Traffic Planning Study
Town of Wilton

PREPARED FOR

Town of Wilton
22 Traver Road,
Wilton, NY 12831

PREPARED BY

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January 2025

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Introduction

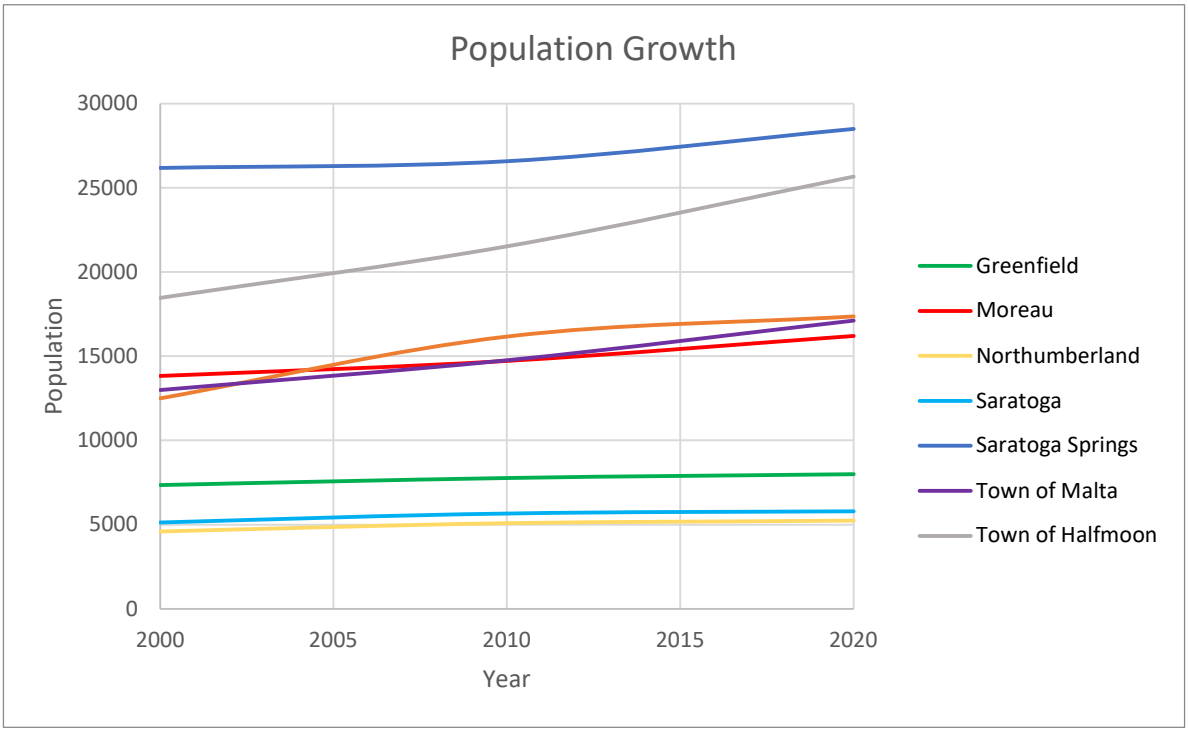
This Traffic Planning Study has been completed to address continuing concerns created by growth in and around the Town of Wilton. The Town's first planning study was completed in 1992 and established a mitigation fee program to fund improvements to the transportation network throughout the Town. The plan has been updated multiple times as identified mitigation was implemented, new development occurred, and philosophical and practical changes to land use planning, environmental stewardship, and how public infrastructure should be used. Since completion of the 2015 update, the transportation planning focus has continued to transition to the safe, equitable, and conscious movement of people, through multiple modes and options, by providing opportunities for non-motorized travel to meet daily needs through a more sustainable transportation network.

Historical Growth

An examination of census records reveals Saratoga County's population has continuously grown over the last 100 years with a steady increase in population from 1920 to 2024. Post-1980, the population began rising significantly. Population within Saratoga County grew approximately 9% from years 2000 to 2010 (200,635 people to 219,607 people) and most recently grew approximately 7% from years 2010 to 2020 (219,607 people to 235,509 people).

The Town of Wilton and surrounding municipalities have been experiencing similar, if not more, growth than Saratoga County as a whole. Population within the Town of Wilton grew approximately

29% from years 2000 to 2010 (12,511 people to 16,173 people) and most recently grew approximately 7% from years 2010 to 2020 (16,173 people to 17,361 people). This most recent trend results in an annual population growth rate, within the Town of Wilton, of 0.73%. The Towns of Moreau and Saratoga have seen similar annual population growth rates of 1.00% and 0.72%, respectively.



The continued growth in and around the Town, presence of major New York State commuter corridors like US Route 9 and NY Route 50 arterials, and the regional commercial hub in the southwest part of the Town result in increased traffic in the Town generated from surrounding areas. While the Town benefits from the commercial hub and proximity to I-87 with easy access north and south of the Town, these assets can also result in an increased burden on the transportation network. As Wilton and the surrounding communities have grown, intersections along the existing noted two-lane arterials that serve commuters and the bulk of commercial development in the Town, are beginning to reach capacity. Residents and visitors have been and will continue to experience increased delays through these corridors at peak travel times. Regardless of the smart growth planning that has occurred within the Town of Wilton, the town will continue to be impacted with traffic burden from vehicles traveling through the Town originating from surrounding towns and cities, a condition that is exacerbated by growth in the surrounding areas. The recommendations included in this study will help to mitigate the continued growth in and around the Town.

Study Description

This update to the Traffic Planning Study will be used to determine the existing and future transportation needs in the Town. Evaluations and recommendations from the previous planning

studies were reviewed and incorporated as appropriate. Other Town-sponsored and private development transportation and planning studies were reviewed to confirm that the findings and recommendations in this study are consistent with Town plans, projects, and goals. This study specifically includes the following:

- Data collection and existing conditions evaluation at seven Town intersections
- Intersection sight distance review at seven Town intersections and on one Town road
- Field review of three intersections with atypical alignment and three locations with close intersection spacing
- Crash history review at 16 intersections and one Town road
- Future traffic volume development including parcel specific growth identified by the Town and annual growth rates obtained from the Capital Region Transportation Council (CRTC)
- Review existing multi-modal accommodations
- Identify mitigation measures associated with safety, existing operations, future development, and multi-modal connections
- Provide cost estimates for identified mitigation measures
- Update the mitigation fees and prioritize project implementation

As requested by the Town, including the Town Highway Department, the scope of this study includes detailed review of existing sight distance and crash history at several locations in addition to the more typical analysis of existing and anticipated future traffic volumes to identify potential capacity mitigation. The proposed funding mechanism, which should only be used for capacity and access mitigation, multi-modal accommodations, and future traffic analysis studies, is also included in this study.

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Existing Conditions

With the Town's position in northern Saratoga County, residents have access to employment, retail, and recreational opportunities both north and south on Interstate 87 (the Northway) and in the Town. The bisecting of the Town by the Northway, the proximity of Northway Exits 15 and 16, the presence of major commuter roadways US Route 9 and NY Route 50, and the many amenities in the Town also results in significant traffic from adjacent communities. This chapter includes a general description of the transportation system in the Town and a review of the crash history and sight distances at several specific locations identified in consultation with Town staff, elected officials, and the Town Highway Department.

Primary Roadways and Intersection Conditions

Primary Roadways

The primary roadways in the Town, with most of the commercial development and denser residential uses, are US Route 9 and NY Route 50. These roadways also see the highest traffic volumes and traffic from other communities. These two roadways are described in more detail below.

Maple Avenue (US Route 9)

Maple Avenue (US Route 9) is classified as an urban minor arterial that generally provides north-south travel through the Town and is under the jurisdiction of the New York State Department of Transportation (NYSDOT). In the Town, US Route 9 is designated as Maple Avenue and Saratoga

Road. US Route 9 generally provides a single 11 to 12-foot wide travel lane in each direction, 6 to 9-foot wide paved shoulders, and a posted speed limit ranging from 40-mph to 55-mph. There are some limited sections of sidewalk along the roadway generally located along the frontage of new developments. Data published by NYSDOT on the Traffic Data Viewer (TDV) from 2023 indicates that the annual average daily traffic (AADT) on Maple Avenue near the Maple Avenue Middle School is 11,881 vehicles per day (vpd). North of Northern Pines Road, the roadway serves 8,291 vpd. Land uses on Maple Avenue are a mix of educational, commercial, and residential with open and undeveloped land in the north end of Town.

NY Route 50

NY Route 50 is classified as an urban minor arterial under NYSDOT jurisdiction that generally provides northeast-southwest travel through the Town and provides access to Interstate 87 Exit 15. As NY Route 50 enters the Town from the northeast, the roadway provides a single travel lane in each direction, shoulders of varying widths, and a posted speed limit of 55-mph. Land use is a mix of residential, agricultural, undeveloped, and commercial space. No sidewalks are provided on this section on NY Route 50. Data published by NYSDOT on the TDV from 2023 indicates that the AADT on NY Route 50 north of Edie Road is 5,266 vpd. Southeast of Perry Road, the land use changes to retail and commercial space and the roadway begins to widen to accommodate additional traffic in the commercial center. In the commercial center, NY Route 50 provides one or two travel lanes in each direction with a center two-way left-turn lane and/or widening at intersections for additional turn lanes and shoulders of varying widths. The posted speed limit changes to 45 and 40-mph. There are no sidewalks along NY Route 50. Data published by NYSDOT on the TDV from 2023 indicates that the AADT on NY Route 50 is 11,960 vpd south of Old Gick Road.

Primary Intersections

Based on information provided by the Town, the existing and future land use and development patterns, and general knowledge of intersection operations in the Town, seven intersections were identified for detailed capacity analyses. The geometric and operational characteristics of these intersections are summarized below.

Maple Avenue (US Route 9) at Smith Bridge Road

The Maple Avenue at Smith Bridge Road intersection is a three-leg intersection operating under stop control on the westbound Smith Bridge Road approach. All three intersection approaches provide a single lane for shared travel movements. There are no sidewalks, marked crosswalks, or other pedestrian accommodations at this intersection.

Maple Avenue (US Route 9) at Daniels Road

The Maple Avenue at Daniels Road intersection is a three-leg intersection operating under traffic signal control. The eastbound Daniels Road approach provides a single lane for shared travel movements. The northbound Maple Avenue approach provides a left-turn lane and a through lane. The southbound Maple Avenue approach provides a shared through/right-turn lane. North of Daniels Road there is a center two-way left-turn median extending between the intersection and the Cumberland Farms driveway to the north. There are no sidewalks, marked crosswalks, or pedestrian signals at this intersection.

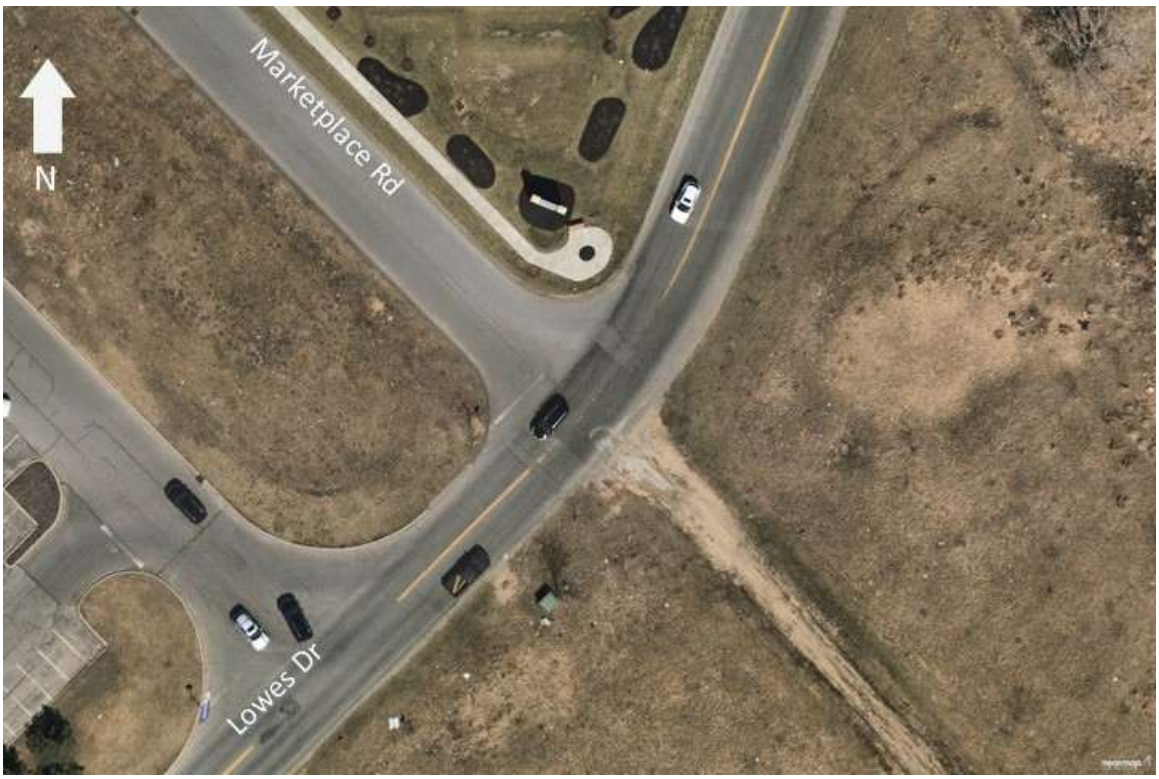
Maple Avenue (US Route 9) at Loughberry Lake Road/Maple Avenue Middle School Driveway

The Maple Avenue at Loughberry Lake Road/Maple Avenue Middle School Driveway (Middle School) intersection is a four-leg intersection operating under stop control on the eastbound Middle School Driveway and westbound Loughberry Lake Road approaches. The eastbound Middle School driveway approach provides a shared left-turn/through lane and a right-turn lane. The other intersection approaches provide a single lane for shared travel movements. A marked crosswalk is provided on the northbound Maple Avenue approach, but no other pedestrian accommodations are provided at this intersection.

