NYS Route 5 Corridor and the Village of Fayetteville:

Transportation and Smart Growth Opportunities

Technical Memorandum

SMTC

June 2026

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Syracuse Metropolitan Transportation Council

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Abbreviations

AADT	Annual Average Daily Traffic
ATR	Automated Traffic Recorder, or “tube counts”
CLEAR	Crash Location and Engineering Analysis Repository
LOTTR	Level of Travel Time Reliability
MTP	Metropolitan Transportation Plan
MUTCD	Manual on Uniform Traffic Control Devices
NACTO	National Association of City Transportation Officials
NPMRDS	National Performance Management Research Data Set
NYSDOT	New York State Department of Transportation
SMTC	Syracuse Metropolitan Transportation Council
TED	Total Hours of Excessive Delay
TWLTL	Two Way Left Turn Lane
UPWP	Unified Planning Work Program

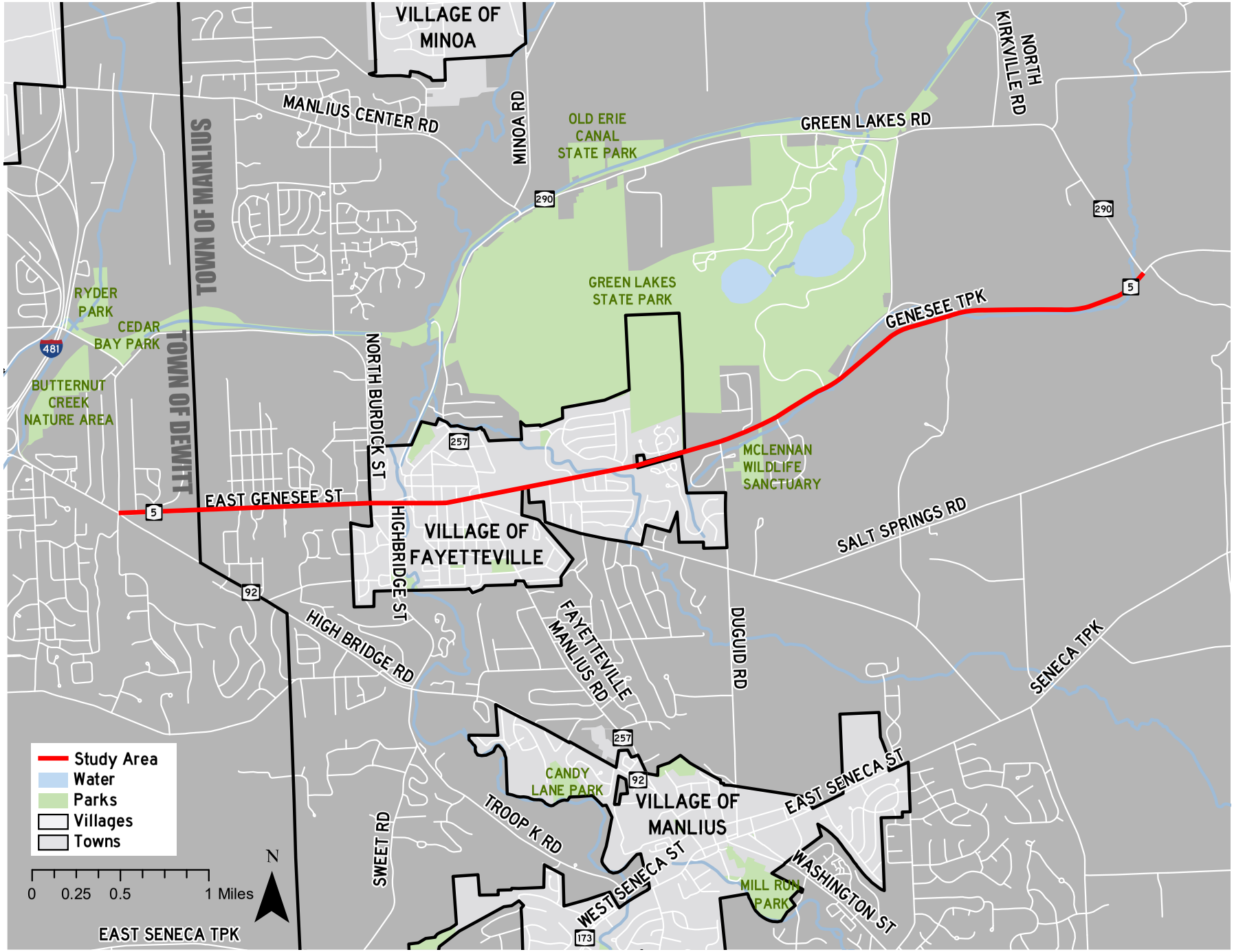


Figure 1.1 Study area

1 Introduction

As part of the 2025-2026 Unified Planning Work Program (UPWP), the Syracuse Metropolitan Transportation Council (SMTC) agreed to complete the NYS Route 5 Corridor and the Village of Fayetteville: Transportation and Smart Growth Opportunities technical memorandum.

With incoming growth associated with large-scale investments across Onondaga County and planned developments surrounding and within the Village of Fayetteville, residents continue to be concerned about congestion and the impact it has on daily life within the Village. Building off the Village of Fayetteville Route 5 Transportation and Land Use Analysis from 2018, SMTC staff collected and analyzed updated traffic data, reviewed travel demand model outputs, and evaluated potential traffic calming measures for side streets. This technical analysis identifies trends in traffic volumes and provides context for future developments.

SMTC staff coordinated with representatives from the Village of Fayetteville and New York State Department of Transportation (NYSDOT) on this technical analysis.

1.1 Study area

The study area for this technical analysis includes Route 5 from the Village's eastern border at Duguid Rd to its western border at N Burdick St. This includes the Route 5 / Salt Springs Rd / Route 257 intersection. Additional data was collected along Route 5 from the Onondaga County / Madison County line to the Route 5 / Duguid Rd intersection, east of the Village, and from the Route 5 / N Burdick St intersection to the Route 5 / Route 92 intersection, west of the Village.

1.2 Village of Fayetteville Route 5 Transportation and Land Use Analysis (2018)

The Fayetteville Route 5 Transportation and Land Use Analysis was completed by the SMTC on behalf of the Village of Fayetteville in 2018. The Village's stated goal in requesting this analysis was to "identify methods to allow the Village of Fayetteville to continue to develop existing underutilized properties by improving and/or creating new vehicle capacity within the village."

As part of the overall study effort, a "travel time study" was conducted that used GPS data collected by SMTC staff to compare peak period travel times on Route 5 and Route 290. The travel time data collection results showed that all average travel times (eastbound and westbound, morning and evening peak periods) were less than 20 minutes between Mycenae (Route 5/Route 290 intersection) and Midler Avenue on I-690 in the City of Syracuse. In all cases, the overall average travel time on Route 5 was greater than the average travel time on Route 290, but only by four minutes at most.

The SMTC's travel demand model was used to evaluate the impacts of an anticipated future land use scenario on traffic volumes within the village. The model indicated about 4 percent to 12 percent total growth on segments of Route 5 over six years with the anticipated residential and commercial development. This equates to up to 100 additional vehicles in the morning peak hour and up to 150 additional vehicles in the evening peak hour, which was not expected to substantially change the operating conditions along Route 5. The model was also used to evaluate a scenario with an additional travel lane in each direction on Route 290 between Basile Rowe and Route 5. This scenario resulted in very little traffic diversion from Route 5 to Route 290, suggesting that much of the traffic on Route 5 is generated by residents within and very nearby the village and that trips are attracted to Route 5 because of the numerous commercial destinations along the route.

After examining the existing and anticipated traffic flow in the village, "issues and opportunities" were identified. The following conclusions are summaries from the 2018 report and do not include any new analysis:

Local trips/local road connections

Traffic flow within the Village suggests the need for alternatives to Route 5 for "local" trips (to/from a destination within or adjacent to the Village), but new local road connections do not appear feasible due to undesirable impacts to existing residential neighborhoods and construction challenges (especially crossing Limestone Creek).

Transit will have minimal impact

Transit is unlikely to reduce commuter volumes from and through Fayetteville due to the relatively low congestion in the region, relatively cheap parking at destinations, and the dispersal of job sites throughout the region.

Current design of Route 5 offers flexibility

The current design of Route 5 between Brooklea Drive and Chapel Street (one wide lane in each direction) offers flexibility – on-street parking is allowed (with minimal restrictions) and vehicles are able to maneuver around other vehicles that are waiting to make a left turn. Changing this segment to a three-lane cross-section, with two eastbound travel lanes, would remove these advantages, could introduce a new safety concern, and would be a major project requiring reconstruction of the road.

Implement access management

The Village's current Comprehensive Plan includes concepts that support the principles of access management, including shared access and ideal driveway alignment.

Route 5 – Route 257 – Salt Springs Road operations

Overall, the intersections of Route 5/Route 257 and Route 257/Salt Springs Road operate at acceptable levels, although some individual movements experience higher delay during peak hours. However, significant improvement to operations here would require widening of the roads or major reconstruction, which run counter to the goals of the Comprehensive Plan. Two initial roundabout concepts were developed as part of this study; both would require additional, more detailed analysis to be determined feasible, and would likely result in significant land takings from private property owners.

Two Way Left Turn Lane (TWLTL) has merit

Data reviewed suggested that a two-way left-turn lane on Route 5 between Fayetteville Square and Briar Brook Run would be appropriate and beneficial; however, the existing pavement is narrow in part of this segment and may present a construction challenge. This intervention has been included in the site plan for a future grocery store as part of its traffic mitigation efforts and has been approved by NYSDOT should the redevelopment occur. At this time, no further analysis is required and the Village should adhere to NYSDOT's findings.

The analysis presented in the 2018 study indicated that Route 5 serves many purposes, as a commuter route, commercial corridor, and "main street." Traffic volumes are likely to remain relatively high because of the many destinations along Route 5. The Village's comprehensive plan update from 2014, which was reviewed as part of the 2018 study, does not support the widening of Route 5, and capital funding for transportation projects in the region is largely focused on preservation and maintenance rather than adding system capacity. Other improvements, such as access management, could help alleviate some of the congestion within the Village. Future development within the village can both provide conveniences to local residents but also result in additional traffic.

2 Updated Traffic Data

Since the completion of the 2018 study, major events and announcements have refocused attention on traffic volumes and movements within the Village. The Covid-19 pandemic forced many individuals to work from home or alter their typical workdays. Some of these changes have become permanent, with remote and hybrid work becoming more common and overall work schedules shifting for some.

In 2022, Micron Technology announced that it would be investing up to $100 billion to build four fabrication plants (fabs) in the Town of Clay. This investment would lead to 9,000 direct jobs at the fabs and over 40,000 indirect jobs.

With this potential influx of residents and shifting commuting habits, the Village of Fayetteville requested the SMTC to update the data reported in the 2018 study to create a new baseline of understanding on the traffic issues facing Route 5.

2.1 Annual Average Daily Traffic (AADT) for road segments

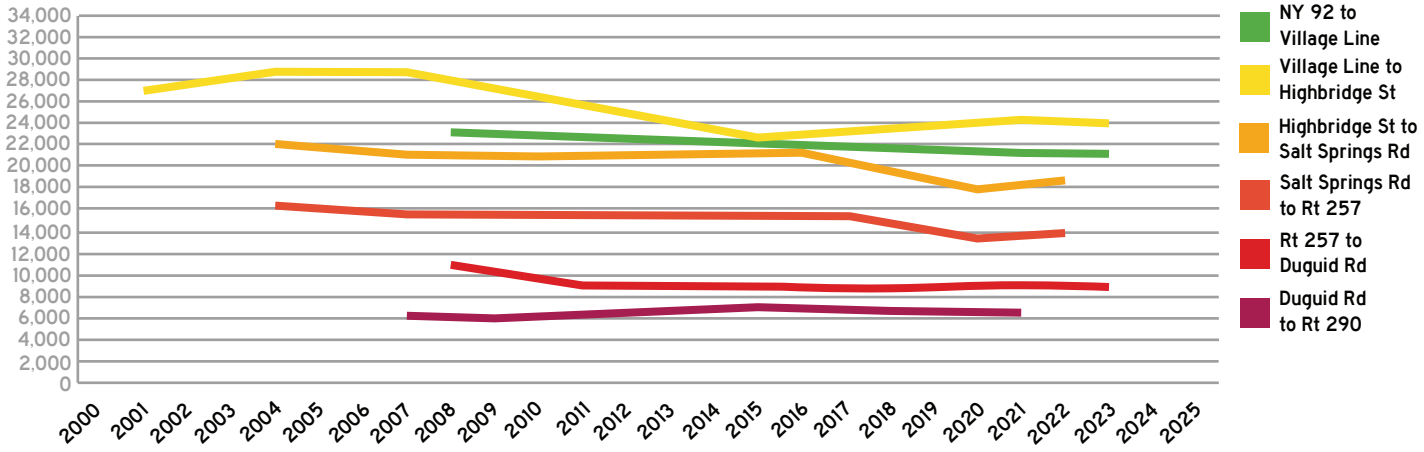
NYSDOT publishes yearly counts and estimates of Annual Average Daily Traffic (AADT) on its website, Traffic Data Viewer. The website allows members of the public to review existing Automated Traffic Recorder counts (ATR, commonly known as "tube counts") conducted by NYSDOT over the last decade or more, with estimates based on counts for that location and other nearby locations filling in for the off years.

SMTC staff reviewed data over the last 25 years where available, including data originally collected for the 2018 study. As shown in Table 2.1 and Figure 2.1 traffic volumes have generally declined or remained stable over this time period. Percent annual change ranges from a low of -1.37% to a high of 0.33%.

Table 2.1 Change in AADT, 2015 to 2023

Segment eastern end point	T. Manlius / V. Fayetteville (330106)		Highbridge St (330109)		Salt Spring Rd (330096)		Route 257 (330177)		Duguid Rd (330178)		Route 290 (330187)		C. Onondaga / C. Madison (330045)	
Year	AADT	Annual Growth	AADT	Annual Growth	AADT	Annual Growth	AADT	Annual Growth	AADT	Annual Growth	AADT	Annual Growth	AADT	Annual Growth
2015	23,203	-	22,712	-	21,236	-	15,889	-	8,875	-	7,011	-	11,771	-
2019	21,166	-2.27%	22,612	-0.11%	21,309	0.09%	15,499	-0.62%	8,751	-0.35%	6,656	-1.29%	12,763	2.04%
2023	21,215	0.06%	24,051	1.55%	21,065	-0.29%	15,322	-0.29%	8,885	0.38%	6,580	-0.29%	12,307	-0.91%

Figure 2.1 Change in AADT, 2000 to 2023



The following figures visualize both the actual counts and estimated counts over the last 10 years for each segment of the study area corridor. Traffic volumes have remained stable over the last ten years. While significant decreases occurred during the Covid-19 pandemic in 2020, the traffic volumes post-pandemic rebounded to previous levels and continue the overall stable to decreasing trend.

