97	21.5	C	0.75
233	Oswego and Verplank Road	Unsignalized	11.5	B	N/A	15.4	C	N/A	17.1	C	N/A	15.6	C	N/A

Intersection ID	Intersection Name	Intersection Control	6 AM			7 AM			4 PM			5 PM		
			Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c
258	Texas Roadhouse/Delta Sonic and NYS Route 31	Signalized	4.0	A	0.39	7.4	A	0.56	18.9	B	0.83	9.0	A	0.64
260	U.S. Route 11 and Chick-fil-A	Signalized	4.5	A	0.25	5.2	A	0.37	13.0	B	0.88	9.1	A	0.79
262	NYS Route 31 and Carling Road	Signalized	7.7	A	0.31	12.4	B	0.44	30.0	C	0.83	25.1	C	0.81
267	NYS Route 31 and Dell Center Drive	Signalized	7.6	A	0.32	10.1	B	0.44	21.0	C	0.83	20.0	C	0.81
275	Verplank Road and Proposed Access #1	Unsignalized	0.0	A	N/A	0.0	A	N/A	0.0	A	N/A	0.0	A	N/A
276	Lowes/Home Depot and NYS Route 31	Signalized	13.9	B	0.31	13.1	B	0.45	25.6	C	0.85	21.5	C	0.83
280	NYS Route 31 and Oswego Road	Signalized	24.6	C	0.58	37.9	D	0.87	58.1	E	0.98	50.2	D	0.98
287	Proposed Access #2 and Verplank Road	Unsignalized	0.0	A	N/A	0.0	A	N/A	0.0	A	N/A	0.0	A	N/A

7.2.3 Freeway Operations

Tables 7-5 and 7-6 summarize the freeway and ramp densities, along with their corresponding LOS. I-81 and the NYS Route 481 freeways operate in relatively uncongested conditions (LOS D or better), except at one location, the I-81 northbound off-ramp to NYS Route 31, which has a LOS F in the 7:00 a.m. peak hour and a LOS E in the 5:00 p.m. peak hour.

The 2027 Preferred Action Alternative has higher volumes on the I-81 and NYS Route 481 freeways compared to the 2027 No Action Alternative, primarily due to Micron workers traveling to and from the Micron Campus during each peak period. The I-81 and NYS Route 481 freeways have the capacity to handle the additional Micron-related traffic; however, one segment will be significantly impacted: the I-81 northbound off-ramp to NYS Route 31.

7.3 Year 2027 Summary

In 2027, most intersections operate acceptably at LOS D or better in both peak periods. Several intersections have higher delays and operate at LOS E or F conditions in the 2027 Preferred Action scenario. The additional trips generated by the Proposed Project result in higher intersection delays at several intersections. Because no Proposed Project mitigation is included in the 2027 Preferred Action scenario, the LOS for four intersections in the a.m. peak period drops to LOS E or LOS F, and five intersections drop to LOS E or LOS F in the p.m. peak period. An additional four intersections in the p.m. peak period experienced delays of more than 5 seconds under existing conditions, resulting in LOS E or LOS F. These delays are deemed to have significant adverse impacts, as determined by applying the impact threshold criteria. These intersections require capacity mitigation, such as signal timing adjustments, shuttle services, arterial widening, converting freeway interchanges to DDIs, and adding or extending turn pockets to operate at an acceptable LOS D or better. As the 2027 analysis year is approaching, capacity mitigations of this scale cannot be designed and constructed in time. Thus, the previously mentioned impacts would be deemed unmitigated. Capacity mitigations will be analyzed for the 2031 and 2041 analysis years, as there is sufficient time for such mitigations to be designed and constructed.

7.3.1 2027 No Action Alternative Versus 2027 Preferred Action Alternative

7.3.1.1 Intersection Operations

When compared to the 2027 No Action Alternative, four intersections are anticipated to be significantly impacted during the a.m. peak hour, and nine intersections will be significantly impacted during the p.m. peak hour, according to the thresholds mentioned in Section 2.4.4.2. The comparison of two analysis scenarios and impacted intersections is summarized in Table 7-7 and Table 7-9, and discussed as follows:

- #2, NYS Route 31 and NYS Route 481 NB: During the 4:00 p.m. peak hour, the signalized intersection is anticipated to degrade from LOS D to LOS E with delays greater than 55 sec/veh.
- #6, Morgan Road and NYS Route 31: For both p.m. peak hours, the signalized intersection is anticipated to go from LOS D to LOS E (4:00 p.m.) and LOS C to LOS E (5:00 p.m.), with delays of approximately 58 sec/veh.
- #16, U.S. Route 11 and NYS Route 31: During both p.m. peak hours, the signalized intersection is anticipated to degrade from LOS D to LOS E (4:00 p.m.) and LOS F (5:00 p.m.); Delays range from 57 to 82 sec/veh.

- #35, Bear Road and NYS Route 481 EB On-/Off-Ramp: During both a.m. peak hours, the signalized intersection is anticipated to go from LOS B to LOS F with delays greater than 100 sec/veh.
- #37, I-481 WB On-/Off-Ramp and Circle Drive E: During the 7:00 a.m. peak hour, this signalized intersection is anticipated to degrade from LOS B to LOS E with delays equal to 75 sec/veh.
- #43, U.S. Route 11 and Crabtree Lane: During the 7:00 a.m. peak hour, the unsignalized intersection is expected to transition from LOS D to LOS F, with delays exceeding 50 seconds per vehicle. Also, during both p.m. peak hours, it is anticipated that the intersection, which is already at LOS F under the No Action Alternative, would continue to perform at LOS F with longer delays of at least five sec/veh.
- #50, McNamara Drive/Driveway and NYS Route 31: During the 7:00 a.m. peak hour, the unsignalized intersection is anticipated to go from LOS C to LOS F with delays greater than 55 sec/veh; during both p.m. peak hours, the intersection would continue to operate at LOS F, but with longer delays > 300+ sec/veh.
- #54, Doreen Avenue and NYS Route 31: During both p.m. peak hours, the unsignalized intersection is anticipated to degrade from LOS E to LOS F (4:00 p.m.) and LOS D to LOS E (5:00 p.m.); Delays range from 54 to 40 sec/veh.
- #55, NYS Route 31 and Button Road: During the 5:00 p.m. peak hour, the unsignalized intersection is anticipated to degrade from LOS D to LOS E, with delays greater than 35 sec/veh.
- #69, Morgan Road and Verplank Road: During both p.m. peak hours, the unsignalized intersection is anticipated to degrade from LOS D to LOS E, with delays ranging from 35 to 45 seconds per vehicle.
- #280, NYS Route 31 and Oswego Road: During the 4:00 p.m. peak hour, this signalized intersection is anticipated to go from LOS D to LOS E with delays equal to 58 sec/veh.

In the 2027 Preferred Action scenario, all Micron driveway intersections operate at an acceptable LOS. These intersections have sufficient capacity to accommodate traffic demand from the Proposed Project entering the campus during the a.m. peak period and exiting during the p.m. peak period.

7.3.1.2 Freeway Operations

When compared to the 2027 No Action Alternative, one freeway segment along I-81 is anticipated to be significantly impacted during both a.m. and p.m. peak hours, according to the thresholds mentioned in Section 2.4.4.2. Tables 7-8 and 7-10 present the comparison between the two analysis scenarios and the impacted freeway segments.

The increased traffic demand from the Proposed Project results in increased freeway densities.

Table 7-5. Year 2027 Preferred Action Alternative AM and PM Peak Hour Freeway I-81 Operations – Delay and LOS

Segment Direction	Segment Description	Segment Type	6 AM					7 AM					4 PM					5 PM				
			Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS
I-81 NB	I-81 NB Between E Taft Road and NYS Route 481	Basic	1,188	1,168	66	5.9	A	1,861	1,858	66	9.4	A	3,745	3,741	65	19.2	C	3,382	3,382	65	17.3	B
	I-81 NB Off-Ramp to NYS Route 481	Diverge	1,188	1,160	64	4.5	A	1,861	1,851	64	7.2	A	3,745	3,726	63	14.9	B	3,382	3,378	63	13.4	B
	I-81 NB Between Off-/On-Ramps to/from NYS Route 481	Basic	1,010	984	66	4.9	A	1,661	1,652	66	8.3	A	3,455	3,448	65	17.8	B	3,130	3,137	65	16.1	B
	I-81 NB Between Off-/On-Ramps to/from NYS Route 481	Weave	1,069	1,037	62	4.2	A	1,747	1,735	62	7.0	A	3,522	3,507	60	14.6	B	3,161	3,171	60	13.2	B
	I-81 NB after Off-Ramp to NYS Route 481	Basic	727	697	61	5.7	A	1,213	1,218	61	10.1	A	2,232	2,246	60	18.7	C	1,983	1,996	60	16.6	B
	I-81 NB On-Ramp from NYS Route 481	Merge	935	889	67	3.3	A	1,623	1,631	66	6.1	A	3,120	3,126	66	11.9	B	2,775	2,803	66	10.6	B
	I-81 NB Between NYS Route 481 and NYS Route 31	Basic	935	884	67	4.4	A	1,623	1,623	54	10.2	A	3,120	3,120	61	17.2	B	2,775	2,814	56	22.0	C
	I-81 NB Off-Ramp to NYS Route 31	Diverge	935	877	61	3.6	A	1,623	1,438	5	70.8	F	3,120	3,086	39	34.6	D	2,775	2,843	36	42.8	E
	I-81 NB Between Off-/On-Ramps to/from NYS Route 31	Basic	513	493	67	2.4	A	820	805	66	4.1	A	2,032	2,009	67	10.1	A	1,795	1,844	66	9.3	A
	I-81 NB On-Ramp from NYS Route 31	Merge	618	593	65	2.3	A	955	916	65	3.5	A	2,573	2,492	62	10.1	B	2,321	2,330	62	9.4	A
	I-81 NB Between NYS Route 31 and Bartell Road	Basic	618	591	67	2.9	A	955	916	67	4.6	A	2,573	2,497	66	12.6	B	2,321	2,333	66	11.8	B
	I-81 NB Off-Ramp to Bartell Road	Diverge	618	569	64	2.2	A	955	919	64	3.6	A	2,573	2,499	60	10.4	B	2,321	2,362	61	9.7	A
	I-81 NB Off-/On-Ramps to/from Bartell Road	Basic	489	453	67	2.2	A	754	729	67	3.6	A	2,001	1,928	65	9.9	A	1,810	1,841	65	9.4	A
	I-81 On-Ramp from Bartell Road	Merge	536	496	66	1.9	A	847	817	65	3.1	A	2,170	2,091	65	8.1	A	1,989	2,013	65	7.8	A
	I-81 NB Between Bartell Road and East Avenue	Basic	536	495	67	2.5	A	847	818	67	4.1	A	2,170	2,093	66	10.5	A	1,989	2,021	66	10.1	A
I-81 SB	I-81 SB Between East Avenue and Bartell Road	Basic	1,354	1,343	67	6.6	A	2,139	2,136	67	10.7	A	1,219	1,219	68	6.0	A	1,096	1,095	68	5.4	A
	I-81 SB Off-Ramp to Bartell Road	Diverge	1,354	1,331	66	5.0	A	2,139	2,118	65	8.2	A	1,219	1,210	65	4.6	A	1,096	1,088	66	4.1	A
	I-81 SB Between Off-Ramp and On-Ramp to Bartell Road	Basic	1,266	1,253	67	6.2	A	1,967	1,963	66	9.9	A	1,067	1,065	68	5.2	A	959	960	68	4.7	A
	I-81 SB On-Ramp from Bartell Road	Merge	1,651	1,631	65	6.3	A	2,585	2,575	64	10.1	B	1,545	1,534	65	5.9	A	1,388	1,386	65	5.4	A
	I-81 SB Between Bartell Road and NYS Route 31	Basic	1,651	1,628	67	8.1	A	2,585	2,570	66	13.1	B	1,545	1,540	67	7.6	A	1,388	1,390	67	6.9	A
	I-81 SB Off-Ramp to NYS Route 31	Diverge	1,651	1,605	66	6.1	A	2,585	2,548	60	11.3	B	1,545	1,542	66	5.9	A	1,388	1,395	66	5.3	A
	I-81 SB Between Off-Ramp and On-Ramp from NYS Route 31	Basic	1,459	1,414	67	7.1	A	2,314	2,282	65	11.7	B	1,246	1,246	67	6.2	A	1,118	1,134	67	5.6	A
	I-81 SB On-Ramp from NYS Route 31	Merge	2,266	2,173	62	8.7	A	3,564	3,383	60	14.1	B	2,210	2,129	62	8.6	A	2,282	2,123	62	8.6	A
	I-81 SB Between NYS Route 31 and I-81	Basic	2,266	2,168	66	11.0	A	3,564	3,390	63	17.9	B	2,210	2,145	66	10.8	A	2,282	2,134	66	10.7	A
	I-81 SB Off-Ramp to NYS Route 481 EB	Diverge	2,266	2,168	66	11.0	B	3,564	3,390	63	17.9	B	2,210	2,145	66	10.8	B	2,282	2,134	66	10.7	B
	I-81 SB Off-Ramp to I-81 EB and WB	Basic	1,529	1,445	65	11.1	B	2,321	2,208	63	17.7	B	1,569	1,533	65	11.7	B	1,535	1,504	66	11.5	B
	I-81 SB Off-Ramp to I-81 WB	Diverge	1,529	1,442	64	7.5	A	2,321	2,208	63	11.7	B	1,569	1,529	64	7.9	A	1,535	1,508	65	7.8	A
	I-81 SB Between Off-Ramp and On-Ramp from NYS Route 481	Basic	1,415	1,331	65	10.2	A	2,172	2,063	64	16.2	B	1,396	1,359	66	10.3	A	1,386	1,368	66	10.4	A
	I-81 SB On-Ramp from NYS Route 481 WB	Merge	1,603	1,514	65	7.7	A	2,445	2,328	65	12.0	B	1,580	1,553	66	7.9	A	1,557	1,537	66	7.8	A
	I-81 SB On-Ramp from NYS Route 481 EB	Merge	2,742	2,495	63	9.9	A	3,760	3,640	62	14.6	B	2,559	2,403	64	9.4	A	2,433	2,341	64	9.2	A
	I-81 NB Between NYS Route 481 and E Taft Road	Basic	2,742	2,502	65	12.8	B	3,760	3,660	64	19.1	C	2,559	2,418	66	12.2	B	2,433	2,352	66	11.9	B

Table 7-6. Year 2027 Preferred Action Alternative AM and PM Peak Hour NYS Route 481 Operations – Delay and LOS

Segment Direction	Segment Description	Segment Type	Demand (vph)	Through put (vph)	Speed (mph)	Density (veh/mi/ ln)	LOS	Demand (vph)	Through put (vph)	Speed (mph)	Density (veh/mi/ ln)	LOS	Demand (vph)	Through put (vph)	Speed (mph)	Density (veh/mi/ ln)	LOS	Demand (vph)	Through put (vph)	Speed (mph)	Density (veh/mi/ ln)	LOS
			6 AM					7 AM					4 PM					5 PM				
NYS Route 481 EB	NYS Route 481 EB Between Verplank Road and NYS Route 31	Basic	894	873	65	6.8	A	1,413	1,407	63	11.1	B	1,040	1,038	63	8.2	A	823	824	63	6.5	A
	NYS Route 481 EB Off-Ramp to NYS Route 31	Diverge	894	872	57	5.1	A	1,413	1,406	54	8.6	A	1,040	1,039	53	6.5	A	823	827	55	5.0	A
	NYS Route 481 Between Off-Ramp and On-Ramp from NYS Route 31	Basic	661	648	67	4.9	A	1,023	1,020	66	7.8	A	616	616	67	4.6	A	553	557	67	4.1	A
	NYS Route 481 EB On-Ramp from NYS Route 31	Merge	1,604	1,496	61	8.2	A	2,209	2,186	60	12.1	B	1,433	1,217	62	6.5	A	1,258	1,128	62	6.1	A
	NYS Route 481 EB Between NYS Route 31 and Bear Road	Basic	1,604	1,488	65	11.4	B	2,209	2,190	64	17.2	B	1,433	1,209	66	9.1	A	1,258	1,120	67	8.4	A
	NYS Route 481 EB Off-Ramp to Bear Road	Diverge	1,604	1,389	59	7.9	A	2,209	2,169	56	13.0	B	1,433	1,214	56	7.2	A	1,258	1,136	56	6.8	A
	NYS Route 481 EB Between Off-Ramp and On-Ramp from Bear Road	Basic	1,445	1,271	63	10.1	A	2,000	1,986	61	16.4	B	1,140	988	65	7.6	A	992	909	65	7.0	A
	NYS Route 481 Between U.S. Route 11 and I-81	Weave	2,319	2,099	61	11.5	B	3,088	3,076	59	17.5	B	2,018	1,851	61	10.1	B	1,806	1,735	61	9.4	A
	NYS Route 481 EB Off-Ramp to I-81 NB	Diverge	1,180	1,077	66	5.4	A	1,773	1,750	65	9.0	A	1,040	991	67	5.0	A	929	917	67	4.6	A
	NYS Route 481 EB Between Off-Ramp and On-Ramp from I-81	Basic	1,121	1,018	67	7.7	A	1,688	1,667	65	12.8	B	973	932	67	6.9	A	898	889	67	6.6	A
	NYS Route 481 EB On-Ramp from I-81 NB	Merge	1,299	1,192	65	6.1	A	1,888	1,870	64	9.8	A	1,263	1,222	65	6.3	A	1,150	1,145	65	5.9	A
	NYS Route 481 EB On-Ramp from I-81 SB	Merge	2,036	1,891	67	7.1	A	3,130	3,039	65	11.6	B	1,903	1,832	67	6.8	A	1,897	1,778	67	6.6	A
	NYS Route 481 EB Between I-81 and Northern Boulevard	Basic	2,036	1,885	67	9.4	A	3,130	3,033	65	15.5	B	1,903	1,833	67	9.1	A	1,897	1,777	67	8.8	A
NYS Route 481 WB	NYS Route 481 WB Between Northern Boulevard and I-81	Basic	810	796	68	5.9	A	1,461	1,456	67	10.9	A	2,659	2,652	66	20.1	C	2,360	2,352	66	17.7	B
	NYS Route 481 WB Off-Ramp to I-81	Diverge	810	795	67	3.9	A	1,461	1,457	66	7.3	A	2,659	2,660	65	13.7	B	2,360	2,359	65	12.0	B
	NYS Route 481 WB Between Off-Ramp and On-Ramp from I-81 NB	Basic	602	594	51	5.8	A	1,052	1,038	50	10.3	A	1,771	1,779	50	17.9	B	1,568	1,559	50	15.6	B
	NYS Route 481 WB Between On-Ramp and Off-Ramp to I-81	Weave	944	925	60	5.1	A	1,585	1,547	60	8.7	A	3,061	3,038	58	17.3	B	2,745	2,739	58	15.6	B
	NYS Route 481 WB Between Off-Ramp and On-Ramp from I-81 SB	Basic	755	743	65	5.7	A	1,312	1,282	64	10.0	A	2,877	2,859	63	22.9	C	2,574	2,579	63	20.5	C
	NYS Route 481 WB Between I-81 and U.S. Route 11	Weave	870	848	65	4.4	A	1,462	1,426	64	7.4	A	3,050	3,028	64	15.7	B	2,724	2,725	64	14.1	B
	NYS Route 481 WB Off-Ramp and On-Ramp from Circle Drive	Basic	490	475	64	3.7	A	880	860	64	6.7	A	1,938	1,932	64	15.2	B	1,661	1,656	64	12.9	B
	NYS Route 481 WB On-Ramp from Circle Drive	Merge	628	585	63	3.1	A	1,041	1,023	63	5.4	A	2,347	2,349	59	13.4	B	1,993	1,998	61	10.9	B
	NYS Route 481 WB Between U.S. Route 11 and Caughdenoy Road	Basic	628	581	66	4.4	A	1,041	1,021	66	7.8	A	2,347	2,348	64	18.4	C	1,993	2,008	64	15.6	B
	NYS Route 481 WB Off-Ramp to Caughdenoy Road	Diverge	628	566	63	3.0	A	1,041	1,002	59	5.7	A	2,347	2,312	57	13.4	B	1,993	1,981	59	11.2	B
	NYS Route 481 WB Between Caughdenoy Road and NYS Route 31	Basic	564	501	66	3.8	A	826	809	66	6.2	A	2,001	2,012	63	16.1	B	1,699	1,740	59	17.6	B

Segment Direction	Segment Description	Segment Type	Demand (vph)	Through put (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Through put (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Through put (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Through put (vph)	Speed (mph)	Density (veh/mi/ln)	LOS
			6 AM					7 AM					4 PM					5 PM				
NYS Route 481 WB (continued)	NYS Route 481 WB Off-Ramp to NYS Route 31	Diverge	564	494	51	3.2	A	826	808	50	5.4	A	2,001	1,936	33	24.7	C	1,699	1,768	26	30.8	D
	NYS Route 481 WB Between Off-Ramp and On-Ramp from NYS Route 31	Basic	274	252	67	1.9	A	437	428	67	3.2	A	637	636	67	4.8	A	580	595	67	4.5	A
	NYS Route 481 WB On-Ramp from NYS Route 31	Merge	449	414	64	2.2	A	701	683	63	3.6	A	1,207	1,092	63	5.8	A	1,026	961	64	5.0	A
	NYS Route 481 WB Between NYS Route 31 and Verplank Road	Basic	449	414	66	3.1	A	701	682	65	5.2	A	1,207	1,090	66	8.3	A	1,026	960	66	7.3	A

Table 7-7. Year 2027 No Action Alternative Vs. Preferred Action Alternative AM and PM Peak Hour Intersection Operations – Delay and LOS

Intersection ID	Intersection Name	Intersection Control	2027 No Action Alternative			2027 Preferred Action Alternative			2027 No Action Alternative			2027 Preferred Action Alternative			2027 No Action Alternative			2027 Preferred Action Alternative			2027 No Action Alternative			2027 Preferred Action Alternative		
			6 AM			6 AM			7 AM			7 AM			4 PM			4 PM			5 PM			5 PM		
			Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c
1	NYS Route 31 and NYS Route 481 SB	Signalized	31	C	0.46	34	C	0.47	29	C	0.68	33	C	0.74	46	D	1.08	52	D	1.09	39	D	1.1	38	D	1.1
2	NYS Route 31 and NYS Route 481 NB	Signalized	15	B	0.32	13	B	0.35	17	B	0.46	16	B	0.52	46	D	1	56	E	1.05	39	D	0.98	44	D	1.06
3	Marketfair Plaza and NYS Route 31	Signalized	2	A	0.22	1	A	0.23	3	A	0.32	3	A	0.36	3	A	0.59	6	A	0.7	9	A	0.7	2	A	0.57
4	NYS Route 31 and GNM West	Signalized	5	A	0.27	7	A	0.29	7	A	0.38	9	A	0.42	15	B	0.68	14	B	0.72	18	B	0.75	13	B	0.58
5	Parking Lot/GNM East and NYS Route 31	Signalized	6	A	0.25	10	A	0.32	8	A	0.39	9	A	0.44	13	B	0.77	22	C	0.88	13	B	0.8	18	B	0.69
6	Morgan Road and NYS Route 31	Signalized	25	C	0.49	26	C	0.57	36	D	0.79	48	D	0.92	43	D	0.89	59	E	1.01	35	C	0.88	58	E	0.98
7	Henry Clay Boulevard and NYS Route 31	Signalized	11	B	0.3	13	B	0.42	14	B	0.52	31	C	0.85	21	C	0.79	27	C	0.85	17	B	0.68	25	C	0.86
8	Grange Road W and NYS Route 31	Signalized	10	A	0.26	11	B	0.3	9	A	0.41	12	B	0.7	13	B	0.65	15	B	0.73	12	B	0.61	15	B	0.77
9	Van Hoesen Road and NYS Route 31	Unsignalized	12	B	N/A	13	B	N/A	16	C	N/A	28	D	N/A	25	C	N/A	26	D	N/A	20	C	N/A	30	D	N/A
10	Grange Road E and NYS Route 31	Unsignalized	10	A	N/A	10	B	N/A	11	B	N/A	15	C	N/A	13	B	N/A	14	B	N/A	13	B	N/A	14	B	N/A
11	Caughdenoy Road and NYS Route 31	Signalized	12	B	0.27	11	B	0.35	14	B	0.41	17	B	0.7	15	B	0.68	17	B	0.76	14	B	0.61	16	B	0.69
12	Stearns Road and NYS Route 31	Signalized	10	A	0.3	11	B	0.37	9	A	0.46	11	B	0.63	8	A	0.48	8	A	0.54	9	A	0.47	9	A	0.64
13	NYS Route 31 and Burnet Road	Unsignalized	11	B	N/A	11	B	N/A	13	B	N/A	18	C	N/A	19	C	N/A	17	C	N/A	18	C	N/A	19	C	N/A

Intersection ID	Intersection Name	Intersection Control	2027 No Action Alternative			2027 Preferred Action Alternative			2027 No Action Alternative			2027 Preferred Action Alternative			2027 No Action Alternative			2027 Preferred Action Alternative			2027 No Action Alternative			2027 Preferred Action Alternative		
			6 AM			6 AM			7 AM			7 AM			4 PM			4 PM			5 PM			5 PM		
			Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c
14	Barcaldine Drive/ Legionnaire Drive and NYS Route 31	Unsignalized	11	B	N/A	12	B	N/A	14	B	N/A	16	C	N/A	14	B	N/A	16	C	N/A	13	B	N/A	20	C	N/A
15	Lawton Road/ Legionnaire Drive and NYS Route 31	Signalized	9	A	0.41	9	A	0.46	12	B	0.59	12	B	0.62	10	B	0.58	11	B	0.65	10	A	0.53	17	B	0.72
16	U.S. Route 11 and NYS Route 31	Signalized	17	B	0.46	15	B	0.52	21	C	0.71	25	C	0.75	48	D	0.94	57	E	1	41	D	0.88	82	F	1.14
17	NYS Route 31 and I-81 SB Ramp	Signalized	12	B	0.72	11	B	0.79	21	C	0.98	23	C	0.96	25	C	0.78	28	C	0.81	24	C	0.72	24	C	0.76
18	NYS Route 31 and Pardee Road/I-81 NB Ramp	Signalized	13	B	0.49	13	B	0.61	23	C	0.7	23	C	0.79	43	D	0.92	42	D	1.03	36	D	0.92	35	C	0.96
20	Parking Lot/Lakeshore Spur and NYS Route 31	Signalized	9	A	0.46	9	A	0.5	14	B	0.6	14	B	0.62	42	D	0.94	44	D	0.98	34	C	0.85	34	C	0.89
21	New Country Drive/ Cicero Elementary School Parking Lot and NYS Route 31	Signalized	5	A	0.27	6	A	0.28	4	A	0.38	7	A	0.49	10	A	0.6	10	B	0.59	9	A	0.57	8	A	0.56
22	Cicero North Syracuse High School West Driveway and NYS Route 31	Signalized	13	B	0.32	14	B	0.35	9	A	0.45	9	A	0.59	14	B	0.73	13	B	0.73	13	B	0.7	14	B	0.74
23	Thompson Road/ Torchwood Lane and NYS Route 31	Roundabout	6	A	N/A	6	A	N/A	9	A	N/A	10	A	N/A	31	C	N/A	35	D	N/A	20	C	N/A	26	C	N/A
24	South Bay Road and NYS Route 31	Signalized	12	B	0.45	12	B	0.5	16	B	0.73	18	B	0.77	29	C	0.87	47	D	1.01	28	C	0.85	35	C	0.93
25	Henry Clay Boulevard and Verplank Road	Unsignalized	7	A	N/A	7	A	N/A	8	A	N/A	8	A	N/A	9	A	N/A	9	A	N/A	9	A	N/A	9	A	N/A
26	Caughdenoy Road and Verplank Road	Unsignalized	9	A	N/A	9	A	N/A	10	A	N/A	10	B	N/A	11	B	N/A	11	B	N/A	10	B	N/A	12	B	N/A
27	Caughdenoy Road and Mud Mill Road	Unsignalized	9	A	N/A	10	A	N/A	10	B	N/A	11	B	N/A	11	B	N/A	11	B	N/A	11	B	N/A	11	B	N/A
28	Caughdenoy Road and Oak Orchard Road	Unsignalized	9	A	N/A	9	A	N/A	10	A	N/A	10	A	N/A	11	B	N/A	11	B	N/A	10	B	N/A	11	B	N/A
29	U.S. Route 11 and Mud Mill Road	Signalized	9	A	0.06	9	A	0.06	8	A	0.12	8	A	0.14	8	A	0.22	8	A	0.22	8	A	0.19	8	A	0.2
31	Raymour and Flanigan /Wegmans East and NYS Route 31	Signalized	8	A	0.3	7	A	0.32	13	B	0.4	12	B	0.45	27	C	0.8	26	C	0.82	23	C	0.81	23	C	0.82

Intersection ID	Intersection Name	Intersection Control	2027 No Action Alternative			2027 Preferred Action Alternative			2027 No Action Alternative			2027 Preferred Action Alternative			2027 No Action Alternative			2027 Preferred Action Alternative			2027 No Action Alternative			2027 Preferred Action Alternative		
			6 AM			6 AM			7 AM			7 AM			4 PM			4 PM			5 PM			5 PM		
			Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c
32	Henry Clay Boulevard and Wetzel Road	Signalized	28	C	0.26	27	C	0.27	20	B	0.43	19	B	0.45	26	C	0.72	27	C	0.73	24	C	0.65	24	C	0.66
33	Allen Road and Bear Road	Signalized	7	A	0.28	7	A	0.29	9	A	0.47	9	A	0.48	17	B	0.77	16	B	0.77	14	B	0.7	14	B	0.72
34	U.S. Route 11 and Bear Road	Signalized	25	C	0.5	26	C	0.51	29	C	0.66	30	C	0.67	44	D	0.96	48	D	1	38	D	0.89	39	D	0.9
35	Bear Road and I-481 EB On-/Off-Ramp	Signalized	14	B	0.34	100	F	0.48	16	B	0.46	138	F	0.61	22	C	0.45	14	B	0.53	21	C	0.41	13	B	0.47
36	South Bay Road and Bear Road	Signalized	7	A	0.22	7	A	0.24	8	A	0.39	9	A	0.43	13	B	0.72	13	B	0.74	13	B	0.7	13	B	0.72
37	I-481 WB On-/Off-Ramp and Circle Drive E	Signalized	18	B	0.18	14	B	0.26	16	B	0.28	75	E	0.54	22	C	0.59	27	C	0.77	20	C	0.53	22	C	0.69
38	U.S. Route 11 and Circle Drive W/ Circle Drive E	Signalized	11	B	0.3	11	B	0.36	10	A	0.48	9	A	0.54	30	C	0.89	25	C	0.91	29	C	0.82	25	C	0.89
39	U.S. Route 11 and Caughdenoy Road/ Widewaters Commons	Signalized	21	C	0.17	21	C	0.17	21	C	0.43	21	C	0.41	20	B	0.63	21	C	0.63	20	B	0.58	20	C	0.59
40	NYS Route 481 NB Off-Ramp and Maple Road and Caughdenoy Road	Signalized	8	A	0.1	9	A	0.11	9	A	0.14	8	A	0.2	8	A	0.28	8	A	0.32	8	A	0.27	7	A	0.29
41	Maple Road and Grange Road	Unsignalized	9	A	N/A	9	A	N/A	9	A	N/A	9	A	N/A	11	B	N/A	11	B	N/A	10	B	N/A	11	B	N/A
43	U.S. Route 11 and Crabtree Lane	Unsignalized	13	B	N/A	12	B	N/A	28	D	N/A	53	F	N/A	> 300	F	N/A	> 300	F	N/A	> 300	F	N/A	> 300	F	N/A
44	Grange Road/Grange Road E and Van Hoesen Road	Unsignalized	9	A	N/A	9	A	N/A	9	A	N/A	9	A	N/A	9	A	N/A	9	A	N/A	9	A	N/A	9	A	N/A
47	Cicero North Syracuse High School East Driveway and NYS Route 31	Unsignalized	10	B	N/A	10	B	N/A	11	B	N/A	11	B	N/A	16	C	N/A	17	C	N/A	15	C	N/A	17	C	N/A
50	McNamara Drive/ Driveway and NYS Route 31	Unsignalized	14	B	N/A	15	C	N/A	22	C	N/A	55	F	N/A	> 300	F	N/A	> 300	F	N/A	216	F	N/A	> 300	F	N/A
51	Henry Clay Boulevard and Pine Plains Cemetery	Unsignalized	0	A	N/A			N/A	0	A	N/A			N/A	0	A	N/A			N/A	0	A	N/A			N/A
54	Doreen Avenue and NYS Route 31	Unsignalized	12	B	N/A	12	B	N/A	15	B	N/A	16	C	N/A	48	E	N/A	54	F	N/A	33	D	N/A	40	E	N/A

Intersection ID	Intersection Name	Intersection Control	2027 No Action Alternative			2027 Preferred Action Alternative			2027 No Action Alternative			2027 Preferred Action Alternative			2027 No Action Alternative			2027 Preferred Action Alternative			2027 No Action Alternative			2027 Preferred Action Alternative		
			6 AM			6 AM			7 AM			7 AM			4 PM			4 PM			5 PM			5 PM		
			Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c
55	NYS Route 31 and Button Road	Unsignalized	10	A	N/A	10	A	N/A	12	B	N/A	13	B	N/A	42	E	N/A	45	E	N/A	30	D	N/A	35	E	N/A
56	NYS Route 31 and Weller Canning Road	Unsignalized	10	B	N/A	11	B	N/A	12	B	N/A	15	B	N/A	20	C	N/A	24	C	N/A	17	C	N/A	30	D	N/A
58	Caughdenoy Road and Micron Driveway 1	Signalized				9	A	0.04				9	A	0.1				5	A	0.13				8	A	0.13
59	Caughdenoy Road and Access Road/Micron Driveway 2	Signalized				5	A	0.03				8	A	0.16				7	A	0.07				10	A	0.17
60	NYS Route 31 and Micron Driveway 3	Signalized				11	B	0.2				14	B	0.46				13	B	0.34				13	B	0.52
63	U.S. Route 11 and Micron Driveway 6	Signalized				9	A	0.08				10	A	0.17				14	B	0.36				12	B	0.39
69	Morgan Road and Verplank Road	Unsignalized	12	B	N/A	13	B	N/A	16	C	N/A	18	C	N/A	32	D	N/A	42	E	N/A	27	D	N/A	36	E	N/A
70	Morgan Road and GNM Driveway 1	Signalized	6	A	0.27	7	A	0.3	7	A	0.4	10	B	0.59	10	A	0.49	11	B	0.51	9	A	0.48	10	A	0.5
71	Pardee Road and McKinley Road	Unsignalized	9	A	N/A	9	A	N/A	10	A	N/A	10	A	N/A	10	A	N/A	10	A	N/A	10	A	N/A	10	A	N/A
72	Morgan Road and GNM Driveway 2	Unsignalized	0	A	N/A	0	A	N/A	0	A	N/A	0	A	N/A	0	A	N/A	0	A	N/A	0	A	N/A	0	A	N/A
73	GNM Driveway 3 and Verplank Road	Unsignalized	0	A	N/A	0	A	N/A	0	A	N/A	0	A	N/A	0	A	N/A	0	A	N/A	0	A	N/A	0	A	N/A
74	GNM Driveway 4 and Verplank Road	Unsignalized	0	A	N/A	0	A	N/A	0	A	N/A	0	A	N/A	0	A	N/A	0	A	N/A	0	A	N/A	0	A	N/A
77	Sneller Road and U.S. Route 11	Signalized	11	B	1.01	11	B	1	26	C	1	32	C	1.01	16	B	0.98	19	B	0.97	11	B	0.92	13	B	0.91
101	Caughdenoy Road and Micron Driveway X	Signalized				3	A	0.04				3	A	0.09				7	A	0.13				6	A	0.12
132	Davidson and NYS Route 31	Signalized	10	B	0.38	11	B	0.41	12	B	0.51	15	B	0.58	22	C	0.74	18	B	0.97	19	B	0.73	22	C	0.75
233	Oswego and Verplank Road	Unsignalized	11	B	N/A	12	B	N/A	14	B	N/A	15	C	N/A	16	C	N/A	17	C	N/A	15	B	N/A	16	C	N/A
258	Texas Roadhouse/ Delta Sonic and NYS Route 31	Signalized	4	A	0.25	4	A	0.39	5	A	0.34	7	A	0.56	10	A	0.7	19	B	0.83	6	A	0.66	9	A	0.64
260	U.S. Route 11 and Chick-fil-A	Signalized	4	A	0.24	5	A	0.25	4	A	0.36	5	A	0.37	15	B	0.86	13	B	0.88	9	A	0.78	9	A	0.79
262	NYS Route 31 and Carling Road	Signalized	8	A	0.29	8	A	0.31	12	B	0.38	12	B	0.44	29	C	0.81	30	C	0.83	23	C	0.79	25	C	0.81

Intersection ID	Intersection Name	Intersection Control	2027 No Action Alternative			2027 Preferred Action Alternative			2027 No Action Alternative			2027 Preferred Action Alternative			2027 No Action Alternative			2027 Preferred Action Alternative			2027 No Action Alternative			2027 Preferred Action Alternative		
			6 AM			6 AM			7 AM			7 AM			4 PM			4 PM			5 PM			5 PM		
			Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c
267	NYS Route 31 and Dell Center Dr	Signalized	8	A	0.3	8	A	0.32	9	A	0.38	10	B	0.44	19	B	0.81	21	C	0.83	19	B	0.78	20	C	0.81
275	Verplank Road and Proposed Access #1	Unsignalized	0	A	N/A	0	A	N/A	0	A	N/A	0	A	N/A	0	A	N/A	0	A	N/A	0	A	N/A	0	A	N/A
276	Lowes/Home Depot and NYS Route 31	Signalized	14	B	0.29	14	B	0.31	18	B	0.39	13	B	0.45	27	C	0.83	26	C	0.85	19	B	0.79	22	C	0.83
280	NYS Route 31 and Oswego Road	Signalized	23	C	0.52	25	C	0.58	34	C	0.78	38	D	0.87	50	D	0.96	58	E	0.98	43	D	0.93	50	D	0.98
287	Proposed Access #2 and Verplank Road	Unsignalized	0	A	N/A	0	A	N/A	0	A	N/A	0	A	N/A	0	A	N/A	0	A	N/A	0	A	N/A	0	A	N/A

Table 7-8. Year 2027 No Action Alternative Vs. Preferred Action Alternative AM and PM Peak Hour Freeway Operations – Density and LOS

Segment Direction	Segment Description	Segment Type	2027 No Action Alternative				2027 Preferred Action Alternative				2027 No Action Alternative				2027 Preferred Action Alternative			
			Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS
			6 AM		7 AM		6 AM		7 AM		4 PM		5 PM		4 PM		5 PM	
I-81 NB	I-81 NB Between E Taft Road and NYS Route 481	Basic	5.4	A	7.9	A	5.9	A	9.4	A	17.0	B	15.3	B	19.2	C	17.3	B
	I-81 NB Off-Ramp to NYS Route 481	Diverge	4.1	A	6.1	A	4.5	A	7.2	A	13.1	B	11.8	B	14.9	B	13.4	B
	I-81 NB Between Off-/On-Ramps to/from NYS Route 481	Basic	4.5	A	6.9	A	4.9	A	8.3	A	15.9	B	14.4	B	17.8	B	16.1	B
	I-81 NB Between Off-/On-Ramps to/from NYS Route 481	Weave	3.8	A	6.0	A	4.2	A	7.0	A	13.2	B	11.8	B	14.6	B	13.2	B
	I-81 NB after Off-Ramp to NYS Route 481	Basic	5.1	A	7.8	A	5.7	A	10.1	A	16.1	B	14.4	B	18.7	C	16.6	B
	I-81 NB On-Ramp from NYS Route 481	Merge	3.0	A	4.8	A	3.3	A	6.1	A	10.5	B	9.3	A	11.9	B	10.6	B
	I-81 NB Between NYS Route 481 and NYS Route 31	Basic	3.9	A	6.4	A	4.4	A	10.2	A	14.1	B	12.5	B	17.2	B	22.0	C
	I-81 NB Off-Ramp to NYS Route 31	Diverge	3.1	A	5.1	A	3.6	A	70.8	F	14.6	B	12.9	B	34.6	D	42.8	E
	I-81 NB Between Off-/On-Ramps to/from NYS Route 31	Basic	2.2	A	3.7	A	2.4	A	4.1	A	9.0	A	8.0	A	10.1	A	9.3	A
	I-81 NB On-Ramp from NYS Route 31	Merge	2.1	A	3.2	A	2.3	A	3.5	A	9.9	A	9.1	A	10.1	B	9.4	A
	I-81 NB Between NYS Route 31 and Bartell Road	Basic	2.6	A	4.2	A	2.9	A	4.6	A	13.4	B	12.2	B	12.6	B	11.8	B
	I-81 NB Off-Ramp to Bartell Road	Diverge	2.0	A	3.3	A	2.2	A	3.6	A	10.9	B	10.0	A	10.4	B	9.7	A
	I-81 NB Off-/On-Ramps to/from Bartell Road	Basic	2.0	A	3.2	A	2.2	A	3.6	A	10.7	A	9.9	A	9.9	A	9.4	A
	I-81 On-Ramp from Bartell Road	Merge	1.7	A	2.8	A	1.9	A	3.1	A	8.7	A	8.1	A	8.1	A	7.8	A
	I-81 NB Between Bartell Road and East Avenue	Basic	2.2	A	3.6	A	2.5	A	4.1	A	11.5	B	10.7	A	10.5	A	10.1	A
I-81 SB	I-81 SB Between East Avenue and Bartell Road	Basic	6.2	A	9.8	A	6.6	A	10.7	A	5.5	A	5.0	A	6.0	A	5.4	A
	I-81 SB Off-Ramp to Bartell Road	Diverge	4.7	A	7.5	A	5.0	A	8.2	A	4.3	A	3.8	A	4.6	A	4.1	A
	I-81 SB Between Off-Ramp and On-Ramp to Bartell Road	Basic	5.8	A	9.2	A	6.2	A	9.9	A	4.8	A	4.4	A	5.2	A	4.7	A
	I-81 SB On-Ramp from Bartell Road	Merge	5.9	A	9.4	A	6.3	A	10.1	B	5.5	A	5.0	A	5.9	A	5.4	A
	I-81 SB Between Bartell Road and NYS Route 31	Basic	7.6	A	12.2	B	8.1	A	13.1	B	7.1	A	6.4	A	7.6	A	6.9	A

Segment Direction	Segment Description	Segment Type	2027 No Action Alternative				2027 Preferred Action Alternative				2027 No Action Alternative				2027 Preferred Action Alternative			
			Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS
			6 AM		7 AM		6 AM		7 AM		4 PM		5 PM		4 PM		5 PM	
I-81 SB (continued)	I-81 SB Off-Ramp to NYS Route 31	Diverge	5.7	A	9.3	A	6.1	A	11.3	B	5.4	A	4.9	A	5.9	A	5.3	A
	I-81 SB Between Off-Ramp and On-Ramp from NYS Route 31	Basic	6.6	A	10.8	A	7.1	A	11.7	B	5.8	A	5.2	A	6.2	A	5.6	A
	I-81 SB On-Ramp from NYS Route 31	Merge	8.1	A	12.8	B	8.7	A	14.1	B	8.0	A	7.2	A	8.6	A	8.6	A
	I-81 SB Between NYS Route 31 and I-81	Basic	10.2	A	16.3	B	11.0	A	17.9	B	10.1	A	9.1	A	10.8	A	10.7	A
	I-81 SB Off-Ramp to NYS Route 481 EB	Diverge	10.2	B	16.3	B	11.0	B	17.9	B	10.1	B	9.1	A	10.8	B	10.7	B
	I-81 SB Off-Ramp to I-81 EB and WB	Basic	10.2	A	16.0	B	11.1	B	17.7	B	11.0	A	10.0	A	11.7	B	11.5	B
	I-81 SB Off-Ramp to I-81 WB	Diverge	6.9	A	10.7	B	7.5	A	11.7	B	7.5	A	6.8	A	7.9	A	7.8	A
	I-81 SB Between Off-Ramp and On-Ramp from NYS Route 481	Basic	9.4	A	14.7	B	10.2	A	16.2	B	9.6	A	8.8	A	10.3	A	10.4	A
	I-81 SB On-Ramp from NYS Route 481 WB	Merge	7.2	A	10.9	B	7.7	A	12.0	B	7.3	A	6.7	A	7.9	A	7.8	A
	I-81 SB On-Ramp from NYS Route 481 EB	Merge	9.5	A	13.6	B	9.9	A	14.6	B	9.2	A	8.6	A	9.4	A	9.2	A
	I-81 NB Between NYS Route 481 and E Taft Road	Basic	12.2	B	17.7	B	12.8	B	19.1	C	11.9	B	11.1	B	12.2	B	11.9	B
NYS Route 481 EB	NYS Route 481 EB Between Verplank Road and NYS Route 31	Basic	6.5	A	10.5	A	6.8	A	11.1	B	8.0	A	6.3	A	8.2	A	6.5	A
	NYS Route 481 EB Off-Ramp to NYS Route 31	Diverge	4.9	A	8.1	A	5.1	A	8.6	A	6.4	A	4.8	A	6.5	A	5.0	A
	NYS Route 481 Between Off-Ramp and On-Ramp from NYS Route 31	Basic	4.6	A	7.4	A	4.9	A	7.8	A	4.4	A	4.0	A	4.6	A	4.1	A
	NYS Route 481 EB On-Ramp from NYS Route 31	Merge	8.0	A	11.7	B	8.2	A	12.1	B	6.9	A	6.5	A	6.5	A	6.1	A
	NYS Route 481 EB Between NYS Route 31 and Bear Road	Basic	11.0	A	16.4	B	11.4	B	17.2	B	9.5	A	9.0	A	9.1	A	8.4	A
	NYS Route 481 EB Off-Ramp to Bear Road	Diverge	7.6	A	12.4	B	7.9	A	13.0	B	7.6	A	7.4	A	7.2	A	6.8	A
	NYS Route 481 EB Between Off-Ramp and On-Ramp from Bear Road	Basic	9.8	A	15.6	B	10.1	A	16.4	B	7.8	A	7.4	A	7.6	A	7.0	A
	NYS Route 481 Between U.S. 11 and I-81	Weave	11.1	B	16.9	B	11.5	B	17.5	B	10.0	B	9.5	A	10.1	B	9.4	A
	NYS Route 481 EB Off-Ramp to I-81 NB	Diverge	5.1	A	8.6	A	5.4	A	9.0	A	4.7	A	4.4	A	5.0	A	4.6	A
	NYS Route 481 EB Between Off-Ramp and On-Ramp from I-81	Basic	7.2	A	12.1	B	7.7	A	12.8	B	6.5	A	6.3	A	6.9	A	6.6	A
	NYS Route 481 EB On-Ramp from I-81 NB	Merge	5.7	A	9.4	A	6.1	A	9.8	A	5.6	A	5.4	A	6.3	A	5.9	A
	NYS Route 481 EB On-Ramp from I-81 SB	Merge	6.7	A	11.0	B	7.1	A	11.6	B	6.2	A	5.8	A	6.8	A	6.6	A
	NYS Route 481 EB Between I-81 and Northern Boulevard	Basic	8.9	A	14.6	B	9.4	A	15.5	B	8.2	A	7.7	A	9.1	A	8.8	A
NYS Route 481 WB	NYS Route 481 WB Between Northern Boulevard and I-81	Basic	5.3	A	8.6	A	5.9	A	10.9	A	18.8	C	16.6	B	20.1	C	17.7	B
	NYS Route 481 WB Off-Ramp to I-81	Diverge	3.5	A	5.8	A	3.9	A	7.3	A	12.7	B	11.3	B	13.7	B	12.0	B
	NYS Route 481 WB Between Off-Ramp and On-Ramp from I-81 NB	Basic	5.2	A	8.1	A	5.8	A	10.3	A	16.6	B	14.9	B	17.9	B	15.6	B
	NYS Route 481 WB Between On-Ramp and Off-Ramp to I-81	Weave	4.7	A	7.4	A	5.1	A	8.7	A	16.3	B	14.8	B	17.3	B	15.6	B
	NYS Route 481 WB Between Off-Ramp and On-Ramp from I-81 SB	Basic	5.1	A	8.6	A	5.7	A	10.0	A	21.5	C	19.5	C	22.9	C	20.5	C
	NYS Route 481 WB Between I-81 and U.S. 11	Weave	3.9	A	6.4	A	4.4	A	7.4	A	14.9	B	13.6	B	15.7	B	14.1	B
	NYS Route 481 WB Off-Ramp and On-Ramp from Circle Drive	Basic	3.2	A	5.3	A	3.7	A	6.7	A	13.9	B	12.2	B	15.2	B	12.9	B
	NYS Route 481 WB On-Ramp from Circle Drive	Merge	2.6	A	4.3	A	3.1	A	5.4	A	12.2	B	10.3	B	13.4	B	10.9	B
	NYS Route 481 WB Between U.S. 11 and Caughdenoy Road	Basic	3.7	A	6.2	A	4.4	A	7.8	A	16.9	B	14.6	B	18.4	C	15.6	B

Segment Direction	Segment Description	Segment Type	2027 No Action Alternative				2027 Preferred Action Alternative				2027 No Action Alternative				2027 Preferred Action Alternative			
			Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS
			6 AM		7 AM		6 AM		7 AM		4 PM		5 PM		4 PM		5 PM	
NYS Route 481 WB (continued)	NYS Route 481 WB Off-Ramp to Caughdenoy Road	Diverge	2.5	A	4.2	A	3.0	A	5.7	A	12.1	B	10.5	B	13.4	B	11.2	B
	NYS Route 481 WB Between Caughdenoy Road and NYS Route 31	Basic	3.2	A	5.6	A	3.8	A	6.2	A	14.9	B	13.5	B	16.1	B	17.6	B
	NYS Route 481 WB Off-Ramp to NYS Route 31	Diverge	2.7	A	4.7	A	3.2	A	5.4	A	26.8	C	37.8	E	24.7	C	30.8	D
	NYS Route 481 WB Between Off-Ramp and On-Ramp from NYS Route 31	Basic	1.8	A	3.0	A	1.9	A	3.2	A	4.6	A	4.5	A	4.8	A	4.5	A
	NYS Route 481 WB On-Ramp from NYS Route 31	Merge	2.1	A	3.4	A	2.2	A	3.6	A	6.0	A	5.3	A	5.8	A	5.0	A
	NYS Route 481 WB Between NYS Route 31 and Verplank Road	Basic	3.0	A	5.0	A	3.1	A	5.2	A	8.5	A	7.6	A	8.3	A	7.3	A

Table 7-9. Year 2027 Impacted Intersections Operations AM and PM Peak Hour – Delay and LOS

	Intersection Name	2027 No Action Alternative		2027 Preferred Action Alternative		2027 No Action Alternative		2027 Preferred Action Alternative	
		Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
		6 AM		6 AM		7 AM		7 AM	
35	Bear Road and NYS Route 481 EB On-/Off-Ramp	14	B	100	F	16	B	138	F
37	NYS Route 481 WB On-/Off-Ramp and Circle Drive E	18	B	14	B	16	B	75	E
43	U.S. Route 11 and Crabtree Lane	13	B	12	B	28	D	53	F
50	McNamara Drive/Driveway and NYS Route 31	14	B	15	C	22	C	55	F
		4 PM		4 PM		5 PM		5 PM	
2	NYS Route 31 and NYS Route 481 NB	46	D	56	E	39	D	44	D
6	Morgan Road and NYS Route 31	43	D	59	E	35	C	58	E
16	U.S. Route 11 and NYS Route 31	48	D	57	E	41	D	82	F
50	McNamara Drive/Driveway & NYS Route 31[a]	>300	F	>300	F	>300	F	>300	F
43	U.S. Route 11 & Crabtree Lane[a]	>300	F	>300	F	>300	F	>300	F
54	Doreen Avenue and NYS Route 31[a]	48	E	54	F	33	D	40	E
55	NYS Route 31 and Button Road[a]	42	E	45	E	30	D	35	E
69	Morgan Road and Verplank Road[a]	32	D	42	E	27	D	36	E
233	NYS Route 31 and Oswego Road	50	D	58	E	43	D	50	D

[a] signalized intersection in the Preferred Action Alternative

Table 7-10. Year 2027 Impacted Freeway Operations AM and PM Peak Hour– Density and LOS

Segment Direction	Segment Description	Segment Type	2027 No Action Alternative				2027 Preferred Action Alternative			
			Density	LOS	Density	LOS	Density	LOS	Density	LOS
			6 AM		7 AM		6 AM		7 AM	
I-81 NB	I-81 NB Off-Ramp to NYS Route 31	Diverge	3.1	A	5.1	A	3.6	A	70.8	F
			4 PM		5 PM		4 PM		5 PM	
I-81 NB	I-81 NB Off-Ramp to NYS Route 31	Diverge	14.6	B	12.9	B	34.6	D	42.8	E

8. Year 2031 Traffic Operations

The year 2031 marks an interim period during which operational and construction activities will take place on the site. Fab 1 is operational, and Fab 2 is currently er construction. The operational trips will be in addition to construction trips resulting from the ongoing activities for the Proposed Project. This section presents the traffic operations analysis results for the year 2031 for the following scenarios:

- **Year 2031 No Action Alternative:** This scenario does not include the Proposed Project but includes the adjacent land-use development anticipated to occur independently. The roadway network reflects the 2027 No Action Alternative network, including all NYSDOT's initial improvements. The peak-period volumes were produced through the travel demand forecasting effort and reflected background conditions without the Proposed Project.
- **Year 2031 Preferred Action Alternative:** This scenario adds the Proposed Project trips generated by construction and operations employees to the background volume, representing the 2031 No Action Alternative roadway network. Additionally, it includes initial improvements expected to be completed by NYSDOT by 2031, as detailed in Table 6-2, Planned Roadway Improvements, which are independent of the Proposed Project.
- **Year 2031 Preferred Action Alternative with Recommended Mitigation:** This scenario builds on the 2031 Preferred Action Alternative by incorporating the roadway network improvements included in the Year 2041 Recommended Traffic Mitigation Scenario C, because it represents the peak traffic volumes and mitigations. The roadway network is modified to add an interchange to I-81 at Sneller Road, upgrade the existing NYS Route 31/I-81 and NYS Route 31/NYS Route 481 interchanges, widen NYS Route 31 and U.S. Route 11, add an interchange between NYS Route 481 and a Micron Campus access road, and add access from Caughdenoy Road to NYS Route 481.

8.1 No Action Alternative

The following subsections present key Measures of Effectiveness (MOEs) and discuss the traffic operational analysis results for the background traffic in 2031, excluding the Proposed Project. The roadway network reflects the 2027 scenario, which includes NYSDOT improvements and capacity improvements implemented to accommodate the adjacent land-use development. Operations for the peak hour with the lowest LOS within the peak period of the freeway mainline segments, merge/diverge areas, weaving areas, ramp segments, ramp terminal intersections, and surface street intersections are expressed as LOS based on the color coding shown in Tables 2-3 and 2-4 in Section 2.3.3. Appendix D summarizes the model output and details the link and node results summarized in the figures and tables.

8.1.1 Traffic Volumes

The traffic volumes in Figures 8-1 through 8-4 reflect background growth and trips generated by the planned developments discussed in Section 5.2. Compared to the background volumes in 2027, noticeable traffic increases occur on Morgan Road, NYS Route 31, and I-81. The Proposed Project background growth, projected area development, and redevelopment of nearby sites contribute to some traffic volume increases for NYS Route 31 and Morgan Road.

Figure 8-1: Year 2031 No Action Alternative 6AM/4PM Traffic Volumes - Intersections - Sheet 1 of 5

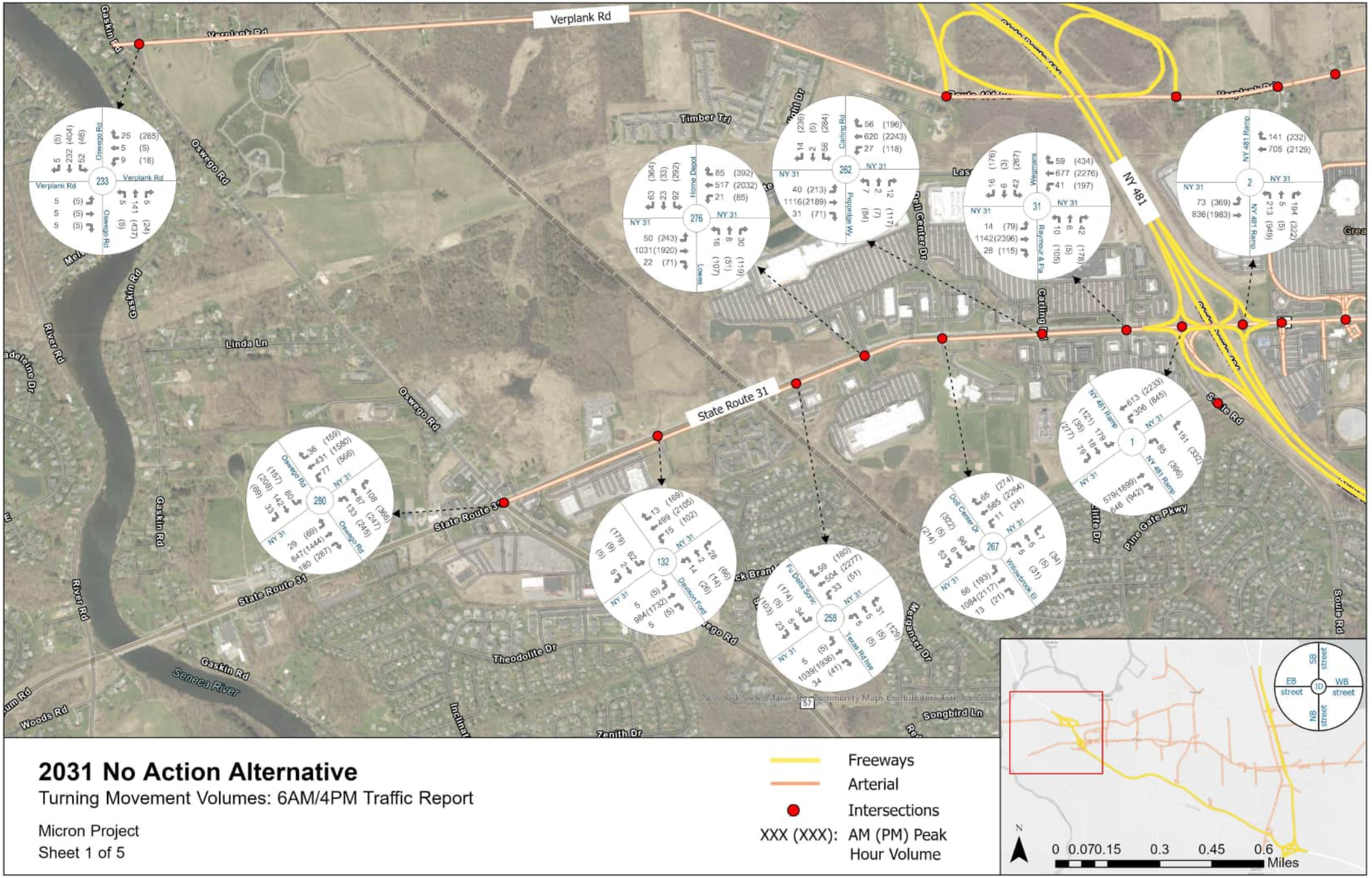


Figure 8-1: Year 2031 No Action Alternative 6AM/4PM Traffic Volumes - Intersections - Sheet 2 of 5

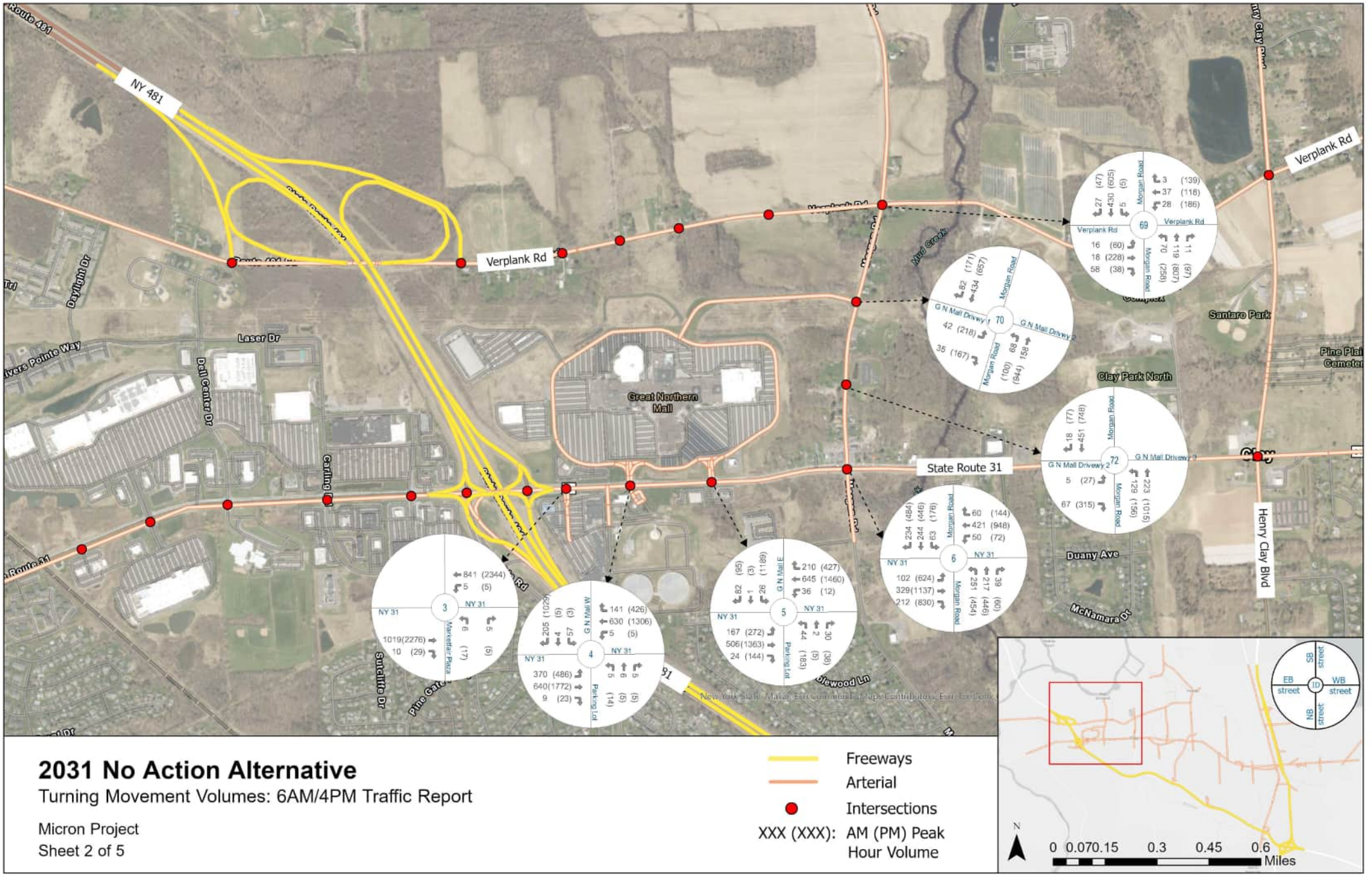


Figure 8-1: Year 2031 No Action Alternative 6AM/4PM Traffic Volumes - Intersections - Sheet 3 of 5

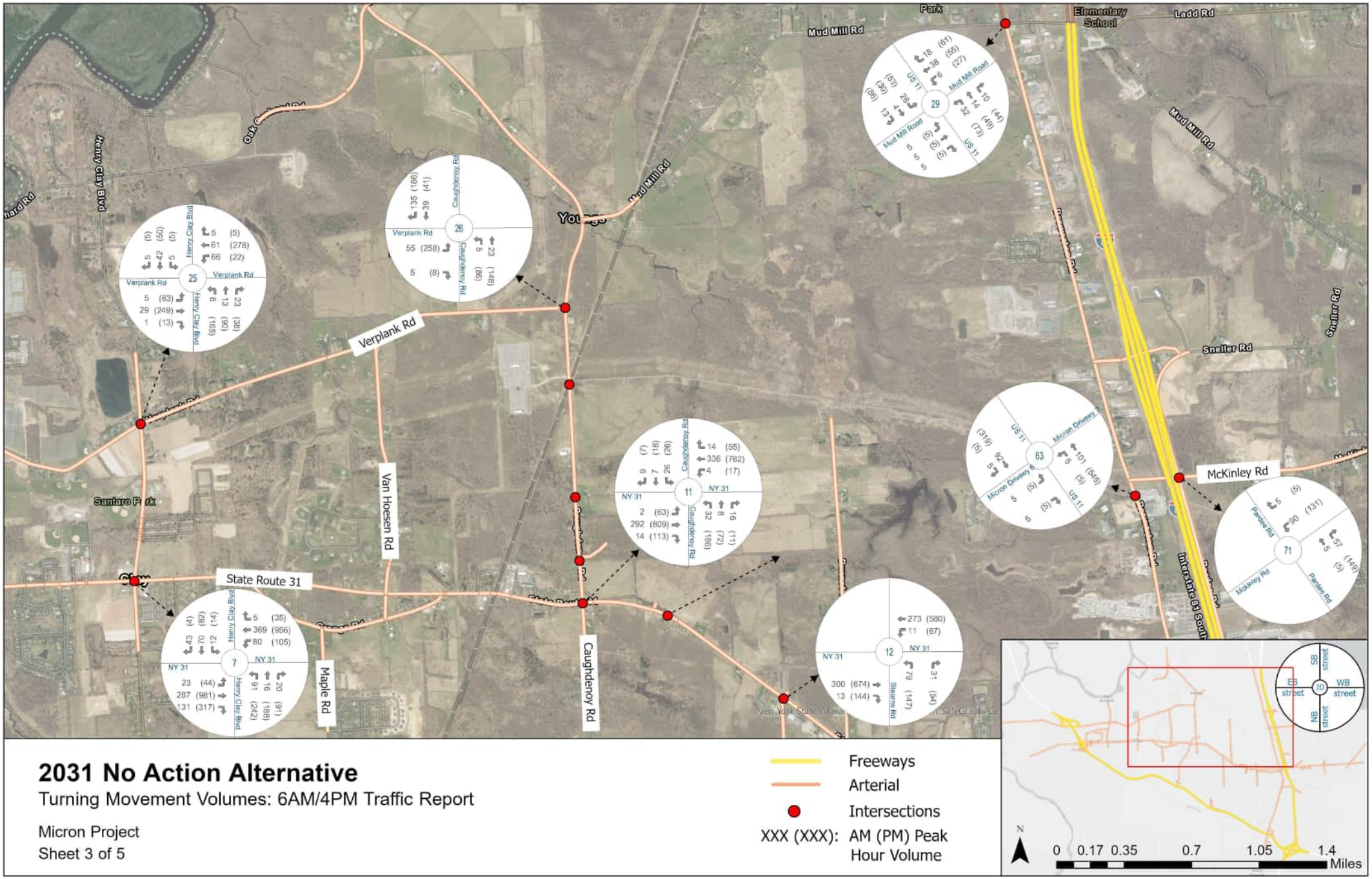


Figure 8-1: Year 2031 No Action Alternative 6AM/4PM Traffic Volumes - Intersections - Sheet 4 of 5

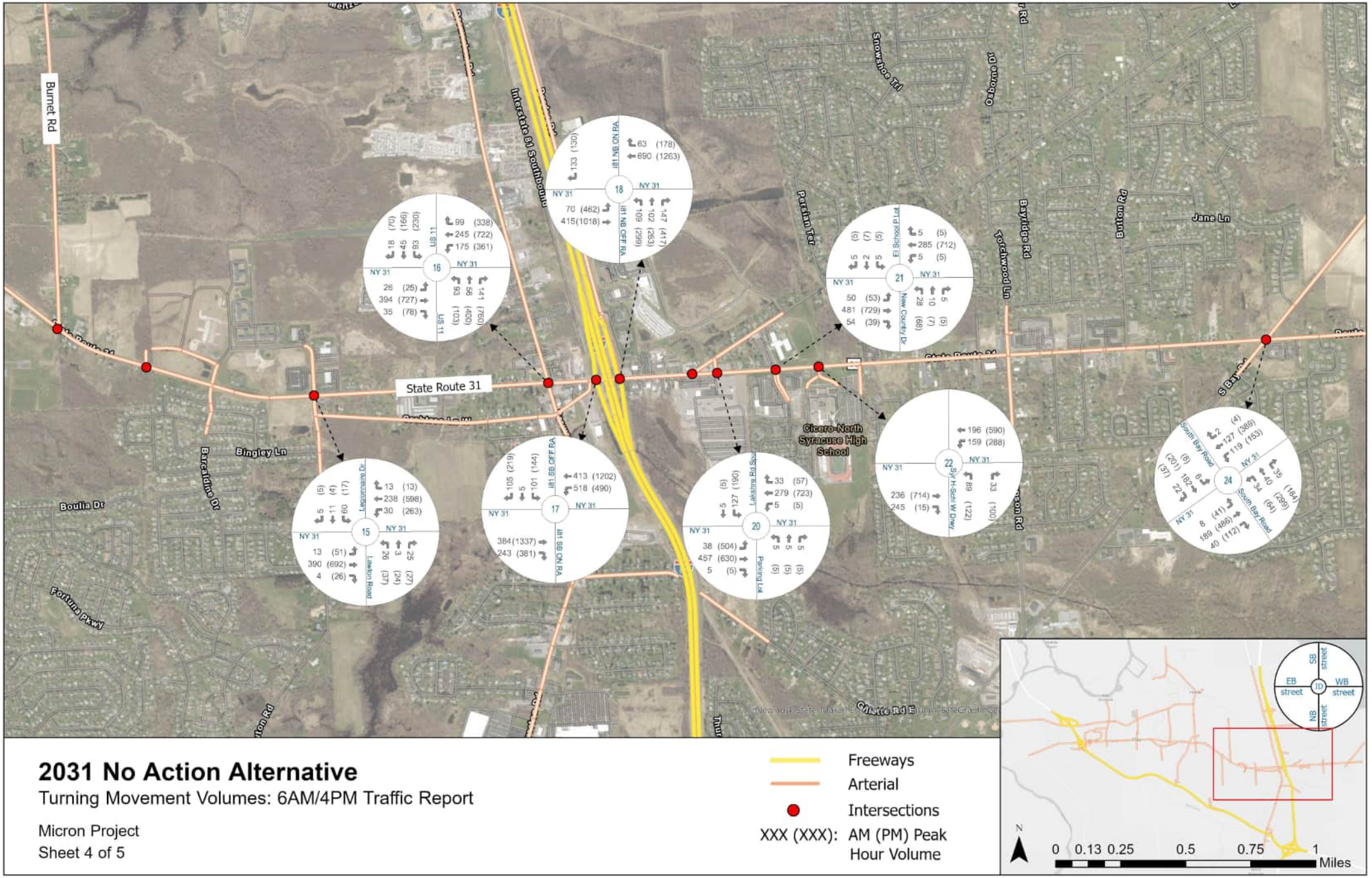


Figure 8-1: Year 2031 No Action Alternative 6AM/4PM Traffic Volumes - Intersections - Sheet 5 of 5