Louden Road at Ingersoll Road

The Louden Road at Ingersoll Road intersection is a four-leg intersection operating under stop control on all four approaches. All four intersection approaches provide a single lane for shared travel movements. No pedestrian accommodations are provided at this intersection.

Lowes Drive at Marketplace Road



The Lowes Drive at Marketplace Road intersection is a three-leg intersection operating under stop control on the eastbound Marketplace Road approach. All three intersection approaches provide a single lane for shared travel movements. Sidewalks are provided along the north side of Marketplace Road.

Old Gick Road at Lowes Drive/Auto Park Road

The Old Gick Road at Lowes Drive/Auto Park Road intersection is a four-leg intersection operating under signal control. The northbound Old Gick Road approach provides a shared left-turn/through lane and a right-turn lane. The southbound Old Gick Road approach provides a single lane for shared travel movements. The eastbound Auto Park Road approach provides a shared left-turn/through lane and a shared through/right-turn lane. The westbound Lowes Drive Approach provides a left-turn lane and a shared through/right-turn lane. No pedestrian accommodations are provided at this intersection.

Louden Road at Weibel Avenue

The Louden Road at Weibel Avenue intersection is a four-leg intersection operating under signal control. The eastbound Louden Road approach provides a left-turn lane and a shared through/right-turn lane. The westbound Louden Road and northbound Weibel Avenue approaches provide a left-turn lane, a through lane, and a right-turn lane. The southbound Weibel Avenue approach provides a left-turn lane and a shared through/right-turn lane. No pedestrian accommodations are provided at this intersection.

Multi-Modal Accommodations

Pedestrians and Bicyclists

The Town has varying levels of pedestrian and bicyclist accommodations with limited sidewalks and striped bicycle lanes. In recent years, with new developments, the number of sidewalks and trails has been expanded through the site plan approval process. The recreational trail system, and connections to the recreational trails, also continues to expand through site plan approvals. Controlled pedestrian crossings with pedestrian signals, countdown timers, and pushbuttons are provided at the NY Route 50 intersections with Weibel Avenue/Old Gick Road and the two Wilton Mall driveway intersections. Marked crosswalks with pedestrian signals, countdown timers, and pushbuttons are also provided on Maple Avenue at Northern Pines Road.

The Town is currently evaluating the existing pedestrian facilities that are under town ownership through the Town of Wilton's ADA Transition Plan. The purpose of the ADA Transition Plan is to inventory the existing pedestrian facilities within the Town to ensure that the pedestrian infrastructure in the public right-of-way is accessible for everyone. The Plan outlines locations that are in need of improvement and prioritizes the various areas of need.

The Town has additional pedestrian improvements planned to connect the Town's existing pedestrian infrastructure to the Saratoga Greenbelt trail network as outlined in the Saratoga Greenbelt – Wilton Connector Trail Technical Assistance Memorandum, dated April 2022. The planned sidewalk connections in the Town include sidewalks on both sides of NY Route 50 from the I-87 Exit 15 Northbound Ramps to the northern terminus of Lowes Drive and the south side of Lowes Drive. Additionally, the memorandum outlines two proposed multi-modal trails. Alternative #1 proposes a sidepath along the east side of Weibel Avenue from Old Gick Road to the Saratoga Regional YMCA Wilton Branch. Another trail segment would begin at the terminus of the Downtown Connector Trail on NY Route 50 then follow Louden Road to Weibel Avenue where it crosses to the north side of Louden Road to the County Forest parking lot. The Alternative #2 multi-modal in the Town would travel along the north side of Louden Road from the Wilton Mall entrance to Weibel Avenue and then along the east side of Weibel Avenue to the Saratoga Regional YMCA Wilton Branch. The memorandum also includes a number of connections to nearby neighborhoods and other destinations and intersection treatments to facilitate pedestrian and bicyclist crossings.

Transit

Bus service in the Town of Wilton is provided by the Capital District Transportation Authority (CDTA). Review of online service schedules shows that the Town is currently serviced by three routes. Service in the Town is limited to the commercial corridor on NY Route 50 and Lowes Drive.

- Route 450 (Schenectady - Wilton Mall Via Route 50) – Provides service between downtown Schenectady, Saratoga, and Wilton via NY Route 50. The northern terminus of the route is the Wilton Mall. Service is provided from 4:50 a.m. to 12:30 a.m. Monday through Friday at 30-minute intervals and at 40-minute intervals from 5:00 a.m. to 12:00 a.m. on Saturdays and 6:45 a.m. to 10:00 p.m. on Sundays.
- Route 452 (Skidmore College/Downtown Saratoga) – Provides service between Skidmore College, Downtown Saratoga and the Wilton Mall primarily via NY Route 50. The northern terminus of the route is the Wilton Mall. Service is provided from 7:30 a.m. to 4:20 a.m. Monday through Friday at 30 to 40-minute intervals and at 70-minute intervals from 8:10 a.m. to 6:35 p.m. on Sundays.
- Route 540 (NX – Northway Express) – Provides service along the Northway from Downtown Albany to Wilton via I-87. The northern terminus of the route is the Wilton Mall. Service is provided weekdays with four buses leaving the mall during the AM peak period and five buses arriving during the PM peak period.

Traffic Volumes

After review of available traffic volume data from the Town, Saratoga County, and NYSDOT, a data collection plan was completed to confirm the intersection turning movement count (TMC) and automatic traffic recorder (ATR) locations and time frames. Based on existing travel patterns, land uses, review of other available data, and future development plans, TMC data was collected at the following locations:

1. Maple Avenue (US Route 9) at Smith Bridge Road
2. Maple Avenue (US Route 9) at Daniels Road
3. Maple Avenue (US Route 9) at Loughberry Lake Road/Maple Avenue Middle School Driveway
4. Louden Road at Ingersoll Road
5. Lowes Drive at Marketplace Road
6. Old Gick Road at Lowes Drive/Auto Park Road
7. Louden Road at Weibel Avenue

Traffic volume data on Maple Avenue (intersections 1-3) was collected during the weekday AM peak period from 7:00 to 9:00 a.m. and during an extended weekday PM peak period from 2:00 to 6:00 p.m. to coincide with school arrival and dismissal periods at the Maple Avenue Middle School. These three intersections are shown on Figure 1. Data near the commercial center on NY Route 50 (intersections 5-7) was collected during the weekday PM peak period from 4:00 to 6:00 p.m. and the Saturday midday peak period from 11:00 a.m. to 1:00 p.m. Due to the proximity of the Louden Road at Ingersoll Road intersection to the commercial center and residential areas, the TMC was conducted during the weekday AM and PM peak periods and the Saturday midday peak period. These four intersections are shown on Figure 2. The data was collected in June 2023 when school was in session.

Review of the traffic volume data shows that at the three intersections on Maple Avenue, the weekday AM peak hour occurred from 7:15 to 8:15 a.m. and the weekday PM peak hour occurred from 4:15 to 5:15 p.m. The weekday AM peak hour at the Louden Road at Ingersoll Road intersection occurred from 8:00 to 9:00 a.m. The weekday PM peak hour and Saturday midday peak hours varied at the four intersections in and near the commercial corridor. The 2023 Existing volumes are illustrated on Figures 3 and 4 and the peak period traffic volume data is included in Appendix A.

Based on the data collection plan, ATR data was collected at the following eight locations in the Town:

1. Edie Road north of Scout Road
2. Jones Road east of I-87
3. Jones Road north of Melanie Drive
4. Smith Bridge Road southwest of Davidson Drive
5. Old Gick Road north of YMCA driveway
6. Ingersoll Road between Carlyle Terrace intersections
7. Louden Road southwest of Ingersoll Road
8. Maple Avenue between Maple Avenue Middle School driveways

ATR data was collected for a seven-day period from June 9, 2023 through June 16, 2023 with the exception of Louden Road which was collected from June 16, 2023 through June 23, 2023. Daily traffic volumes for roadways in the Town are illustrated on Figure 5 and summarized in Table 1. The AADT volumes are from available NYSDOT data. The Average Daily Traffic (ADT) volumes are from the ATR counts conducted in June 2023 and the data is included in Appendix B.

Table 1 shows traffic volume, travel speed, and functional classification information for eight roadways. The PM peak hour volumes are also compared to the Capital Region Transportation Council (CRTC) roadway capacity for level of service (LOS) D operations. The table shows that the 85th percentile travel speed is generally higher than the posted speed limit and the volume comparison shows that the PM peak hour volumes are well below the CRTC LOS D capacity thresholds.

Table 1 Existing Roadway Classification, Travel Speed, and Traffic Volumes

Road	Functional Classification	Speed (mph)		Traffic Volume	
		Posted	85th Percentile	ADT (PM Peak)	CRTC LOS D Capacity
Edie Rd, north of Scout Rd	Local road	55	55 NB 54 SB	2,505 (257)	1,250
Jones Rd, east of I-87	Local road	45	45 EB 43 WB	7,689 (645)	1,250
Jones Rd, north of Melanie Dr	Major collector	40	48 NB 45 SB	4,366 (451)	2,000
Smith Bridge Rd, southwest of Davidson Dr	Local road	40	44 EB 43 WB	2,230 (224)	1,250
Old Gick Rd, north of YMCA Dwy	Local road	40	44 NB 47 SB	4,811 (421)	1,250
Ingersoll Rd, between Carlyle Terr intersections	Local road	40	49 NB 48 SB	2,984 (292)	1,250
Louden Rd, southwest of Ingersoll Rd	Local road	45	54 NB 51 SB	4870 (450)	1,250
Maple Ave, between Maple Ave Middle School Dwys	Minor arterial	40	43 NB 45 SB	11,256 (966)	2,000

Field Observations

VHB completed field observations throughout the Town on multiple occasions. These field visits included observations related to intersection spacing at three locations and roadway approach alignment at two locations. VHB also observed operations during school arrival and dismissal periods at the Maple Avenue Middle School.

Closely Spaced Intersections

Concerns were raised by the Town regarding operations associated with three pairs of closely spaced intersections.

Ballard Road at Edie Road/Gurn Springs Road – This four leg stop-controlled intersection is located approximately 130-feet east of the traffic signal-controlled Northway Exit 16 northbound ramps intersection. There is space for five or six vehicles to queue at the traffic signal before reaching the sop-controlled intersection. Field observations did not indicate that the traffic signal impacted general operations at the Ballard Road at Edie Road/Gurn Springs Road intersection. This intersection is also discussed in the Crash Review section of this study.

Northern Pines Road at Davidson Drive –This three leg stop-controlled intersection is located approximately 260-feet east of the traffic signal-controlled Maple Avenue at Northern Pines Road intersection. There is space for 10 to 11 vehicles to queue at the traffic signal before reaching the sop-controlled intersection. Field observations did not indicate that the traffic signal impacted general operations at the Northern Pines Road at Davidson Drive intersection. This intersection is also discussed in the Crash Review section of this study.

Old Gick Road at New Country Way – The New Country Road right-in, right-out intersection is located approximately 140-feet from the adjacent traffic signal-controlled NY Route 50 at Old Gick Road/Wiebel Avenue. There is space for five to six vehicles to queue in the right-turn or through lane prior to reaching the intersection with New Country Road. Field observations indicated that the vehicle queue can block New Country Road, but the queue clears with each cycle of the traffic signal allowing the right-turn exiting vehicles to turn onto Old Gick Road. New Country Road also connects to Auto Park Road allowing drivers to access Old Gick Road via a traffic signal. This intersection is also discussed in the Crash Review section of this study.

Intersection Approach Alignment

Concerns were raised by the Town regarding operations associated with three intersections with atypical approach alignment.

Northern Pines Road at Traver Road – The stop-controlled Traver Road approaches Northern Pines Road directly opposite the south leg of this three-leg intersection with the other Northern Pines Road uncontrolled approach intersecting the intersection at a skew. The atypical alignment does not appear to impact operations at the intersection. This intersection is also discussed in the Crash Review section of this study.

NY Route 50 at Perry Road – The stop-controlled Perry Road approaches NY Route 50 at a skew. Field observations did not indicate that the approach skew affected operations at the intersection. This intersection is also discussed in the Crash Review section of this study.

NY Route 50 at Edie Road – The stop-controlled Edie Road approaches NY Route 50 at a skew. The atypical alignment appears to impact operations at the intersection, as discussed in the Crash Review section below. This intersection was previously identified by the Town for realignment as part of a development threshold on adjacent parcels. The intersection was also identified for capacity improvements as part of a second private development project.