Figure 2.2 Historical AADT Rt 5 (Rt 92 to Village Line), 2015 - 2024

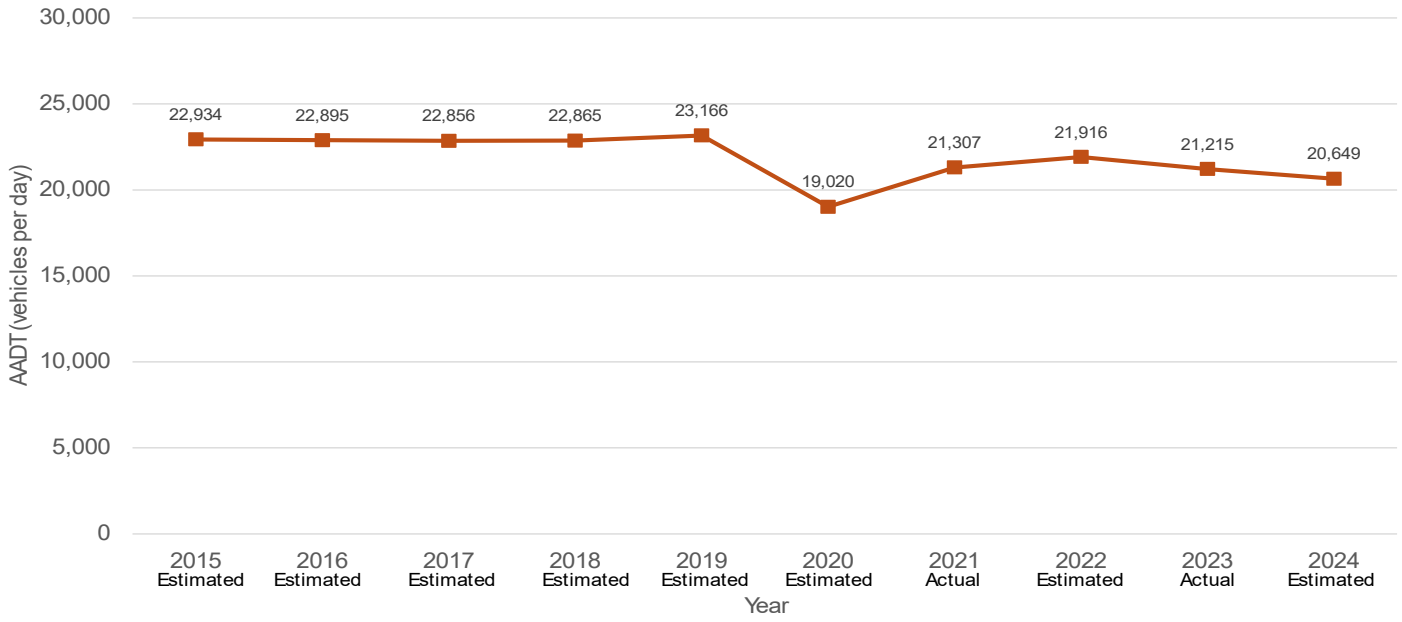


Figure 2.3 Historical AADT Rt 5 (Village Line to Highbridge St), 2015 - 2024

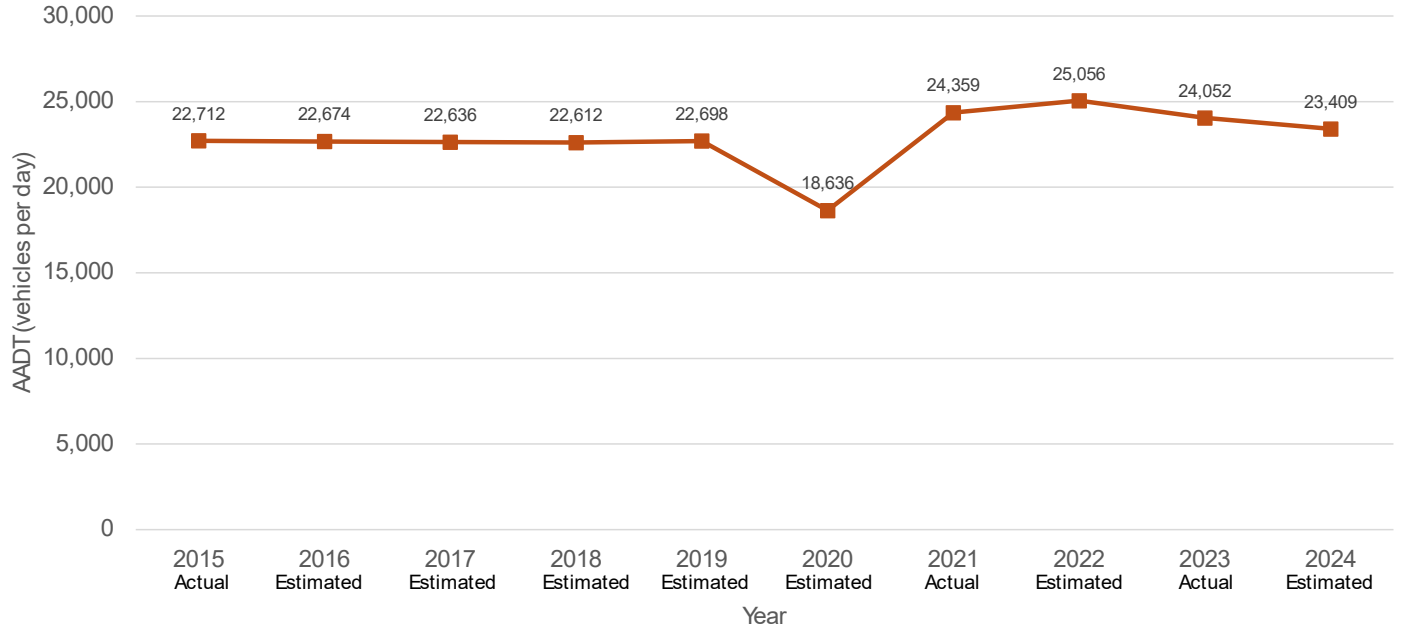


Figure 2.4 Historical AADT Rt 5 (Highbridge St to Salt Springs Rd), 2015 - 2024

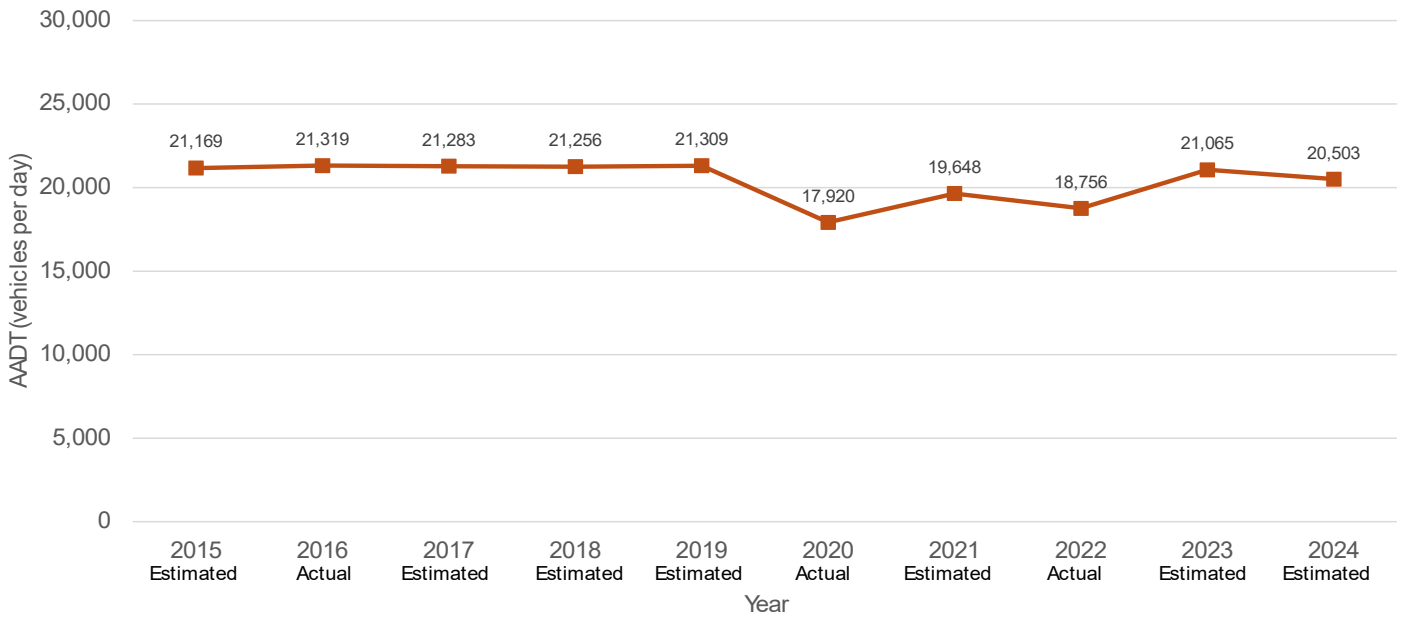


Figure 2.5 Historical AADT Rt 5 (Salt Springs Rd to Rt 257), 2015 - 2024

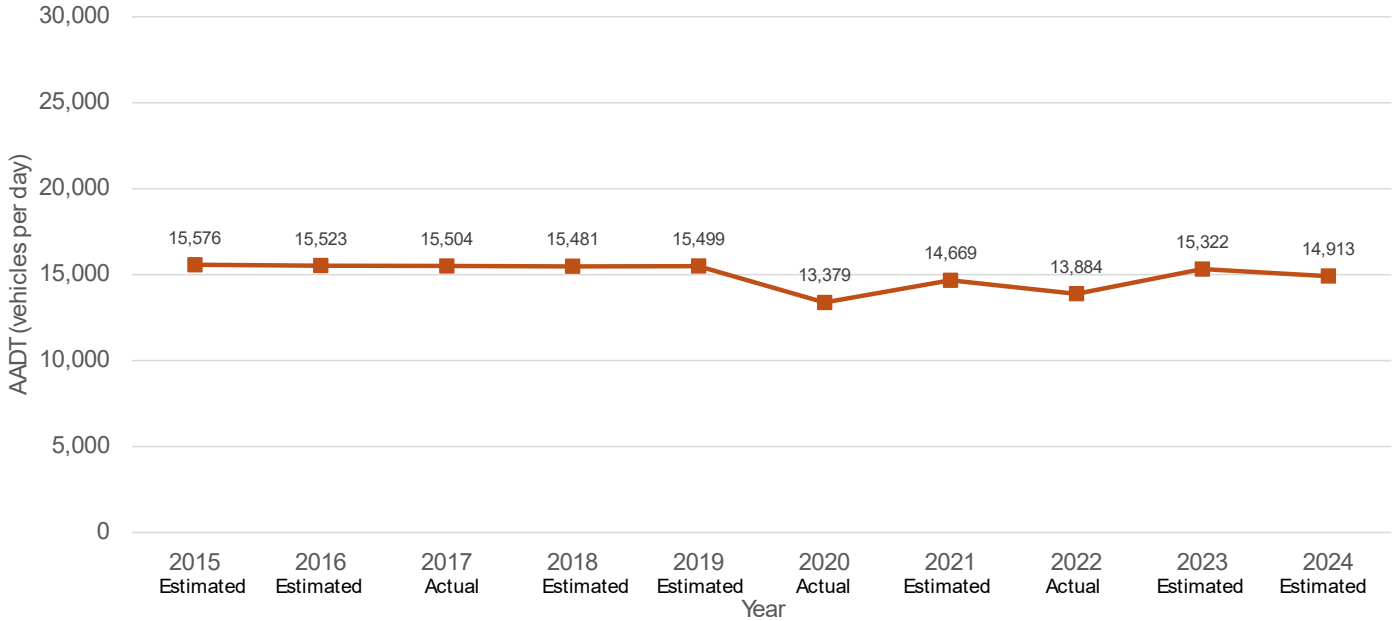


Figure 2.6 Historical AADT Rt 5 (Rt 257 to Duguid Rd), 2015 - 2024

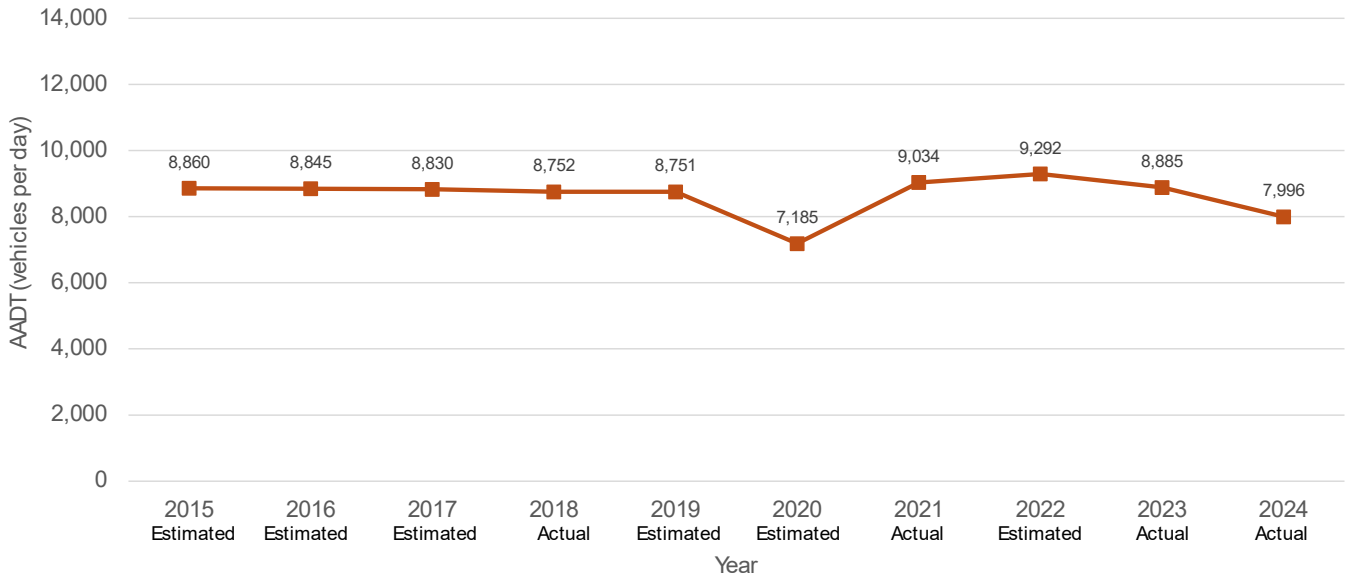


Figure 2.7 Historical AADT Rt 5 (Duguid Rd to Rt 290), 2015 - 2024

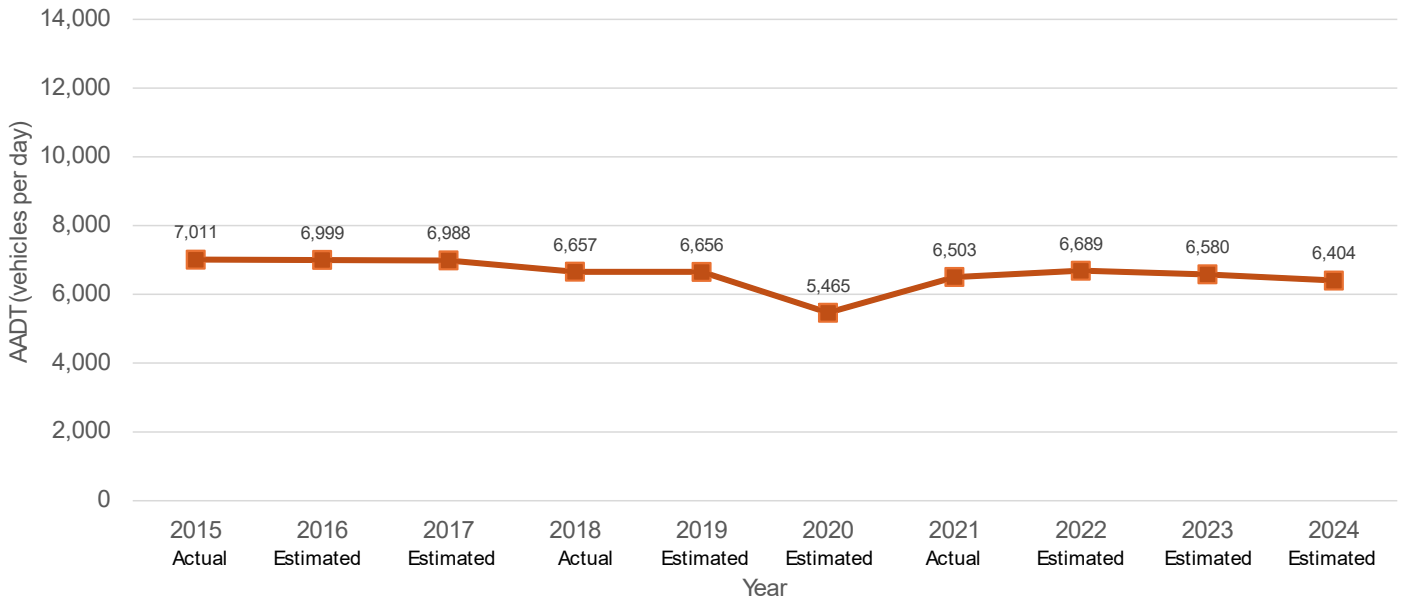
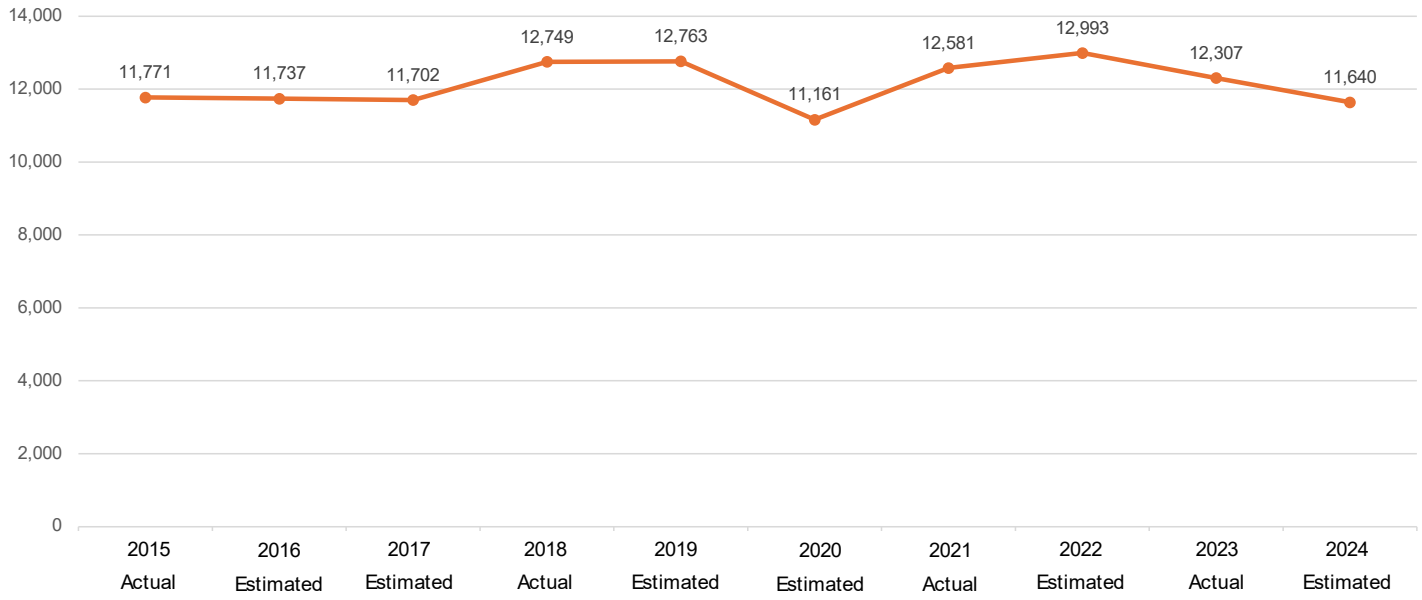


Figure 2.8 Historical AADT Rt 5 (Rt 290 to County Line), 2015 - 2024



2.2 Turning movement counts comparison

Traffic volumes at intersections have remained relatively stable in recent years. Table 2.2 compares traffic volumes identified in the 2018 study, including volumes from 1995 and 2015, to more recent counts conducted in January 2020, as part of a traffic impact study for a proposed supermarket at 547 E Genesee St, and October 2025, as part of this planning effort.