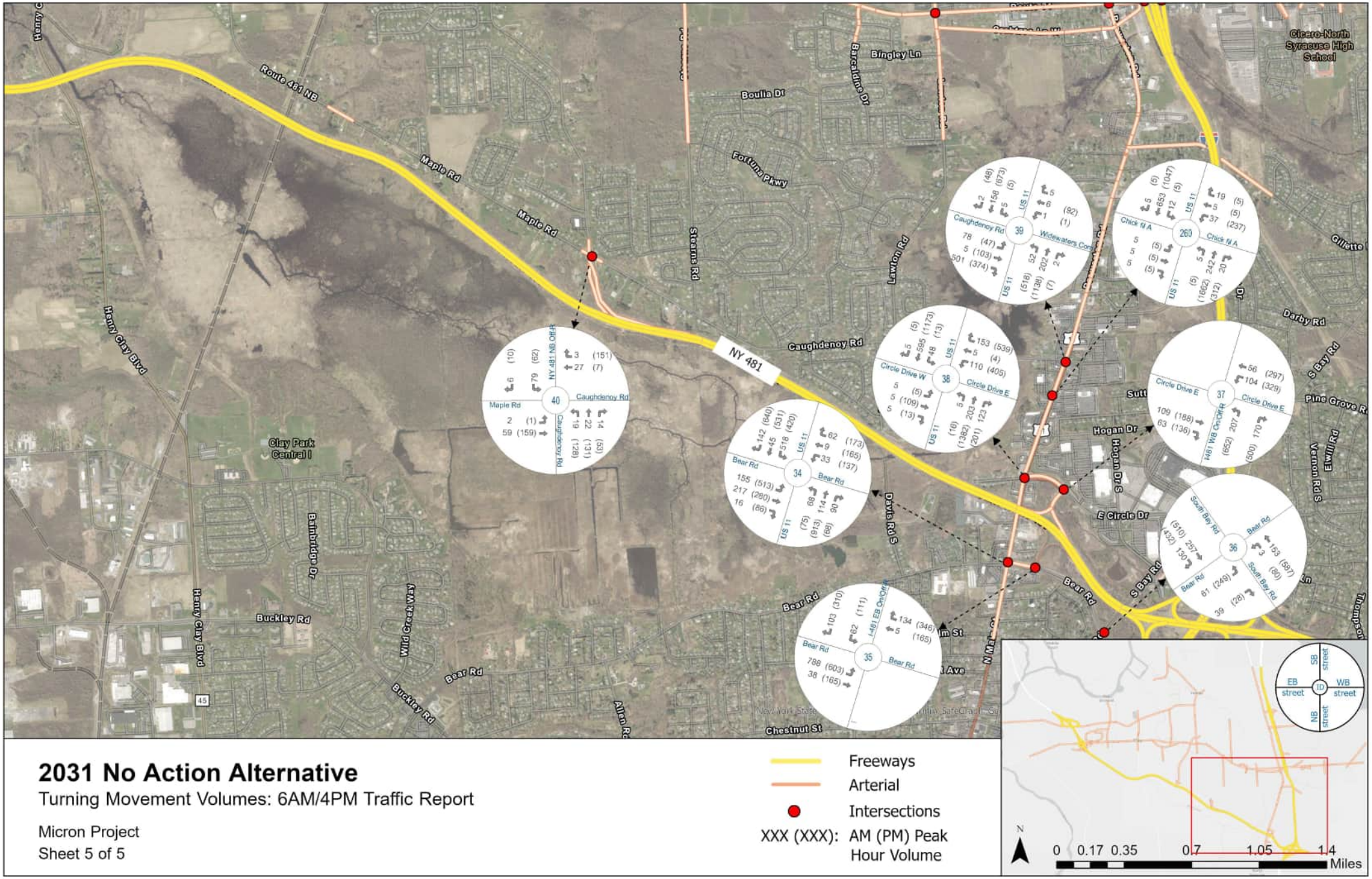
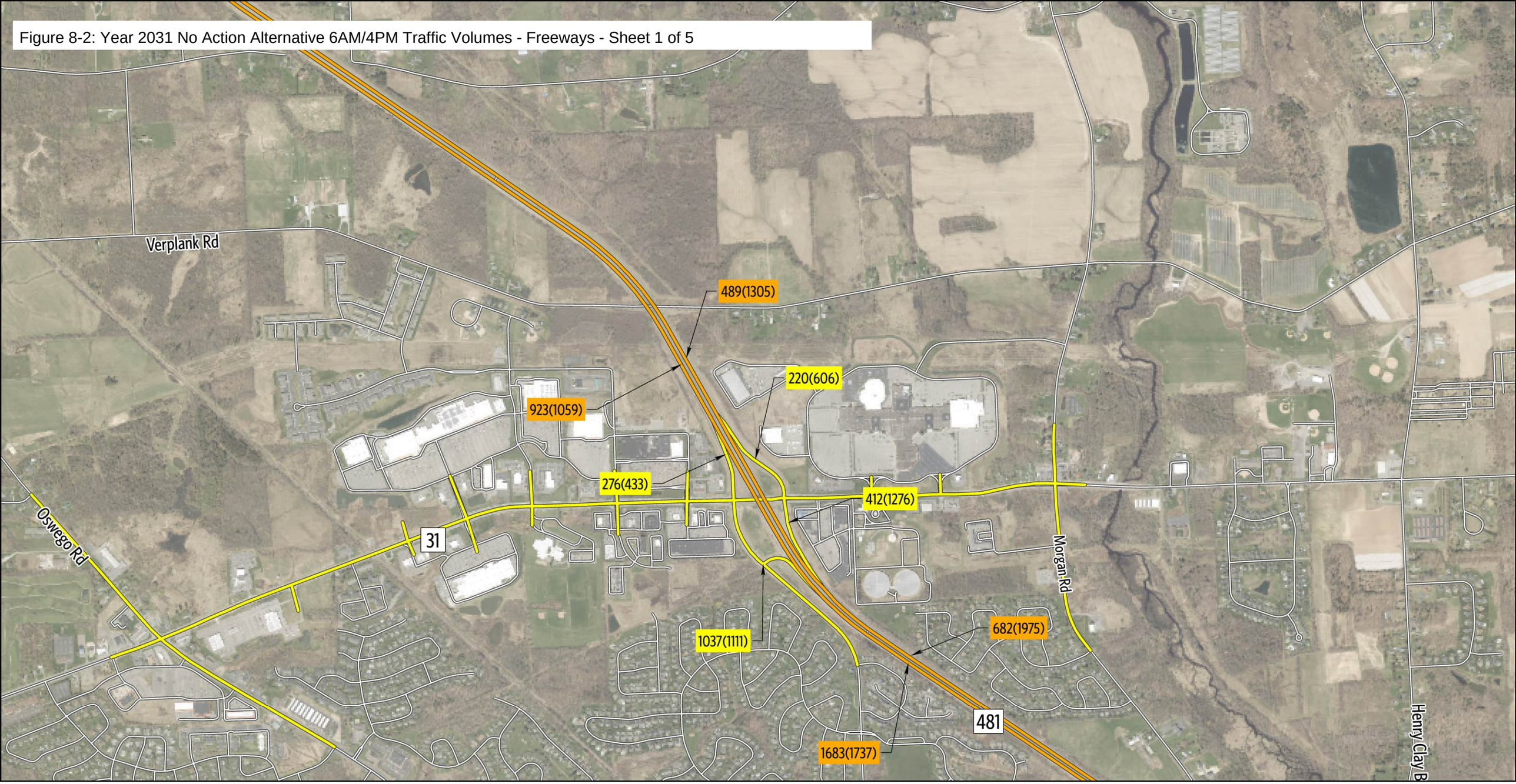


Figure 8-2: Year 2031 No Action Alternative 6AM/4PM Traffic Volumes - Freeways - Sheet 1 of 5



Mainline Volumes — Freeways

Ramp Volumes — Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

0 1,000 2,000 Feet

2031 No Action Alternative

Sheet 1 of 5

6 AM & 4 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 8-2: Year 2031 No Action Alternative 6AM/4PM Traffic Volumes - Freeways - Sheet 2 of 5

Mainline Volumes — Freeways

Ramp Volumes — Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

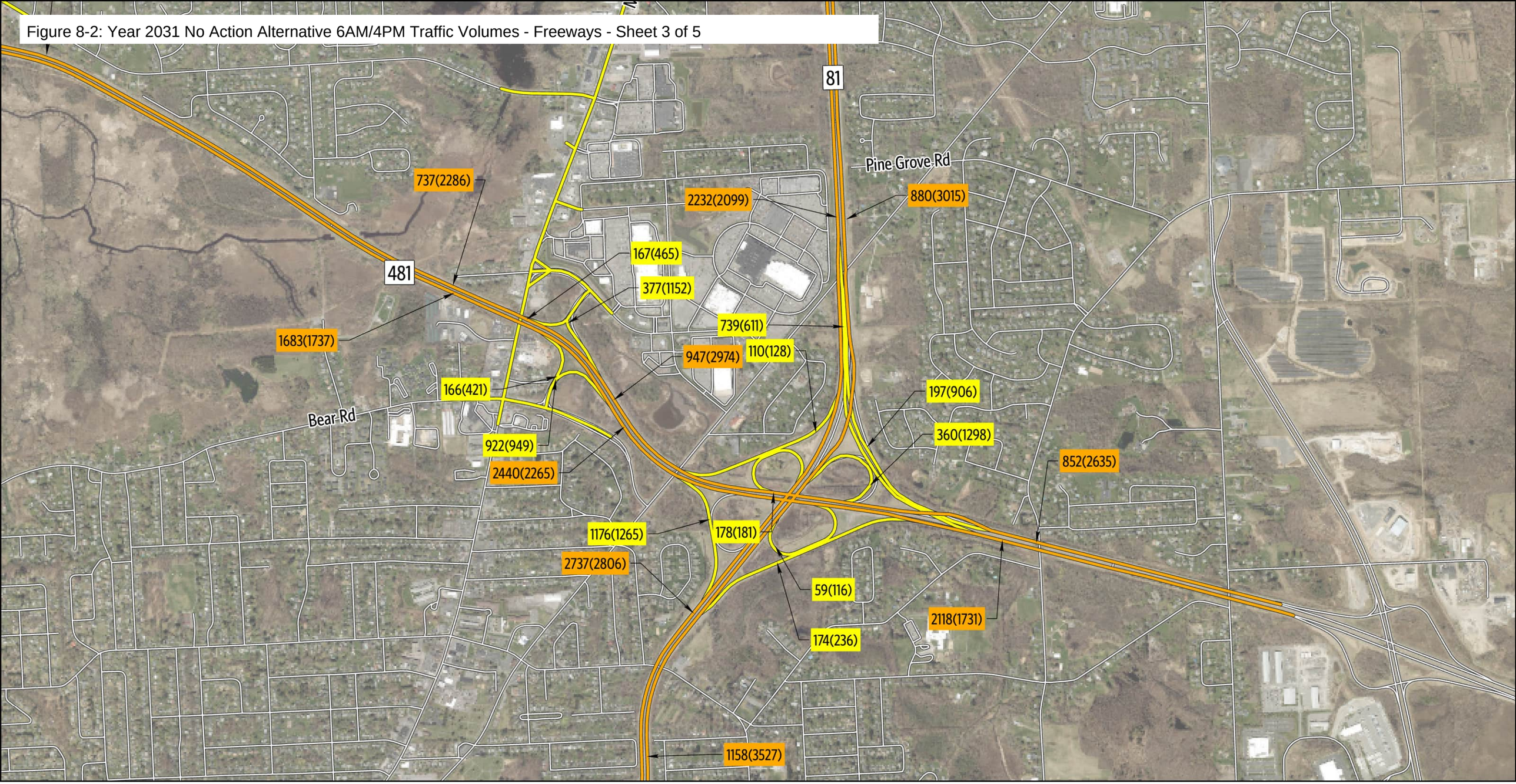
0 1,000 2,000 Feet

2031 No Action Alternative

Sheet 2 of 5

6 AM & 4 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 8-2: Year 2031 No Action Alternative 6AM/4PM Traffic Volumes - Freeways - Sheet 3 of 5



Mainline Volumes — Freeways

Ramp Volumes — Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

0 1,000 2,000 Feet

2031 No Action Alternative

Sheet 3 of 5

6 AM & 4 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 8-2: Year 2031 No Action Alternative 6AM/4PM Traffic Volumes - Freeways - Sheet 4 of 5

Mainline Volumes
Freeways

Ramp Volumes
Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

0 1,000 2,000 Feet

2031 No Action Alternative

Sheet 4 of 5

6 AM & 4 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 8-2: Year 2031 No Action Alternative 6AM/4PM Traffic Volumes - Freeways - Sheet 5 of 5

Mainline Volumes
Freeways

Ramp Volumes
Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

0 1,000 2,000 Feet

2031 No Action Alternative

Sheet 5 of 5

6 AM & 4 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 8-3: Year 2031 No Action Alternative 7AM/5PM Traffic Volumes - Intersections - Sheet 1 of 5

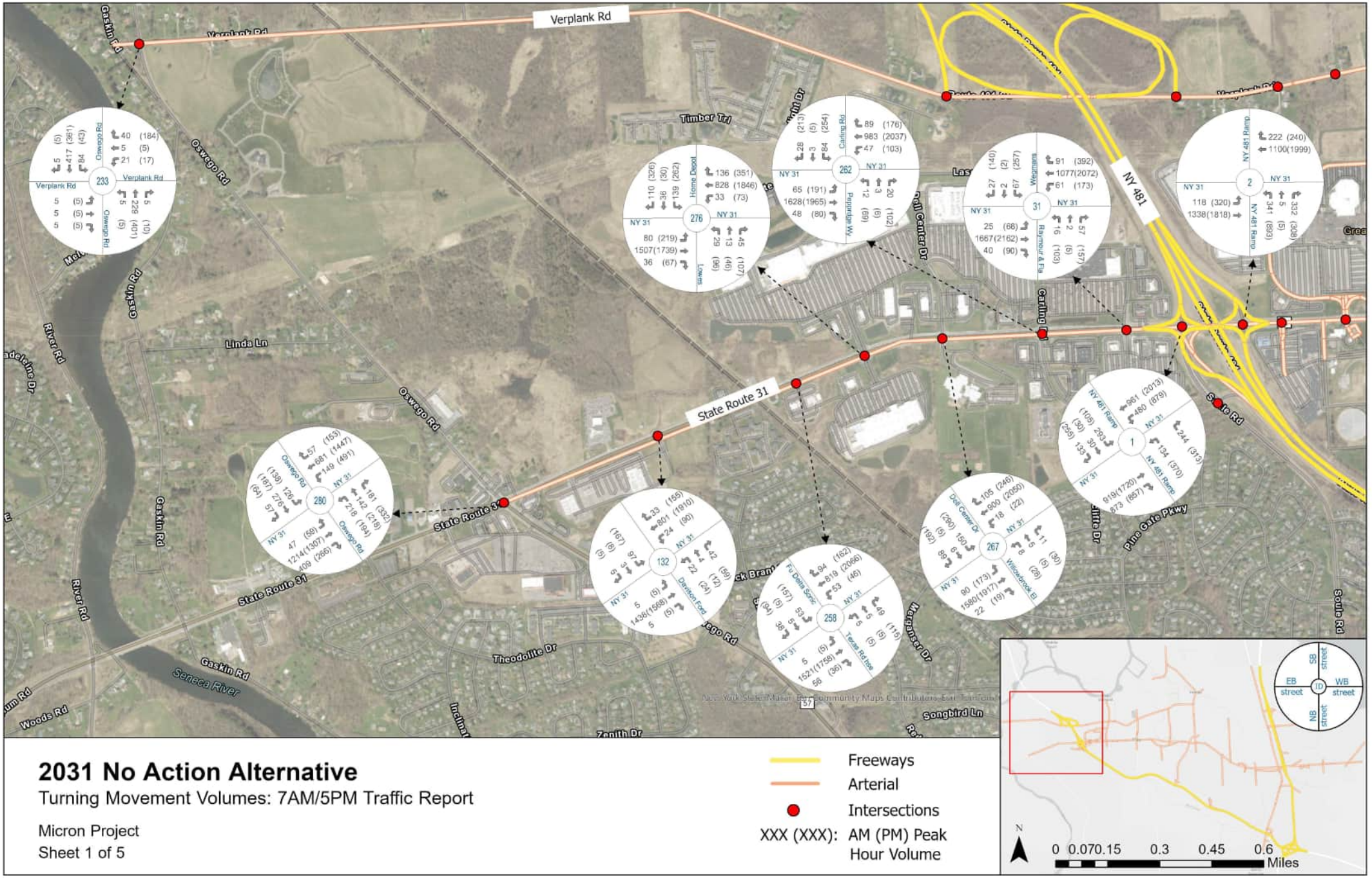


Figure 8-3: Year 2031 No Action Alternative 7AM/5PM Traffic Volumes - Intersections - Sheet 2 of 5

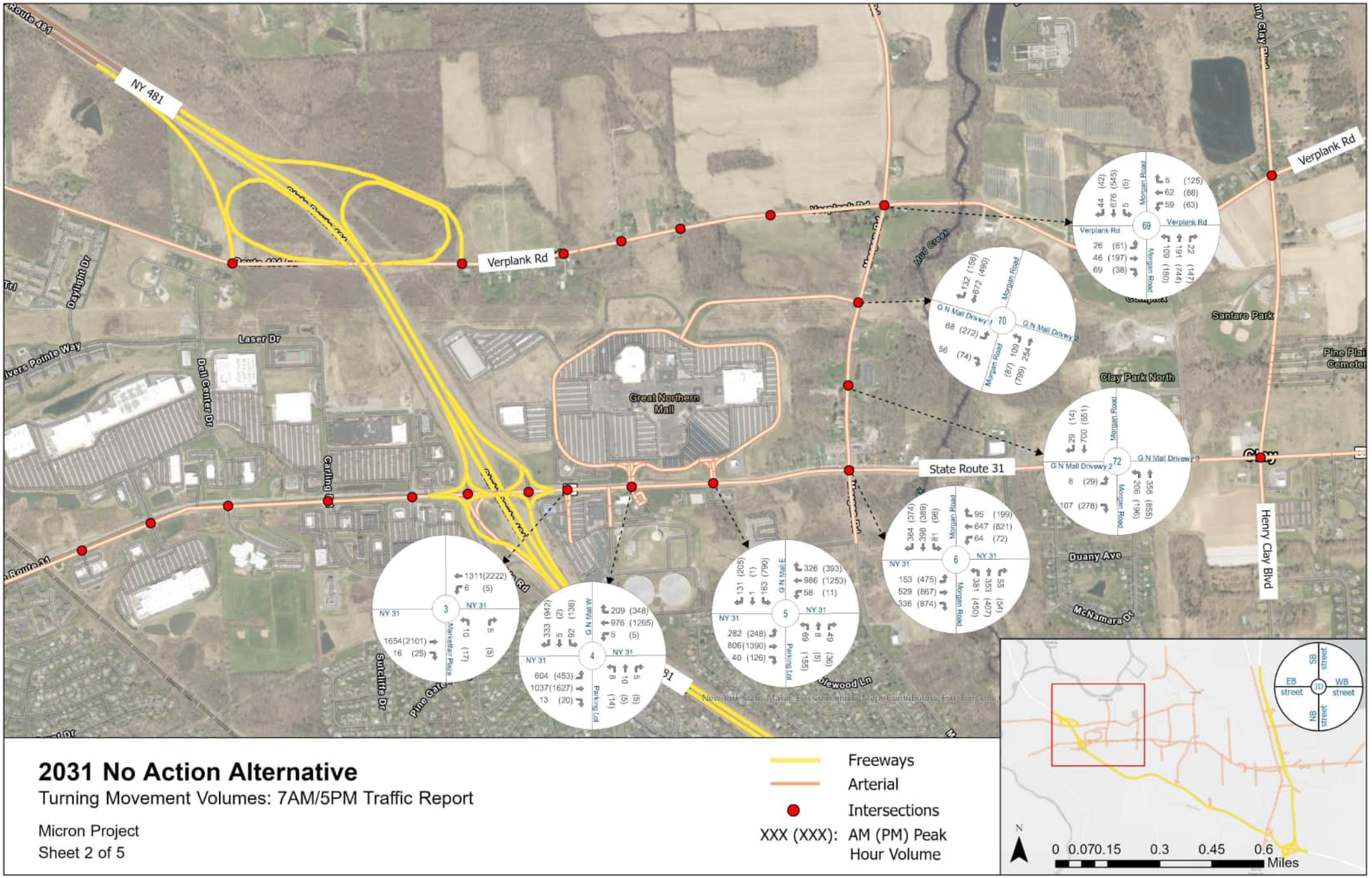


Figure 8-3: Year 2031 No Action Alternative 7AM/5PM Traffic Volumes - Intersections - Sheet 3 of 5

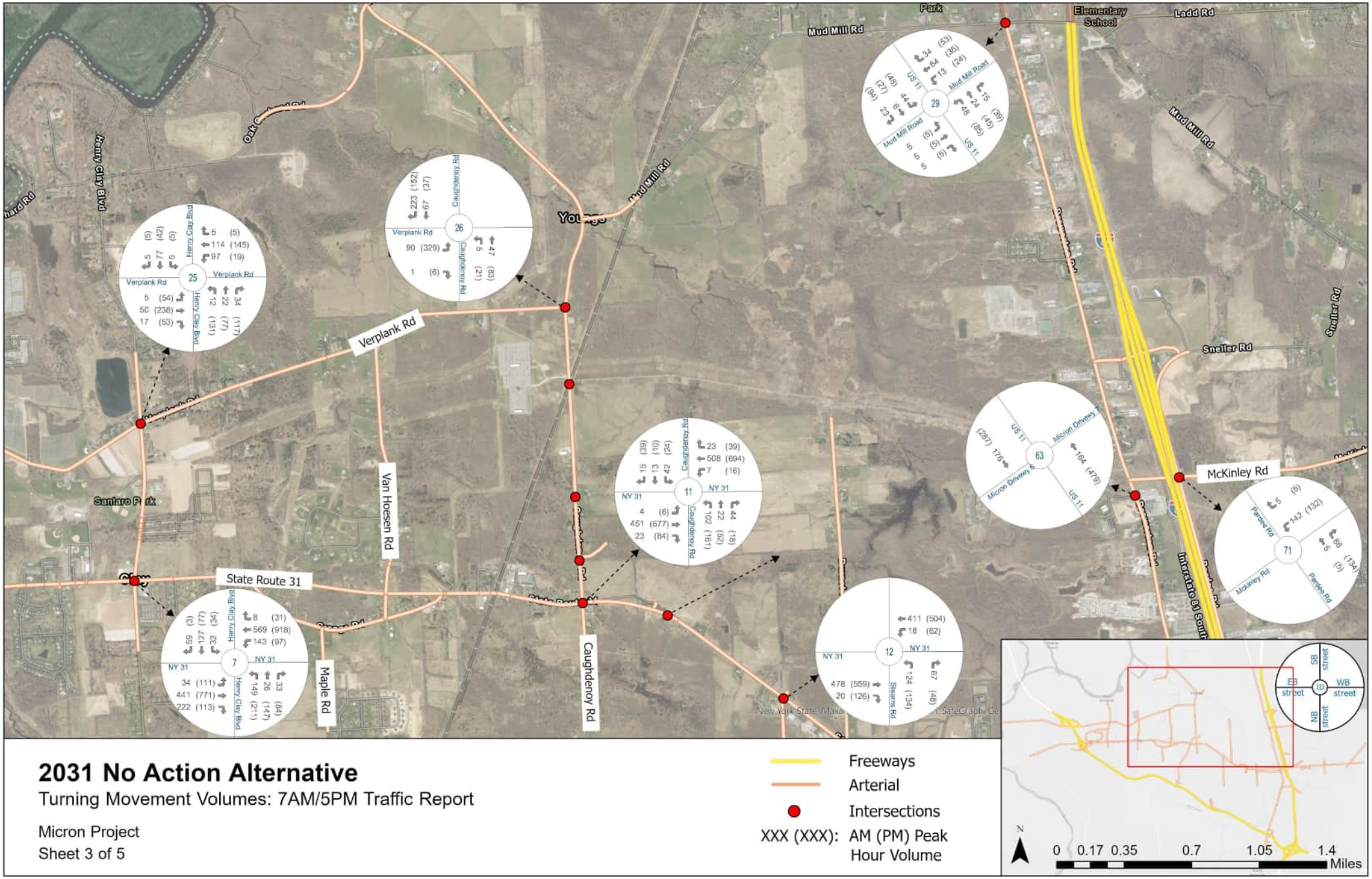


Figure 8-3: Year 2031 No Action Alternative 7AM/5PM Traffic Volumes - Intersections - Sheet 4 of 5

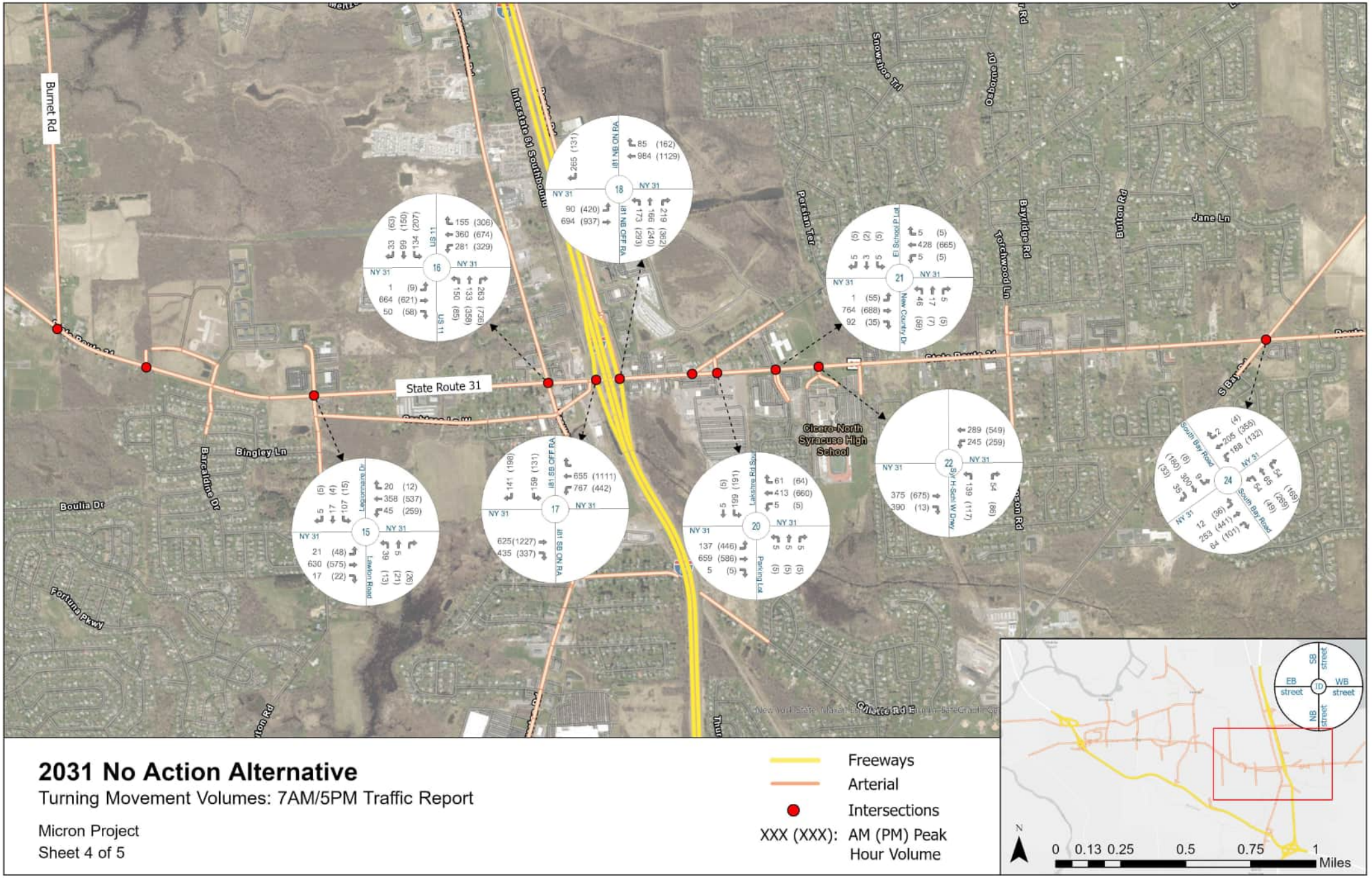


Figure 8-3: Year 2031 No Action Alternative 7AM/5PM Traffic Volumes - Intersections - Sheet 5 of 5

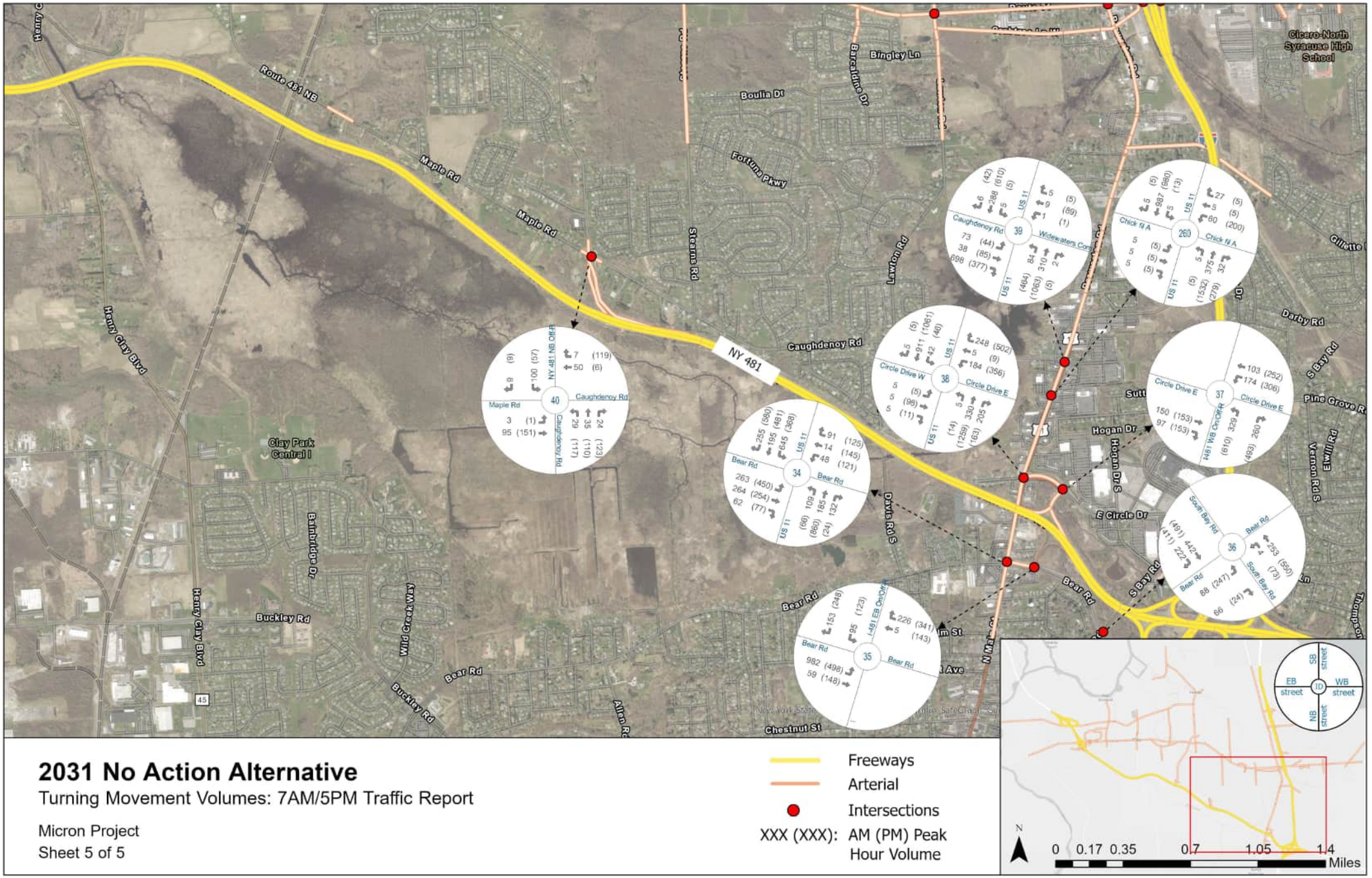
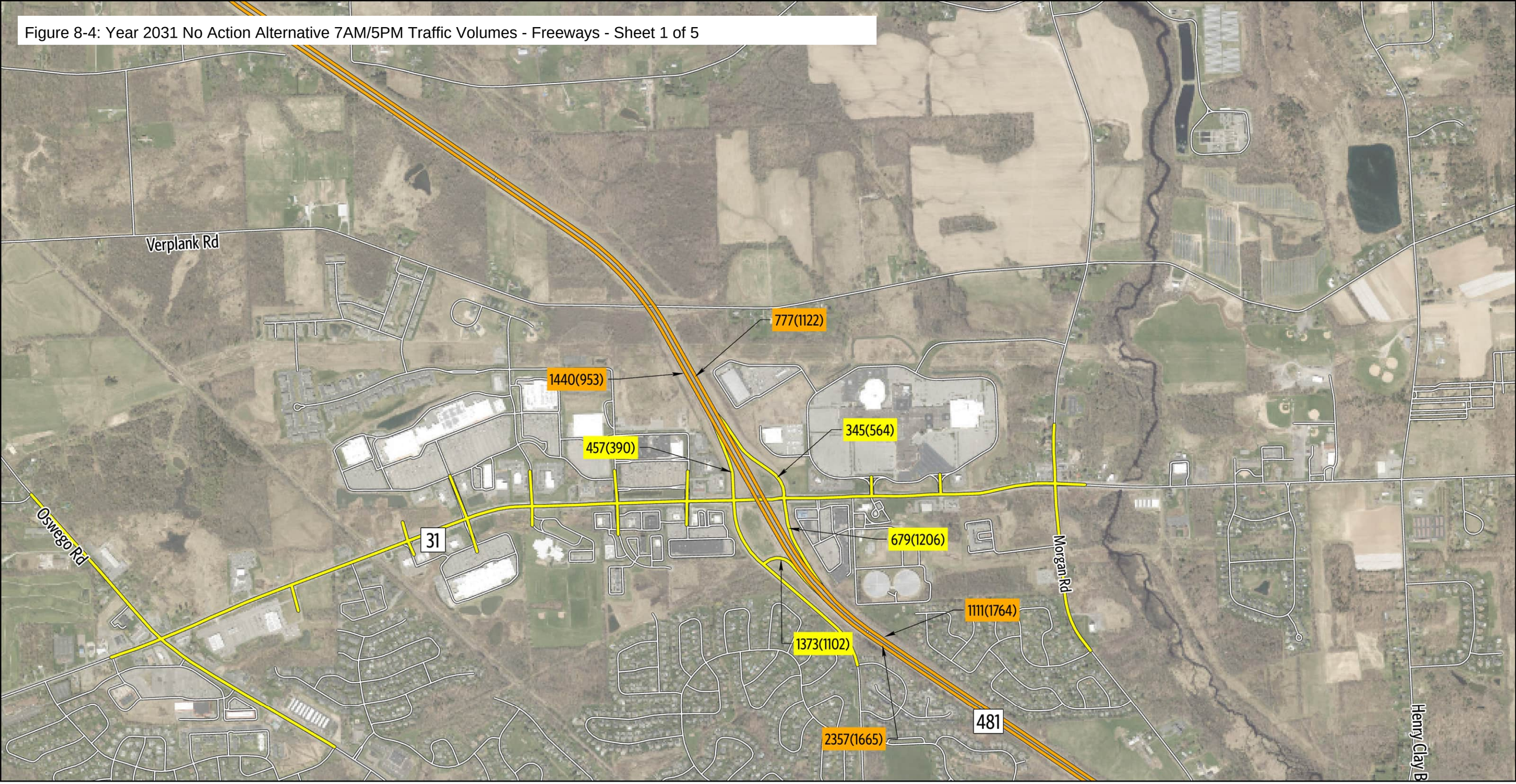


Figure 8-4: Year 2031 No Action Alternative 7AM/5PM Traffic Volumes - Freeways - Sheet 1 of 5



Mainline Volumes

Freeways

Ramp Volumes

Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

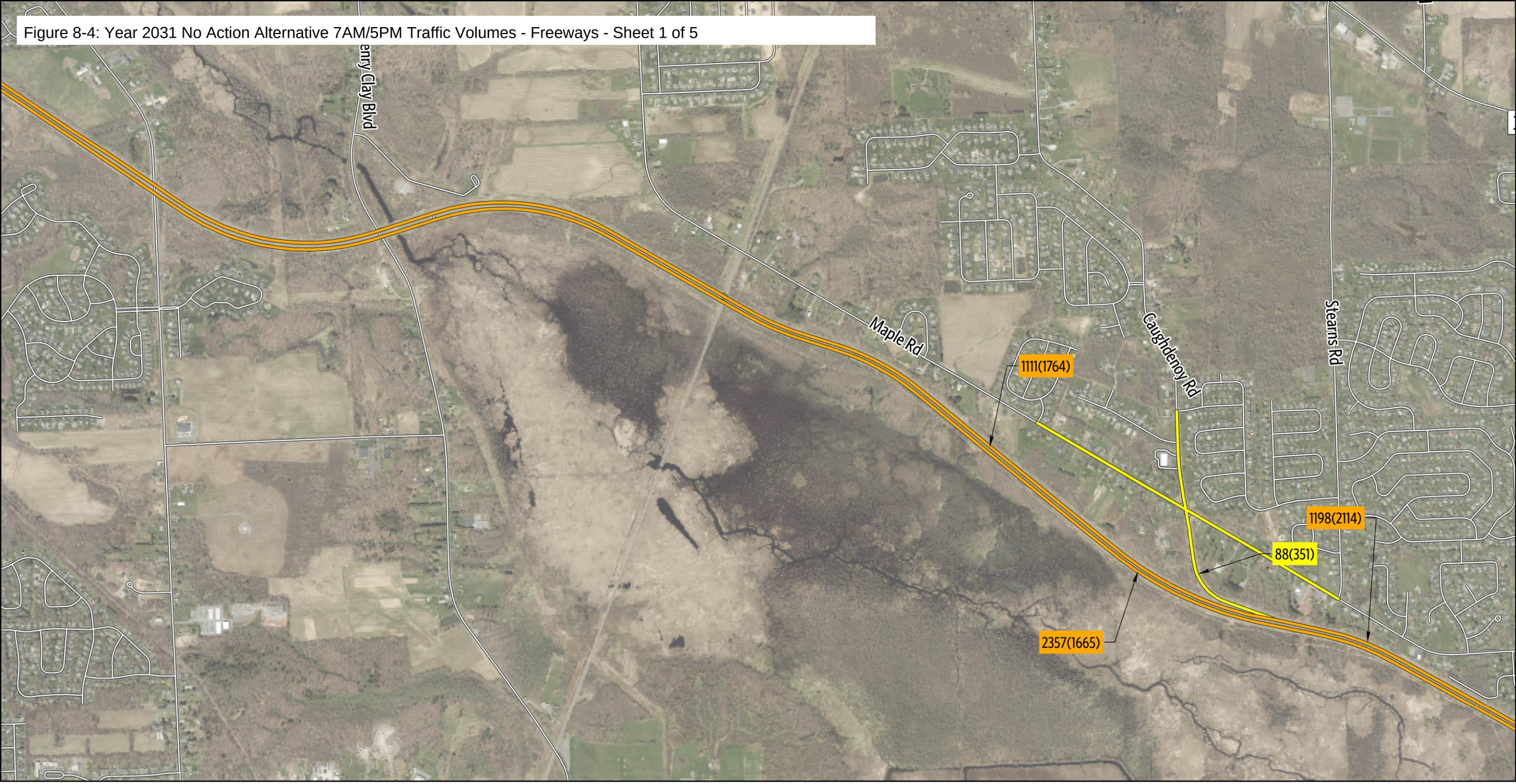
0 1,000 2,000 Feet

2031 No Action Alternative

Sheet 1 of 5

7 AM & 5 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 8-4: Year 2031 No Action Alternative 7AM/5PM Traffic Volumes - Freeways - Sheet 1 of 5



Mainline Volumes
Freeways

Ramp Volumes
Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

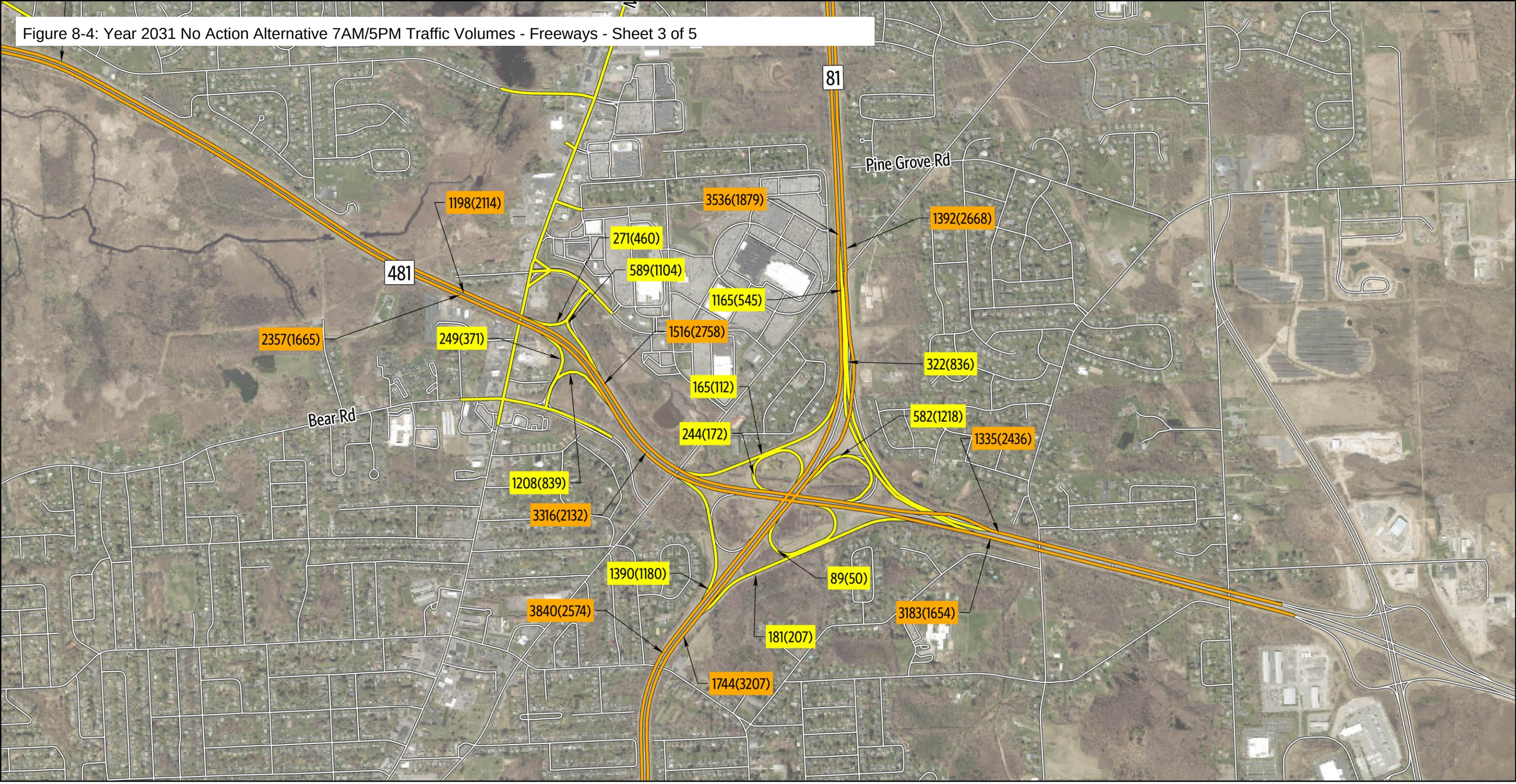
0 1,000 2,000 Feet

2031 No Action Alternative

Sheet 2 of 5

7 AM & 5 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 8-4: Year 2031 No Action Alternative 7AM/5PM Traffic Volumes - Freeways - Sheet 3 of 5



Mainline Volumes
Freeways

Ramp Volumes
Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

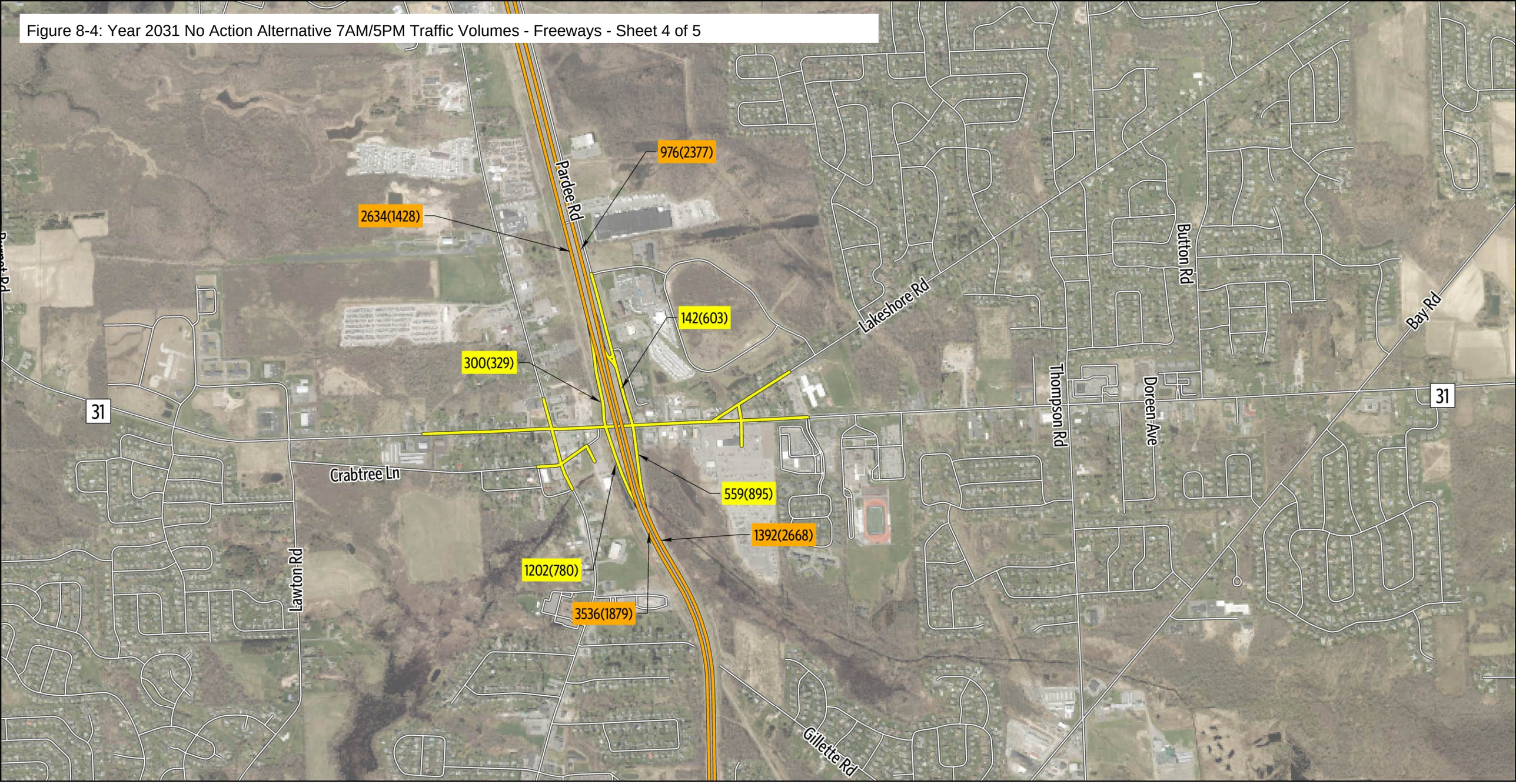
0 1,000 2,000 Feet

2031 No Action Alternative

Sheet 3 of 5

7 AM & 5 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 8-4: Year 2031 No Action Alternative 7AM/5PM Traffic Volumes - Freeways - Sheet 4 of 5



Mainline Volumes — Freeways

Ramp Volumes — Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

0 1,000 2,000 Feet

2031 No Action Alternative

Sheet 4 of 5

7 AM & 5 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 8-4: Year 2031 No Action Alternative 7AM/5PM Traffic Volumes - Freeways - Sheet 5 of 5

Mainline Volumes
Freeways

Ramp Volumes
Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

0 1,000 2,000 Feet

2031 No Action Alternative

Sheet 5 of 5

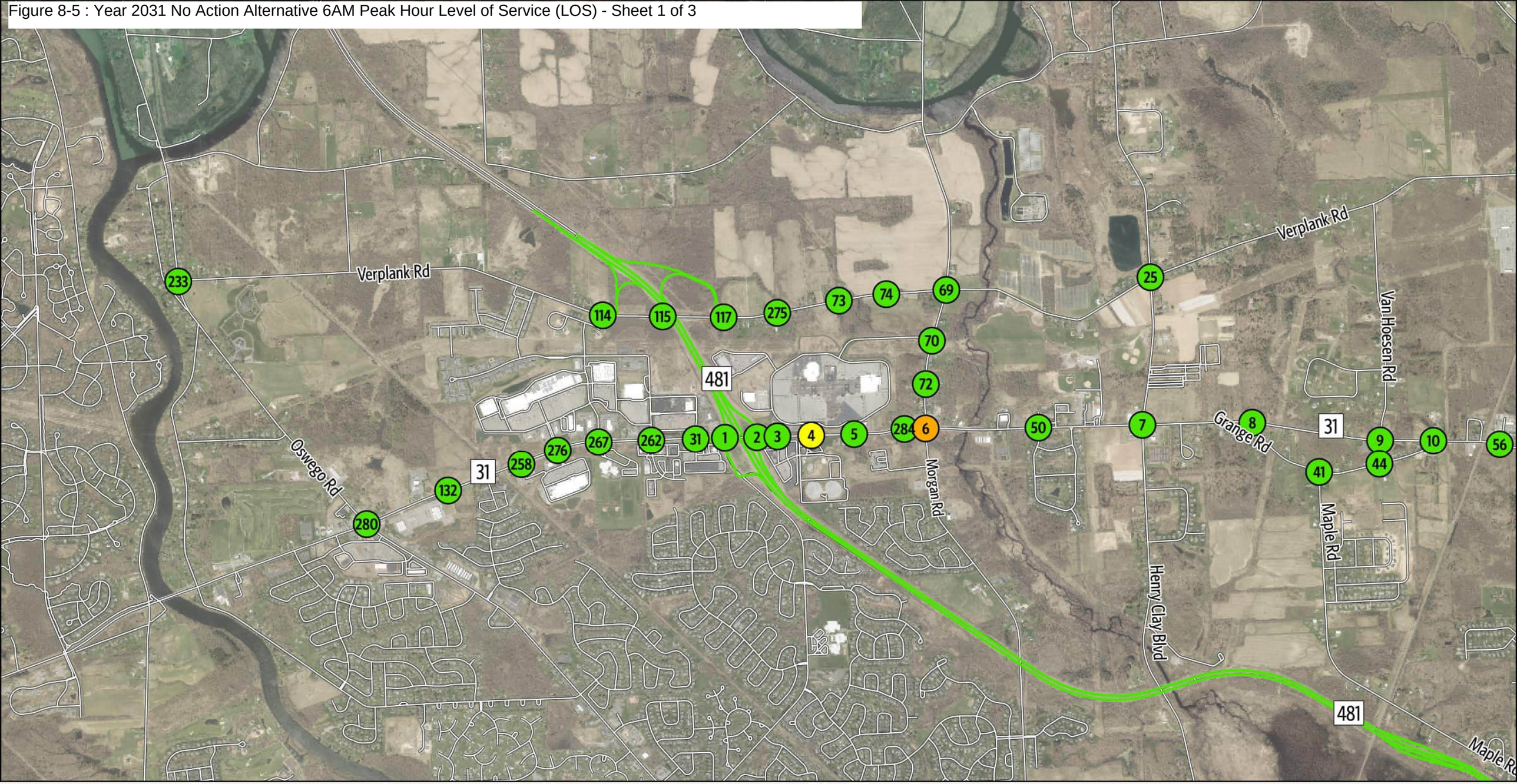
7 AM & 5 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

8.1.2 Intersection Operations

While most intersections operate desirably at LOS D or better in both peak periods, several experience higher delays and operate at LOS E or F, particularly during the evening peak period. Table 8-1 summarizes the results for the 68 existing intersections, including delay values and LOS expressed as a letter designation and by the color coding shown in Table 2-3.

As discussed in the following subsections, lower operating conditions occur for side streets intersecting NYS Route 31 and U.S. Route 11 in the central portion of the Transportation Study Area. Drivers generally expect to wait longer to turn onto higher-volume primary roadways from side streets, so higher delays and worse LOS may be acceptable peak-period operating conditions in this Transportation Evaluation Area. Figures 8-5 through 8-8 display the operational analysis LOS results for this scenario.

Figure 8-5 : Year 2031 No Action Alternative 6AM Peak Hour Level of Service (LOS) - Sheet 1 of 3



Intersection Level of Service

- A, B, C
- D
- E

Roadway Level of Service

- A, B, C
- Streets

N

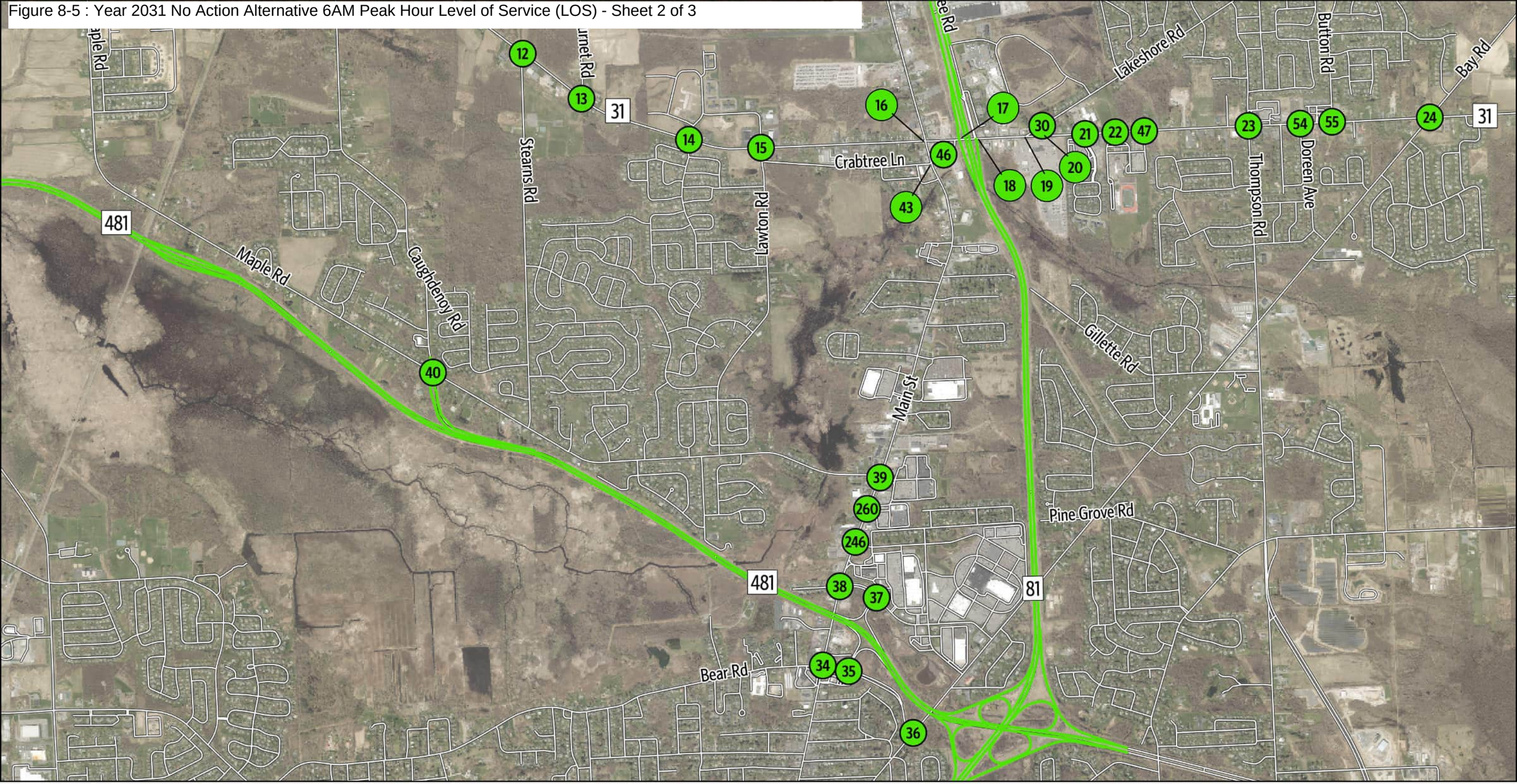
0 2,000 4,000 Feet

2031 No Action Alternative

Sheet 1 of 3

6 AM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 8-5 : Year 2031 No Action Alternative 6AM Peak Hour Level of Service (LOS) - Sheet 2 of 3



Intersection Level of Service

- A, B, C
- D
- E

Roadway Level of Service

- A, B, C
- Streets

N

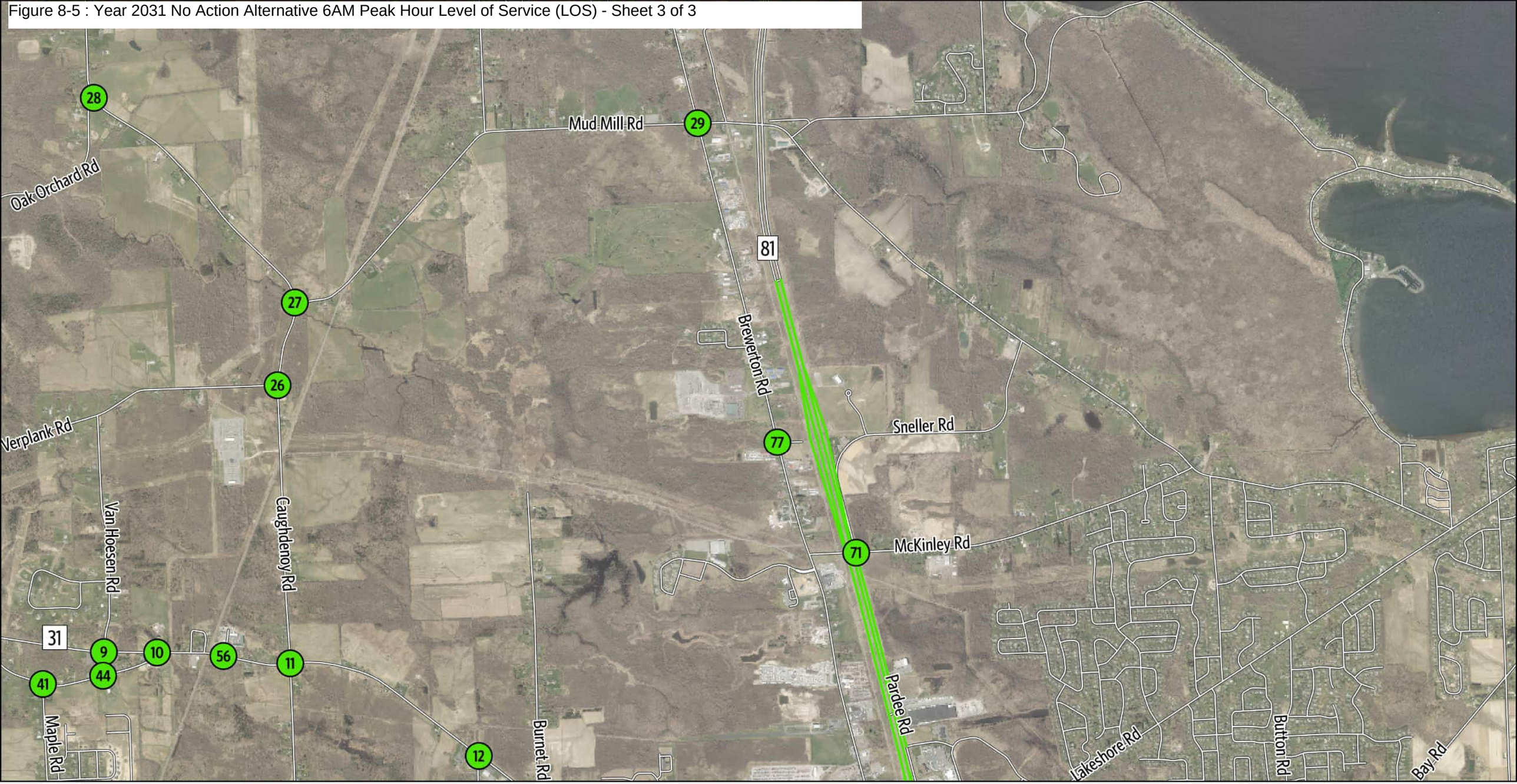
0 2,000 4,000 Feet

2031 No Action Alternative

Sheet 2 of 3

6 AM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 8-5 : Year 2031 No Action Alternative 6AM Peak Hour Level of Service (LOS) - Sheet 3 of 3



Intersection Level of Service

- A, B, C
- D
- E

Roadway Level of Service

- A, B, C
- Streets

N

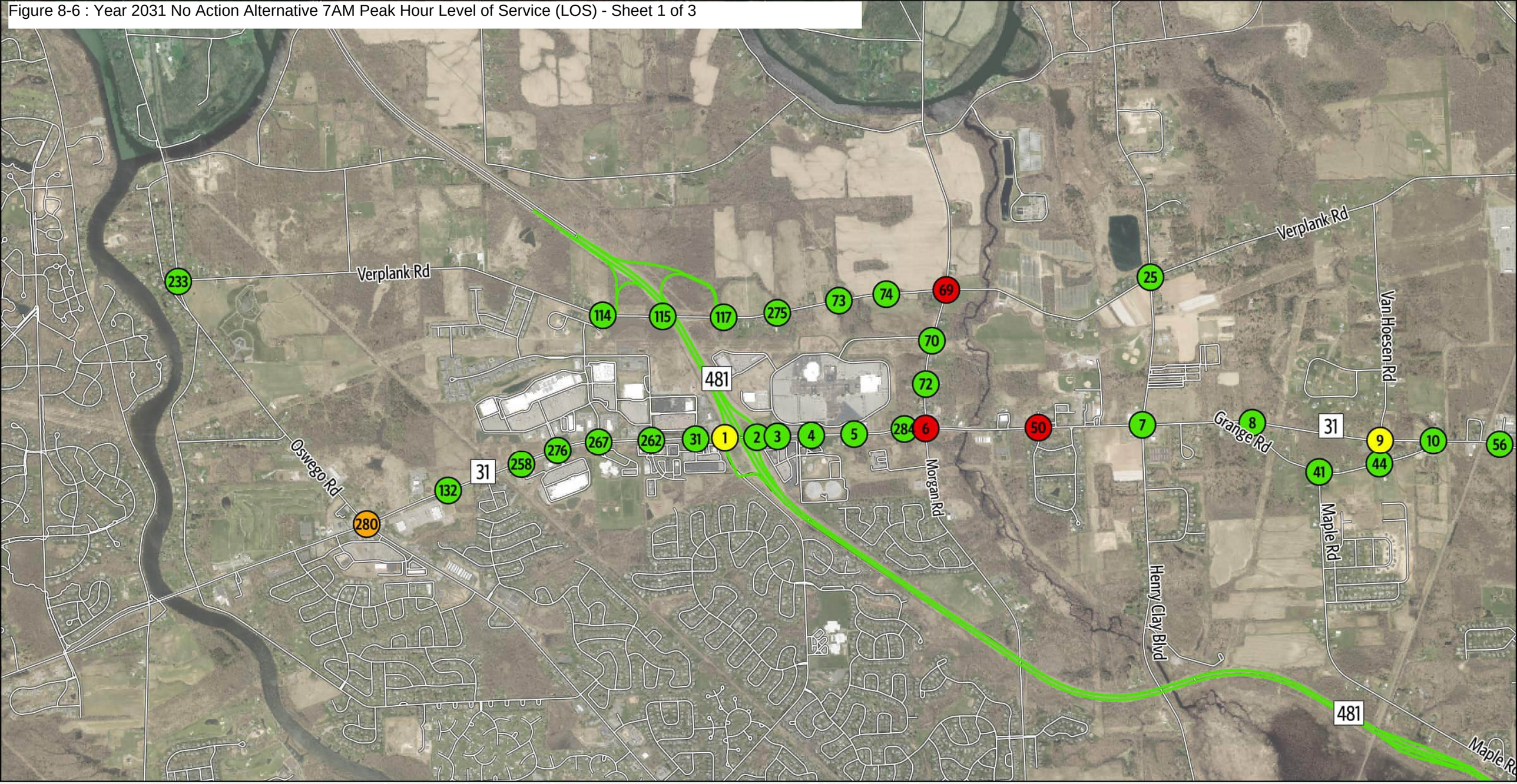
0 2,000 4,000 Feet

2031 No Action Alternative

Sheet 3 of 3

6 AM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 8-6 : Year 2031 No Action Alternative 7AM Peak Hour Level of Service (LOS) - Sheet 1 of 3



Intersection Level of Service

- A, B, C
- D
- E
- F

Roadway Level of Service

- A, B, C
- Streets

N

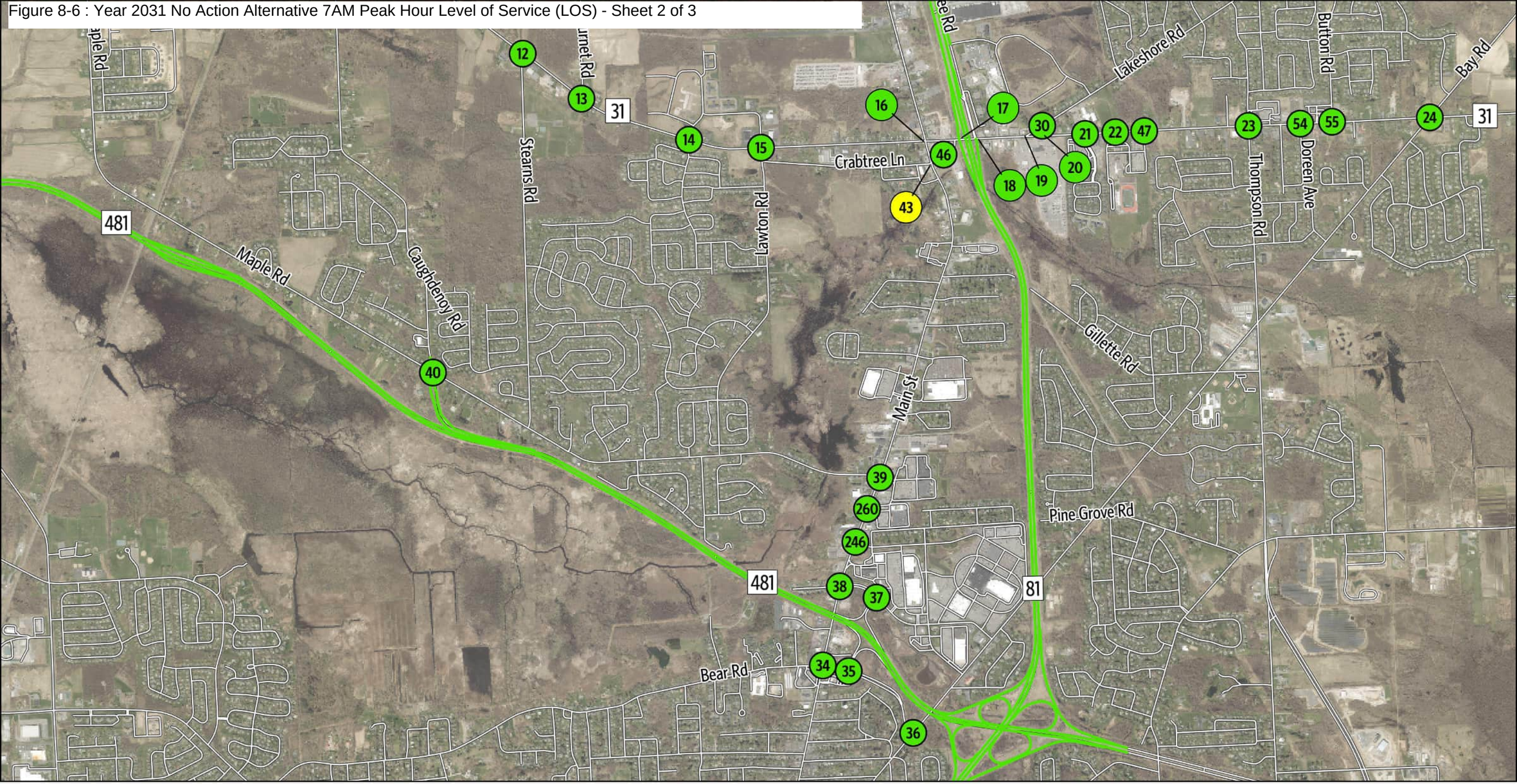
0 2,000 4,000 Feet

2031 No Action Alternative

Sheet 1 of 3

7 AM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 8-6 : Year 2031 No Action Alternative 7AM Peak Hour Level of Service (LOS) - Sheet 2 of 3



Intersection Level of Service

- A, B, C
- D
- E
- F

Roadway Level of Service

- A, B, C
- Streets

N

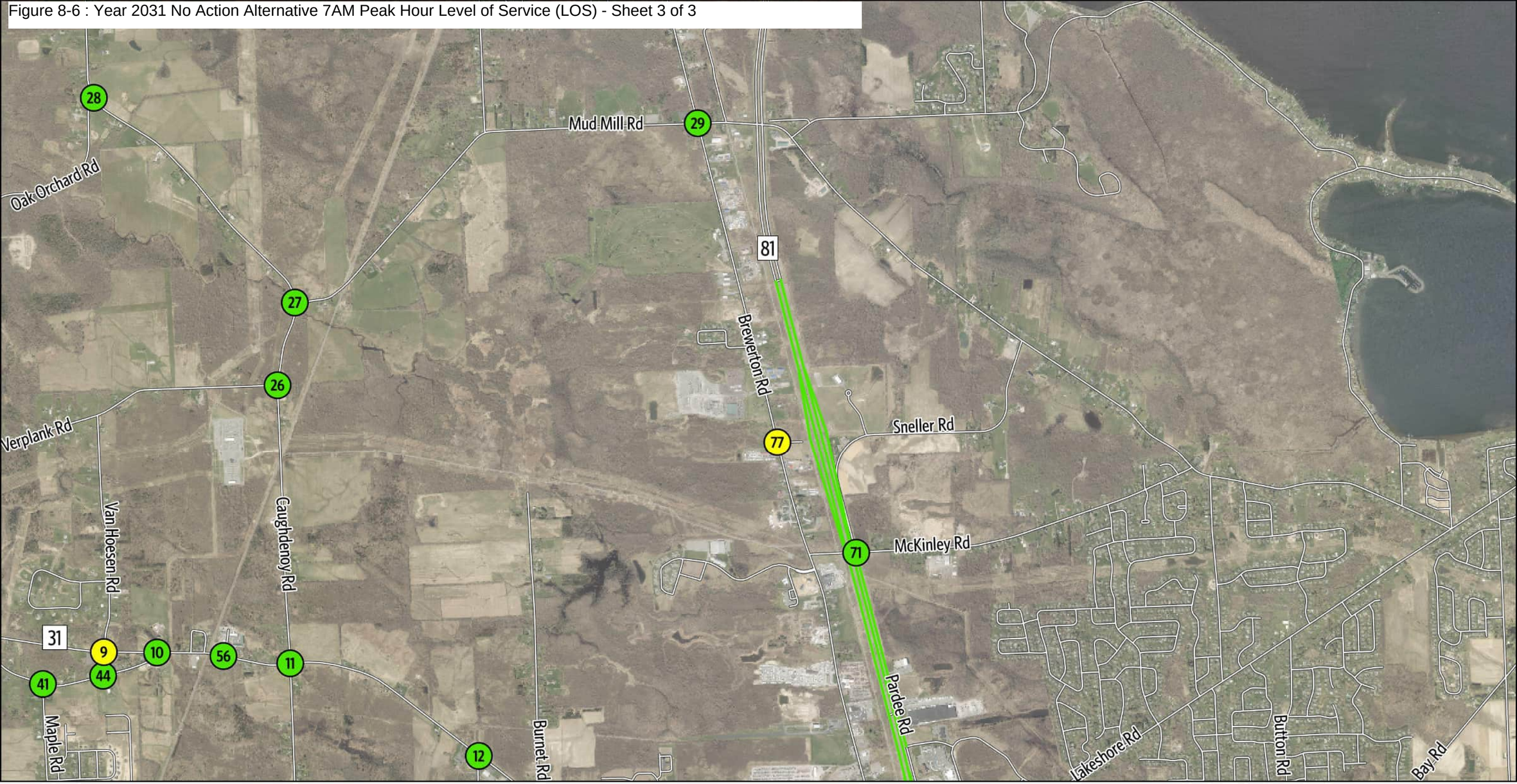
0 2,000 4,000 Feet

2031 No Action Alternative

Sheet 2 of 3

7 AM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 8-6 : Year 2031 No Action Alternative 7AM Peak Hour Level of Service (LOS) - Sheet 3 of 3