Maple Avenue Middle School Arrival and Dismissal Operations

The presence of the Maple Avenue Middle School can impact operations on Maple Avenue. Field observations were conducted at the Maple Avenue Middle School during arrival and dismissal periods. Typical with school operations, traffic entering and exiting the middle school peaks during the 20 to 30-miunte period before school starts and after school ends. During other times of the day, on weekends, and when school is not in session, there is little traffic entering or exiting the middle school driveways. Field observations confirmed that traffic volumes at the middle school peaked during the arrival and dismissal periods. Additionally, with the single travel lane in each direction, the drivers, often bus drivers, allowed vehicles to exit the middle school driveway opposite Loughberry Lake Road by creating a gap in traffic. Although through traffic is impacted on Maple Avenue during the 20 to 30-minute arrival and dismissal periods, no mitigation is recommended as the driveways operate adequately during this short-term period.

Crash Review

Crash data was obtained from NYSDOT for the latest three-year period exclusive of the COVID-19 Pandemic from March 1, 2017, to February 28, 2020, for the intersections in Table 2. The intersections were selected based on those that have been identified for crash evaluation, alignment review, spacing review, and sight distance analysis for this study. Crash data from the same date range was also obtained from NYSDOT for a selected segment of Louden Road, which was identified for an operating speed assessment.

Review of the data shows that during the three-year period, a total of 61 crashes occurred at the 16 intersections, and 14 crashes occurred on the one roadway segment. Table 2 summarizes the intersection and segment crashes. Detailed crash data can be found in Appendix C.

Table 2 Summary of Three-Year Crash History

Intersection or Segment	Total Crashes	Severity			
		Fatal	INJ [a]	PDO [b]	NR [c]
Crash History					
Dimmick Rd at Gurn Springs Rd	0	0	0	0	0
Ballard Rd at Northern Pines Rd	9	0	3	6	0
King Rd at Ruggles Rd	6	0	4	2	0
Sight Distance					
Wilton Gansevoort Rd at Dimmick Rd/Palmer Ridge Rd	1	0	0	1	0
Wilton Gansevoort Rd at Northern Pines Rd	1	0	0	1	0
Gailor Rd at Northern Pines Rd	3	0	1	2	0
Parkhurst Rd at Gailor Rd/Greenfield Rd	2	0	0	2	0
Northern Pines Rd at Worth Rd	1	0	0	1	0
Jones Rd at Smith Bridge Rd/Lewis Dr	1	0	0	1	0
Smith Bridge Rd at Cider Mill Way	0	0	0	0	0
Intersection Spacing					
Ballard Rd at Edie Rd/Gurn Springs Rd	7	1	1	5	0
Northern Pines Rd at Davidson Dr	4	0	1	3	0
Old Gick Rd at New Country Way	14	0	3	9	2
Intersection Approach Alignment					
Northern Pines Rd at Traver Rd	2	0	0	1	1
NY Route 50 at Perry Rd	0	0	0	0	0
Edie Rd at NY Route 50	10	0	4	4	2
Operating Speed Assessment					
Louden Rd from Ruggles Rd to Chelsea Dr	14	0	2	10	2
Total Intersection Crashes	**61**	**1**	**17**	**38**	**5**
Total Segment Crashes	**14**	**0**	**2**	**10**	**2**

Source: NYSDOT crash data dated March 2017 through February 2020.

a Personal Injury

b Property-Damage Only

c Non-Reportable

As shown in Table 2, of the 61 total intersection crashes, there were 17 injury crashes, 38 property-damage collisions and five non-reportable incidents (no injury and less than $1,000 in property damage). The table also shows that 14 crashes were reported on the roadway segment; two injury crashes, ten property-damage collisions, and two non-reportable incidents. Overall, there was one fatality reported in the three-year study period. The crash history is described below.

Crash History

Dimmick Road at Gurn Springs Road – There were no reported crashes at this intersection during the three-year study period.

Ballard Road at Northern Pines Road – A total of nine crashes were reported at this intersection, including six right-angle, two right-turn, and one "other" crash type. The right-angle crashes at this intersection primarily involved northbound and westbound vehicles (67 percent) and were due to many factors, including failure to yield the right-of-way, driver inattention, and disregarding traffic control devices. The remaining crashes were also due to various forms of driver error including disregarding traffic control devices, failure to yield the right-of-way, and turning improperly.

The northbound Northern Pines Road approach to Ballard Road has two stop signs and a Stop Ahead sign indicating that historically there may have been crash history warranting additional signage. The crash review indicates that additional conspicuity of the stop control on the northbound approach may be beneficial when preventing northbound/westbound crashes. It is recommended that retroreflective strips be added to the existing signposts to further enhance the visibility of the stop signs.

King Road at Ruggles Road – A total of six crashes were reported at this intersection, including four right-angle and two "other" crash types. The right-angle crashes primarily involved a northbound and an eastbound vehicle and were due to failure to yield the right-of-way, disregarding traffic control devices, and slippery pavement. The "other" crashes involved three vehicles each on various approaches and were due to failure to yield the right-of-way, unsafe speed, and disregarding traffic control devices.

The crash review indicates that additional conspicuity of the stop control on the northbound approach may be beneficial when preventing right angle crashes. It is recommended that supplemental stop signs with reflective strips be installed on the northbound and southbound approaches and retroreflective strips be added to the existing and proposed signposts to further enhance the visibility of the stop signs.

Sight Distance

Wilton Gansevoort Road at Dimmick Road/Palmer Ridge Road – One right-angle crash was reported at this intersection during the three-year study period. It involved a northbound vehicle that struck a westbound vehicle due to failure to yield the right-of-way and disregarding traffic control devices. The crash review does not indicate a pattern of preventable crashes at this location.

Wilton Gansevoort Road at Northern Pines Road – One "other" type of crash was reported at this intersection during the three-year study period. It involved a southbound vehicle that struck a westbound vehicle due to unsafe speed and slippery pavement during snowy weather conditions. The crash review does not indicate a pattern of preventable crashes at this location.

Gailor Road at Northern Pines Road – A total of three crashes were reported at this intersection, including one right-turn, one right-angle, and one collision with a deer. The right-turn crash involved an eastbound vehicle who failed to yield the right-of-way to a north-westbound vehicle. The right-angle crash involved a north-eastbound vehicle that struck a southbound vehicle and was due to unsafe speed and disregarding traffic control devices. The collision with the deer involved a

southbound vehicle and was due to the animal's action. The crash review does not indicate a pattern of preventable crashes at this location.

Parkhurst Road at Gailor Road/Greenfield Road – Two crashes were reported at this intersection, including one right-angle and one sideswipe collision. The right-angle crash involved a southbound vehicle that was struck by an eastbound vehicle due to driver inattention and failure to yield the right-of-way. The sideswipe crash involved an eastbound and a westbound vehicle and was due to failure to yield the right-of-way and turning improperly. The crash review does not indicate a pattern of preventable crashes at this location.

Northern Pines Road at Worth Road – One fixed-object crash was reported at this intersection during the three-year study period. It involved an eastbound vehicle that collided with an earth element/rock cut/ditch due to alcohol involvement and disregarding traffic control devices. The crash review does not indicate a pattern of preventable crashes at this location.

Jones Road at Smith Bridge Road/Lewis Drive – One left-turn crash was reported at this intersection during the three-year study period. It involved a westbound vehicle that was turning improperly and an eastbound vehicle that was experiencing driver inattention. The crash review does not indicate a pattern of preventable crashes at this location.

Smith Bridge Road at Cider Mill Way – There were no reported crashes at this intersection during the three-year study period.

Intersection Spacing

Ballard Road at Edie Road/Gurn Springs Road – A total of seven crashes were reported at this intersection, including four right-angle and one each of a head-on, rear-end, and "other" crash type. One of the right-angle crashes resulted in a fatality that involved an eastbound vehicle that struck a southbound vehicle due to unsafe speed and improper passing/lane usage. The other three right-angle crashes were due to failure to yield the right-of-way, obstructed/limited view, and alcohol involvement. The head-on crash involved a northbound vehicle that failed to yield the right-of-way to a westbound vehicle. The rear-end crash involved two eastbound vehicles and was due to unsafe speed and following too closely. The "other" crash involved a southbound vehicle that disregarded traffic control devices and struck a westbound vehicle going straight and an eastbound vehicle stopped in traffic.

The crash review indicates that additional conspicuity of the stop control on the northbound approach may be beneficial when preventing crashes caused by failure to yield the right of way. It is recommended that supplemental stop signs with retroreflective strips be installed on the northbound and southbound approaches and retroreflective strips be added to the existing signposts to further enhance the visibility of the stop signs.

Northern Pines Road at Davidson Drive – A total of four crashes were reported at this intersection, including two right-angle, one left-turn, and one fixed-object collision. The right-angle crashes involved northbound and eastbound vehicles and were due to failure to yield the right-of-way and driver inattention. The left-turn crash involved a southbound vehicle that failed to yield the right-of-way to an eastbound vehicle. The left-turn crash also occurred on wet road surface conditions and was attributed to slippery pavement. The fixed-object crash involved an eastbound vehicle that struck a building/wall due to unsafe speed.

The crash review indicates that additional conspicuity of the stop control on the northbound approach may be beneficial when preventing crashes caused by failure to yield the right of way. It is recommended that a stop bar be installed on the northbound approach to the intersection. The stop bar should be installed to encourage drivers to approach Northern Pines Road at a 90-degree angle to provide better visibility when looking left at the stop sign.

Old Gick Road at New Country Way – A total of 14 crashes were reported at this intersection, including four right-angle, four overtaking, two each of left-turn and rear-end, and one each of sideswipe and a collision with a pedestrian. The right-angle crashes occurred in various directions while the overtaking crashes occurred primarily in the southbound direction (75 percent). The right-angle and overtaking crashes were primarily due to failure to yield the right-of-way, disregarding traffic control devices, and unsafe lane change. The remaining crashes were also due to various forms of driver error including turning improperly, failure to yield the right-of-way, following too closely, and backing unsafely.

The crash review indicates that restriping or installation of a raised median for the right-in/right-out restricted access on the New Country Road approach may be beneficial when preventing left-turn and right-angle crashes and crashes caused by failure to yield the right of way and disregarding traffic control devices. It is recommended that pavement striping and symbols be installed on the New Country Road approach to Old Gick Road. A curbed median should be considered to further enforce the right turn only movement.

There was one pedestrian crash at the intersection that involved a pedestrian who was struck by a northbound vehicle going straight resulting in an injury. The apparent contributing factor for the vehicle is listed as not applicable.

Intersection Approach Alignment

Northern Pines Road at Traver Road – Two fixed-object crashes were reported at this intersection during the three-year study period. In one crash, a northbound left-turning vehicle collided with a snow embankment, but no apparent contributing factors were entered. In the second crash, a northbound vehicle was changing lanes at an unsafe speed under slippery pavement conditions and collided with a fixed object. The crash review does not indicate a pattern of preventable crashes at this location.

NY Route 50 at Perry Road – There were no reported crashes at this intersection during the three-year study period.

Edie Road at NY Route 50 – A total of ten crashes were reported at this intersection, including five rear-end, three right-angle, one left-turn, and one collision with a deer. The rear-end crashes occurred in the northbound and eastbound directions and were due to following too closely, driver inattention, unsafe speed, and alcohol involvement. The right-angle and left-turn crashes were attributed to various factors including failure to yield the right-of-way, disregarding traffic control devices, driver inattention, and/or alcohol involvement. The collision with a deer was attributed to the animal's action.

NY Route 50 is oriented in a northeast/southwest at this location. This can result in a rear-end crash on NY Route 50 being identified as a rear-end crash on Edie Road. Based on the character of the intersection where Edie Road approaches NY Route 50 at a skew, it is likely that the rear-end crashes

are occurring on NY Route 50. There is good visibility on NY Route 50 approaching Edie Road; however, realignment of the Eddie Road approaches with installation of a traffic signal, or the construction of a roundabout may be beneficial when preventing rear end and right angle crashes at this location. The Town should coordinate with NYSDOT to address the potential to install an Intersection Warning sign on the northbound NY Route 50 approach to Edie Road and implement either roadway realignment or roundabout installation as identified in previous intersection evaluations.

Operating Speed Assessment

Louden Road from Ruggles Road to Chelsea Drive – A total of 14 crashes were reported on this roadway segment, including seven fixed-object, three right-angle, and two each of "other" and collisions with animals. The fixed-object crashes included collisions with rock cuts/ditches, snow embankments, and "other" fixed objects. The fixed-object crashes were attributed to unsafe speed, unsafe lane change, slippery pavement, driver inattention, and alcohol involvement. The right-angle crashes were all due to failure to yield the right-of-way. The "other" collisions both involved vehicles that ran off the road and were due to unsafe speed and slippery pavement. The remaining collisions with animals were due to the animal's action. This roadway segment was evaluated further to address the posted advisory speeds along the road. Additional data and recommendations are provided in the "Ball Banking Evaluation" section of this report.