Data for the Route 5 / N Burdick St intersection shows a decrease in volumes during both the AM and PM peak hours, with PM peak volumes decreasing by 2.45 percent annually since 2015. The Route 5 / Route 257 intersection has remained stable over the last 10 years, with a 0.64 percent annual growth in the PM peak. This remains lower than volumes experienced in 1995.

Table 2.2 Intersection volumes

Intersection	AM Peak Hour							PM Peak Hour						
	1995	2015	Annual Growth (1995 - 2015)	2020 (Jan)	Annual Growth (2015 - 2020)	2025 (Oct)	Annual Growth (2015 - 2025)	1995	2015	Annual Growth (1995 - 2015)	2020 (Jan)	Annual Growth (2015 - 2020)	2025 (Oct)	Annual Growth (2015 - 2025)
Rt 5 / N Burdick	2,200	2,403	0.44%	-	-	2,157	-1.07%	2,805	3,630	1.30%	-	-	2,833	-2.45%
Rt 5 / Highbridge	2,165	2,178	0.03%	-	-	-	-	2,785	2,862	0.14%	-	-	-	-
Rt 5 / Rt 257	1,725	1,465	-0.81%	1,490	0.34%	1,477	0.08%	2,035	1,588	-1.23%	1,756	2.03%	1,692	0.64%
Rt 257 / Salt Springs	1,105	1,261	0.66%	935	-5.81%	-	-	1,260	1,156	-0.43%	1,149	-0.12%	-	-
Cedar Bay / N Burdick	780	843	0.39%	-	-	-	-	1,169	1,226	0.24%	-	-	-	-

2.3 Hourly traffic volumes comparison

SMTC staff reviewed hourly traffic volume data from NYSDOT for each road segment, comparing pre-pandemic data (2015 to 2018) to the most recent counts available (2023 to 2025).

Overall, the data show that there have not been significant changes to how traffic flows on an hourly basis pre- and post-pandemic. Traffic volumes on individual road segments show less pronounced peaks in the post-pandemic years, with a slight elongation of the peak hours but the effect is minimal. Traffic volumes remain fairly consistent throughout the day along the entire corridor, indicating that the road is highly varied in use, serving both commuter traffic and providing access to commercial, residents, and other destinations throughout the day.

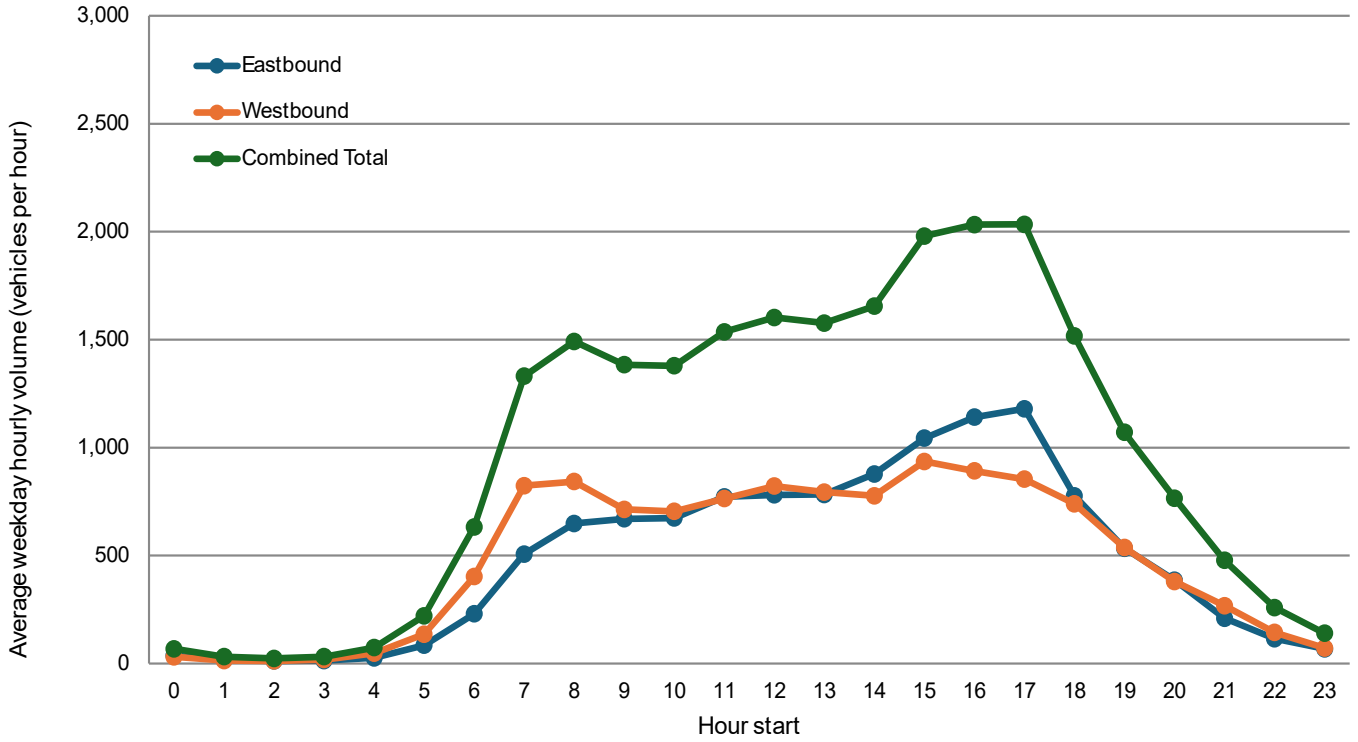
More detailed descriptions of each road segment's hourly traffic volumes pre- and post-pandemic can be found below.

Route 92 to Town of Manlius / Village of Fayetteville Line

Pre-pandemic hourly traffic volumes were unavailable for this road segment.

Traffic volume counts in 2023 show westbound traffic, heading towards the City of Syracuse, peaking between 8:00 am and 9:00 am, with about 800 vehicles, then remaining just under 800 vehicles per hour for the midday period. Westbound traffic peaks, again, in the afternoon in the 3:00 pm to 4:00 pm hour with about 900 vehicles, before tapering off the remainder of the day. Eastbound traffic, towards the Village of Fayetteville, climbs steadily throughout the day, peaking between 5:00 pm and 6:00 pm with about 1,200 vehicles. The combined result of the two directions of traffic is that overall, Route 5 experiences a sharper increase in traffic after 7:00 am, followed by a fairly steady increase in volumes until the afternoon peak of over 2,000 vehicles between 5:00 pm and 6:00pm. After 6:00 pm, traffic volumes experience a sharp decrease.

Figure 2.9 Rt 5 (Rt 92 to Village Line) Hourly Traffic Volumes; Oct. 2023



Village of Fayetteville Line to Highbridge St

This is the only segment of the corridor that arguably sees more of a pronounced peak in hourly traffic volume post-pandemic than pre-pandemic. Westbound traffic, in both 2015 and 2023, peaked in the morning with around 1,100 vehicles per hour, between 7:00 a.m. and 9:00 a.m. Both the 2015 and 2023 data show hourly volumes westbound remaining steady at just under 1,000 vehicles per hour until 5:00 p.m., after which the volume decreases notably.

In 2023, eastbound traffic steadily increased throughout the day, with an afternoon peak between 5:00 pm and 6:00 pm at around 1,400 vehicles. The 2015 counts show a shallower peak of around 1,200 vehicle during the same hour. Combined traffic volumes in 2023 show a shallower morning peak between 8:00 am and 9:00 am of around 1,700 vehicles, compared to 1,900 in the same hour in 2015. In contrast, the 2023 afternoon peak between 5:00 pm and 6:00 pm of around 2,300 vehicles outpaces the 2,100 vehicles measured in the same hour in 2015.

Figure 2.10 Rt 5 (Village Line to Highbridge St) Hourly Traffic Volumes; Apr. 2015

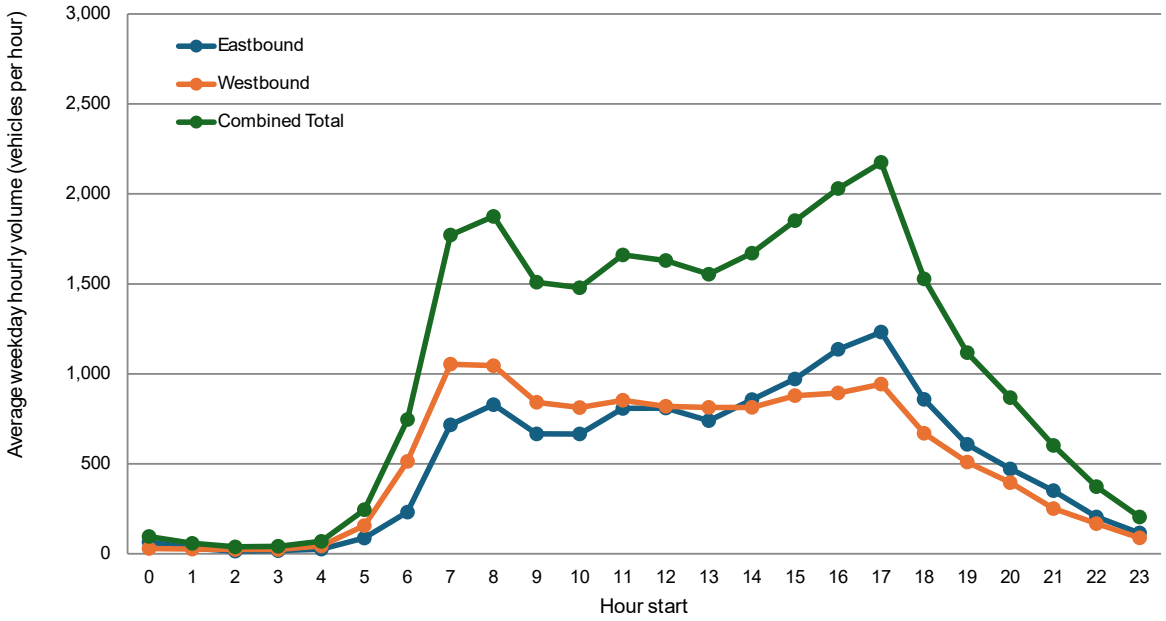
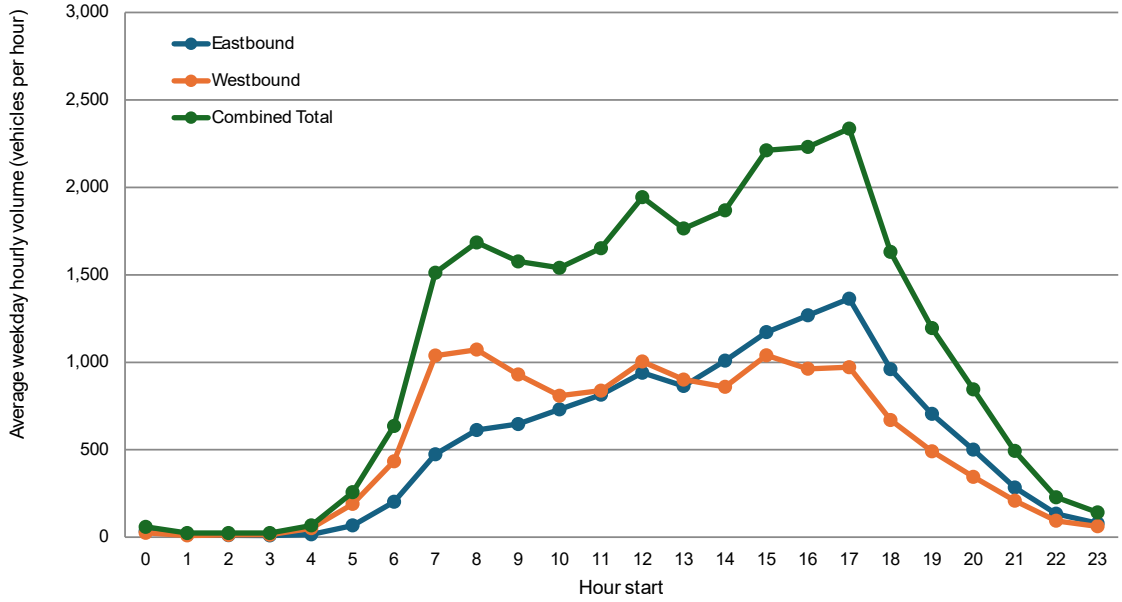


Figure 2.11 Rt 5 (Village Line to Highbridge St) Hourly Traffic Volumes; Oct. 2023



In 2025, westbound traffic peaked at 800 vehicles between 8:00 and 9:00 am, down from 900 vehicles in the same hour in 2016. Westbound volumes remained steady throughout the day in both years, around 700 vehicles per hour, before tapering off after 6:00 pm. Eastbound traffic steadily increased throughout the day in both years, peaking between 5:00 pm and 6:00 pm at around 1,100 in 2016 and 1,000 in 2025. Combined traffic volumes for both years peaked between 5:00 pm and 6:00 pm with around 1,800 vehicles.