Intersection Level of Service

- A, B, C
- D
- E
- F

Roadway Level of Service

- A, B, C
- Streets

N

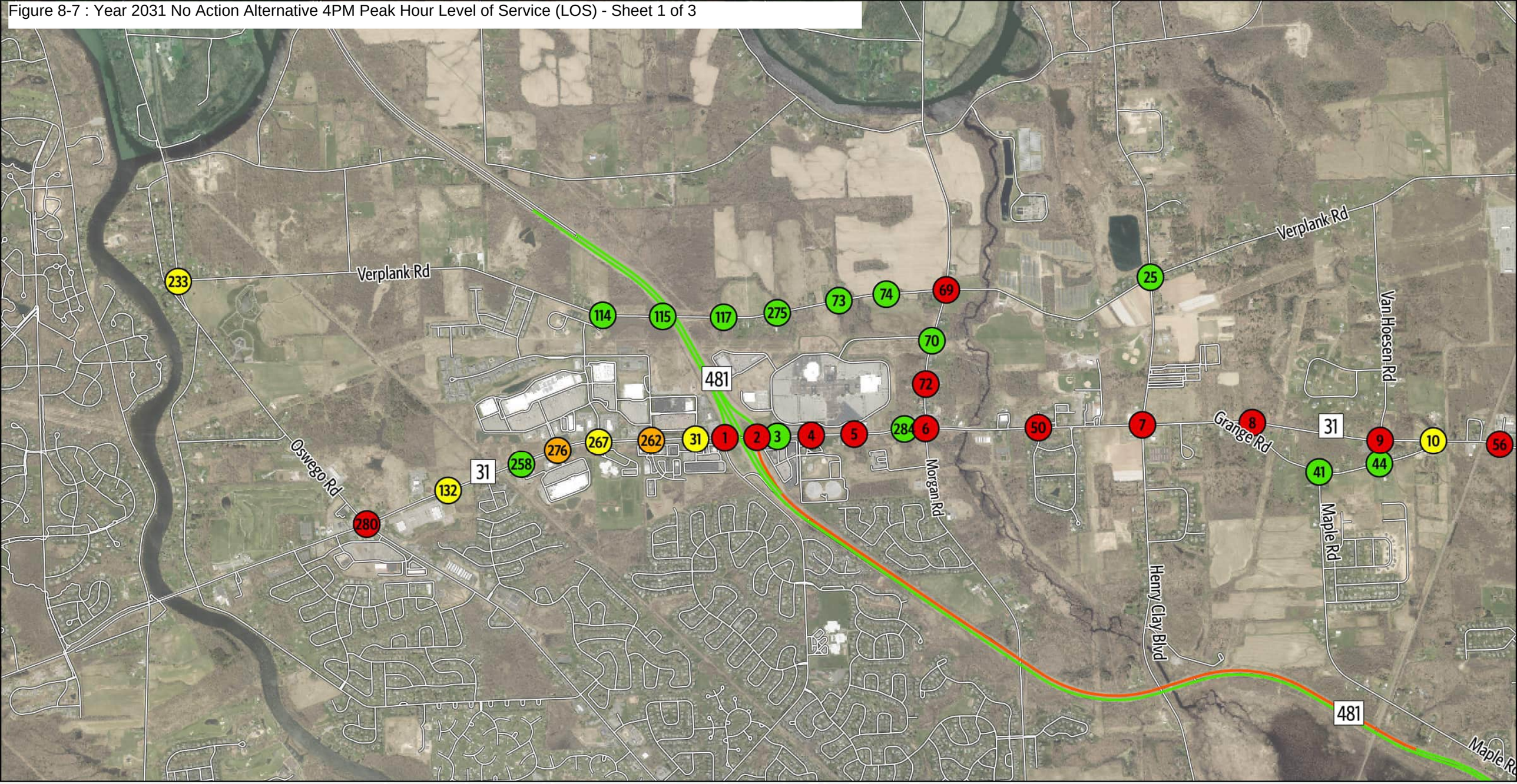
0 2,000 4,000 Feet

2031 No Action Alternative

Sheet 3 of 3

7 AM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 8-7 : Year 2031 No Action Alternative 4PM Peak Hour Level of Service (LOS) - Sheet 1 of 3



Intersection Level of Service

- A, B, C
- D
- E
- F

Roadway Level of Service

- A, B, C
- F
- Streets

N

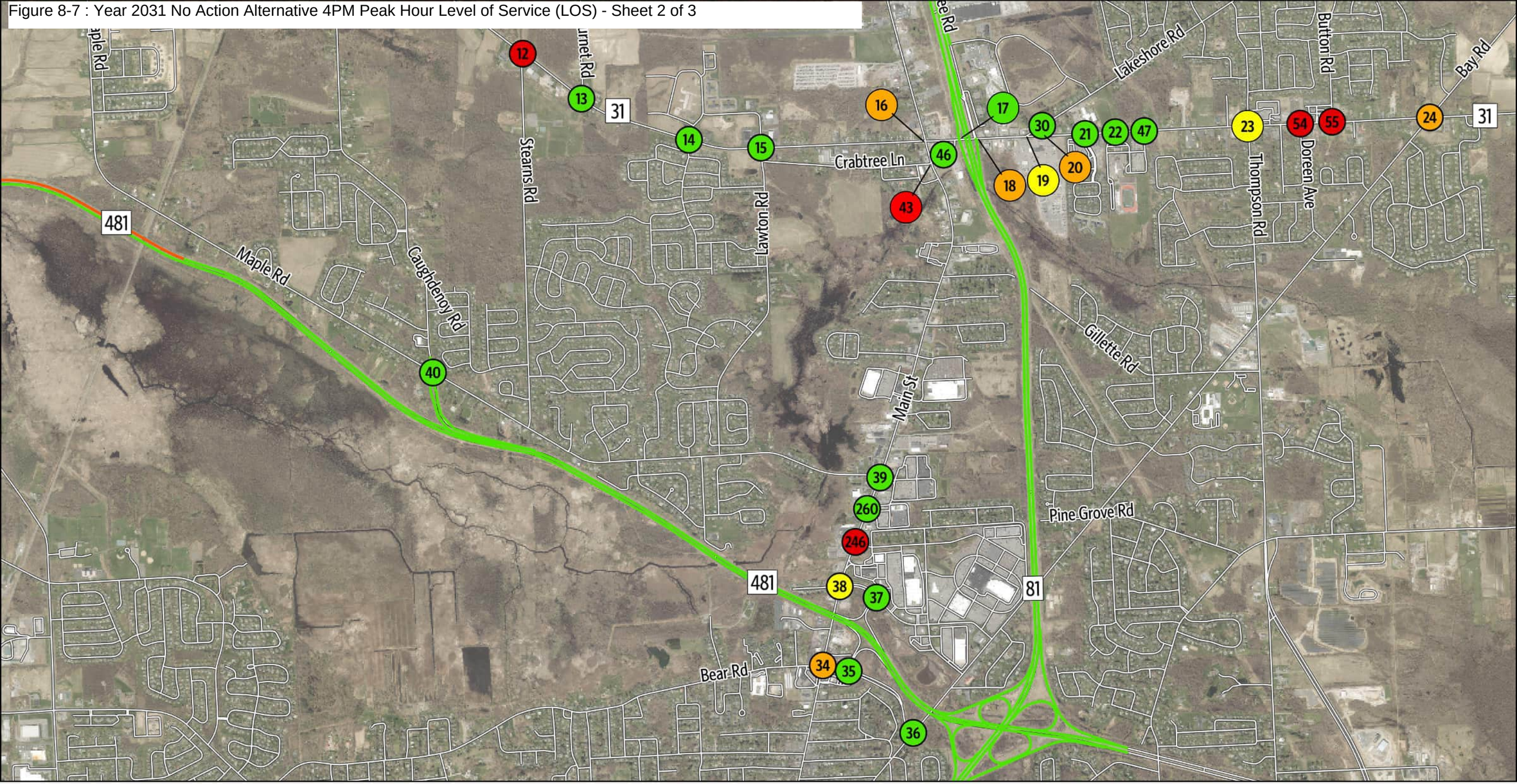
0 2,000 4,000 Feet

2031 No Action Alternative

Sheet 1 of 3

4 PM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 8-7 : Year 2031 No Action Alternative 4PM Peak Hour Level of Service (LOS) - Sheet 2 of 3



Intersection Level of Service

- A, B, C
- D
- E
- F

Roadway Level of Service

- A, B, C
- F
- Streets

N

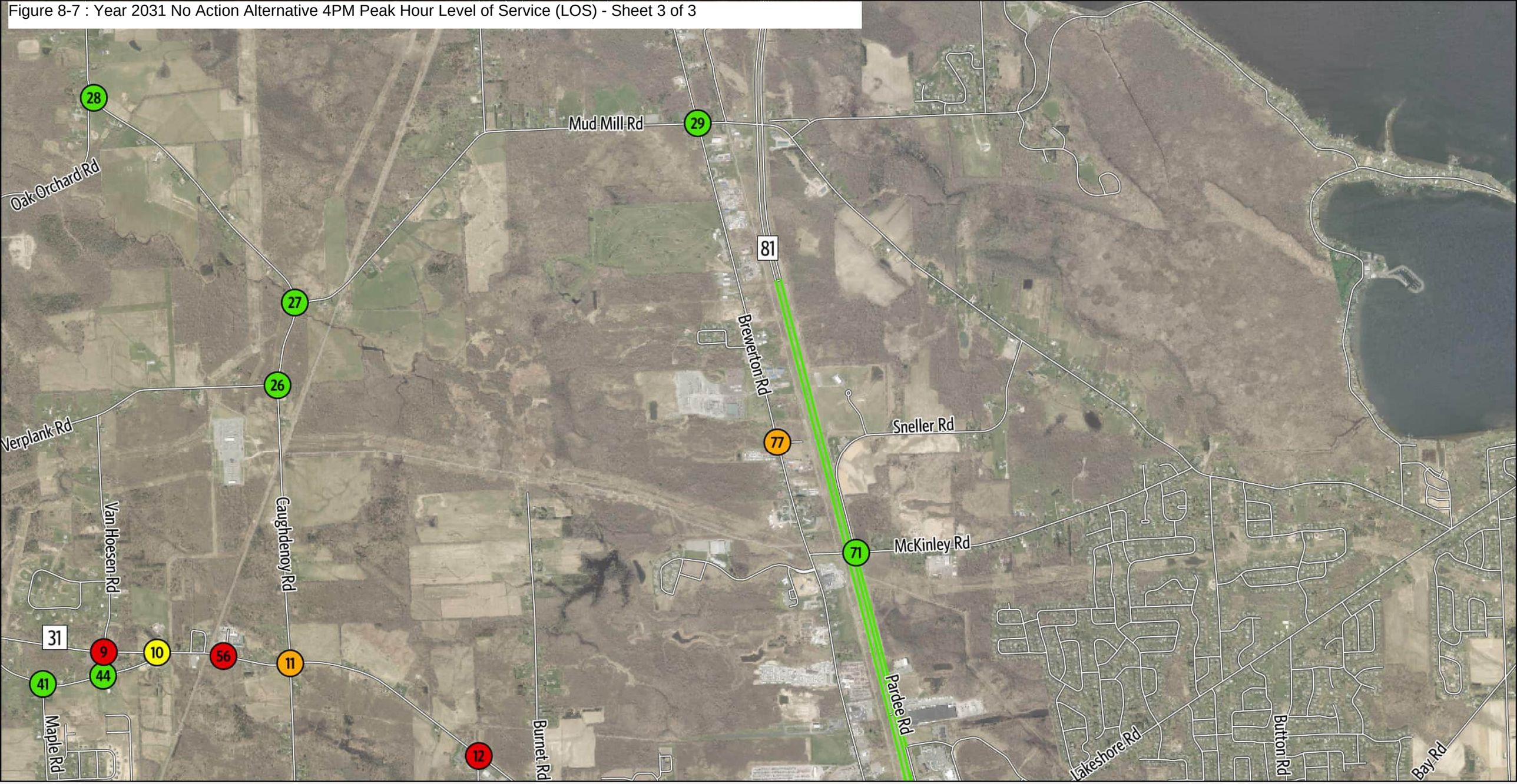
0 2,000 4,000 Feet

2031 No Action Alternative

Sheet 2 of 3

4 PM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 8-7 : Year 2031 No Action Alternative 4PM Peak Hour Level of Service (LOS) - Sheet 3 of 3



Intersection Level of Service

- A, B, C
- D
- E
- F

Roadway Level of Service

- A, B, C
- F
- Streets

N

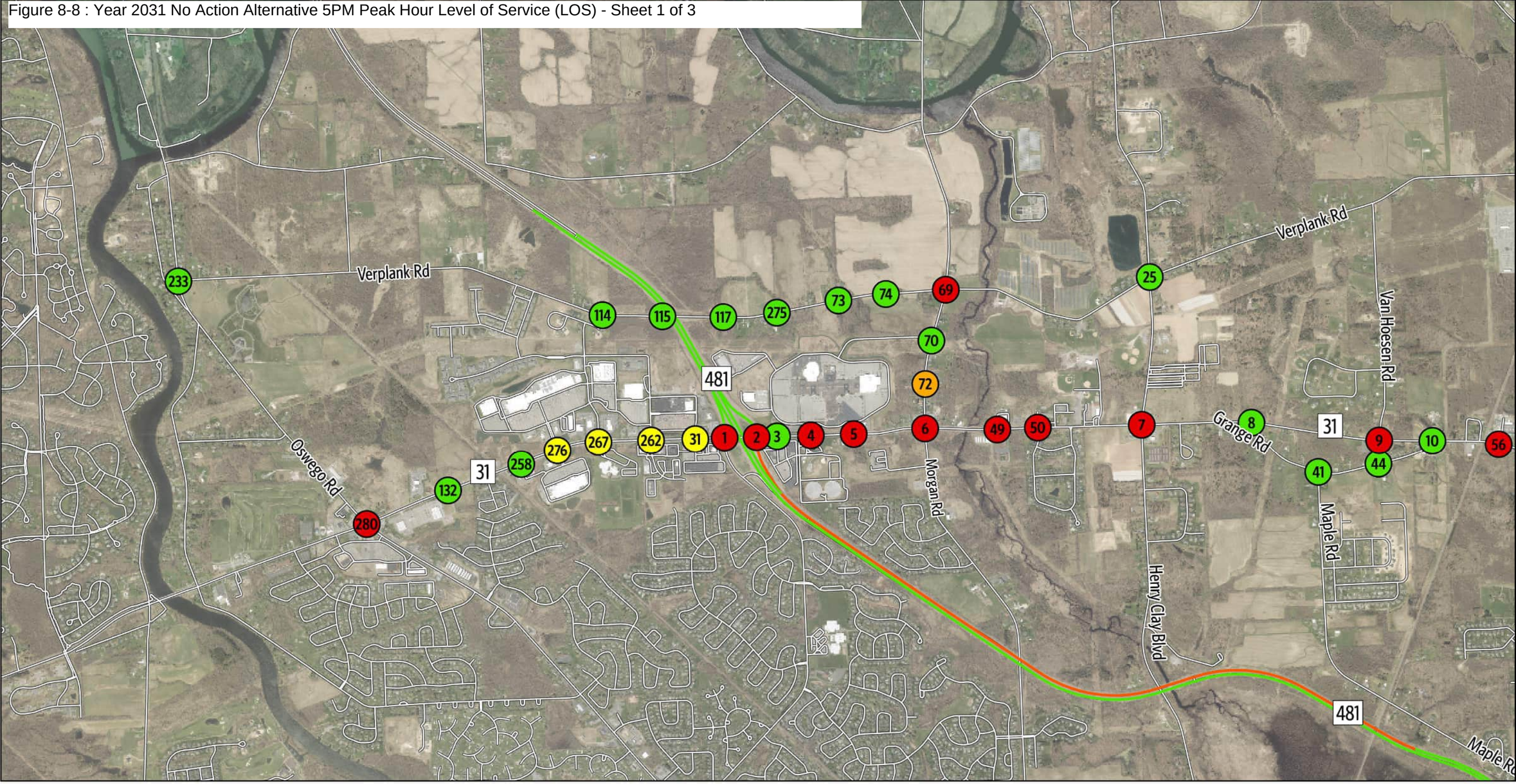
0 2,000 4,000 Feet

2031 No Action Alternative

Sheet 3 of 3

4 PM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 8-8 : Year 2031 No Action Alternative 5PM Peak Hour Level of Service (LOS) - Sheet 1 of 3



Intersection Level of Service

- A, B, C
- D
- E
- F

Roadway Level of Service

- A, B, C
- F
- Streets

N

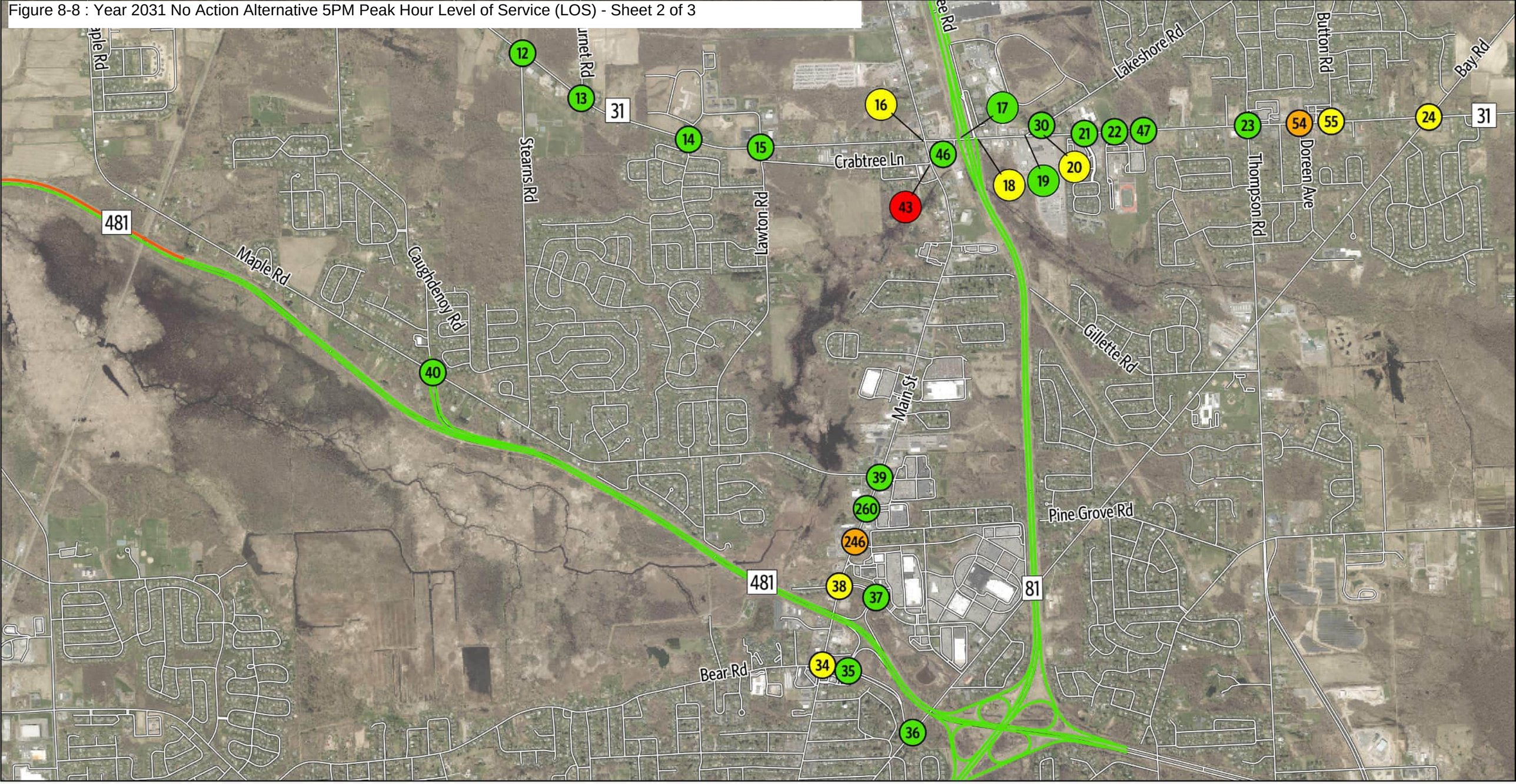
0 2,000 4,000 Feet

2031 No Action Alternative

Sheet 1 of 3

5 PM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 8-8 : Year 2031 No Action Alternative 5PM Peak Hour Level of Service (LOS) - Sheet 2 of 3



Intersection Level of Service

- A, B, C
- D
- E
- F

Roadway Level of Service

- A, B, C
- F
- Streets

N

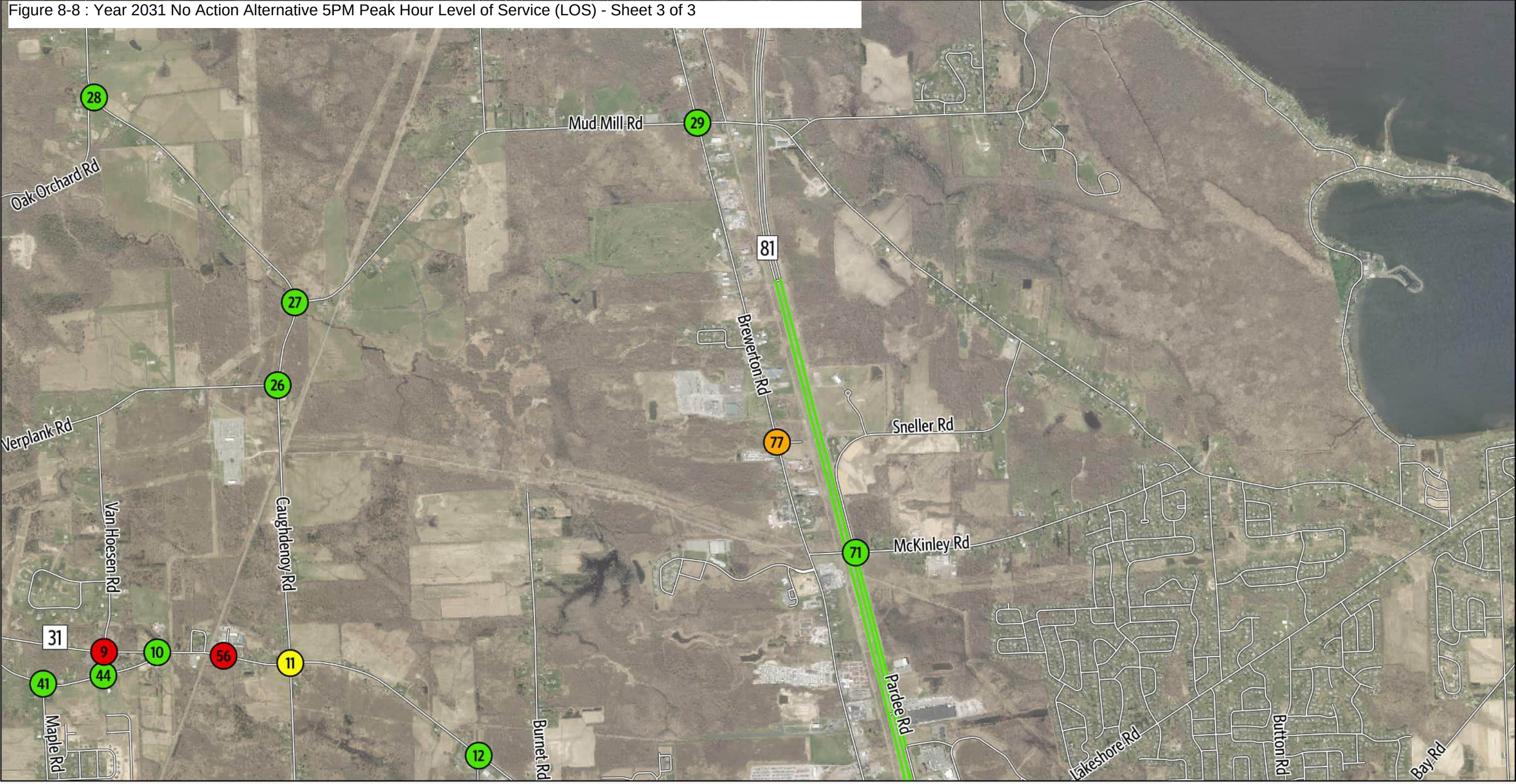
0 2,000 4,000 Feet

2031 No Action Alternative

Sheet 2 of 3

5 PM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 8-8 : Year 2031 No Action Alternative 5PM Peak Hour Level of Service (LOS) - Sheet 3 of 3



Intersection Level of Service

- A, B, C
- D
- E
- F

Roadway Level of Service

- A, B, C
- F
- Streets

N

0 2,000 4,000 Feet

2031 No Action Alternative

Sheet 3 of 3

5 PM Peak Hour - Operational Analysis Results - LOS
Micron Project

8.1.2.1 AM Peak Hour

All intersections except #6 Morgan Road and NYS Route 31 operate acceptably at LOS D or better during the 6:00 a.m. peak hour, which would operate at LOS E. During the 7:00 a.m. hour, all intersections operate acceptably at LOS D or better except for #6 Morgan Road and NYS Route 31, #50 McNamara Drive/Driveway and NYS Route 31, and #69 Morgan Road and Verplank Road operating at LOS F as well as #280 Oswego Road and NYS Route 31 operating at LOS E. Vehicles on the single-lane approaches with stop-control for the side-street movements experience delays turning onto and crossing the single-lane free-flowing arterial roadway.

8.1.2.2 PM Peak Hour

The evening peak-period demand generally results in higher average delays and worse LOS at several intersections beginning in the 4:00 p.m. peak hour. As with the morning peak hour, delays are high for side-street movements at several signalized intersections. Nineteen signalized intersections in the Transportation Evaluation Area operate at LOS E or F during the 4:00 p.m. peak hour. Relationally, nine signalized intersections of the Transportation Evaluation Area operate at a LOS E or F during the 5:00 p.m. peak hour. The poor operating conditions during the 4:00 p.m. and 5:00 p.m. peak hours are likely due to high demand volumes for several approaches and limited green time within the signal cycle, which is insufficient to serve each approach adequately. High delays and worse LOS continue into the second half of the evening peak period for the unsignalized intersections.

These signalized intersections operate at LOS E or F in the 4:00 p.m. peak hour:

- #1: NYS Route 31 and NYS Route 481 SB (LOS F)
- #2: NYS Route 31 and NYS Route 481 NB (LOS F)
- #4: NYS Route 31 and GNM West (LOS F)
- #5: GNM East and NYS Route 31 (LOS F)
- #6: Morgan Road and NYS Route 31 (LOS F)
- #7: Henry Clay Boulevard and NYS Route 31 (LOS F)
- #8: Grange Road and NYS Route 31 (LOS F)
- #11: Caughdenoy Road and NYS Route 31 (LOS E)
- #12: Stearns Road and NYS Route 31 (LOS F)
- #16: U.S. Route 11 and NYS Route 11 (LOS E)
- #18: I-81 NB Off-Ramp and NYS Route 31 (LOS E)
- #20: NYS Route 31 and Lakeshore Road (LOS E)
- #24: NYS Route 31 and South Bay Road (LOS E)
- #34: U.S. Route 11 and Bear Road (LOS E)
- #77: Soule Road and NYS Route 481 (LOS E)
- #246: U.S. Route 11 and Hogan Drive (LOS F)
- #262: Carling Road and NYS Route 31 (LOS E)
- #276: NYS Route 31 and Lowes/Home Depot (LOS E)
- #280: Oswego Road and NYS Route 31 (LOS F)

These signalized intersections operate at LOS E or F in the 5:00 p.m. peak hour:

- #1: NYS Route 31 and NYS Route 481 SB (LOS F)
- #2: NYS Route 31 and NYS Route 481 NB (LOS F)
- #4: NYS Route 31 and GNM West (LOS F)
- #5: GNM East and NYS Route 31 (LOS F)
- #6: Morgan Road and NYS Route 31 (LOS F)

- #7: Henry Clay Boulevard and NYS Route 31 (LOS F)
- #77: Soule Road and NYS Route 481 (LOS E)
- #246: U.S. Route 11 and Hogan Drive (LOS E)
- #280: Oswego Road and NYS Route 31 (LOS F)

Movements at the following eight unsignalized intersections operate at LOS F in the 4:00 p.m. peak hour:

- #9: Van Hoesen Road and NYS Route 31
- #43: U.S. Route 11 and Crabtree Lane
- #50: McNamara Drive/Driveway and NYS Route 31
- #54: Doreen Avenue and NYS Route 31
- #55: Button Road and NYS Route 31
- #56: NYS Route 31 and Weller Canning Road
- #69: Morgan Road and Verplank Road
- #72: Morgan Road and GNM Driveway 2

During the 5:00 p.m. peak hour, these intersections also operate at LOS F except for the intersection of #54: Doreen Avenue and NYS Route 31 (LOS E), #55: Button Road and NYS Route 31(LOS D), and #72: Morgan Road and GNM Driveway 2 (LOS E).

Table 8-1. Year 2031 No Action Alternative AM and PM Peak-Hour Intersection Operations – Delay and LOS

Intersection ID	Intersection Name	Intersection Control	6 AM			7 AM			4 PM			5 PM		
			Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c
1	NYS Route 481 and NYS Route 31 SB	Signalized	32.6	C	0.67	44.3	D	0.97	164.2	F	1.47	181.9	F	1.52
2	NYS Route 481 and NYS Route 31 NB	Signalized	14.1	B	0.52	25.0	C	0.80	197.9	F	1.38	155.3	F	1.36
3	Marketfair Plaza and NYS Route 31	Signalized	4.9	A	0.43	5.5	A	0.65	5.5	A	0.85	16.9	B	1.03
4	Parking Lot/GNM West and NYS Route 31	Signalized	39.9	D	0.56	27.0	C	0.77	>300	F	1.76	>300	F	1.88
5	Parking Lot/GNM East and NYS Route 31	Signalized	12.9	B	0.46	33.5	C	1.07	>300	F	2.60	>300	F	1.91
6	Morgan Road and NYS Route 31	Signalized	60.7	E	1.05	148.3	F	1.71	273.4	F	1.88	187.2	F	1.66
7	Henry Clay Boulevard and NYS Route 31	Signalized	12.0	B	0.51	20.4	C	0.80	215.4	F	1.51	90.0	F	1.09
8	Grange Road W and NYS Route 31	Signalized	8.5	A	0.44	10.0	A	0.62	152.6	F	1.24	25.9	C	0.83
9	Van Hoesen Road and NYS Route 31	Unsignalized	15.8	C	0.00	30.7	D	0.00	78.9	F	0.00	53.6	F	0.00
10	Grange Road E and NYS Route 31	Unsignalized	11.3	B	0.00	13.8	B	0.00	27.1	D	0.00	19.6	C	0.00
11	Caughdenoy Road and NYS Route 31	Signalized	11.4	B	0.44	16.0	B	0.66	64.3	E	1.07	40.6	D	0.94
12	Stearns Road and NYS Route 31	Signalized	8.4	A	0.40	10.8	B	0.58	100.3	F	1.15	15.4	B	0.73
13	NYS Route 31 and Burnet Road	Unsignalized	0.0	A	0.00	0.0	A	0.00	0.0	A	0.00	0.0	A	0.00
14	Barcaldine Drive/Legionnaire Drive and NYS Route 31	Unsignalized	11.6	B	0.00	16.2	C	0.00	20.8	C	0.00	16.8	C	0.00
15	Lawton Road/Legionnaire Drive and NYS Route 31	Signalized	8.3	A	0.39	10.9	B	0.61	16.3	B	0.73	12.4	B	0.64
16	U.S. Route 11 and NYS Route 31	Signalized	17.5	B	0.45	23.8	C	0.75	57.9	E	1.05	44.8	D	0.94
17	I-81 SB On-Ramp/I-81 SB Off-Ramp and NYS Route 31	Signalized	12.7	B	0.75	24.5	C	1.05	26.1	C	0.90	24.3	C	0.82
18	I-81 NB Off-Ramp/Pardee Road and NYS Route 31	Signalized	13.6	B	0.53	24.6	C	0.77	63.9	E	1.24	45.3	D	1.07
19	NYS Route 31 and Lakeshore Road	Unsignalized	N/A	A	N/A	N/A	B	N/A	N/A	E	N/A	N/A	D	N/A
20	Parking Lot/Lakeshore Road Spur and NYS Route 31	Signalized	9.4	A	0.48	14.7	B	0.65	60.3	E	1.16	39.8	D	1.01
21	New Country Drive/Cicero Elementary School Parking Lot and NYS Route 31	Signalized	5.1	A	0.28	4.4	A	0.41	10.4	B	0.63	9.0	A	0.59
22	Cicero North Syracuse High School West Driveway and NYS Route 31	Signalized	13.2	B	0.32	9.0	A	0.47	15.8	B	0.79	14.7	B	0.74
23	Thompson Road/Torchwood Lane and NYS Route 31	Roundabout	6.0	A	0.00	9.6	A	0.00	38.5	D	0.00	24.8	C	0.00
24	South Bay Road and NYS Route 31	Signalized	12.2	B	0.51	23.2	C	0.84	56.9	E	1.08	46.9	D	0.99
25	Henry Clay Boulevard and Verplank Road	Unsignalized	7.8	A	0.00	8.6	A	0.00	14.4	B	0.00	13.0	B	0.00
26	Caughdenoy Road and Verplank Road	Unsignalized	9.6	A	0.00	10.6	B	0.00	19.8	C	0.00	14.2	B	0.00
27	Caughdenoy Road and Mud Mill Road	Unsignalized	9.9	A	0.00	11.5	B	0.00	13.1	B	0.00	12.2	B	0.00
28	Caughdenoy Road and Oak Orchard Road	Unsignalized	9.2	A	0.00	9.9	A	0.00	14.3	B	0.00	12.9	B	0.00
29	U.S. Route 11 and Mud Mill Road	Signalized	9.0	A	0.10	8.8	A	0.17	8.2	A	0.25	7.6	A	0.23
30	Lakeshore Rd Spur and Lakeshore Road	Unsignalized	9.2	A	0.00	9.7	A	0.00	12.8	B	0.00	12.0	B	0.00
31	Raymour and Flanigan/Wegmans East and NYS Route 31	Signalized	8.3	A	0.44	15.6	B	0.59	49.9	D	1.04	40.8	D	1.01
32	Henry Clay Boulevard and Wetzel Road	Signalized	18.9	B	0.27	20.7	C	0.44	26.9	C	0.76	24.4	C	0.68
33	Allen Road and Bear Road	Signalized	7.0	A	0.29	9.0	A	0.49	19.2	B	0.82	14.9	B	0.74
34	U.S. Route 11 and Bear Road	Signalized	26.0	C	0.53	33.5	C	0.72	55.6	E	1.05	43.0	D	0.94
35	Bear Road and NYS Route 481 EB On/Off-Ramp	Signalized	14.5	B	0.39	17.4	B	0.54	26.3	C	0.56	24.8	C	0.50
36	South Bay Road and Bear Road	Signalized	7.6	A	0.27	8.7	A	0.46	13.5	B	0.77	13.2	B	0.73

Intersection ID	Intersection Name	Intersection Control	6 AM			7 AM			4 PM			5 PM		
			Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c
37	NYS Route 481 WB On/Off-Ramp and Circle Drive E	Signalized	18.0	B	0.21	15.7	B	0.34	21.2	C	0.60	20.5	C	0.56
38	U.S. Route 11 and Circle Drive W/Circle Drive E	Signalized	13.7	B	0.33	11.8	B	0.54	42.4	D	0.99	41.1	D	0.86
39	U.S. Route 11 and Caughdenoy Road/Widewaters Commons	Signalized	22.1	C	0.20	22.6	C	0.53	22.2	C	0.68	22.6	C	0.64
40	NYS Route 481 NB Off-Ramp and Maple Road and Caughdenoy Road	Signalized	8.1	A	0.15	8.2	A	0.22	8.4	A	0.36	7.9	A	0.33
41	Maple Road and Grange Road W/Grange Road	Unsignalized	9.1	A	0.00	9.3	A	0.00	10.6	B	0.00	10.4	B	0.00
43	U.S. Route 11 and Crabtree Lane	Unsignalized	12.1	B	0.00	34.5	D	0.00	>300	F	0.00	>300	F	0.00
44	Grange Road/Grange Road E and Van Hoesen Road	Unsignalized	8.6	A	0.00	8.7	A	0.00	8.8	A	0.00	8.8	A	0.00
47	Cicero North Syracuse High School East Driveway and NYS Route 31	Unsignalized	10.2	B	0.00	11.4	B	0.00	17.6	C	0.00	16.2	C	0.00
50	McNamara Drive/Driveway and NYS Route 31	Unsignalized	21.6	C	0.00	151.4	F	0.00	>300	F	0.00	>300	F	0.00
54	Doreen Avenue and NYS Route 31	Unsignalized	12.0	B	0.00	15.4	C	0.00	61.4	F	0.00	38.0	E	0.00
55	NYS Route 31 and Button Road	Unsignalized	9.7	A	0.00	11.7	B	0.00	50.6	F	0.00	34.4	D	0.00
56	NYS Route 31 and Weller Canning Road	Unsignalized	12.7	B	0.00	18.1	C	0.00	185.2	F	0.00	73.8	F	0.00
69	Morgan Road and Verplank Road	Unsignalized	22.1	C	0.00	221.8	F	0.00	>300	F	0.00	>300	F	0.00
70	Morgan Road and GNM Driveway 1	Signalized	12.1	B	0.42	15.8	B	0.62	19.8	B	0.94	34.5	C	0.94
71	Pardee Road and McKinley Road	Unsignalized	9.2	A	0.00	9.5	A	0.00	9.6	A	0.00	9.6	A	0.00
72	Morgan Road and GNM Driveway 2	Unsignalized	11.8	B	0.00	17.3	C	0.00	170.0	F	0.00	42.4	E	0.00
73	GNM Driveway 3 and Verplank Road	Unsignalized	9.2	A	0.00	9.6	A	0.00	12.7	B	0.00	11.5	B	0.00
74	GNM Driveway 4 and Verplank Road	Unsignalized	9.1	A	0.00	9.7	A	0.00	13.7	B	0.00	12.1	B	0.00
77	Soule Road/NYS Route 481	Signalized	20.2	C	0.79	38.2	D	0.94	70.7	E	1.02	60.4	E	1.02
132	Davidson and NYS Route 31	Signalized	9.9	A	0.51	15.4	B	0.71	36.7	D	1.00	27.0	C	0.96
233	Oswego Road and Verplank Road	Unsignalized	12.2	B	0.00	17.2	C	0.00	34.6	D	0.00	22.3	C	0.00
246	U.S. Route 11 and Hogan Drive	Signalized	10.3	B	0.23	16.9	B	0.50	103.8	F	0.96	77.0	E	0.88
258	Texas Roadhouse/Delta Sonic and NYS Route 31	Signalized	8.9	A	0.40	11.5	B	0.57	25.9	C	1.08	14.8	B	1.00
260	U.S. Route 11 and Chick-fil-A	Signalized	6.7	A	0.29	7.2	A	0.45	30.2	C	0.98	19.8	B	0.88
262	Carling Road South/Carling Road North and NYS Route 31	Signalized	9.3	A	0.43	11.5	B	0.58	69.2	E	1.11	52.3	D	1.05
267	NYS Route 31 and Dell Center Drive	Signalized	9.2	A	0.44	10.7	B	0.59	50.4	D	1.09	41.0	D	1.03
275	Proposed Access #1 and Verplank Road	Unsignalized	7.4	A	0.00	7.8	A	0.00	10.3	B	0.00	8.9	A	0.00
276	Lowes/Home Depot and NYS Route 31	Signalized	17.0	B	0.40	19.9	B	0.56	59.2	E	1.13	37.8	D	1.08
280	Oswego Road and NYS Route 31	Signalized	27.1	C	0.71	79.6	E	1.04	89.2	F	1.15	87.9	F	1.12
284	NYS Route 31 and Proposed Access	Unsignalized	10.1	B	0.00	11.3	B	0.00	19.4	C	0.00	13.8	B	0.00
287	Proposed Access #2 and Verplank Road	Unsignalized	7.7	A	0.00	8.1	A	0.00	11.0	B	0.00	9.3	A	0.00
296	Davidson Collision Center Driveway and NYS Route 31	Unsignalized	9.4	A	0.00	10.4	B	0.00	10.9	B	0.00	10.3	B	0.00

8.1.3 Freeway Operations

Table 8-2 and Table 8-3 summarize the freeway densities and corresponding LOS expressed as a letter designation and by the color coding shown in Table 2-3. Generally, the I-81 and the NYS Route 481 freeways operate in relatively uncongested conditions (LOS C or better) in both peak periods. For locations where the demand increases in the second hour of each peak period, the corresponding increases in density do not result in unacceptable operating conditions for most of the Transportation Evaluation Area. However, the westbound segment of NYS Route 481 between Maple Road and NYS Route 31 operates at LOS F in the 5:00 p.m. evening peak hour. In addition, LOS F conditions exist related to the diverge to the NYS Route 31 off-ramp begins in the 4:00 p.m. peak hour and perpetuates into the 5:00 p.m. peak hour. The peak-hour density for the westbound NYS Route 481 basic segment within the I-81 system interchange at LOS C with 23 vehicles per mile per lane; therefore, operating conditions are likely to feel similar to drivers during both hours in the evening peak period.

Table 8-2. Year 2031 No Action Alternative AM and PM Peak-Hour I-81 Freeway Operations – Delay and LOS

Segment Direction	Segment Description	Segment Type	6 AM					7 AM					4 PM					5 PM				
			Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS
I-81 NB	I-81 NB Between E Taft Road and NYS Route 481	Basic	1,158	1,152	66	5.8	A	1,649	1,646	66	8.3	A	3,527	3,521	65	18.0	B	3,014	3,016	66	15.3	B
	I-81 NB Off-Ramp to I-481	Diverge	1,158	1,144	64	4.5	A	1,649	1,638	64	6.4	A	3,527	3,508	63	13.9	B	3,014	3,015	64	11.8	B
	I-81 NB Between Off/On-Ramps to/from NYS Route 481	Basic	984	977	67	4.9	A	1,470	1,464	66	7.4	A	3,292	3,288	65	16.9	B	2,828	2,841	65	14.6	B
	I-81 NB Between Off/On-Ramps to/from NYS Route 481	Weave	1,043	1,032	62	4.2	A	1,559	1,549	61	6.4	A	3,409	3,385	59	14.3	B	2,864	2,892	60	12.1	B
	I-81 NB after Off-Ramp to NYS Route 481	Basic	683	675	61	5.5	A	996	983	61	8.1	A	2,111	2,091	60	17.4	B	1,670	1,704	61	14.1	B
	I-81 NB On-Ramp from NYS Route 481	Merge	880	868	67	3.2	A	1,290	1,268	67	4.7	A	3,017	3,001	66	11.3	B	2,440	2,467	66	9.3	A
	I-81 NB Between NYS Route 481 and NYS Rout 31	Basic	880	862	67	4.3	A	1,290	1,265	67	6.3	A	3,017	2,999	66	15.2	B	2,440	2,478	66	12.5	B
	I-81 NB Off-Ramp to NYS Route 31	Diverge	880	854	63	3.4	A	1,290	1,261	63	5.0	A	3,017	2,993	64	15.7	B	2,440	2,485	64	12.9	B
	I-81 NB Between Off/On-Ramps to/from NYS Route 31	Basic	522	501	67	2.5	A	751	739	67	3.7	A	2,037	2,011	67	10.0	A	1,610	1,636	67	8.1	A
	I-81 NB On-Ramp from NYS Route 31	Merge	623	595	65	2.3	A	880	829	66	3.2	A	2,703	2,550	62	10.3	B	2,200	2,166	62	8.8	A
	I-81 NB Between NYS Route 31 and Bartell Road	Basic	623	593	67	2.9	A	880	828	67	4.1	A	2,703	2,554	66	12.9	B	2,200	2,172	66	10.9	A
	I-81 NB Off-Ramp to Bartell Road	Diverge	623	572	64	2.2	A	880	827	64	3.2	A	2,703	2,557	60	10.6	B	2,200	2,202	62	8.9	A
	I-81 NB Off/On-Ramps to/from Bartell Road	Basic	496	455	67	2.2	A	693	649	67	3.2	A	2,115	1,989	65	10.2	A	1,740	1,744	66	8.8	A
	I-81 On-Ramp from Bartell Road	Merge	555	510	65	2.0	A	787	738	65	2.8	A	2,336	2,203	65	8.5	A	1,971	1,973	65	7.6	A
	I-81 NB Between Bartell Rd and East Avenue	Basic	555	509	67	2.5	A	787	739	67	3.7	A	2,336	2,209	66	11.1	B	1,971	1,981	67	9.9	A
I-81 SB	I-81 SB Between East Ave and Bartell Road	Basic	1,368	1,365	67	6.8	A	1,997	1,990	67	9.9	A	1,310	1,307	68	6.4	A	1,059	1,059	68	5.2	A
	I-81 SB Off-Ramp to Bartell Road	Diverge	1,368	1,351	66	5.1	A	1,997	1,974	65	7.6	A	1,310	1,298	65	5.0	A	1,059	1,052	65	4.0	A
	I-81 SB Between Off-Ramp and On-Ramp to Bartell Road	Basic	1,279	1,272	67	6.3	A	1,855	1,849	66	9.3	A	1,111	1,110	68	5.5	A	890	902	68	4.4	A
	I-81 SB On-Ramp from Bartell Road	Merge	1,677	1,660	65	6.4	A	2,451	2,440	64	9.5	A	1,592	1,587	65	6.1	A	1,302	1,310	65	5.1	A
	I-81 SB Between Bartell Road and NYS Route 31	Basic	1,677	1,653	67	8.3	A	2,451	2,440	66	12.4	B	1,592	1,590	67	7.9	A	1,302	1,319	67	6.5	A
	I-81 SB Off-Ramp to NYS Route 31	Diverge	1,677	1,627	66	6.2	A	2,451	2,424	56	11.2	B	1,592	1,590	66	6.1	A	1,302	1,330	66	5.0	A
	I-81 SB Between Off-Ramp and On-Ramp from NYS Route 31	Basic	1,471	1,424	67	7.1	A	2,176	2,154	65	11.0	A	1,229	1,226	67	6.1	A	996	1,026	67	5.1	A
	I-81 SB On-Ramp from NYS Route 31	Merge	2,231	2,138	63	8.5	A	3,262	3,072	61	12.5	B	2,101	1,940	63	7.7	A	1,739	1,722	63	6.8	A
	I-81 SB Between NYS Route 31 and I-81	Basic	2,231	2,130	66	10.8	A	3,262	3,079	64	16.0	B	2,101	1,950	67	9.8	A	1,739	1,737	67	8.7	A
	I-81 SB Off-Ramp to NYS Route 481 EB	Diverge	2,231	2,130	66	10.8	B	3,262	3,079	64	16.0	B	2,101	1,950	67	9.8	A	1,739	1,737	67	8.7	A

Segment Direction	Segment Description	Segment Type	6 AM					7 AM					4 PM					5 PM				
			Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS
I-81 SB (continued)	I-81 SB Off-Ramp to I-81 EB and WB	Basic	1,492	1,411	66	10.8	A	2,164	2,038	64	16.0	B	1,490	1,414	66	10.7	A	1,239	1,259	66	9.5	A
	I-81 SB Off-Ramp to I-81 WB	Diverge	1,492	1,407	65	7.3	A	2,164	2,039	63	10.8	B	1,490	1,415	65	7.3	A	1,239	1,259	65	6.4	A
	I-81 SB Between Off-Ramp and On-Ramp from NYS Route 481	Basic	1,382	1,301	66	9.9	A	2,010	1,884	64	14.7	B	1,361	1,299	66	9.8	A	1,138	1,156	66	8.7	A
	I-81 SB On-Ramp from NYS Route 481 WB	Merge	1,560	1,479	66	7.5	A	2,246	2,122	65	10.9	B	1,542	1,483	66	7.5	A	1,297	1,316	66	6.6	A
	I-81 SB On-Ramp from NYS Route 481 EB	Merge	2,736	2,502	63	10.0	A	3,623	3,460	62	13.9	B	2,809	2,420	64	9.5	A	2,454	2,212	63	8.7	A
	I-81 NB Between NYS Route 481 and E Taft Road	Basic	2,736	2,509	65	12.8	B	3,623	3,480	64	18.1	C	2,809	2,433	66	12.3	B	2,454	2,226	66	11.2	B

Table 8-3. Year 2031 No Action Alternative AM and PM Peak-Hour NYS Route 481 Freeway Operations – Delay and LOS

Segment Direction	Segment Description	Segment Type	6 AM					7 AM					4 PM					5 PM				
			Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS
NYS Route 481 EB	NYS Route 481 EB Between Verplank Road and NYS Route 31	Basic	923	912	64	7.1	A	1,388	1,387	63	11.0	B	1,059	1,058	62	8.6	A	915	916	62	7.4	A
	NYS Route 481 EB Off-Ramp to NYS Route 31	Diverge	923	910	55	5.5	A	1,388	1,389	52	8.8	A	1,059	1,058	50	7.0	A	915	919	50	6.1	A
	NYS Route 481 Between Off-Ramp and On-Ramp from NYS Route 31	Basic	647	625	67	4.7	A	951	946	66	7.2	A	626	626	67	4.7	A	535	534	67	4.0	A
	NYS Route 481 EB On-Ramp from NYS Route 31	Merge	1,683	1,578	59	8.9	A	2,287	2,229	58	12.8	B	1,999	1,403	61	7.6	A	1,713	1,278	61	7.0	A
	NYS Route 481 EB Between NYS Route 31 and Bear Road	Basic	1,683	1,568	65	12.0	B	2,287	2,234	64	17.5	B	1,999	1,391	66	10.5	A	1,713	1,270	66	9.6	A
	NYS Route 481 EB Off-Ramp to Bear Road	Diverge	1,683	1,481	58	8.5	A	2,287	2,201	55	13.4	B	1,999	1,386	55	8.4	A	1,713	1,297	55	7.8	A
	NYS Route 481 EB Between Off-Ramp and On-Ramp from Bear Road	Basic	1,518	1,350	62	10.8	A	2,045	1,992	61	16.4	B	1,572	1,112	65	8.6	A	1,361	1,035	65	8.0	A
	NYS Route 481 Between U.S. Route 11 and I-81	Weave	2,440	2,180	60	12.1	B	3,293	3,107	58	17.8	B	2,521	2,023	61	11.0	B	2,164	1,843	61	10.0	B
	NYS Route 481 EB Off-Ramp to I-81 NB	Diverge	1,264	1,122	66	5.7	A	1,916	1,752	65	9.0	A	1,253	1,075	67	5.4	A	1,007	933	67	4.6	A
	NYS Route 481 EB Between Off-Ramp and On-Ramp from I-81	Basic	1,205	1,065	66	8.0	A	1,828	1,667	65	12.8	B	1,136	975	67	7.3	A	971	890	67	6.6	A
	NYS Route 481 EB On-Ramp from I-81 NB	Merge	1,379	1,231	65	6.3	A	2,007	1,847	63	9.7	A	1,372	1,207	65	6.2	A	1,157	1,078	66	5.5	A
	NYS Route 481 EB On-Ramp from I-81 SB	Merge	2,118	1,928	66	7.3	A	3,104	2,880	65	11.0	B	1,983	1,741	67	6.5	A	1,657	1,564	67	5.8	A
	NYS Route 481 EB Between I-81 and Northern Blvd	Basic	2,118	1,924	67	9.6	A	3,104	2,877	65	14.6	B	1,983	1,743	67	8.6	A	1,657	1,565	67	7.7	A

Segment Direction	Segment Description	Segment Type	6 AM					7 AM					4 PM					5 PM				
			Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS
NYS Route 481 WB	NYS Route 481 WB Between Northern Blvd and I-81	Basic	850	847	67	6.3	A	1,243	1,237	67	9.2	A	2,636	2,630	66	19.9	C	2,295	2,253	66	17.0	B
	NYS Route 481 WB Off-Ramp to I-81	Diverge	850	846	67	4.2	A	1,243	1,240	66	6.2	A	2,636	2,637	65	13.5	B	2,295	2,261	66	11.5	B
	NYS Route 481 WB Between Off-Ramp and On-Ramp from I-81 NB	Basic	653	646	51	6.4	A	950	951	50	9.4	A	1,729	1,725	50	17.3	B	1,525	1,509	50	15.1	B
	NYS Route 481 WB Between On-Ramp and Off-Ramp to I-81	Weave	1,014	994	60	5.5	A	1,512	1,509	59	8.5	A	3,028	3,019	58	17.3	B	2,719	2,704	58	15.4	B
	NYS Route 481 WB Between Off-Ramp and On-Ramp from I-81 SB	Basic	835	813	65	6.3	A	1,276	1,276	64	9.9	A	2,847	2,849	62	22.9	C	2,561	2,555	63	20.3	C
	NYS Route 481 WB Between I-81 and U.S. Route 11	Weave	945	914	65	4.7	A	1,431	1,426	65	7.4	A	2,976	2,967	60	17.2	B	2,661	2,658	64	13.8	B
	NYS Route 481 WB Off-Ramp and On-Ramp from Circle Drive	Basic	568	547	64	4.3	A	864	862	64	6.8	A	1,824	1,814	64	14.3	B	1,583	1,572	64	12.3	B
	NYS Route 481 WB On-Ramp from Circle Drive	Merge	735	709	63	3.8	A	1,115	1,108	62	6.0	A	2,289	2,275	59	13.0	B	2,020	2,008	59	11.3	B
	NYS Route 481 WB Between U.S. Route 11 and Caughdenoy Road	Basic	735	704	66	5.3	A	1,115	1,106	66	8.4	A	2,289	2,275	64	17.8	B	2,020	2,012	57	18.4	C
	NYS Route 481 WB Off-Ramp to Caughdenoy Road	Diverge	735	686	64	3.6	A	1,115	1,086	63	5.7	A	2,289	2,237	59	12.7	B	2,020	1,941	37	26.2	C
	NYS Route 481 WB Between Maple Road and NYS Route 31	Basic	680	635	66	4.8	A	1,035	1,018	65	7.8	A	1,978	1,571	8	100.8	F	1,676	1,124	3	184.1	F
	NYS Route 481 WB Off-Ramp to NYS Route 31	Diverge	680	625	49	4.3	A	1,035	1,015	46	7.4	A	1,978	1,187	7	55.0	F	1,676	1,093	6	57.4	F
	NYS Route 481 WB Between Off-Ramp and On-Ramp from NYS Route 31	Basic	274	252	67	1.9	A	412	399	67	3.0	A	705	429	63	3.4	A	535	395	63	3.2	A
	NYS Route 481 WB On-Ramp from NYS Route 31	Merge	489	452	63	2.4	A	739	686	63	3.6	A	1,346	826	61	4.5	A	1,094	789	61	4.3	A
	NYS Route 481 WB Between NYS Route 31 and Verplank Road	Basic	489	450	65	3.4	A	739	685	65	5.2	A	1,346	826	65	6.4	A	1,094	788	65	6.1	A

8.2 Preferred Action Alternative

The following subsections present key MOEs and discuss the traffic operational analysis results for Proposed Project-generated trips in addition to background traffic in 2031. The roadway network is the same as the 2031 No Action Alternative. Operations for the peak hour with the lowest LOS within the peak period of the freeway mainline segments, merge/diverge areas, weaving areas, ramp segments, ramp terminal intersections, and surface street intersections expressed as LOS based on the color coding shown in Table 2-3 and Table 2-4 in Section 2.3.3. Appendix D summarizes the model output that details the link and node results summarized in the figures and tables.

8.2.1 Traffic Volumes

The traffic volumes shown in Figures 8-9 through 8-12 are higher than in the No Action Alternative due to the addition of Micron generated trips. The signal timing at each signalized intersection was optimized to account for the additional operations and construction trips on the Micron Campus. A minor shift of background traffic was observed from NYS Route 31 to alternative roads with spare capacity.

Figure 8-9: Year 2031 Preferred Action Alternative 6AM/4PM Traffic Volumes - Intersections - Sheet 1 of 5

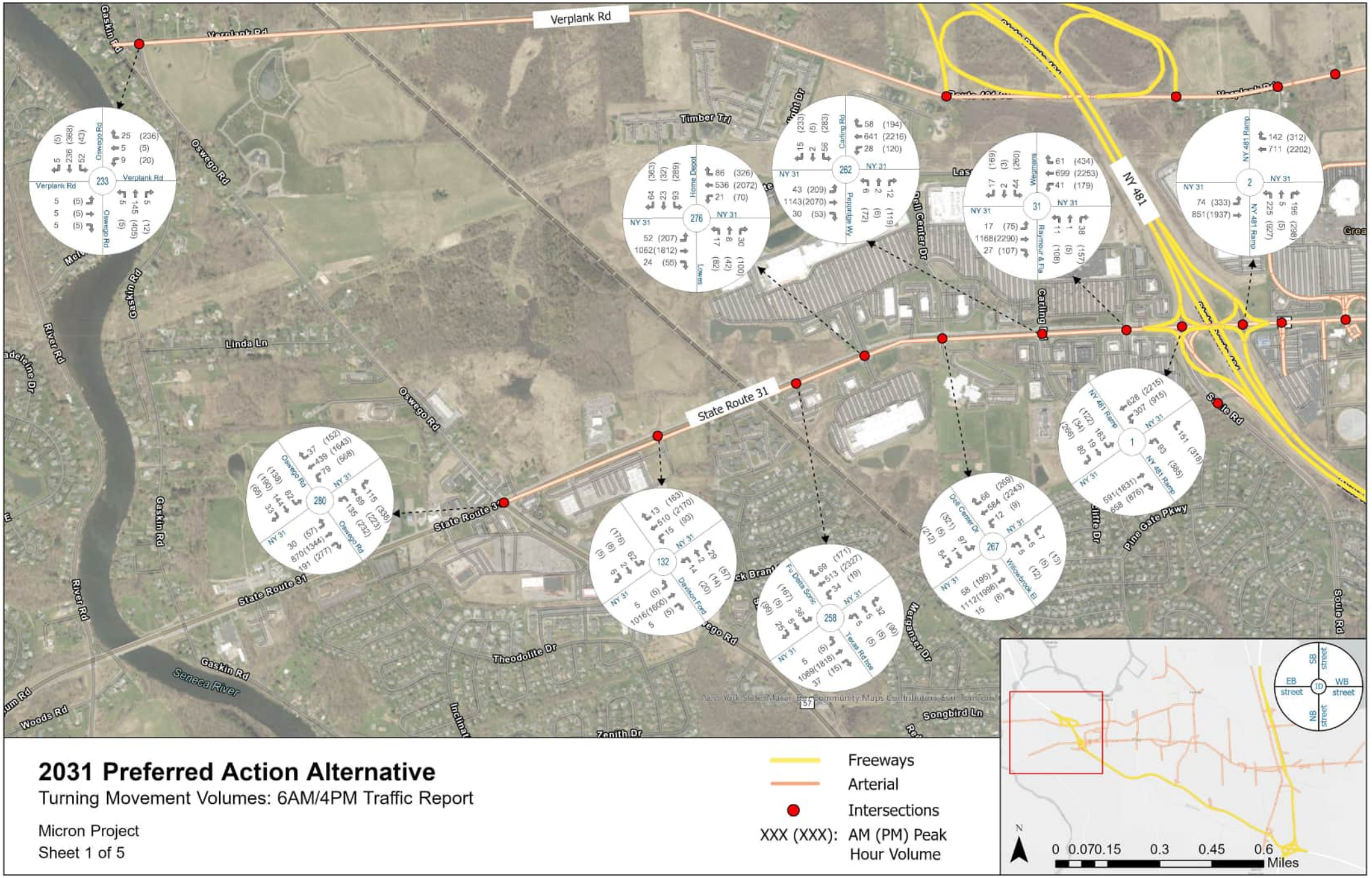


Figure 8-9: Year 2031 Preferred Action Alternative 6AM/4PM Traffic Volumes - Intersections - Sheet 2 of 5

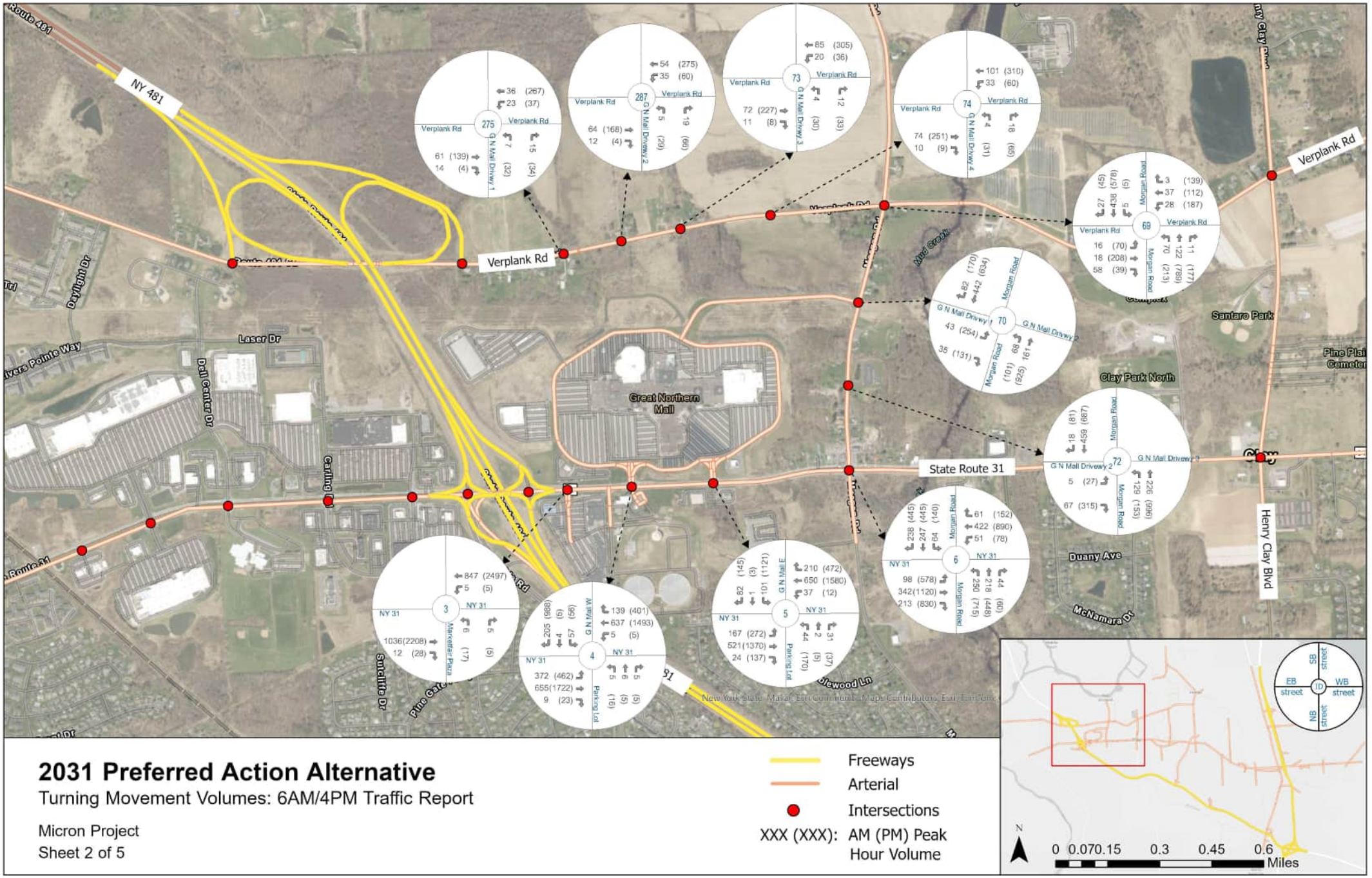


Figure 8-9: Year 2031 Preferred Action Alternative 6AM/4PM Traffic Volumes - Intersections - Sheet 3 of 5

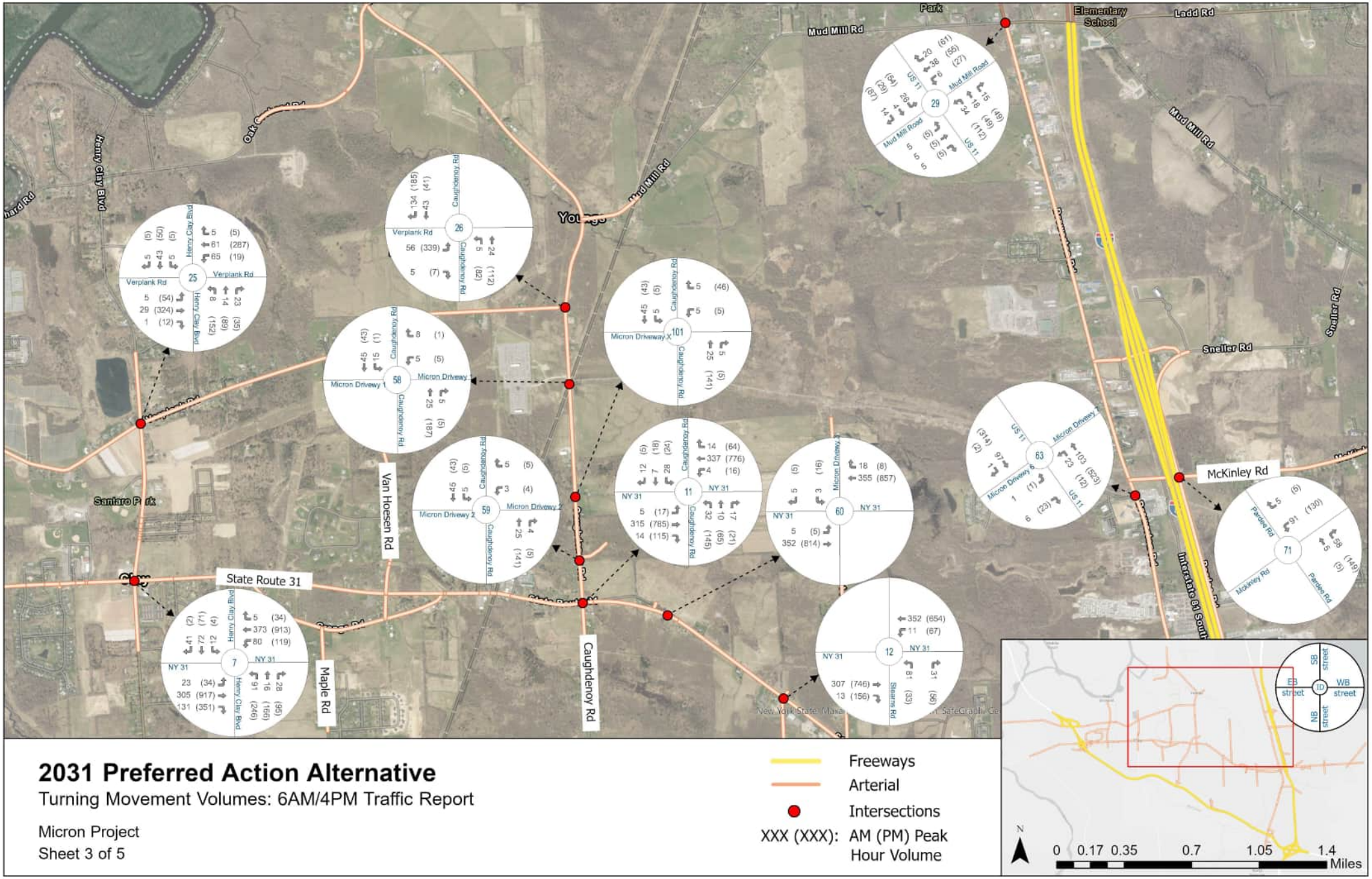


Figure 8-9: Year 2031 Preferred Action Alternative 6AM/4PM Traffic Volumes - Intersections - Sheet 4 of 5

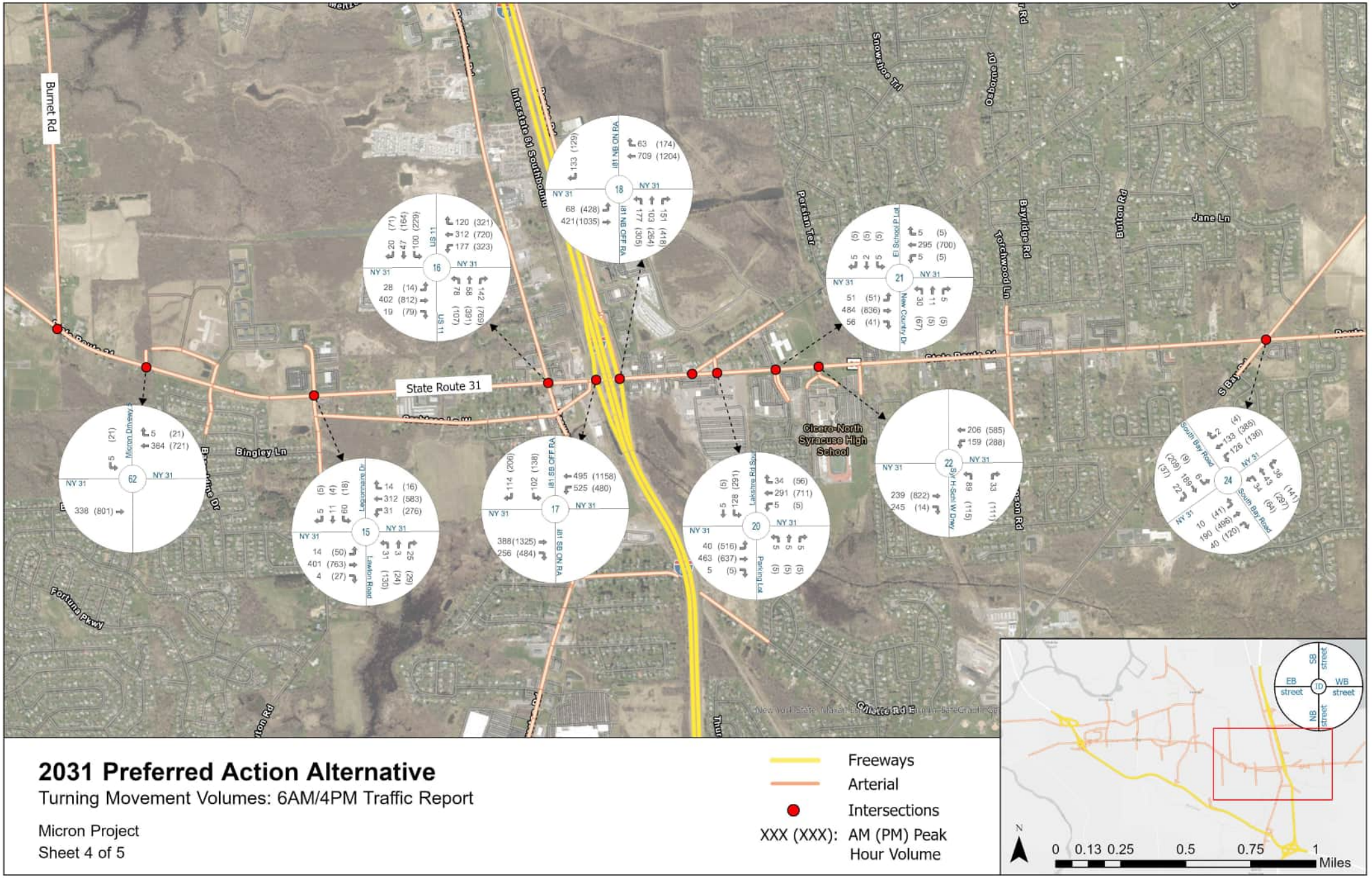


Figure 8-9: Year 2031 Preferred Action Alternative 6AM/4PM Traffic Volumes - Intersections - Sheet 5 of 5

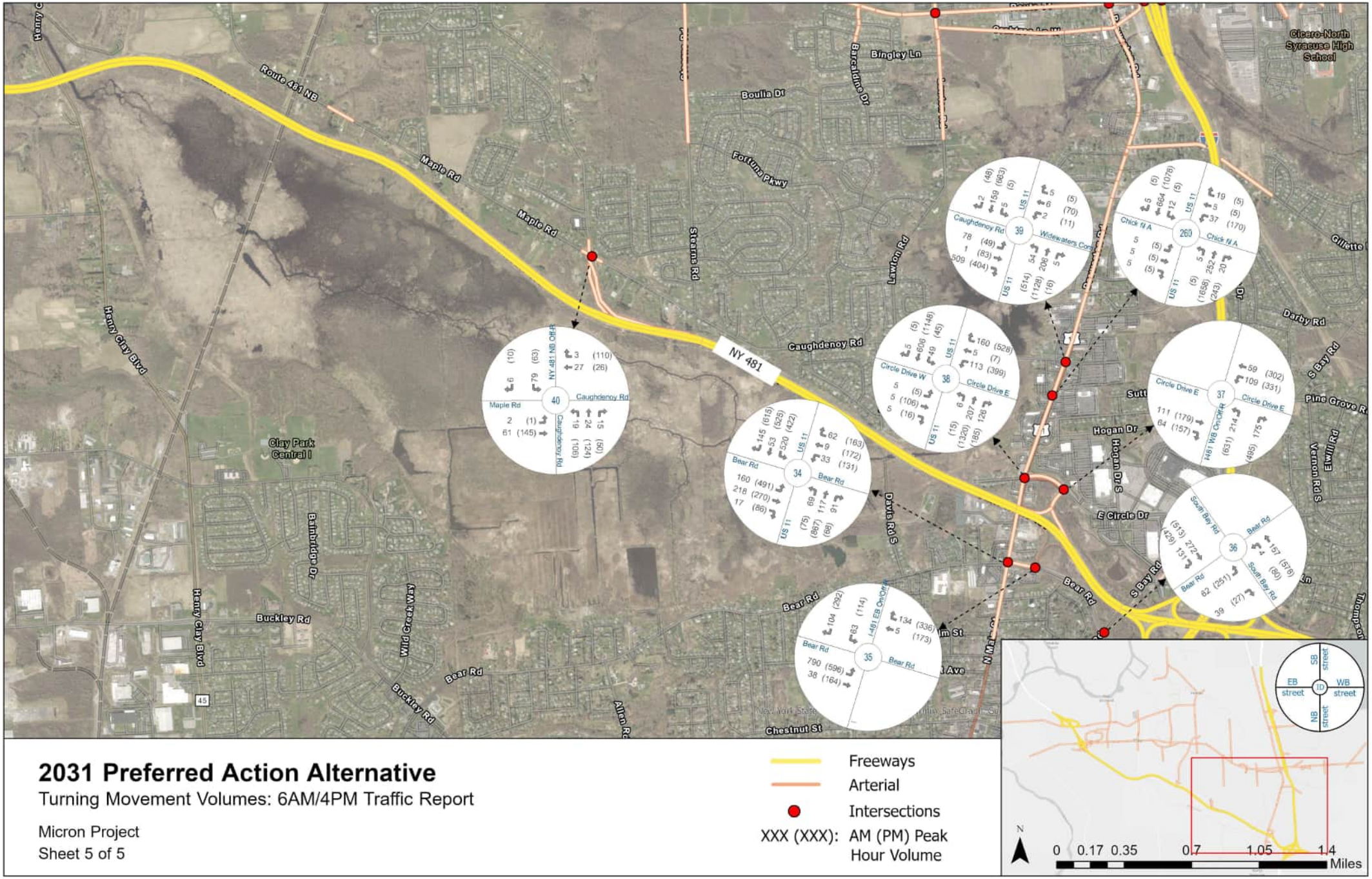


Figure 8-10: Year 2031 Preferred Action Alternative 6AM/4PM Traffic Volumes - Freeways - Sheet 1 of 5