Sight Distance Analysis

Sight distance analysis, in conformance with guidelines in *A Policy on the Geometric Design of Highways and Streets, 7th Edition*[1] published by the American Association of State Highway and Transportation Officials (AASHTO) was completed at intersections and specific intersection approaches. The intersection approaches that were measured and evaluated were determined through consultation with the Town and field review.

- Wilton Gansevoort Road at Dimmick Road/Palmer Ridge Road (southbound approach)
- Wilton Gansevoort Road at Northern Pines Road (westbound approach)
- Northern Pines Road at Gailor Road (eastbound and westbound approaches)
- Parkhurst Road at Gailor Road/Greenfield Road (eastbound and westbound approaches)
- Northern Pines Road at Worth Road (eastbound approach)
- Jones Road at Lewis Road/Smith Bridge Road (eastbound and westbound approach)
- Smith Bridge Road at Cider Mill Way (southbound approach)

Both stopping sight distance (SSD) and intersection sight distance (ISD) measurements were performed at these above locations.

1 A Policy on the Geometric Design of Highways and Streets,7th Edition, American Association of State Highway and Transportation Officials, 2018.

SSD is the distance along the roadway for a vehicle approaching an intersection from either direction to perceive, react, and come to a complete stop before colliding with an object in the road, in this case a vehicle exiting from the driveway or a vehicle waiting on the mainline to turn into the site.

ISD is based on the time required for perception, reaction, and completion of the desired turning maneuver into or out of the site driveway. Calculation of the ISD includes the time to (1) turn and clear the intersection without conflicting with approaching vehicles; and (2) upon turning, to accelerate to the operating speed on the roadway without causing approaching vehicles on the main road to unduly reduce their speed.

Wilton Gansevoort Road at Dimmick Road/Palmer Ridge Road

Sight distances were measured on the southbound Palmer Ridge Road approach to Wilton Gansevoort Road. The speed limit on Wilton Gansevoort Road near Dimmick Road is not posted therefore it is assumed to be 55-mph. Based on travel speed data collected by NYSDOT in 2018, the 85th percentile operating speed was measured to be 59-mph in the eastbound direction and 54-mph in the westbound direction; therefore, the sight distance evaluation was completed based upon a 60-mph operating speed in the eastbound direction and 55-mph in the westbound direction. Tables 3 and 4 summarize the stopping and intersection sight distance evaluation.

Table 3 Stopping Sight Distance - Wilton Gansevoort Road at Dimmick Road/Palmer Ridge Road

Location	Traveling	Field Measurement (feet) [a]	AASHTO Guideline (feet)
Palmer Ridge Rd SB at Wilton Gansevoort Rd	EB	600+	570 [b]
	WB	600+	495 [c]

a Based on field measurements taken by VHB.
b Based on standards established in A Policy on the Geometric Design of Highways and Streets, AASHTO, 2018 for a 60-mph operating speed.
c Based on standards established in A Policy on the Geometric Design of Highways and Streets, AASHTO, 2018 for a 55-mph operating speed.

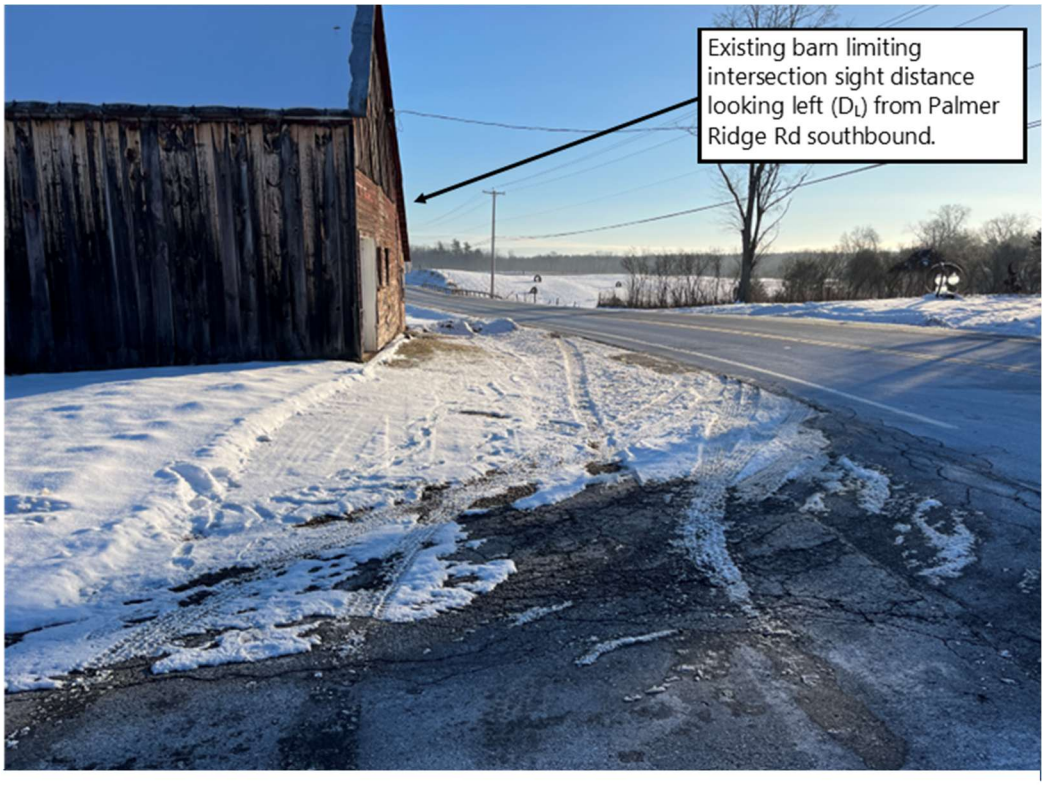
Table 4 Intersection Sight Distance - Wilton Gansevoort Road at Dimmick Road/Palmer Ridge Road

Location	View	Field Measurement (feet) [a]	AASHTO Guideline (feet)		
			Left-turn Out	Right-turn Out	Left-turn In
Palmer Ridge Rd SB at Wilton Gansevoort Rd	Looking Left	295	610 [c]	530 [c]	--
	Looking Right	605	665 [b]	--	--
	Looking Straight	600+	--	--	495 [c]

a Based on field measurements taken by VHB.
b Based on standards established in A Policy on the Geometric Design of Highways and Streets, AASHTO, 2018 for a 60-mph operating speed.
c Based on standards established in A Policy on the Geometric Design of Highways and Streets, AASHTO, 2018 for a 55-mph operating speed.
-- Not applicable

The analysis shows that the stopping sight distances meet the AASHTO guidelines for a 60-mph operating speed in the eastbound direction and 55-mph in the westbound direction along Wilton Gansevoort Road.

The intersection sight distances for passenger vehicles entering and exiting the southbound Palmer Ridge Road approach do not meet the AASHTO guidelines for their respective operating speed except for looking straight for a left-turn in. The sight line looking left for a left or right-turn out is blocked by a barn, see photograph 1, and the sight line looking right for a left-turn out is blocked by trees and vegetation. Review of Figure 2C-101 Guide for Intersection Warning Sign Use in the New York State Supplement to the Manual on Uniform Traffic Control Devices (MUTCD)[2] shows that the available sight distance is less than desirable and critically limited, as such, mitigation is needed. Since the obstruction (barn) cannot be removed, it is recommended that all-way stop control be installed at this intersection so all vehicles at the intersection will come to a full stop and drivers will be able to see the other stopped vehicles.



Photograph 1: Palmer Ridge Road (southbound) at Wilton Gansevoort Road looking left (D_L).

Wilton Gansevoort Road at Northern Pines Road

Sight distances were measured on the westbound Wilton Gansevoort Road approach to Northern Pines Road. The posted speed limit on Northern Pines Road near Wilton Gansevoort Road is 40-mph.

2 New York State Supplement to the Manual on Uniform Traffic Control Devices for Streets and Highways (2009 Edition), New York State Department of Transportation, March 16, 2011

Speed data is unavailable for this section of roadway therefore the field measurements were compared to the posted speed limit plus 5-mph. The sight distance evaluation was completed based upon a 45-mph operating speed in both the northbound and southbound directions. Tables 5 and 6 summarize the stopping and intersection sight distance evaluation.

Table 5 Stopping Sight Distance - Wilton Gansevoort Road at Northern Pines Road

Location	Traveling	Field Measurement (feet) [a]	AASHTO Guideline (feet)
Wilton Gansevoort Rd WB at Northern Pines Rd	NB	600+	360 [b]
	SB	380	380 [c]

a Based on field measurements taken by VHB.
b Based on standards established in A Policy on the Geometric Design of Highways and Streets, AASHTO, 2018 for a 45-mph operating speed.
c Based on standards established in A Policy on the Geometric Design of Highways and Streets, AASHTO, 2018 for a 45-mph operating speed and 3% downgrade.

Table 6 Intersection Sight Distance - Wilton Gansevoort Road at Northern Pines Road

Location	View	Field Measurement (feet) [a]	AASHTO Guideline (feet) [b]		
			Left-turn Out	Right-turn Out	Left-turn In
Wilton Gansevoort Rd WB at Northern Pines Road	Looking Left	600+	500	430	--
	Looking Right	260	500	--	--
	Looking Straight	600+	--	--	365

a Based on field measurements taken by VHB.
b Based on standards established in A Policy on the Geometric Design of Highways and Streets, AASHTO, 2018 for a 45-mph operating speed.
-- Not applicable

A review of Table 5 shows that the stopping sight distances meet the AASHTO guidelines for a 45-mph operating speed along Northern Pines Road. Table 6 shows that the intersection sight distances for passenger vehicles entering and exiting the Wilton Gansevoort Road approach meet the AASHTO guidelines for a 45-mph operating speed except for looking right for a left turn out. The sight line looking right for a left turn out is blocked by vegetation and an earthen berm, see photograph 2. It is recommended that the town coordinates with the landowner to clear vegetation to the extent possible and to regrade the earthen berm along the road frontage.

Photograph 2: Looking north on Northern Pines Road at Wilton Gansevoort Road.

Gailor Road at Northern Pines Road

Sight distances were measured on the eastbound and westbound Gailor Road approaches to Northern Pines Road. The speed limit on Northern Pines Road near Gailor Road is not posted therefore it is assumed to be 55-mph. Speed data is unavailable for this section of roadway therefore the field measurements were compared to the posted speed limit plus 5-mph. The sight distance evaluation was completed based upon a 60-mph operating speed in both the northbound and southbound directions. Tables 7 and 8 summarize the stopping and intersection sight distance evaluations.

Table 7 Stopping Sight Distance - Gailor Road at Northern Pines Road

Location	Traveling	Field Measurement (feet) [a]	AASHTO Guideline (feet) [b]
Gailor Rd EB at Northern Pines Rd	NB	600+	570
	SB	600+	570
Gailor Rd WB at Northern Pines Rd	NB	600+	570
	SB	600+	570

a Based on field measurements taken by VHB.

b Based on standards established in A Policy on the Geometric Design of Highways and Streets, AASHTO, 2018 for a 60-mph operating speed.

Table 8 Intersection Sight Distance - Gailor Road at Northern Pines Road

Location	View	Field Measurement (feet) [a]	AASHTO Guideline (feet) [b]		
			Left-turn Out	Right-turn Out	Left-turn In
Gailor Rd EB at Northern Pines Rd	Looking Left	700+	665	575	--
	Looking Right	700+	665	--	--
	Looking Straight	600+	--	--	490
Gailor Rd WB at Northern Pines Rd	Looking Left	700+	665	575	--
	Looking Right	700+	665	--	--
	Looking Straight	600+	--	--	490

a Based on field measurements taken by VHB.
b Based on standards established in A Policy on the Geometric Design of Highways and Streets, AASHTO, 2018 for a 60-mph operating speed.
-- Not applicable

Tables 7 and 8 show that the stopping and intersection sight distances meet the AASHTO guidelines for a 60-mph operating speed along Northern Pines Road. No mitigation is recommended.

Parkhurst Road at Gailor Road/Greenfield Road

Sight distances were measured on the eastbound and westbound Gailor Road/Greenfield Road approaches to Parkhurst Road. The posted speed limit on Parkhurst Road near Gailor Road/Greenfield Road is 45-mph. Speed data is unavailable for this section of roadway therefore the field measurements were compared to the posted speed limit plus 5-mph. The sight distance evaluation was completed based upon a 50-mph operating speed in both the northbound and southbound directions. Tables 9 and 10 summarize the stopping and intersection sight distance evaluations.

Table 9 Stopping Sight Distance - Parkhurst Road at Gailor Road/Greenfield Road

Location	Traveling	Field Measurement (feet) [a]	AASHTO Guideline (feet)
Greenfield Rd EB at Parkhurst Rd	NB	650+	390 [b]
	SB	415	475 [c]
Gailor Rd WB at Parkhurst Rd	NB	650+	390 [b]
	SB	415	475 [c]

a Based on field measurements taken by VHB.
b Based on standards established in A Policy on the Geometric Design of Highways and Streets, AASHTO, 2018 for a 50-mph operating speed with a 6% upgrade.
c Based on standards established in A Policy on the Geometric Design of Highways and Streets, AASHTO, 2018 for a 50-mph operating speed and 6% downgrade.