Figure 2.12 Rt 5 (Highbridge St to Salt Springs Rd) Hourly Traffic Volumes; Nov. 2016

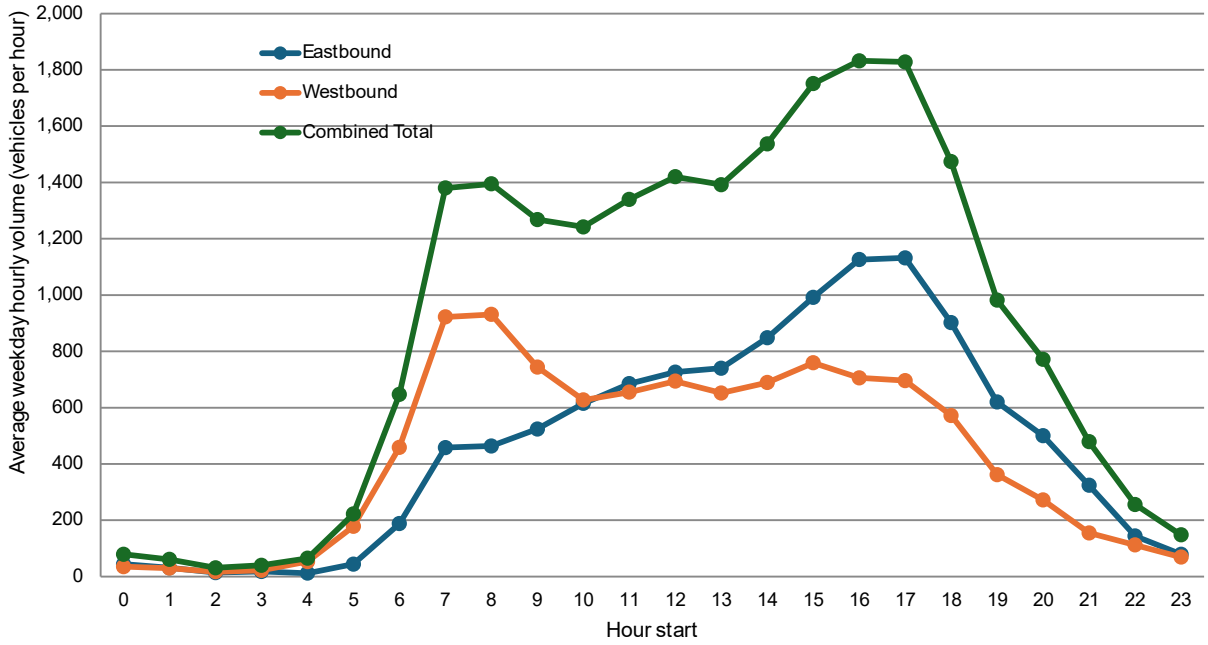
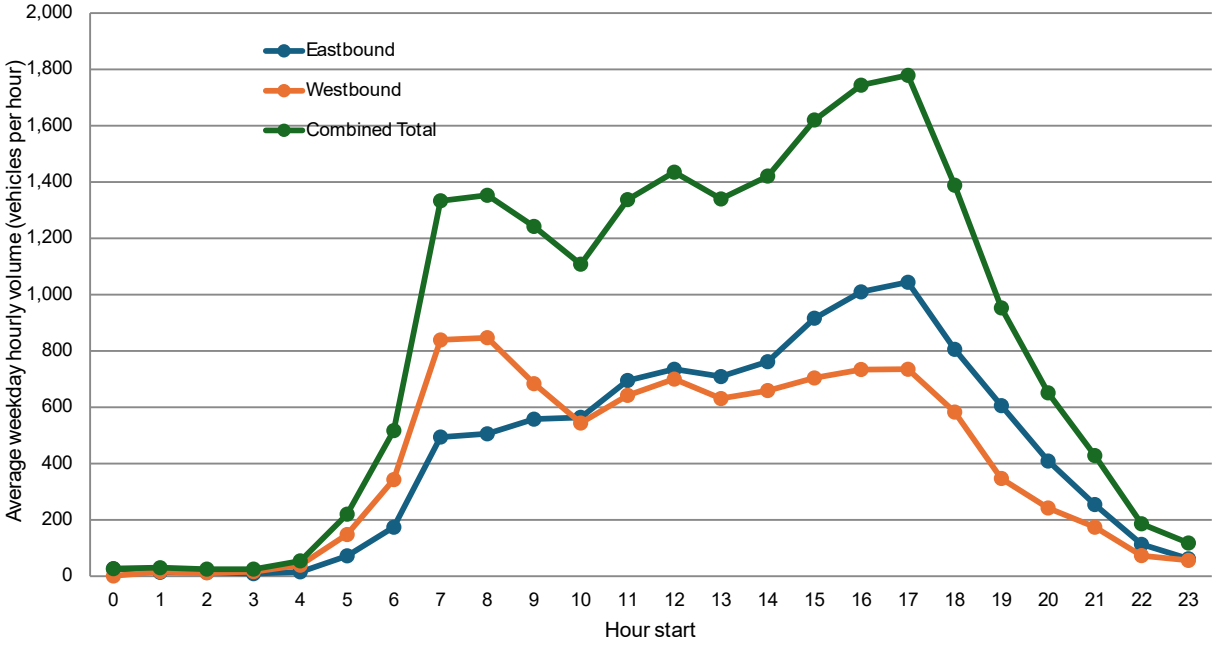


Figure 2.13 Rt 5 (Highbridge St to Salt Springs Rd) Hourly Traffic Volumes; Mar. 2025



Salt Springs Rd to Route 257

Unlike any other segment of this corridor, Route 5 between Salt Springs Rd and Route 257 carries significantly more westbound traffic than eastbound traffic throughout the day. This is likely due to Salt Springs Rd providing eastbound only access to Route 257.

Total traffic along this segment is fairly consistent throughout the day, from the morning peak between 8:00 am and 9:00 am of around 1,100 vehicles in both directions, 900 of which are traveling westbound, to the afternoon peak between 4:00 pm and 5:00 pm of around 1,200 vehicles in both directions, 700 of which are traveling westbound.

Figure 2.14 Rt 5 (Salt Springs Rd to Rt 257) Hourly Traffic Volumes; Nov. 2017

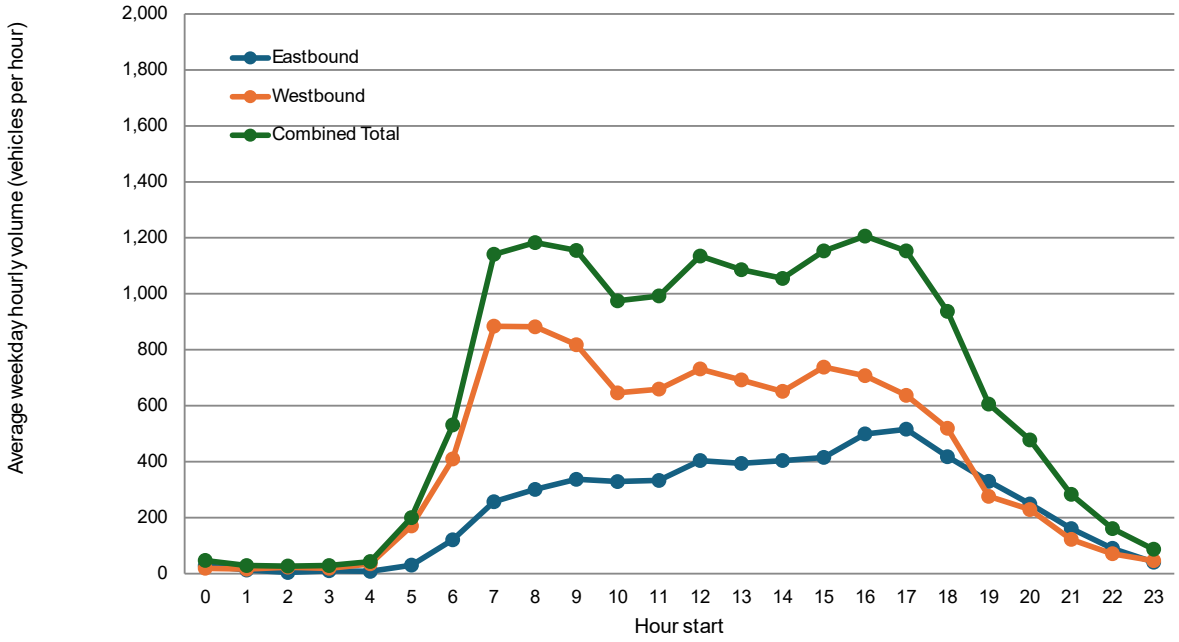
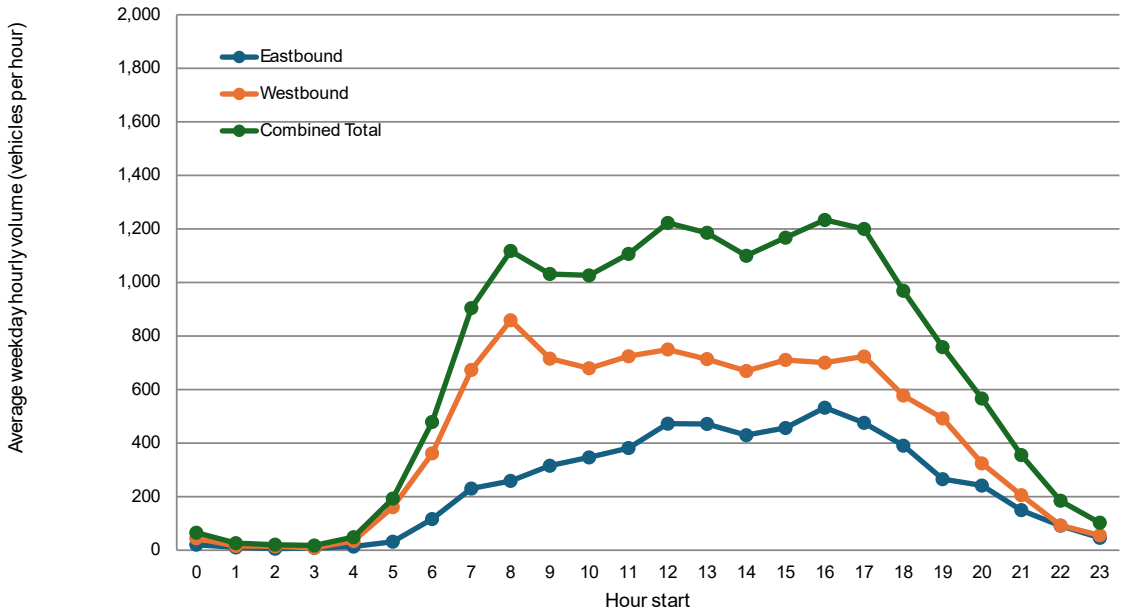


Figure 2.15 Rt 5 (Salt Springs Rd to Rt 257) Hourly Traffic Volumes; Jul. 2025



East of Route 257, volumes begin to decrease substantially. In both 2018 and 2024, westbound traffic peaked in the morning at around 400 vehicles per hour between 7:00 a.m. and 9:00 a.m. Westbound traffic then remained steady at around 300 vehicles per hour for the remainder of the day with a gradual decrease after 6:00 pm. Eastbound traffic volumes in both years steadily increased throughout the day, peaking between 5:00 pm and 6:00 pm at around 500 vehicles. Combined traffic volumes peaked at around 800 vehicles per hour in both the 4:00 pm and 5:00 pm hours.

Figure 2.16 Rt 5 (Rt 257 to Duguid Rd) Hourly Traffic Volumes; Apr. 2018

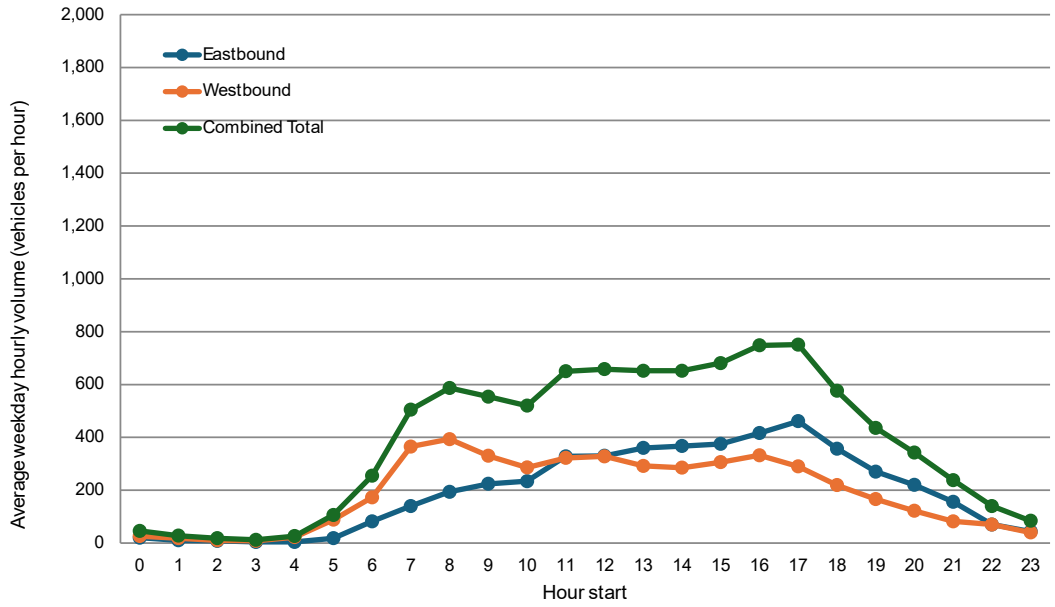
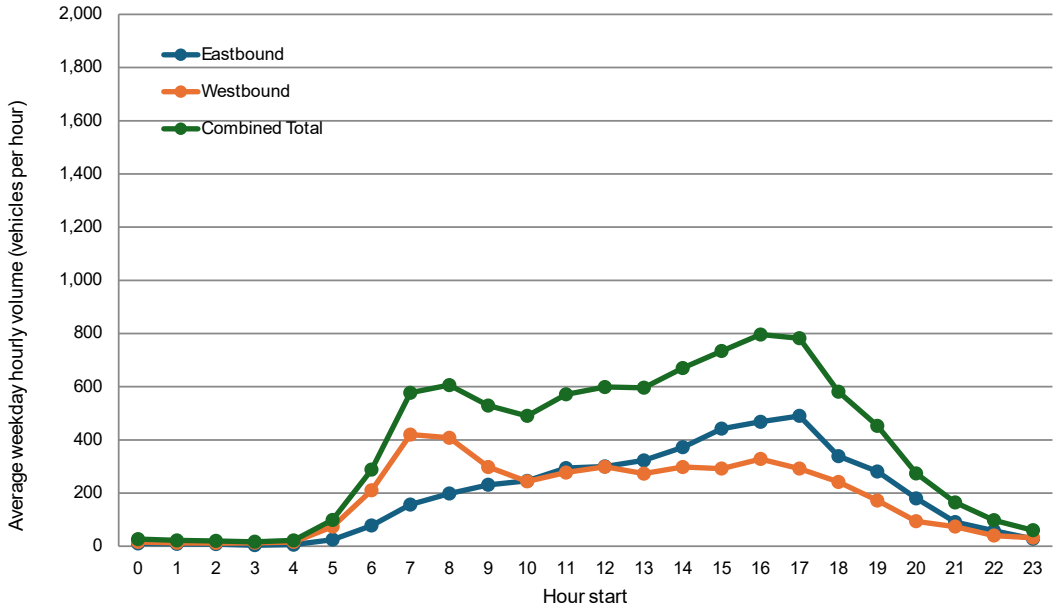


Figure 2.17 Rt 5 (Rt 257 to Duguid Rd) Hourly Traffic Volumes; Sep. 2024



Duguid Rd to Route 290

Traffic volumes continue to decrease as you move further east of the Village. Hourly traffic volumes on this segment are fairly evenly split between eastbound and westbound traffic and remain steady throughout the day. Combined volumes range from about 400 vehicles per hour at 8:00 a.m. to a high of about 600 vehicles per hour at 5:00 p.m.