Mainline Volumes — Freeways

Ramp Volumes — Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

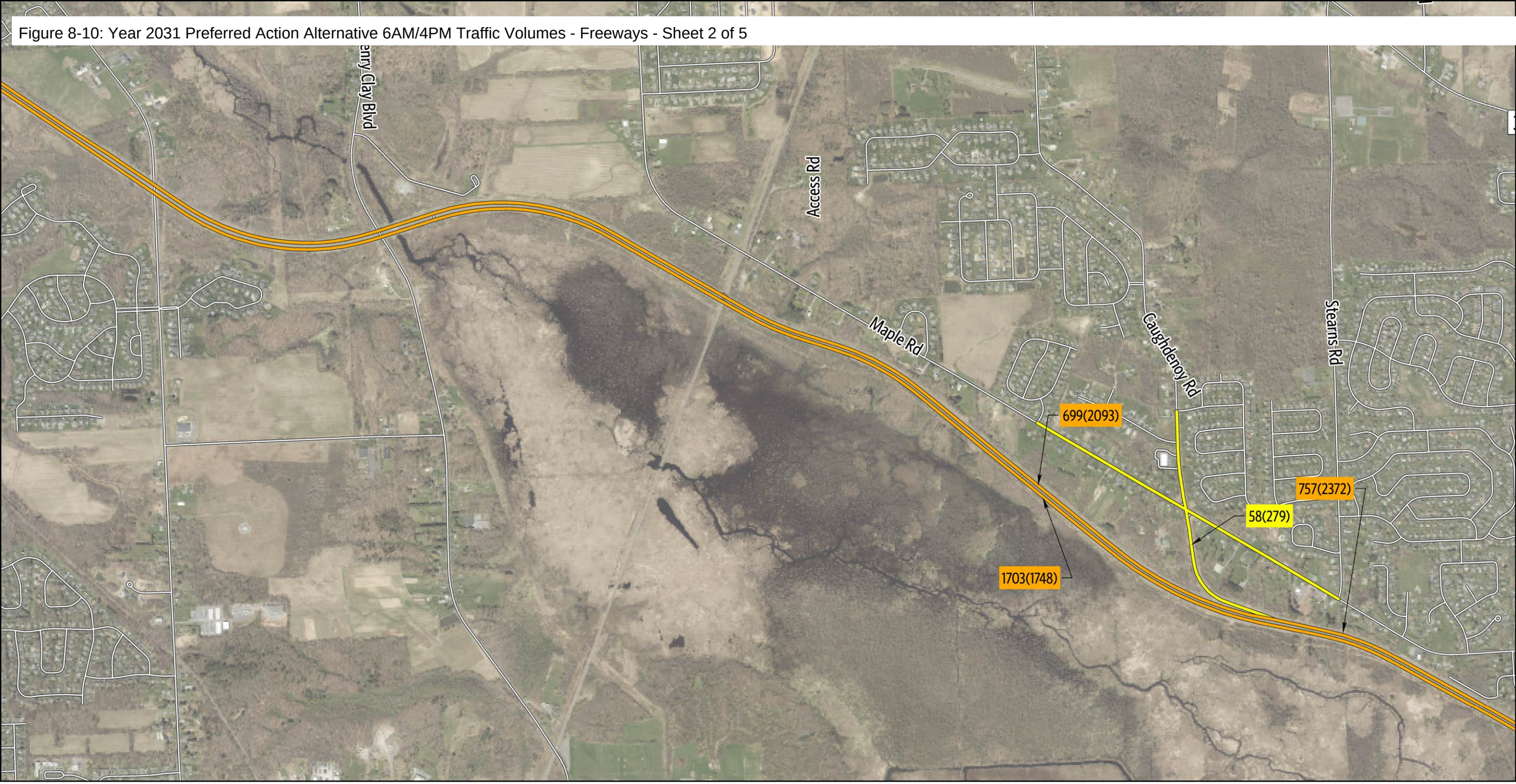
0 1,000 2,000 Feet

2031 Preferred Action Alternative

Sheet 1 of 5

6 AM & 4 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 8-10: Year 2031 Preferred Action Alternative 6AM/4PM Traffic Volumes - Freeways - Sheet 2 of 5



Mainline Volumes
Freeways

Ramp Volumes
Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

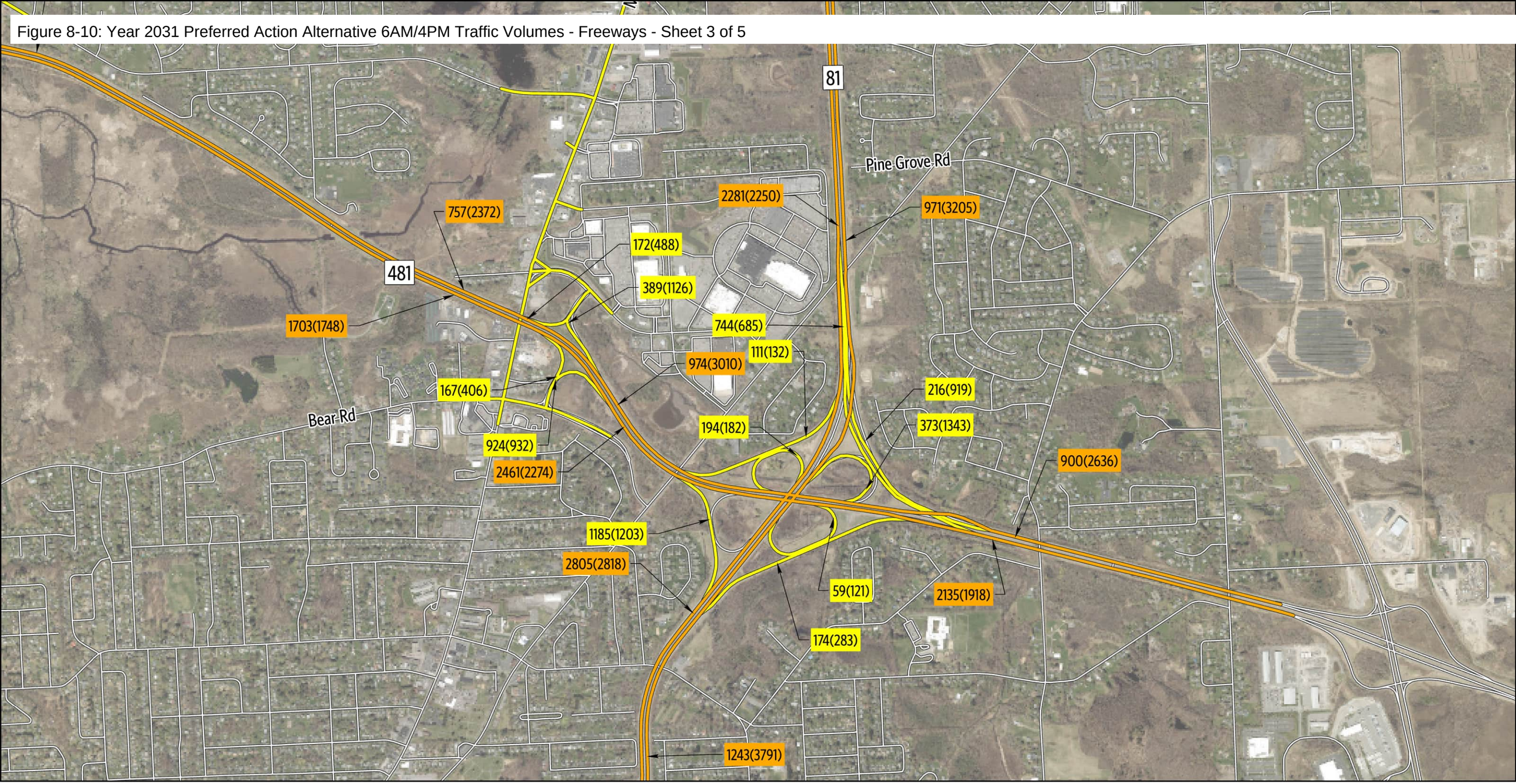
0 1,000 2,000 Feet

2031 Preferred Action Alternative

Sheet 2 of 5

6 AM & 4 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 8-10: Year 2031 Preferred Action Alternative 6AM/4PM Traffic Volumes - Freeways - Sheet 3 of 5



Mainline Volumes — Freeways

Ramp Volumes — Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

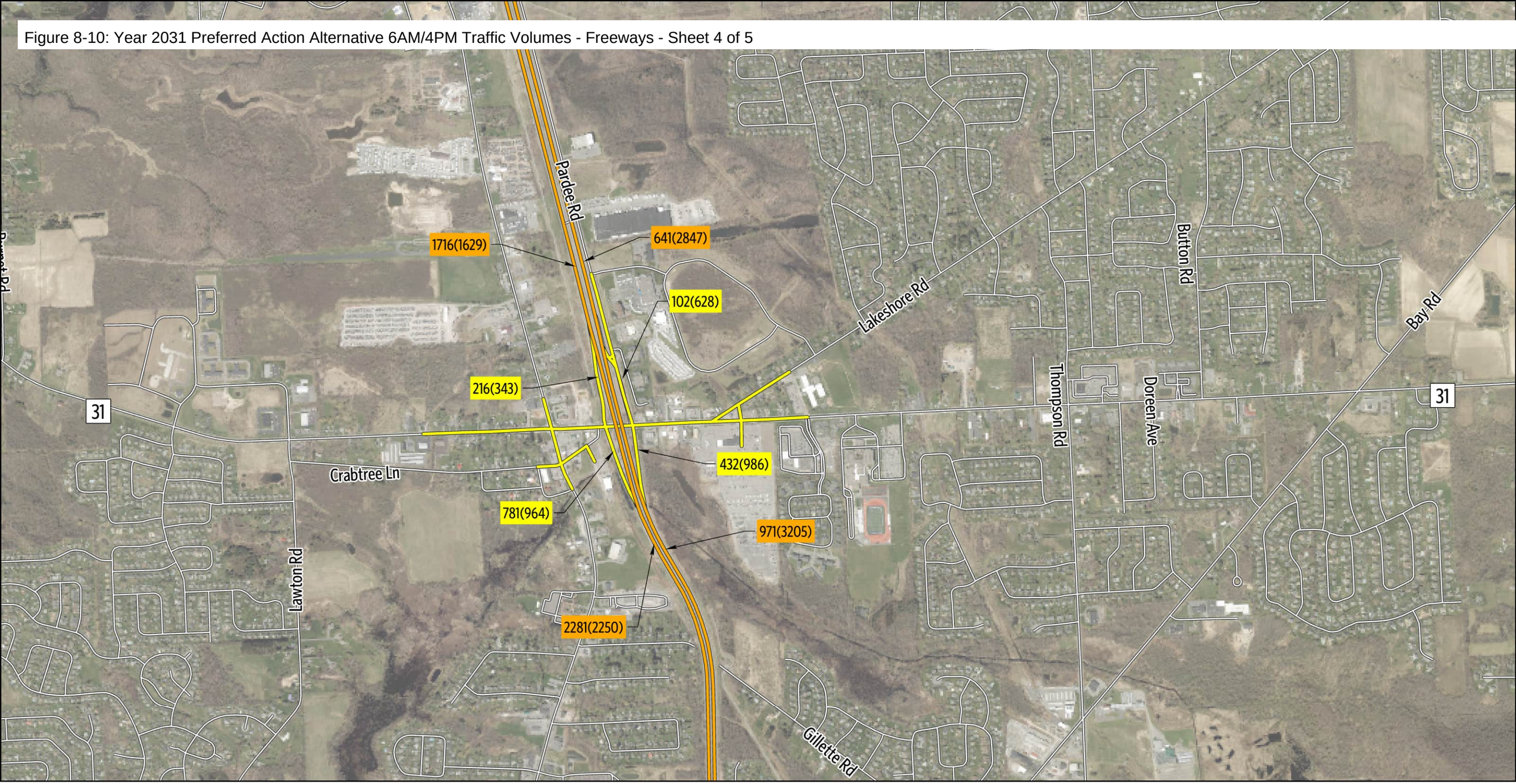
0 1,000 2,000 Feet

2031 Preferred Action Alternative

Sheet 3 of 5

6 AM & 4 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 8-10: Year 2031 Preferred Action Alternative 6AM/4PM Traffic Volumes - Freeways - Sheet 4 of 5



Mainline Volumes
Freeways

Ramp Volumes
Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

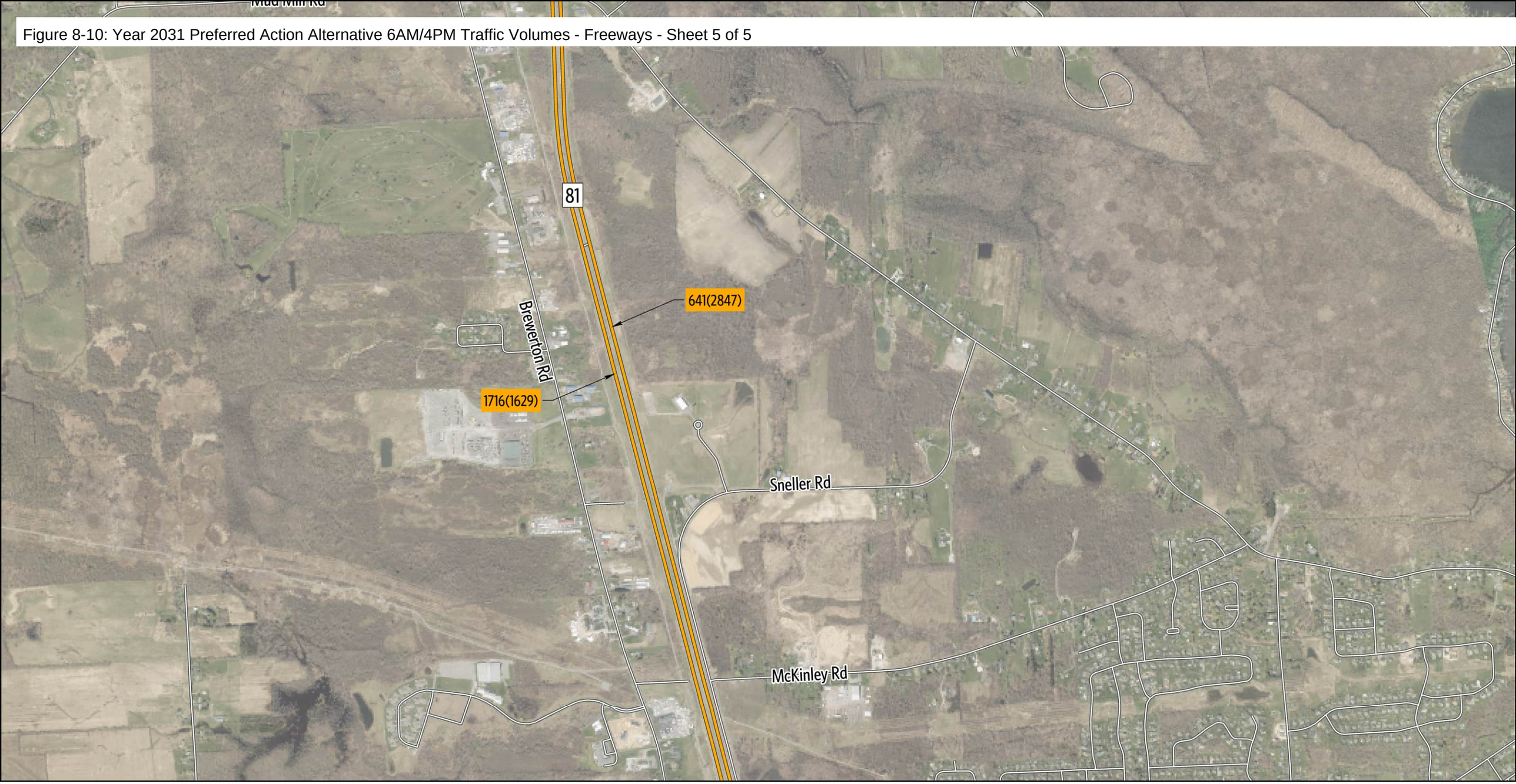
0 1,000 2,000 Feet

2031 Preferred Action Alternative

Sheet 4 of 5

6 AM & 4 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 8-10: Year 2031 Preferred Action Alternative 6AM/4PM Traffic Volumes - Freeways - Sheet 5 of 5



Mainline Volumes
Freeways

Ramp Volumes
Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

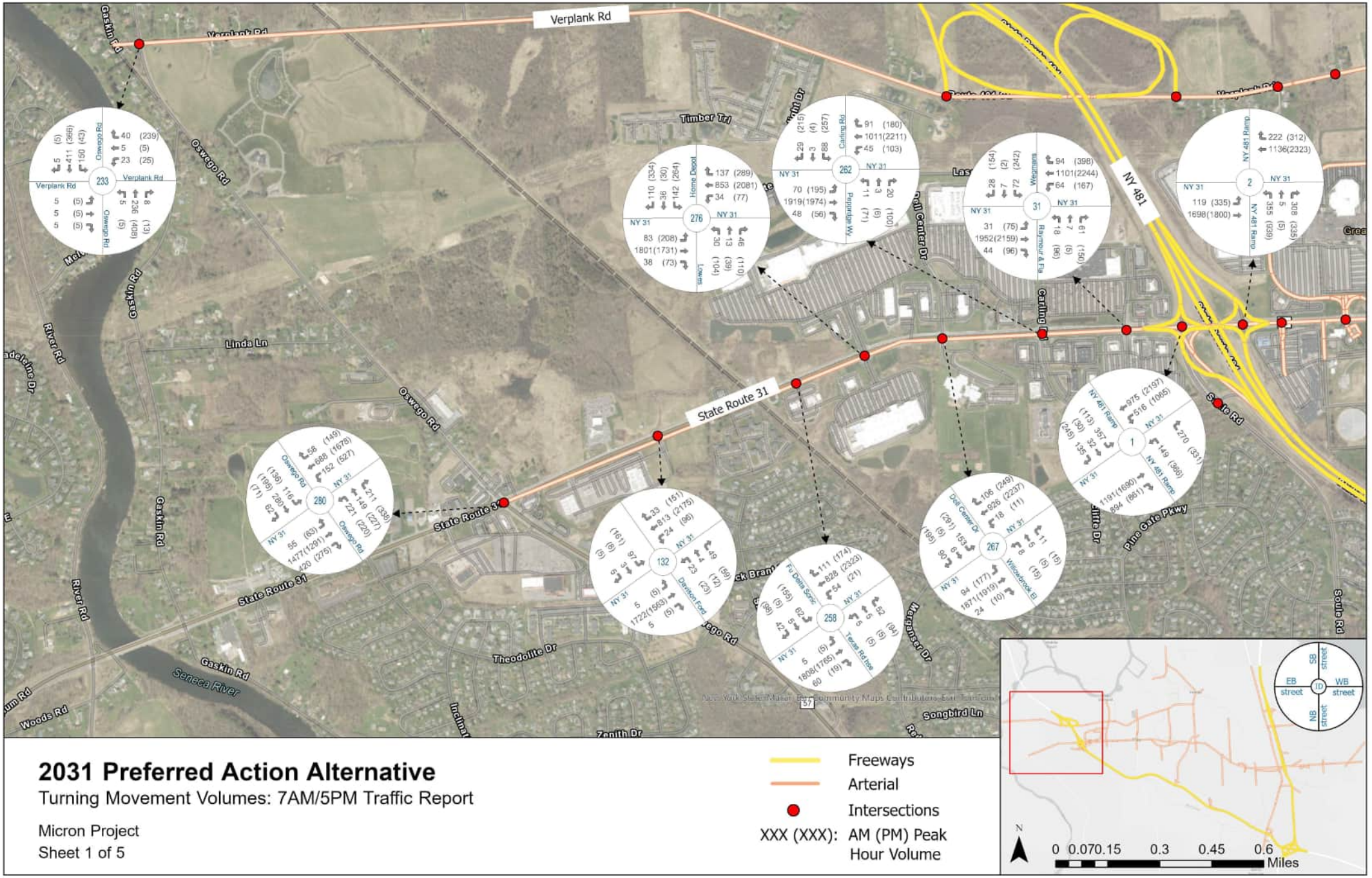
0 1,000 2,000 Feet

2031 Preferred Action Alternative

Sheet 5 of 5

6 AM & 4 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 8-11: Year 2031 Preferred Action Alternative 7AM/5PM Traffic Volumes - Intersections - Sheet 1 of 5



2031 Preferred Action Alternative

Turning Movement Volumes: 7AM/5PM Traffic Report

Micron Project

Sheet 1 of 5

Figure 8-11: Year 2031 Preferred Action Alternative 7AM/5PM Traffic Volumes - Intersections - Sheet 2 of 5

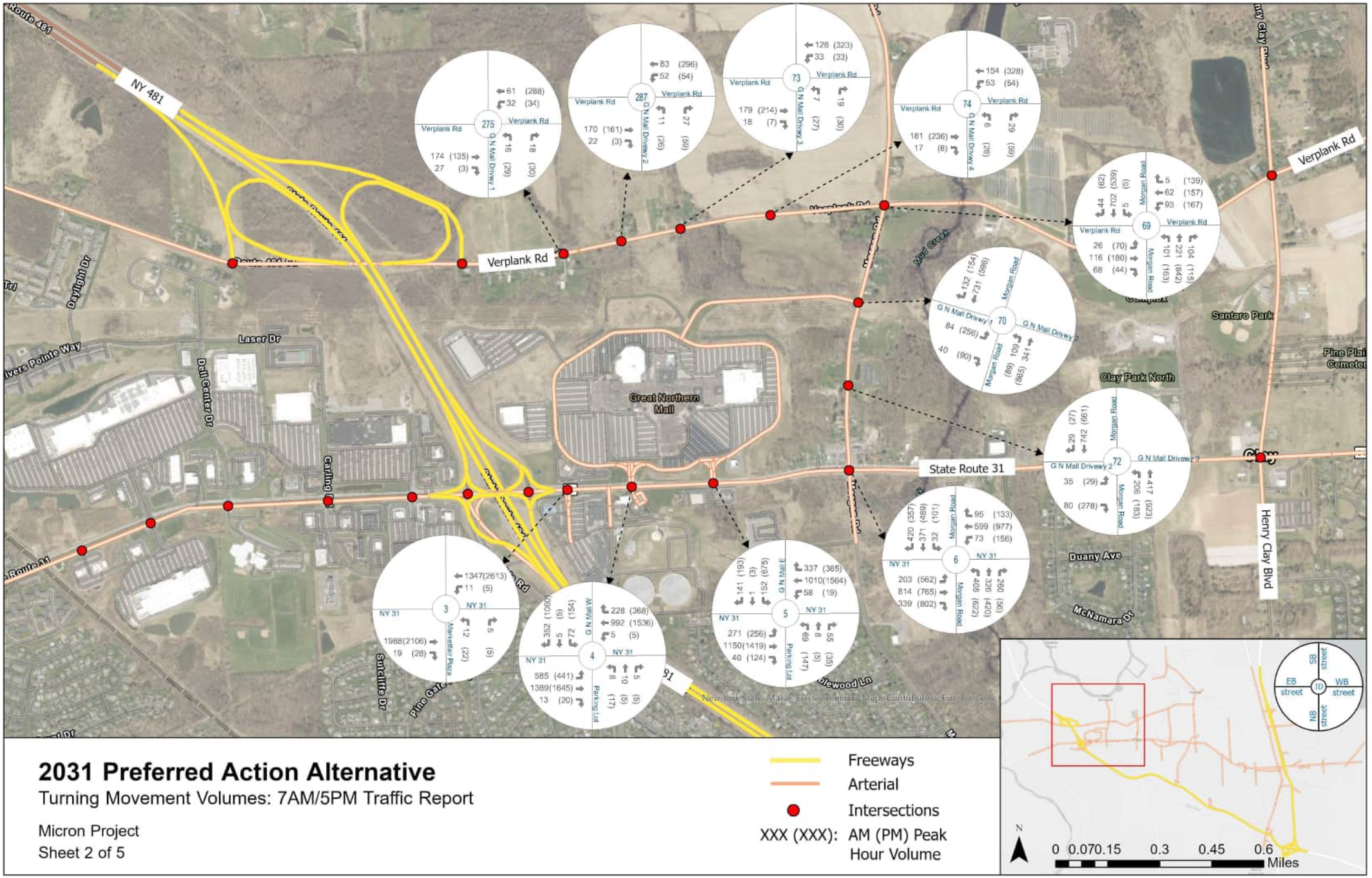


Figure 8-11: Year 2031 Preferred Action Alternative 7AM/5PM Traffic Volumes - Intersections - Sheet 3 of 5

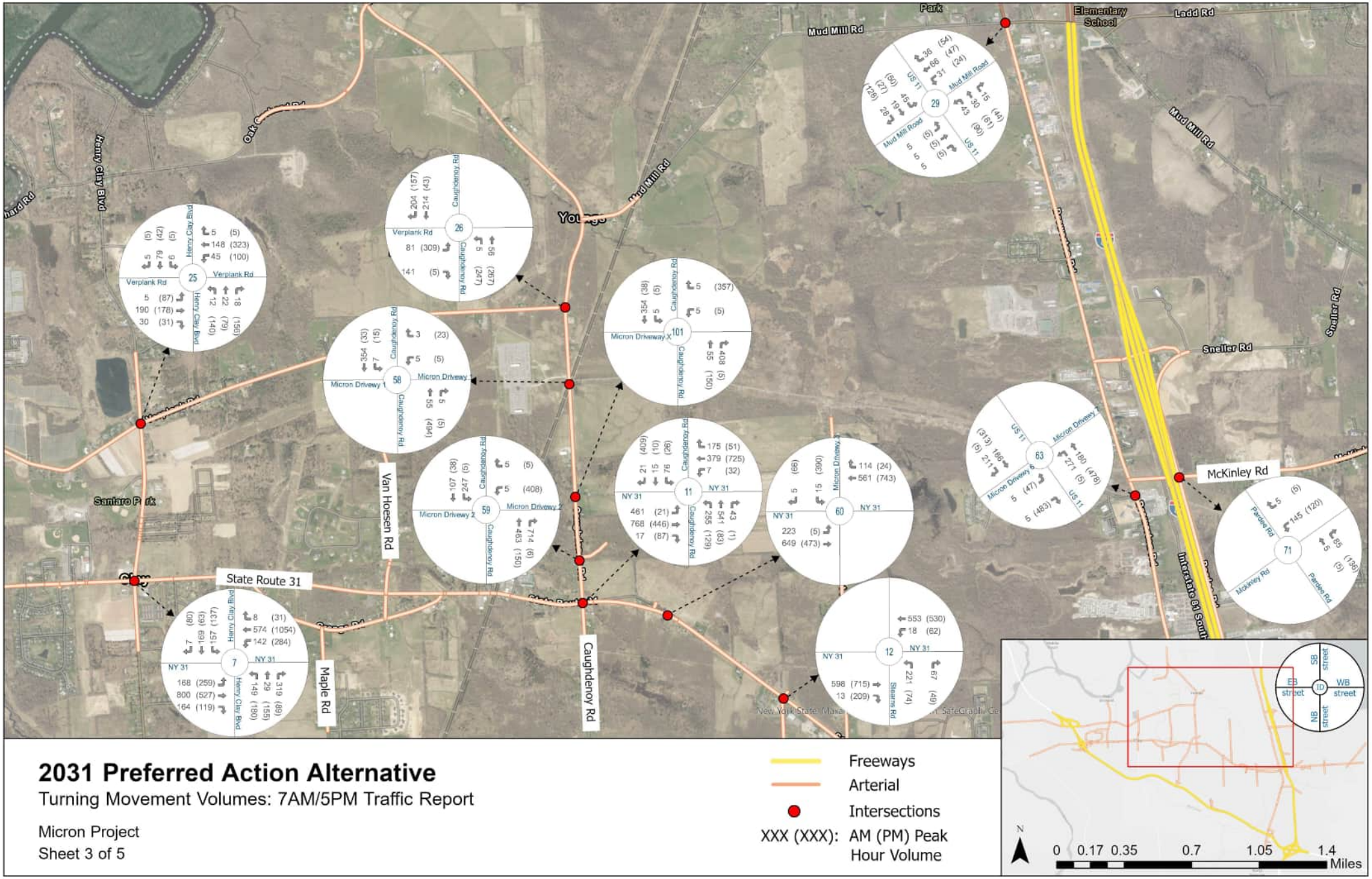


Figure 8-11: Year 2031 Preferred Action Alternative 7AM/5PM Traffic Volumes - Intersections - Sheet 4 of 5

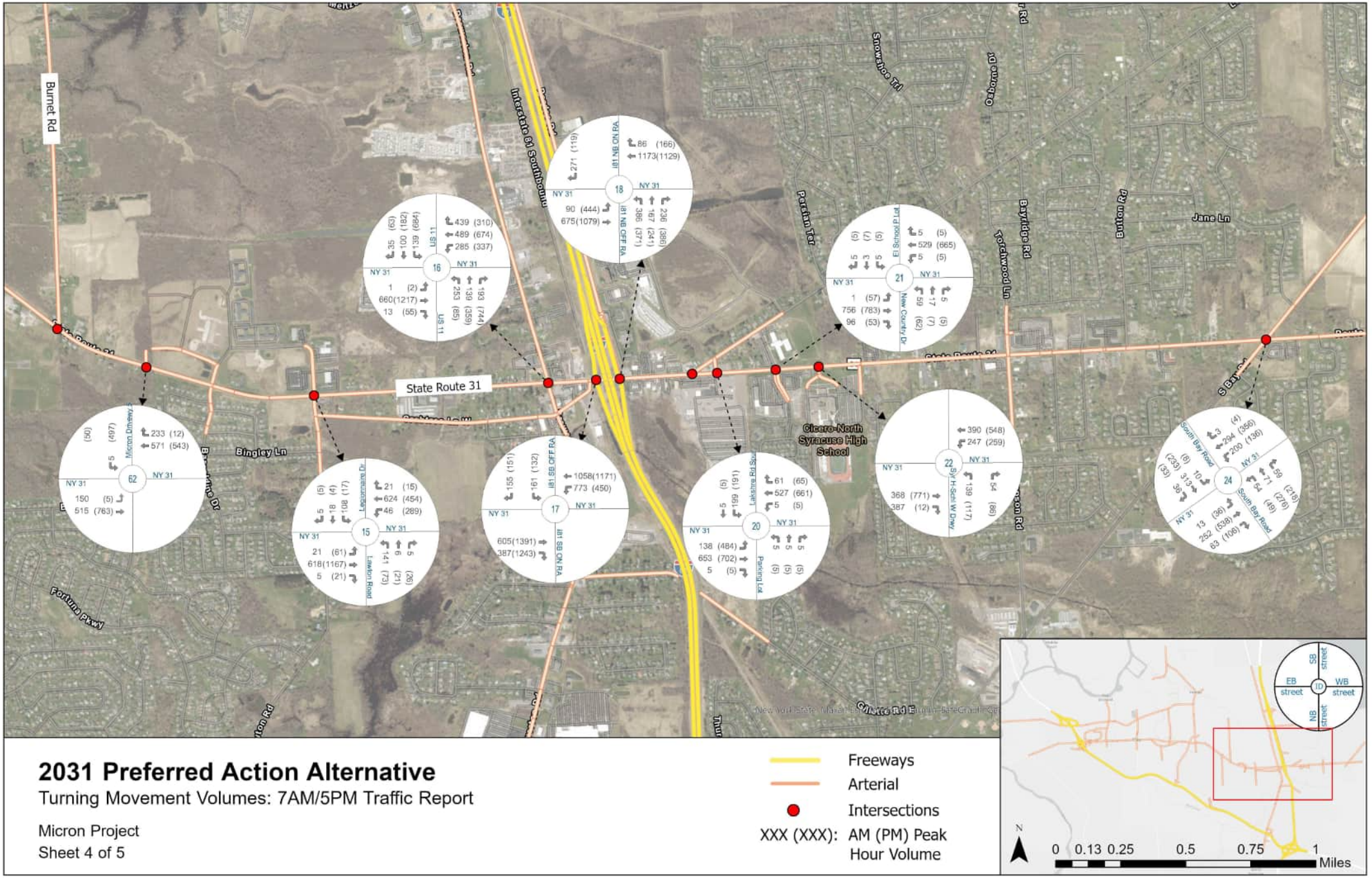


Figure 8-11: Year 2031 Preferred Action Alternative 7AM/5PM Traffic Volumes - Intersections - Sheet 5 of 5

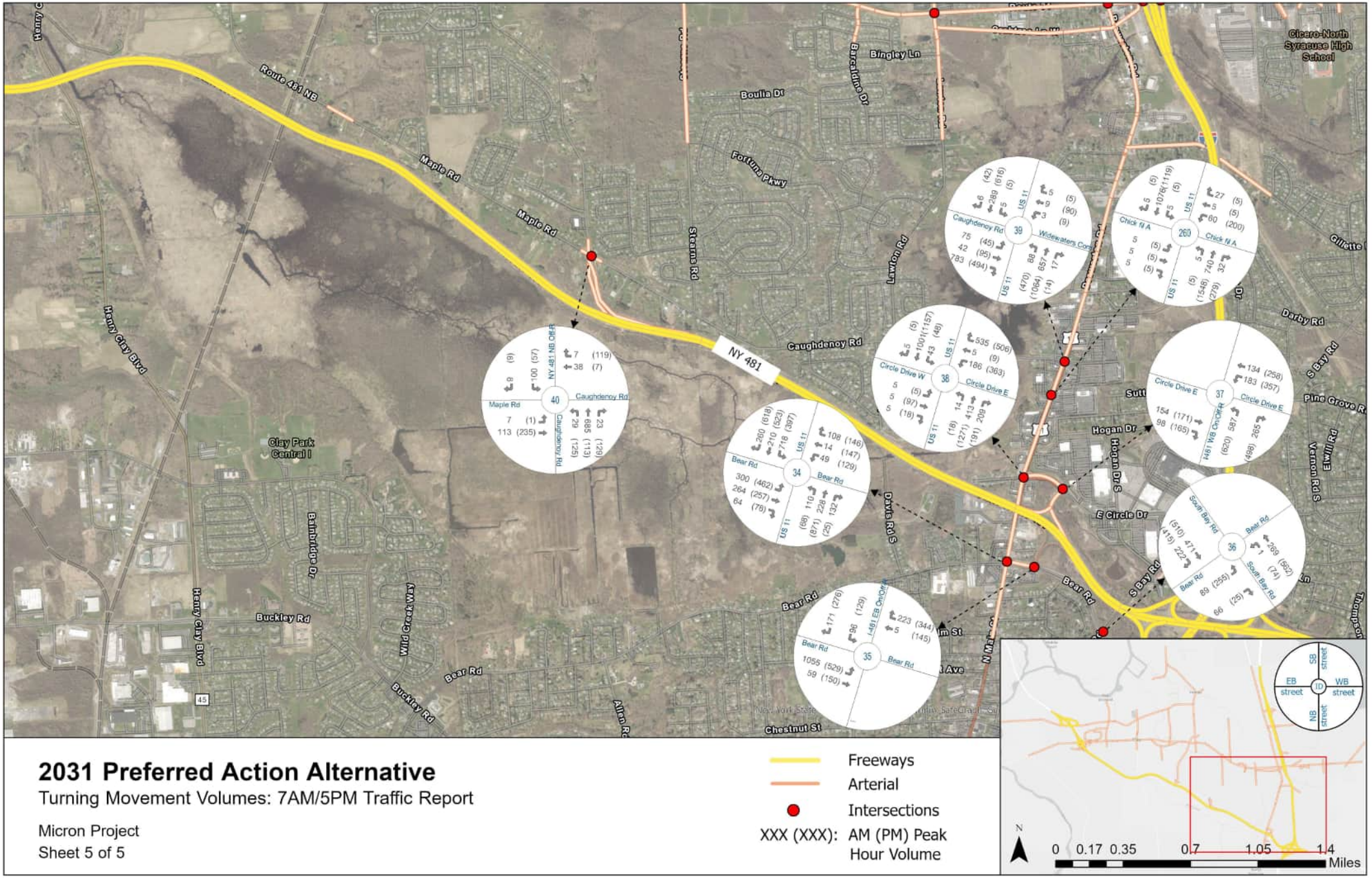
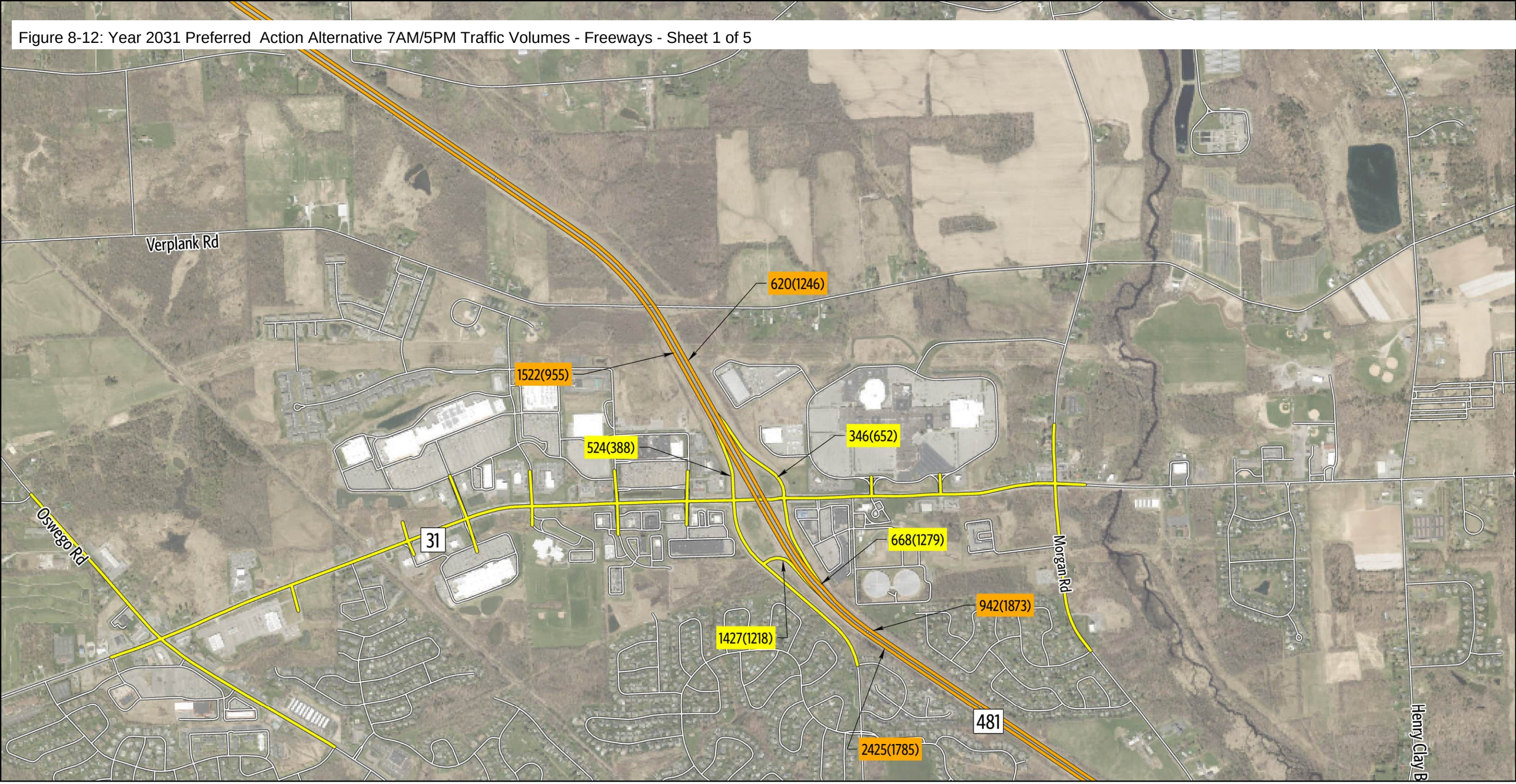


Figure 8-12: Year 2031 Preferred Action Alternative 7AM/5PM Traffic Volumes - Freeways - Sheet 1 of 5



Mainline Volumes

Freeways

Ramp Volumes

Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

0 1,000 2,000 Feet

2031 Preferred Action Alternative

Sheet 1 of 5

7 AM & 5 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 8-12: Year 2031 Preferred Action Alternative 7AM/5PM Traffic Volumes - Freeways - Sheet 2 of 5

Mainline Volumes
Freeways

Ramp Volumes
Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

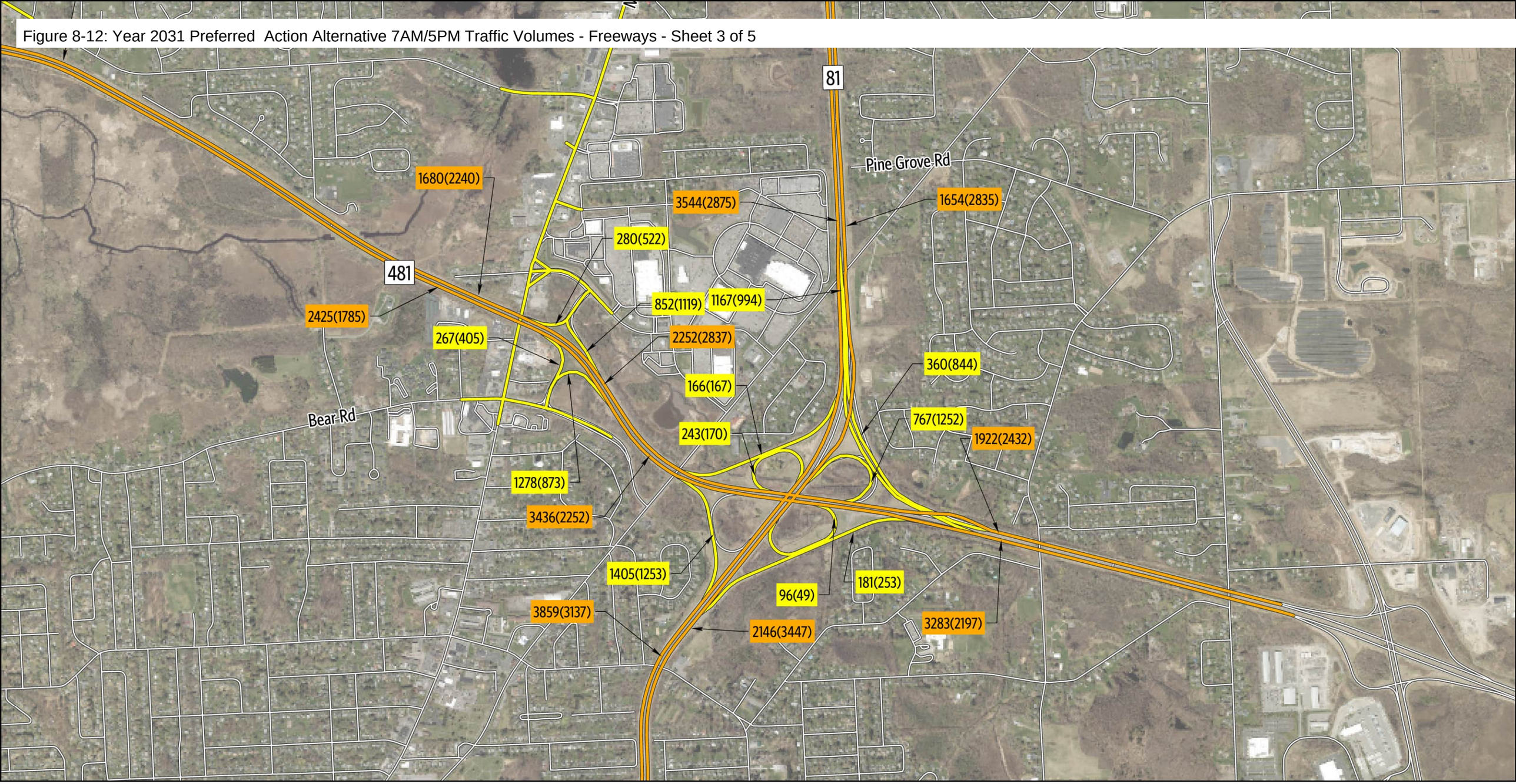
0 1,000 2,000 Feet

2031 Preferred Action Alternative

Sheet 2 of 5

7 AM & 5 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 8-12: Year 2031 Preferred Action Alternative 7AM/5PM Traffic Volumes - Freeways - Sheet 3 of 5



Mainline Volumes
Freeways

Ramp Volumes
Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

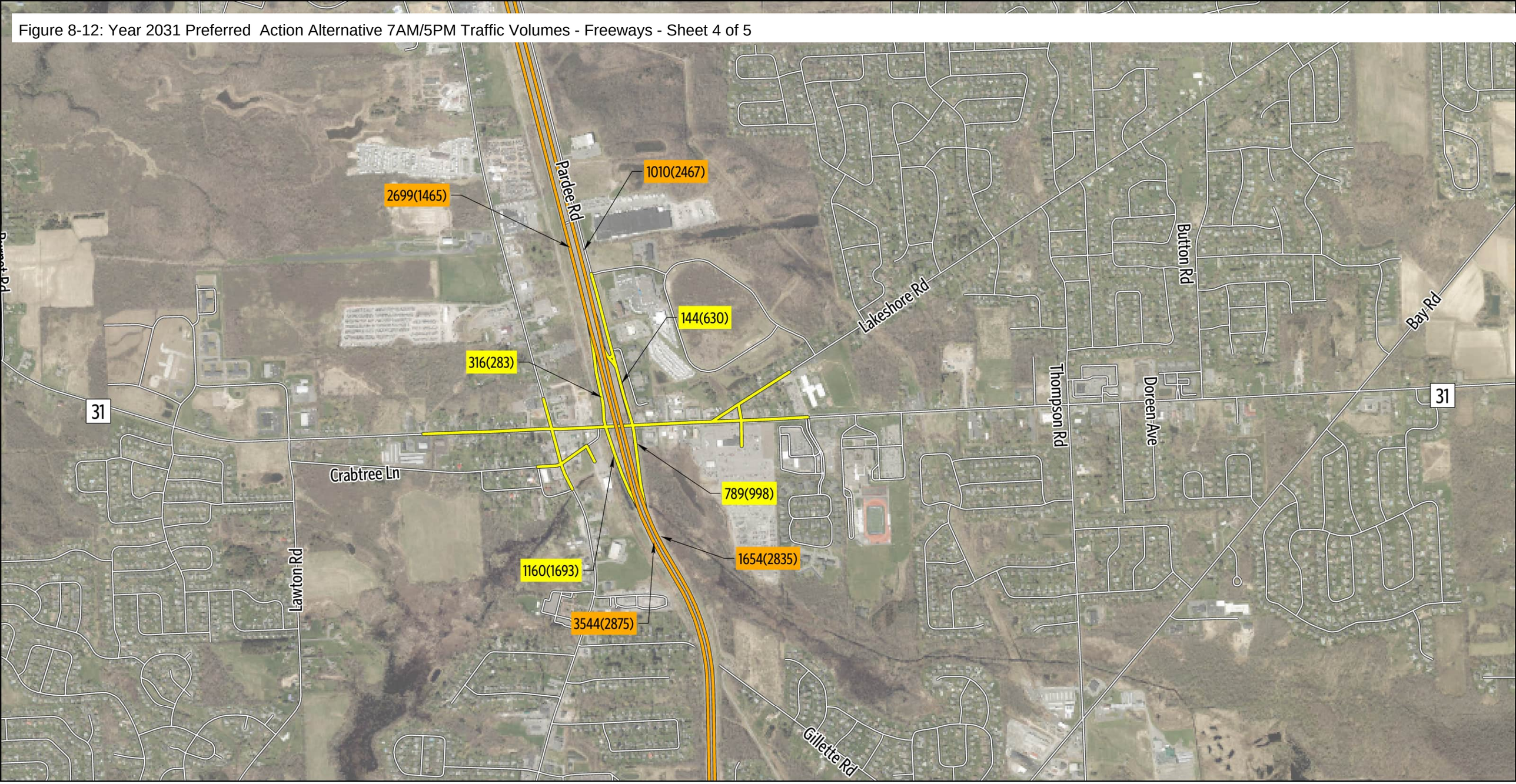
0 1,000 2,000 Feet

2031 Preferred Action Alternative

Sheet 3 of 5

7 AM & 5 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 8-12: Year 2031 Preferred Action Alternative 7AM/5PM Traffic Volumes - Freeways - Sheet 4 of 5



Mainline Volumes

Freeways

Ramp Volumes

Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

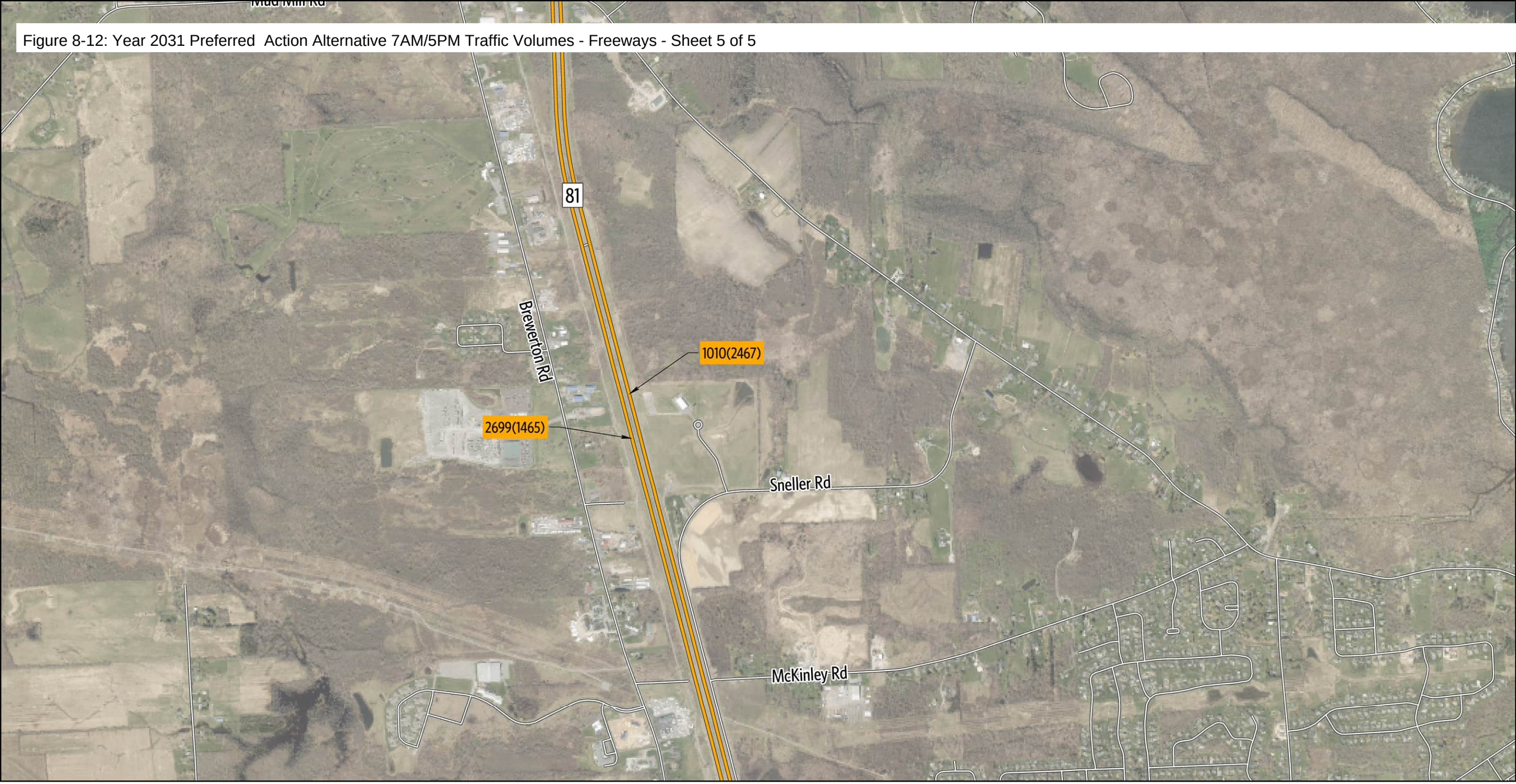
0 1,000 2,000 Feet

2031 Preferred Action Alternative

Sheet 4 of 5

7 AM & 5 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 8-12: Year 2031 Preferred Action Alternative 7AM/5PM Traffic Volumes - Freeways - Sheet 5 of 5



Mainline Volumes
Freeways

Ramp Volumes
Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

0 1,000 2,000 Feet

2031 Preferred Action Alternative

Sheet 5 of 5

7 AM & 5 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

8.2.2 Intersection Operations

Table 8-4 summarizes the results for the 72 intersections in the Preferred Action Alternative roadway network including delay values and LOS expressed as a letter designation and by the color coding shown in Table 2-3. The intersections with lower LOS discussed in the 2031 No Action Alternative all experience the same or worse LOS with the peak-period demand increases resulting from the projected generated trips.

Figures 8-13 through 8-16 present the results of operational analysis.

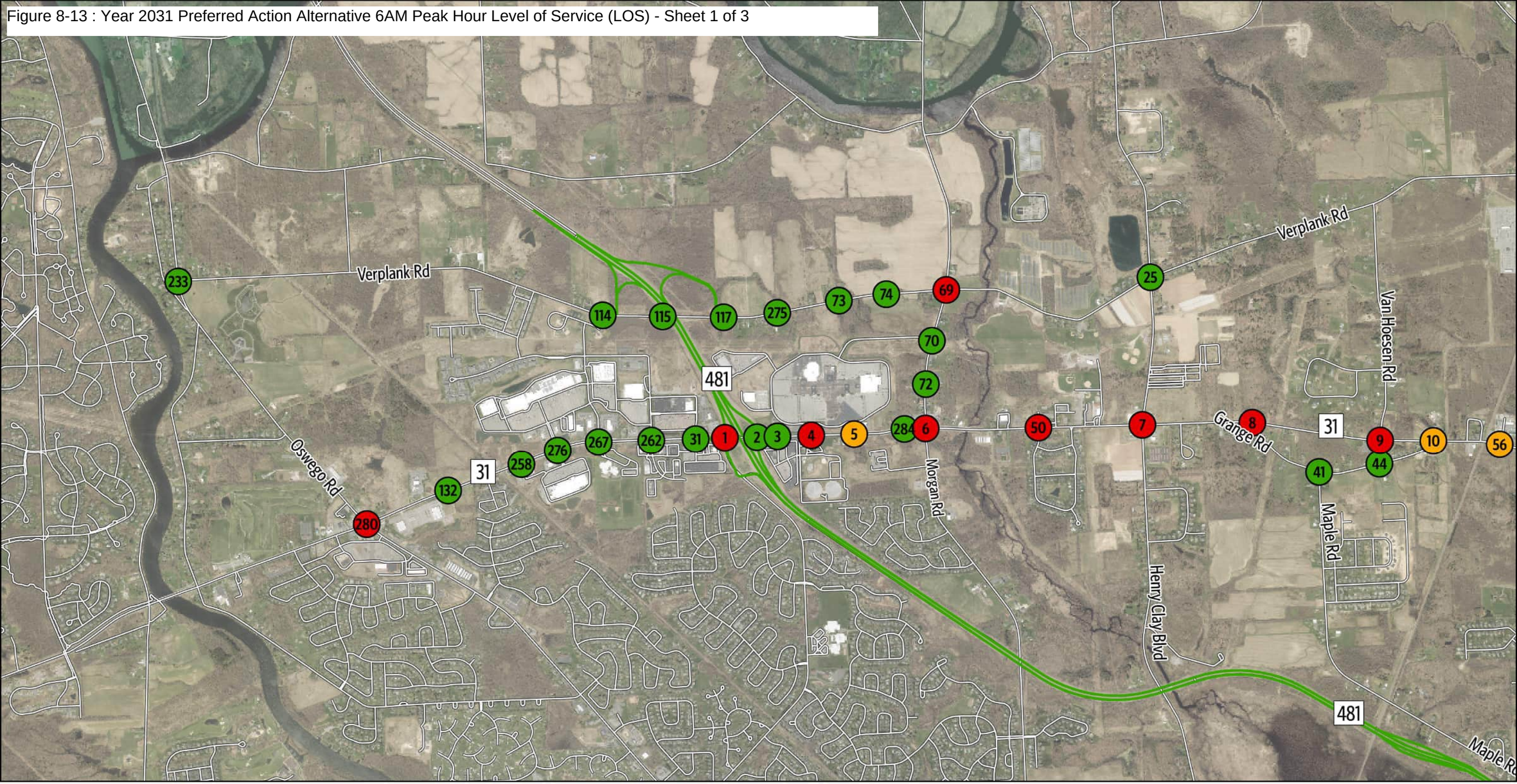
Table 8-4. Year 2031 Preferred Alternative AM and PM Peak-Hour Intersection Operations – Delay and LOS

Intersection ID	Intersection name	Intersection Control	6 AM			7 AM			4 PM			5 PM		
			Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c
1	NYS Route 481 SB and NYS Route 31	Signalized	34.4	C	0.69	127.3	F	1.22	163.6	F	1.43	213.0	F	1.54
2	NYS Route 481 NB and NYS Route 31	Signalized	14.6	B	0.55	21.3	C	0.89	204.2	F	1.38	196.2	F	1.45
3	Marketfair Plaza and NYS Route 31	Signalized	1.5	A	0.43	5.9	A	0.78	14.4	B	1.00	4.8	A	0.94
4	Parking Lot/GNM West and NYS Route 31	Signalized	53.9	D	0.53	120.2	F	0.84	136.5	F	1.28	100.3	F	1.14
5	Parking Lot/GNM East and NYS Route 31	Signalized	21.6	C	0.65	64.2	E	1.48	>300	F	2.46	>300	F	2.53
6	Morgan Road and NYS Route 31	Signalized	55.7	E	1.07	209.2	F	1.84	292.7	F	2.07	293.0	F	2.05
7	Henry Clay Boulevard and NYS Route 31	Signalized	13.5	B	0.59	88.0	F	1.13	214.1	F	1.47	119.1	F	1.28
8	Grange Road W and NYS Route 31	Signalized	9.5	A	0.47	149.8	F	1.15	186.1	F	1.34	63.6	E	1.06
9	Van Hoesen Road and NYS Route 31	Unsignalized	16.4	C	0.00	286.7	F	0.00	63.9	F	0.00	73.9	F	0.00
10	Grange Road E and NYS Route 31	Unsignalized	11.5	B	0.00	36.2	E	0.00	25.4	D	0.00	18.4	C	0.00
11	Caughdenoy Road and NYS Route 31	Signalized	22.6	C	0.48	83.5	F	1.20	56.7	E	1.05	103.4	F	1.10
12	Stearns Road and NYS Route 31	Signalized	8.8	A	0.46	15.9	B	0.72	53.2	D	0.97	15.5	B	0.76
13	NYS Route 31 and Burnet Road	Unsignalized	0.0	A	0.00	0.0	A	0.00	0.0	A	0.00	0.0	A	0.00
14	Barcaldine Drive/Legionnaire Drive and NYS Route 31	Unsignalized	11.4	B	0.00	16.9	C	0.00	31.4	D	0.00	110.0	F	0.00
15	Lawton Road/Legionnaire Drive and NYS Route 31	Signalized	7.8	A	0.40	15.7	B	0.70	25.4	C	0.82	98.5	F	1.10
16	U.S. Route 11 and NYS Route 31	Signalized	15.0	B	0.49	22.4	C	0.82	66.2	E	1.11	192.7	F	1.70
17	I-81 SB On-Ramp/I-81 SB Off-Ramp and NYS Route 31	Signalized	11.5	B	0.81	21.0	C	1.00	26.2	C	0.87	75.3	E	1.18
18	I-81 NB Off-Ramp/Pardee Road and NYS Route 31	Signalized	13.7	B	0.65	40.5	D	0.98	56.7	E	1.17	49.5	D	1.14
20	Parking Lot/Lakeshore Road Spur and NYS Route 31	Signalized	9.3	A	0.52	16.3	B	0.71	82.7	F	1.23	42.3	D	1.04
21	New Country Drive/Cicero Elementary School Parking Lot and NYS Route 31	Signalized	6.3	A	0.29	8.0	A	0.56	9.7	A	0.60	8.1	A	0.58
22	Cicero North Syracuse High School West Driveway and NYS Route 31	Signalized	13.6	B	0.34	9.2	A	0.60	20.8	C	0.89	16.2	B	0.81
23	Thompson Road/Torchwood Lane and NYS Route 31	Roundabout	6.1	A	0.00	10.3	B	0.00	52.5	D	0.00	34.0	C	0.00
24	South Bay Road and NYS Route 31	Signalized	12.5	B	0.54	23.9	C	0.87	59.0	E	1.06	61.4	E	1.09
25	Henry Clay Boulevard and Verplank Road	Unsignalized	7.8	A	0.00	9.1	A	0.00	16.0	C	0.00	21.2	C	0.00
26	Caughdenoy Road and Verplank Road	Unsignalized	9.7	A	0.00	13.4	B	0.00	23.0	C	0.00	214.4	F	0.00
27	Caughdenoy Road and Mud Mill Road	Unsignalized	9.9	A	0.00	13.7	B	0.00	13.4	B	0.00	14.0	B	0.00
28	Caughdenoy Road and Oak Orchard Road	Unsignalized	9.3	A	0.00	10.9	B	0.00	14.2	B	0.00	15.3	C	0.00
29	U.S. Route 11 and Mud Mill Road	Signalized	8.8	A	0.11	9.2	A	0.19	8.3	A	0.30	7.6	A	0.29
30	Lakeshore Road Spur and Lakeshore Road	Unsignalized	8.6	A	0.00	9.2	A	0.00	12.3	B	0.00	11.9	B	0.00
31	Raymour and Flanigan/Wegmans East and NYS Route 31	Signalized	8.2	A	0.44	17.1	B	0.68	38.9	D	1.02	43.7	D	1.05

Intersection ID	Intersection name	Intersection Control	6 AM			7 AM			4 PM			5 PM		
			Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c
32	Henry Clay Boulevard and Wetzel Road	Signalized	18.7	B	0.28	18.7	B	0.45	27.0	C	0.75	24.7	C	0.67
33	Allen Road and Bear Road	Signalized	7.1	A	0.30	9.2	A	0.50	16.1	B	0.76	15.2	B	0.76
34	U.S. Route 11 and Bear Road	Signalized	26.9	C	0.53	42.8	D	0.78	55.4	E	1.05	45.2	D	0.97
35	Bear Road and NYS Route 481 EB On/Off-Ramp	Signalized	14.8	B	0.39	18.6	B	0.58	17.1	B	0.62	20.2	C	0.61
36	South Bay Road and Bear Road	Signalized	7.6	A	0.28	8.8	A	0.48	13.6	B	0.74	13.5	B	0.75
37	NYS Route 481 WB On/Off-Ramp and Circle Drive E	Signalized	14.5	B	0.24	16.2	B	0.50	16.5	B	0.71	16.8	B	0.73
38	U.S. Route 11 and Circle Drive W/Circle Drive E	Signalized	13.0	B	0.39	12.3	B	0.66	24.9	C	0.91	24.7	C	0.87
39	U.S. Route 11 and Caughdenoy Road/Widewaters Commons	Signalized	22.7	C	0.20	25.4	C	0.61	22.5	C	0.68	23.4	C	0.68
40	NYS Route 481 NB Off-Ramp and Maple Road and Caughdenoy Road	Signalized	8.1	A	0.16	8.7	A	0.59	8.4	A	0.33	8.8	A	0.39
41	Maple Road and Grange Road W/Grange Road	Unsignalized	9.1	A	0.00	9.2	A	0.00	10.8	B	0.00	10.9	B	0.00
43	U.S. Route 11 and Crabtree Lane	Unsignalized	12.0	B	0.00	29.7	D	0.00	>300	F	0.00	>300	F	0.00
44	Grange Road/Grange Road E and Van Hoesen Road	Unsignalized	8.6	A	0.00	8.7	A	0.00	8.8	A	0.00	8.8	A	0.00
47	Cicero North Syracuse High School East Driveway and NYS Route 31	Unsignalized	10.8	B	0.00	11.7	B	0.00	18.4	C	0.00	18.9	C	0.00
50	McNamara Drive/Driveway and NYS Route 31	Unsignalized	22.4	C	0.00	>300	F	0.00	>300	F	0.00	>300	F	0.00
54	Doreen Avenue and NYS Route 31	Unsignalized	12.1	B	0.00	17.3	C	0.00	68.3	F	0.00	49.1	E	0.00
55	NYS Route 31 and Button Road	Unsignalized	9.7	A	0.00	12.9	B	0.00	25.4	D	0.00	44.5	E	0.00
56	NYS Route 31 and Weller Canning Road	Unsignalized	13.0	B	0.00	46.4	E	0.00	140.0	F	0.00	281.6	F	0.00
58	Caughdenoy Road and Micron Driveway 1	Signalized	8.7	A	0.06	10.9	B	0.25	4.7	A	0.13	11.7	B	0.35
59	Caughdenoy Road and Micron Driveway 2	Signalized	4.8	A	0.04	>300	F	1.53	9.2	A	0.11	12.8	B	0.39
60	NYS Route 31 and Micron Driveway 3	Signalized	13.2	B	0.27	>300	F	1.51	28.0	C	0.59	41.7	D	0.84
62	NYS Route 31 and Driveway 5	Signalized	9.6	A	0.14	11.1	B	0.26	12.4	B	0.30	10.9	B	0.45
63	U.S. Route 11 and Micron Driveway 6	Signalized	9.0	A	0.11	76.5	E	0.65	14.3	B	0.38	13.1	B	0.54
64	Caughdenoy Road and Healthcare Center Driveway	Unsignalized	8.7	A	0.00	8.8	A	0.00	9.1	A	0.00	9.5	A	0.00
65	Caughdenoy Road and Childcare Center Driveway	Unsignalized	8.6	A	0.00	9.7	A	0.00	9.1	A	0.00	9.4	A	0.00
66	White Pines South Driveway and NYS Route 31	Unsignalized	14.6	B	0.00	43.6	E	0.00	142.7	F	0.00	24.2	C	0.00
67	Caughdenoy Road and White Pines South Driveway 1	Unsignalized	8.7	A	0.00	16.9	C	0.00	9.8	A	0.00	9.4	A	0.00
68	Caughdenoy Road and White Pines South Driveway 2	Unsignalized	8.7	A	0.00	15.1	C	0.00	9.1	A	0.00	9.2	A	0.00
69	Morgan Road and Verplank Road	Unsignalized	22.4	C	0.00	>300	F	0.00	>300	F	0.00	>300	F	0.00
70	Morgan Road and GNM Driveway 1	Signalized	12.0	B	0.42	33.0	C	0.89	23.6	C	0.91	27.8	C	0.94
71	Pardee Road and McKinley Road	Unsignalized	9.2	A	0.00	9.6	A	0.00	9.6	A	0.00	9.5	A	0.00
72	Morgan Road and GNM Driveway 2	Unsignalized	11.9	B	0.00	21.2	C	0.00	118.5	F	0.00	68.6	F	0.00

Intersection ID	Intersection name	Intersection Control	6 AM			7 AM			4 PM			5 PM		
			Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c
73	GNM Driveway 3 and Verplank Road	Unsignalized	9.2	A	0.00	10.1	B	0.00	12.2	B	0.00	12.0	B	0.00
74	GNM Driveway 4 and Verplank Road	Unsignalized	9.1	A	0.00	10.2	B	0.00	13.1	B	0.00	12.6	B	0.00
77	Soule Road/NYS Route 481	Signalized	20.7	C	0.80	46.5	D	0.99	62.5	E	1.01	80.5	F	1.07
101	Caughdenoy Road and Driveway X	Unsignalized	8.7	A	0.00	11.5	B	0.00	9.3	A	0.00	12.1	B	0.00
132	Davidson and NYS Route 31	Signalized	10.4	B	0.52	21.0	C	0.82	38.6	D	1.17	31.2	C	0.97
233	Oswego Rd and Verplank Rd	Unsignalized	12.3	B	0.00	20.6	C	0.00	25.6	D	0.00	25.9	D	0.00
246	U.S. Route 11 and Hogan Drive	Signalized	10.4	B	0.24	19.6	B	0.51	90.5	F	0.93	75.7	E	0.87
258	Texas Roadhouse/Delta Sonic and NYS Route 31	Signalized	10.6	B	0.56	25.0	C	0.88	35.2	D	1.06	15.5	B	0.87
260	U.S. Route 11 and Chick-fil-A	Signalized	7.2	A	0.31	9.0	A	0.48	19.6	B	0.89	19.7	B	0.89
262	Carling Rd South/Carling Rd North and NYS Route 31	Signalized	9.0	A	0.44	14.7	B	0.66	57.2	E	1.07	62.9	E	1.10
267	NYS Route 31 and Dell Center Drive	Signalized	10.6	B	0.45	14.9	B	0.68	46.6	D	1.07	49.0	D	1.10
275	Proposed Access #1 and Verplank Road	Unsignalized	7.4	A	0.00	8.2	A	0.00	9.5	A	0.00	9.6	A	0.00
276	Lowes/Home Depot and NYS Route 31	Signalized	17.1	B	0.42	12.9	B	0.66	41.4	D	1.04	49.5	D	1.08
280	Oswego Rd and NYS Route 31	Signalized	28.9	C	0.74	92.2	F	1.13	72.0	E	1.06	107.5	F	1.16
284	NYS Route 31 and Proposed Access	Unsignalized	10.1	B	0.00	12.2	B	0.00	21.4	C	0.00	19.7	C	0.00
287	Proposed Access #2 and Verplank Road	Unsignalized	7.7	A	0.00	8.4	A	0.00	10.0	B	0.00	10.1	B	0.00

Figure 8-13 : Year 2031 Preferred Action Alternative 6AM Peak Hour Level of Service (LOS) - Sheet 1 of 3



Intersection Level of Service

- A, B, C
- D
- E
- F

Roadway Level of Service

- A, B, C
- Streets

N

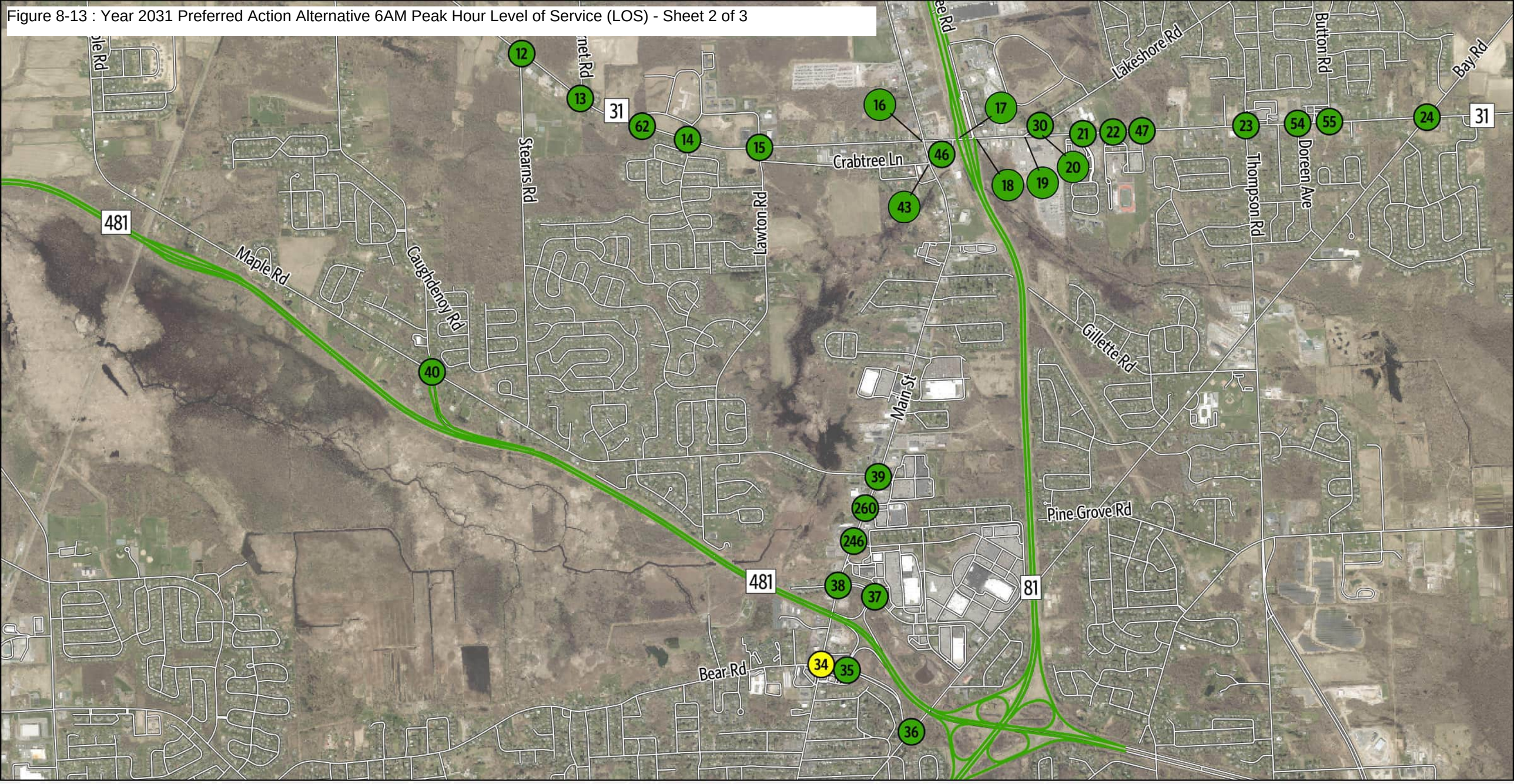
0 2,000 4,000 Feet

2031 Preferred Action Alternative

Sheet 1 of 3

6 AM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 8-13 : Year 2031 Preferred Action Alternative 6AM Peak Hour Level of Service (LOS) - Sheet 2 of 3