Table 10 Intersection Sight Distance - Parkhurst Road at Gailor Road/Greenfield Road

Location	View	Field Measurement (feet) [a]	AASHTO Guideline (feet) [b]		
			Left-turn Out	Right-turn Out	Left-turn In
Greenfield Rd EB at Parkhurst Rd	Looking Left	475	555	480	--
	Looking Right	650+	555	--	--
	Looking Straight	430	--	--	405
Gailor Rd WB at Parkhurst Rd	Looking Left	275	555	480	--
	Looking Right	295	555	--	--
	Looking Straight	650+	--	--	405

a Based on field measurements taken by VHB.

b Based on standards established in A Policy on the Geometric Design of Highways and Streets, AASHTO, 2018 for a 50-mph operating speed.

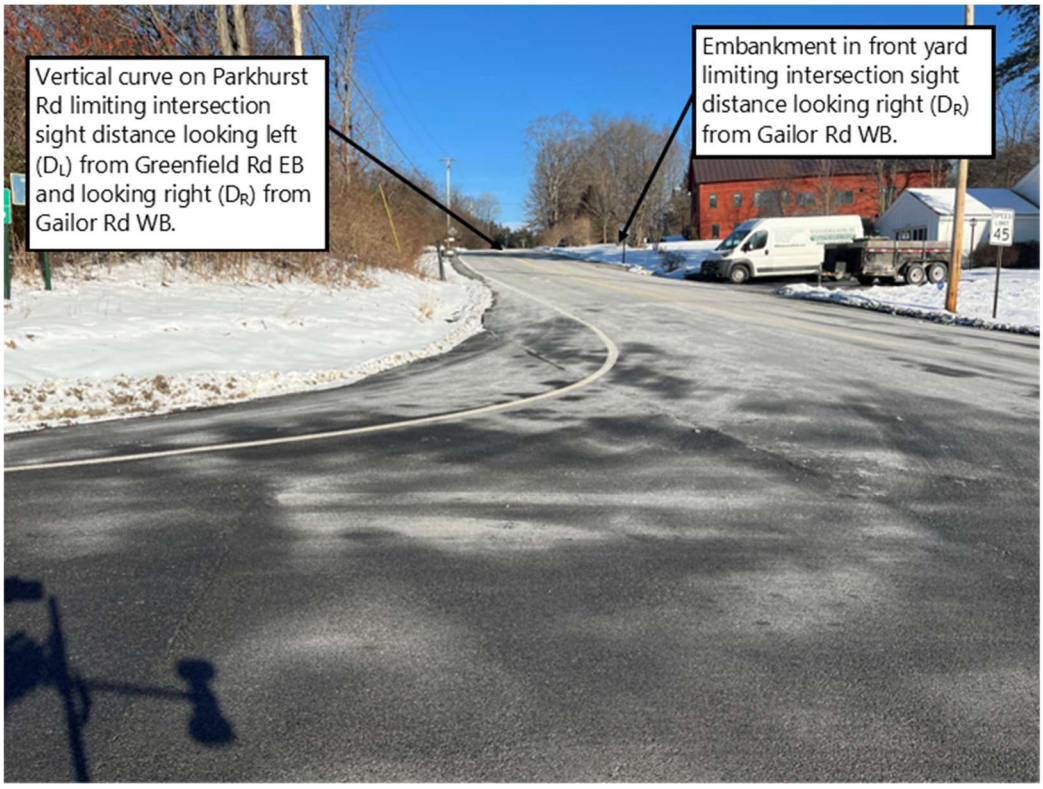
-- Not applicable

A review of Table 9 shows that the stopping sight distances meet the AASHTO guidelines for a 50-mph operating speed in the northbound direction along Parkhurst Road. The stopping sight distance for southbound vehicles is limited by the vertical curve in the roadway, see photograph 3.

Photograph 3: Looking south on Parkhurst Road to intersection with Gailor Road/Greenfield Road.

Table 10 shows that the sight distances looking north on both the eastbound and westbound approaches and the sight distance looking south on the westbound approach do not meet AASHTO guidelines for a 50-mph operating speed. The sight line looking left for a left and right turn out of the eastbound approach and the sight distance right out of the westbound approach are limited by

the vertical curve in the roadway and an existing embankment on a residential parcel, see photograph 4.



Photograph 4: Greenfield Road (eastbound) at Parkhurst Road looking north.

At the westbound approach, the sight line looking left for a left and right turn out is limited by vegetation along the east side of Parkhurst Road south of Gailor Road, see photograph 5. Review of Figure 2C-101 Guide for Intersection Warning Sign Use in the NYS Supplement to the MUTCD shows that the available sight distance is less than desirable and critically limited, as such, mitigation is needed. It is recommended that the town coordinate with the landowner along the east side of Parkhurst Road, south of Gailor Road to clear vegetation to the extents possible. There is an intersection warning sign on the southbound Parkhurst Road approach to the intersection with Gailor Road/Greenfield Road. No other mitigation is recommended.

Photograph 5: Looking left (D_L) from Gailor Road westbound at Parkhurst Road

Northern Pines Road at Worth Road

Sight distance analysis was completed for the eastbound approach for the Northern Pines Road at Worth Road intersection. The posted speed limit on Northern Pines Road near Worth Road is 40-mph. Based on travel speed data collected by NYSDOT in 2019, the 85th percentile operating speed was measured to be 48-mph in the northbound direction and 52-mph in the southbound direction; therefore, the sight distance evaluation was completed based upon a 50-mph operating speed in the northbound and southbound directions. Tables 11 and 12 summarize the stopping and intersection sight distance evaluations.

Table 11 Stopping Sight Distance - Northern Pines Road at Worth Road

Location	Traveling	Field Measurement (feet) [a]	AASHTO Guideline (feet) [b]
Worth Rd EB at Northern Pines Rd	NB	500+	425
	SB	500+	425

a Based on field measurements taken by VHB.

b Based on standards established in A Policy on the Geometric Design of Highways and Streets, AASHTO, 2018 for a 50-mph operating speed.

Table 12 Intersection Sight Distance - Northern Pines Road at Worth Road

Location	View	Field Measurement (feet) [a]	AASHTO Guideline (feet) [b]		
			Left-turn Out	Right-turn Out	Left-turn In
Worth Rd EB at Northern Pines Rd	Looking Left	600+	555	480	--
	Looking Right	600+	555	--	--
	Looking Straight	600+	--	--	405

a Based on field measurements taken by VHB.

b Based on standards established in A Policy on the Geometric Design of Highways and Streets, AASHTO, 2018 for a 50-mph operating speed.

-- Not applicable

Tables 11 and 12 show that the stopping and intersection sight distances meet the AASHTO guidelines for a 50-mph operating speed along Northern Pines Road. No mitigation is recommended.

Jones Road at Lewis Road/Smith Bridge Road

Sight distance analysis was completed for the eastbound and westbound approaches for the Jones Road at Lewis Road/Smith Bridge Road intersection. The posted speed limit on Jones Road near Lewis Road/Smith Bridge Road is 40-mph. Based on travel speed data collected by NYSDOT in 2019, the 85th percentile operating speed was measured to be 44-mph in the northbound direction and 47-mph in the southbound direction; therefore, the sight distance evaluation was completed based upon a 45-mph operating speed in the northbound and southbound directions. Tables 13 and 14 summarize the sight distance evaluation.

Table 13 Stopping Sight Distance - Jones Road at Lewis Road/Smith Bridge Road

Location	Traveling	Field Measurement (feet) [a]	AASHTO Guideline (feet) [b]
Smith Bridge Rd EB at Jones Rd	NB	500+	360
	SB	500+	360
Lewis Rd WB at Jones Rd	NB	500+	360
	SB	500+	360

a Based on field measurements taken by VHB.

b Based on standards established in A Policy on the Geometric Design of Highways and Streets, AASHTO, 2018 for a 45-mph operating speed.

Table 14 Intersection Sight Distance - Jones Road at Lewis Road/Smith Bridge Road

Location	View	Field Measurement (feet) [a]	AASHTO Guideline (feet) [b]		
			Left-turn Out	Right-turn Out	Left-turn In
Smith Bridge Rd EB at Jones Rd	Looking Left	500	500	430	--
	Looking Right	550+	500	--	--
	Looking Straight	550+	--	--	365
Lewis Rd WB at Jones Rd	Looking Left	500	500	430	--
	Looking Right	550+	500	--	--
	Looking Straight	550+	--	--	365

a Based on field measurements taken by VHB.
b Based on standards established in A Policy on the Geometric Design of Highways and Streets, AASHTO, 2018 for a 45-mph operating speed.
-- Not applicable

Tables 13 and 14 show that the stopping and intersection sight distances meet the AASHTO guidelines for a 45-mph operating speed along Jones Road. No mitigation is recommended.

Smith Bridge Road at Cider Mill Way

Sight distance analysis was completed at the southbound Cider Mill Way approach to Smith Bridge Road. The posted speed limit on Smith Bridge Road near Cider Mill Way is 40-mph. Speed data is unavailable for this section of roadway therefore the field measurements were compared to the posted speed limit plus 5-mph. The sight distance evaluation was completed based upon a 45-mph operating speed in both the eastbound and westbound directions. Tables 15 and 16 summarize the sight distance evaluation.

Table 15 Stopping Sight Distance - Smith Bridge Road at Cider Mill Way

Location	Traveling	Field Measurement (feet) [a]	AASHTO Guideline (feet) [b]
Cider Mill Way SB at Smith Bridge Rd	EB	600+	360
	WB	600+	360

a Based on field measurements taken by VHB.
b Based on standards established in A Policy on the Geometric Design of Highways and Streets, AASHTO, 2018 for a 45-mph operating speed.

Table 16 Intersection Sight Distance - Smith Bridge Road at Cider Mill Way

Location	View	Field Measurement (feet) [a]	AASHTO Guideline (feet) [b]		
			Left-turn Out	Right-turn Out	Left-turn In
Cider Mill Way SB at Smith Bridge Rd	Looking Left	600+	500	430	--
	Looking Right	600+	500	--	--
	Looking Straight	600+	--	--	365

a Based on field measurements taken by VHB.

b Based on standards established in A Policy on the Geometric Design of Highways and Streets, AASHTO, 2018 for a 45-mph operating speed.

-- Not applicable

Tables 15 and 16 show that the stopping and intersection sight distances meet the AASHTO guidelines for a 45-mph operating speed along Smith Bridge Road. No mitigation is recommended.

Ball Banking Evaluation

A ball banking evaluation was completed along Louden Road for the segment between Ruggles Road and the east Town line (approximately 1.75 miles east of Ruggles Road). A ball banking evaluation determines the safe speed at which a vehicle can navigate a curve in the road by measuring the overturning force, measured in degrees, on a vehicle navigating a horizontal curve.

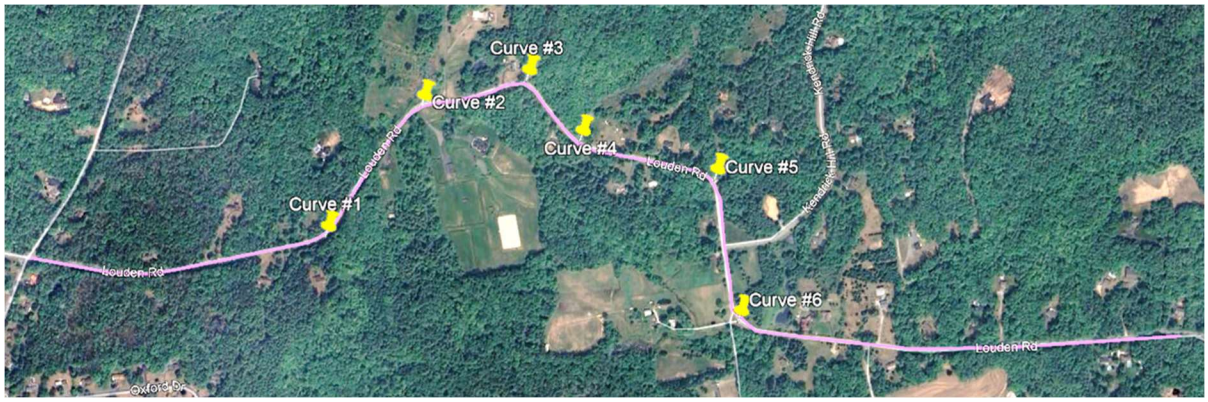
The MUTCD has the following guidelines for determining the advisory speed on horizontal curves:

- 16 degrees of ball-bank for speeds of 20 mph or less
- 14 degrees of ball-bank for speeds of 25 to 30 mph
- 12 degrees of ball-bank for speeds of 35 mph and higher

The Chapter 5 of the New York State Highway Design Manual (HDM)[3] recommends a ball bank of 10 degrees or less when traveling at the advisory speed posted for the curve. For the purposes of this evaluation the measured ball banking values were compared to the NYS standard of 10 degrees or less.

VHB completed five travel runs in each direction at the posted advisory speed for the six curves to measure the overturning force, by degrees, at each speed. The results of the field investigation can be seen on Tables 17 and 18. The tables show the maximum angle measured and the associated travel speed for each curve. If the maximum angle measured exceeds 10 degrees at a travel speed that is less than the posted advisory speed, then the posted advisory speed could be reduced. These locations are shown in **bold** in the tables.