Figure 2.18 Rt 5 (Duguid Rd to Rt 290) Hourly Traffic Volumes; Jun. 2015

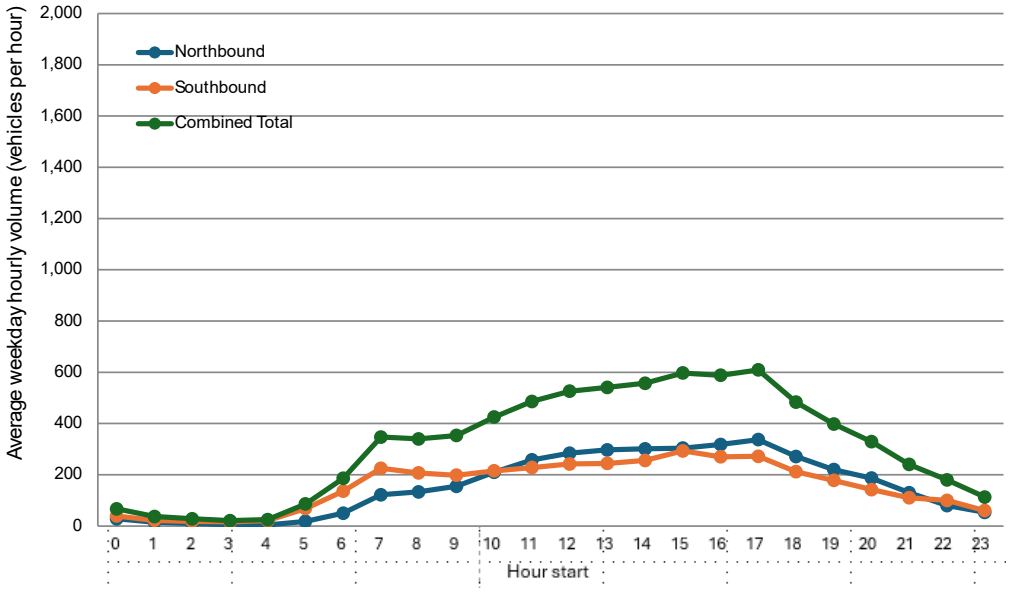
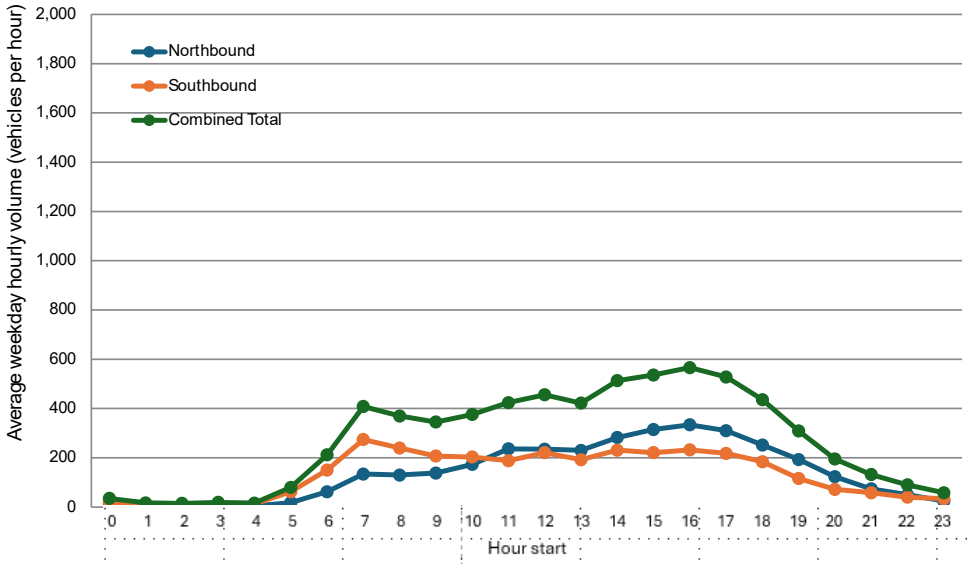


Figure 2.19 Rt 5 (Duguid Rd to Rt 290) Hourly Traffic Volumes; Mar. 2025



2.4 Pass-Through Trips

A common complaint in many communities, including the Village of Fayetteville, is the number of vehicle trips that do not begin or end within their boundaries, commonly known as pass-through trips. Communities along major commuting corridors often see increased traffic without the benefit of visitors stopping to support the local economy.

Using the Replica data platform, SMTC staff determined the percentage of trips within each of the SMTC planning area's villages that have both an origin and a destination outside of that village; these would be considered "external to external" or pass-through trips.

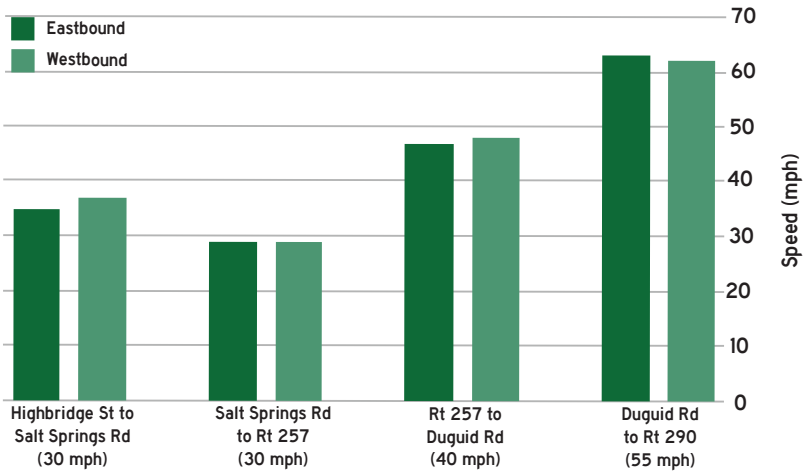
Just over half of the vehicle trips within the Village of Fayetteville are considered pass-through trips. Eleven villages within the planning area have higher percentages of pass-through trips than Fayetteville.

The villages at the top of this list are located on major roadways that either are surrounded by development or connect larger population centers. The Village of Fayetteville is located near the outer edges of the urban area, with Green Lakes State Park to the north and other, more rural areas further east.

Table 2.3 Village pass-through trips

Village	Percent Pass-Through Trips
Liverpool	85%
Elbridge	82%
North Syracuse	79%
East Syracuse	79%
Camillus	76%
Fabius	73%
Manlius	69%
Jordan	67%
Skaneateles	67%
Phoenix	67%
Marcellus	58%
Fayetteville	**56%**
Chittenango	54%
Baldwinsville	52%
Tully	51%
Central Square	48%
Solvay	33%
Minoa	19%
Data source: Replica, external to external trips	

Figure 2.20 Village pass-through trips



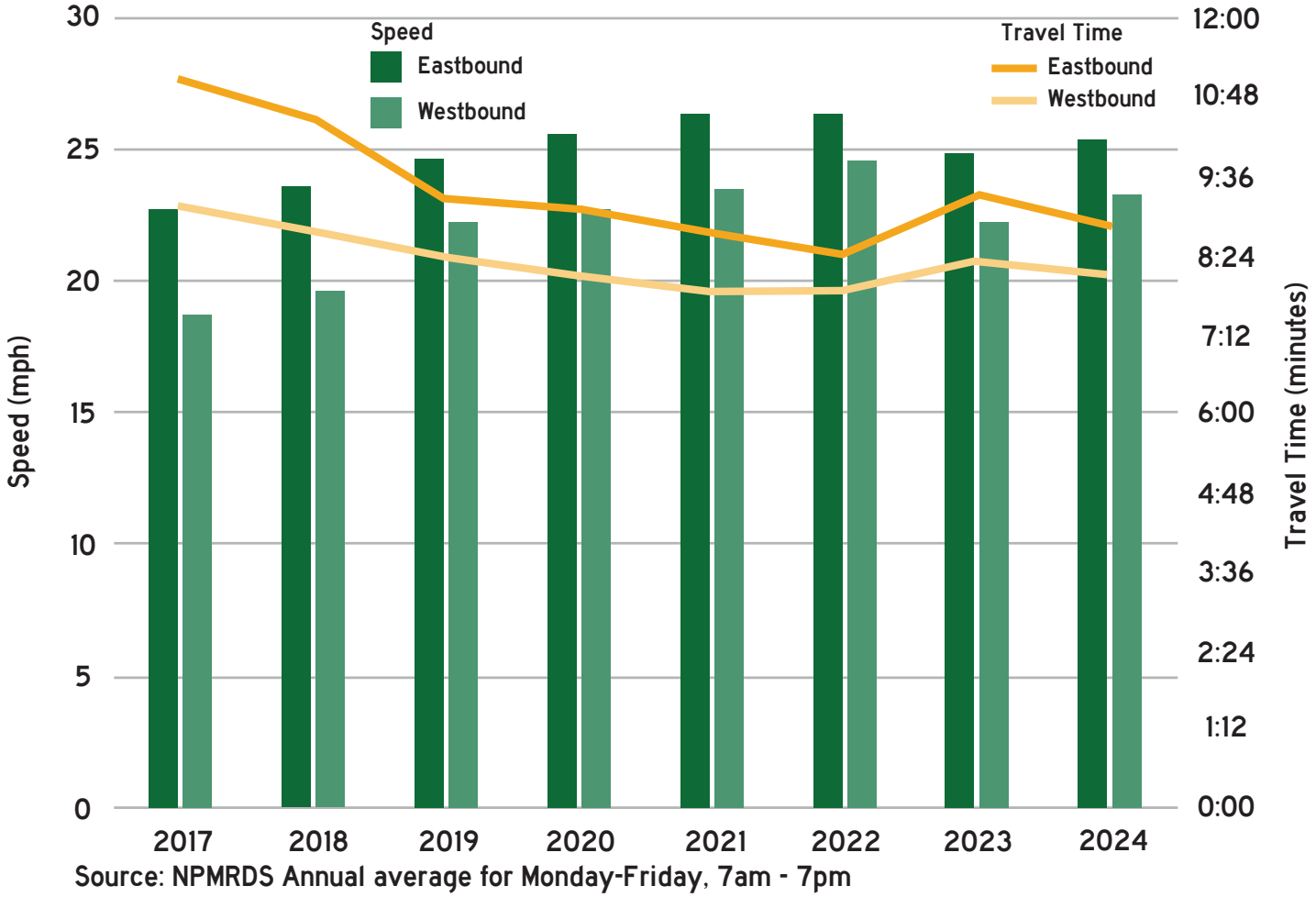
2.5 Travel time updates

As part of the 2018 study, SMTC staff conducted a "floating car" travel time study on Route 5 and Route 290 between Mycenae and the City of Syracuse. This effort determined the average travel time along Route 5 was greater than the average travel time on Route 290, with the greatest difference occurring in the morning peak hour for westbound traffic. Overall congestion on both routes was minimal, providing a fairly predictable travel time for drivers.

Since 2018, SMTC has gained access to the National Performance Management Research Data Set (NPMRDS), which "contains field-observed travel time and speed data collected anonymously from a fleet of probe vehicles (cars and trucks) equipped with mobile devices."[1] SMTC staff reviewed travel times and speeds on Route 5 from Lyndon Rd to Duguid Rd, from 2017 to 2024.

Travel time declined from 2017 to 2024, with the largest decrease occurring between 2018 and 2019. The shortest travel time occurred in 2022. Over the same period of time, average speeds generally increased, peaking in 2022. A slight uptick in travel time and decrease in speeds occurred in 2023.

Figure 2.21 Speed and travel times on Rt 5 between Lyndon Rd and Duguid Rd; 2017-2024



Source: NPMRDS Annual average for Monday-Friday, 7am - 7pm

1 "The National Performance Management Research Data Set (NPMRDS) and Application for Work Zone Performance Measurement," US Department of Transportation Federal Highway Administration. Accessed December 19, 2025

SMTC staff also reviewed the Total Hours of Excessive Delay (TED) per mile[2] and Level of Travel Time Reliability (LOTTR)[3] performance measure data that are available in the NPMRDS. The data show that the TED per mile decreased and the LOTTR increased on Route 5 from 2017 to 2024. This indicates that overall congestion is down and the reliability of the roadway has improved.

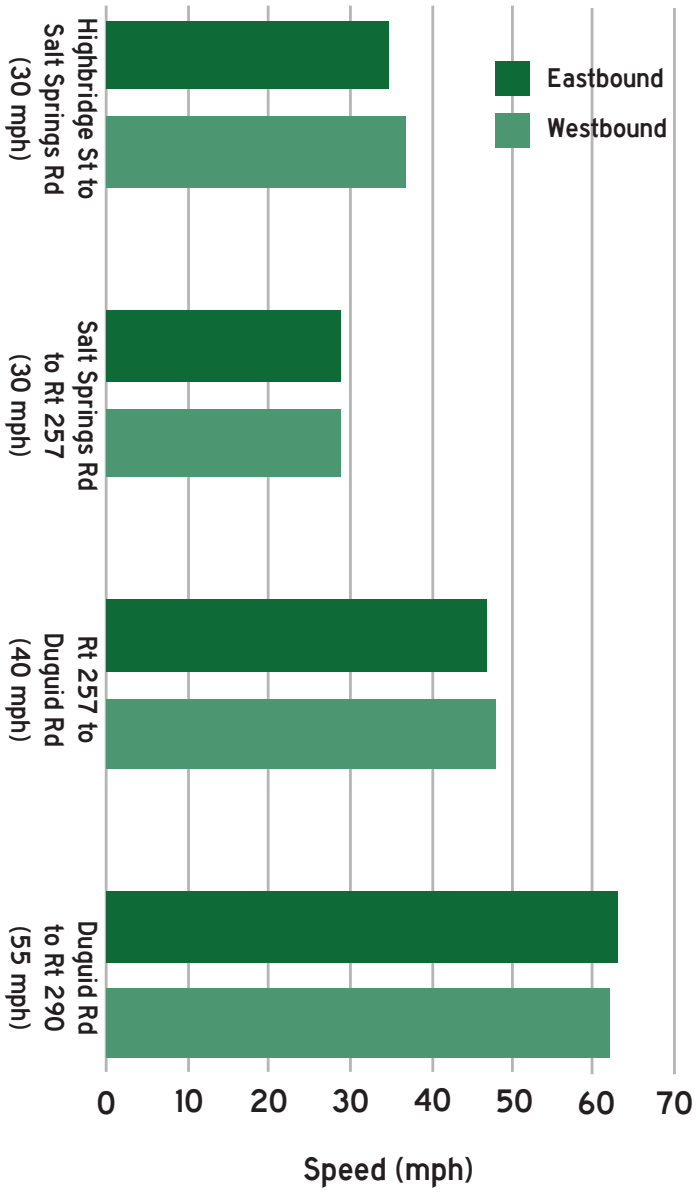
2.6 Speed data

As noted previously, average speeds along the Route 5 corridor have increased since 2018. SMTC staff reviewed the most recent speed data collected by NYSDOT, with dates between 2022 and 2025, along Route 5. A common metric used to set speed limits is to look at the 85th percentile speed along a corridor. This metric identifies the speed at which 85 percent of vehicles are traveling at or below, with 15 percent exceeding this speed.

Speed data was not available for the segments between Route 92 and the Village municipal line as well as the Village line to Highbridge St. For much of the corridor, 85th percentile speeds range from 5 – 10 mph over the posted speed limit. Westbound traffic between Route 257 and Duguid Rd has the largest gap between the posted speed limit (40 mph) and the 85th percentile speed (49 mph). Traffic in the heart of the Village, between Salt Springs Rd and Route 257, see 85th percentile speeds below the posted speed limit, likely due to the short length of the segment and the traffic signal at its eastern boundary.

Overall speeds are not dramatically above the posted speed limits.

Figure 2.22 85th percentile speeds



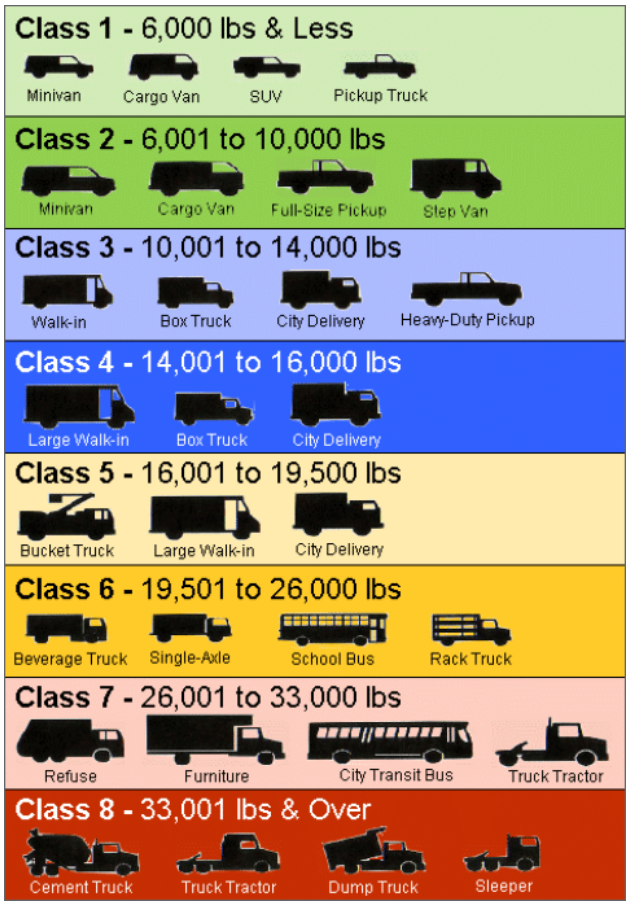
2 The TED per mile measure represents the total hours of delay resulting from traffic congestion on the network during the entire year normalized by mile for comparative purposes. FHWA defines excessive delay as the extra amount of time spent in "congested" conditions defined by speed thresholds that are lower than a normal delay threshold. For this measure, the threshold is 20 miles per hour (mph), or 60% of the posted speed limit, whichever is greater, during all hours for the entire year. Excessive delay is totaled and is then weighted by vehicle volumes and occupancy to be expressed as the annual hours of excessive delay on a per capita basis, thus measuring person-hours of delay rather than vehicle hours. The total is divided by the segment length (in miles) to get TED/Mile for comparison across the network. This measure identifies "congested" higher-volume locations.