Intersection Level of Service

- A, B, C
- D
- E
- F

Roadway Level of Service

- A, B, C
- Streets

N

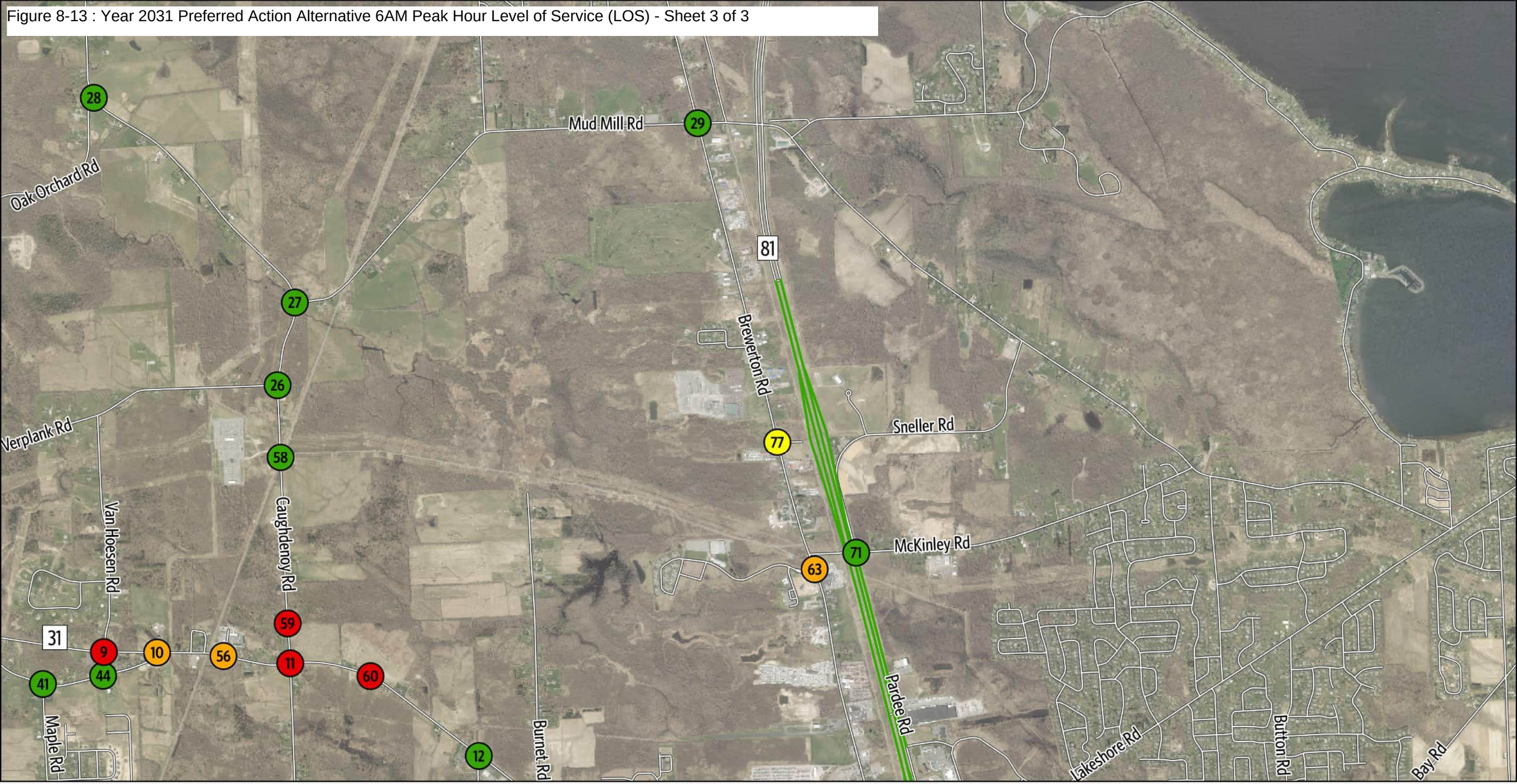
0 2,000 4,000 Feet

2031 Preferred Action Alternative

Sheet 2 of 3

6 AM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 8-13 : Year 2031 Preferred Action Alternative 6AM Peak Hour Level of Service (LOS) - Sheet 3 of 3



Intersection Level of Service

- A, B, C
- D
- E
- F

Roadway Level of Service

- A, B, C
- Streets

N

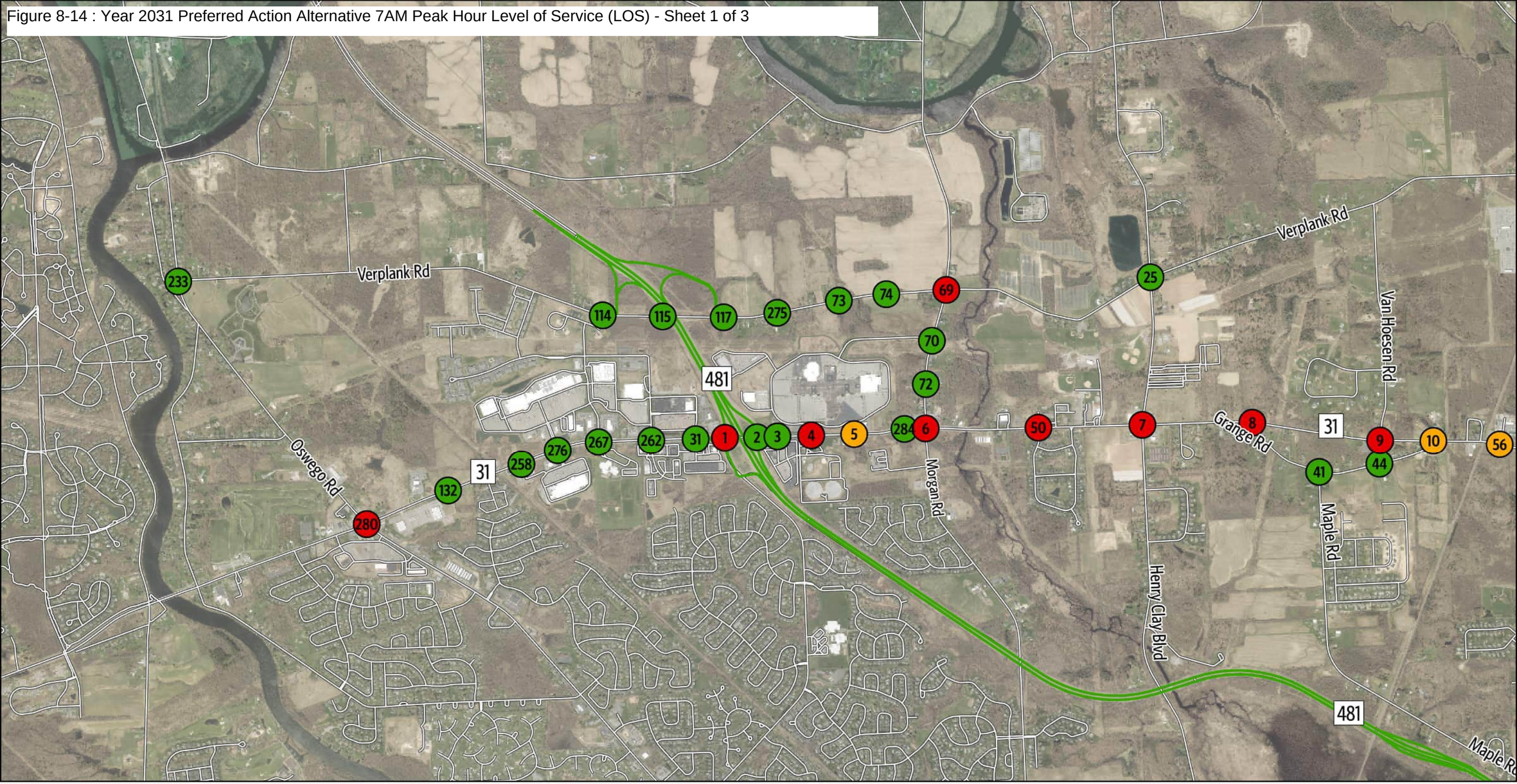
0 2,000 4,000 Feet

2031 Preferred Action Alternative

Sheet 3 of 3

6 AM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 8-14 : Year 2031 Preferred Action Alternative 7AM Peak Hour Level of Service (LOS) - Sheet 1 of 3



Intersection Level of Service

- A, B, C
- D
- E
- F

Roadway Level of Service

- A, B, C
- Streets

N

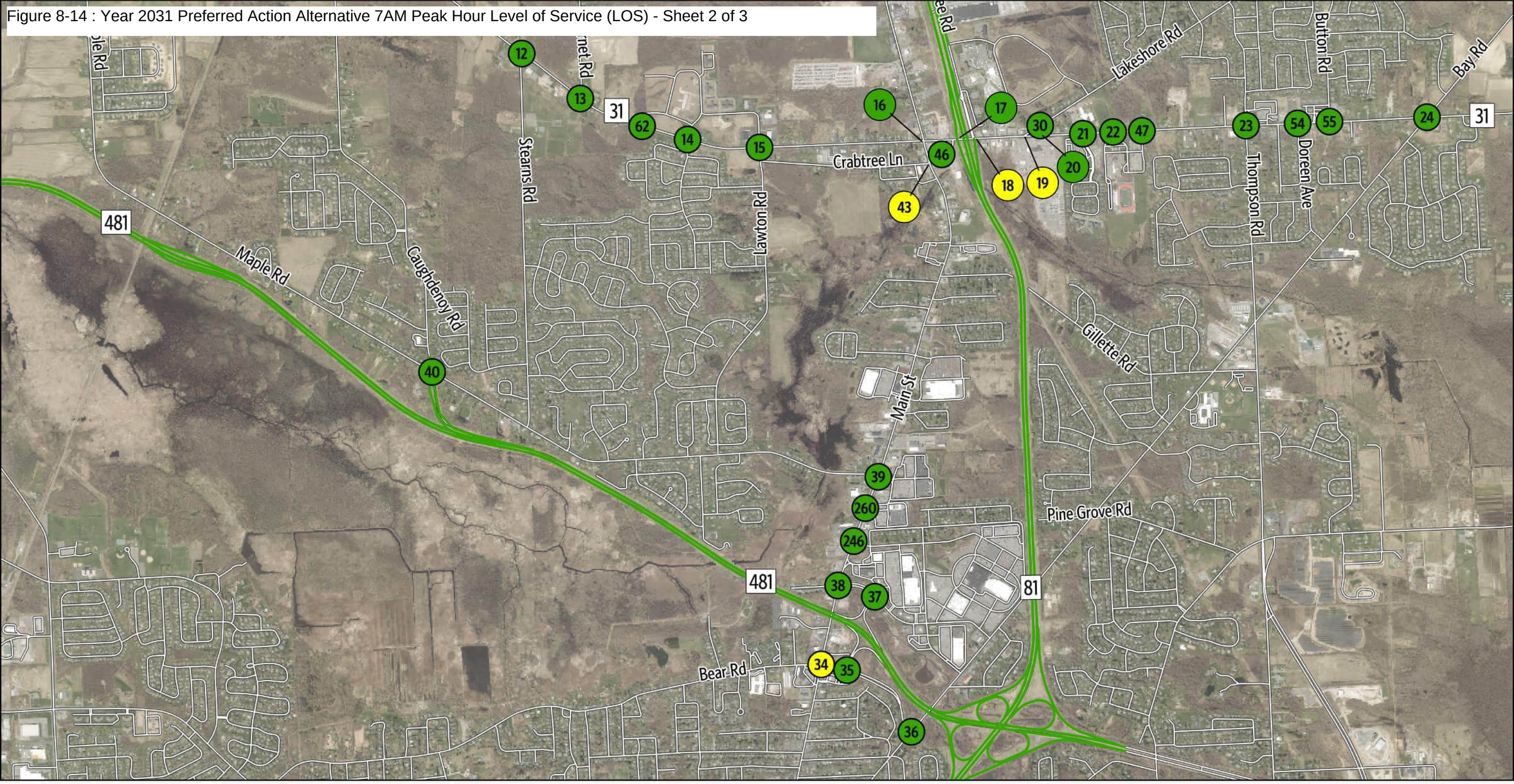
0 2,000 4,000 Feet

2031 Preferred Action Alternative

Sheet 1 of 3

7 AM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 8-14 : Year 2031 Preferred Action Alternative 7AM Peak Hour Level of Service (LOS) - Sheet 2 of 3



Intersection Level of Service

- A, B, C
- D
- E
- F

Roadway Level of Service

- A, B, C
- Streets

N

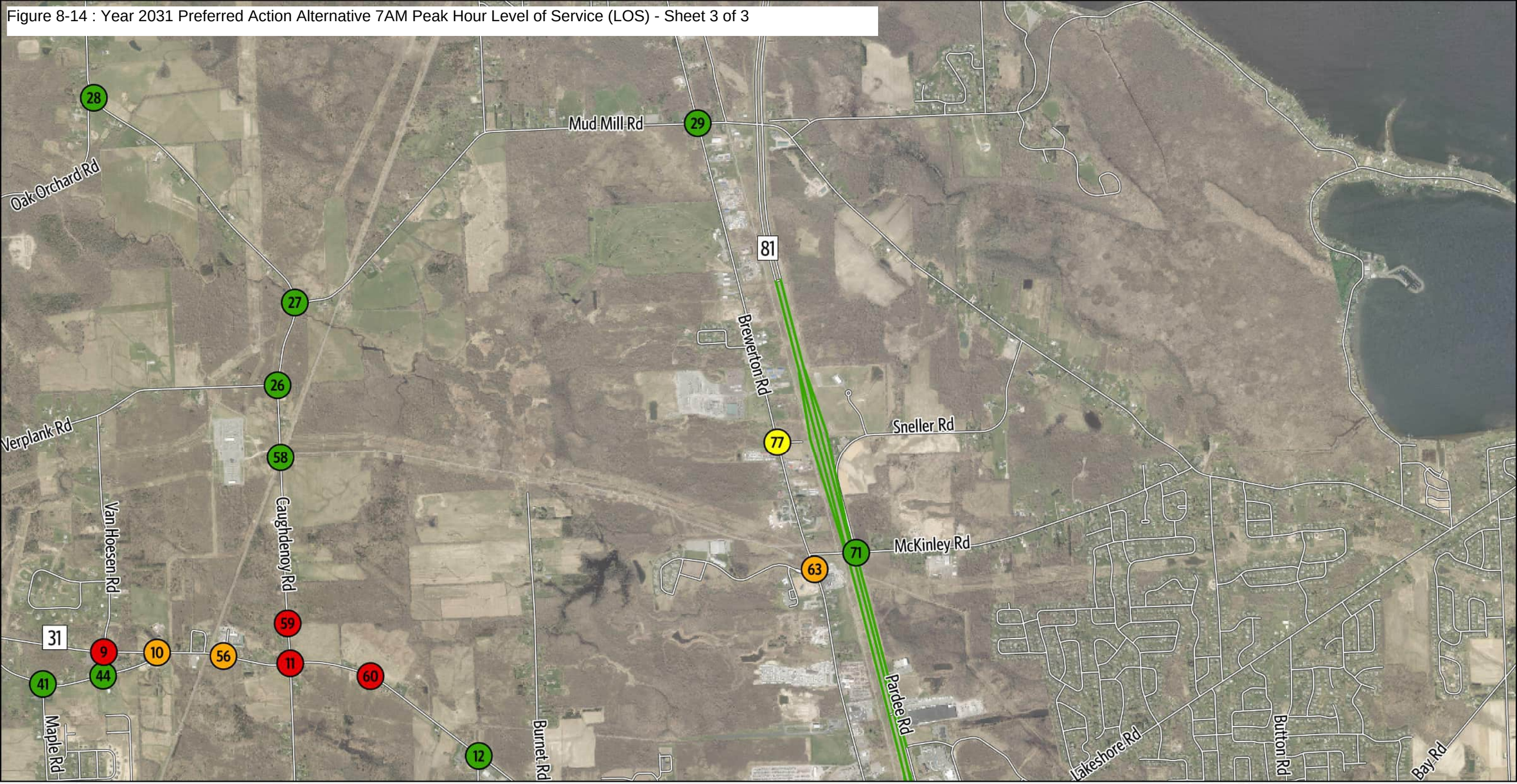
0 2,000 4,000 Feet

2031 Preferred Action Alternative

Sheet 2 of 3

7 AM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 8-14 : Year 2031 Preferred Action Alternative 7AM Peak Hour Level of Service (LOS) - Sheet 3 of 3



Intersection Level of Service

- A, B, C
- D
- E
- F

Roadway Level of Service

- A, B, C
- Streets

N

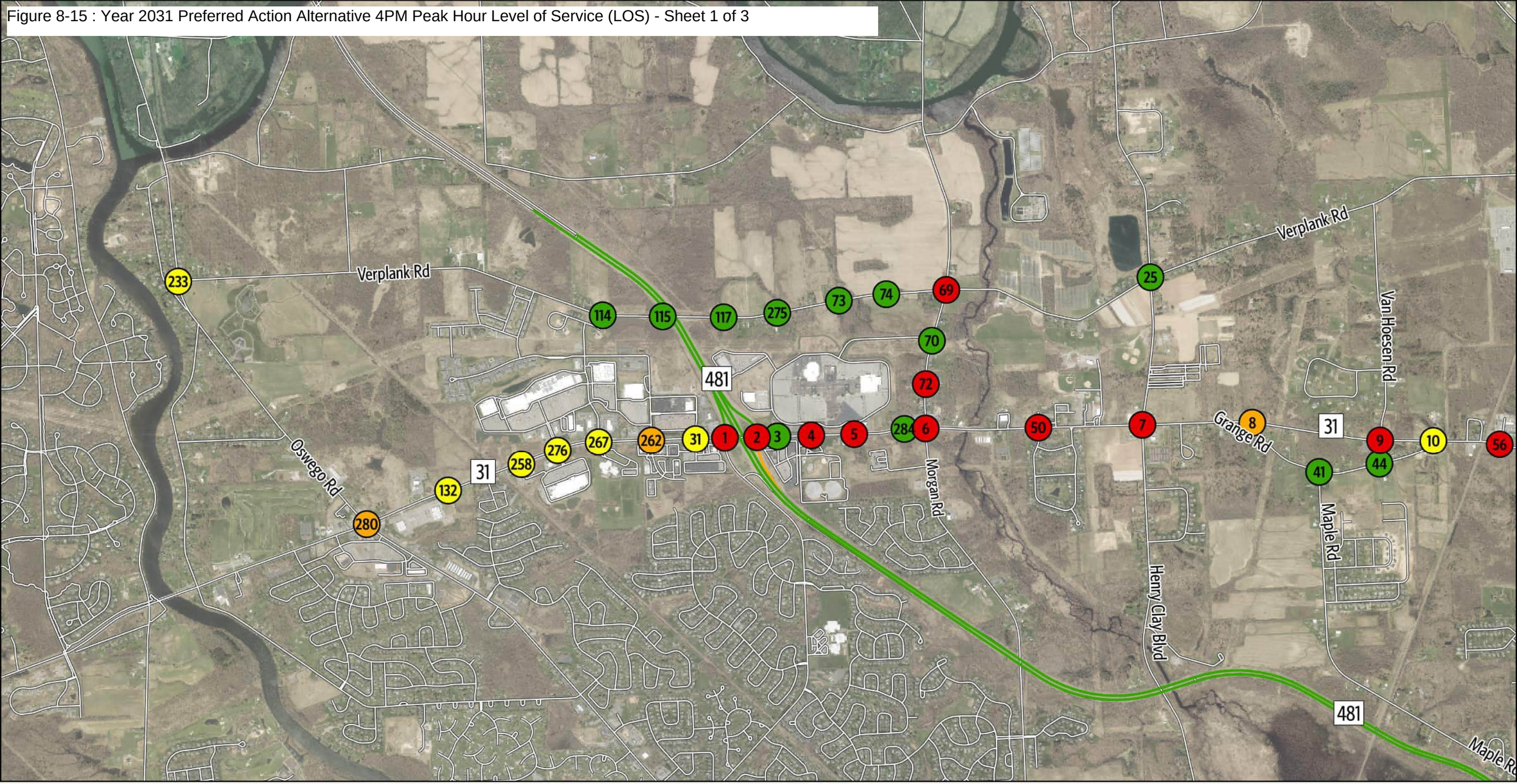
0 2,000 4,000 Feet

2031 Preferred Action Alternative

Sheet 3 of 3

7 AM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 8-15 : Year 2031 Preferred Action Alternative 4PM Peak Hour Level of Service (LOS) - Sheet 1 of 3



Intersection Level of Service

- A, B, C
- D
- E
- F

Roadway Level of Service

- A, B, C
- D
- E
- F
- Streets

N

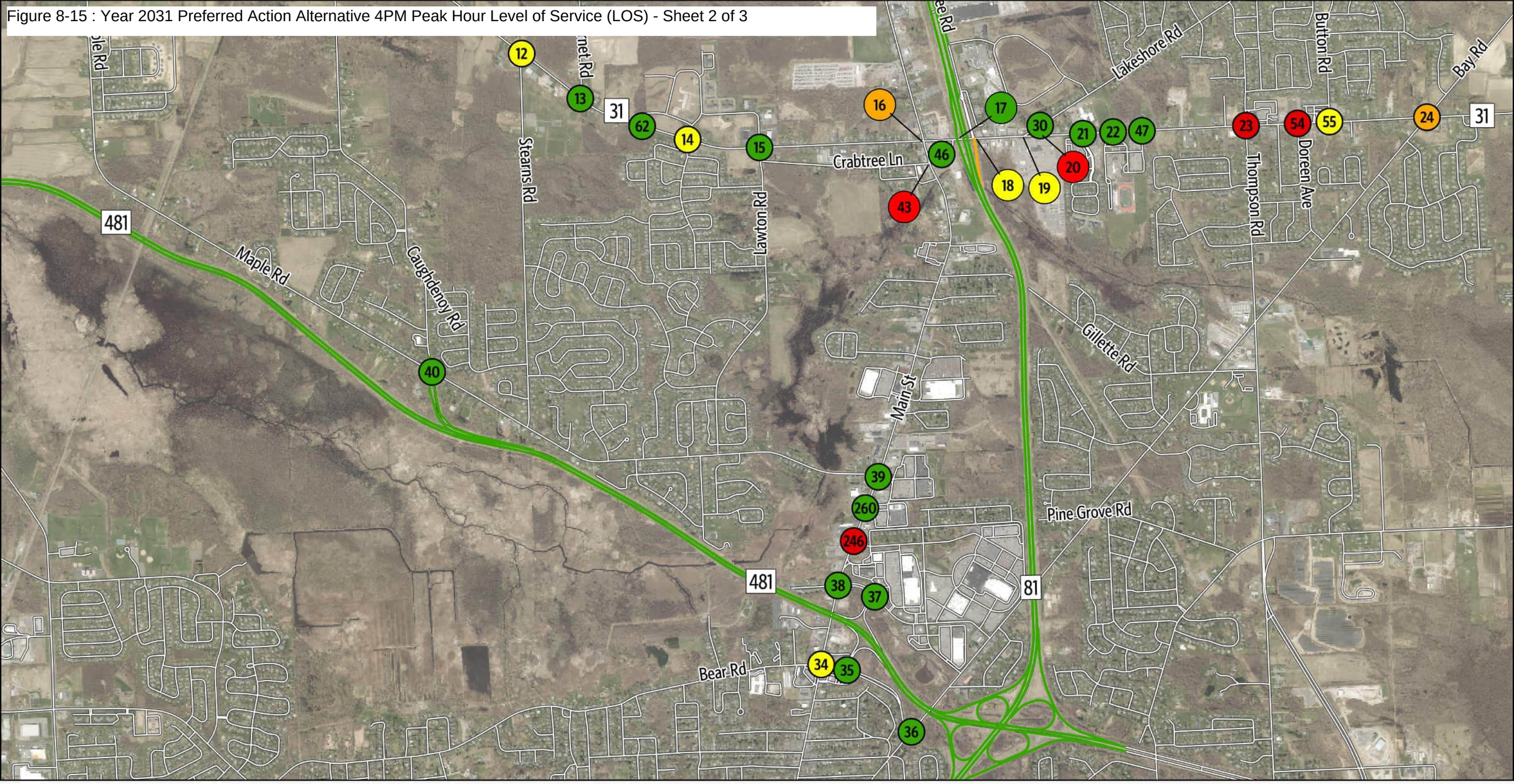
0 2,000 4,000 Feet

2031 Preferred Action Alternative

Sheet 1 of 3

4 PM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 8-15 : Year 2031 Preferred Action Alternative 4PM Peak Hour Level of Service (LOS) - Sheet 2 of 3



Intersection Level of Service

- A, B, C
- D
- E
- F

Roadway Level of Service

- A, B, C
- D
- E
- F
- Streets

N

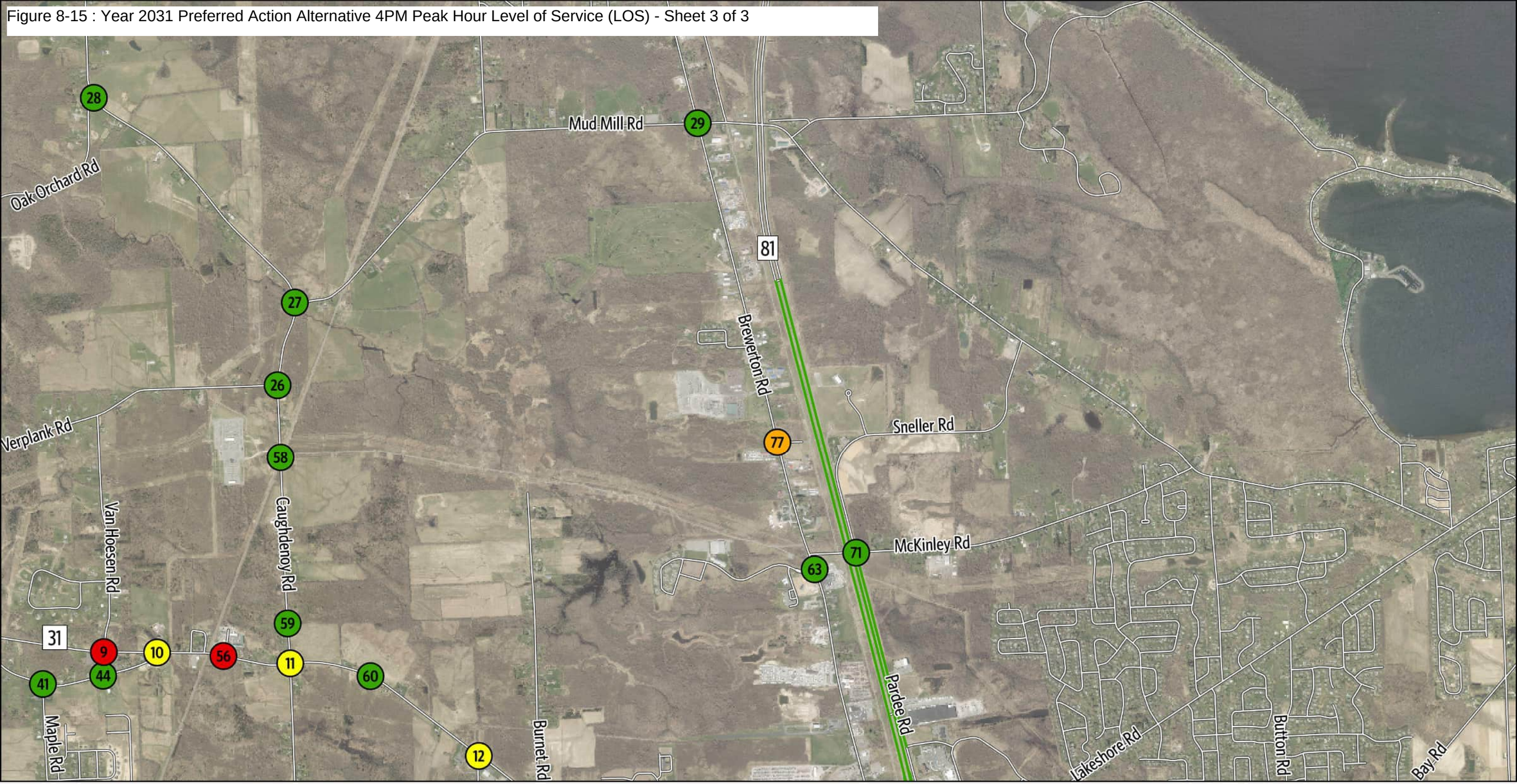
0 2,000 4,000 Feet

2031 Preferred Action Alternative

Sheet 2 of 3

4 PM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 8-15 : Year 2031 Preferred Action Alternative 4PM Peak Hour Level of Service (LOS) - Sheet 3 of 3



Intersection Level of Service

- A, B, C
- D
- E
- F

Roadway Level of Service

- A, B, C
- D
- E
- F
- Streets

N

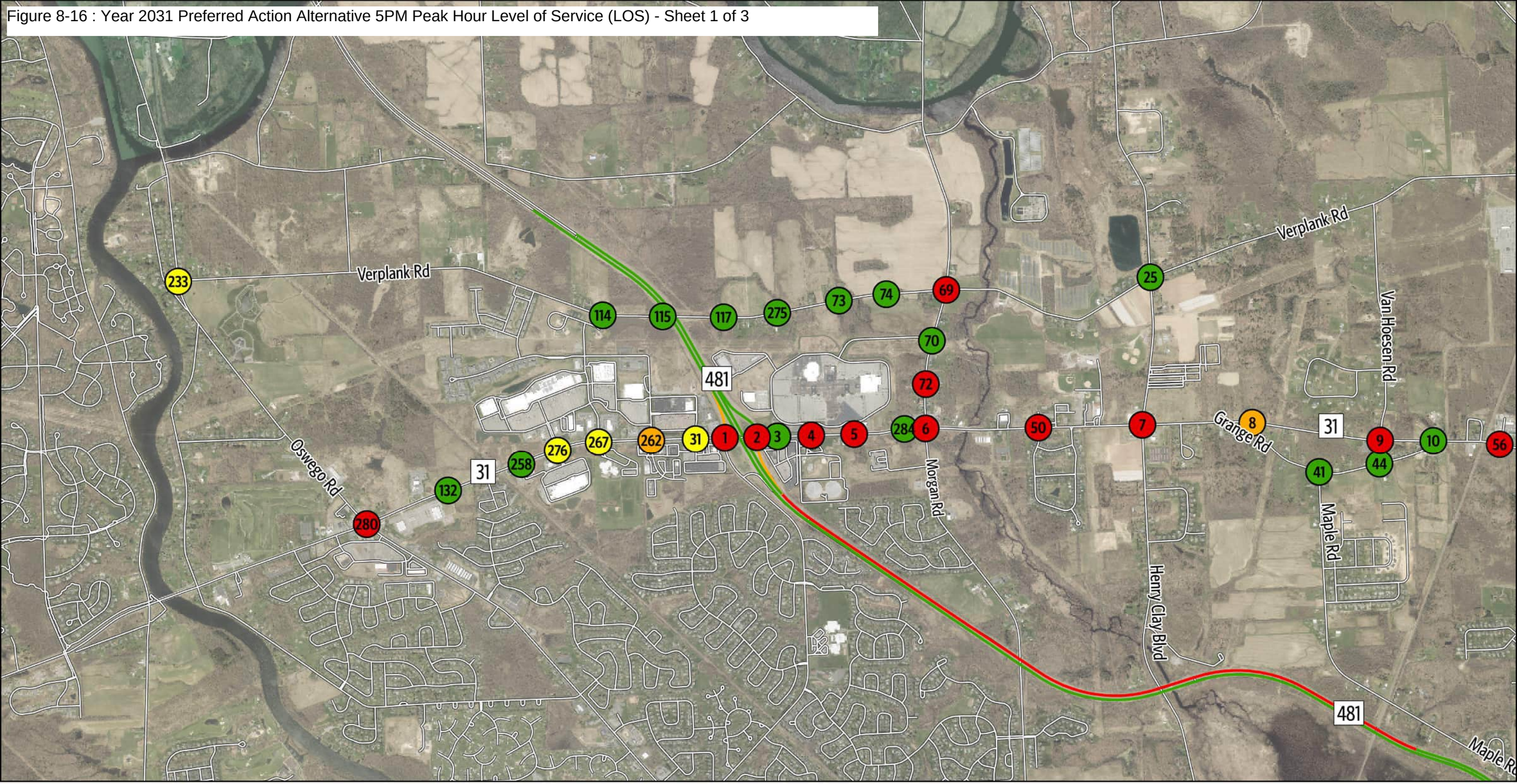
0 2,000 4,000 Feet

2031 Preferred Action Alternative

Sheet 3 of 3

4 PM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 8-16 : Year 2031 Preferred Action Alternative 5PM Peak Hour Level of Service (LOS) - Sheet 1 of 3



Intersection Level of Service

- A, B ,C
- D
- E
- F

Roadway Level of Service

- A, B, C
- D
- E
- F
- Streets

N

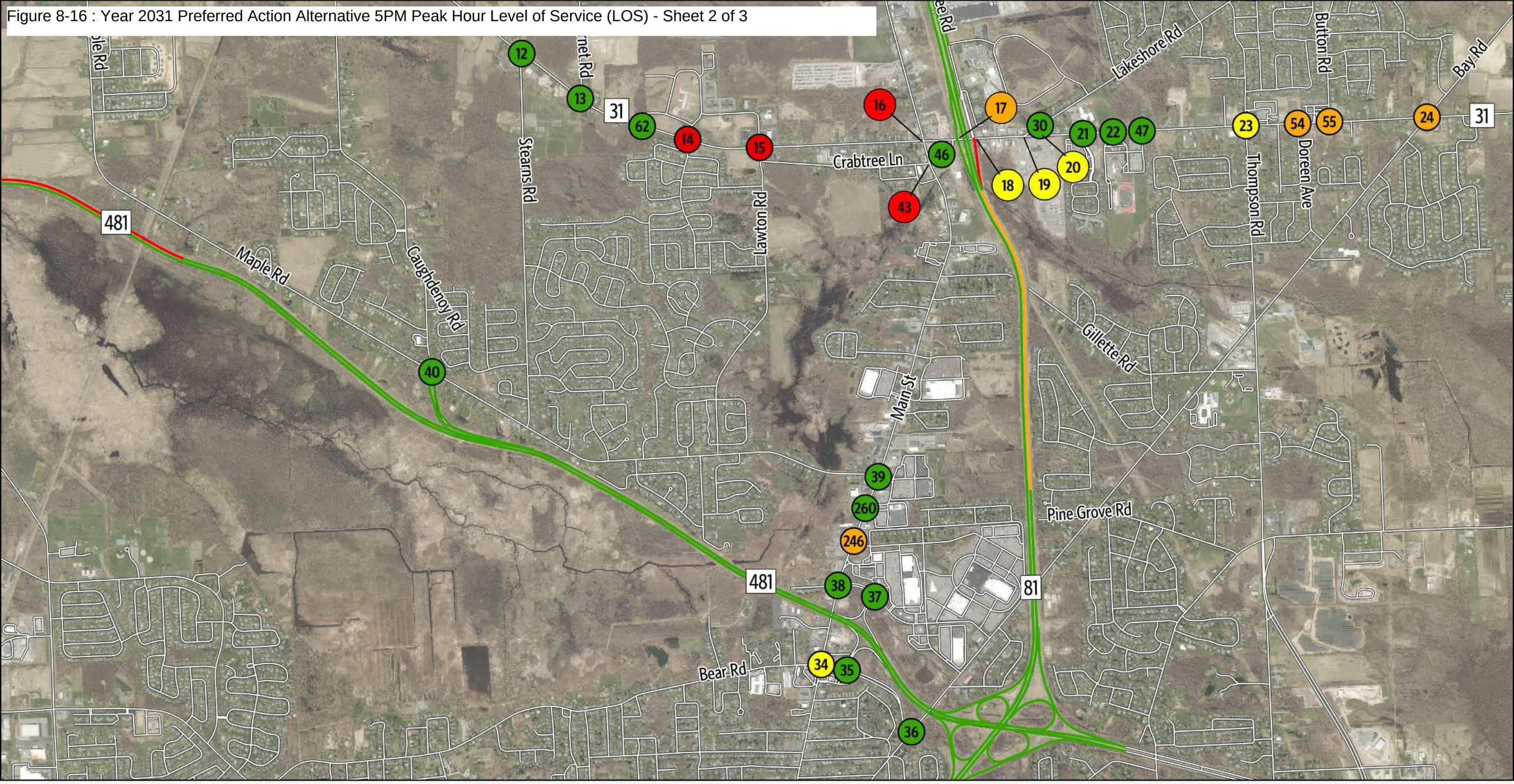
0 2,000 4,000 Feet

2031 Preferred Action Alternative

Sheet 1 of 3

5 PM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 8-16 : Year 2031 Preferred Action Alternative 5PM Peak Hour Level of Service (LOS) - Sheet 2 of 3



Intersection Level of Service

- A, B ,C
- D
- E
- F

Roadway Level of Service

- A, B, C
- D
- E
- F
- Streets

N

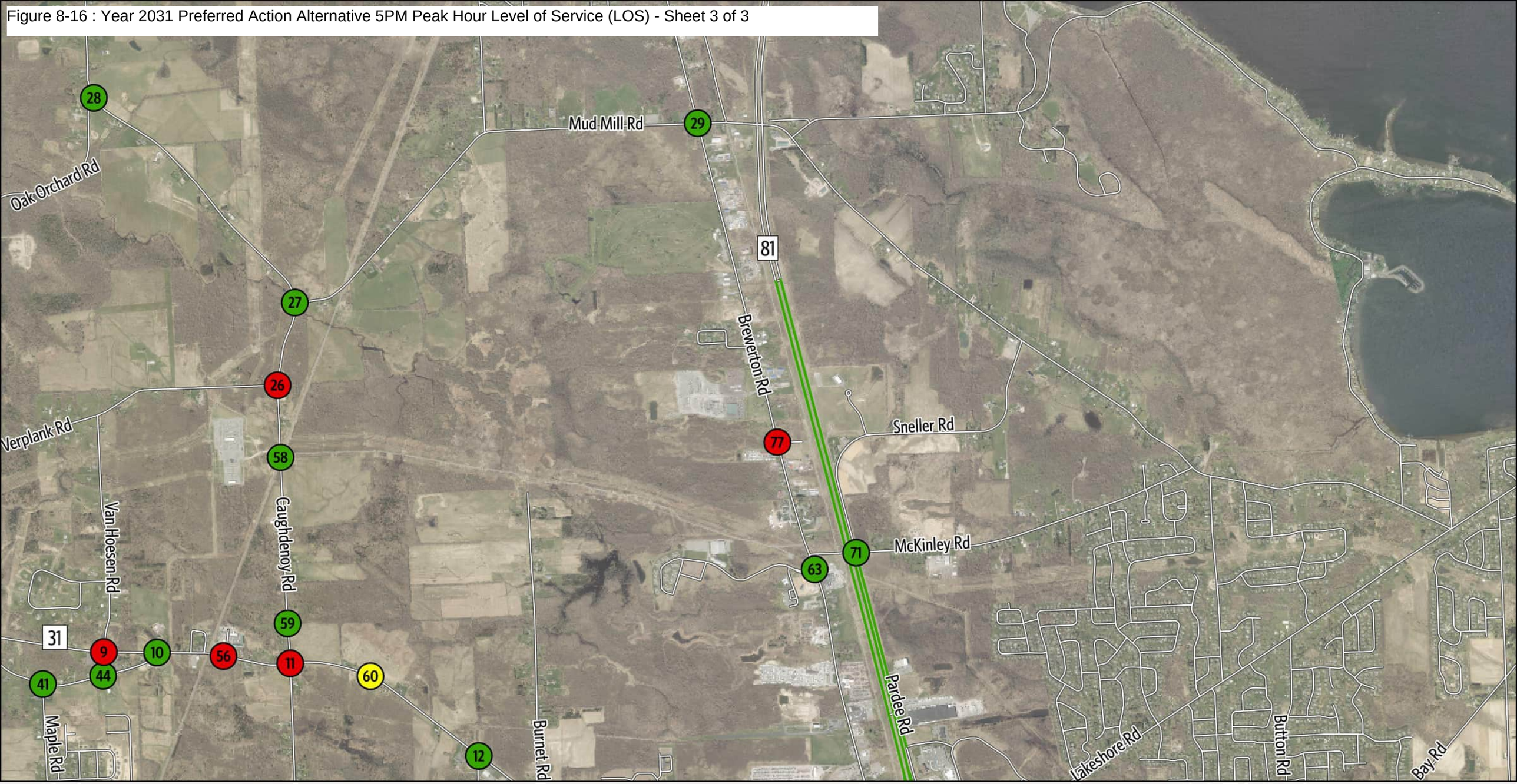
0 2,000 4,000 Feet

2031 Preferred Action Alternative

Sheet 2 of 3

5 PM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 8-16 : Year 2031 Preferred Action Alternative 5PM Peak Hour Level of Service (LOS) - Sheet 3 of 3



Intersection Level of Service

- A, B ,C
- D
- E
- F

Roadway Level of Service

- A, B, C
- D
- E
- F
- Streets

N

0 2,000 4,000 Feet

2031 Preferred Action Alternative

Sheet 3 of 3

5 PM Peak Hour - Operational Analysis Results - LOS
Micron Project

8.2.2.1 AM Peak Hour

All intersections operate acceptably at LOS D or better in the 6:00 a.m. peak hour, except for the signalized intersection #6: Morgan Road and NYS Route 31, which operates at LOS E. In the 7:00 a.m. peak hour when Micron workers are commuting to the campus, the LOS for nine signalized and three unsignalized intersections drop to LOS F, with the additional demand increasing for through movement volumes on the primary roads such as NYS Route 31 and Caughdenoy Road. Additional primary road through movement volume decreases turning gaps for the side streets at unsignalized intersections, resulting in higher delays than No Action Alternative. The additional primary road through movement volume reduces the available green time for turning movements and side streets through movements at signalized intersections.

These signalized intersections are likely commuting routes to the campus and operate at LOS F in the 7:00 a.m. peak hour because the available intersection capacity cannot accommodate the hourly demand, despite optimized signal timing that allocates more green time to the NYS Route 31 through movements toward the Micron Campus:

- #1: NYS Route 31 and NYS Route 481 SB
- #4: NYS Route 31 and GNM West
- #6: Morgan Road and NYS Route 31
- #7: Henry Clay Boulevard and NYS Route 31
- #8: Grange Road W and NYS Route 31
- #11: Caughdenoy Road and NYS Route 31
- #59: Caughdenoy Road and Access Road/Micron Driveway 2
- #60: NYS Route 31 and Micron Driveway 3
- #280: Oswego Road and NYS Route 31

Additionally, two signalized intersections #5: GNM E and NYS Route 31, and intersection #63: U.S. Route 11 and Micron Driveway 5 would operate at LOS E during 7:00 a.m.

The following unsignalized intersections located along likely commuting routes to the Micron Campus operate at LOS F in the 7:00 a.m. peak hour:

- #9: Van Hoesen Road and NYS Route 31
- #50: McNamara Drive/Driveway and NYS Route 31
- #69: Morgan Road and Verplank Road

Additionally, three unsignalized intersections #10: Grange Road east at NYS Route 31, intersection #56: NYS Route 31 and Weller Canning Road and #66: White Pines South Driveway and NYS Route 31 would operate at LOS E during 7:00 a.m.

8.2.2.2 PM Peak Hour

The evening peak period demand generally results in higher average delays and worse LOS at several intersections than the a.m. peak hour. In the 4:00 p.m. peak hour, nine signalized intersections and eight unsignalized intersections operate at LOS F. In the 5:00 p.m. peak hour, 11 signalized intersections and 8 unsignalized intersections operate at LOS F. The delay is high for side-street movements at several unsignalized intersections, including those noted in the morning peak period discussion. The signalized intersections are located along likely commuting routes to the campus and are delayed because the available capacity cannot accommodate the hourly demand operations.

Signalized intersections operating at LOS F during the 4:00 p.m. peak hour conditions include the following:

- #1: NYS Route 31 and NYS Route 481 SB
- #2: NYS Route 31 and NYS Route 481 NB
- #4: NYS Route 31 and GNM West
- #5: Parking Lot/GNM East and NYS Route 31
- #6: Morgan Road and NYS Route 31
- #7: Henry Clay Boulevard and NYS Route31
- #8: Grange Road W and NYS Route 31
- #20: Parking Lot/Lakeshore Spur and NYS Route 31
- #246: U.S. Route11 and Hogan Drive

Unsignalized intersections operating at LOS F during the 4:00 p.m. peak-hour conditions include the following:

- #9: Van Hoesen Road and NYS Route 31
- #43: U.S. Route 11 and Crabtree Lane
- #50: McNamara Drive/Driveway and NYS Route 31
- #54: Doreen Avenue and NYS Route 31
- #56: NYS Route 31 and Weller Canning Road
- #66: White Pines South Driveway and NYS Route 31
- #69: Morgan Road and Verplank Road
- #72: Morgan Road and GNM Driveway 2

Additionally, eight signalized intersections, #11: Caughdenoy Road and NYS Route 31, #16: U.S. Route 11 and NYS Route 31, #18: I-81 NB Off-Ramp/Pardee Road and NYS Route 31, #24: South Bay Road and NYS Route 31, #24: U.S. Route 11 and Bear Road, #77: Soule Road and NYS Route 481, #262: Carling Road and NYS Route 31, and #280: Oswego Road and NYS Route 31, would operate at LOS E. No unsignalized intersections are expected to operate at LOS E.

Signalized intersections operating at LOS F during 5:00 p.m. peak hour conditions include the following:

- #1: NYS Route 31 and NYS Route 481 SB
- #2: NYS Route 31 and NYS Route 481 NB
- #4: NYS Route 31 and GNM West
- #5: Parking Lot/GNM East and NYS Route 31
- #6: Morgan Road and NYS Route and31
- #7: Henry Clay Boulevard and NYS Route 31
- #11: Caughdenoy Road and NYS Route 31
- #15: Lawton Road/Legionnaire Drive and NYS Route 31
- #16: U.S. ROUTE 11 and NYS Route 31
- #77: Soule Road and NYS Route 481
- #280: NYS Route 31 and Oswego Road

Unsignalized intersections operating at LOS F during the 5:00 p.m. peak hour conditions include the following:

- #9: Van Hoesen Road and NYS Route 31
- #14: Barcaldine Drive/Legionnaire Drive and NYS Route 31
- #26: Caughdenoy Road and Verplank Road
- #43: U.S. Route 11 and Crabtree Lane

- #50: McNamara Drive/Driveway and NYS Route 31
- #56: NYS Route 31and Weller Canning Road
- #69: Morgan Road and Verplank Road
- #72: Morgan Road and GNM Driveway 2

Additionally, five (5) signalized intersections, #8: Grange Road W and NYS Route 31, #17: I-81 SB On-Ramp/I-81 SB Off-Ramp and NYS Route 31, #24: South Bay Road and NYS Route 31, #246: U.S. Route 11 and Hogan Drive, and #262: Carling Rd South/Carling Rd North and NYS Route 31 would operate at LOS E. Also, two unsignalized intersections, #54: Doreen Avenue and NYS Route 31, and #55: Button Road and NYS Route 31, are expected to operate at LOS E.

8.2.3 Freeway Operations

Tables 8-5 and 8-6 summarize the freeway densities and corresponding LOS expressed as a letter designation and by the color coding shown in Table 2-3. The additional trips generated by the Proposed Project increase freeway density, resulting in congested and unacceptable operating conditions for several freeway segments within the Transportation Evaluation Area. In the 7:00 a.m. peak hour, the density increases for northbound I-81 and the NYS Route 31 interchange (off-ramp to NYS Route 31), resulting in LOS F conditions. LOS A operating conditions resume north of the NYS Route 31 interchange, indicating that the northbound I-81 interchange with NYS Route 31 is a bottleneck constraining northbound traffic. Northbound I-81 through the NYS Route 31 interchange will likely be a primary access route for employees commuting to the campus during this morning peak hour. This peak-hour congestion is likely from to queues extending to the freeway mainline from the I-81 northbound off-ramp because of reallocating the ramp terminal's green time for eastbound and westbound traffic on NYS Route 31. The same interchange experiences LOS F operating conditions in the 5:00 p.m. peak hour.

The NYS Route 481 westbound diverge to Caughdenoy Road drops to LOS F operating conditions from Proposed Project-generated trips accessing the Micron Campus in the 7:00 a.m. peak hour. NYS Route 481 eastbound segments adjacent to the service interchange with U.S. Route 11/Bear Road/ Circle Drive experience density increases in the 7:00 a.m. peak hour. Again, the volume increase is likely from commuters accessing the Micron Campus. In 4:00 p.m. peak hour, I-81 northbound off-Ramp to NYS Route 31 drops to LOS E, while NYS Route 481 westbound off-Ramp to NYS Route 31 also shows LOS E. In the 5:00 p.m. peak hour, the interchanges with NYS Route 31 experience high densities and LOS F operating conditions. The operating conditions drop to LOS F for NY Route 481 westbound between Caughdenoy Road and NYS Route 31 and LOS E at the off-ramp to NYS Route 31 in the 5:00 p.m. peak hour.

Table 8-5. Year 2031 Preferred Action Alternative AM and PM Peak-Hour Freeway I-81 Operations – Delay and LOS

Segment Direction	Segment Description	Segment Type	6 AM					7 AM					4 PM					5 PM				
			Demand (vph)	Through put (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Through put (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Through put (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Through put (vph)	Speed (mph)	Density (veh/mi/ln)	LOS
I-81 NB	I-81 NB Between E Taft Road and NYS Route 481	Basic	1,243	1,236	66	6.2	A	1,968	2,047	66	10.4	A	3,795	3,783	65	19.4	C	3,250	3,256	65	16.6	B
	I-81 NB Off-Ramp to NYS Route 481	Diverge	1,243	1,229	64	4.8	A	1,968	2,037	64	7.9	A	3,795	3,769	63	15.1	B	3,250	3,254	63	12.9	B
	I-81 NB Between Off/On-Ramps to/from NYS Route 481	Basic	1,068	1,061	66	5.3	A	1,789	1,850	66	9.4	A	3,512	3,508	64	18.1	C	3,022	3,030	65	15.6	B
	I-81 NB Between Off/On-Ramps to/from NYS Route481	Weave	1,127	1,119	62	4.5	A	1,881	1,938	61	7.9	A	3,633	3,607	59	15.3	B	3,055	3,083	59	13.0	B
	I-81 NB after Off-Ramp to NY Route 481	Basic	755	746	61	6.1	A	1,215	1,255	61	10.3	A	2,290	2,262	60	18.9	C	1,826	1,852	60	15.4	B
	I-81 NB On-Ramp from NYS Route 481	Merge	970	960	67	3.6	A	1,545	1,549	67	5.8	A	3,209	3,189	66	12.1	B	2,603	2,627	66	10.0	A
	I-81 NB Between I-481 and NYS Route 31	Basic	970	955	67	4.8	A	1,545	1,532	36	14.7	B	3,209	3,182	60	19.4	C	2,603	2,644	40	37.0	E
	I-81 NB Off-Ramp to NYS Route 31	Diverge	970	945	61	3.8	A	1,545	1,233	3	95.2	F	3,209	3,133	41	38.5	E	2,603	2,694	19	75.4	F
	I-81 NB Between Off/On-Ramps to/from NYS Route 31	Basic	539	518	67	2.6	A	781	682	65	3.5	A	2,225	2,172	66	10.9	A	1,702	1,770	66	8.9	A
	I-81 NB On-Ramp from NYS Route 31	Merge	641	613	65	2.4	A	911	767	65	2.9	A	2,868	2,690	62	10.9	B	2,216	2,225	62	9.0	A
	I-81 NB Between NYS Route 31 and Bartell Road	Basic	641	612	67	3.0	A	911	768	67	3.8	A	2,868	2,694	66	13.7	B	2,216	2,229	66	11.3	B
	I-81 NB Off-Ramp to Bartell Road	Diverge	641	589	64	2.3	A	911	789	64	3.1	A	2,868	2,694	59	11.4	B	2,216	2,262	60	9.5	A
	I-81 NB Off/On-Ramps to/from Bartell Road	Basic	508	468	67	2.3	A	712	616	67	3.1	A	2,241	2,093	64	10.8	A	1,721	1,754	65	9.0	A
	I-81 On-Ramp from Bartell Road	Merge	569	527	65	2.0	A	808	707	65	2.7	A	2,501	2,345	64	9.2	A	2,072	2,104	63	8.3	A
	I-81 NB Between Bartell Road and East Avenue	Basic	569	526	67	2.6	A	808	711	67	3.5	A	2,501	2,353	66	11.9	B	2,072	2,111	66	10.6	A
I-81 SB	I-81 SB Between East Ave and Bartell Road	Basic	1,398	1,394	67	6.9	A	2,152	2,149	67	10.7	A	1,334	1,332	68	6.6	A	1,080	1,079	68	5.3	A
	I-81 SB Off-Ramp to Bartell Road	Diverge	1,398	1,381	66	5.2	A	2,152	2,132	64	8.3	A	1,334	1,323	65	5.1	A	1,080	1,072	65	4.1	A
	I-81 SB Between Off-Ramp and On-Ramp to Bartell Road	Basic	1,306	1,298	67	6.4	A	1,896	1,897	66	9.5	A	1,131	1,131	68	5.6	A	909	919	68	4.5	A
	I-81 SB On-Ramp from Bartell Road	Merge	1,716	1,697	65	6.6	A	2,513	2,506	64	9.8	A	1,628	1,620	65	6.3	A	1,337	1,344	64	5.2	A
	I-81 SB Between Bartell Rd and NYS Route 31	Basic	1,716	1,691	67	8.5	A	2,513	2,507	66	12.7	B	1,628	1,624	67	8.1	A	1,337	1,353	67	6.7	A
	I-81 SB Off-Ramp to NYS Route 31	Diverge	1,716	1,665	65	6.4	A	2,513	2,490	53	12.8	B	1,628	1,622	65	6.2	A	1,337	1,368	66	5.2	A
	I-81 SB Between Off-Ramp and On-Ramp from NYS Route 31	Basic	1,500	1,457	67	7.3	A	2,223	2,202	65	11.3	B	1,261	1,252	67	6.2	A	1,079	1,103	67	5.5	A
	I-81 SB On-Ramp from NYS Route 31	Merge	2,301	2,201	62	8.8	A	3,362	3,147	61	13.0	B	2,269	2,063	62	8.3	A	2,736	2,212	62	8.9	A
	I-81 SB Between NYS Route 31 and I-81	Basic	2,301	2,195	66	11.1	B	3,362	3,152	64	16.5	B	2,269	2,074	66	10.4	A	2,736	2,220	66	11.2	B
	I-81 SB Off-Ramp to NYS Route 481 EB	Diverge	2,301	2,195	66	11.1	B	3,362	3,152	64	16.5	B	2,269	2,074	66	10.4	B	2,736	2,220	66	11.2	B
	I-81 SB Off-Ramp to I-81 EB and WB	Basic	1,557	1,471	65	11.3	B	2,258	2,107	63	16.7	B	1,584	1,468	66	11.2	B	1,788	1,531	66	11.7	B
	I-81 SB Off-Ramp to I-81 WB	Diverge	1,557	1,468	64	7.6	A	2,258	2,108	62	11.3	B	1,584	1,468	65	7.5	A	1,788	1,531	65	7.9	A
	I-81 SB Between Off-Ramp and On-Ramp from NYS Route 481	Basic	1,426	1,345	65	10.3	A	2,083	1,943	64	15.2	B	1,451	1,353	66	10.3	A	1,633	1,389	66	10.5	A
	I-81 SB On-Ramp from NYS Route 481 WB	Merge	1,620	1,535	65	7.8	A	2,323	2,170	65	11.2	B	1,634	1,538	66	7.8	A	1,793	1,554	66	7.8	A
	I-81 SB On-Ramp from NYS Route 481 EB	Merge	2,809	2,577	63	10.3	B	3,719	3,498	62	14.1	B	2,696	2,367	64	9.3	A	2,982	2,416	64	9.5	A
	I-81 NB Between I-481 and E Taft Road	Basic	2,809	2,587	65	13.2	B	3,719	3,515	64	18.3	C	2,696	2,380	66	12.0	B	2,982	2,426	66	12.3	B

Table 8-6. Year 2031 Preferred Action Alternative AM and PM Peak-Hour Freeway NYS Route 481 Operations – Delay and LOS

Segment Direction	Segment Description	Segment Type	6 AM					7 AM					4 PM					5 PM				
			Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS
NYS Route 481 EB	NYS Route 481 EB Between Verplank Road and NYS Route 31	Basic	936	924	64	7.2	A	1,469	1,465	63	11.7	B	1,064	1,061	62	8.6	A	918	917	62	7.4	A
	NYS Route 481 EB Off-Ramp to NYS Route 31	Diverge	936	922	55	5.6	A	1,469	1,467	48	11.3	B	1,064	1,062	50	7.0	A	918	920	49	6.4	A
	NYS Route 481 Between Off-Ramp and On-Ramp from NYS Route 31	Basic	655	635	66	4.8	A	965	961	66	7.3	A	632	630	67	4.7	A	540	536	67	4.0	A
	NYS Route 481 EB On-Ramp from NYS Route 31	Merge	1,713	1,614	59	9.1	A	2,360	2,239	58	12.8	B	1,700	1,229	62	6.6	A	1,746	1,188	61	6.4	A
	NYS Route 481 EB Between NYS Route 31 and Bear Road	Basic	1,713	1,605	65	12.3	B	2,360	2,246	64	17.6	B	1,700	1,219	66	9.2	A	1,746	1,182	66	8.9	A
	NYS Route 481 EB Off-Ramp to Bear Road	Diverge	1,713	1,516	58	8.7	A	2,360	2,218	55	13.4	B	1,700	1,207	56	7.2	A	1,746	1,197	56	7.1	A
	NYS Route 481 EB Between Off-Ramp and On-Ramp from Bear Road	Basic	1,540	1,378	63	11.0	B	2,094	2,002	61	16.4	B	1,300	977	65	7.5	A	1,358	973	65	7.5	A
	NYS Route 481 Between U.S. Route 11 and I-81	Weave	2,464	2,210	60	12.2	B	3,341	3,110	58	17.8	B	2,272	1,907	61	10.4	B	2,196	1,804	61	9.8	A
	NYS Route 481 EB Off-Ramp to I-81 NB	Diverge	1,276	1,133	66	5.7	A	1,945	1,753	65	9.0	A	1,210	1,062	66	5.3	A	1,006	927	67	4.6	A
	NYS Route 481 EB Between Off-Ramp and On-Ramp from I-81	Basic	1,217	1,073	66	8.1	A	1,853	1,662	65	12.7	B	1,089	961	67	7.2	A	973	883	67	6.6	A
	NYS Route 481 EB On-Ramp from I-81 NB	Merge	1,391	1,243	65	6.4	A	2,032	1,850	64	9.7	A	1,372	1,236	65	6.4	A	1,201	1,121	65	5.7	A
	NYS Route 481 EB On-Ramp from I-81 SB	Merge	2,135	1,944	66	7.3	A	3,136	2,894	65	11.1	B	2,057	1,842	67	6.9	A	2,150	1,814	67	6.8	A
	NYS Route 481 EB Between I-81 and Northern Boulevard	Basic	2,135	1,939	67	9.7	A	3,136	2,893	66	14.7	B	2,057	1,841	67	9.1	A	2,150	1,813	67	9.0	A
NYS Route 481 WB	NYS Route 481 WB Between Northern Boulevard and I-81	Basic	899	893	67	6.6	A	1,915	1,829	67	13.7	B	2,635	2,630	66	19.9	C	2,260	2,253	66	17.0	B
	NYS Route 481 WB Off-Ramp to I-81	Diverge	899	893	67	4.4	A	1,915	1,830	66	9.3	A	2,635	2,637	65	13.5	B	2,260	2,261	65	11.5	B
	NYS Route 481 WB Between Off-Ramp and On-Ramp from I-81 NB	Basic	683	670	51	6.6	A	1,585	1,527	50	15.3	B	1,716	1,709	50	17.2	B	1,482	1,496	50	15.0	B
	NYS Route 481 WB Between On-Ramp and Off-Ramp to I-81	Weave	1,056	1,034	60	5.8	A	2,251	2,196	60	12.3	B	3,058	3,049	58	17.5	B	2,712	2,736	58	15.6	B
	NYS Route 481 WB Between Off-Ramp and On-Ramp from I-81 SB	Basic	862	839	65	6.5	A	2,011	1,975	63	15.7	B	2,876	2,878	62	23.0	C	2,552	2,582	63	20.6	C
	NYS Route 481 WB Between I-81 and U.S. Route 11	Weave	992	956	65	4.9	A	2,186	2,135	64	11.1	B	3,008	2,994	64	15.6	B	2,707	2,728	64	14.2	B
	NYS Route 481 WB Off-Ramp and On-Ramp from Cir Drive	Basic	603	577	64	4.5	A	1,341	1,300	63	10.2	A	1,846	1,842	64	14.5	B	1,614	1,638	64	12.8	B

Segment Direction	Segment Description	Segment Type	6 AM					7 AM					4 PM					5 PM				
			Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS
NYS Route 481 WB (continued)	NYS Route 481 WB On-Ramp from Circle Drive	Merge	799	770	62	4.1	A	1,616	1,570	62	8.5	A	2,362	2,355	57	13.7	B	2,111	2,140	58	12.3	B
	NYS Route 481 WB Btw U.S. Route 11 and Caughdenoy Road	Basic	799	764	66	5.8	A	1,616	1,535	30	26.3	D	2,362	2,353	64	18.4	C	2,111	2,150	64	16.7	B
	NYS Route 481 WB Off-Ramp to Caughdenoy Road	Diverge	799	746	64	3.9	A	1,616	1,379	6	72.7	F	2,362	2,312	58	13.3	B	2,111	2,122	57	12.4	B
	NYS Route 481 WB Between Maple Rd and NYS Route 31	Basic	742	688	66	5.2	A	883	836	65	6.4	A	2,032	2,021	55	19.6	C	1,746	1,786	26	47.9	F
	NYS Route 481 WB Off-Ramp to NYS Route 31	Diverge	742	676	48	4.7	A	883	841	42	6.7	A	2,032	1,856	17	36.4	E	1,746	1,708	15	40.0	E
	NYS Route 481 WB Between Off-Ramp and On-Ramp from NYS Route 31	Basic	278	254	67	1.9	A	237	238	66	1.8	A	643	612	66	4.6	A	432	450	64	3.5	A
	NYS Route 481 WB On-Ramp from NYS Route 31	Merge	494	455	63	2.4	A	565	528	62	2.8	A	1,323	992	62	5.4	A	1,048	831	61	4.5	A
	NYS Route 481 WB Between NYS Route 31 and Verplank Road	Basic	494	453	66	3.5	A	565	527	65	4.0	A	1,323	991	65	7.6	A	1,048	832	65	6.4	A

8.3 Preferred Action Alternative with Recommended Mitigation Scenario C

The following subsections present key MOEs and discuss the traffic operational analysis results for the Recommended Mitigation scenario in 2031. Section 9 presents details regarding the improvements associated with Mitigation Scenario C. Operations for the peak hour with the worst LOS within the peak period of the freeway mainline segments, merge/diverge areas, weaving areas, ramp segments, ramp terminal intersections, and surface street intersections are expressed as LOS based on the color coding shown in Tables 2-3 and 2-4 in Section 2.4.2. Appendix D summarizes the model output, which details the link and node results in the figures and tables.

8.3.1 Traffic Volumes

The volumes shown in Figures 8-17 through 8-20 generally are the same as in the 2031 Preferred Action Alternative, except for a traffic pattern shift in the southeastern portion of the Transportation Evaluation Area because of capacity improvements included in this scenario. The addition of the ramp from southbound Caughdenoy Road to southbound NYS Route 481 provides a more direct exit from the campus to the southeast. It attracts a greater volume of traffic in the 5:00 p.m. evening peak hour, which accesses I-81 through its system interchange with NYS Route 481. This pattern shift reduces the eastbound through volume at the U.S. Route 11/NYS Route 31 intersection and the on-ramp volume to southbound I-81.