3 New York State Highway Design Manual Chapter 5, New York State Department of Transportation, May 2023



Curve locations on Louden Road for ball banking evaluation

Table 17 Ball Banking Field Results - Eastbound

Location	Curve #1		Curve #2		Curve #3		Curve #4		Curve #5		Curve #6	
Posted Advisory Speed [a]	20 MPH		25 MPH		20 MPH		20 MPH		20 MPH		20 MPH	
Run #	Angle	Speed (MPH)	Angle	Speed (MPH)	Angle	Speed (MPH)	Angle	Speed (MPH)	Angle	Speed (MPH)	Angle	Speed (MPH)
1	9	24	5	21	11	21	10	27	7	20	**11**	**21**
2	9	22	5	22	9	20	9	25	6	20	**12**	**20**
3	8	21	4	25	8	20	7	24	6	21	8	20
4	8	22	5	24	7	20	11	25	5	20	**12**	**20**
5	10	27	5	25	9	20	10	25	5	21	10	20

a Existing posted advisory speed.

Table 18 Ball Banking Field Results - Westbound

Location	Curve #1		Curve #2		Curve #3		Curve #4		Curve #5		Curve #6	
Advisory Speed [a]	20 MPH		25 MPH		20 MPH		20 MPH		20 MPH		20 MPH	
Run #	Angle	Speed (MPH)	Angle	Speed (MPH)	Angle	Speed (MPH)	Angle	Speed (MPH)	Angle	Speed (MPH)	Angle	Speed (MPH)
1	5	22	**11**	**25**	10	19	5	24	11	21	8	21
2	5	21	10	25	10	18	4	23	13	21	6	21
3	3	21	**11**	**22**	10	18	3	23	12	22	5	20
4	5	22	**11**	**24**	**11**	**21**	6	27	**12**	**19**	6	22
5	4	21	**11**	**23**	**11**	**20**	4	23	12	22	8	21

a Existing posted advisory speed.

The analysis shows that when travelling in the eastbound direction, the advisory speeds for the curves along this segment of Louden Road are appropriate except for the advisory speed at curve #6.

When travelling in the westbound direction, the posted advisory speeds for curves along this segment of Louden Road are appropriate at Curves #1, #4, and #6 but may be low at Curves #2, #3, and #5.

Review of the crash evaluation along this segment of Louden Road identified a total of 14 crashes on this roadway segment, including 11 single-vehicle crashes. These crashes were attributed to unsafe speed, unsafe lane change, slippery pavement, driver inattention, and alcohol involvement. Providing greater emphasis on the appropriate travel speed on the roadway curves could help to reduce the number of single vehicle, run off the road crashes on this roadway segment.

Based on NYS HDM guidelines, it is recommended that the advisory speed at Curve #6 be reduced to 15-mph in the eastbound direction. Based on NYS HDM guidelines, it is recommended that the advisory speed be reduced at Curve #2 to 20-mph and Curves #3 and #5 to 15-mph in the westbound direction.

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Not to Scale

Legend

Study Intersection

Maple Avenue Corridor
Traffic Planning Study
Town of Wilton, NY

Figure 1

\\vhb.com\gbl\proj\Albany\22234.00 Wilton Traf Plan Update\cad\ts\planset\22234.00_Location Figure.dwg

Not to Scale

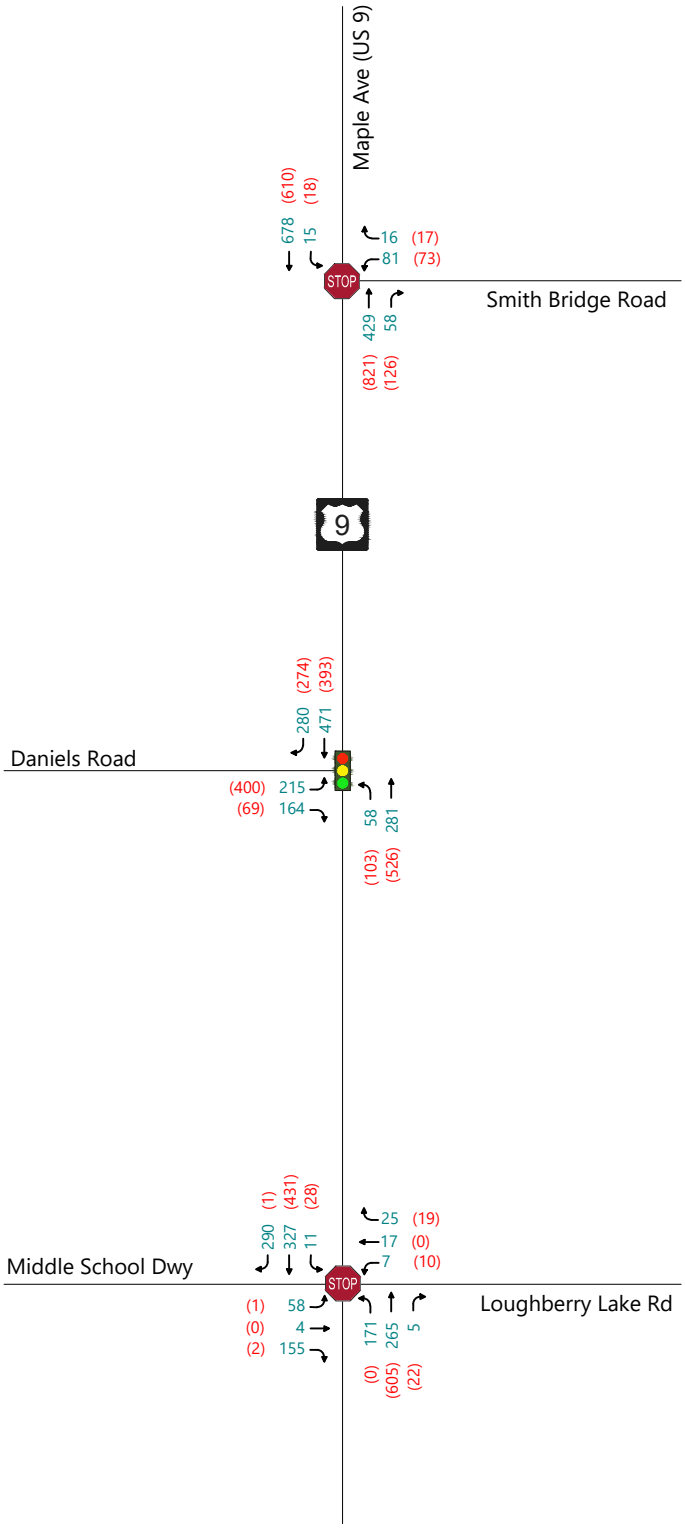
Legend

Study Intersection

vhb

Commercial Center
Traffic Planning Study
Town of Wilton, NY

Figure 2

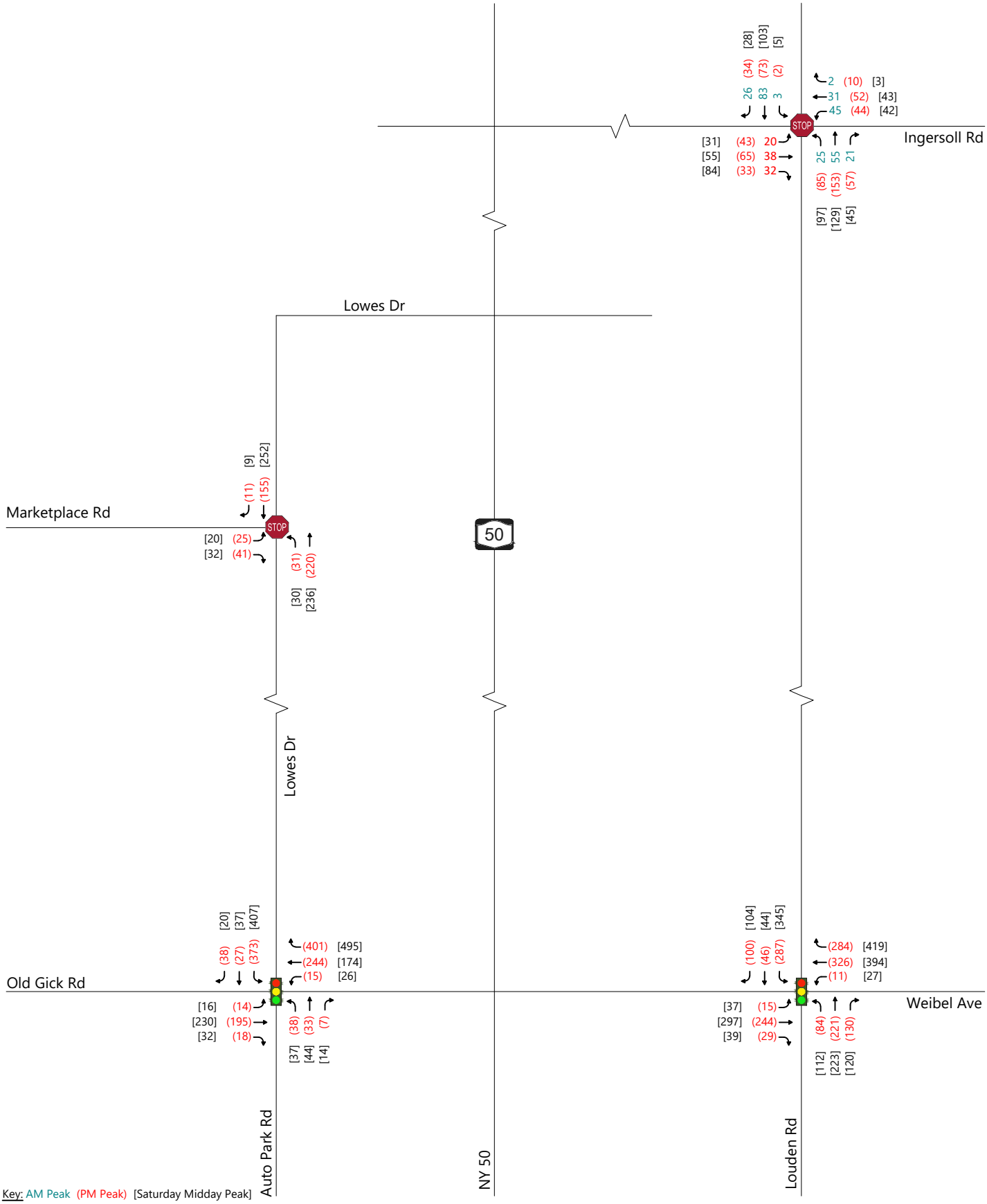


Key: AM Peak (PM Peak)

Not to Scale

2023 Existing Traffic Volumes
Maple Avenue Corridor
Traffic Planning Study
Town of Wilton, NY

Figure 3



Not to Scale

2023 Existing Traffic Volumes
Commercial Center
Traffic Planning Study
Town of Wilton, NY

Figure 4

3,651
6,965
3,745
2,164
675
380
883
53,392
53,392
845
3,414
10,251
4,483
3,756
3,574
4,025
156
4,183
2,850
8,379
2,414
204
1,769
2,279
161
238
2,602
2,906
3,641
207
79
31
6,370
53,031
5,283
6,012
53,031
111
4,147
8,513
12,279
12,450
2,415
4,650
3,045
12,105
4,915
5,065

GANSVOORT RD
NORTH RD
BALLARD RD
NORTHERN PINES RD
DIMMICK RD
TRAVER RD
SARATOGA RD
EDIE RD
NORTHERN PINES RD
KING RD
CARR RD
I-87 NORTHWAY
ROUTE 50
MAPLE AVE
JONES RD

9 87 50

NYSDOT Annual Average Daily Traffic (AADT) Estimates

Weekday Average Daily Traffic (ADT) Volumes from Traffic Counts Completed in June 2023

0 5,000 Feet

N

AADT
- 0 - 1,000
- 1,000 - 2,500
- 2,500 - 5,000
- 5,000 - 7,500
- 7,500 - 10,000
- 10,000 - 15,000
- 15,000 - 25,000
- 25,000 - 75,000

Source: NYS Clearing House, 2023, AADT dataset, accessed April 1, 2024 at URL https://data.gis.ny.gov/datasets/d2eacb538cc14f0a94492868baf7fc8f_1/about

3

Future Conditions and Analyses

To understand the transportation related challenges for vehicular, pedestrian, and bicyclist circulation in the Town, future traffic volumes were developed to identify potential capacity constraints. Existing land uses and future development plans were reviewed to identify desired multi-modal connections.

Future Volume Forecasts

To determine future operating conditions, traffic volumes were developed for the future 2035 analysis year. Traffic growth on area roadways is a function of the expected land development, environmental activity, and changes in demographics. This study used both site specific development information and annual traffic volume growth. The following summarizes this traffic forecasting process.