3 Travel time reliability, according to FHWA, refers to the consistency or dependability in travel times, as measured from day-to-day and/or across different times of the day. For example, if driving a certain route always takes about the same amount of time, that segment is reliable. It may be "congested" most of the time, "not congested" most of the time, or somewhere in between, but the conditions do not differ very much from time period to time period. On the other hand, if driving that route takes 20 minutes on some occasions but 45 minutes on other occasions, the route is not reliable. The LOTTR is defined as the ratio of the longer travel times (80th percentile) to a "normal" travel time (50th percentile), using the NPMRDS data. This measure identifies locations with highly variable (unreliable) and non-recurring congestion.

2.7 Heavy vehicle percentages

With home deliveries on the rise as a result of increased internet commerce, residents were interested to see if heavy vehicle volumes have increased in recent years. Heavy vehicles often are slower to get up to speed and take up more room on area roadways, which can make other road travelers feel as though the roads are more congested than they are.

Review of historical heavy vehicle data, as documented in NYSDOT traffic counts, showed that the overall percentage of heavy vehicles (classes 7 and 8 in the image below) in traffic has remained relatively steady over the last 10 years. Heavy vehicle rates range from 2 percent (from the Village line east to Highbridge St) to 4 percent (Duguid Rd east to Rt 290), which is relatively low. It should be noted that not all delivery vehicles may be classified as heavy vehicles. Smaller vans, similar to what the United States Postal Service and Amazon utilize, do not qualify as a heavy vehicle.



US Department of Energy vehicle classifications

Figure 2.23 Heavy vehicle percentage

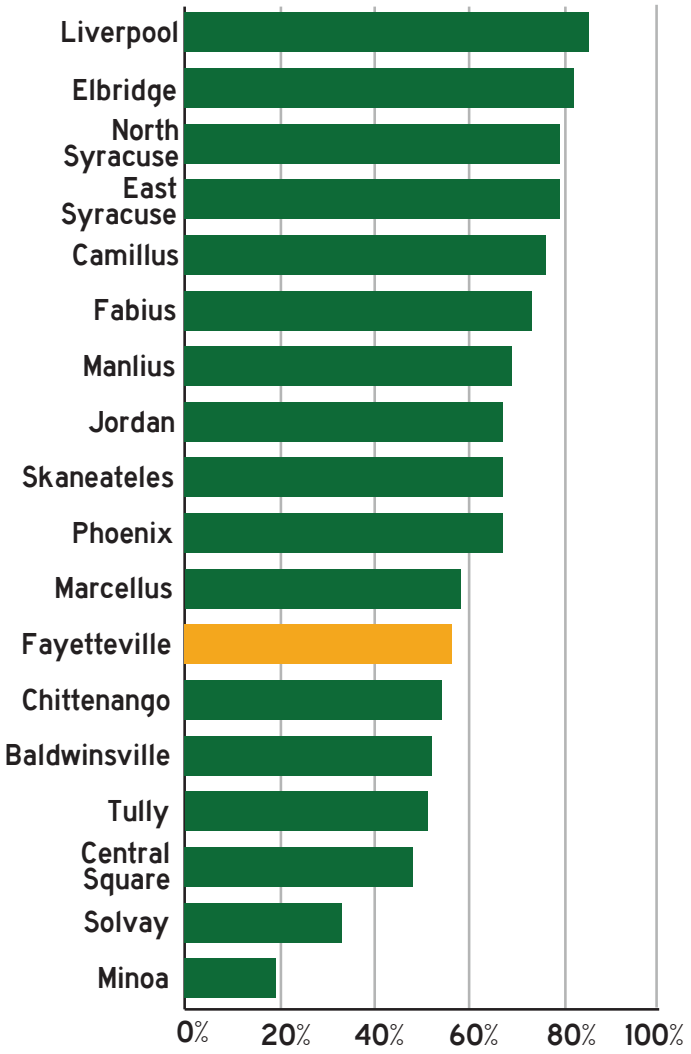
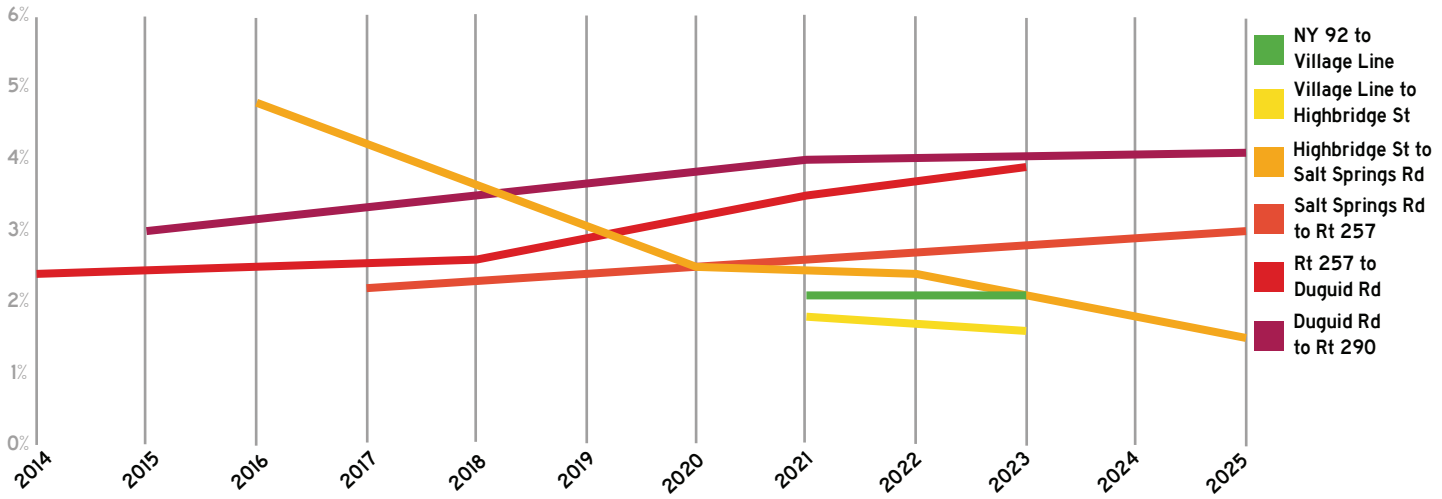


Figure 2.24 Change in heavy truck percentage, 2014 to 2025



SMTC staff used Geotab data, which is based on GPS devices installed in commercial trucking and vehicle fleets, to identify destination hot spots for commercial vehicles. It is important to note that not all commercial vehicles utilize Geotab connected GPS devices. As a result, information obtained from this data set is best interpreted as a general level of activity versus exact number of trips.

SMTC staff narrowed the focus of the analysis to medium- and heavy-duty vehicles, which includes most delivery vehicles, and looked at shorter stops (1 to 10 minutes) and longer stops (10 to 30 minutes). In each analysis three gas stations located within the Village of Fayetteville (Speedway, Mobil, and Circle K) appeared as hot spots, along with smaller commercial spaces within Fayetteville Square. These locations either offer services to commercial drivers or act as destinations for the products they are carrying. Sporadic destinations can be seen throughout the Village, consistent with occasional home deliveries.

Figure 2.25 Medium duty truck stops, 1 - 10 minutes

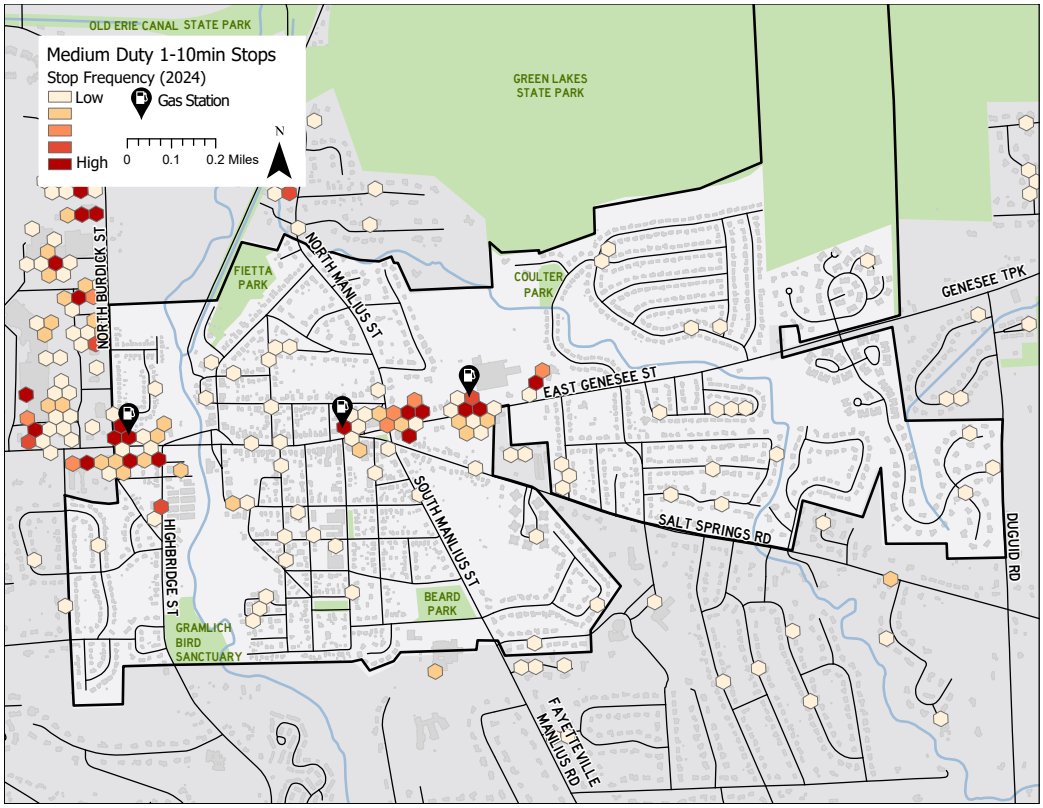


Figure 2.26 Medium duty truck stops, 10 - 30 minutes

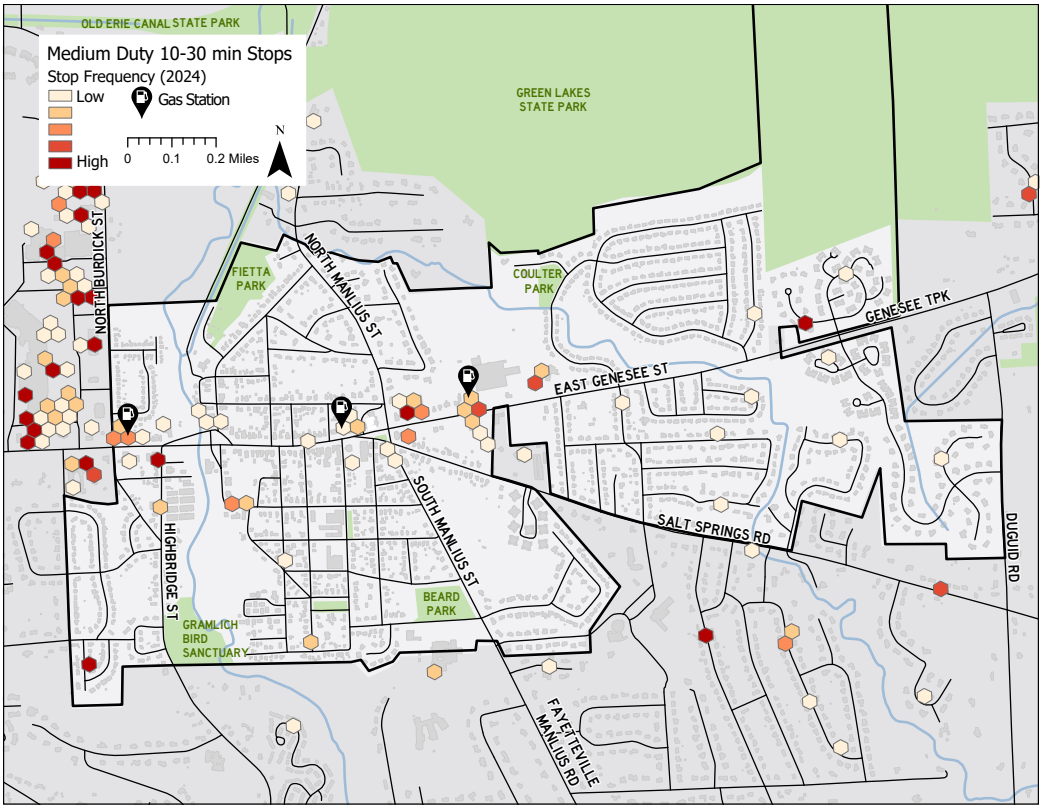


Figure 2.27 Heavy duty truck stops, 1 - 10 minutes

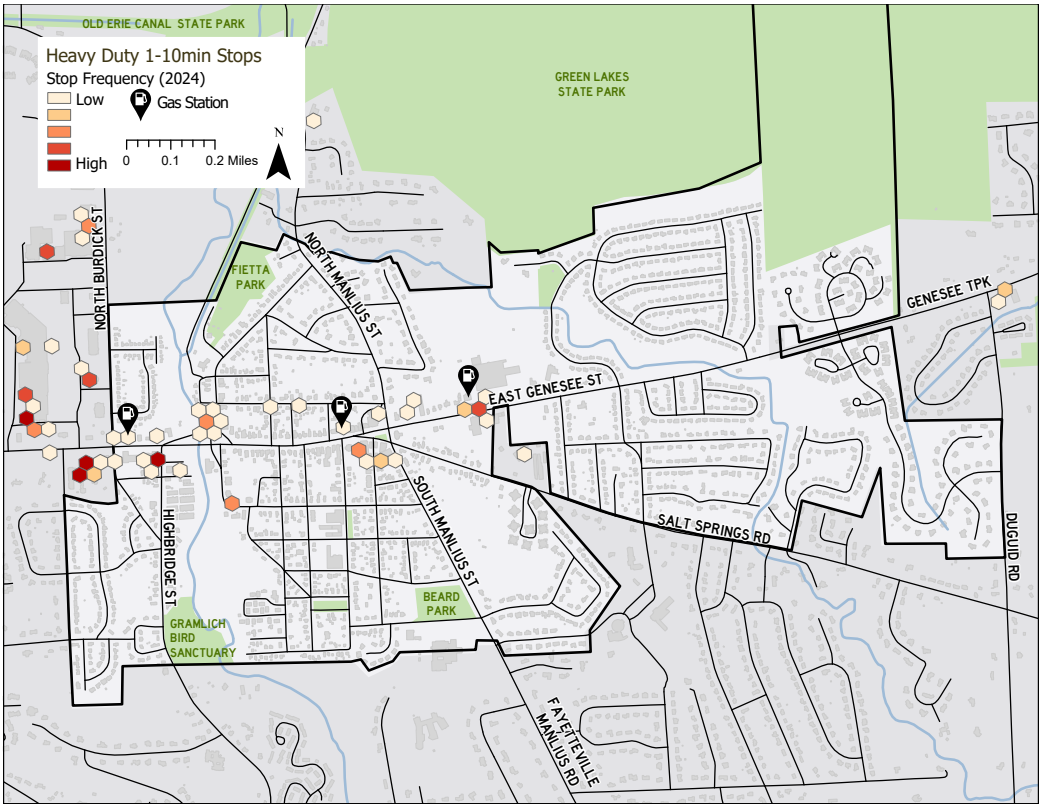
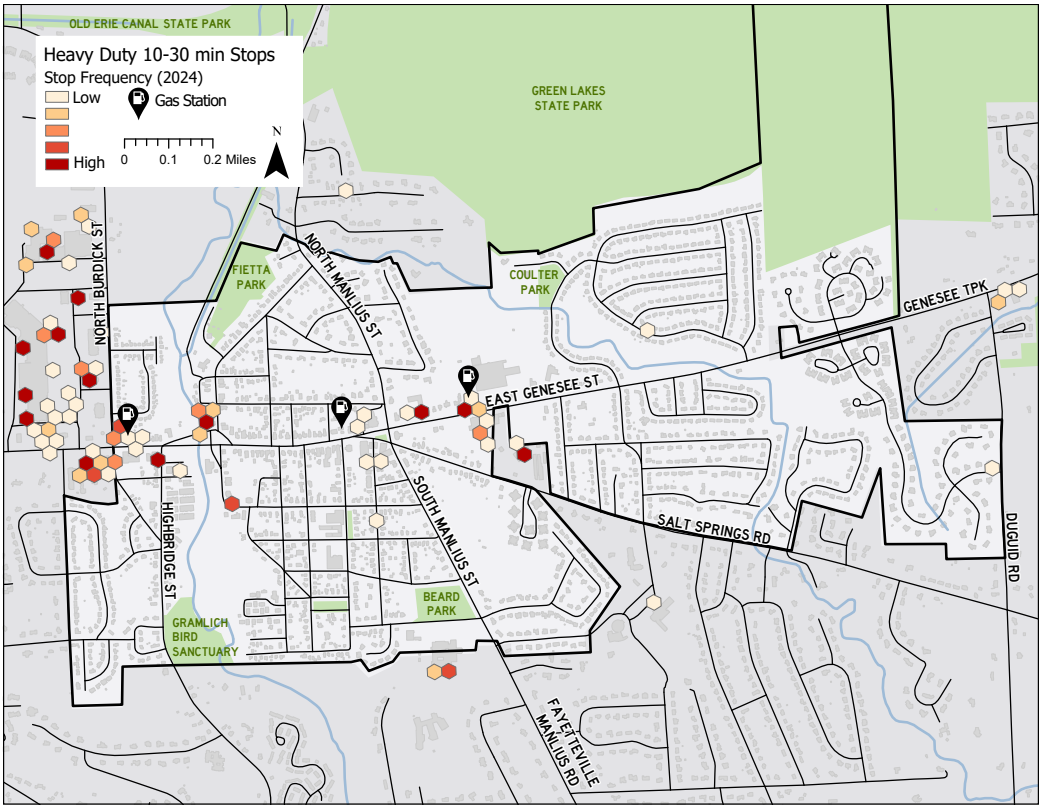


Figure 2.28 Heavy duty truck stops, 10 - 30 minutes



2.8 Route 5 / Duguid Rd signal warrant analysis

Village residents continue to express frustration with the delay they experience when attempting to complete a turn onto Route 5 from residential side streets. Residents and Village leaders have suggested that traffic signals at key cross streets may help alleviate some of this frustration. In the 2018 SMTC study, a planning level signal warrant analysis was conducted for the Route 5 / Duguid Rd intersection based on eight hours of traffic volumes. The existing traffic volumes at that time were found not to satisfy this signal warrant. The Village requested that SMTC update this signal warrant analysis based on the latest traffic data. Residents remain concerned that incoming development, including a grocery store to the west and new residential development to the east, may increase overall traffic and heavy vehicle volumes further limiting the ability of vehicles on Duguid Rd to turn onto Route 5.