Figure 8-17: Year 2031 Preferred Action Alternative with Mitigation Scenario C 6AM/4PM Traffic Volumes - Intersections - Sheet 1 of 5

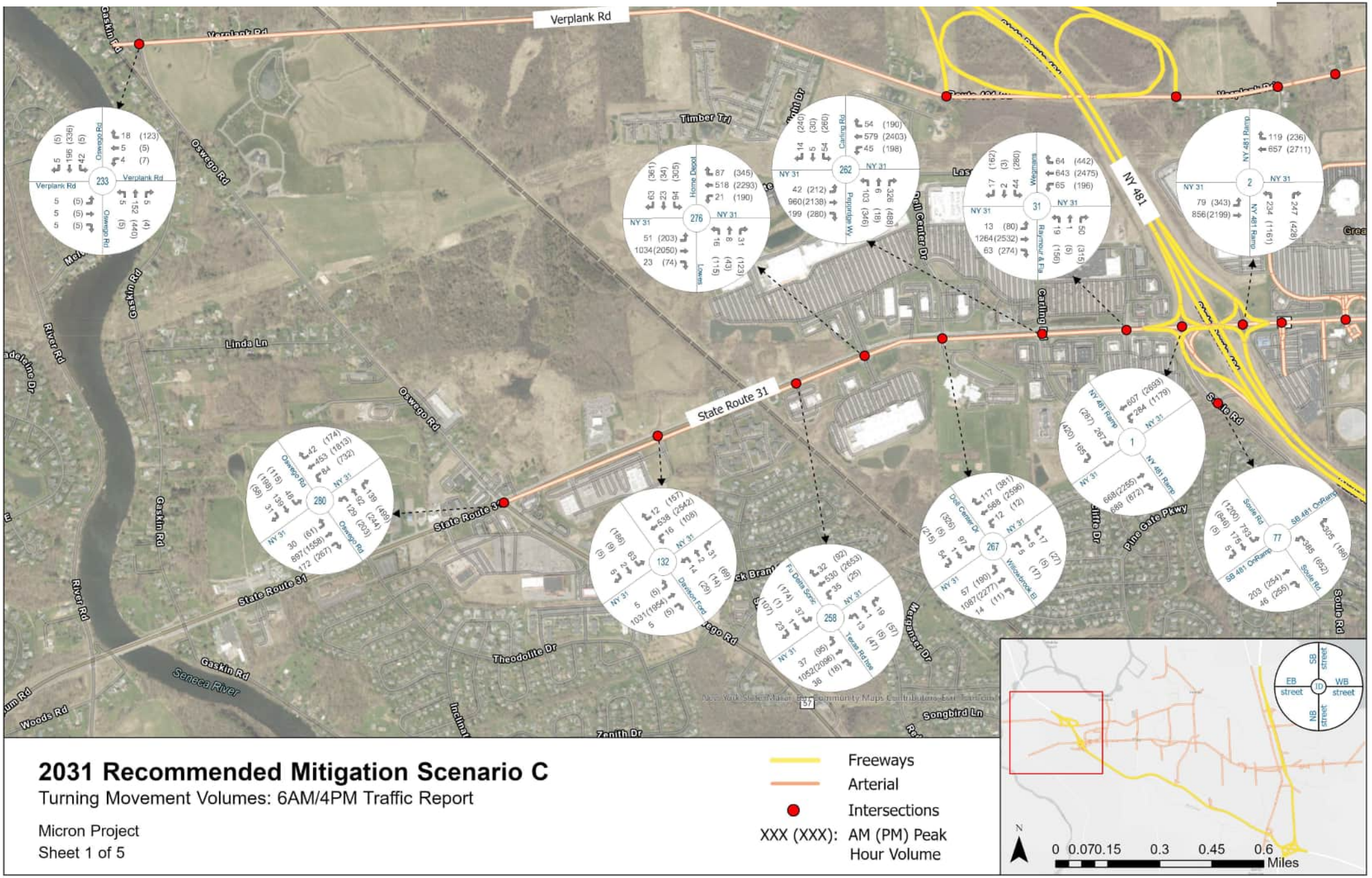


Figure 8-17: Year 2031 Preferred Action Alternative with Mitigation Scenario C 6AM/4PM Traffic Volumes - Intersections - Sheet 2 of 5

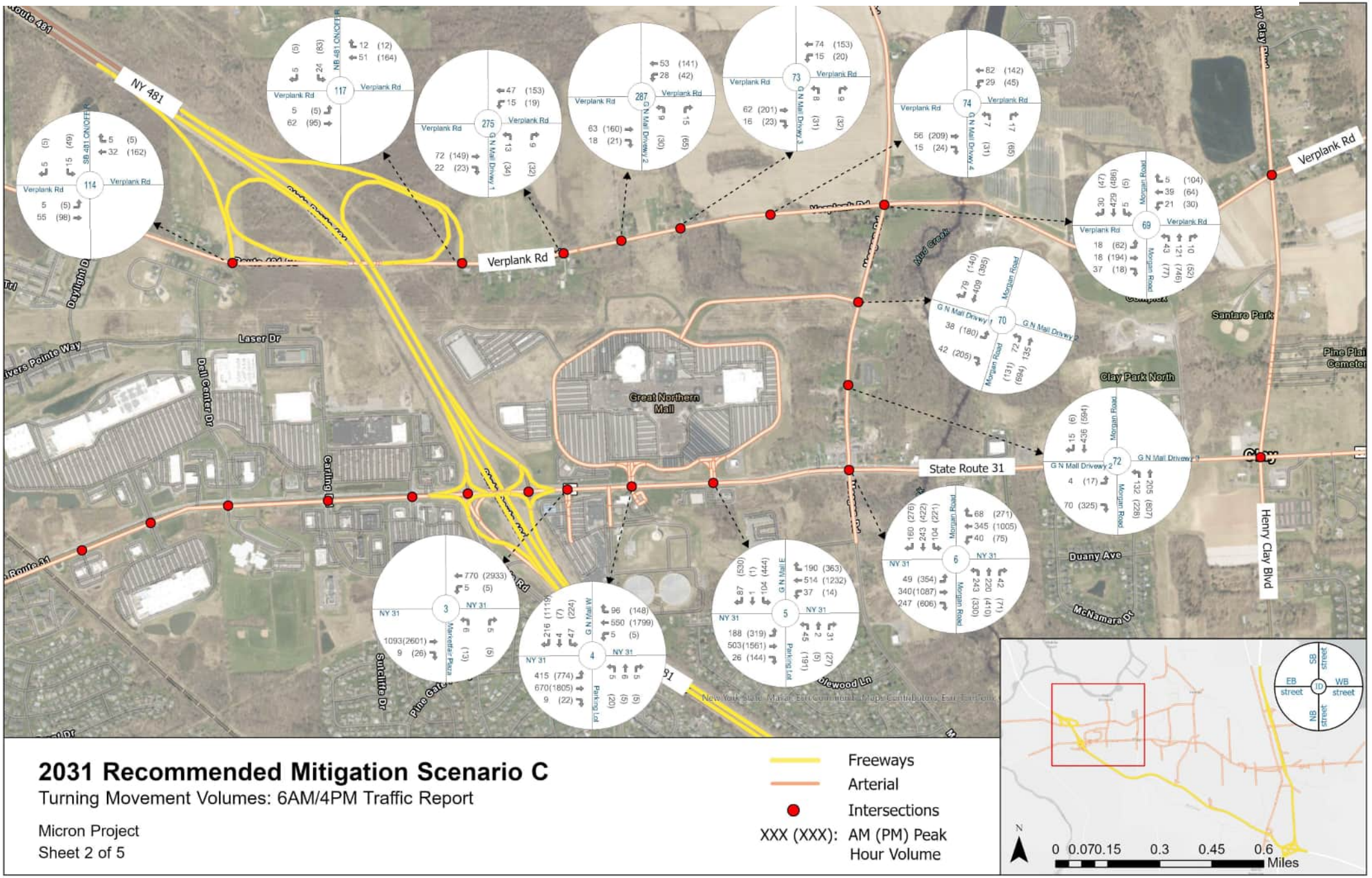


Figure 8-17: Year 2031 Preferred Action Alternative with Mitigation Scenario C 6AM/4PM Traffic Volumes - Intersections - Sheet 3 of 5

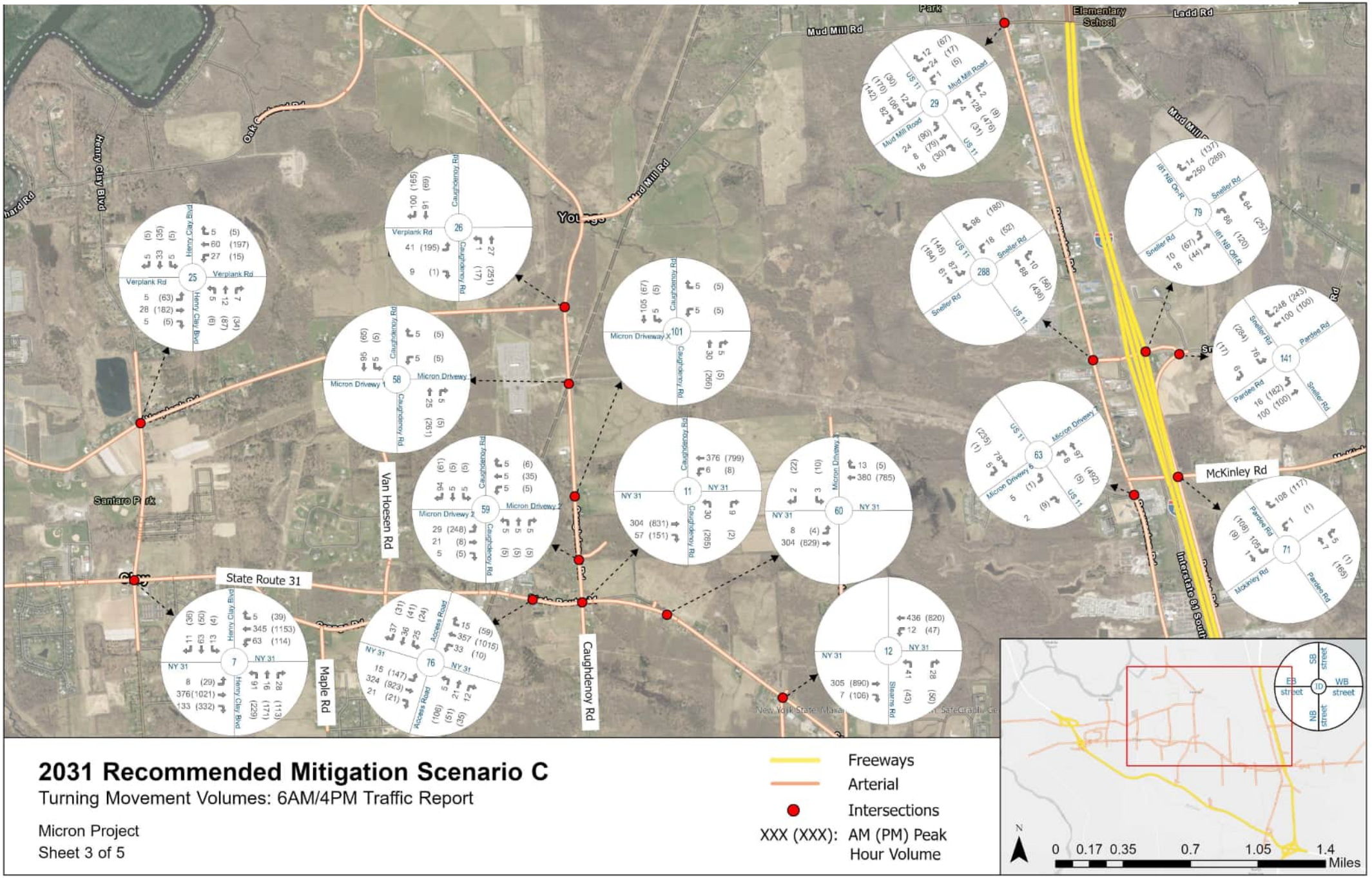


Figure 8-17: Year 2031 Preferred Action Alternative with Mitigation Scenario C 6AM/4PM Traffic Volumes - Intersections - Sheet 4 of 5

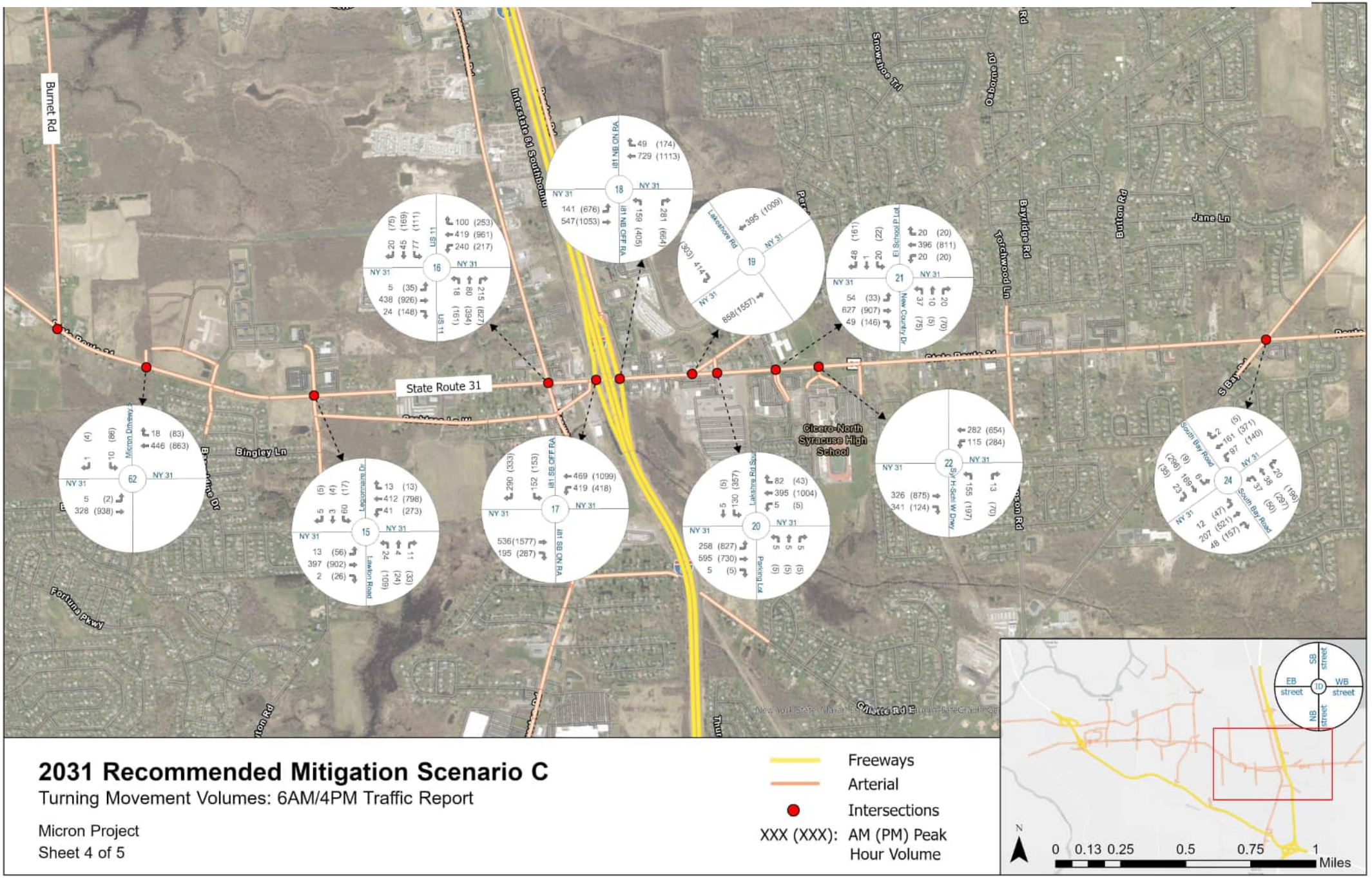


Figure 8-17: Year 2031 Preferred Action Alternative with Mitigation Scenario C 6AM/4PM Traffic Volumes - Intersections - Sheet 5 of 5

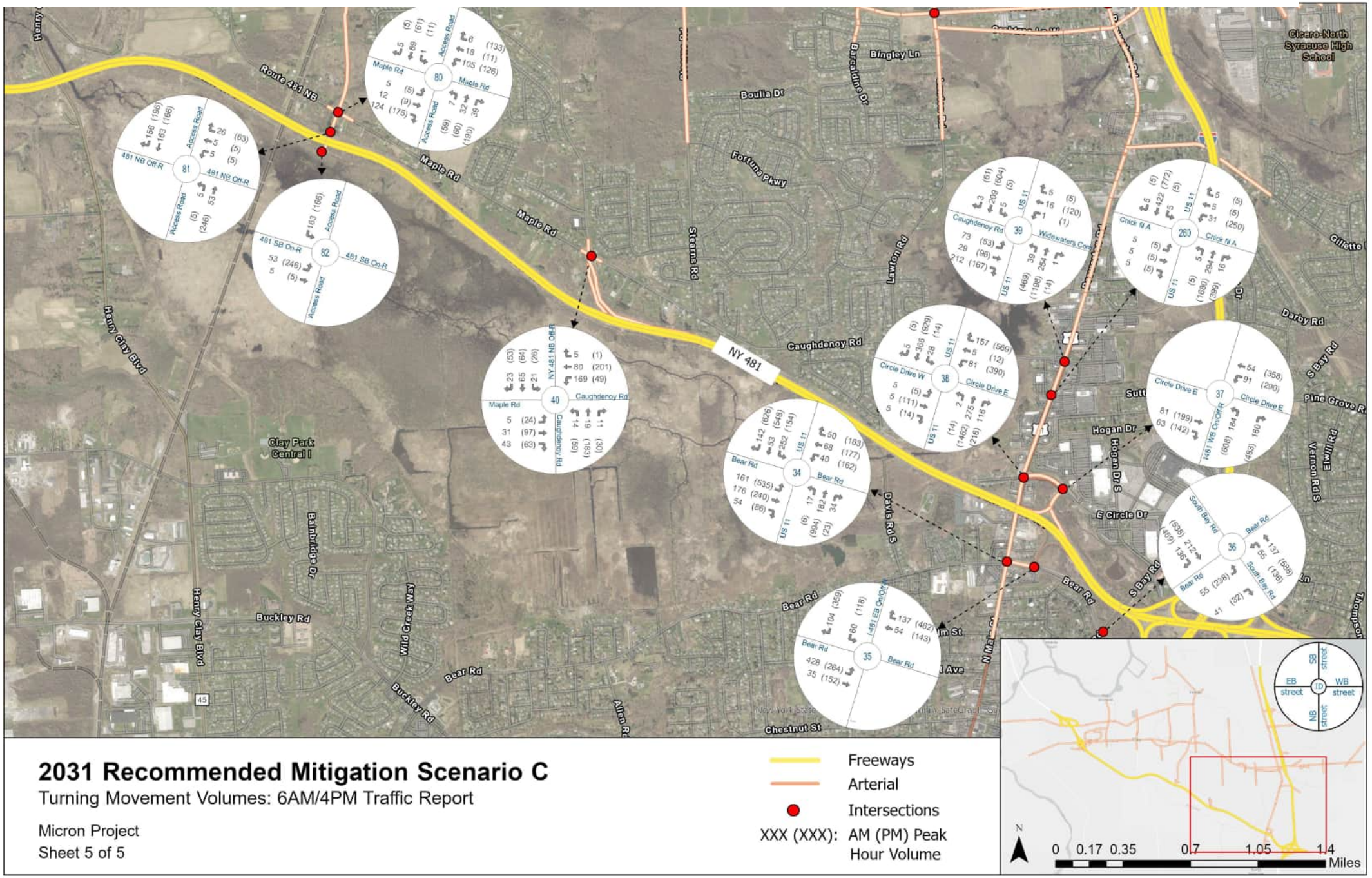
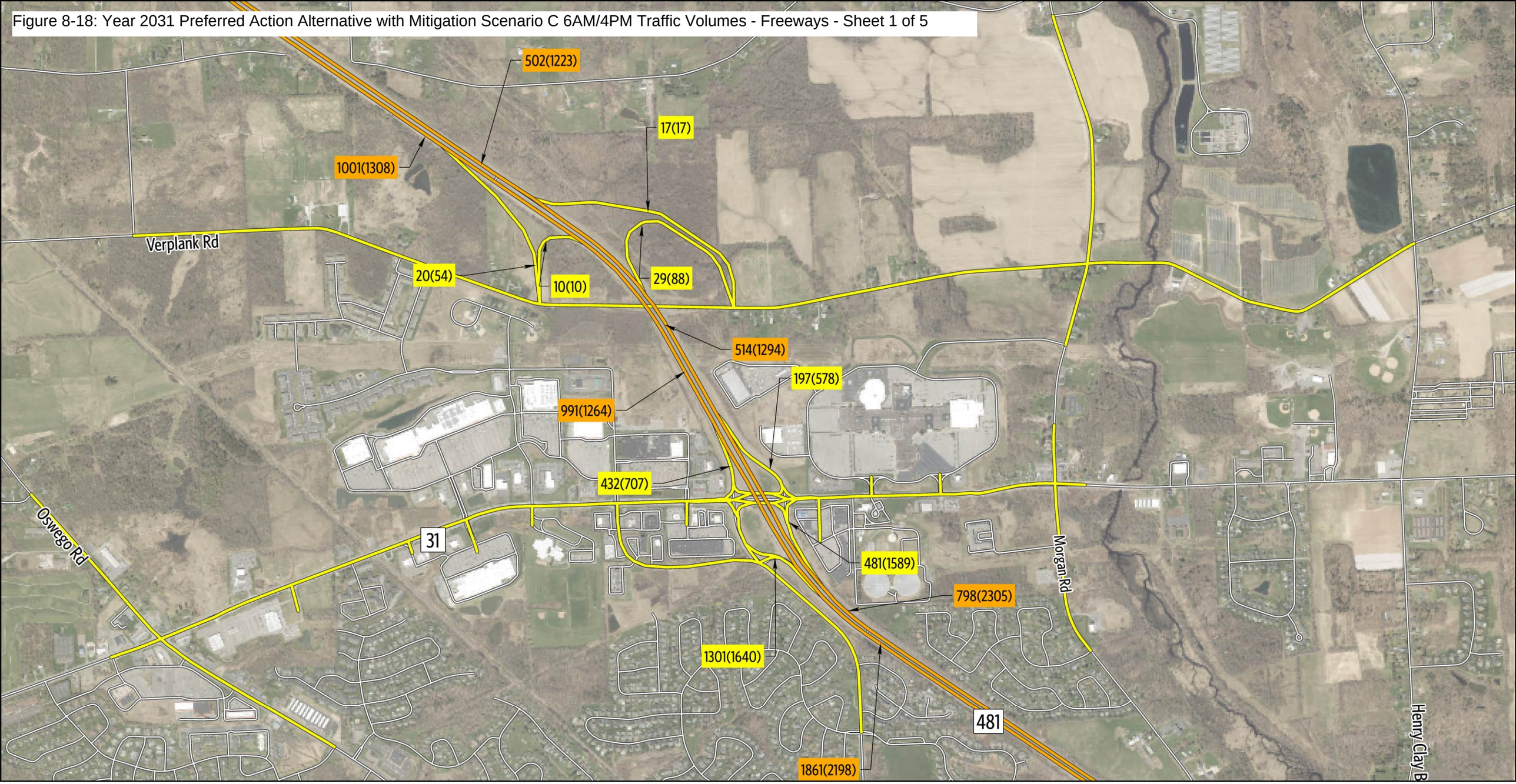


Figure 8-18: Year 2031 Preferred Action Alternative with Mitigation Scenario C 6AM/4PM Traffic Volumes - Freeways - Sheet 1 of 5



Mainline Volumes — Freeways

Ramp Volumes — Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

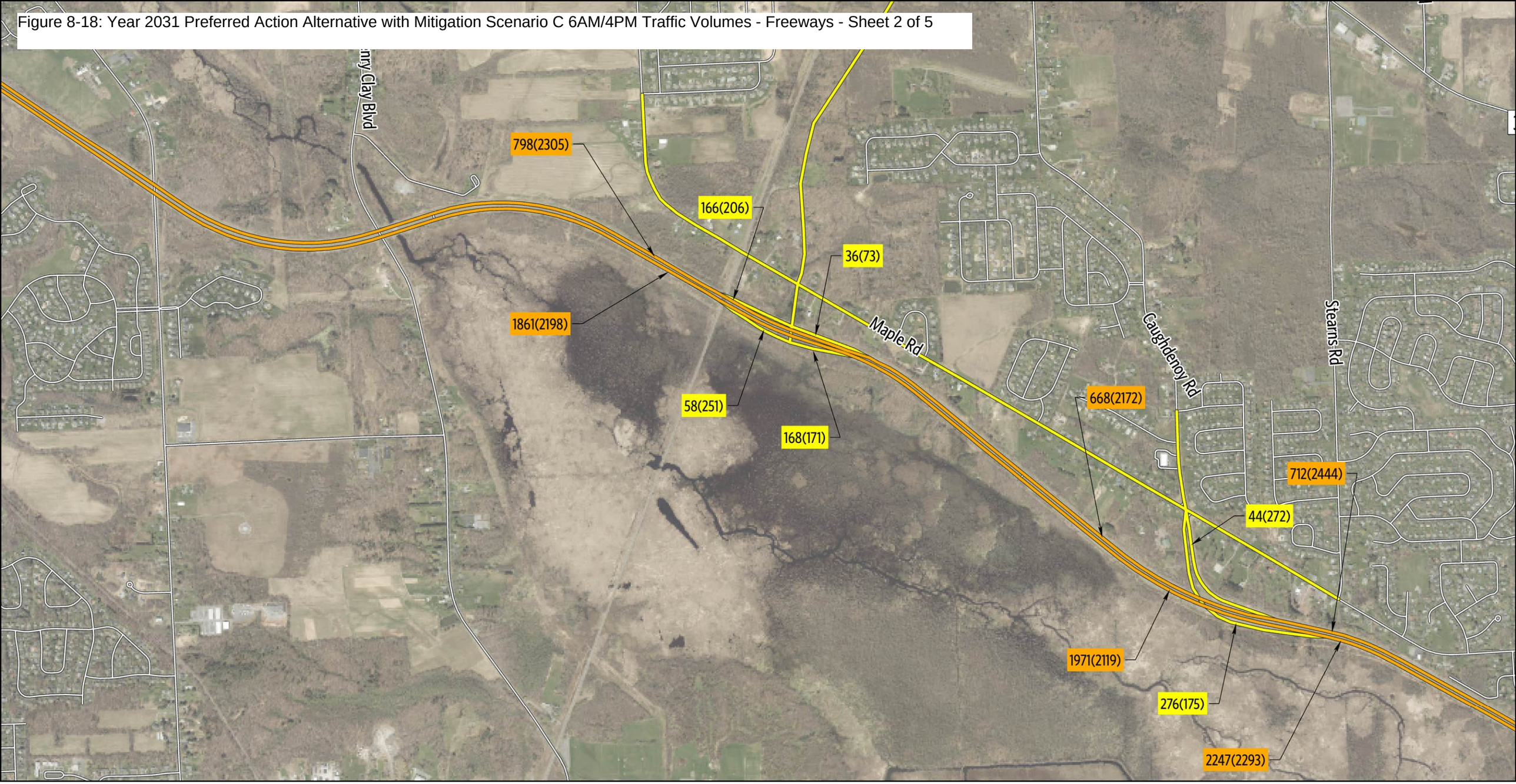
0 1,000 2,000 Feet

2031 Recommended Mitigation Scenario C

Sheet 1 of 5

6 AM & 4 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 8-18: Year 2031 Preferred Action Alternative with Mitigation Scenario C 6AM/4PM Traffic Volumes - Freeways - Sheet 2 of 5



Mainline Volumes — Freeways

Ramp Volumes — Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

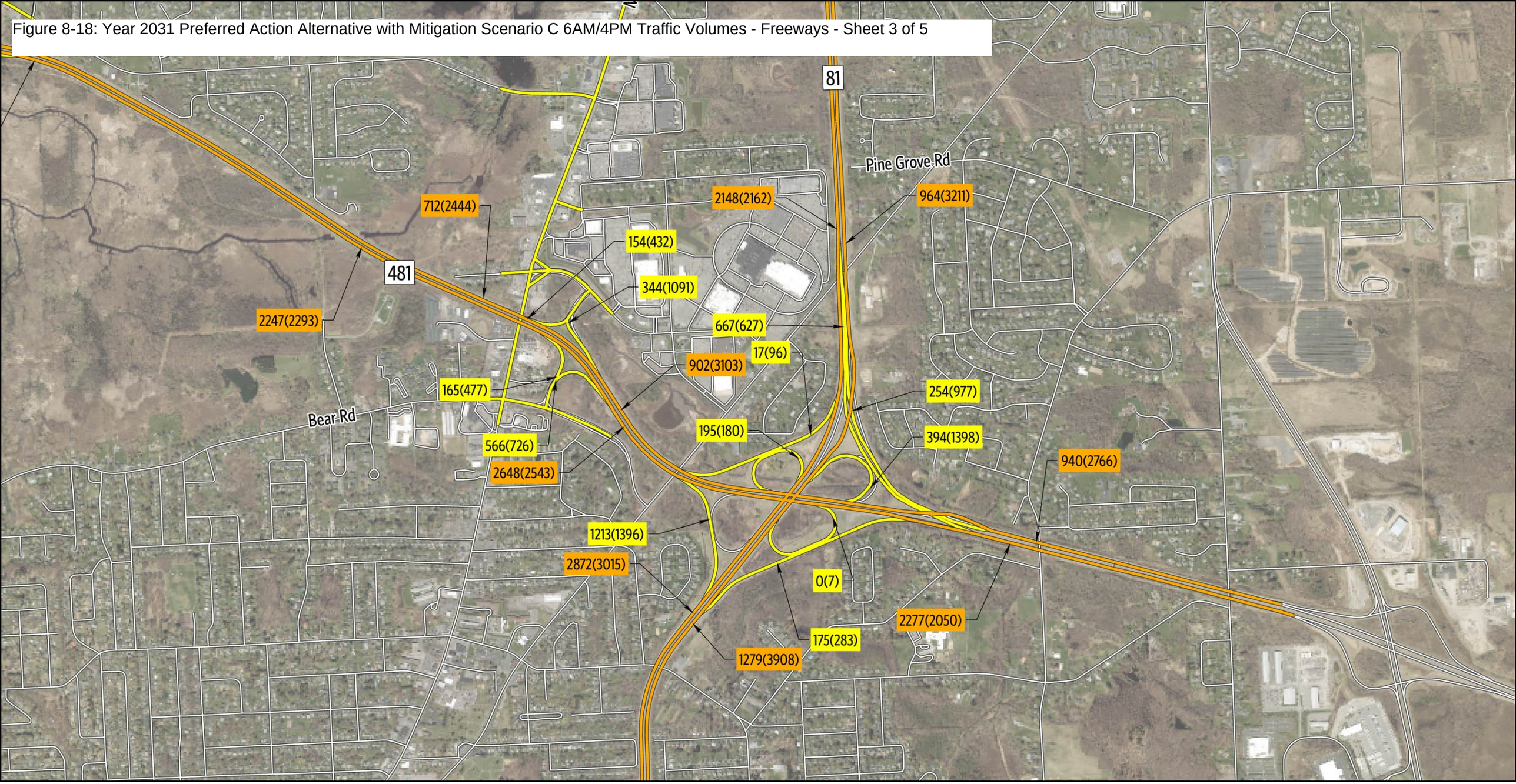
0 1,000 2,000 Feet

2031 Recommended Mitigation Scenario C

Sheet 2 of 5

6 AM & 4 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 8-18: Year 2031 Preferred Action Alternative with Mitigation Scenario C 6AM/4PM Traffic Volumes - Freeways - Sheet 3 of 5



Mainline Volumes — Freeways

Ramp Volumes — Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

0 1,000 2,000 Feet

2031 Recommended Mitigation Scenario C

Sheet 3 of 5

6 AM & 4 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 8-18: Year 2031 Preferred Action Alternative with Mitigation Scenario C 6AM/4PM Traffic Volumes - Freeways - Sheet 4 of 5

Mainline Volumes

Freeways

Ramp Volumes

Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

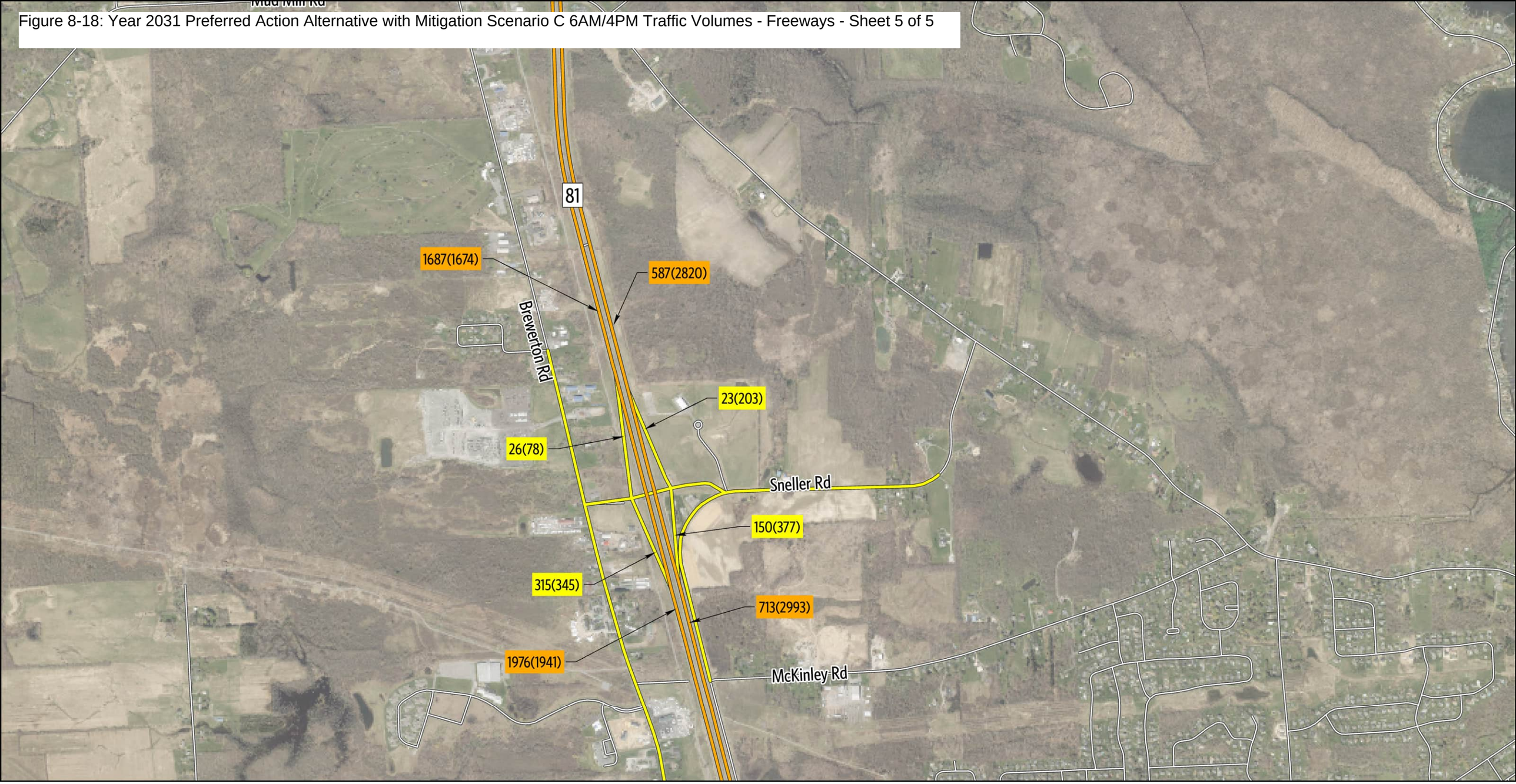
0 1,000 2,000 Feet

2031 Recommended Mitigation Scenario C

Sheet 4 of 5

6 AM & 4 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 8-18: Year 2031 Preferred Action Alternative with Mitigation Scenario C 6AM/4PM Traffic Volumes - Freeways - Sheet 5 of 5



Mainline Volumes
Freeways

Ramp Volumes
Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

0 1,000 2,000 Feet

2031 Recommended Mitigation Scenario C

Sheet 5 of 5

6 AM & 4 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 8-19: Year 2031 Preferred Action Alternative with Mitigation Scenario C 7AM/5PM Traffic Volumes - Intersections - Sheet 1 of 5

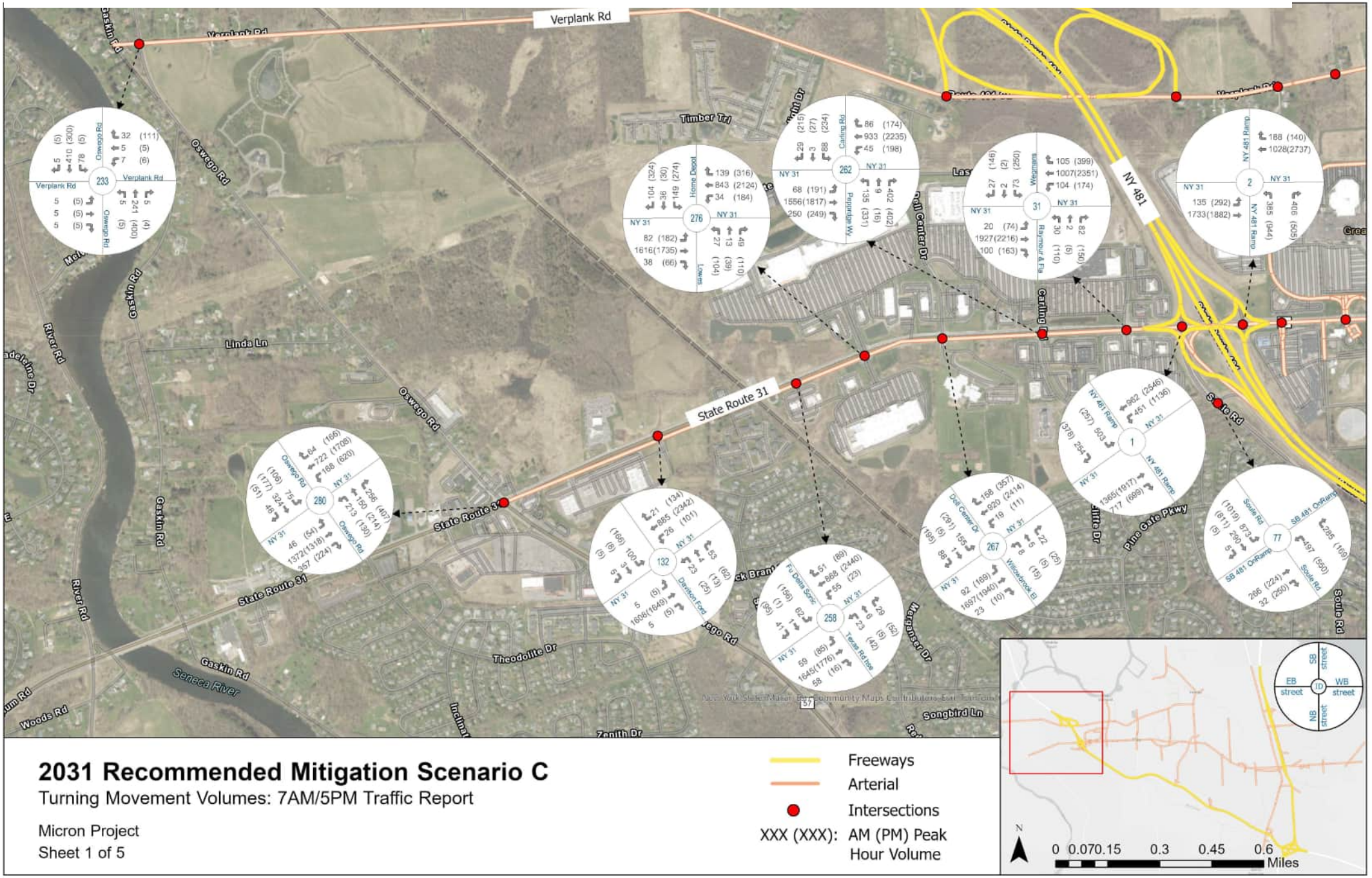


Figure 8-19: Year 2031 Preferred Action Alternative with Mitigation Scenario C 7AM/5PM Traffic Volumes - Intersections - Sheet 2 of 5

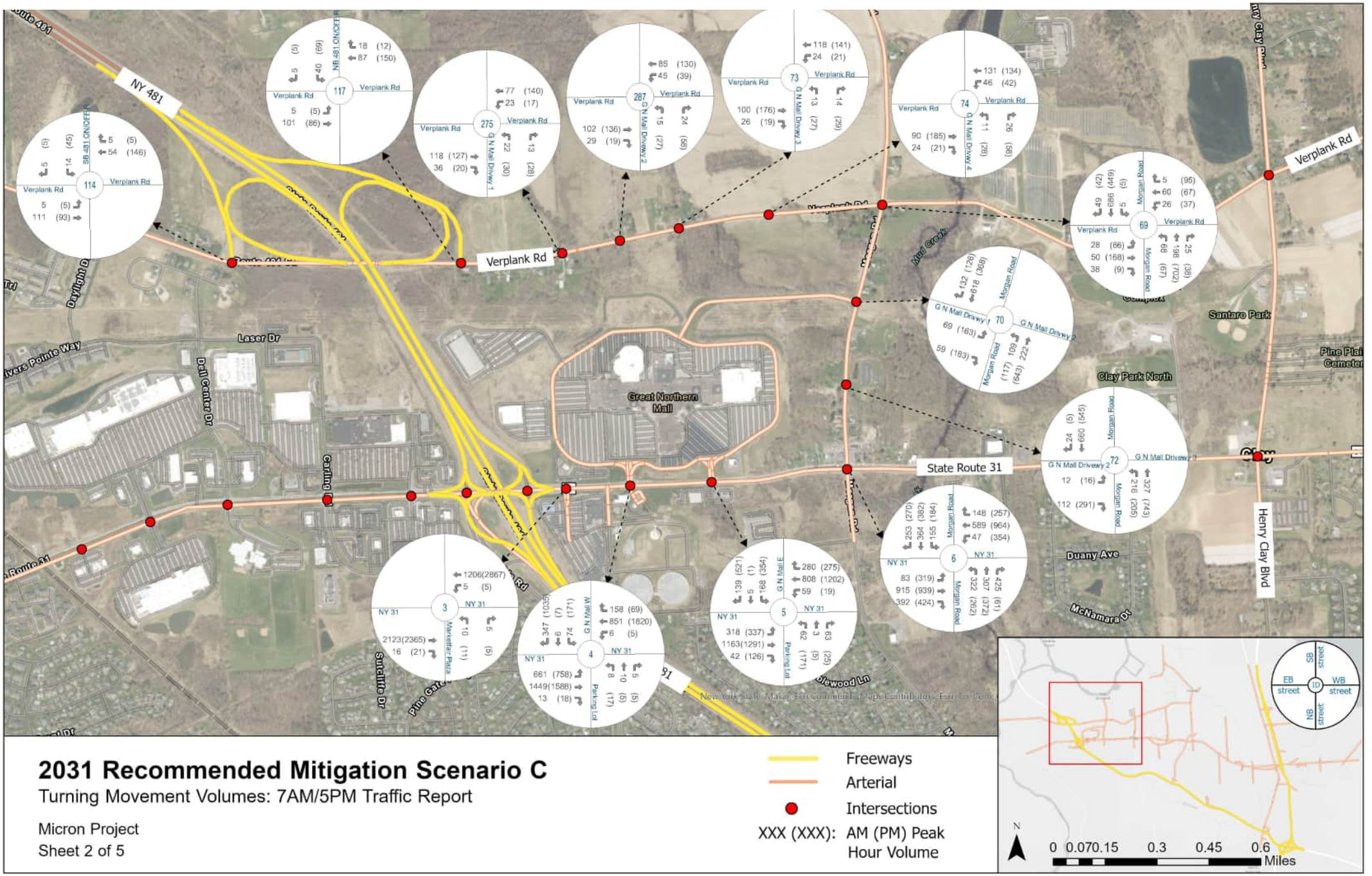


Figure 8-19: Year 2031 Preferred Action Alternative with Mitigation Scenario C 7AM/5PM Traffic Volumes - Intersections - Sheet 3 of 5

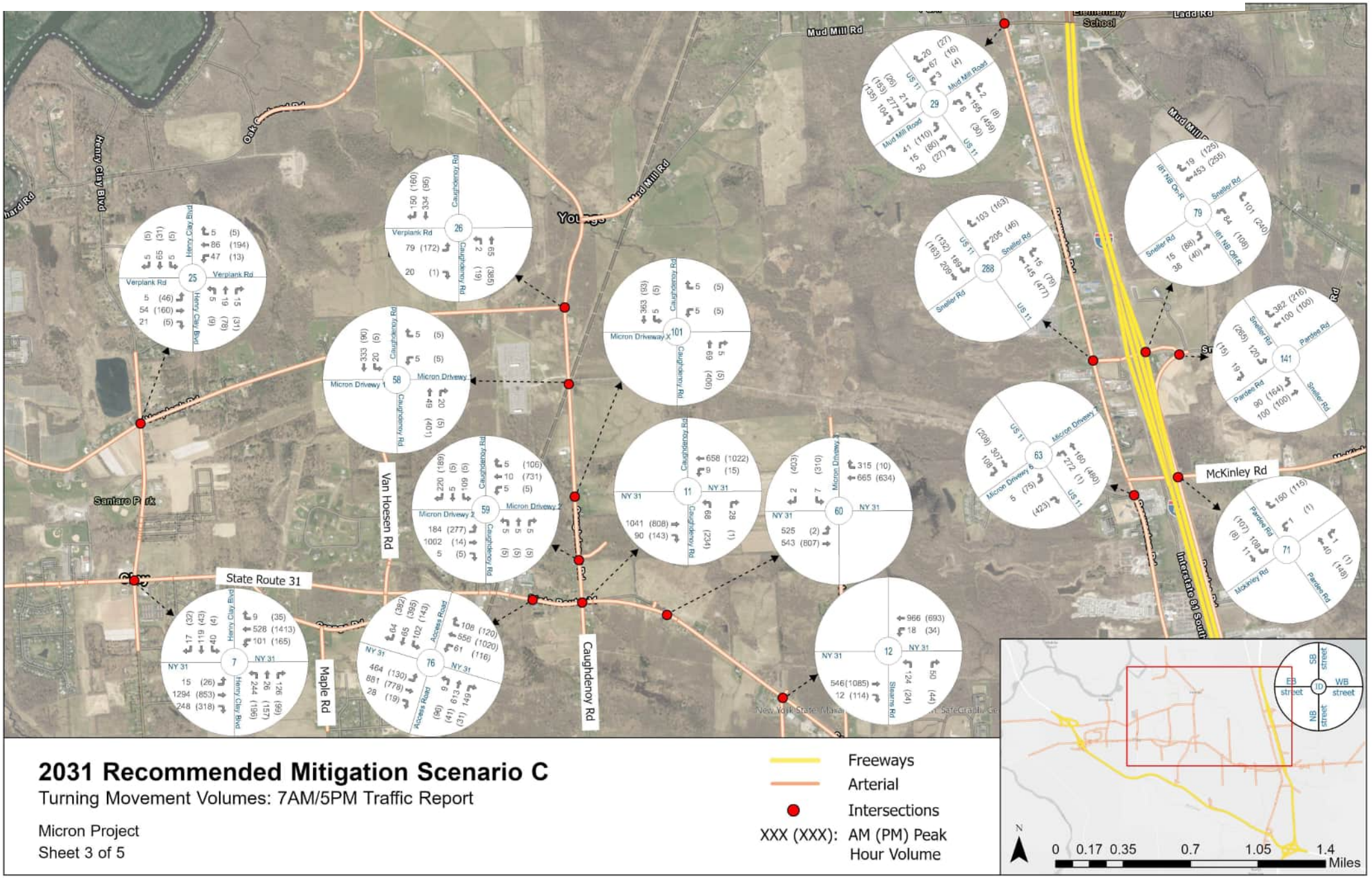


Figure 8-19: Year 2031 Preferred Action Alternative with Mitigation Scenario C 7AM/5PM Traffic Volumes - Intersections - Sheet 4 of 5

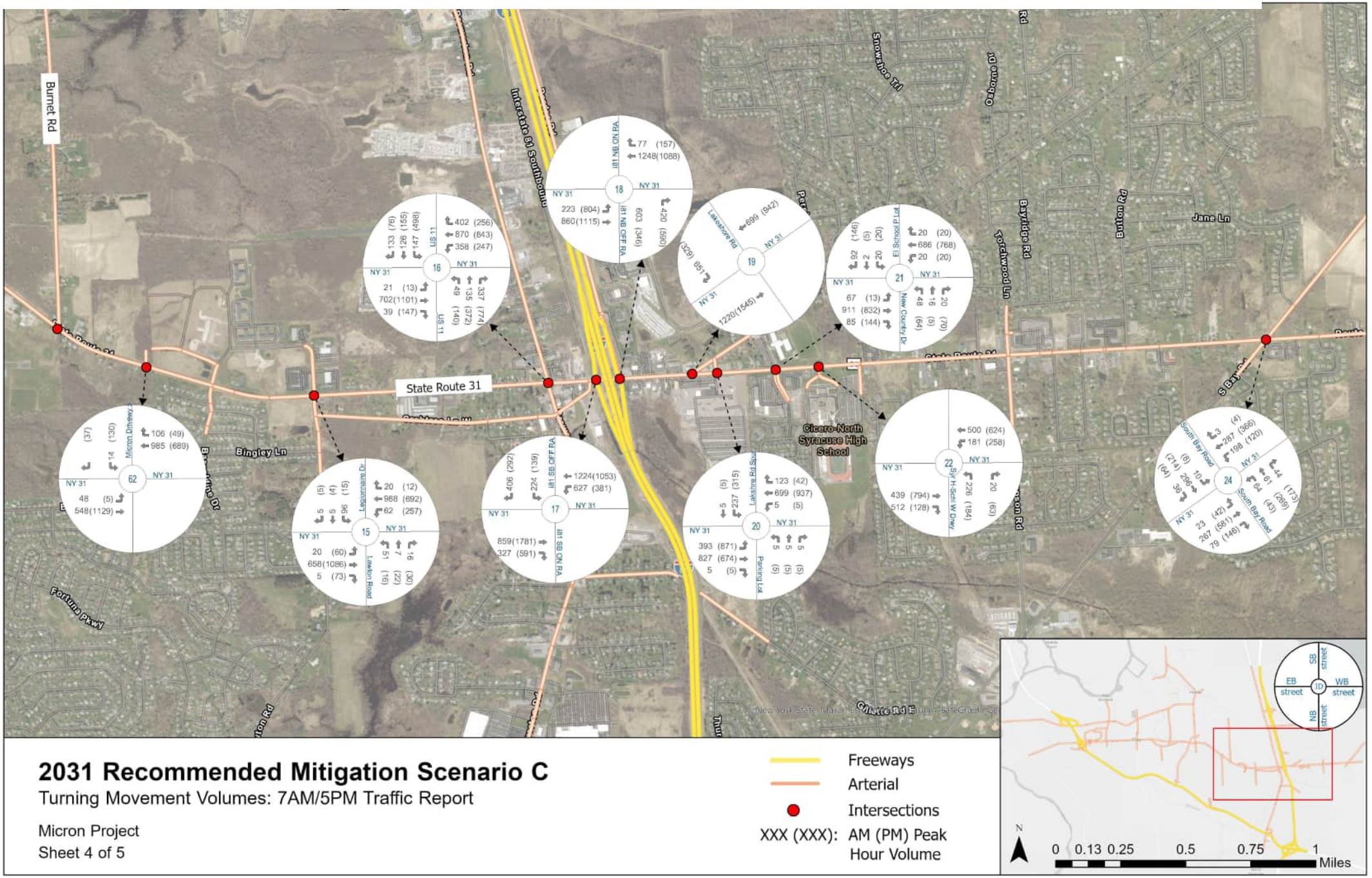


Figure 8-19: Year 2031 Preferred Action Alternative with Mitigation Scenario C 7AM/5PM Traffic Volumes - Intersections - Sheet 5 of 5

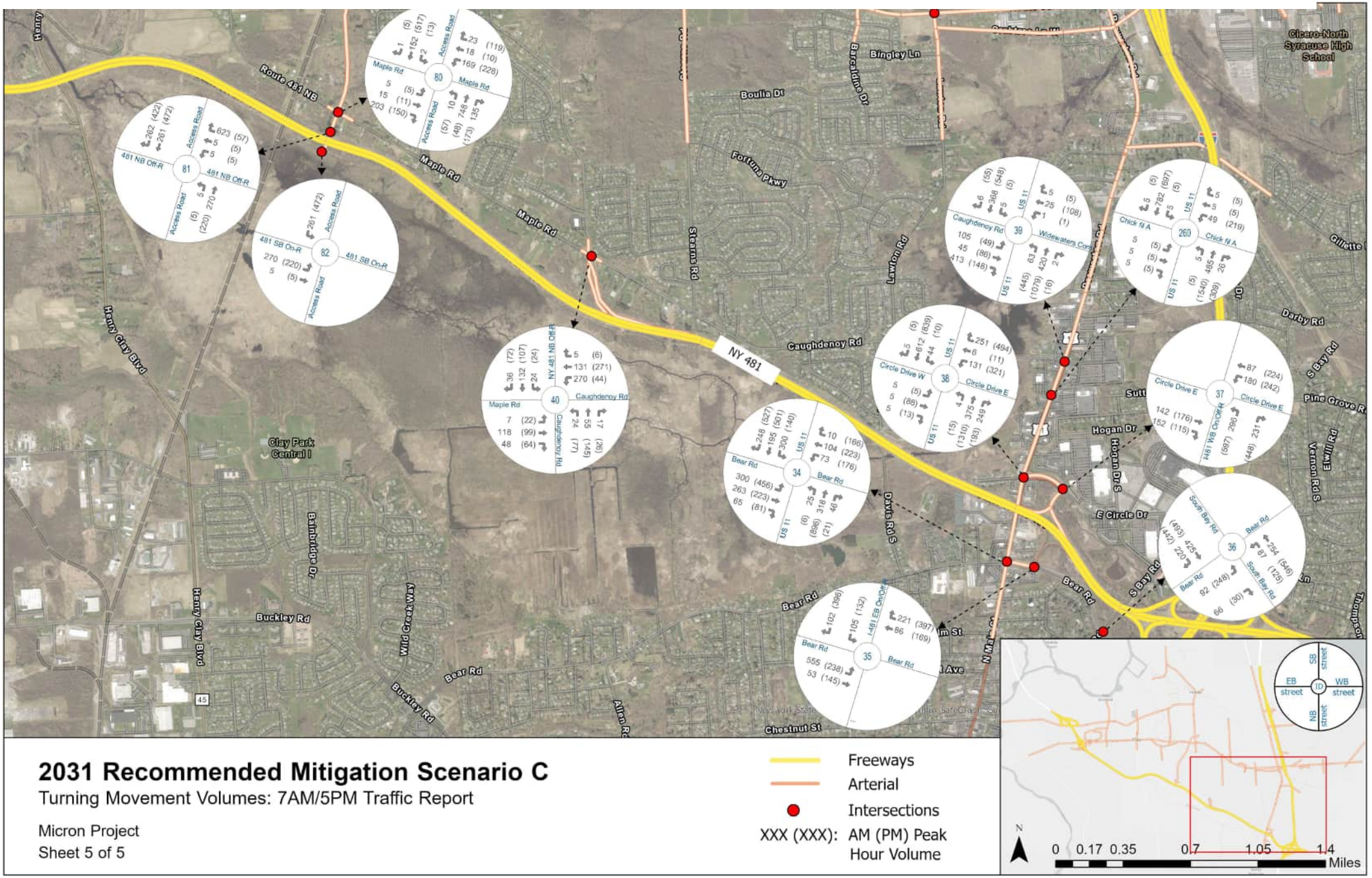
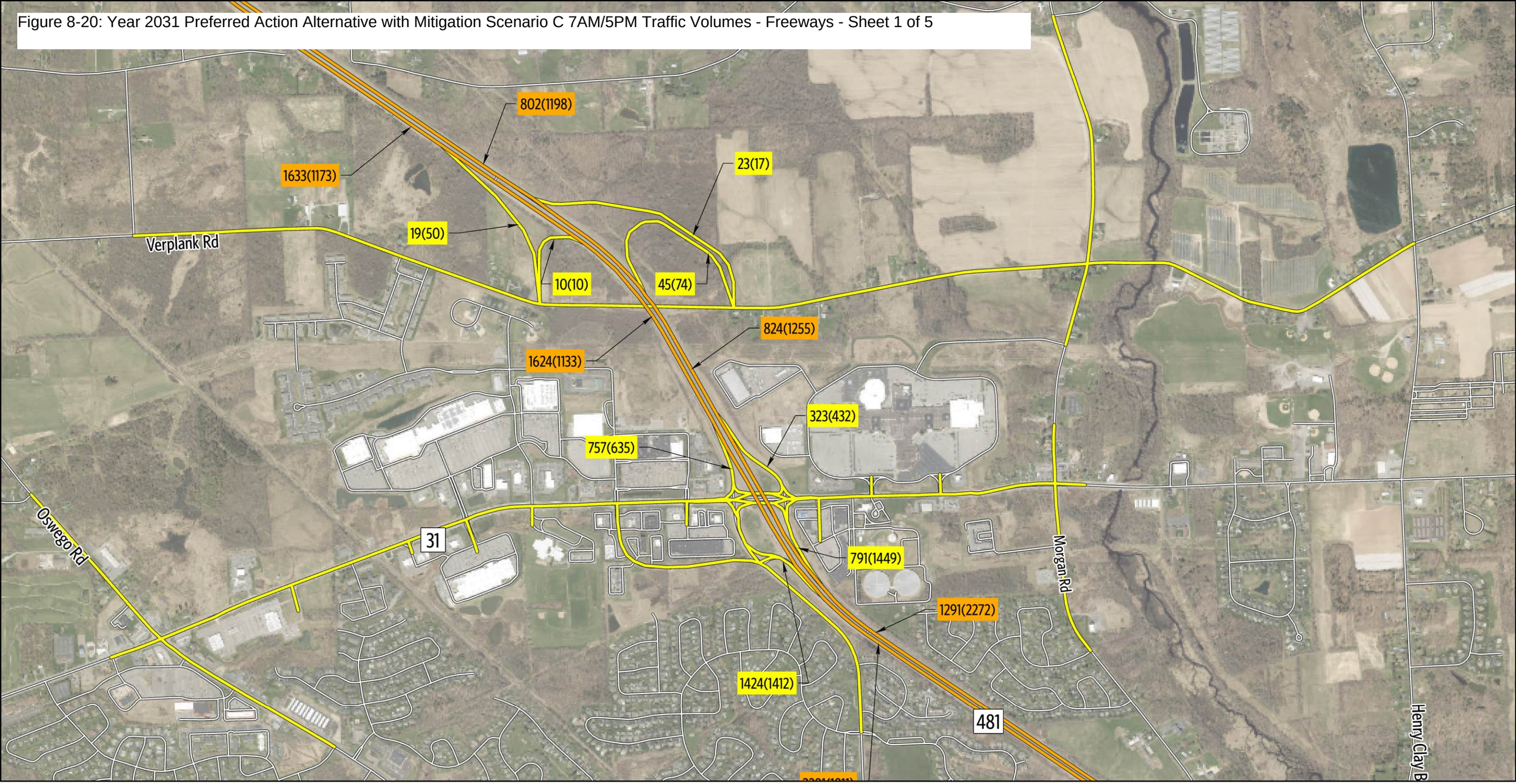


Figure 8-20: Year 2031 Preferred Action Alternative with Mitigation Scenario C 7AM/5PM Traffic Volumes - Freeways - Sheet 1 of 5



Mainline Volumes
Freeways

Ramp Volumes
Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

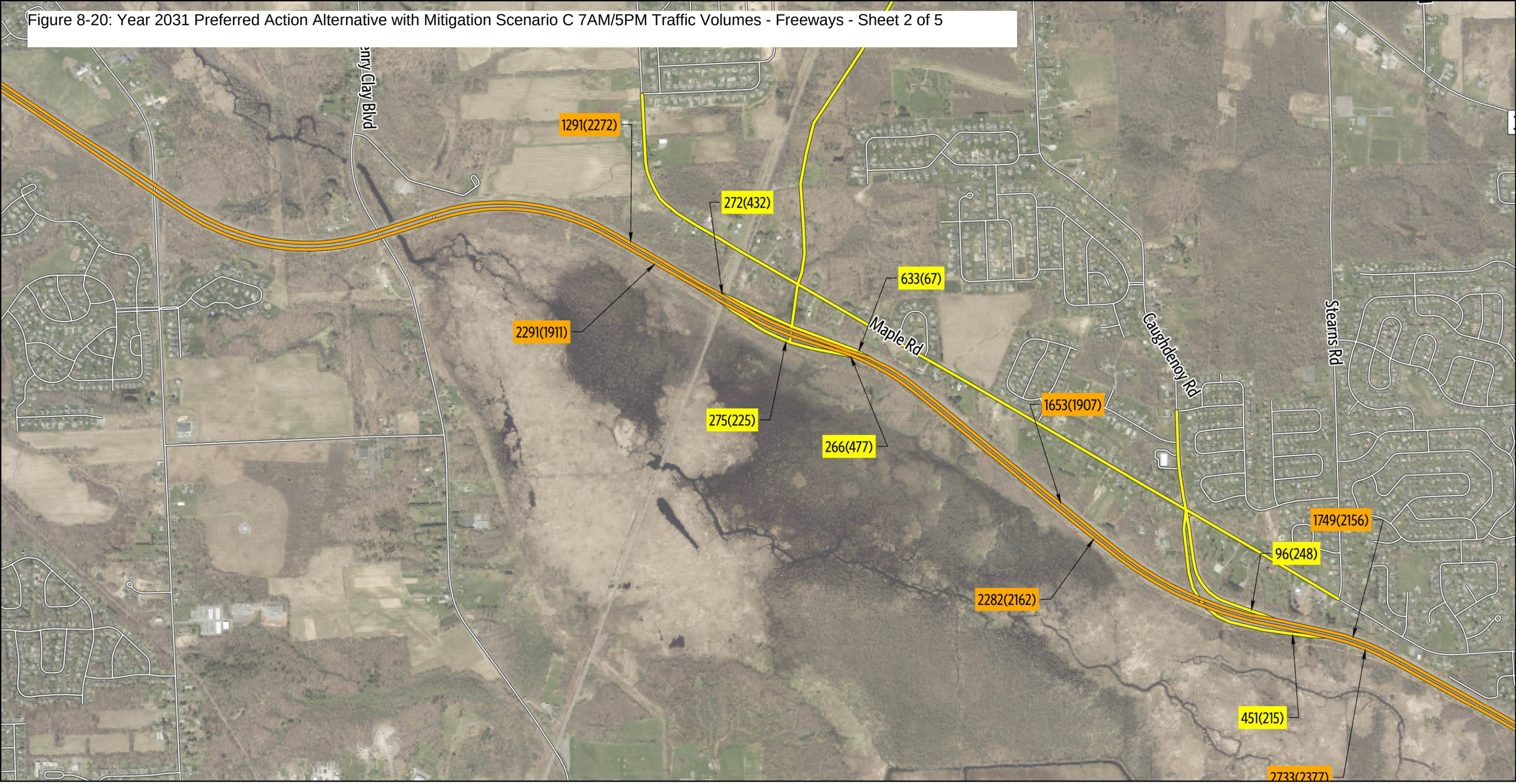
0 1,000 2,000 Feet

2031 Recommended Mitigation Scenario C

Sheet 1 of 5

7 AM & 5 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 8-20: Year 2031 Preferred Action Alternative with Mitigation Scenario C 7AM/5PM Traffic Volumes - Freeways - Sheet 2 of 5



Mainline Volumes

Freeways

Ramp Volumes

Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

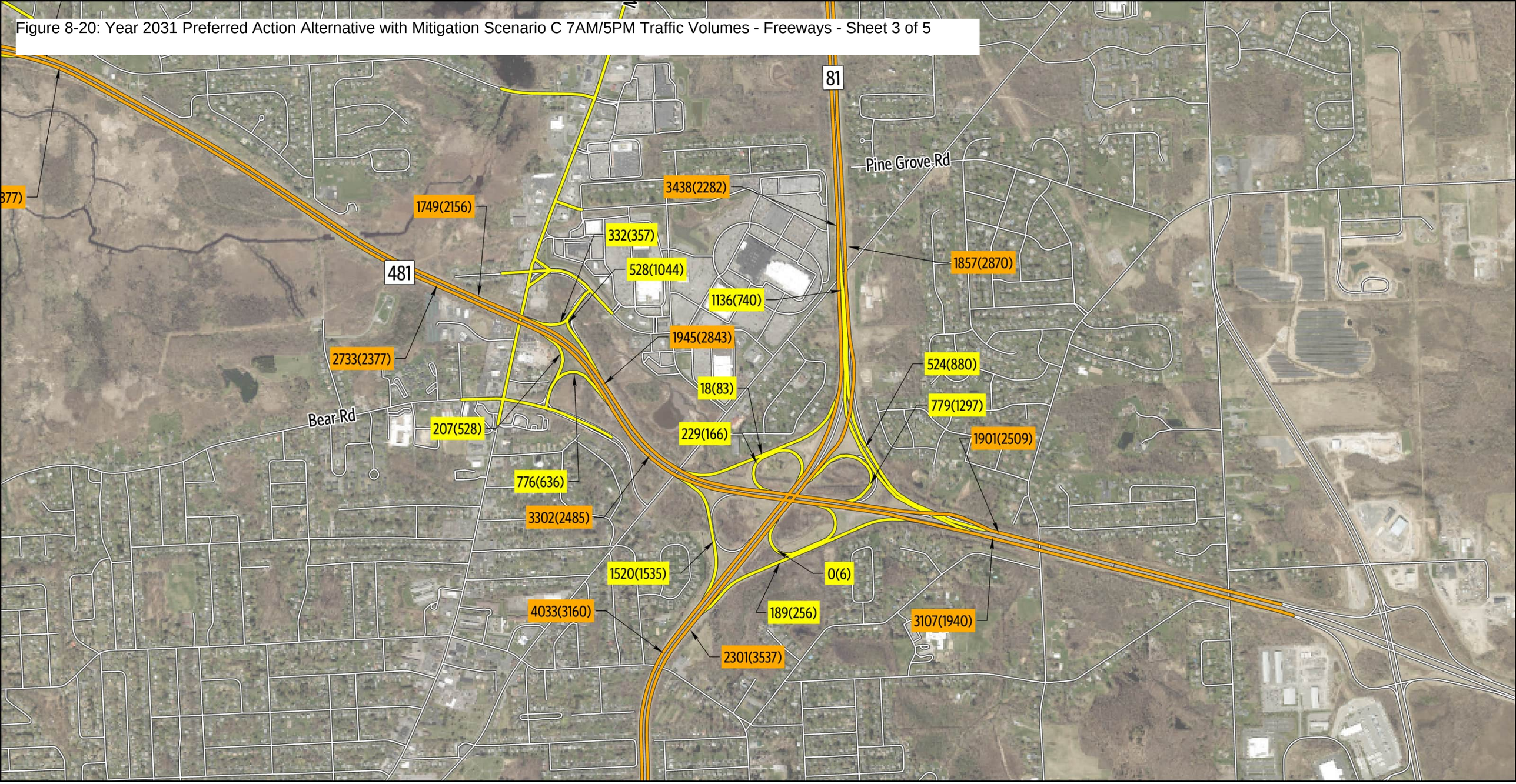
0 1,000 2,000 Feet

2031 Recommended Mitigation Scenario C

Sheet 2 of 5

7 AM & 5 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 8-20: Year 2031 Preferred Action Alternative with Mitigation Scenario C 7AM/5PM Traffic Volumes - Freeways - Sheet 3 of 5



Mainline Volumes
Freeways

Ramp Volumes
Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

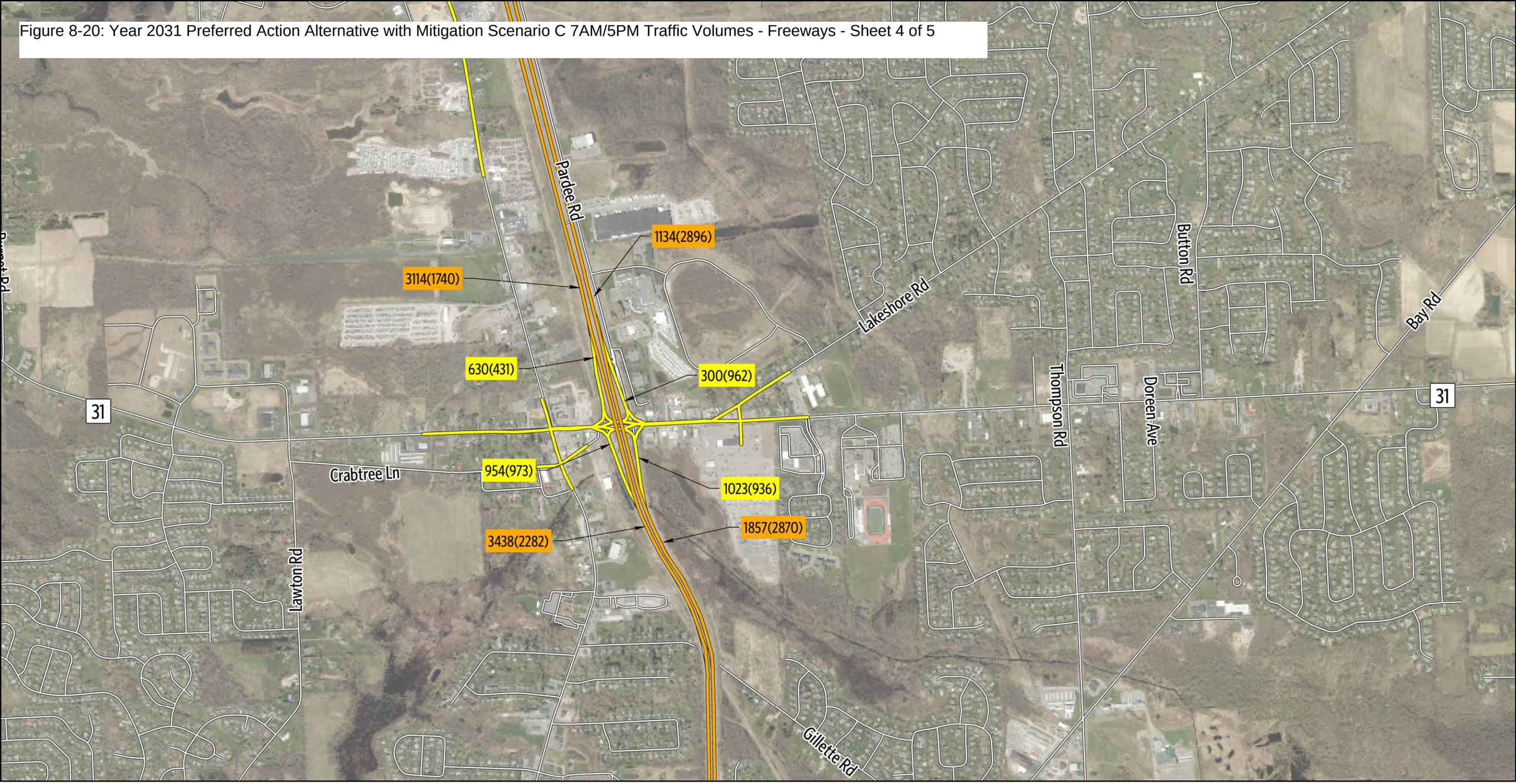
0 1,000 2,000 Feet

2031 Recommended Mitigation Scenario C

Sheet 3 of 5

7 AM & 5 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 8-20: Year 2031 Preferred Action Alternative with Mitigation Scenario C 7AM/5PM Traffic Volumes - Freeways - Sheet 4 of 5



Mainline Volumes
Freeways

Ramp Volumes
Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

0 1,000 2,000 Feet

2031 Recommended Mitigation Scenario C

Sheet 4 of 5

7 AM & 5 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

Figure 8-20: Year 2031 Preferred Action Alternative with Mitigation Scenario C 7AM/5PM Traffic Volumes - Freeways - Sheet 5 of 5

Mainline Volumes
Freeways

Ramp Volumes
Ramps

XXX(XXX) - AM Volumes(PM Volumes)

N

0 1,000 2,000 Feet

2031 Recommended Mitigation Scenario C

Sheet 5 of 5

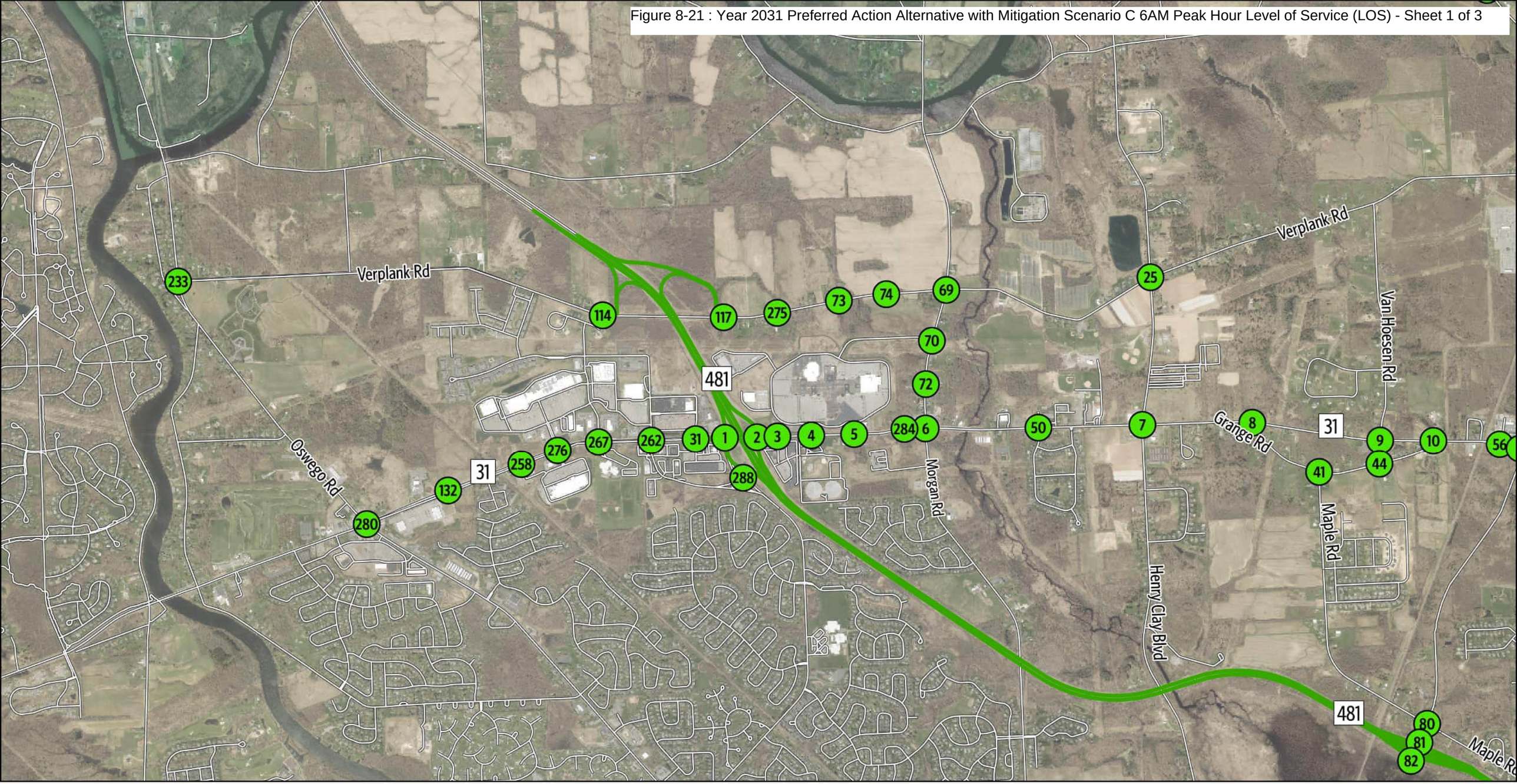
7 AM & 5 PM Peak Hour - Freeway & Ramp Volumes
Micron Project

8.3.2 Intersection Operations

Table 8-7 summarizes the results for all 86 existing, planned, and proposed Transportation Evaluation Area intersections, including average delay values and LOS expressed as a letter designation and by the color coding shown in Table 2-3. The delay values reflect the overall intersection LOS for signalized intersections and roundabouts; refer to the model output in Appendix D for movement and approach LOS. For the unsignalized intersections, the table shows the average delay for the highest-delay movement.

Figures 8-21 through 8-24 present the results of the operational analysis.