Project-Specific Growth

VHB met with the Town to identify potential growth associated with known or anticipated development projects. Online review and the meeting with the Town identified the following specific development projects, also shown on Figure 6:

1. Wilton Mall PUDD
2. Perry Crossing
3. 4029 Route 50 Senior Housing
4. Ingersoll Road Conservation Subdivision
5. Forest Grove

6. Traver Road Mixed-Use
7. Maple Avenue Developments
8. 148 Edie Road
9. Self Storage Facility
10. BJ's Gas Station
11. 4205 Route 50 Daycare
12. Biss Subdivision
13. Wilton Sportsplex
14. Mountain Ledge PUDD
15. Mandy's Springs
16. Mulberry Estates

Weekday AM and PM and Saturday midday peak hour trip generation for the identified projects were estimated using data published by the Institute of Transportation Engineers' (ITE) publication *Trip Generation,11th Edition*[4]. The new site generated trips were distributed at the seven intersections identified for detailed analysis.

The trip generation estimate shows that the trip generation for the above listed 16 projects is 1,299 trips (657 entering and 642 exiting) during the weekday AM peak hour, 2,173 trips (1,076 entering and 1,097 exiting) during the weekday PM peak hour, and 1,459 trips 767 entering and 692 exiting) during the Saturday midday peak hour. The detailed trip generation is included in Appendix D.

Background Traffic Volumes

Information provided by the Capital Region Transportation Council (CRTC) indicates that traffic volumes on Maple Avenue are increasing by an annual average growth rate of 0.70 percent. Traffic volumes on NY Route 50 are increasing by an annual average growth rate of 0.50 percent. Based on the data provided by CRTC, a background growth rate of 0.70 percent was utilized in this study for growth along the Maple Avenue Corridor and a growth rate of 0.50 percent was utilized for growth in the Commercial Center. The future 2035 traffic volumes, including the project specific growth and the background traffic growth are shown on Figures 7 and 8.

VHB contacted the neighboring municipalities to identify additional projects that may impact traffic volumes in the study area. No projects were identified.

Since completion of the detailed analysis included in this study, potential development along Louden Road in the City of Saratoga Springs has been identified. It is noted that no potential projects along Louden Road or the City of Saratoga Springs were included in the development of this study; however, this study has been updated to include accommodation for the potential increase in traffic within the Town adjacent to Louden Road.

4 ITE Trip Generation Manual, 11th Edition, Institute of Transportation Engineers, Washington D.C., September 2021

Traffic Operations Analysis

Capacity analyses provide an indication of how well the roadway facilities serve the traffic demands placed upon them. Roadway operating conditions are classified by calculated levels of service (LOS).

The evaluation criteria used to analyze the study area intersections is based on the procedures set forth in the latest version of the Highway Capacity Manual (HCM)[5]. LOS is a measure that considers several factors including roadway geometry, speed, and travel delay. Levels of service range from A to F, with LOS A representing short vehicle delays and LOS F representing longer vehicle delays. The LOS definitions are included in Appendix E.

Intersection Capacity Analysis

Levels of service analyses were conducted for the 2023 Existing and 2035 Future conditions at seven key intersections identified by the town, listed below.

1. Maple Avenue (US Route 9) at Smith Bridge Road
2. Maple Avenue (US Route 9) at Daniels Road
3. Maple Avenue (US Route 9) at Loughberry Lake Road/Maple Avenue Middle School Driveway
4. Louden Road at Ingersoll Road
5. Lowes Drive at Marketplace Road
6. Old Gick Road at Lowes Drive/Auto Park Road
7. Louden Road at Weibel Avenue

The three intersections along US Route 9 were analyzed for the weekday AM and PM peak hours due to the commuter characteristics of the roadway. Ingersoll Road at Louden Road, Lowes Drive at Marketplace Road, Old Glick Road at Auto Park Road/Lowes Drive, and Weibel Road at Louden Road were analyzed for the PM and Saturday midday peak hours due to the commercial characteristics of the surrounding area. Tables 19 through 21 summarize the capacity analysis results for the weekday AM, weekday PM, and Saturday midday peak hours, respectively. The capacity analyses worksheets are included in Appendix F.

Review of the capacity analyses shows that the Louden Road at Ingersoll Road, Lowes Drive at Marketplace Road, Old Gick Road at Lowes Drive/Auto Park Road, and Louden Road at Weibel Avenue intersection currently operate with acceptable levels of service. With the parcel specific growth and application of the annual average growth rate identified previously, these intersections will continue to operate with acceptable levels of service (overall LOS D or better). No capacity related mitigation is recommended.

As noted, since completion of the detailed analysis included in this study, potential significant new developments near the Louden Road and Wiebel Road intersection and adjacent corridors have been identified. It is suggested that investigations on cumulative impacts be conducted once known development design has been initiated.

5 Highway Capacity Manual, 6th Edition, Transportation Research Board, Washington D.C., 2016

The stop-controlled Smith Bridge Road approach to Maple Avenue currently operates at LOS F during the weekday AM and PM peak hours. Under future conditions, these delays will increase. The Maple Avenue at Daniels Road intersection currently operates at overall LOS E/D conditions during the AM and PM peak hours, respectively, with some approaches and lane groups operating at LOS E/F. Delays at the intersection will increase in the future condition resulting in overall LOS F conditions during both peak hours. The Maple Avenue Middle School Driveway and Loughberry Lake Road approaches to Maple Avenue currently operate at LOS F during the AM peak hour and LOS A/B during the PM peak hour. In the future conditions, the approaches will continue to operate at LOS F during the AM peak hour and will drop to LOS D/B/F during the PM peak hour.

Based on the capacity analysis, mitigation is recommended on Maple Avenue. Signal warrant evaluations were completed for the Smith Bridge Road and Middle School Driveway/Loughberry Lake Road intersection with Maple Avenue according to the procedures set forth in the MUTCD. The analysis, contained in Appendix G, shows that the existing traffic volumes at the Smith Bridge Road at Maple Avenue intersection meet the thresholds for installation of a traffic signal for Warrants 1, 2, and 3. The Maple Avenue at Middle School Driveway/Loughberry Lake Road intersection meet the traffic volume thresholds for the AM peak hour for Warrant 3 – Peak Hour Volume. It is recommended that a traffic signal be installed at the Smith Bridge Road at Maple Avenue intersection. As noted previously, although through traffic is impacted on Maple Avenue during the 20 to 30-minute arrival and dismissal periods, no mitigation is recommended as field observations show that the driveways operate adequately during this short-term period. This is supported by the signal warrant analysis noting that the traffic volumes only meet the thresholds during a single peak hour.

Table 19 AM Peak Hour Level of Service Summary

Intersection	Approach	Lane Group	Existing 2023		Future 2035	
			Delay [a]	LOS [b]	Delay	LOS
Maple Ave at Smith Bridge Rd	WB	LR	51.9	F	>200	F
	SB	LT	8.7	A	9.8	A
Maple Ave at Daniels Rd	EB	LR	71.6	E	147.8	F
	NB	L	24.2	C	24.3	C
		T	12.0	B	14.9	B
		Approach	14.0	B	16.0	B
	SB	TR	98.7	F	>200	F
	Overall		71.1	E	144.6	F
Maple Ave at Loughberry Lake Rd/Middle School Dwy	EB	LT	>200	F	>200	F
		R	18.2	C	19.2	C
	WB	LTR	126.2	F	>200	F
	NB	LTR	11.5	B	11.7	B
	SB	LTR	8.2	A	8.6	A
Louden Rd at Ingersoll Rd	EB	LTR	10.8	B	13.5	B
	WB	LTR	8.7	A	9.8	A
	NB	LTR	9.2	A	10.7	B
	SB	LTR	9.3	A	10.9	B
	Overall		9.9	A	11.8	B

EB, WB, NB, SB = Eastbound, Westbound, Northbound, or Southbound approach

L, T, R = Left-turn, Through, or Right-turn movement

a Average delay in seconds per vehicle

b Level of service

-- Not Applicable

Table 20 PM Peak Hour Level of Service Summary

Intersection	Approach	Lane Group	Existing 2023		Future 2035	
			Delay [a]	LOS [b]	Delay	LOS
Maple Ave at Smith Bridge Rd	WB	LR	88.0	F	>200	F
	SB	LT	10.2	B	12.1	B
Maple Ave at Daniels Rd	EB	LR	67.6	E	156.5	F
	NB	L	22.1	C	25.0	C
		T	15.1	B	19.8	B
		Approach	16.2	B	20.5	C
	SB	TR	43.7	D	>200	F
	Overall		40.1	D	131.3	F
Maple Ave at Loughberry Lake Rd/Middle School Dwy	EB	LT	28.5	A	55.0	F
		R	11.0	B	13.3	B
	WB	LTR	19.2	A	33.3	D
	NB	LTR	0.0	A	0.0	A
	SB	LTR	9.0	A	9.8	A

Louden Rd at Ingersoll Rd	EB	LTR	10.8	B	13.5	B
	WB	LTR	8.7	A	9.8	A
	NB	LTR	9.2	A	10.7	B
	SB	LTR	9.3	A	10.9	B
	Overall		9.9	A	11.8	B
Lowes Dr at Marketplace Rd	EB	LR	11.1	B	11.4	B
	NB	LT	7.7	A	7.7	A
Old Gick Rd at Lowes Dr/ Auto Park Rd	EB	L	9.6	A	9.6	A
		TR	9.0	A	9.0	A
		Approach	9.3	A	9.3	A
	WB	L	14.9	B	15.6	B
		TR	9.1	A	9.1	A
		Approach	14.4	B	15.0	B
	NB	LT	18.3	B	18.7	B
		R	21.0	C	22.1	C
		Approach	19.7	B	20.5	C
	SB	LTR	17.8	B	18.3	B
	Overall		17.0	B	17.6	B
Louden Rd at Weibel Ave	EB	L	17.3	B	19.1	B
		TR	30.3	C	34.6	C
		Approach	27.7	C	31.7	C
	WB	L	18.3	B	22.0	C
		T	18.4	B	19.0	B
		R	18.8	B	19.9	B
		Approach	18.4	B	21.3	C
	NB	L	20.3	C	23.4	C
		T	28.4	C	33.4	C
		R	25.6	C	31.3	C
		Approach	27.2	C	32.3	C
	SB	L	20.4	C	23.3	C
		TR	25.9	C	29.6	C
		Approach	25.6	C	29.1	C
	Overall		24.9	C	28.8	C

EB, WB, NB, SB = Eastbound, Westbound, Northbound, or Southbound approach

L, T, R = Left-turn, Through, or Right-turn movement

a Average delay in seconds per vehicle

b Level of service

-- Not Applicable

Table 21 Saturday Midday Peak Hour Level of Service Summary

Intersection	Approach	Lane Group	Existing 2023		Future 2035	
			Delay [a]	LOS [b]	Delay	LOS
Louden Rd at Ingersoll Rd	EB	LTR	10.7	B	13.2	B
	WB	LTR	9.1	A	10.3	B
	NB	LTR	9.2	A	10.5	B
	SB	LTR	9.6	A	11.5	B
	Overall		9.9	A	11.7	B
Lowes Dr at Marketplace Rd	EB	LR	11.5	B	11.9	B
	NB	LT	7.9	A	7.9	A
Old Gick Rd at Lowes Dr/ Auto Park Rd	EB	L	9.7	A	9.7	A
		TR	9.1	A	9.2	A
		Approach	9.4	A	9.4	A
	WB	L	16.3	B	17.3	B
		TR	9.1	A	9.2	A
		Approach	15.5	B	16.4	B
	NB	LT	17.3	B	17.7	B
		R	25.5	C	28.0	C
		Approach	22.6	C	24.4	C
	SB	LTR	18.7	B	19.3	B
	Overall		18.7	B	19.9	B
Louden Rd at Weibel Ave	EB	L	21.6	C	24.8	C
		TR	36.2	D	42.8	D
		Approach	32.5	C	38.5	D
	WB	L	22.2	C	35.2	D
		T	21.2	C	22.1	C
		R	21.7	C	22.9	C
		Approach	22.0	C	32.0	C
	NB	L	21.1	C	24.4	C
		T	32.2	C	39.8	D
		R	32.1	C	44.3	D
		Approach	31.7	C	41.3	D
	SB	L	21.3	C	24.9	C
		TR	28.4	C	33.6	C
		Approach	27.7	C	32.7	C
	Overall		29.0	C	37.0	D

EB, WB, NB, SB = Eastbound, Westbound, Northbound, or Southbound approach

L, T, R = Left-turn, Through, or Right-turn movement

a Average delay in seconds per vehicle

b Level of service

-- Not Applicable

Three potential alternatives were reviewed to improve operations at the Daniels Road and Smith Bridge Road intersections with Maple Avenue:

- Concept 1 – Construct a new two-lane roadway from a new traffic signal with full pedestrian accommodations at the Maple Avenue at Smith Bridge Road intersection to Daniels Road. Provide single-lane approaches on the northbound and westbound approaches and left-turn lanes with shared through/right-turn lanes on the eastbound and southbound approaches at the new traffic signal. Construct sidewalks along Maple Avenue between Smith Bridge Road and Daniels Road and install full pedestrian accommodations at the Maple Avenue at Daniels Road traffic signal. See Concept Plan 1 in Appendix H.
- Concept 2 – Construct a center two-way left-turn lane on Maple Avenue from Daniels Road to Smith Bridge Road with paved shoulders and sidewalks on both sides of the roadway. Install a new traffic signal at the Maple Avenue at Smith Bridge Road intersection with full pedestrian accommodations, a single approach lane on Smith Bridge Road, and two-lane approaches on Maple Avenue to allow for individual travel movements. Install a new traffic signal at the Daniels Road intersection with full pedestrian accommodations and two lanes on all intersection approaches. See Concept Plan 2 in Appendix H.
- Concept 3 – Construct a single-lane roundabout at the Maple Avenue at Smith Bridge Road intersection. Maintain the two-lane roadway between Smith Bridge Road and Daniels Road and construct sidewalks on both sides of the roadway. Install a new traffic signal at the Daniels Road intersection with full pedestrian accommodations and two lanes on all intersection approaches. See Concept Plan 3 in Appendix H.
- Concept 4 – Construct a center two-way left-turn lane on Maple Avenue from Daniels Road to Northern Pines Road to facilitate turning movements into and out of existing and future developments on Maple Avenue. The west side of the roadway includes an eight-foot shared use path and the east side of the roadway includes a five foot sidewalk. Install a new traffic signal at the Maple Avenue at Northern Pines Road intersection with full pedestrian accommodations. Install a new traffic signal at the Maple Avenue at Smith Bridge Road intersection with full pedestrian accommodations, a single approach lane on Smith Bridge Road, and two-lane approaches on Maple Avenue to allow for individual travel movements. Install a new traffic signal at the Daniels Road intersection with two lanes on all intersection approaches. See Concept Plan 4 in Appendix H.