The Manual on Uniform Traffic Control Devices (MUTCD) 11th Edition identifies nine warrants that define the minimum conditions under which installing traffic control signals might be justified. The most commonly used warrant is Warrant 1 – Eight-hour Vehicular Volume Warrant, which requires that both the major road and minor approach meet a minimum traffic volume threshold for the same eight hours of a day. Utilizing existing Automated Traffic Recorder (ATR, commonly known as “tube counts”) data from Station 330178 on Route 5, just west of the intersection, and Station 3310006 on Duguid Rd, located south of Salt Springs Rd, it was determined that average hourly traffic volumes do not currently satisfy conditions of this warrant, as shown on the table below.

Vehicular volumes are also considered in Warrant 2 – Four-Hour Vehicular Volume Warrant, where four consecutive hours must meet the identified volume thresholds. Based on Figure 4C-2 in the MUTCD, the hours of 15:00, 16:00, and 17:00 meet the volume requirements but remain one hour short of satisfying the conditions of the warrant.

Table 2.4 Eight-hour vehicular volume warrant, Rt 5 / Duguid Rd intersection

Hour start	Major road (RT 5) volume 2-way total	Minor approach (Duguid northbound) volume	Both roadways meet the threshold?	
			Condition A - Minimum Vehicular Volume 350 vph major 105 vph minor	Condition B - Interruption of Continuous Traffic 525 vph major 53 vph minor
7:00	577	57	No	Yes
8:00	606	58	No	Yes
9:00	530	45	No	No
10:00	489	40	No	No
11:00	570	41	No	No
12:00	599	55	No	Yes
13:00	596	46	No	No
14:00	670	48	No	No
15:00	734	74	No	Yes
16:00	796	72	No	Yes
17:00	782	75	No	Yes
18:00	581	48	No	No
19:00	452	34	No	No
Meets 8-hour warrant?			No	No

Additionally, SMTC staff evaluated the intersection for Warrant 7 – Crash Experience. Warrant 7 considers the number of angle and pedestrian crashes that occur at an intersection over one-year and three-year time periods. SMTC staff reviewed data in NYSDOT's Crash Location and Engineering Analysis Repository (CLEAR) system for 2020 through 2024 and found seven crashes that occurred near the Route 5 / Duguid Rd intersection, but only one was an angle crash and there were no pedestrian crashes. The minimum number of crashes to satisfy Warrant 7 for this location is three angle or pedestrian crashes in a one-year period. Based on the available data, the number of crashes does not satisfy the conditions of this warrant.

Table 2.5 Crash experience warrant, Rt 5 / Duguid Rd intersection

Type of crash	# of crashes 2020 - 2024	Relevant to signal warrant?
Right turn, against other car	1	Yes
Rear end	2	No
Overtaking	1	No
Other (unsafe speed, glare, improper use of lanes, etc.)	3	No

3 Future Traffic Volumes

The SMTC maintains a travel demand model that predicts future traffic volumes on roadways in the region based on anticipated future development patterns (land use) and changes to the road network.[4] The base year for the model is 2020, and the horizon year is 2050.

3.1 2050 Anticipated Future Model Inputs

The 2050 Anticipated Future Model includes several changes that will directly impact transportation within the Village of Fayetteville, such as:

- Network changes associated with the I-81 viaduct project,
- The full buildout of Micron Technology, Inc., at the White Pine Business Park in Clay with four semi-conductor fabrication facilities,
- The proposed District East development at the former Shoppingtown Mall,
- Larger-scale residential developments on N Burdick St, High Bridge Rd, and Hoag Lane, and
- The new grocery store on Route 5 located between Route 257 and Huntleigh Ave.

The 2050 Anticipated Future Model does not include the potential redevelopment of the Four Seasons property nor any recent changes to the District East proposal, which may include more industrial uses than previously announced.

3.2 2050 Anticipated Future Model Outputs

The 2050 Anticipated Future model shows traffic volumes increasing by roughly 20 percent across the SMTC's planning area. Similar increases are expected to occur along Route 5 within the Village of Fayetteville. Projected volume increases are not tied to any one specific development but instead are spread across the roadway network. While the development of the semiconductor fabrication facilities in the northern suburbs will have significant impacts on the region's traffic volumes, the model outputs do not indicate that this will be a major factor in volume increases in the study area.

Instead, the model shows a higher number of "new" trips along Route 5 continuing along Genesee St instead of utilizing the interstate system. These trips are likely tied to destinations near University Hill or Downtown Syracuse, which are both expected to add thousands of jobs over the next 30 years. A notable number of "new" trips are also attracted to the future District East development, which will likely become a new hub of activity in the region.

Employment and housing increases within the Village of Fayetteville will also produce new trips that utilize Route 5. Increased volumes along Route 5 can be attributed to the fact that there are few viable east-west alternatives available to Village residents and visitors. The local geography has prevented additional routes from developing, forcing trips that begin or end in the Village onto Route 5.

Due to the maturity of the development pattern within the Village, the model shows a larger share of the "new" trips on Route 5 heading outside of the Village boundaries, with a notable increase heading south, to areas between the Villages of Fayetteville and Manlius. This increase is likely due to more available land for residential development. Two roadways, Highbridge St and Salt Springs Rd, will see the bulk of this increased traffic.

4 SMTC's travel demand model is a "four step model" that can be used to predict the amount, type, and location of travel that residents will undertake, now and in the future. The model uses inputs such as population and economic forecasts, the geographic dispersion of people and jobs throughout the region, and a description of the transportation system (roads and transit system). Growth estimates and their geographic distribution for the horizon year (2050) were determined through conversations with member agencies, including New York State, Onondaga County, the City of Syracuse, and other regional agencies. The model outputs can be used to evaluate the regional impact of changes to the transportation system, changes in land use, or changes in policy (such as pricing). The travel demand model cannot forecast future land use or evaluate traffic operations at specific intersections.

Figure 3.1 Modeled destinations for trips on Rt 5 between N Burdick St and Highbridge St, 2020

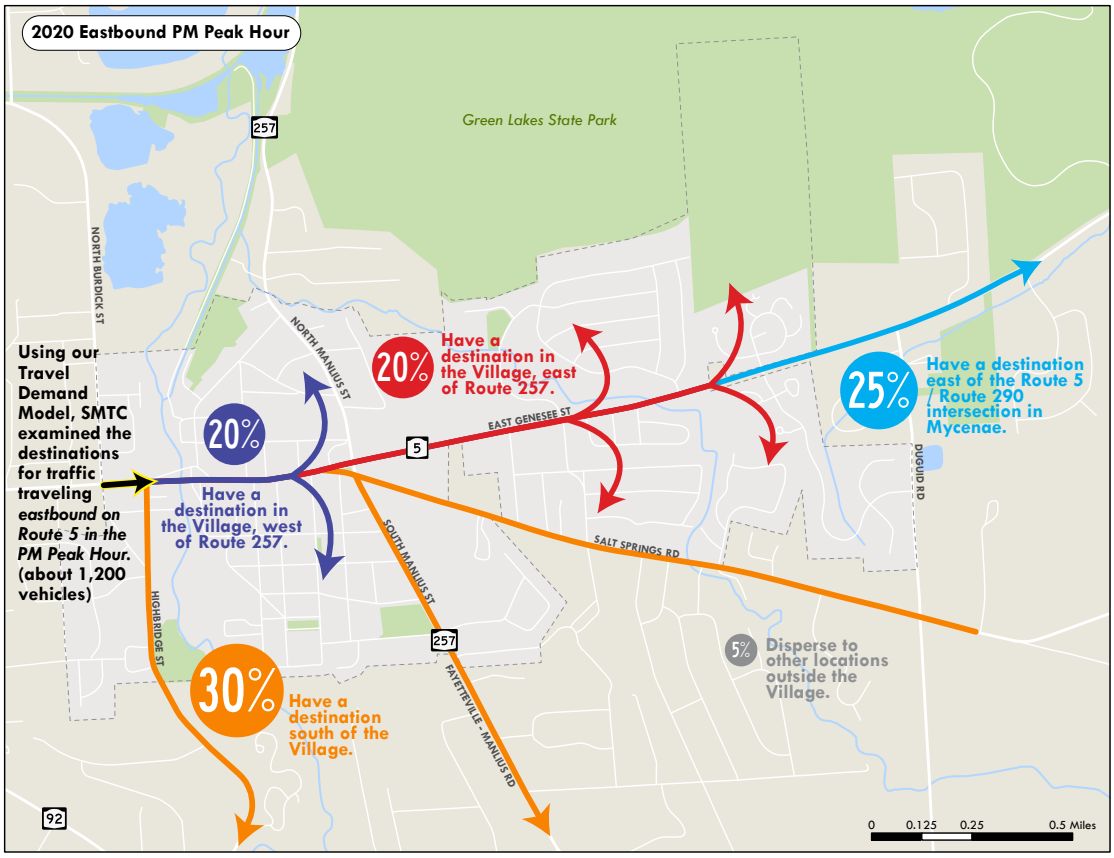
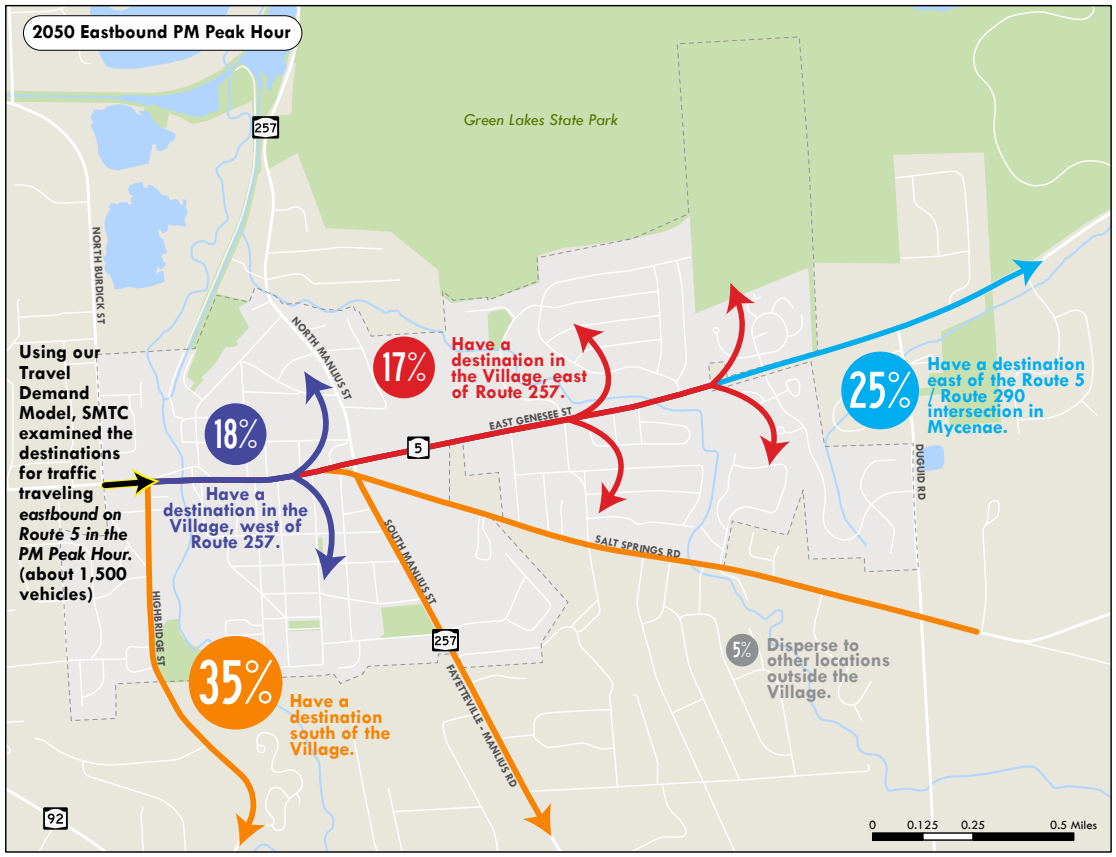


Figure 3.2 Modeled destinations for trips on Rt 5 between N Burdick St and Highbridge St, 2050



4 Traffic Calming Toolkit

Representatives of the Village of Fayetteville noted a desire to implement traffic calming techniques on local roads to discourage speeding and cut-through traffic off major roadways. The Village's street network is characterized by fairly narrow streets in a grid-like pattern. As a result, the built environment already helps to calm traffic as drivers navigate through the neighborhoods. To help reinforce these effects and provide improved mobility for people who walk and ride bikes, the Village may benefit from implementing "speed reduction mechanisms," as outlined by the National Association of City Transportation Officials (NACTO).

Speed reduction mechanisms, otherwise known as traffic calming, can be utilized to slow vehicles down while providing safer spaces for people to walk or ride bikes. They are often grouped into two main categories: vertical deflection and horizontal deflection. An additional third category, visual narrowing, can also be utilized. The below graphics are from the NACTO guide on speed reduction mechanisms.[5]

4.1 Vertical Deflection

Vertical deflection at its core, moves vehicles in a vertical direction, forcing them to slow down or potentially harm their vehicles. Common techniques include speed humps, speed cushions, and raised crosswalks. Vertical deflection measures are often implemented as part of a series, where the same technique is implemented multiple times along a single corridor to reinforce the desired speeds. Some techniques, including raised intersections, may only be deployed as a "spot" treatment, or used only once along a corridor.

Speed Hump / Cushions

Speed humps and cushions are raised sections of roadway. Vehicles must slow down as they traverse the hump or risk damaging their vehicle. Humps and cushions are encouraged to be used in a series, with placements 150 to 300 feet apart. Speed cushions, unlike speed humps, have gaps designed to accommodate the wheels of emergency vehicles, such as fire trucks and ambulances, so not to impede their arrival at emergency locations.

Raised Crosswalk

Raised crosswalks are similar to speed humps, with the added purpose of improving visibility for pedestrians as they cross the street. Additionally, they improve accessibility for pedestrians by raising the crossing to the level of the curb, removing the need for a curb ramp. Raised crosswalks are often implemented at mid-block locations to draw the attention of drivers to the crossing location.