Figure 8-21 : Year 2031 Preferred Action Alternative with Mitigation Scenario C 6AM Peak Hour Level of Service (LOS) - Sheet 1 of 3



Intersection Level of Service

- A, B, C

Roadway Level Of Service

- A, B, C
- Streets

N

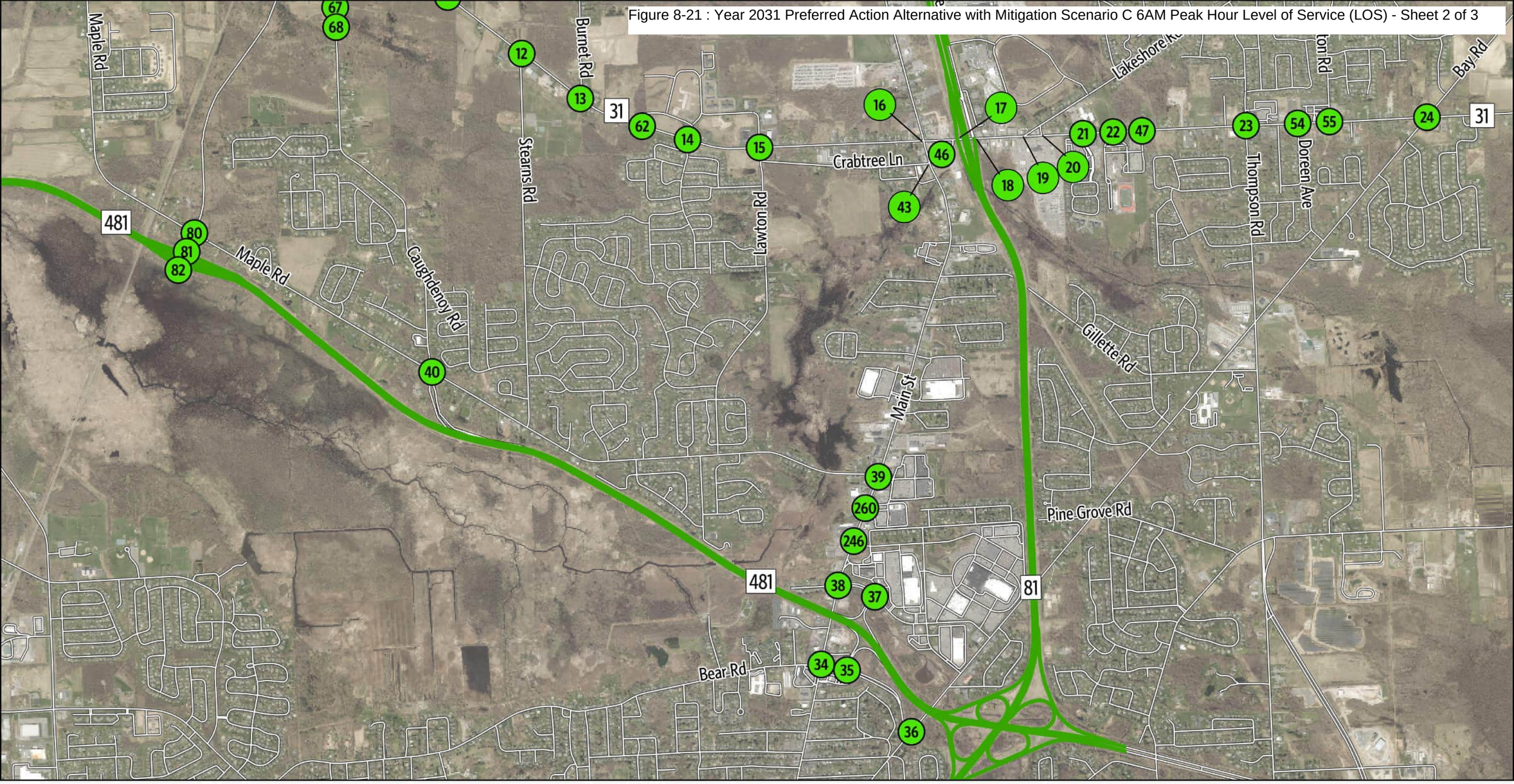
0 2,000 4,000 Feet

2031 Recommended Mitigation Scenario C

Sheet 1 of 3

6 AM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 8-21 : Year 2031 Preferred Action Alternative with Mitigation Scenario C 6AM Peak Hour Level of Service (LOS) - Sheet 2 of 3



Intersection Level of Service

- A, B, C

Roadway Level Of Service

- A, B, C
- Streets

N

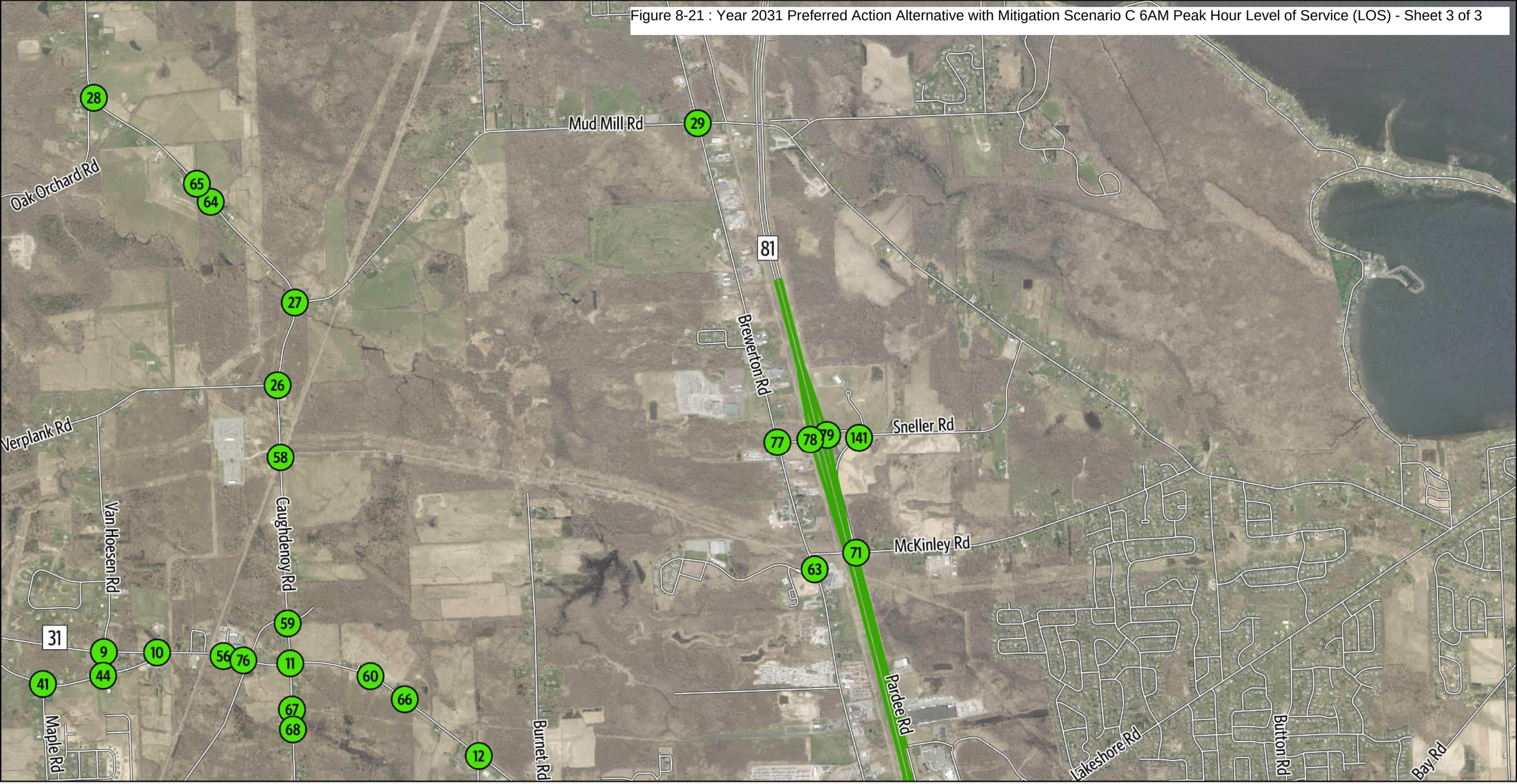
0 2,000 4,000 Feet

2031 Recommended Mitigation Scenario C

Sheet 2 of 3

6 AM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 8-21 : Year 2031 Preferred Action Alternative with Mitigation Scenario C 6AM Peak Hour Level of Service (LOS) - Sheet 3 of 3



Intersection Level of Service

- A, B, C

Roadway Level Of Service

- A, B, C
- Streets

N

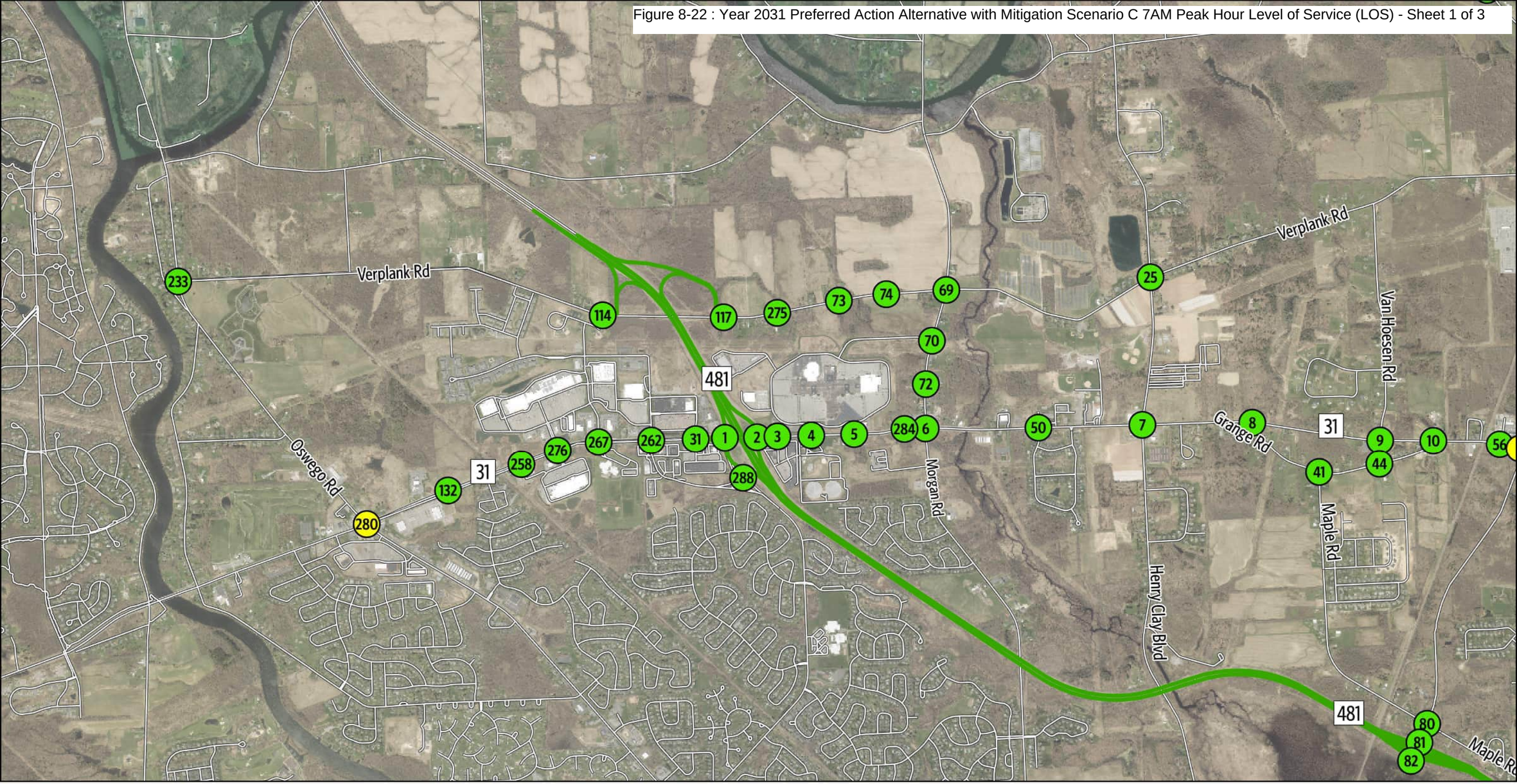
0 2,000 4,000 Feet

2031 Recommended Mitigation Scenario C

Sheet 3 of 3

6 AM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 8-22 : Year 2031 Preferred Action Alternative with Mitigation Scenario C 7AM Peak Hour Level of Service (LOS) - Sheet 1 of 3



Intersection Level of Service

- A, B, C
- D

Roadway Level Of Service

- A, B, C
- Streets

N

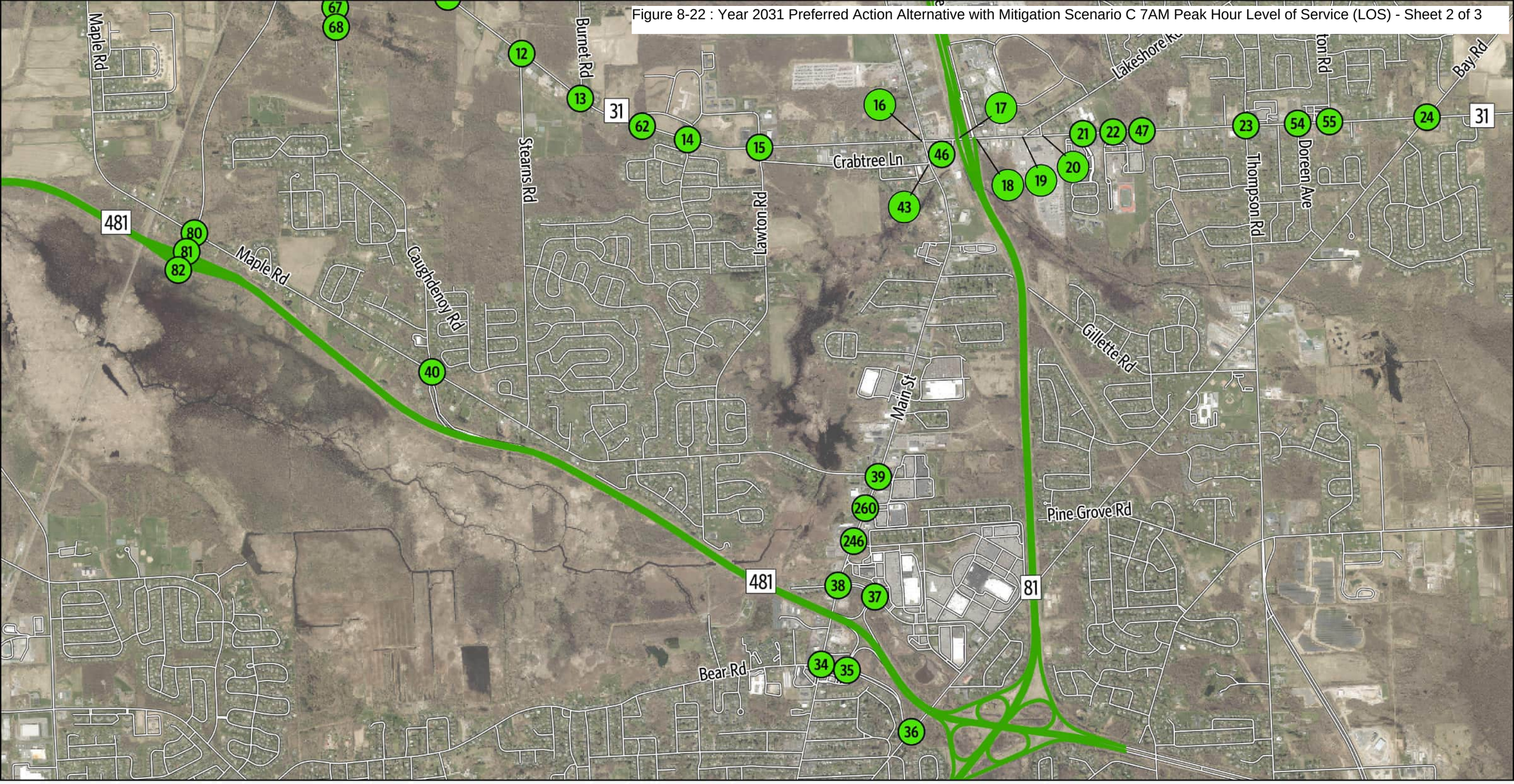
0 2,000 4,000 Feet

2031 Recommended Mitigation Scenario C

Sheet 1 of 3

7 AM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 8-22 : Year 2031 Preferred Action Alternative with Mitigation Scenario C 7AM Peak Hour Level of Service (LOS) - Sheet 2 of 3



Intersection Level of Service

- A, B, C
- D

Roadway Level Of Service

- A, B, C
- Streets

N

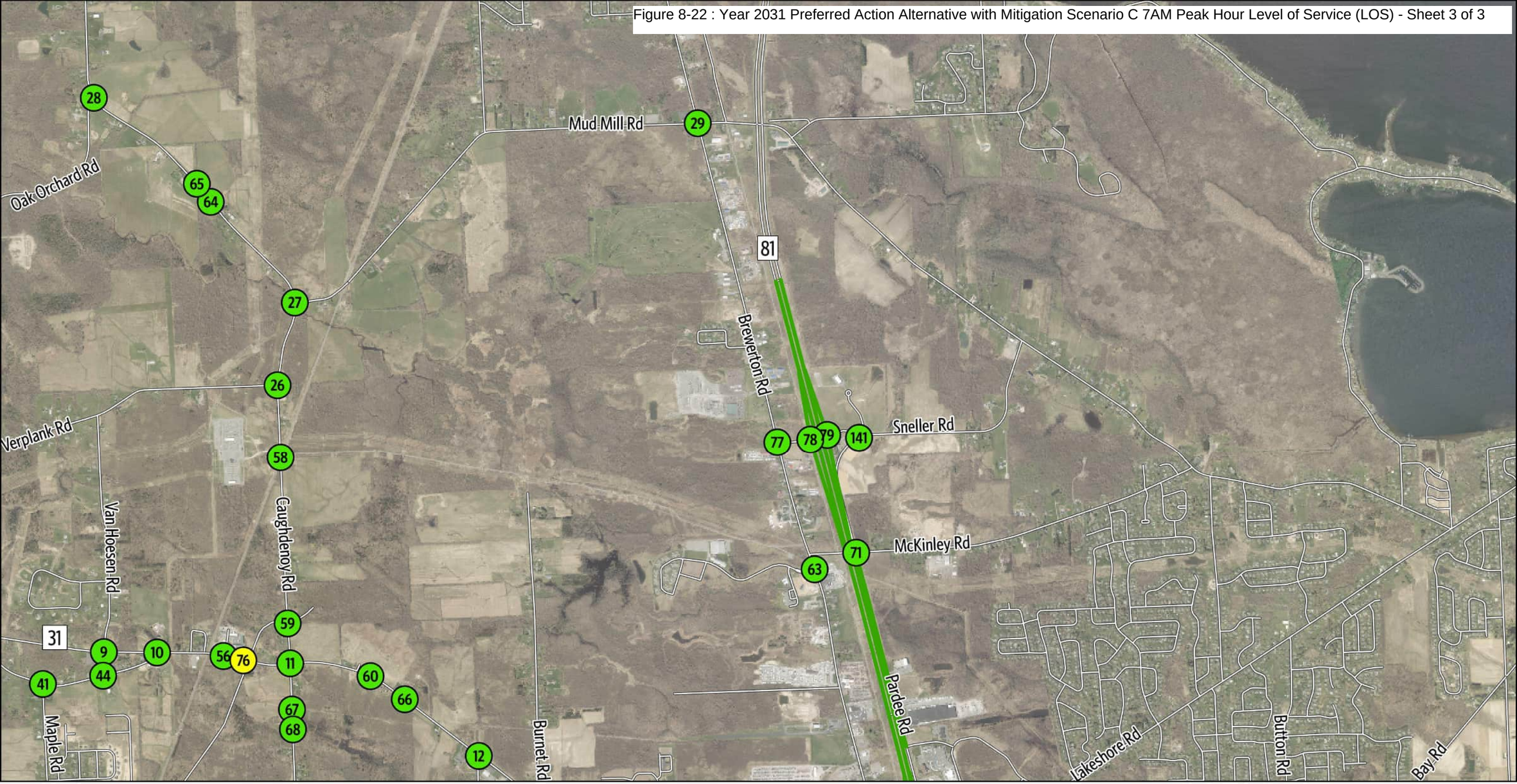
0 2,000 4,000 Feet

2031 Recommended Mitigation Scenario C

Sheet 2 of 3

7 AM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 8-22 : Year 2031 Preferred Action Alternative with Mitigation Scenario C 7AM Peak Hour Level of Service (LOS) - Sheet 3 of 3



Intersection Level of Service

- A, B, C
- D

Roadway Level Of Service

- A, B, C
- Streets

N

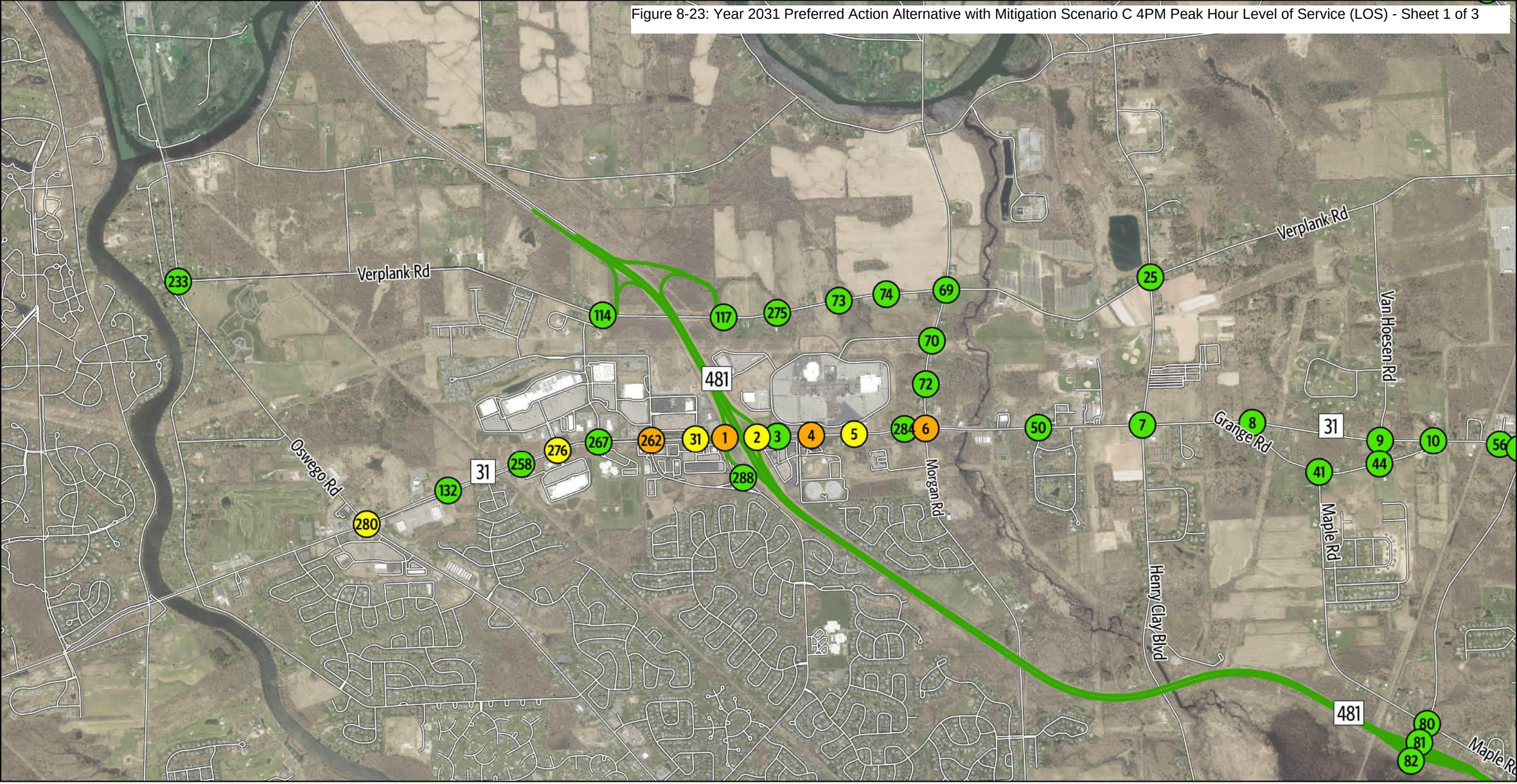
0 2,000 4,000 Feet

2031 Recommended Mitigation Scenario C

Sheet 3 of 3

7 AM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 8-23: Year 2031 Preferred Action Alternative with Mitigation Scenario C 4PM Peak Hour Level of Service (LOS) - Sheet 1 of 3



Intersection Level of Service

- A, B, C
- D
- E
- F

Roadway Level Of Service

- A, B, C
- Streets

N

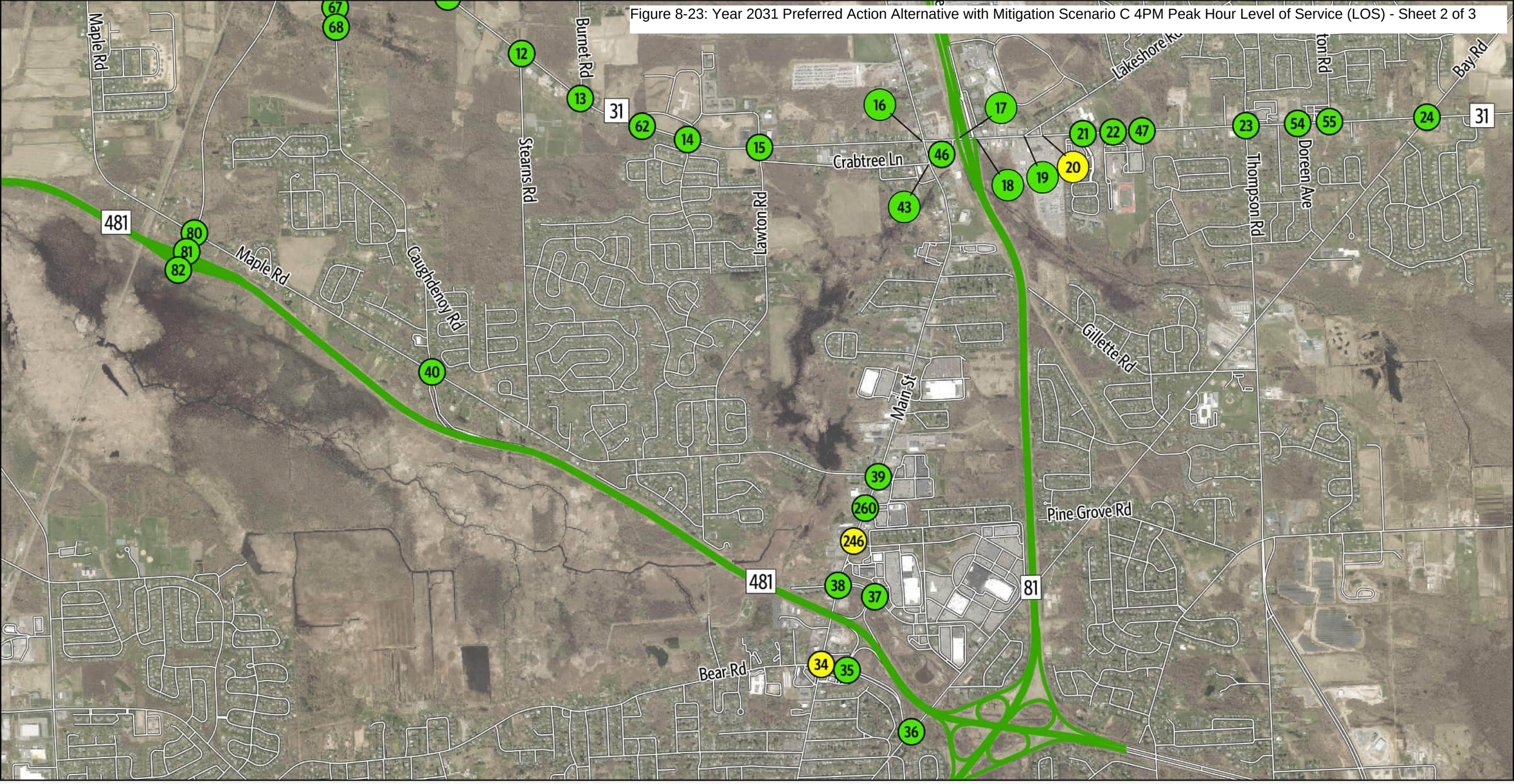
0 2,000 4,000 Feet

2031 Recommended Mitigation Scenario C

Sheet 1 of 3

4 PM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 8-23: Year 2031 Preferred Action Alternative with Mitigation Scenario C 4PM Peak Hour Level of Service (LOS) - Sheet 2 of 3



Intersection Level of Service

- A, B, C
- D
- E
- F

Roadway Level Of Service

- A, B, C
- Streets

N

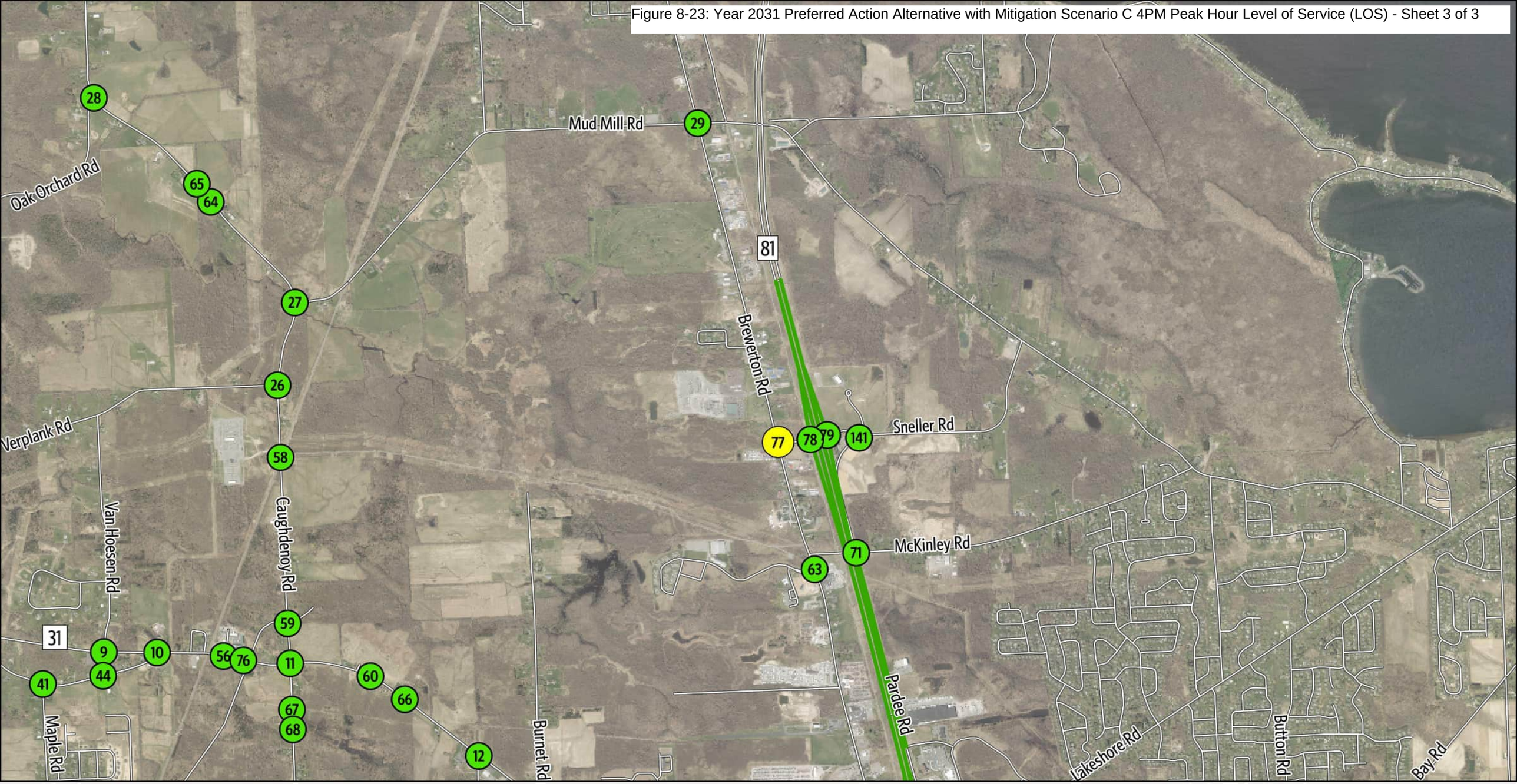
0 2,000 4,000 Feet

2031 Recommended Mitigation Scenario C

Sheet 2 of 3

4 PM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 8-23: Year 2031 Preferred Action Alternative with Mitigation Scenario C 4PM Peak Hour Level of Service (LOS) - Sheet 3 of 3



Intersection Level of Service

- A, B, C
- D
- E
- F

Roadway Level Of Service

- A, B, C
- Streets

N

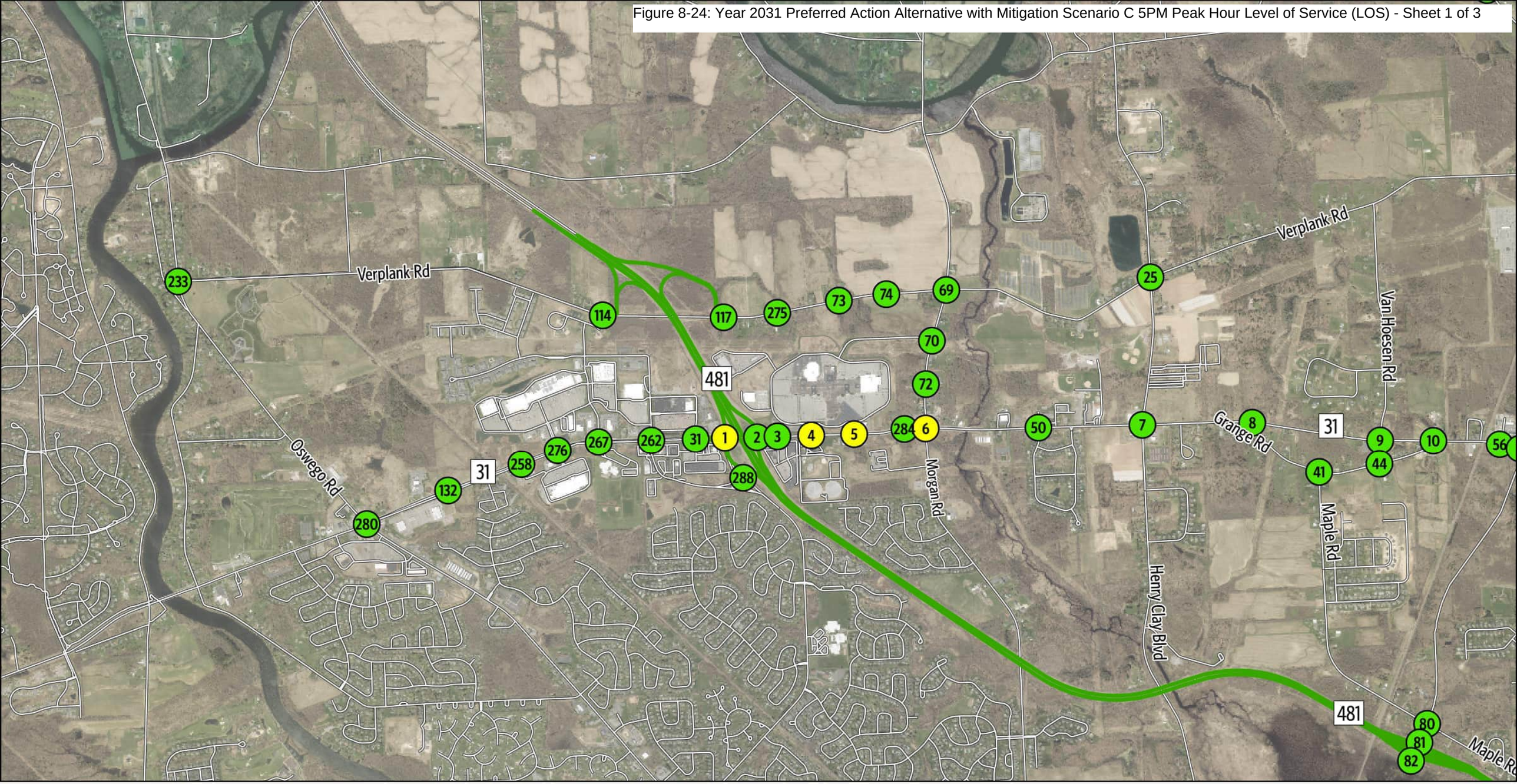
0 2,000 4,000 Feet

2031 Recommended Mitigation Scenario C

Sheet 3 of 3

4 PM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 8-24: Year 2031 Preferred Action Alternative with Mitigation Scenario C 5PM Peak Hour Level of Service (LOS) - Sheet 1 of 3



Intersection Level of Service

- A, B, C
- D

Roadway Level Of Service

- A, B, C
- Streets

N

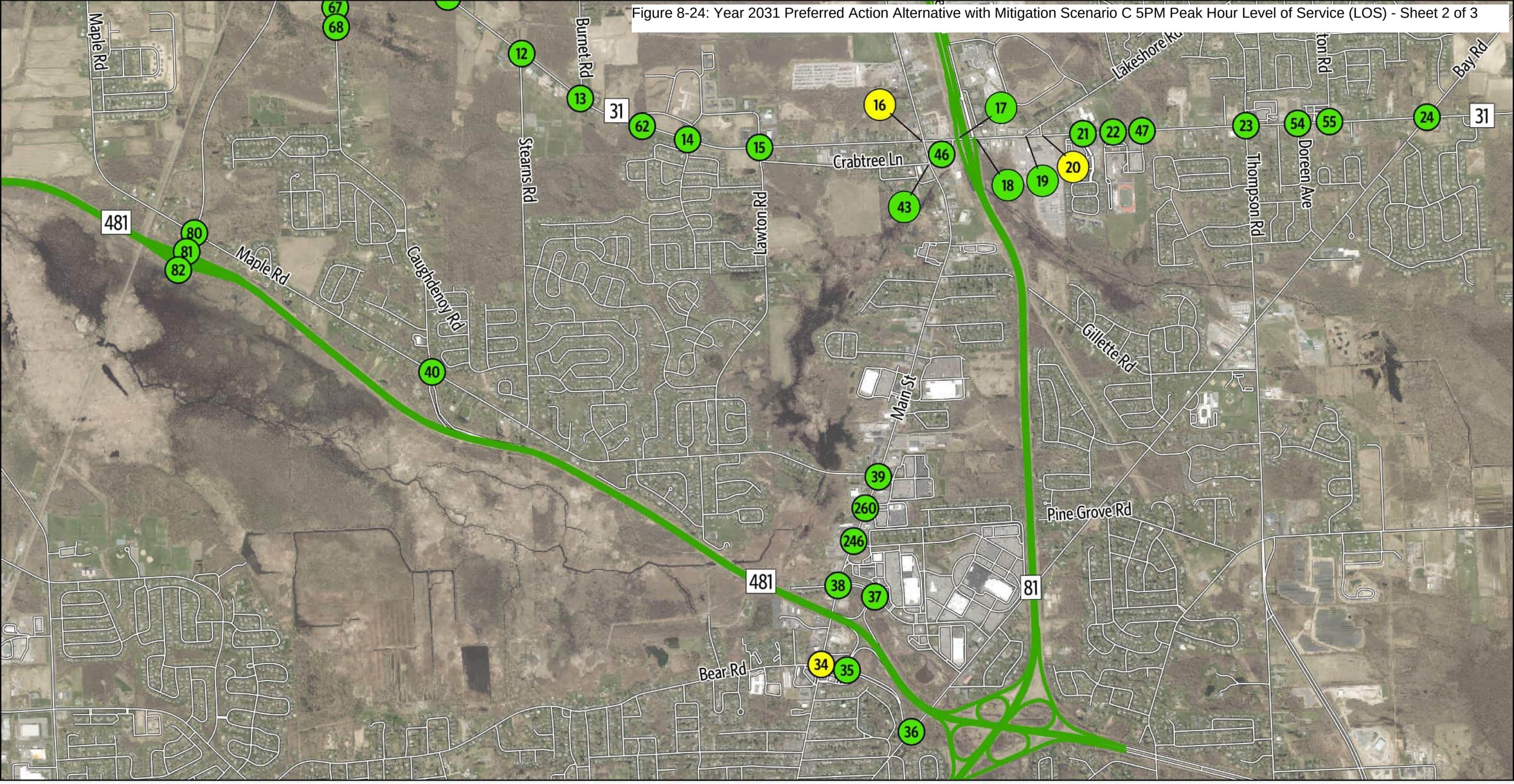
0 2,000 4,000 Feet

2031 Recommended Mitigation Scenario C

Sheet 1 of 3

5 PM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 8-24: Year 2031 Preferred Action Alternative with Mitigation Scenario C 5PM Peak Hour Level of Service (LOS) - Sheet 2 of 3



Intersection Level of Service

- A, B, C
- D

Roadway Level Of Service

- A, B, C
- Streets

N

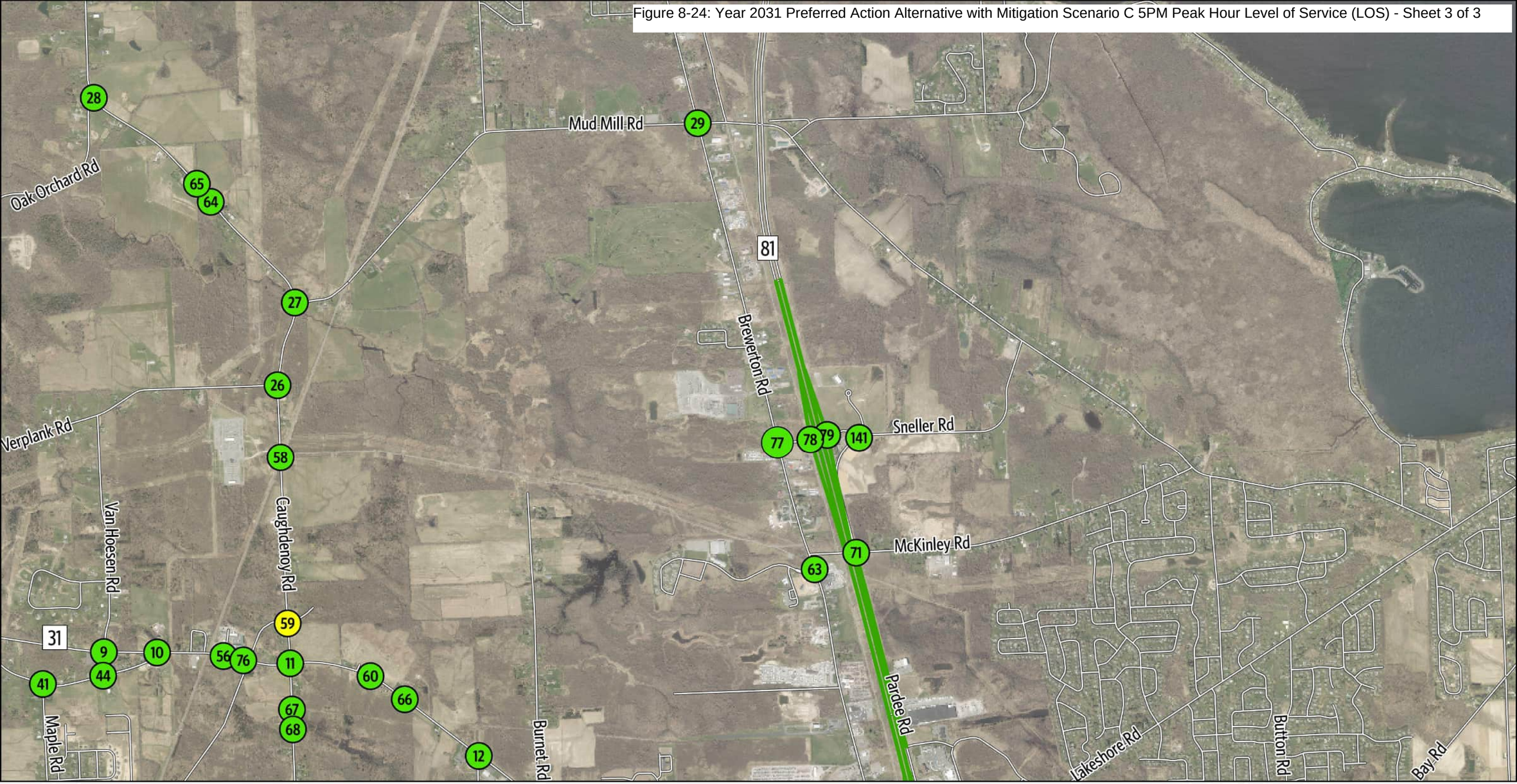
0 2,000 4,000 Feet

2031 Recommended Mitigation Scenario C

Sheet 2 of 3

5 PM Peak Hour - Operational Analysis Results - LOS
Micron Project

Figure 8-24: Year 2031 Preferred Action Alternative with Mitigation Scenario C 5PM Peak Hour Level of Service (LOS) - Sheet 3 of 3



Intersection Level of Service

- A, B, C
- D

Roadway Level Of Service

- A, B, C
- Streets

N

0 2,000 4,000 Feet

2031 Recommended Mitigation Scenario C

Sheet 3 of 3

5 PM Peak Hour - Operational Analysis Results - LOS
Micron Project

Table 8-7. Year 2031 Preferred Action Alternative with Mitigation Scenario C AM and PM Peak-Hour Intersection Operations – Delay and LOS

Intersection ID	Intersection Name	Intersection Control	6 AM			7 AM			4 PM			5 PM		
			Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c
1	NYS Route 481 SB and NYS Route 31	Signalized	8.0	A	0.62	11.8	B	0.77	77.2	E	1.19	46.9	D	1.07
2	NYS Route 481 NB and NYS Route 31	Signalized	11.2	B	0.45	18.1	B	0.77	52.3	D	1.06	32.0	C	0.99
3	Marketfair Plaza and NYS Route 31	Signalized	3.0	A	0.32	4.6	A	0.57	5.5	A	0.73	3.2	A	0.71
4	Parking Lot/GNM West and NYS Route 31	Signalized	12.9	B	0.43	24.1	C	0.62	58.5	E	1.08	51.2	D	1.04
5	Parking Lot/GNM East and NYS Route 31	Signalized	17.2	B	0.36	25.3	C	0.61	37.1	D	0.95	37.4	D	0.91
6	Morgan Road and NYS Route 31	Signalized	24.0	C	0.49	32.8	C	0.85	55.9	E	0.92	45.6	D	0.82
7	Henry Clay Boulevard and NYS Route 31	Signalized	18.9	B	0.31	30.3	C	0.83	33.4	C	0.66	25.9	C	0.71
8	Grange Road W and NYS Route 31	Signalized	2.4	A	0.19	1.9	A	0.53	10.8	B	0.54	9.0	A	0.62
9	Van Hoesen Road and NYS Route 31	Unsignalized	3.7	A	0.20	2.1	A	0.49	2.5	A	0.45	3.4	A	0.59
10	Grange Road E and NYS Route 31	Unsignalized	10.1	B	0.00	13.6	B	0.00	12.9	B	0.00	12.9	B	0.00
11	Caughdenoy Road and NYS Route 31	Signalized	4.2	A	0.22	6.0	A	0.56	17.7	B	0.57	8.2	A	0.59
12	Stearns Road and NYS Route 31	Signalized	5.1	A	0.30	9.2	A	0.50	10.4	B	0.49	5.6	A	0.50
13	NYS Route 31 and Burnet Road	Unsignalized	0.4	A	0.20	0.5	A	0.41	0.2	A	0.41	0.2	A	0.46
14	Barcaldine Drive/Legionnaire Drive and NYS Route 31	Unsignalized	10.0	A	0.00	13.7	B	0.00	12.4	B	0.00	13.0	B	0.00
15	Lawton Road/Legionnaire Drive and NYS Route 31	Signalized	18.5	B	0.34	12.9	B	0.59	19.1	B	0.75	34.5	C	0.53
16	U.S. Route11 and NYS Route 31	Signalized	19.3	B	0.30	23.5	C	0.54	27.5	C	0.72	48.4	D	0.83
17	I-81 SB On-Ramp/I-81 SB Off-Ramp and NYS Route 31	Signalized	13.8	B	0.46	20.0	B	0.76	25.4	C	0.76	18.4	B	0.89
18	I-81 NB Off-Ramp/Pardee Road and NYS Route31	Signalized	12.5	B	0.49	24.1	C	0.60	23.1	C	0.83	20.9	C	0.85
19	NYS Route 31 and Lakeshore Road	Signalized	3.0	A	0.32	12.9	B	0.51	3.2	A	0.48	5.6	A	0.51
20	Parking Lot/Lakeshore Road Spur and NYS Route 31	Signalized	17.6	B	0.42	22.1	C	0.72	50.6	D	0.98	43.3	D	0.92
21	New Country Drive/Cicero Elementary School Parking Lot and NYS Route 31	Signalized	6.8	A	0.36	9.9	A	0.61	18.0	B	0.70	17.0	B	0.67
22	Cicero North Syracuse High School West Driveway and NYS Route 31	Signalized	7.0	A	0.34	9.1	A	0.48	17.1	B	0.83	13.6	B	0.67
23	Thompson Road/Torchwood Lane and NYS Route 31	Roundabout	5.0	A	0.00	7.1	A	0.00	13.7	B	0.00	11.5	B	0.00
24	South Bay Road and NYS Route 31	Signalized	20.6	C	0.42	26.7	C	0.58	31.7	C	0.68	34.0	C	0.73
25	Henry Clay Boulevard and Verplank Road	Unsignalized	6.9	A	0.32	7.0	A	0.36	7.5	A	0.46	7.4	A	0.40
26	Caughdenoy Road and Verplank Road	Unsignalized	5.2	A	0.18	6.0	A	0.45	7.3	A	0.39	7.2	A	0.46
27	Caughdenoy Road and Mud Mill Road	Unsignalized	7.1	A	0.33	9.7	A	0.54	9.1	A	0.51	9.7	A	0.59
28	Caughdenoy Road and Oak Orchard Road	Unsignalized	9.3	A	0.00	10.8	B	0.00	13.4	B	0.00	13.6	B	0.00
29	U.S. Route 11 and Mud Mill Road	Signalized	7.0	A	0.19	8.6	A	0.41	11.0	B	0.61	11.3	B	0.60
31	Raymour and Flanigan/Wegmans East and NYS Route 31	Signalized	9.6	A	0.50	9.6	A	0.67	50.2	D	1.12	17.3	B	0.85

Intersection ID	Intersection Name	Intersection Control	6 AM			7 AM			4 PM			5 PM		
			Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c
32	Henry Clay Boulevard and Wetzel Road	Signalized	26.3	C	0.25	17.2	B	0.39	26.4	C	0.72	22.2	C	0.64
33	Allen Road and Bear Road	Signalized	6.5	A	0.33	8.1	A	0.52	16.6	B	0.78	12.7	B	0.71
34	U.S. Route 11 and Bear Road	Signalized	28.7	C	0.44	28.5	C	0.64	38.8	D	0.80	39.3	D	0.73
35	Bear Road and NYS Route 481 EB On/Off-Ramp	Signalized	14.6	B	0.33	14.9	B	0.36	12.2	B	0.35	13.0	B	0.35
36	South Bay Road and Bear Road	Signalized	9.1	A	0.23	10.6	B	0.37	14.8	B	0.69	14.2	B	0.64
37	NYS Route 481 WB On/Off-Ramp and Circle Drive E	Signalized	11.9	B	0.27	12.7	B	0.51	16.8	B	0.63	17.0	B	0.54
38	U.S. Route 11 and Circle Drive W/Circle Drive E	Signalized	8.0	A	0.26	7.6	A	0.43	23.1	C	0.88	20.1	C	0.75
39	U.S. Route 11 and Caughdenoy Road/Widewaters Commons	Signalized	15.9	B	0.21	18.6	B	0.38	23.6	C	0.67	24.5	C	0.76
40	NYS Route 481 NB Off-Ramp and Maple Road and Caughdenoy Road	Signalized	4.1	A	0.00	5.6	A	0.00	4.5	A	0.00	4.9	A	0.00
41	Maple Road and Grange Road	Unsignalized	8.9	A	0.00	9.0	A	0.00	9.6	A	0.00	9.4	A	0.00
43	U.S. Route 11 and Crabtree Lane	Unsignalized	4.6	A	0.18	5.4	A	0.30	8.2	A	0.58	15.2	B	0.57
44	Grange Road/Grange Road E and Van Hoesen Road	Unsignalized	8.6	A	0.00	8.6	A	0.00	8.7	A	0.00	8.7	A	0.00
47	Cicero North Syracuse High School East Driveway and NYS Route 31	Unsignalized	10.9	B	0.00	11.8	B	0.00	23.8	C	0.00	19.8	C	0.00
50	McNamara Drive/Driveway and NYS Route 31	Unsignalized	12.8	B	0.21	14.3	B	0.61	9.1	A	0.68	15.6	B	0.77
54	Doreen Avenue and NYS Route 31	Unsignalized	12.9	B	0.00	18.4	C	0.00	17.7	C	0.00	21.6	C	0.00
55	NYS Route31 and Button Road	Unsignalized	5.6	A	0.25	6.8	A	0.35	5.9	A	0.53	10.4	B	0.62
56	NYS Route 31 and Weller Canning Road	Unsignalized	10.3	B	0.00	13.0	B	0.00	12.8	B	0.00	14.2	B	0.00
58	Caughdenoy Road and Micron Driveway 1	Signalized	3.2	A	0.08	2.6	A	0.27	2.7	A	0.21	2.7	A	0.32
59	Caughdenoy Road and Micron Driveway 2	Signalized	9.7	A	0.13	22.4	C	0.65	22.7	C	0.32	37.6	D	0.54
60	NYS Route 31 and Micron Driveway 3	Signalized	2.7	A	0.22	11.8	B	0.49	3.6	A	0.37	12.2	B	0.48
62	NYS Route 31 and Driveway 5	Signalized	3.3	A	0.19	6.7	A	0.42	4.5	A	0.44	7.5	A	0.44
63	U.S. Route 11 and Micron Driveway 6	Signalized	4.1	A	0.07	8.1	A	0.52	3.1	A	0.25	7.3	A	0.37
64	Caughdenoy Road and Healthcare Center Driveway	Unsignalized	8.7	A	0.00	9.2	A	0.00	9.4	A	0.00	10.3	B	0.00
65	Caughdenoy Road and Childcare Center Driveway	Unsignalized	8.7	A	0.00	10.3	B	0.00	9.4	A	0.00	10.4	B	0.00
66	White Pines South Driveway and NYS Route 31	Unsignalized	13.0	B	0.00	13.2	B	0.00	16.1	C	0.00	14.5	B	0.00
67	Caughdenoy Road and White Pines South Driveway 1	Unsignalized	8.7	A	0.00	9.0	A	0.00	10.2	B	0.00	9.7	A	0.00
68	Caughdenoy Road and White Pines South Driveway 2	Unsignalized	8.6	A	0.00	8.7	A	0.00	9.2	A	0.00	9.6	A	0.00
69	Morgan Road and Verplank Road	Unsignalized	8.4	A	0.41	11.3	B	0.62	18.8	B	0.76	17.7	B	0.70
70	Morgan Road and GNM Driveway 1	Signalized	4.6	A	0.32	6.2	A	0.47	13.9	B	0.68	12.4	B	0.63
71	Pardee Road and McKinley Road	Unsignalized	8.9	A	0.00	9.3	A	0.00	9.9	A	0.00	9.8	A	0.00
72	Morgan Road and GNM Driveway 2	Unsignalized	8.7	A	0.41	10.7	B	0.60	15.3	B	0.61	14.7	B	0.72

Intersection ID	Intersection Name	Intersection Control	6 AM			7 AM			4 PM			5 PM		
			Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c
73	GNM Driveway 3 and Verplank Road	Unsignalized	9.3	A	0.00	9.9	A	0.00	10.8	B	0.00	10.4	B	0.00
74	GNM Driveway 4 and Verplank Road	Unsignalized	9.2	A	0.00	9.7	A	0.00	11.4	B	0.00	10.9	B	0.00
76	NYS Route 31 and Access Road	Signalized	13.6	B	0.20	39.6	D	0.78	22.2	C	0.55	32.7	C	0.75
77	Soule Road/NYS Route 481	Roundabout	5.8	A	0.00	7.9	A	0.00	53.8	D	0.00	32.8	C	0.00
78	Carling Road South/Carling Road North and NYS Route 31	Signalized	11.1	B	0.29	16.6	B	0.35	12.0	B	0.29	11.6	B	0.25
79	I-81 NB Off-Ramp/I-81 NB On-Ramp and Sneller Road	Signalized	9.9	A	0.35	14.4	B	0.40	14.2	B	0.38	17.3	B	0.35
80	Access Road and Maple Road	Roundabout	3.6	A	0.00	5.5	A	0.00	3.8	A	0.00	5.2	A	0.00
81	NYS Route 481 Interchange/Access Road and NYS Route 481 NB On-Ramp/ Off-Ramp	Signalized	4.4	A	0.14	9.3	A	0.34	8.5	A	0.24	8.7	A	0.34
82	NYS Route 481 SB Off-Ramp/NYS Route 481 SB On-Ramp and NYS Route 481 Interchange	Signalized	5.9	A	0.13	8.5	A	0.38	8.6	A	0.31	7.7	A	0.38
101	Caughdenoy Road and Driveway X	Unsignalized	8.9	A	0.00	10.1	B	0.00	10.2	B	0.00	11.4	B	0.00
132	Davidson and NYS Route 31	Signalized	4.7	A	0.40	8.5	A	0.56	22.2	C	0.81	10.1	B	0.75
141	Pardee Road and Sneller Road	Signalized	19.3	B	0.22	32.4	C	0.21	25.8	C	0.32	27.1	C	0.30
233	Oswego Road and Verplank Road	Unsignalized	11.7	B	0.00	16.9	C	0.00	18.1	C	0.00	16.3	C	0.00
246	U.S. Route 11 and Hogan Drive	Signalized	4.0	A	0.18	5.1	A	0.35	52.2	D	1.77	22.2	C	0.88
258	Texas Roadhouse/Delta Sonic and NYS Route 31	Signalized	15.4	B	0.42	16.4	B	0.60	20.6	C	0.82	19.2	B	0.75
260	U.S. Route 11 and Chick-fil-A	Signalized	6.8	A	0.20	5.8	A	0.36	21.6	C	0.98	15.5	B	0.86
262	Carling Road South/Carling Road North and NYS Route 31	Signalized	16.6	B	0.63	18.9	B	0.87	56.4	E	1.12	31.5	C	0.95
267	NYS Route 31 and Dell Center Drive	Signalized	9.7	A	0.43	12.1	B	0.61	25.4	C	0.92	25.4	C	0.85
275	Proposed Access #1 and Verplank Road	Unsignalized	9.5	A	0.00	10.2	B	0.00	10.5	B	0.00	10.2	B	0.00
276	Lowes/Home Depot and NYS Route 31	Signalized	15.0	B	0.46	11.2	B	0.65	49.0	D	1.01	26.8	C	0.88
280	Oswego Road and NYS Route 31	Signalized	20.5	C	0.62	38.8	D	0.90	53.8	D	1.07	34.8	C	0.91
284	NYS Route 31 and Proposed Access	Unsignalized	9.5	A	0.00	8.8	A	0.00	10.9	B	0.00	10.8	B	0.00
287	Proposed Access #2 and Verplank Road	Unsignalized	9.2	A	0.00	9.9	A	0.00	10.6	B	0.00	10.2	B	0.00
288	Sneller Road and U.S. Route 11	Signalized	13.4	B	0.11	13.9	B	0.37	10.7	B	0.44	10.7	B	0.45

8.3.2.1 AM Peak Hour

All intersections operate acceptably at LOS D or higher operating conditions in the 6:00 a.m. peak hour. The higher-volume demand in the 7:00 a.m. peak period is managed with the Mitigation Scenario C operational improvements and remains at LOS D or better for all intersections. These results are consistent for both the signalized and unsignalized intersections and indicate that conditions for the morning peak period are improved with capacity improvements and travel pattern shifts resulting from the proposed Mitigation Scenario C.

8.3.2.2 PM Peak Hour

With the proposed Mitigation Scenario C, intersections remain at LOS D or better for the 4:00 p.m. peak hour except for the four signalized intersections listed below showing LOS E:

- #1: NYS Route 31 and NYS Route 481 SB
- #4: NYS Route 31 and GNM West
- #6: Morgan Road and NYS Route 31
- #262: Carling Rd south/Carling Rd north and NYS Route 31

Compared to 2031 No Action Alternative, three of them are improved from LOS F; whereas intersection #262: Carling Rd South/Carling Rd North and NYS Route 31 remains the same LOS E and the intersection delay is improved from 69.2 to 56.

During the 5:00 p.m. peak hour, no LOS E or LOS F are anticipated at any of the intersections.

8.3.3 Freeway Operations

Tables 8-8 and 8-9 summarize the freeway densities and corresponding LOS. Generally, the I-81 and NYS Route 481 freeways operate in relatively uncongested conditions during both peak periods (LOS C or better). The demand generally increases in the second hour of each peak period; however, the corresponding increases in freeway density do not cause any freeway segment LOS to drop to an unacceptable operating condition. Hence, the proposed intersection and interchange capacity improvements to be implemented by the Proposed Project will mitigate the effects of project-generated trips and provide acceptable peak-period operating conditions.

Table 8-8. Year 2031 Preferred Action Alternative with Mitigation Scenario C AM and PM Peak-Hour Freeway I-81 Operations – Delay and LOS

Segment Direction	Segment Description	Segment Type	6 AM					7 AM					4 PM					5 PM				
			Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS
I-81 NB	I-81 NB Between E Taft Road and NYS Route 481	Basic	1,279	1,271	66	6.4	A	2,301	2,297	66	11.7	B	3,908	3,905	65	20.1	C	3,536	3,540	65	18.1	C
	I-81 NB Off-Ramp to NYS Route 481	Diverge	1,279	1,264	64	4.9	A	2,301	2,284	64	8.9	A	3,908	3,891	62	15.6	B	3,536	3,535	63	14.1	B
	I-81 NB Between Off/On-Ramps to/from NYS Route 481	Basic	1,104	1,091	66	5.5	A	2,112	2,103	65	10.7	A	3,625	3,623	64	18.8	C	3,280	3,300	65	17.1	B
	I-81 NB Between Off/On-Ramps to/from NYS Route 481	Weave	1,204	1,179	61	4.8	A	2,212	2,204	61	9.1	A	3,732	3,726	58	16.0	B	3,385	3,414	59	14.5	B
	I-81 NB after Off-Ramp to NYS Route 481	Basic	809	785	61	6.4	A	1,433	1,429	60	11.8	B	2,334	2,318	60	19.4	C	2,090	2,125	60	17.7	B
	I-81 NB On-Ramp from NYS Route 481	Merge	1,064	1,030	67	3.9	A	1,958	1,939	66	7.3	A	3,311	3,303	66	12.5	B	2,970	3,015	66	11.4	B
	I-81 NB Between NYS Route 481 and NYS Route 31	Basic	1,064	1,027	67	5.1	A	1,958	1,930	66	9.7	A	3,311	3,300	65	16.9	B	2,970	3,020	65	15.4	B
	I-81 NB Off-Ramp to NYS Route 31	Diverge	1,064	1,022	67	3.1	A	1,958	1,921	66	5.8	A	3,311	3,293	66	10.0	A	2,970	3,024	66	9.2	A
	I-81 NB Between Off/On-Ramps to/from NYS Route 31	Basic	623	591	67	2.9	A	934	923	67	4.6	A	2,244	2,233	66	11.2	B	2,034	2,083	66	10.5	A
	I-81 NB On-Ramp from NYS Route31	Merge	813	780	65	3.0	A	1,234	1,227	64	4.8	A	3,096	3,063	62	12.4	B	2,916	2,969	62	12.0	B
	I-81 NB Between NYS Route 31 and Sneller Road	Basic	813	778	67	3.9	A	1,234	1,226	67	6.1	A	3,096	3,066	65	15.6	B	2,916	2,969	66	15.1	B
	I-81 NB Off-Ramp to Sneller Road	Diverge	813	762	67	2.8	A	1,234	1,196	66	4.5	A	3,096	3,033	64	11.9	B	2,916	2,946	65	11.4	B
	I-81 NB Between Off/On-Ramps to/from Sneller Road	Basic	663	620	67	3.1	A	1,049	1,032	67	5.1	A	2,721	2,684	66	13.6	B	2,569	2,619	66	13.3	B
	I-81 NB On-Ramp from Sneller Road	Merge	686	639	67	2.4	A	1,084	1,067	67	4.0	A	2,924	2,886	65	11.1	B	2,761	2,811	65	10.8	B
	I-81 NB Between Sneller Road and Bartell Road	Basic	686	633	67	3.1	A	1,084	1,067	67	5.3	A	2,924	2,880	65	14.7	B	2,761	2,825	66	14.4	B
	I-81 NB Off-Ramp to Bartell Road	Diverge	686	627	66	2.4	A	1,084	1,062	65	4.1	A	2,924	2,883	61	11.9	B	2,761	2,827	61	11.6	B
	I-81 NB Off/On-Ramps to/from Bartell Road	Basic	626	575	67	2.9	A	935	918	67	4.6	A	2,399	2,369	65	12.2	B	2,278	2,332	65	12.0	B
	I-81 On-Ramp from Bartell Road	Merge	672	617	66	2.3	A	1,011	991	65	3.8	A	2,553	2,517	65	9.7	A	2,431	2,478	65	9.6	A
	I-81 NB Between Bartell Rd and East Avenue	Basic	672	616	67	3.1	A	1,011	993	67	4.9	A	2,553	2,523	66	12.7	B	2,431	2,487	66	12.6	B
I-81 SB	I-81 SB Between East Ave and Bartell Road	Basic	1,405	1,402	67	6.9	A	2,336	2,330	67	11.6	B	1,344	1,342	68	6.6	A	1,199	1,197	68	5.9	A
	I-81 SB Off-Ramp to Bartell Road	Diverge	1,405	1,390	66	5.2	A	2,336	2,310	65	8.9	A	1,344	1,333	65	5.1	A	1,199	1,188	65	4.5	A
	I-81 SB Between Off-Ramp and On-Ramp to Bartell Road	Basic	1,330	1,328	67	6.6	A	2,219	2,206	66	11.1	B	1,166	1,171	67	5.8	A	1,045	1,041	68	5.1	A
	I-81 SB On-Ramp from Bartell Road	Merge	1,687	1,677	65	6.5	A	2,734	2,711	64	10.6	B	1,674	1,673	64	6.5	A	1,503	1,493	65	5.8	A
	I-81 SB Between Bartell Rd and Sneller Road	Basic	1,687	1,673	67	8.4	A	2,734	2,707	65	13.8	B	1,674	1,678	67	8.4	A	1,503	1,501	67	7.4	A
	I-81 SB Off-Ramp to Sneller Road	Diverge	1,687	1,666	66	6.4	A	2,734	2,699	63	10.7	B	1,674	1,675	64	6.5	A	1,503	1,507	64	5.8	A

Segment Direction	Segment Description	Segment Type	6 AM					7 AM					4 PM					5 PM				
			Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS
I-81 SB (continued)	I-81 SB Between Off-Ramp and On-Ramp to Sneller Road	Basic	1,661	1,640	66	8.2	A	2,683	2,641	65	13.5	B	1,596	1,598	67	8.0	A	1,433	1,441	67	7.2	A
	I-81 SB On-Ramp from Sneller Road	Merge	1,976	1,925	66	7.3	A	3,163	3,047	65	11.7	B	1,942	1,930	66	7.3	A	1,740	1,739	66	6.6	A
	I-81 SB Between Sneller Road and NYS Route 31	Basic	1,976	1,934	66	9.7	A	3,163	3,074	65	15.9	B	1,942	1,941	67	9.7	A	1,740	1,752	67	8.7	A
	I-81 SB Off-Ramp to NYS Route 31	Diverge	1,976	1,923	64	7.5	A	3,163	3,070	58	13.1	B	1,942	1,935	65	7.5	A	1,740	1,752	65	6.7	A
	I-81 SB Between Off-Ramp and On-Ramp from NYS Route 31	Basic	1,533	1,484	67	7.4	A	2,434	2,354	65	12.1	B	1,464	1,457	67	7.2	A	1,309	1,316	67	6.5	A
	I-81 SB On-Ramp from NYS Route 31	Merge	2,147	2,069	64	6.4	A	3,387	3,283	63	10.4	B	2,168	2,119	64	6.6	A	2,282	2,248	63	7.2	A
	I-81 SB Between NYS Route 31 and I-81	Basic	2,147	2,058	66	10.4	A	3,387	3,291	64	17.3	B	2,168	2,125	66	10.7	A	2,282	2,267	66	11.5	B
	I-81 SB Off-Ramp to NYS Route 481 EB	Diverge	2,147	2,058	66	10.4	B	3,387	3,291	64	17.3	B	2,168	2,125	66	10.7	B	2,282	2,267	66	11.5	B
	I-81 SB Off-Ramp to I-81 EB and WB	Basic	1,480	1,408	65	10.8	A	2,251	2,182	63	17.4	B	1,541	1,508	66	11.5	B	1,542	1,534	65	11.7	B
	I-81 SB Off-Ramp to I-81 WB	Diverge	1,480	1,404	65	7.2	A	2,251	2,181	64	11.4	B	1,541	1,505	65	7.7	A	1,542	1,533	65	7.8	A
	I-81 SB Between Off-Ramp and On-Ramp from NYS Route 481	Basic	1,463	1,384	65	10.6	A	2,234	2,161	64	16.9	B	1,445	1,405	66	10.7	A	1,459	1,451	66	11.0	B
	I-81 SB On-Ramp from NYS Route 481 WB	Merge	1,658	1,568	65	8.0	A	2,463	2,392	65	12.3	B	1,625	1,584	66	8.0	A	1,624	1,617	66	8.2	A
	I-81 SB On-Ramp from NYS Route 481 EB	Merge	2,870	2,639	63	10.5	B	3,983	3,892	62	15.7	B	2,986	2,910	63	11.6	B	3,129	3,077	63	12.3	B
	I-81 NB Between NYS Route 481 and E Taft Road	Basic	2,870	2,648	65	13.6	B	3,983	3,911	64	20.5	C	2,986	2,929	66	14.9	B	3,129	3,098	65	15.8	B

Table 8-9. Year 2031 Preferred Action Alternative with Mitigation Scenario C AM and PM Peak-Hour Freeway NYS Route 481 Operations – Delay and LOS

Segment Direction	Segment Description	Segment Type	6 AM					7 AM					4 PM					5 PM				
			Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS
NYS Route 481 EB	NYS Route 481 EB Between Verplank Road and NYS Route 31	Basic	1,112	1,096	64	8.6	A	1,766	1,756	62	14.2	B	1,418	1,401	62	11.3	B	1,281	1,281	62	10.3	A
	NYS Route 481 EB Off-Ramp to NYS Route 31	Diverge	1,112	1,094	53	6.8	A	1,766	1,755	49	11.8	B	1,418	1,402	47	9.8	A	1,281	1,282	48	8.9	A
	NYS Route 481 Between Off-Ramp and On-Ramp from NYS Route 31	Basic	725	710	66	5.4	A	1,053	1,045	65	8.0	A	760	759	67	5.7	A	690	684	67	5.1	A
	NYS Route 481 EB On-Ramp from NYS Route 31	Merge	1,817	1,725	59	7.3	A	2,616	2,588	57	11.3	B	2,384	2,317	57	10.2	B	2,150	2,040	58	8.9	A
	NYS Route 481 EB Between NYS Route 31 and New Access Road	Basic	1,817	1,719	64	8.9	A	2,616	2,585	63	13.8	B	2,384	2,319	64	12.1	B	2,150	2,041	65	10.5	A
	NYS Route 481 EB Off-Ramp to New Access Road	Diverge	1,817	1,692	64	8.8	A	2,616	2,589	63	13.7	B	2,384	2,329	63	12.3	B	2,150	2,073	63	10.9	B

Segment Direction	Segment Description	Segment Type	6 AM					7 AM					4 PM					5 PM				
			Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS
NYS Route 481 EB (continued)	NYS Route 481 Between Off-Ramp and On-Ramp from New Access Road	Basic	1,764	1,643	64	12.8	B	2,347	2,334	63	18.4	C	2,142	2,100	64	16.5	B	1,930	1,875	64	14.6	B
	NYS Route 481 On-Ramp from New Access Road	Merge	1,927	1,795	65	6.9	A	2,608	2,593	64	10.1	B	2,306	2,262	65	8.7	A	2,551	2,480	64	9.6	A
	NYS Route 481 EB Between New Access Road and Caughdenoy Road	Basic	1,927	1,774	64	13.9	B	2,608	2,599	63	20.8	C	2,306	2,253	63	17.8	B	2,551	2,485	63	19.7	C
	NYS Route 481 On-Ramp from Caughdenoy Road	Merge	2,203	2,034	65	10.4	B	3,059	3,028	64	15.7	B	2,481	2,425	62	13.0	B	2,766	2,693	62	14.5	B
	NYS Route 481 Between Caughdenoy Rd and U.S. Route 11	Basic	2,203	2,020	63	16.0	B	3,059	3,030	61	24.7	C	2,481	2,435	63	19.5	C	2,766	2,696	62	21.7	C
	NYS Route 481 EB Off-Ramp to Bear Road	Diverge	2,203	1,985	58	11.5	B	3,059	3,004	55	18.1	B	2,481	2,406	52	15.4	B	2,766	2,677	51	17.6	B
	NYS Route 481 EB Between Off-Ramp and On-Ramp from Bear Road	Basic	2,039	1,854	62	14.9	B	2,852	2,828	60	23.5	C	2,008	1,970	63	15.6	B	2,241	2,200	63	17.5	B
	NYS Route 481 Between U.S. Route 11 and I-81	Weave	2,605	2,384	61	13.0	B	3,627	3,606	58	20.6	C	2,731	2,679	58	15.3	B	2,876	2,834	58	16.4	B
	NYS Route 481 EB Off-Ramp to I-81 NB	Diverge	1,392	1,279	66	6.5	A	2,107	2,079	64	10.8	B	1,370	1,340	66	6.8	A	1,371	1,356	66	6.9	A
	NYS Route 481 EB Between Off-Ramp and On-Ramp from I-81	Basic	1,292	1,190	66	9.0	A	2,007	1,977	65	15.3	B	1,263	1,240	66	9.3	A	1,266	1,246	66	9.4	A
	NYS Route 481 EB On-Ramp from I-81 NB	Merge	1,467	1,364	64	7.1	A	2,196	2,163	63	11.5	B	1,547	1,523	64	7.9	A	1,521	1,496	64	7.8	A
	NYS Route 481 EB On-Ramp from I-81 SB	Merge	2,135	1,994	66	7.5	A	3,332	3,260	65	12.6	B	2,173	2,140	67	8.0	A	2,261	2,228	67	8.4	A
	NYS Route 481 EB Between I-81 and Northern Blvd	Basic	2,135	1,988	67	10.0	A	3,332	3,256	65	16.7	B	2,173	2,139	67	10.7	A	2,261	2,229	67	11.1	B
NYS Route 481 WB	NYS Route 481 WB Between Northern Blvd and I-81	Basic	939	934	67	6.9	A	1,900	1,894	67	14.2	B	2,766	2,759	66	21.0	C	2,509	2,503	66	19.0	C
	NYS Route 481 WB Off-Ramp to I-81	Diverge	939	932	67	4.6	A	1,900	1,896	66	9.6	A	2,766	2,767	65	14.3	B	2,509	2,510	65	12.8	B
	NYS Route 481 WB Between Off-Ramp and On-Ramp from I-81 NB	Basic	685	680	51	6.7	A	1,376	1,375	50	13.7	B	1,788	1,784	50	17.9	B	1,629	1,627	50	16.3	B
	NYS Route 481 WB Between On-Ramp and Off-Ramp to I-81	Weave	1,079	1,062	60	5.9	A	2,154	2,137	59	12.1	B	3,186	3,187	58	18.4	B	2,925	2,927	58	16.7	B
	NYS Route 481 WB Between Off-Ramp and On-Ramp from I-81 SB	Basic	884	870	65	6.7	A	1,925	1,914	63	15.1	B	3,006	3,020	62	24.3	C	2,759	2,773	63	22.2	C

Segment Direction	Segment Description	Segment Type	6 AM					7 AM					4 PM					5 PM				
			Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS	Demand (vph)	Throughput (vph)	Speed (mph)	Density (veh/mi/ln)	LOS
NYS Route 481 WB (continued)	NYS Route 481 WB Between I-81 and U.S. Route 11	Weave	901	880	65	4.5	A	1,943	1,931	64	10.0	A	3,102	3,117	64	16.2	B	2,843	2,860	64	14.8	B
	NYS Route 481 WB Off-Ramp and On-Ramp from Cir Drive	Basic	557	546	64	4.3	A	1,416	1,408	63	11.1	B	2,006	2,013	64	15.8	B	1,798	1,813	64	14.2	B
	NYS Route 481 WB On-Ramp from Cir Drive	Merge	711	697	63	3.7	A	1,748	1,733	61	9.5	A	2,413	2,421	58	13.8	B	2,155	2,177	60	12.1	B
	NYS Route 481 WB Between U.S Route 11 and Caughdenoy Road	Basic	711	691	66	5.2	A	1,748	1,723	64	13.4	B	2,413	2,422	64	19.0	C	2,155	2,184	64	17.0	B
	NYS Route 481 WB Off-Ramp to Caughdenoy Road	Diverge	711	673	64	3.5	A	1,748	1,681	62	9.1	A	2,413	2,379	59	13.5	B	2,155	2,152	59	12.2	B
	NYS Route 481 WB Between Caughdenoy Rd and New Access Road	Basic	666	637	66	4.8	A	1,652	1,613	64	12.6	B	2,141	2,146	64	16.8	B	1,912	1,942	64	15.1	B
	NYS Route 481 WB Off-Ramp to New Access Road	Diverge	666	633	66	2.4	A	1,652	1,602	65	6.2	A	2,141	2,143	64	8.4	A	1,912	1,948	64	7.6	A
	NYS Route 481 WB Off-Ramp and On-Ramp from New Access Road	Basic	641	606	67	4.6	A	1,028	1,020	65	7.8	A	2,071	2,068	64	16.2	B	1,854	1,892	64	14.8	B
	NYS Route 481 WB On-Ramp from New Access Road	Merge	796	751	66	3.8	A	1,289	1,275	65	6.6	A	2,270	2,264	63	11.9	B	2,276	2,307	63	12.1	B
	NYS Route 481 WB Between New Access Road and NYS Route 31	Basic	796	743	66	5.6	A	1,289	1,271	65	9.8	A	2,270	2,265	63	17.9	B	2,276	2,308	61	19.5	C
	NYS Route 481 WB Off-Ramp to NYS Route 31	Diverge	796	727	65	2.8	A	1,289	1,255	64	4.9	A	2,270	2,249	61	9.3	A	2,276	2,244	55	19.8	B
	NYS Route 481 WB Between Off-Ramp and On-Ramp from NYS Route 31	Basic	317	289	67	2.2	A	499	491	67	3.7	A	585	587	67	4.4	A	628	623	67	4.7	A
	NYS Route 481 WB On-Ramp from NYS Route 31	Merge	514	483	62	2.6	A	822	809	62	4.4	A	1,317	1,310	57	7.7	A	1,259	1,233	57	7.2	A
	NYS Route 481 WB Between NYS Route 31 and Verplank Road	Basic	514	482	64	3.8	A	822	806	63	6.4	A	1,317	1,308	62	10.6	A	1,259	1,233	62	10.0	A

8.4 Year 2031 Summary

Year 2031 marks a transitional period during which operational and construction activities will occur on the site; Fab 1 is operational, while Fab 2 is under construction. The operational trips will add to the construction trips generated by the ongoing activities associated with the Proposed Project. The Preferred Action Alternative incorporates projected trips generated by the Proposed Project's construction and operations employees to the background volume. It includes programmed improvements expected to be completed by NYSDOT by 2031. The additional trips generated by the Proposed Project result in higher freeway segment density, leading to congested and unacceptable operating conditions for several freeway segments within the Transportation Evaluation Area.