Raised crosswalk in Cincinnatti, OH

Raised Intersection

Similar to raised crosswalks, raised intersections can improve visibility for pedestrians at an intersection, while slowing vehicles. Raised intersections raise vehicles up to curb height as they approach, signaling to drivers that they are entering a different environment. Crosswalks are typically included within the raised

5 NACTO, "Speed Reduction Mechanism," https://nacto.org/publication/urban-street-design-guide/design-controls/design-speed/speed-reduction-mechanisms/. Accessed January, 16, 2026

portion of the intersection, providing the same visibility and accessibility improvements as raised crosswalks. Raised intersections are often used as "gateway" treatments for this reason.

Raised intersection in Fayetteville, NY

4.2 Horizontal Deflections

Horizontal deflections force vehicles to deviate from their straightforward path by placing an obstacle in their path. Common techniques include pinchpoints and chicanes. Pinchpoints are often deployed at key locations along a corridor and may act as the site for a mid-block crossing. Meanwhile chicanes can be installed continuously along a corridor.

Pinchpoint

Pinchpoints, or chokers, are a pair of midblock curb extensions which narrow the roadway at key locations, slowing vehicles as they approach as drivers adjust to this change in their path. Pinchpoints can also be used as part of a midblock crossing , at times combined with a raised crosswalk, providing improved visibility for pedestrians as they look to cross.

Pinchpoint at a midblock crossing in Syracuse, NY

Median

Medians, including median islands and pedestrian refuge islands, can also act as a pinchpoint by narrowing the travel lanes on either side. Medians help to reduce crossing distances, both for midblock crossings and at intersections.

Lane Shift

A lane shift deflects vehicles from their straightforward path, typically using striping, curb extensions, or parked vehicles to enforce the shift.

Chicane

Chicanes slow drivers by alternating parking or curb extensions along the corridor. By alternating sides, vehicles are forced to alter their path continuously, which requires drivers to be alert and engaged with their surroundings.

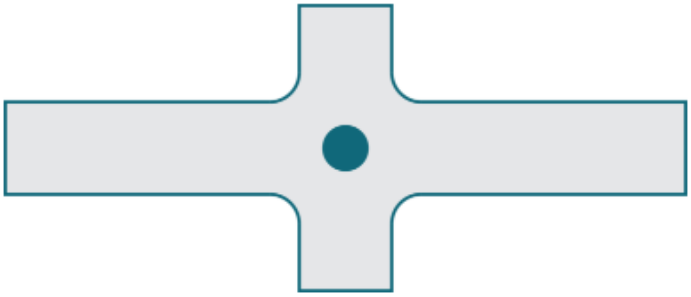
Chicane, utilizing planters and flex posts, in New York City

On-Street Parking

On-street parking helps to narrow streets and slow traffic by creating friction and conflict for the moving vehicles. On-street parking can be utilized as part of the above techniques.

Diverter

Diverters are utilized at intersections, restricting the movements of vehicles by breaking up the street grid. Diverters typically still allow pedestrians and cyclists to move through them, while forcing vehicles to turn.



Roundabouts

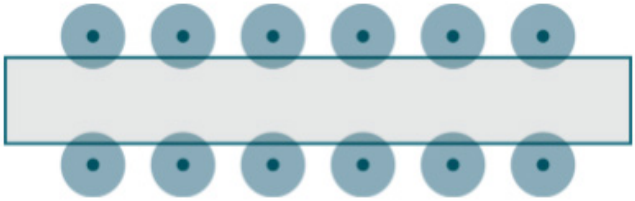
Roundabouts reduce traffic speeds at intersections by requiring motorists to yield to circulating traffic that is already in the roundabout and forcing drivers to make a lateral movement to enter the roundabout. Roundabouts also reduce the number of conflict points at an intersection by removing left-turns. Roundabouts may have a larger footprint that a typical intersection, which may result in impacts to adjacent properties. However, mini-roundabouts may be a feasible option on low-volume streets in residential neighborhoods to minimize property impacts.

4.3 Visual Narrowing

Visual narrowing does not require physical changes to the traveled way, but instead relies on the built environment surrounding the corridor. Highways encourage faster speeds through wider lanes and wide-open sightlines. To slow speeds, it is encouraged to bring elements such as trees and buildings closer to the roadway, constraining sightlines and focusing drivers on the task at hand. Additionally, creating the potential for conflict on the street, by introducing two-way traffic, can keep drivers more alert.

Building Lines

A dense built environment where buildings have minimal setbacks, and potentially form a connected street wall, helps to constrain sightlines. This encourages drivers to be more alert and aware of their surroundings.



Street Trees

Trees help to narrow a driver's visual field, making the roadway feel more constrained than it is. This helps to encourage slower speeds.

4.4 Neighborhood Greenways

The above techniques can be combined with wayfinding signage and striping to create neighborhood greenways. Neighborhood greenways, or bicycle boulevards, provide a comfortable alternative route for cyclists and pedestrians on slower streets that often parallel major corridors.[6] Communities across Upstate New York have seen greenways as vital tools in their work to improve access for those on bike or on foot. Rochester, NY released their Bicycle Boulevard Master Plan in 2015, which identified over 50 miles of streets, with 20 miles deemed priority streets, that would create an interconnected network of greenways that cover the entire city.[7] Streets identified within this plan met three important criteria: direct connections to destinations, low volumes (<3,000 vehicles per day) and speeds (posted limit of 25mph or less), and connections to the existing bike network.[8] The initial plan looked to utilize a variety of traffic calming techniques, including:

- Traffic Circles – raised or delineated islands placed at intersections
- Chicanes – a series of raised curb extensions, or edge islands, on alternate sides of a street
- Curb Extensions – curb extensions at an intersection to narrow the roadway and crossing distance
- Chokers – edge islands placed on either side of the street to narrow the center of the lane
- Medians – center island parallel to the bicycle boulevard that causes deflection
- Speed Humps or Cushions – raised area 12' to 14' long by 3" to 4" high that reduce speeds to 15-20mph[9]

Ultimately, the City of Rochester relied primarily on speed humps and cushions along with improved crosswalks and additional stop signs to form their initial network.[10] The first 20 miles of the Rochester network were completed in 2021.

Portland, OR has embraced greenways as a cornerstone of their safe routes to school program, with over 100 miles throughout the city.[11] The extensive greenway network through Portland has a signed 20-mph speed limit but relies heavily on speed bumps to reduce speeds. Center medians along busier streets are used to discourage through traffic by forcing drivers into a right-turn only as they approach the intersection.[12] The center medians allow for bicyclists to pass through and continue in a direct path while providing refuge for pedestrians and cyclists as they cross. The Portland Bureau of Transportation (PBOT) has issued assessments on the progress of the greenways program in 2015 and 2020. Within these reviews, they identify issues along existing and potential greenways that conflict with the stated goals for greenway streets. Portland's Neighborhood Greenways Assessment Report, 2015 identifies these goals as:

- Vehicle speeds of 20-mph, measured as the 85th percentile speed;
- Automobile volume target of 1,000 average daily traffic (ADT), with 1,500 ADT acceptable and 2,000 ADT maximum; and
- Bicycle and pedestrian crossing opportunities, measured as a minimum of 50 crossing opportunities per hour, with 100 crossing opportunities per hour the preferred level of service.[13]

Greenways that do not meet these metrics trigger PBOT to implement temporary, or potentially permanent, changes to the streetscape in order to achieve the desired use and character.[14]

6 NACTO, "Bike Boulevards," https://nacto.org/publication/urban-bikeway-design-guide/designing-bikeways-for-all-ages-and-abilities/bikeways-on-low-speed-low-volume-streets/bike-boulevards/. Accessed December 23, 2025.

7 City of Rochester, Bicycle Boulevard Master Plan (2015), pg. 1.2

8 Ibid

9 Ibid, pg. 1.8 - 1.9

10 City of Rochester Department of Environmental Services, Priority Bicycle Boulevards Implementation Project (2021)

11 Portland Bureau of Transportation, Neighborhood Greenways 2020 Status Report (2020), pg. 2

12 Ibid, pg. 4

13 Portland Bureau of Transportation, Portland's Neighborhood Greenways Assessment Report (2015), pg. 4

14 Ibid, pg. 10 - 12

Additionally, the Villages of Minoa, Fayetteville, and Manlius Bicycle & Pedestrian Connections Study (2025) recommended the use of neighborhood greenways, or bicycle boulevards, on several local streets within the three villages. The study recommends the use of signage and pavement marking, along with other traffic calming, to encourage slower speeds on low volume roads that are good connections for cyclists to use to connect to main roads.

Within the Village of Fayetteville the following streets were highlighted as potential locations for these treatments:

- Audubon Rd
- Brooklea Dr
- Chapel St
- Clinton St
- Elm St
- Franklin St
- Huntleigh Ave
- Mill St
- S Burdick St
- Sheffield Ln
- South St

Figure 4.1 Bike boulevard concept from the Bicycle & Pedestrian Connection Study

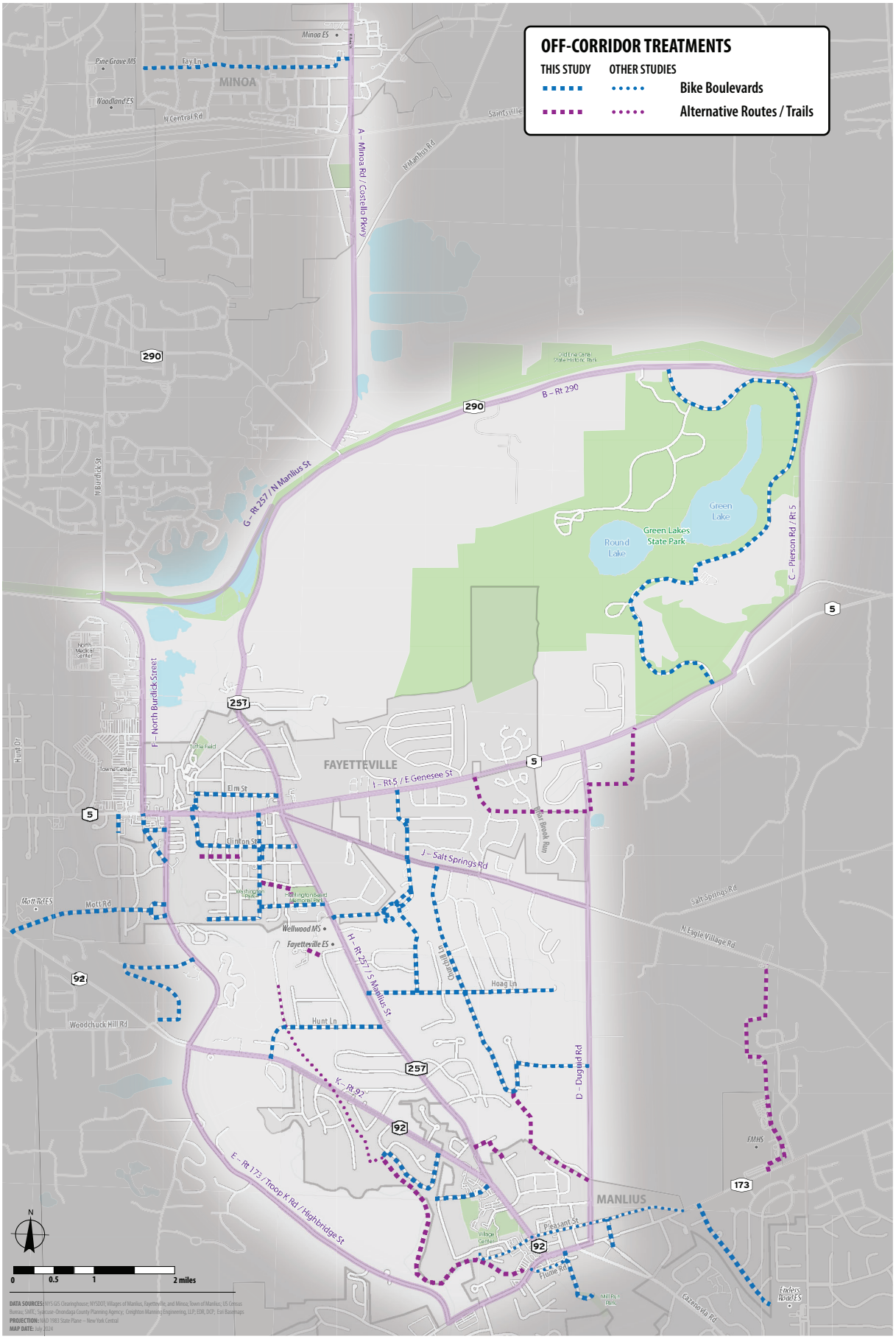


Figure 4.2 Corridor treatments from the Bicycle & Pedestrian Connections Study

5 Conclusion and Further Considerations

Traffic volumes along Route 5 in the Village of Fayetteville have remained relatively steady over the last 20 years. Volumes are highest west of the Village and gradually decline as you move eastward. After a decline in 2020 and 2021 due to the Covid-19 pandemic, volumes have largely returned to pre-pandemic levels. Some street segments in the heart of the Village, from Highbridge Rd to Route 257, began a decline in traffic volumes pre-pandemic and have returned to that same trajectory.

Over the last eight years, travel times and congestion have both improved slightly. Travel times, as measured from Lyndon Rd to Duguid Rd, have decreased since 2019 according to NPMRDS. At the same time, overall delay has decreased and reliability has increased, as measured by TED and LOTTR. Community members have expressed concerns that pass-through trips, or trips that begin and end outside of the Village, are a contributing factor in the congestion that is experienced each day. Overall, over 50 percent of trips along Route 5 within the Village are pass-through trips. When compared with other villages within the SMTC's planning area, 11 out of 18 villages have higher rates of pass-through trips than the Village of Fayetteville. This is likely due to its location within Onondaga County, where much of the land to the north and east of the Village has not been developed, or is unable to be developed due to environmental protections. While the pass-through rate is low by regional metrics, there is still value in providing additional travel information to commuters to help inform their daily routes. One option that may be worth considering is the installation of variable message signage with real-time travel times. For eastbound traffic, a sign placed just before exit16 S-N & 17 on I-690 could display travel times to Mycenae for both Route 5 and Route 290. For westbound traffic, a sign placed near the Route 5 / Route 290 intersection could similarly display travel time information for both routes to Downtown Syracuse.

Heavy vehicle traffic within the Village remains low, accounting for less than five percent of vehicles on the road. Destinations for commercial heavy vehicles are concentrated near key commercial nodes, including shopping plazas, gas stations, and car dealerships. The increasing use of home delivery services has not resulted in large spikes of heavy vehicle trips, likely due to the diversification of delivery fleets.

While volumes have remained steady over the last 20 years, projected growth within Central New York, as a result of the Micron Technologies investment, will result in traffic volumes increasing across the region. The Village of Fayetteville is projected to see an increase in traffic volumes of approximately 20 percent by 2050, in line with what the region as a whole should expect. Due to the Village's more mature development, the areas surrounding the Village will likely develop at a faster

Route 5 heading west towards Fayetteville Towne Center.

Existing rectangular rapid flashing beacone (RRFB) at a midblock crossing in the Village of Fayetteville.

rate than the Village itself, resulting in a larger share of trips ending beyond the village line. When compared to 2020, 2050 model projections show a larger share of trips ending south of the Village, primarily using Highbridge St and Salt Springs Rd as their route.

NYSDOT has indicated in the 2050 Metropolitan Transportation Plan (MTP) that it will be evaluating potential changes to the Route 5 / Route 257 intersection. Previous studies have looked at potential roundabout designs, but the trade offs between adding more capacity and changing the character of the Village are significant. Tinkering with signal timings and slight changes to striping are likely to occur but will not significantly alter existing traffic patterns.

NYSDOT has approved the implementation of a TWLTL east of the Route 5 / Route 257 intersection as proposed by an incoming grocery store development as part of its traffic mitigation efforts. No additional analysis was required at this time.

In addition to the regional growth expected over the next 25 years, Centro will be revamping its system to better adjust to modern commuting patterns and ridership levels. The changes are expected to be implemented by the beginning of 2027, including the introduction of on-demand service within the Town of Manlius. While fixed route service within the Town will likely be reduced, the on-demand service will allow for riders to call a smaller bus to pick them up near their location within 15 minutes and drop them off close to their final destination. This new service may not have significant impact on overall traffic volumes, but it may become a realistic alternative for many residents looking to complete nearby trips to the commercial, medical, and entertainment complexes within the Town.

The Village of Fayetteville and its surrounding communities will remain a draw for residents and visitors due to its built environment, local and regional commercial attractions, and its natural beauty. High traffic volumes are reflective of the area's ability to attract visitors and residents alike. Decisions on how to address traffic concerns will always need to balance the desire to preserve the character of the Village with providing more efficient movement on its major corridors. Based on conversations with local leaders, there is no strong desire to significantly alter the character of the heart of the Village at this time.