In 2031, most intersections operate acceptably at an LOS D or better in peak periods; several have higher delays and LOS E or F operations, particularly in the p.m. peak period. All intersections with a worse LOS in the 2031 No Action Alternative will experience the same or worse LOS from the increased demand from projected trips. Increased traffic volume results in longer wait times at intersections for turning movements from side streets onto higher-volume primary roadways.

The 2031 Preferred Action Alternative analysis indicates that the long-term impact traffic volumes will be highest at that time because of the overlap of construction workers and Micron's operational workers. While it is recognized that overall traffic volume, freeway densities, and intersection delay will increase, operations are expected to remain within the acceptable range with the recommended mitigation measures in place. Those measures require structural roadway configuration changes, including interchanges, ramps, roadways, and operational equipment upgrades to achieve the proposed operational conditions. With these changes in place, the Proposed Project will not result in any significant adverse traffic impacts.

8.4.1 2031 No Action Alternative vs. 2031 Preferred Action Alternative vs. 2031 Preferred Action with Recommended Mitigation Scenario C

8.4.1.1 Intersection Operations

Table 8-10 and Table 8-11 show the summary of intersection operations for year 2031 all analysis scenarios during AM and PM peak hours. Table 8-14 shows the intersections significantly impacted by the 2031 Preferred Action Alternative with the recommended mitigation measures in place. The recommended mitigation measures improve traffic operations with all intersections operating at LOS E or better. All intersections with LOS E are improved from LOS F or have delay improved compared with 2031 No Action Alternative.

In conclusion, there are no unmitigated significant adverse impacts in the Mitigation Scenario C in 2031.

8.4.1.2 Freeway Operations

Table 8-12 and Table 8-13 show the summary of freeway operations for year 2031 all analysis scenarios during AM and PM peak hours. Table 8-15 shows the four freeway segments along I-81 and NYS Route 481 significantly impacted in the 2031 Preferred Action Alternative with the recommended mitigation measures in place. The mitigation measures improve traffic operations, with all segments operating at LOS C or better.

Table 8-10. Year 2031 No Action Alternative Vs. Preferred Action Alternative Vs. Preferred Action Alternative with Recommended Mitigation C AM Peak-Hour Intersections Operations – Delay and LOS

Intersection ID	Intersection Name	Intersection Control	2031 No Action Alternative			2031 Preferred Action Alternative			2031 Preferred Action Alternative w/Recommended Mitigation C			2031 No Action Alternative			2031 Preferred Action Alternative			2031 Preferred Action Alternative w/Recommended Mitigation C		
			Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c
			6 AM			6 AM			6 AM			7 AM			7 AM			7 AM		
1	NYS Route 481 SB and NYS Route 31	Signalized	33	C	0.67	34	C	0.69	8	A	0.62	44	D	0.97	127	F	1.22	12	B	0.77
2	NYS Route 481 NB and NYS Route 31	Signalized	14	B	0.52	15	B	0.55	11	B	0.45	25	C	0.80	21	C	0.89	18	B	0.77
3	Marketfair Plaza and NYS Route 31	Signalized	5	A	0.43	2	A	0.43	3	A	0.32	6	A	0.65	6	A	0.78	5	A	0.57
4	Parking Lot/GNM West and NYS Route 31	Signalized	40	D	0.56	54	D	0.53	13	B	0.43	27	C	0.77	120	F	0.84	24	C	0.62
5	Parking Lot/GNM East and NYS Route 31	Signalized	13	B	0.46	22	C	0.65	17	B	0.36	34	C	1.07	64	E	1.48	25	C	0.61
6	Morgan Road and NYS Route 31	Signalized	61	E	1.05	56	E	1.07	24	C	0.49	148	F	1.71	209	F	1.84	33	C	0.85
7	Henry Clay Boulevard and NYS Route 31	Signalized	12	B	0.51	14	B	0.59	19	B	0.31	20	C	0.80	88	F	1.13	30	C	0.83
8	Grange Road W and NYS Route 31	Signalized	9	A	0.44	10	A	0.47	2	A	0.19	10	A	0.62	150	F	1.15	2	A	0.53
9	Van Hoesen Road and NYS Route 31	Unsignalized	16	C	0.00	16	C	0.00	4	A	0.20	31	D	0.00	287	F	0.00	2	A	0.49
10	Grange Road E and NYS Route 31	Unsignalized	11	B	0.00	12	B	0.00	10	B	0.00	14	B	0.00	36	E	0.00	14	B	0.00
11	Caughdenoy Road and NYS Route 31	Signalized	11	B	0.44	23	C	0.48	4	A	0.22	16	B	0.66	84	F	1.20	6	A	0.56
12	Stearns Road and NYS Route 31	Signalized	8	A	0.40	9	A	0.46	5	A	0.30	11	B	0.58	16	B	0.72	9	A	0.50
13	NYS Route 31 and Burnet Road	Unsignalized	0	A	0.00	0	A	0.00	0	A	0.20	0	A	0.00	0	A	0.00	1	A	0.41
14	Barcaldine Drive/Legionnaire Drive and NYS Route 31	Unsignalized	12	B	0.00	11	B	0.00	10	A	0.00	16	C	0.00	17	C	0.00	14	B	0.00
15	Lawton Road/Legionnaire Drive and NYS Route 31	Signalized	8	A	0.39	8	A	0.40	19	B	0.34	11	B	0.61	16	B	0.70	13	B	0.59
16	U.S. Route 11 and NYS Route 31	Signalized	18	B	0.45	15	B	0.49	19	B	0.30	24	C	0.75	22	C	0.82	24	C	0.54
17	I-81 SB On-Ramp/I-81 SB Off-Ramp and NYS Route 31	Signalized	13	B	0.75	12	B	0.81	14	B	0.46	25	C	1.05	21	C	1.00	20	B	0.76
18	I-81 NB Off-Ramp/Pardee Road and NYS Route 31	Signalized	14	B	0.53	14	B	0.65	13	B	0.49	25	C	0.77	41	D	0.98	24	C	0.60
19	NYS Route 31 and Lakeshore Road	Signalized	N/A	N/A	N/A	N/A	N/A	N/A	3	A	0.32	N/A	N/A	N/A	N/A	N/A	N/A	13	B	0.51
20	Parking Lot/Lakeshore Rd Spur and NYS Route 31	Signalized	9	A	0.48	9	A	0.52	18	B	0.42	15	B	0.65	16	B	0.71	22	C	0.72
21	New Country Drive/Cicero Elementary School Parking Lot and NYS Route 31	Signalized	5	A	0.28	6	A	0.29	7	A	0.36	4	A	0.41	8	A	0.56	10	A	0.61
22	Cicero North Syracuse High School West Driveway and NYS Route 31	Signalized	13	B	0.32	14	B	0.34	7	A	0.34	9	A	0.47	9	A	0.60	9	A	0.48
23	Thompson Road/Torchwood Lane and NYS Route 31	Roundabout	6	A	0.00	6	A	0.00	5	A	0.00	10	A	0.00	10	B	0.00	7	A	0.00
24	South Bay Road and NYS Route 31	Signalized	12	B	0.51	13	B	0.54	21	C	0.42	23	C	0.84	24	C	0.87	27	C	0.58
25	Henry Clay Boulevard and Verplank Road	Unsignalized	8	A	0.00	8	A	0.00	7	A	0.32	9	A	0.00	9	A	0.00	7	A	0.36
26	Caughdenoy Road and Verplank Road	Unsignalized	10	A	0.00	10	A	0.00	5	A	0.18	11	B	0.00	13	B	0.00	6	A	0.45
27	Caughdenoy Road and Mud Mill Road	Unsignalized	10	A	0.00	10	A	0.00	7	A	0.33	12	B	0.00	14	B	0.00	10	A	0.54
28	Caughdenoy Road and Oak Orchard Road	Unsignalized	9	A	0.00	9	A	0.00	9	A	0.00	10	A	0.00	11	B	0.00	11	B	0.00
29	U.S. Route 11 and Mud Mill Road	Signalized	9	A	0.10	9	A	0.11	7	A	0.19	9	A	0.17	9	A	0.19	9	A	0.41
30	Lakeshore Rd Spur and Lakeshore Road	Unsignalized	9	A	0.00	9	A	0.00				10	A	0.00	9	A	0.00			
31	Raymour and Flanigan/Wegmans East and NYS Route 31	Signalized	8	A	0.44	8	A	0.44	10	A	0.50	16	B	0.59	17	B	0.68	10	A	0.67
32	Henry Clay Boulevard and Wetzel Road	Signalized	19	B	0.27	19	B	0.28	26	C	0.25	21	C	0.44	19	B	0.45	17	B	0.39
33	Allen Road and Bear Road	Signalized	7	A	0.29	7	A	0.30	7	A	0.33	9	A	0.49	9	A	0.50	8	A	0.52

Intersection ID	Intersection Name	Intersection Control	2031 No Action Alternative			2031 Preferred Action Alternative			2031 Preferred Action Alternative w/Recommended Mitigation C			2031 No Action Alternative			2031 Preferred Action Alternative			2031 Preferred Action Alternative w/Recommended Mitigation C		
			Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c
			6 AM			6 AM			6 AM			7 AM			7 AM			7 AM		
34	U.S. Route 11 and Bear Road	Signalized	26	C	0.53	27	C	0.53	29	C	0.44	34	C	0.72	43	D	0.78	29	C	0.64
35	Bear Road and I-481 EB On/Off-Ramp	Signalized	15	B	0.39	15	B	0.39	15	B	0.33	17	B	0.54	19	B	0.58	15	B	0.36
36	South Bay Road and Bear Road	Signalized	8	A	0.27	8	A	0.28	9	A	0.23	9	A	0.46	9	A	0.48	11	B	0.37
37	I-481 WB On/Off-Ramp and Circle Drive E	Signalized	18	B	0.21	15	B	0.24	12	B	0.27	16	B	0.34	16	B	0.50	13	B	0.51
38	U.S. Route 11 and Circle Drive W/Circle Drive E	Signalized	14	B	0.33	13	B	0.39	8	A	0.26	12	B	0.54	12	B	0.66	8	A	0.43
39	U.S. Route 11 and Caughdenoy Road/Widewaters Commons	Signalized	22	C	0.20	23	C	0.20	16	B	0.21	23	C	0.53	25	C	0.61	19	B	0.38
40	NYS Route 481 NB Off-Ramp and Maple Road and Caughdenoy Road	Signalized	8	A	0.15	8	A	0.16	4	A	0.00	8	A	0.22	9	A	0.59	6	A	0.00
41	Maple Road and Grange Road W/Grange Road	Unsignalized	9	A	0.00	9	A	0.00	9	A	0.00	9	A	0.00	9	A	0.00	9	A	0.00
43	U.S. Route 11 and Crabtree Lane	Unsignalized	12	B	0.00	12	B	0.00	5	A	0.18	35	D	0.00	30	D	0.00	5	A	0.30
44	Grange Road/Grange Road E and Van Hoesen Road	Unsignalized	9	A	0.00	9	A	0.00	9	A	0.00	9	A	0.00	9	A	0.00	9	A	0.00
47	Cicero North Syracuse High School East Driveway and NYS Route 31	Unsignalized	10	B	0.00	11	B	0.00	11	B	0.00	11	B	0.00	12	B	0.00	12	B	0.00
50	McNamara Drive/Driveway and NYS Route 31	Unsignalized	22	C	0.00	22	C	0.00	13	B	0.21	151	F	0.00	>300	F	0.00	14	B	0.61
54	Doreen Avenue and NYS Route 31	Unsignalized	12	B	0.00	12	B	0.00	13	B	0.00	15	C	0.00	17	C	0.00	18	C	0.00
55	NYS Route 31 and Button Road	Unsignalized	10	A	0.00	10	A	0.00	6	A	0.25	12	B	0.00	13	B	0.00	7	A	0.35
56	NYS Route 31 and Weller Canning Road	Unsignalized	13	B	0.00	13	B	0.00	10	B	0.00	18	C	0.00	46	E	0.00	13	B	0.00
58	Caughdenoy Road and Micron Driveway 1	Signalized				9	A	0.06	3	A	0.08				11	B	0.25	3	A	0.27
59	Caughdenoy Road and Micron Driveway 2	Signalized				5	A	0.04	10	A	0.13				>300	F	1.53	22	C	0.65
60	NYS Route 31 and Micron Driveway 3	Signalized				13	B	0.27	3	A	0.22				>300	F	1.51	12	B	0.49
62	NYS Route 31 and Driveway 5	Signalized				10	A	0.14	3	A	0.19				11	B	0.26	7	A	0.42
63	U.S. Route 11 and Micron Driveway 6	Signalized				9	A	0.11	4	A	0.07				77	E	0.65	8	A	0.52
64	Caughdenoy Road and Healthcare Center Driveway	Unsignalized				9	A	0.00	9	A	0.00				9	A	0.00	9	A	0.00
65	Caughdenoy Road and Childcare Center Driveway	Unsignalized				9	A	0.00	9	A	0.00				10	A	0.00	10	B	0.00
66	White Pines South Driveway and NYS Route 31	Unsignalized				15	B	0.00	13	B	0.00				44	E	0.00	13	B	0.00
67	Caughdenoy Road and White Pines South Driveway 1	Unsignalized				9	A	0.00	9	A	0.00				17	C	0.00	9	A	0.00
68	Caughdenoy Road and White Pines South Driveway 2	Unsignalized				9	A	0.00	9	A	0.00				15	C	0.00	9	A	0.00
69	Morgan Road and Verplank Road	Unsignalized	22	C	0.00	22	C	0.00	8	A	0.41	222	F	0.00	>300	F	0.00	11	B	0.62
70	Morgan Road and GNM Driveway 1	Signalized	12	B	0.42	12	B	0.42	5	A	0.32	16	B	0.62	33	C	0.89	6	A	0.47
71	Pardee Road and McKinley Road	Unsignalized	9	A	0.00	9	A	0.00	9	A	0.00	10	A	0.00	10	A	0.00	9	A	0.00
72	Morgan Road and GNM Driveway 2	Unsignalized	12	B	0.00	12	B	0.00	9	A	0.41	17	C	0.00	21	C	0.00	11	B	0.60
73	GNM Driveway 3 and Verplank Road	Unsignalized	9	A	0.00	9	A	0.00	9	A	0.00	10	A	0.00	10	B	0.00	10	A	0.00
74	GNM Driveway 4 and Verplank Road	Unsignalized	9	A	0.00	9	A	0.00	9	A	0.00	10	A	0.00	10	B	0.00	10	A	0.00
76	NYS Route 31 and Access Road	Signalized							14	B	0.20							40	D	0.78
77	Soule Rd/NYS Route 481	Signalized	20	C	0.79	21	C	0.80	6	A	0.00	38	D	0.94	47	D	0.99	8	A	0.00
78	Carling Rd South/Carling Road North and NYS Route 31	Signalized							11	B	0.29							17	B	0.35

Intersection ID	Intersection Name	Intersection Control	2031 No Action Alternative			2031 Preferred Action Alternative			2031 Preferred Action Alternative w/Recommended Mitigation C			2031 No Action Alternative			2031 Preferred Action Alternative			2031 Preferred Action Alternative w/Recommended Mitigation C		
			Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c
			6 AM			6 AM			6 AM			7 AM			7 AM			7 AM		
79	I-81 NB Off-Ramp/I-81 NB On-Ramp and Sneller Road	Signalized							10	A	0.35							14	B	0.40
80	Access Road and Maple Road	Roundabout							4	A	0.00							6	A	0.00
81	481 Interchange/Access Road and 481 NB On-Ramp/481 NB Off-Ramp	Signalized							4	A	0.14							9	A	0.34
82	481 SB Off-Ramp/481 SB On-Ramp and 481 Interchange	Signalized							6	A	0.13							9	A	0.38
101	Caughdenoy Road and Driveway X	Unsignalized				9	A	0.00	9	A	0.00				12	B	0.00	10	B	0.00
132	Davidson and NYS Route 31	Signalized	10	A	0.51	10	B	0.52	5	A	0.40	15	B	0.71	21	C	0.82	9	A	0.56
141	Pardee Road and Sneller Road	Signalized							19	B	0.22							32	C	0.21
233	Oswego Rd and Verplank Rd	Unsignalized	12	B	0.00	12	B	0.00	12	B	0.00	17	C	0.00	21	C	0.00	17	C	0.00
246	U.S. Route 11 and Hogan Drive	Signalized	10	B	0.23	10	B	0.24	4	A	0.18	17	B	0.50	20	B	0.51	5	A	0.35
258	Texas Roadhouse/Delta Sonic and NYS Route 31	Signalized	9	A	0.40	11	B	0.56	15	B	0.42	12	B	0.57	25	C	0.88	16	B	0.60
260	U.S. Route 11 and Chick-Fil-A	Signalized	7	A	0.29	7	A	0.31	7	A	0.20	7	A	0.45	9	A	0.48	6	A	0.36
262	Carling Rd South/Carling Rd North and NYS Route 31	Signalized	9	A	0.43	9	A	0.44	17	B	0.63	12	B	0.58	15	B	0.66	19	B	0.87
267	NYS Route 31 and Dell Center Dr	Signalized	9	A	0.44	11	B	0.45	10	A	0.43	11	B	0.59	15	B	0.68	12	B	0.61
275	Proposed Access #1 and Verplank Road	Unsignalized	7	A	0.00	7	A	0.00	10	A	0.00	8	A	0.00	8	A	0.00	10	B	0.00
276	Lowes/Home Depot and NYS Route 31	Signalized	17	B	0.40	17	B	0.42	15	B	0.46	20	B	0.56	13	B	0.66	11	B	0.65
280	Oswego Rd/Oswego Rd and NYS Route 31	Signalized	27	C	0.71	29	C	0.74	21	C	0.62	80	E	1.04	92	F	1.13	39	D	0.90
284	NYS Route 31 and Proposed Access	Unsignalized	10	B	0.00	10	B	0.00	10	A	0.00	11	B	0.00	12	B	0.00	9	A	0.00
287	Proposed Access #2 and Verplank Road	Unsignalized	8	A	0.00	8	A	0.00	9	A	0.00	8	A	0.00	8	A	0.00	10	A	0.00
288	Sneller Road and U.S. Route 11	Signalized							13	B	0.11							14	B	0.37
296	Davidson Collision Center Driveway and NYS Route 31	Unsignalized	9	A	0.00							10	B	0.00						

Table 8-11. Year 2031 No Action Alternative Vs. Preferred Action Alternative Vs. Preferred Action Alternative with Recommended Mitigation Scenario C PM Peak-Hour Intersections Operations – Delay and LOS

Intersection ID	Intersection Name	Intersection Control	2031 No Action Alternative			2031 Preferred Action Alternative			2031 Preferred Action Alternative w/Recommended Mitigation C			2031 No Action Alternative			2031 Preferred Action Alternative			2031 Preferred Action Alternative w/Recommended Mitigation		
			Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c
			4 PM			4 PM			4 PM			5 PM			5 PM			5 PM		
1	NYS Route 481 SB and NYS Route 31	Signalized	164	F	1.47	164	F	1.43	77	E	1.19	182	F	1.52	213	F	1.54	47	D	1.07
2	NYS Route 481 NB and NYS Route 31	Signalized	198	F	1.38	204	F	1.38	52	D	1.06	155	F	1.36	196	F	1.45	32	C	0.99
3	Marketfair Plaza and NYS Route 31/NYS Route 31	Signalized	6	A	0.85	14	B	1	6	A	0.73	17	B	1.03	5	A	0.94	3	A	0.71
4	Parking Lot/GNM West and NYS Route 31	Signalized	>300	F	1.76	137	F	1.28	59	E	1.08	>300	F	1.88	100	F	1.14	51	D	1.04
5	Parking Lot/GNM East and NYS Route 31	Signalized	>300	F	2.6	>300	F	2.46	37	D	0.95	>300	F	1.91	>300	F	2.53	37	D	0.91
6	Morgan Road and NYS Route 31	Signalized	273	F	1.88	293	F	2.07	56	E	0.92	187	F	1.66	293	F	2.05	46	D	0.82
7	Henry Clay Boulevard and NYS Route 31	Signalized	215	F	1.51	214	F	1.47	33	C	0.66	90	F	1.09	119	F	1.28	26	C	0.71

Intersection ID	Intersection Name	Intersection Control	2031 No Action Alternative			2031 Preferred Action Alternative			2031 Preferred Action Alternative w/Recommended Mitigation C			2031 No Action Alternative			2031 Preferred Action Alternative			2031 Preferred Action Alternative w/Recommended Mitigation		
			Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c
			4 PM			4 PM			4 PM			5 PM			5 PM			5 PM		
8	Grange Road W and NYS Route 31	Signalized	153	F	1.24	186	F	1.34	11	B	0.54	26	C	0.83	64	E	1.06	9	A	0.62
9	Van Hoesen Road and NYS Route 31	Unsignalized	79	F	0	64	F	0	3	A	0.45	54	F	0	74	F	0	3	A	0.59
10	Grange Road E and NYS Route 31	Unsignalized	27	D	0	25	D	0	13	B	0	20	C	0	18	C	0	13	B	0
11	Caughdenoy Road and NYS Route 31	Signalized	64	E	1.07	55	E	1.05	18	B	0.57	41	D	0.94	103	F	1.1	8	A	0.59
12	Stearns Road and NYS Route 31	Signalized	100	F	1.15	53	D	0.97	10	B	0.49	15	B	0.73	16	B	0.76	6	A	0.5
13	NYS Route 31 and Burnet Road	Unsignalized	0	A	0	0	A	0	0	A	0.41	0	A	0	0	A	0	0	A	0.46
14	Barcaldine Drive/Legionnaire Drive and NYS Route 31	Unsignalized	21	C	0	31	D	0	12	B	0	17	C	0	110	F	0	13	B	0
15	Lawton Road/Legionnaire Drive and NYS Route 31	Signalized	16	B	0.73	25	C	0.82	19	B	0.75	12	B	0.64	99	F	1.1	35	C	0.53
16	U.S. Route 11 and NYS Route 31	Signalized	58	E	1.05	66	E	1.11	28	C	0.72	45	D	0.94	193	F	1.7	48	D	0.83
17	I-81 SB On-Ramp/I-81 SB Off-Ramp and NYS Route 31	Signalized	26	C	0.9	26	C	0.87	25	C	0.76	24	C	0.82	75	E	1.18	18	B	0.89
18	I-81 NB Off-Ramp/Pardee Road and NYS Route 31	Signalized	64	E	1.24	57	E	1.17	23	C	0.83	45	D	1.07	50	D	1.14	21	C	0.85
19	NYS Route 31 and Lakeshore Road	Signalized	N/A	N/A	N/A	N/A	N/A	N/A	3	A	0.48	N/A	N/A	N/A	N/A	N/A	N/A	6	A	0.51
20	Parking Lot/Lakeshore Rd Spur and NYS Route 31	Signalized	60	E	1.16	83	F	1.23	51	D	0.98	40	D	1.01	42	D	1.04	43	D	0.92
21	New Country Drive/Cicero Elementary School Parking Lot and NYS Route 31	Signalized	10	B	0.63	10	A	0.6	18	B	0.7	9	A	0.59	8	A	0.58	17	B	0.67
22	Cicero North Syracuse High School West Driveway and NYS Route 31	Signalized	16	B	0.79	21	C	0.89	17	B	0.83	15	B	0.74	16	B	0.81	14	B	0.67
23	Thompson Road/Torchwood Lane and NYS Route 31	Roundabout	39	D	0	53	D	0	14	B	0	25	C	0	34	C	0	12	B	0
24	South Bay Road and NYS Route 31	Signalized	57	E	1.08	59	E	1.06	32	C	0.68	47	D	0.99	61	E	1.09	34	C	0.73
25	Henry Clay Boulevard and Verplank Road	Unsignalized	14	B	0	16	C	0	8	A	0.46	13	B	0	21	C	0	7	A	0.4
26	Caughdenoy Road and Verplank Road	Unsignalized	20	C	0	23	C	0	7	A	0.39	14	B	0	214	F	0	7	A	0.46
27	Caughdenoy Road and Mud Mill Road	Unsignalized	13	B	0	13	B	0	9	A	0.51	12	B	0	14	B	0	10	A	0.59
28	Caughdenoy Road and Oak Orchard Road	Unsignalized	14	B	0	14	B	0	13	B	0	13	B	0	15	C	0	14	B	0
29	U.S. Route 11 and Mud Mill Road	Signalized	8	A	0.25	8	A	0.3	11	B	0.61	8	A	0.23	8	A	0.29	11	B	0.6
30	Lakeshore Rd Spur and Lakeshore Road	Unsignalized	13	B	0	12	B	0				12	B	0	12	B	0			
31	Raymour and Flanigan/Wegmans East and NYS Route 31/NYS Route 31	Signalized	50	D	1.04	39	D	1.02	50	D	1.12	41	D	1.01	44	D	1.05	17	B	0.85
32	Henry Clay Boulevard and Wetzel Road	Signalized	27	C	0.76	27	C	0.75	26	C	0.72	24	C	0.68	25	C	0.67	22	C	0.64
33	Allen Road and Bear Road	Signalized	19	B	0.82	16	B	0.76	17	B	0.78	15	B	0.74	15	B	0.76	13	B	0.71
34	U.S. Route 11 and Bear Road	Signalized	56	E	1.05	55	E	1.03	1.03	D	0.8	43	D	0.94	45	D	0.97	39	D	0.73
35	Bear Road and I-481 EB On/Off-Ramp	Signalized	26	C	0.56	17	B	0.62	12	B	0.35	25	C	0.5	20	C	0.61	13	B	0.35
36	South Bay Road and Bear Road	Signalized	14	B	0.77	14	B	0.74	15	B	0.69	13	B	0.73	14	B	0.75	14	B	0.64
37	I-481 WB On/Off-Ramp and Circle Drive E	Signalized	21	C	0.6	17	B	0.71	17	B	0.63	21	C	0.56	17	B	0.73	17	B	0.54
38	U.S. Route 11 and Circle Drive W/Circle Drive E	Signalized	42	D	0.99	25	C	0.91	23	C	0.88	41	D	0.86	25	C	0.87	20	C	0.75
39	U.S. Route 11 and Caughdenoy Road/Widewaters Commons	Signalized	22	C	0.68	23	C	0.68	24	C	0.67	23	C	0.64	23	C	0.68	25	C	0.76
40	NY 481 NB Off-Ramp and Maple Road and Caughdenoy Road	Signalized	8	A	0.36	8	A	0.33	5	A	0	8	A	0.33	9	A	0.39	5	A	0
41	Maple Road and Grange Road W/Grange Road	Unsignalized	11	B	0	11	B	0	10	A	0	10	B	0	11	B	0	9	A	0

Intersection ID	Intersection Name	Intersection Control	2031 No Action Alternative			2031 Preferred Action Alternative			2031 Preferred Action Alternative w/Recommended Mitigation C			2031 No Action Alternative			2031 Preferred Action Alternative			2031 Preferred Action Alternative w/Recommended Mitigation		
			Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c
			4 PM			4 PM			4 PM			5 PM			5 PM			5 PM		
43	U.S. Route 11 and Crabtree Lane	Unsignalized	>300	F	0	>300	F	0	8	A	0.58	>300	F	0	>300	F	0	15	B	0.57
44	Grange Road/Grange Road E and Van Hoesen Road	Unsignalized	9	A	0	9	A	0	9	A	0	9	A	0	9	A	0	9	A	0
47	Cicero North Syracuse High School East Driveway and NYS Route 31	Unsignalized	18	C	0	18	C	0	24	C	0	16	C	0	19	C	0	20	C	0
50	McNamara Drive/Driveway and NYS Route 31	Unsignalized	>300	F	0	>300	F	0	9	A	0.68	>300	F	0	>300	F	0	16	B	0.77
54	Doreen Avenue and NYS Route 31	Unsignalized	61	F	0	68	F	0	18	C	0	38	E	0	49	E	0	22	C	0
55	NYS Route 31 and Button Road	Unsignalized	51	F	0	25	D	0	6	A	0.53	34	D	0	45	E	0	10	B	0.62
56	NYS Route 31 and Weller Canning Road	Unsignalized	185	F	0	140	F	0	13	B	0	74	F	0	282	F	0	14	B	0
58	Caughdenoy Road and Micron Driveway 1	Signalized				5	A	0.13	3	A	0.21				12	B	0.35	3	A	0.32
59	Caughdenoy Road and Micron Driveway 2	Signalized				9	A	0.11	23	C	0.32				13	B	0.39	38	D	0.54
60	NYS Route 31 and Micron Driveway 3	Signalized				28	C	0.59	4	A	0.37				42	D	0.84	12	B	0.48
62	NYS Route 31 and Driveway 5	Signalized				12	B	0.3	5	A	0.44				11	B	0.45	8	A	0.44
63	U.S. Route 11 and Micron Driveway 6	Signalized				14	B	0.38	3	A	0.25				13	B	0.54	7	A	0.37
64	Caughdenoy Road and Healthcare Center Driveway	Unsignalized				9	A	0	9	A	0				10	A	0	10	B	0
65	Caughdenoy Road and Childcare Center Driveway	Unsignalized				9	A	0	9	A	0				9	A	0	10	B	0
66	White Pines South Driveway and NYS Route 31	Unsignalized				143	F	0	16	C	0				24	C	0	15	B	0
67	Caughdenoy Road and White Pines South Driveway 1	Unsignalized				10	A	0	10	B	0				9	A	0	10	A	0
68	Caughdenoy Road and White Pines South Driveway 2	Unsignalized				9	A	0	9	A	0				9	A	0	10	A	0
69	Morgan Road and Verplank Road	Unsignalized	>300	F	0	>300	F	0	19	B	0.76	>300	F	0	>300	F	0	18	B	0.7
70	Morgan Road and GNM Driveway 1	Signalized	20	B	0.94	24	C	0.91	14	B	0.68	35	C	0.94	28	C	0.94	12	B	0.63
71	Pardee Road and McKinley Road	Unsignalized	10	A	0	10	A	0	10	A	0	10	A	0	10	A	0	10	A	0
72	Morgan Road and GNM Driveway 2	Unsignalized	170	F	0	119	F	0	15	B	0.61	42	E	0	69	F	0	15	B	0.72
73	GNM Driveway 3 and Verplank Road	Unsignalized	13	B	0	12	B	0	11	B	0	12	B	0	12	B	0	10	B	0
74	GNM Driveway 4 and Verplank Road	Unsignalized	14	B	0	13	B	0	11	B	0	12	B	0	13	B	0	11	B	0
76	NYS Route 31 and Access Road	Signalized							22	C	0.55							33	C	0.75
77	Soule Rd/NYS Route 481	Signalized	71	E	1.02	63	E	1.01	54	D	0	60	E	1.02	81	F	1.07	33	C	0
78	Carling Rd South/Carling Road North and NYS Route 31	Signalized							12	B	0.29							12	B	0.25
79	I-81 NB Off-Ramp/I-81 NB On-Ramp and Sneller Road	Signalized							14	B	0.38							17	B	0.35
80	Access Road and Maple Road	Roundabout							4	A	0							5	A	0
81	NYS Route 481 Interchange/Access Road and NYS Route 481 NB On-Ramp/481 NB Off-Ramp	Signalized							9	A	0.24							9	A	0.34
82	NYS Route 481 SB Off-Ramp/NYS Route 481 SB On-Ramp and NYS Route 481 Interchange	Signalized							9	A	0.31							8	A	0.38
101	Caughdenoy Road and Driveway X	Unsignalized				9	A	0	10	B	0				12	B	0	11	B	0
132	Davidson and NYS Route 31	Signalized	37	D	1	39	D	1.17	22	C	0.81	27	C	0.96	31	C	0.97	10	B	0.75

Intersection ID	Intersection Name	Intersection Control	2031 No Action Alternative			2031 Preferred Action Alternative			2031 Preferred Action Alternative w/Recommended Mitigation C			2031 No Action Alternative			2031 Preferred Action Alternative			2031 Preferred Action Alternative w/Recommended Mitigation		
			Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c
			4 PM			4 PM			4 PM			5 PM			5 PM			5 PM		
141	Pardee Road and Sneller Road	Signalized							26	C	0.32							27	C	0.3
233	Oswego Rd and Verplank Road	Unsignalized	35	D	0	26	D	0	18	C	0	22	C	0	26	D	0	16	C	0
246	U.S. Route 11 and Hogan Dr	Signalized	104	F	0.96	91	F	0.93	52	D	1.77	77	E	0.88	76	E	0.87	22	C	0.88
258	Texas Roadhouse/Delta Sonic and NYS Route 31	Signalized	26	C	1.08	35	D	1.06	21	C	0.82	15	B	1	16	B	0.87	19	B	0.75
260	U.S. Route 11 and Chick-Fil-A	Signalized	30	C	0.98	20	B	0.89	22	C	0.98	20	B	0.88	20	B	0.89	16	B	0.86
262	Carling Rd South/Carling Rd North and NYS Route 31	Signalized	69	E	1.11	57	E	1.07	56	E	1.12	52	D	1.05	63	E	1.1	32	C	0.95
267	NYS Route 31 and Dell Center Dr	Signalized	50	D	1.09	47	D	1.07	25	C	0.92	41	D	1.03	49	D	1.1	25	C	0.85
275	Proposed Access #1 and Verplank Road	Unsignalized	10	B	0	10	A	0	11	B	0	9	A	0	10	A	0	10	B	0
276	Lowes/Home Depot and NYS Route 31	Signalized	59	E	1.13	41	D	1.04	49	D	1.01	38	D	1.08	50	D	1.08	27	C	0.88
280	Oswego Rd and NYS Route 31	Signalized	89	F	1.15	72	E	1.06	54	D	1.07	88	F	1.12	108	F	1.16	35	C	0.91
284	NYS Route 31 and Proposed Access	Unsignalized	19	C	0	21	C	0	11	B	0	14	B	0	20	C	0	11	B	0
287	Proposed Access #2 and Verplank Road	Unsignalized	11	B	0	10	B	0	11	B	0	9	A	0	10	B	0	10	B	0
288	Sneller Road and U.S. Route 11	Signalized							10.7	B	0.44							10.7	B	0.45
296	Davidson Collision Center Driveway and NYS Route 31	Unsignalized	11	B	0							10	B	0						

Table 8-12. **Year 2031 No Action Alternative Vs. Preferred Action Alternative Vs. Preferred Action Alternative with Recommended Mitigation C AM Peak-Hour Freeway Operations – Density and LOS**

Segment Direction	Segment Description	Segment Type	2031 No Action Alternative				2031 Preferred Action Alternative				2031 Preferred Action Alternative with Recommended Mitigation C			
			Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS
			6 AM		7 AM		6 AM		7 AM		6 AM		7 AM	
I-81 NB	I-81 NB Between E Taft Road and NYS Route 481	Basic	5.8	A	8.3	A	6.2	A	10.4	A	6.4	A	11.7	B
	I-81 NB Off-Ramp to NYS Route 481	Diverge	4.5	A	6.4	A	4.8	A	7.9	A	4.9	A	8.9	A
	I-81 NB Between Off/On-Ramps to/from NYS Route 481	Basic	4.9	A	7.4	A	5.3	A	9.4	A	5.5	A	10.7	A
	I-81 NB Between Off/On-Ramps to/from NYS Route 481	Weave	4.2	A	6.4	A	4.5	A	7.9	A	4.8	A	9.1	A
	I-81 NB after Off-Ramp to NYS Route 481	Basic	5.5	A	8.1	A	6.1	A	10.3	A	6.4	A	11.8	B
	I-81 NB On-Ramp from NYS Route 481	Merge	3.2	A	4.7	A	3.6	A	5.8	A	3.9	A	7.3	A
	I-81 NB Between NYS Route 481 and NYS Route 31	Basic	4.3	A	6.3	A	4.8	A	14.7	B	5.1	A	9.7	A
	I-81 NB Off-Ramp to NYS Route 31	Diverge	3.4	A	5.0	A	3.8	A	95.2	F	3.1	A	5.8	A
	I-81 NB Between Off/On-Ramps to/from NYS Route 31	Basic	2.5	A	3.7	A	2.6	A	3.5	A	2.9	A	4.6	A
I-81 NB (continued)	I-81 NB On-Ramp from NYS Route 31	Merge	2.3	A	3.2	A	2.4	A	2.9	A	3.0	A	4.8	A
	I-81 NB Between NYS Route 31 and Sneller Road	Basic									3.9	A	6.1	A

Segment Direction	Segment Description	Segment Type	2031 No Action Alternative				2031 Preferred Action Alternative				2031 Preferred Action Alternative with Recommended Mitigation C			
			Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS
			6 AM		7 AM		6 AM		7 AM		6 AM		7 AM	
	I-81 NB Off-Ramp to Sneller Road	Diverge									2.8	A	4.5	A
	I-81 NB Between Off/On-Ramps to/from Sneller Road	Basic									3.1	A	5.1	A
	I-81 NB On-Ramp from Sneller Road	Merge									2.4	A	4.0	A
	I-81 NB Between NYS Route 31 and Bartell Road	Basic	2.9	A	4.1	A	3.0	A	3.8	A	3.1	A	5.3	A
	I-81 NB Off-Ramp to Bartell Road	Diverge	2.2	A	3.2	A	2.3	A	3.1	A	2.4	A	4.1	A
	I-81 NB Off/On-Ramps to/from Bartell Road	Basic	2.2	A	3.2	A	2.3	A	3.1	A	2.9	A	4.6	A
	I-81 On-Ramp from Bartell Road	Merge	2.0	A	2.8	A	2.0	A	2.7	A	2.3	A	3.8	A
	I-81 NB Between Bartell Road and East Avenue	Basic	2.5	A	3.7	A	2.6	A	3.5	A	3.1	A	4.9	A
I-81 SB	I-81 SB Between East Avenue and Bartell Road	Basic	6.8	A	9.9	A	6.9	A	10.7	A	6.9	A	11.6	B
	I-81 SB Off-Ramp to Bartell Road	Diverge	5.1	A	7.6	A	5.2	A	8.3	A	5.2	A	8.9	A
	I-81 SB Between Off-Ramp and On-Ramp to Bartell Road	Basic	6.3	A	9.3	A	6.4	A	9.5	A	6.6	A	11.1	B
	I-81 SB On-Ramp from Bartell Road	Merge	6.4	A	9.5	A	6.6	A	9.8	A	6.5	A	10.6	B
	I-81 SB Between Bartell Road and Sneller Road	Basic									8.4	A	13.8	B
	I-81 SB Off-Ramp to Sneller Road	Diverge									6.4	A	10.7	B
	I-81 SB Between Off-Ramp and On-Ramp to Sneller Road	Basic									8.2	A	13.5	B
	I-81 SB On-Ramp from Sneller Road	Merge									7.3	A	11.7	B
	I-81 SB Between Bartell Road and NYS Route 31	Basic	8.3	A	12.4	B	8.5	A	12.7	B	9.7	A	15.9	B
	I-81 SB Off-Ramp to NYS Route 31	Diverge	6.2	A	11.2	B	6.4	A	12.8	B	7.5	A	13.1	B
	I-81 SB Between Off-Ramp and On-Ramp from NYS Route 31	Basic	7.1	A	11.0	A	7.3	A	11.3	B	7.4	A	12.1	B
	I-81 SB On-Ramp from NYS Route 31	Merge	8.5	A	12.5	B	8.8	A	13.0	B	6.4	A	10.4	B
	I-81 SB Between NYS Route 31 and I-81	Basic	10.8	A	16.0	B	11.1	B	16.5	B	10.4	A	17.3	B
	I-81 SB Off-Ramp to NYS Route 481 EB	Diverge	10.8	B	16.0	B	11.1	B	16.5	B	10.4	B	17.3	B
	I-81 SB Off-Ramp to I-81 EB and WB	Basic	10.8	A	16.0	B	11.3	B	16.7	B	10.8	A	17.4	B
	I-81 SB Off-Ramp to I-81 WB	Diverge	7.3	A	10.8	B	7.6	A	11.3	B	7.2	A	11.4	B
	I-81 SB Between Off-Ramp and On-Ramp from NYS Route 481	Basic	9.9	A	14.7	B	10.3	A	15.2	B	10.6	A	16.9	B
	I-81 SB On-Ramp from NYS Route 481 WB	Merge	7.5	A	10.9	B	7.8	A	11.2	B	8.0	A	12.3	B
I-81 SB (continued)	I-81 SB On-Ramp from NYS Route 481 EB	Merge	10.0	A	13.9	B	10.3	B	14.1	B	10.5	B	15.7	B
	I-81 NB Between NYS Route 481 and E Taft Road	Basic	12.8	B	18.1	C	13.2	B	18.3	C	13.6	B	20.5	C
	NYS Route 481 EB Between Verplank Road and NYS Route 31	Basic	7.1	A	11.0	B	7.2	A	11.7	B	8.6	A	14.2	B

Segment Direction	Segment Description	Segment Type	2031 No Action Alternative				2031 Preferred Action Alternative				2031 Preferred Action Alternative with Recommended Mitigation C			
			Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS
			6 AM		7 AM		6 AM		7 AM		6 AM		7 AM	
NYS Route 481 EB	NYS Route 481 EB Off-Ramp to NYS Route 31	Diverge	5.5	A	8.8	A	5.6	A	11.3	B	6.8	A	11.8	B
	NYS Route 481 Between Off-Ramp and On-Ramp from NYS Route 31	Basic	4.7	A	7.2	A	4.8	A	7.3	A	5.4	A	8.0	A
	NYS Route 481 EB On-Ramp from NYS Route 31	Merge	8.9	A	12.8	B	9.1	A	12.8	B	7.3	A	11.3	B
	NYS Route 481 EB Between NYS Route 31 and Bear Road	Basic	12.0	B	17.5	B	12.3	B	17.6	B				
	NYS Route 481 EB Between NYS Route 31 and New Access Road	Basic									8.9	A	13.8	B
	NYS Route 481 EB Off-Ramp to New Access Road	Diverge									8.8	A	13.7	B
	NYS Route 481 Between Off-Ramp and On-Ramp from New Access Road	Basic									12.8	B	18.4	C
	NYS Route 481 On-Ramp from New Access Road	Merge									6.9	A	10.1	B
	NYS Route 481 EB Between New Access Road and Caughdenoy Road	Basic									13.9	B	20.8	C
	NYS Route 481 On-Ramp from Caughdenoy Road	Merge									10.4	B	15.7	B
	NYS Route 481 Between Caughdenoy Road and U.S. Route 11	Basic									16.0	B	24.7	C
	NYS Route 481 EB Off-Ramp to Bear Road	Diverge	8.5	A	13.4	B	8.7	A	13.4	B	11.5	B	18.1	B
	NYS Route 481 EB Between Off-Ramp and On-Ramp from Bear Road	Basic	10.8	A	16.4	B	11.0	B	16.4	B	14.9	B	23.5	C
	NYS Route 481 Between U.S. Route 11 and I-81	Weave	12.1	B	17.8	B	12.2	B	17.8	B	13.0	B	20.6	C
	NYS Route 481 EB Off-Ramp to I-81 NB	Diverge	5.7	A	9.0	A	5.7	A	9.0	A	6.5	A	10.8	B
	NYS Route 481 EB Between Off-Ramp and On-Ramp from I-81	Basic	8.0	A	12.8	B	8.1	A	12.7	B	9.0	A	15.3	B
	NYS Route 481 EB On-Ramp from I-81 NB	Merge	6.3	A	9.7	A	6.4	A	9.7	A	7.1	A	11.5	B
	NYS Route 481 EB On-Ramp from I-81 SB	Merge	7.3	A	11.0	B	7.3	A	11.1	B	7.5	A	12.6	B
	NYS Route 481 EB Between I-81 and Northern Boulevard	Basic	9.6	A	14.6	B	9.7	A	14.7	B	10.0	A	16.7	B
NYS Route 481 WB	NYS Route 481 WB Between Northern Boulevard and I-81	Basic	6.3	A	9.2	A	6.6	A	13.7	B	6.9	A	14.2	B
	NYS Route 481 WB Off-Ramp to I-81	Diverge	4.2	A	6.2	A	4.4	A	9.3	A	4.6	A	9.6	A
	NYS Route 481 WB Between Off-Ramp and On-Ramp from I-81 NB	Basic	6.4	A	9.4	A	6.6	A	15.3	B	6.7	A	13.7	B
	NYS Route 481 WB Between On-Ramp and Off-Ramp to I-81	Weave	5.5	A	8.5	A	5.8	A	12.3	B	5.9	A	12.1	B
	NYS Route 481 WB Between Off-Ramp and On-Ramp from I-81 SB	Basic	6.3	A	9.9	A	6.5	A	15.7	B	6.7	A	15.1	B
	NYS Route 481 WB Between I-81 and U.S. Route 11	Weave	4.7	A	7.4	A	4.9	A	11.1	B	4.5	A	10.0	A
	NYS Route 481 WB Off-Ramp and On-Ramp from Cir Drive	Basic	4.3	A	6.8	A	4.5	A	10.2	A	4.3	A	11.1	B
NYS Route 481 WB (continued)	NYS Route 481 WB On-Ramp from Cir Drive	Merge	3.8	A	6.0	A	4.1	A	8.5	A	3.7	A	9.5	A
	NYS Route 481 WB Between U.S. Route 11 and Caughdenoy Road	Basic	5.3	A	8.4	A	5.8	A	26.3	D	5.2	A	13.4	B
	NYS Route 481 WB Off-Ramp to Caughdenoy Road	Diverge	3.6	A	5.7	A	3.9	A	72.7	F	3.5	A	9.1	A

Segment Direction	Segment Description	Segment Type	2031 No Action Alternative				2031 Preferred Action Alternative				2031 Preferred Action Alternative with Recommended Mitigation C			
			Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS
			6 AM		7 AM		6 AM		7 AM		6 AM		7 AM	
	NYS Route 481 WB Between Caughdenoy Road and New Access Road	Basic									4.8	A	12.6	B
	NYS Route 481 WB Off-Ramp to New Access Road	Diverge									2.4	A	6.2	A
	NYS Route 481 WB Off-Ramp and On-Ramp from New Access Road	Basic									4.6	A	7.8	A
	NYS Route 481 WB On-Ramp from New Access Road	Merge									3.8	A	6.6	A
	NYS Route 481 WB Between New Access Road and NYS Route 31	Basic	4.8	A	7.8	A	5.2	A	6.4	A	5.6	A	9.8	A
	NYS Route 481 WB Off-Ramp to NYS Route 31	Diverge	4.3	A	7.4	A	4.7	A	6.7	A	2.8	A	4.9	A
	NYS Route 481 WB Between Off-Ramp and On-Ramp from NYS Route 31	Basic	1.9	A	3.0	A	1.9	A	1.8	A	2.2	A	3.7	A
	NYS Route 481 WB On-Ramp from NYS Route 31	Merge	2.4	A	3.6	A	2.4	A	2.8	A	2.6	A	4.4	A
	NYS Route 481 WB Between NYS Route 31 and Verplank Road	Basic	3.4	A	5.2	A	3.5	A	4.0	A	3.8	A	6.4	A

Table 8-13. Year 2031 No Action Alternative vs. Preferred Action Alternative vs. Preferred Action Alternative with Recommended Mitigation C PM Peak-Hour Freeway Operations – Density and LOS

Segment Direction	Segment Description	Segment Type	2031 No Action Alternative				2031 Preferred Action Alternative				2031 Preferred Action Alternative with Recommended Mitigation C			
			Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS
			4 PM		5 PM		4 PM		5 PM		4 PM		5 PM	
I-81 NB	I-81 NB Between E Taft Road and NYS Route 481	Basic	18.0	B	15.3	B	19.4	C	16.6	B	20.1	C	18.1	C
	I-81 NB Off-Ramp to NYS Route 481	Diverge	13.9	B	11.8	B	15.1	B	12.9	B	15.6	B	14.1	B
	I-81 NB Between Off/On-Ramps to/from NYS Route 481	Basic	16.9	B	14.6	B	18.1	C	15.6	B	18.8	C	17.1	B
	I-81 NB Between Off/On-Ramps to/from NYS Route 481	Weave	14.3	B	12.1	B	15.3	B	13.0	B	16.0	B	14.5	B
	I-81 NB after Off-Ramp to NYS Route 481	Basic	17.4	B	14.1	B	18.9	C	15.4	B	19.4	C	17.7	B
	I-81 NB On-Ramp from NYS Route 481	Merge	11.3	B	9.3	A	12.1	B	10.0	A	12.5	B	11.4	B
	I-81 NB Between NYS Route 481 and NYS Route 31	Basic	15.2	B	12.5	B	19.4	C	37.0	E	16.9	B	15.4	B
	I-81 NB Off-Ramp to NYS Route 31	Diverge	15.7	B	12.9	B	38.5	E	75.4	F	10.0	A	9.2	A
	I-81 NB Between Off/On-Ramps to/from NYS Route 31	Basic	10.0	A	8.1	A	10.9	A	8.9	A	11.2	B	10.5	A
	I-81 NB On-Ramp from NYS Route 31	Merge	10.3	B	8.8	A	10.9	B	9.0	A	12.4	B	12.0	B
I-81 NB (continued)	I-81 NB Between NYS Route 31 and Sneller Road	Basic									15.6	B	15.1	B
	I-81 NB Off-Ramp to Sneller Road	Diverge									11.9	B	11.4	B
	I-81 NB Between Off/On-Ramps to/from Sneller Road	Basic									13.6	B	13.3	B

Segment Direction	Segment Description	Segment Type	2031 No Action Alternative				2031 Preferred Action Alternative				2031 Preferred Action Alternative with Recommended Mitigation C			
			Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS
			4 PM		5 PM		4 PM		5 PM		4 PM		5 PM	
	I-81 NB On-Ramp from Sneller Road	Merge									11.1	B	10.8	B
	I-81 NB Between NYS Route 31 and Bartell Road	Basic	12.9	B	10.9	A	13.7	B	11.3	B	14.7	B	14.4	B
	I-81 NB Off-Ramp to Bartell Road	Diverge	10.6	B	8.9	A	11.4	B	9.5	A	11.9	B	11.6	B
	I-81 NB Off/On-Ramps to/from Bartell Road	Basic	10.2	A	8.8	A	10.8	A	9.0	A	12.2	B	12.0	B
	I-81 On-Ramp from Bartell Road	Merge	8.5	A	7.6	A	9.2	A	8.3	A	9.7	A	9.6	A
	I-81 NB Between Bartell Road and East Avenue	Basic	11.1	B	9.9	A	11.9	B	10.6	A	12.7	B	12.6	B
I-81 SB	I-81 SB Between East Avenue and Bartell Road	Basic	6.4	A	5.2	A	6.6	A	5.3	A	6.6	A	5.9	A
	I-81 SB Off-Ramp to Bartell Road	Diverge	5.0	A	4.0	A	5.1	A	4.1	A	5.1	A	4.5	A
	I-81 SB Between Off-Ramp and On-Ramp to Bartell Road	Basic	5.5	A	4.4	A	5.6	A	4.5	A	5.8	A	5.1	A
	I-81 SB On-Ramp from Bartell Road	Merge	6.1	A	5.1	A	6.3	A	5.2	A	6.5	A	5.8	A
	I-81 SB Between Bartell Road and Sneller Road	Basic									8.4	A	7.4	A
	I-81 SB Off-Ramp to Sneller Road	Diverge									6.5	A	5.8	A
	I-81 SB Between Off-Ramp and On-Ramp to Sneller Road	Basic									8.0	A	7.2	A
	I-81 SB On-Ramp from Sneller Road	Merge									7.3	A	6.6	A
	I-81 SB Between Bartell Road and NYS Route 31	Basic	7.9	A	6.5	A	8.1	A	6.7	A	9.7	A	8.7	A
	I-81 SB Off-Ramp to NYS Route 31	Diverge	6.1	A	5.0	A	6.2	A	5.2	A	7.5	A	6.7	A
	I-81 SB Between Off-Ramp and On-Ramp from NYS Route 31	Basic	6.1	A	5.1	A	6.2	A	5.5	A	7.2	A	6.5	A
	I-81 SB On-Ramp from NYS Route 31	Merge	7.7	A	6.8	A	8.3	A	8.9	A	6.6	A	7.2	A
	I-81 SB Between NYS Route 31 and I-81	Basic	9.8	A	8.7	A	10.4	A	11.2	B	10.7	A	11.5	B
	I-81 SB Off-Ramp to NYS Route 481 EB	Diverge	9.8	A	8.7	A	10.4	B	11.2	B	10.7	B	11.5	B
	I-81 SB Off-Ramp to I-81 EB and WB	Basic	10.7	A	9.5	A	11.2	B	11.7	B	11.5	B	11.7	B
	I-81 SB Off-Ramp to I-81 WB	Diverge	7.3	A	6.4	A	7.5	A	7.9	A	7.7	A	7.8	A
	I-81 SB Between Off-Ramp and On-Ramp from NYS Route 481	Basic	9.8	A	8.7	A	10.3	A	10.5	A	10.7	A	11.0	B
	I-81 SB On-Ramp from NYS Route 481 WB	Merge	7.5	A	6.6	A	7.8	A	7.8	A	8.0	A	8.2	A
	I-81 SB On-Ramp from NYS Route 481 EB	Merge	9.5	A	8.7	A	9.3	A	9.5	A	11.6	B	12.3	B
NYS Route 481 EB	NYS Route 481 EB Between Verplank Road and NYS Route 31	Basic	8.6	A	7.4	A	8.6	A	7.4	A	11.3	B	10.3	A
	NYS Route 481 EB Off-Ramp to NYS Route 31	Diverge	7.0	A	6.1	A	7.0	A	6.4	A	9.8	A	8.9	A
	NYS Route 481 Between Off-Ramp and On-Ramp from NYS Route31	Basic	4.7	A	4.0	A	4.7	A	4.0	A	5.7	A	5.1	A
	NYS Route 481 EB On-Ramp from NYS Route 31	Merge	7.6	A	7.0	A	6.6	A	6.4	A	10.2	B	8.9	A

Segment Direction	Segment Description	Segment Type	2031 No Action Alternative				2031 Preferred Action Alternative				2031 Preferred Action Alternative with Recommended Mitigation C			
			Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS
			4 PM		5 PM		4 PM		5 PM		4 PM		5 PM	
	NYS Route 481 EB Between NYS Route 31 and Bear Road	Basic	10.5	A	9.6	A	9.2	A	8.9	A				
	NYS Route 481 EB Between NYS Route 31 and New Access Road	Basic									12.1	B	10.5	A
	NYS Route 481 EB Off-Ramp to New Access Road	Diverge									12.3	B	10.9	B
	NYS Route 481 Between Off-Ramp and On-Ramp from New Access Road	Basic									16.5	B	14.6	B
	NYS Route 481 On-Ramp from New Access Road	Merge									8.7	A	9.6	A
	NYS Route 481 EB Between New Access Road and Caughdenoy Road	Basic									17.8	B	19.7	C
	NYS Route 481 On-Ramp from Caughdenoy Road	Merge									13.0	B	14.5	B
	NYS Route 481 Between Caughdenoy Road and U.S. Route 11	Basic									19.5	C	21.7	C
	NYS Route 481 EB Off-Ramp to Bear Road	Diverge	8.4	A	7.8	A	7.2	A	7.1	A	15.4	B	17.6	B
	NYS Route 481 EB Between Off-Ramp and On-Ramp from Bear Road	Basic	8.6	A	8.0	A	7.5	A	7.5	A	15.6	B	17.5	B
	NYS Route 481 Between U.S. Route 11 and I-81	Weave	11.0	B	10.0	B	10.4	B	9.8	A	15.3	B	16.4	B
	NYS Route 481 EB Off-Ramp to I-81 NB	Diverge	5.4	A	4.6	A	5.3	A	4.6	A	6.8	A	6.9	A
	NYS Route 481 EB Between Off-Ramp and On-Ramp from I-81	Basic	7.3	A	6.6	A	7.2	A	6.6	A	9.3	A	9.4	A
	NYS Route 481 EB On-Ramp from I-81 NB	Merge	6.2	A	5.5	A	6.4	A	5.7	A	7.9	A	7.8	A
	NYS Route 481 EB On-Ramp from I-81 SB	Merge	6.5	A	5.8	A	6.9	A	6.8	A	8.0	A	8.4	A
	NYS Route 481 EB Between I-81 and Northern Boulevard	Basic	8.6	A	7.7	A	9.1	A	9.0	A	10.7	A	11.1	B
NYS Route 481 WB	NYS Route 481 WB Between Northern Boulevard and I-81	Basic	19.9	C	17.0	B	19.9	C	17.0	B	21.0	C	19.0	C
	NYS Route 481 WB Off-Ramp to I-81	Diverge	13.5	B	11.5	B	13.5	B	11.5	B	14.3	B	12.8	B
	NYS Route 481 WB Between Off-Ramp and On-Ramp from I-81 NB	Basic	17.3	B	15.1	B	17.2	B	15.0	B	17.9	B	16.3	B
	NYS Route 481 WB Between On-Ramp and Off-Ramp to I-81	Weave	17.3	B	15.4	B	17.5	B	15.6	B	18.4	B	16.7	B
	NYS Route 481 WB Between Off-Ramp and On-Ramp from I-81 SB	Basic	22.9	C	20.3	C	23.0	C	20.6	C	24.3	C	22.2	C
	NYS Route 481 WB Between I-81 and U.S. Route 11	Weave	17.2	B	13.8	B	15.6	B	14.2	B	16.2	B	14.8	B
	NYS Route 481 WB Off-Ramp and On-Ramp from Circle Drive	Basic	14.3	B	12.3	B	14.5	B	12.8	B	15.8	B	14.2	B
	NYS Route 481 WB On-Ramp from Circle Drive	Merge	13.0	B	11.3	B	13.7	B	12.3	B	13.8	B	12.1	B
	NYS Route 481 WB Between U.S. Route 11 and Caughdenoy Road	Basic	17.8	B	18.4	C	18.4	C	16.7	B	19.0	C	17.0	B
NYS Route 481 WB (continued)	NYS Route 481 WB Off-Ramp to Caughdenoy Road	Diverge	12.7	B	26.2	C	13.3	B	12.4	B	13.5	B	12.2	B
	NYS Route 481 WB Between Caughdenoy Road and New Access Road	Basic									16.8	B	15.1	B
	NYS Route 481 WB Off-Ramp to New Access Road	Diverge									8.4	A	7.6	A
	NYS Route 481 WB Off-Ramp and On-Ramp from New Access Road	Basic									16.2	B	14.8	B

Segment Direction	Segment Description	Segment Type	2031 No Action Alternative				2031 Preferred Action Alternative				2031 Preferred Action Alternative with Recommended Mitigation C			
			Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS
			4 PM		5 PM		4 PM		5 PM		4 PM		5 PM	
	NYS Route 481 WB On-Ramp from New Access Road	Merge									11.9	B	12.1	B
	NYS Route 481 WB Between New Access Road and NYS Route 31	Basic	100.8	F	184.1	F	19.6	C	47.9	F	17.9	B	19.5	C
	NYS Route 481 WB Off-Ramp to NYS Route 31	Diverge	55.0	F	57.4	F	36.4	E	40.0	E	9.3	A	19.8	B
	NYS Route 481 WB Between Off-Ramp and On-Ramp from NYS Route 31	Basic	3.4	A	3.2	A	4.6	A	3.5	A	4.4	A	4.7	A
	NYS Route 481 WB On-Ramp from NYS Route 31	Merge	4.5	A	4.3	A	5.4	A	4.5	A	7.7	A	7.2	A
	NYS Route 481 WB Between NYS Route 31 and Verplank Road	Basic	6.4	A	6.1	A	7.6	A	6.4	A	10.6	A	10.0	A

Table 8-14. Year 2031 No Action Alternative Vs. Preferred Action Alternative Vs. Preferred Action Alternative with Recommended Mitigation C AM and PM Peak-Hour Significantly Impacted Intersections Operations – Delay and LOS

Intersection ID	Intersection name	Intersection Control	2031 No Action Alternative			2031 Preferred Action Alternative			2031 Preferred Action w/Mitigation			2031 No Action Alternative			2031 Preferred Action Alternative			2031 Preferred Action Alternative with Recommended Mitigation C		
			Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c
			6 AM			6 AM			6 AM			7 AM			7 AM			7 AM		
1	NYS Route 481 and NYS Route 31	Signalized	32.6	C	0.67	34.4	C	0.69	8.0	A	0.62	44.3	D	0.97	127.3	F	1.22	11.8	B	0.77
4	Parking Lot/GNM West and NYS Route 31	Signalized	39.9	D	0.56	53.9	D	0.53	12.9	B	0.43	27.0	C	0.77	120.2	F	0.84	24.1	C	0.62
5	Parking Lot/GNM East and NYS Route 31	Signalized	12.9	B	0.46	21.6	C	0.65	17.2	B	0.36	33.5	C	1.07	64.2	E	1.48	25.3	C	0.61
6	Morgan Road and NYS Route 31	Signalized	60.7	E	1.05	55.7	E	1.07	24.0	C	0.49	148.3	F	1.71	209.2	F	1.84	32.8	C	0.85
7	Henry Clay Boulevard and NYS Route 31	Signalized	12.0	B	0.51	13.5	B	0.59	18.9	B	0.31	20.4	C	0.80	88.0	F	1.13	30.3	C	0.83
8	Grange Road W and NYS Route 31	Signalized	8.5	A	0.44	9.5	A	0.47	2.4	A	0.19	10.0	A	0.62	149.8	F	1.15	1.9	A	0.53
9	Van Hoesen Road and NYS Route 31	Unsignalized	15.8	C	0.00	16.4	C	0.00	3.7	A	0.20	30.7	D	0.00	286.7	F	0.00	2.1	A	0.49
10	Grange Road E and NYS Route 31	Unsignalized	11.3	B	0.00	11.5	B	0.00	10.1	B	0.00	13.8	B	0.00	36.2	E	0.00	13.6	B	0.00
11	Caughdenoy Road and NYS Route 31	Signalized	11.4	B	0.44	22.6	C	0.48	4.2	A	0.22	16.0	B	0.66	83.5	F	1.20	6.0	A	0.56
50	McNamara Drive/Driveway and NYS Route 31	Unsignalized	21.6	C	0.00	22.4	C	0.00	12.8	B	0.21	151.4	F	0.00	>300	F	0.00	14.3	B	0.61
56	NYS Route 31 and Weller Canning Road	Unsignalized	12.7	B	0.00	13.0	B	0.00	10.3	B	0.00	18.1	C	0.00	46.4	E	0.00	13.0	B	0.00
69	Morgan Road and Verplank Road	Unsignalized	22.1	C	0.00	22.4	C	0.00	8.4	A	0.41	221.8	F	0.00	>300	F	0.00	11.3	B	0.62
280	Oswego Road/Oswego Road and NYS Route 31	Signalized	27.1	C	0.71	28.9	C	0.74	20.5	C	0.62	79.6	E	1.04	92.2	F	1.13	38.8	D	0.90
			4 PM			4 PM			4 PM			5 PM			5 PM			5 PM		
1	NYS Route 481 and NYS Route 31	Signalized	164.2	F	1.47	163.6	F	1.43	77.2	E	1.19	181.9	F	1.52	213.0	F	1.54	46.9	D	1.07
2	NYS Route 481 and NYS Route 31	Signalized	197.9	F	1.38	204.2	F	1.38	52.3	D	1.06	155.3	F	1.36	196.2	F	1.45	32.0	C	0.99
6	Morgan Road and NYS Route 31	Signalized	273.4	F	1.88	292.7	F	2.07	55.9	E	0.92	187.2	F	1.66	293.0	F	2.05	45.6	D	0.82
7	Henry Clay Boulevard and NYS Route 31	Signalized	215.4	F	1.51	81.2	F	1.17	33.4	C	0.66	90.0	F	1.09	119.1	F	1.28	25.9	C	0.71
8	Grange Road W and NYS Route 31	Signalized	152.6	F	1.24	66.4	E	1.04	10.8	B	0.54	25.9	C	0.83	63.6	E	1.06	9.0	A	0.62
9	Van Hoesen Road and NYS Route 31	Unsignalized	78.9	F	0.00	62.7	F	0.00	2.5	A	0.45	53.6	F	0.00	73.9	F	0.00	3.4	A	0.59

Intersection ID	Intersection name	Intersection Control	2031 No Action Alternative			2031 Preferred Action Alternative			2031 Preferred Action w/Mitigation			2031 No Action Alternative			2031 Preferred Action Alternative			2031 Preferred Action Alternative with Recommended Mitigation C		
			Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c	Delay (sec/veh)	LOS	v/c
11	Caughdenoy Road and NYS Route 31	Signalized	64.3	E	1.07	49.2	D	1.04	17.7	B	0.57	40.6	D	0.94	103.4	F	1.10	8.2	A	0.59
14	Barcaldine Drive/Legionnaire Drive and NYS Route 31	Unsignalized	20.8	C	0.00	31.4	D	0.00	12.4	B	0.00	16.8	C	0.00	110.0	F	0.00	13.0	B	0.00
15	Lawton Road/Legionnaire Drive and NYS Route 31	Signalized	16.3	B	0.73	25.4	C	0.82	19.1	B	0.75	12.4	B	0.64	98.5	F	1.10	34.5	C	0.53
16	U.S. Route 11 and NYS Route 31	Signalized	57.9	E	1.05	66.2	E	1.11	27.5	C	0.72	44.8	D	0.94	192.7	F	1.70	48.4	D	0.83
17	I-81 SB On-Ramp/I-81 SB Off-Ramp and NYS Route 31	Signalized	26.1	C	0.90	26.2	C	0.87	25.4	C	0.76	24.3	C	0.82	75.3	E	1.18	18.4	B	0.89
19	NYS Route 31 and Lakeshore Road	Unsignalized	N/A	E	N/A	N/A	F	N/A	N/A	D	N/A	N/A	D	N/A	N/A	D	N/A	N/A	D	N/A
20	Parking Lot/Lakeshore Rd Spur and NYS Route 31	Signalized	60.3	E	1.16	82.7	F	1.23	50.6	D	0.98	39.8	D	1.01	42.3	D	1.04	43.3	D	0.92
24	South Bay Road and NYS Route 31	Signalized	56.9	E	1.08	59.0	E	1.06	31.7	C	0.68	46.9	D	0.99	61.4	E	1.09	34.0	C	0.73
26	Caughdenoy Road and Verplank Road	Unsignalized	19.8	C	0.00	23.0	C	0.00	7.3	A	0.39	14.2	B	0.00	214.4	F	0.00	7.2	A	0.46
54	Doreen Avenue and NYS Route 31	Unsignalized	61.4	F	0.00	68.3	F	0.00	17.7	C	0.00	38.0	E	0.00	49.1	E	0.00	21.6	C	0.00
55	NYS Route 31 and Button Road	Unsignalized	50.6	F	0.00	25.4	D	0.00	5.9	A	0.53	34.4	D	0.00	44.5	E	0.00	10.4	B	0.62
56	NYS Route 31 and Weller Canning Road	Unsignalized	185.2	F	0.00	140.0	F	0.00	12.8	B	0.00	73.8	F	0.00	281.6	F	0.00	14.2	B	0.00
72	Morgan Road and GNM Driveway 2	Unsignalized	170.0	F	0.00	118.5	F	0.00	15.3	B	0.61	42.4	E	0.00	68.6	F	0.00	14.7	B	0.72
77	Soule Rd/NYS Route 481	Signalized /Roundabout	70.7	E	1.02	62.5	E	1.01	53.8	D	0.00	60.4	E	1.02	80.5	F	1.07	32.8	C	0.00
262	Carling Road South/Carling Road North and NYS Route 31	Signalized	69.2	E	1.11	57.2	E	1.07	56.4	E	1.12	52.3	D	1.05	62.9	E	1.10	31.5	C	0.95
280	Oswego Road and NYS Route 31	Signalized	89.2	F	1.15	72.0	E	1.06	53.8	D	1.07	87.9	F	1.12	107.5	F	1.16	34.8	C	0.91

Table 8-15. Year 2031 No Action Alternative Vs. Preferred Action Alternative Vs. Preferred Action Alternative with Recommended Mitigation C Significantly Impacted Freeway Operations AM and PM Peak Hour – Delay and LOS

Segment Direction	Segment Description	Segment Type	2031 No Action Alternative				2031 Preferred Action Alternative				2031 Preferred Action Alternative with Recommended Mitigation C			
			Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS	Density (Veh/mi/ln)	LOS	Density (veh/mi/ln)	LOS
			6 AM		7 AM		6 AM		7 AM		6 AM		7 AM	
I-81 NB	I-81 NB Off-Ramp to NYS Route 31	Diverge	3.4	A	5.0	A	3.8	A	95.2	F	3.1	A	5.8	A
NYS Route 481 WB	NYS Route 481 WB Off-Ramp to Caughdenoy Road	Diverge	3.6	A	5.7	A	3.9	A	72.7	F	3.5	A	9.1	A
			4 PM	4 PM	5 PM	5 PM	4 PM	4 PM	5 PM	5 PM	4 PM	4 PM	5 PM	5 PM
I-81 NB	I-81 NB Between I-481 and NYS Route 31	Basic	15.2	B	12.5	B	19.4	C	37.0	E	16.9	B	15.4	B
	I-81 NB Off-Ramp to NYS Route 31	Diverge	15.7	B	12.9	B	38.5	E	75.4	F	10.0	A	9.2	A