The analysis in Tables 22 and 23 shows that the two intersections will operate with acceptable levels of service with each of the four alternatives.

Table 22 AM Peak Hour LOS Summary with Mitigation

Intersection	Approach	Lane Group	New Roadway Connector		Two-way Left-turn Lane		Roundabout	
			Delay [a]	LOS [b]	Delay	LOS	Delay	LOS
Maple Ave at Smith Bridge Rd	EB	L	39.7	D	--	--	--	--
		TR	34.0	C	--	--	--	--
		Approach	38.5	D	--	--	--	--
	WB	LTR [LR]	37.5	D	22.5	C	--	--
		Approach	37.5	D	22.5	C	9.9	A
	NB	LTR [T]	7.0	A	4.9	A	--	--
		[R]	--	--	2.6	A	--	--
		Approach	7.0	A	4.7	A	18.0	C
	SB	L [L]	9.4	A	7.8	A	--	--
		TR [T]	11.0	B	6.3	A	--	--
		Approach	10.9	B	6.3	A	33.3	D
	Overall		14.0	B	6.9	A	25.5	D
Maple Ave at Daniels Road	EB	LR [L]	61.3	E	32.3	C	32.3	C
		[R]	--	--	27.3	C	27.3	C
		Approach	61.3	E	30.4	C	30.4	C
	NB	L [L]	22.1	C	16.1	B	16.1	B
		T [T]	13.3	B	10.2	B	10.2	B
		Approach	14.4	B	10.9	B	10.9	B
	SB	TR [T]	48.4	D	24.0	C	24.0	C
		[R]	--	--	14.5	B	14.5	B
		Approach	48.4	D	20.9	C	20.9	C
	Overall		39.3	D	20.5	C	C	C

EB, WB, NB, SB = Eastbound, Westbound, Northbound, or Southbound approach

L, T, R = Left-turn, Through, or Right-turn movement

LR [LTR] = Connector Road Geometry [Two-way Left-turn Lane Geometry]

a Average delay in seconds per vehicle

b Level of service

-- Not Applicable

Table 23 PM Peak Hour LOS Summary with Mitigation

Intersection	Approach	Lane Group	New Roadway Connector		Two-way Left-turn Lane		Roundabout	
			Delay [a]	LOS [b]	Delay	LOS	Delay	LOS
Maple Ave at Smith Bridge Rd	EB	L	33.9	C	--	--	--	--
		TR	27.7	C	--	--	--	--
		Approach	32.2	C	--	--	--	--
	WB	LTR [LR]	28.7	C	29.1	C	--	--
		Approach	28.7	C	29.1	--	13.7	B
	NB	LTR [T]	15.6	B	6.6	A	--	--
		[R]	--	--	2.2	A	--	--
		Approach	15.6	B	6.0	A	38.6	E
	SB	L [L]	24.5	C	13.3	B	--	--
		TR [T]	16.9	B	4.8	A	--	--
		Approach	17.3	B	5.2	A	20.1	C
	Overall		19.1	B	6.9	A	29.5	D
Maple Ave at Daniels Road	EB	LR [L]	46.6	D	61.4	E	61.4	E
		[R]	--	--	21.7	C	21.7	C
		Approach	46.6	D	55.6	E	55.6	E
	NB	L [L]	18.7	B	25.0	C	25.0	C
		T [T]	13.2	B	22.3	C	22.3	C
		Approach	14.0	B	22.7	C	22.7	C
	SB	TR [T]	37.2	D	46.6	D	46.6	D
		[R]	--	--	21.7	C	21.7	C
		Approach	37.2	D	38.1	D	38.1	D
	Overall		28.3	C	37.0	D	37.0	D

EB, WB, NB, SB = Eastbound, Westbound, Northbound, or Southbound approach

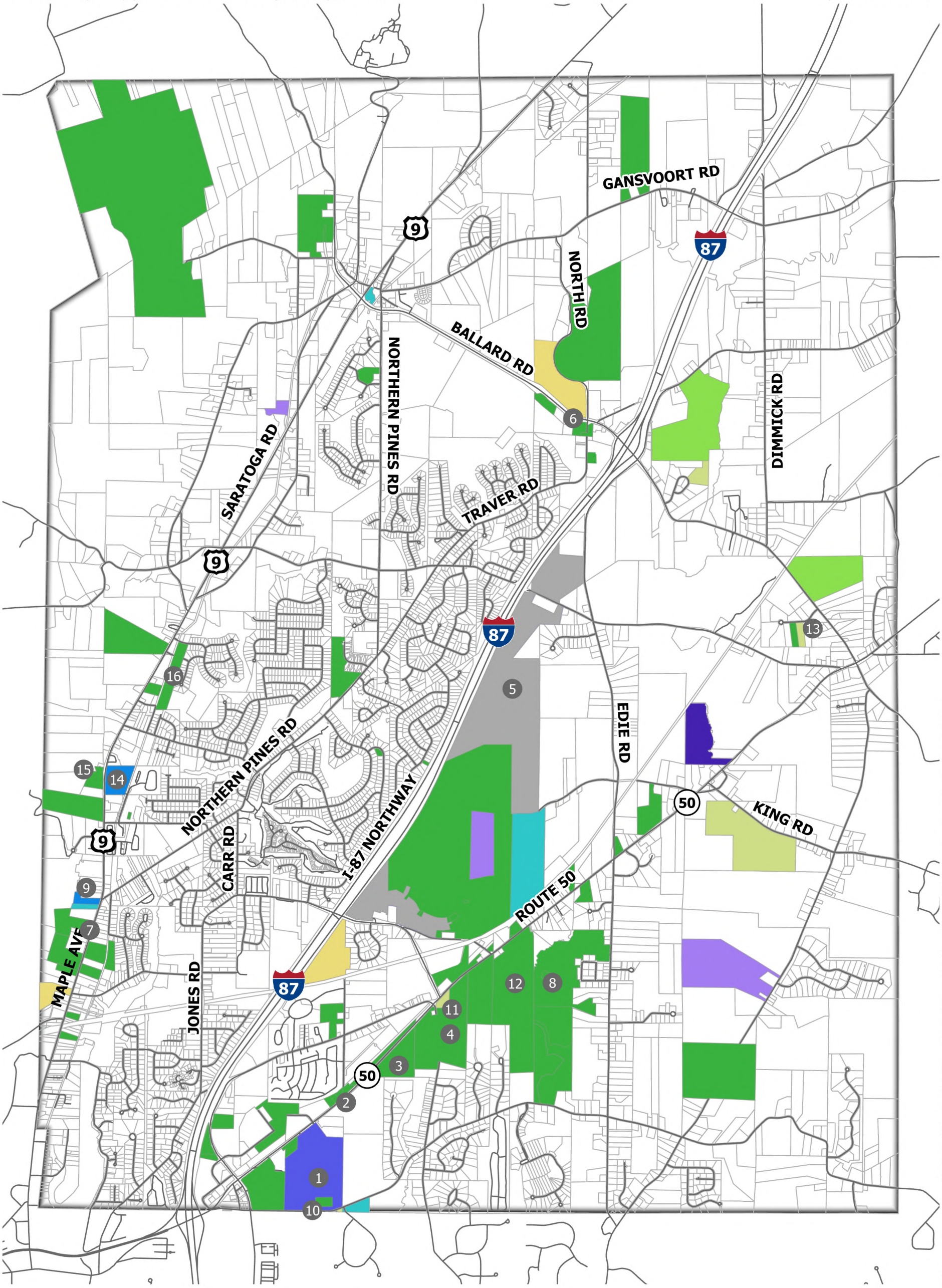
L, T, R = Left-turn, Through, or Right-turn movement

LR [LTR] = Connector Road Geometry [Two-way Left-turn Lane Geometry]

a Average delay in seconds per vehicle

b Level of service

-- Not Applicable

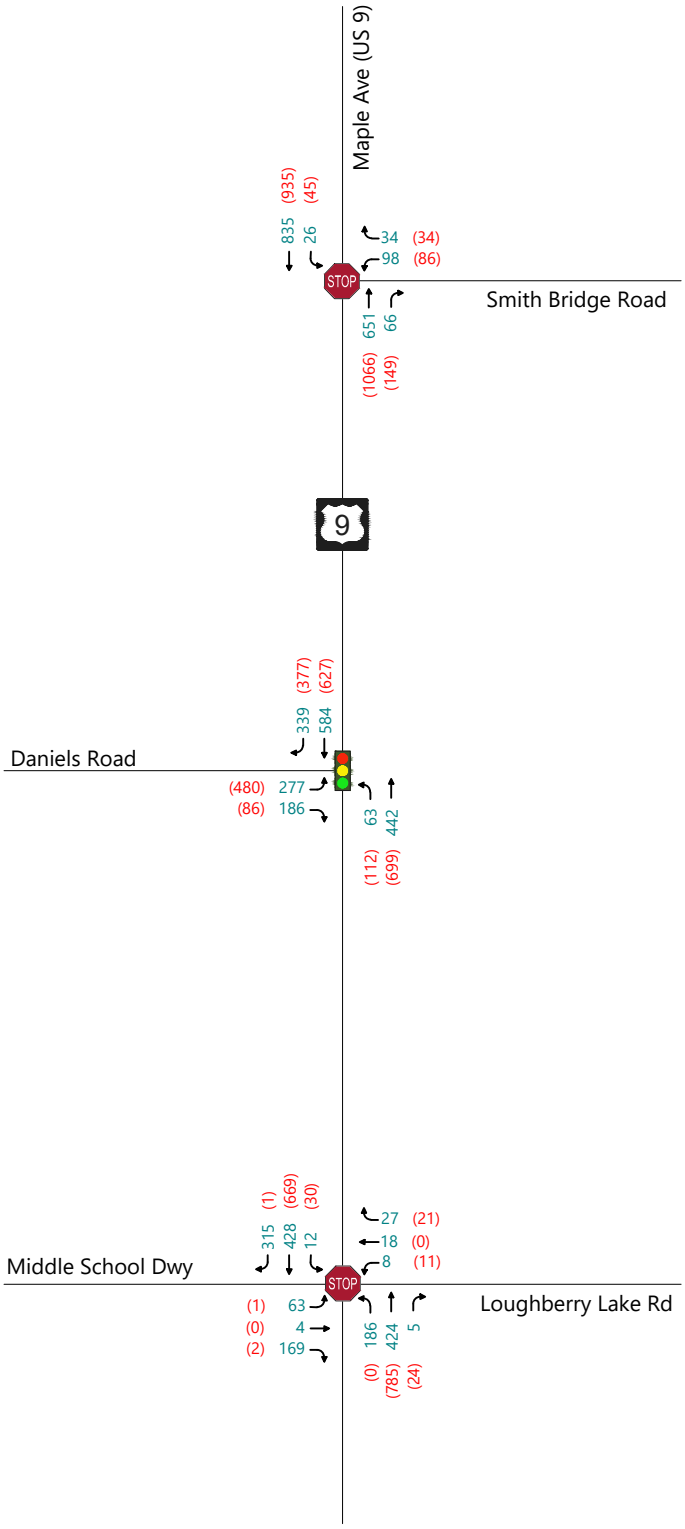


Developments Included in Analysis
1. Wilton Mall PUDD
2. Perry Crossing
3. 4029 Route 50 Senior Housing
4. Ingersoll Road Conservation Subdivision
5. Forest Grove
6. Traver Road Mixed-Use
7. Maple Ave Developments
8. 148 Edie Road
9. Self Storage Facility
10. BJ's Gas Station
11. 4205 Route 50 Daycare
12. Biss Subdivision
13. Wilton Sportsplex
14. Mountain Lodge PUDD
15. Mandy's Springs
16. Mulberry Estates

0 5,000 Feet

N

Project Status
- Approved
- Conceptual
- Archived
- Amendment
- Pre-Application
- Special Use Permit
- Preliminary
- Recommendation
- PUDD
- Other

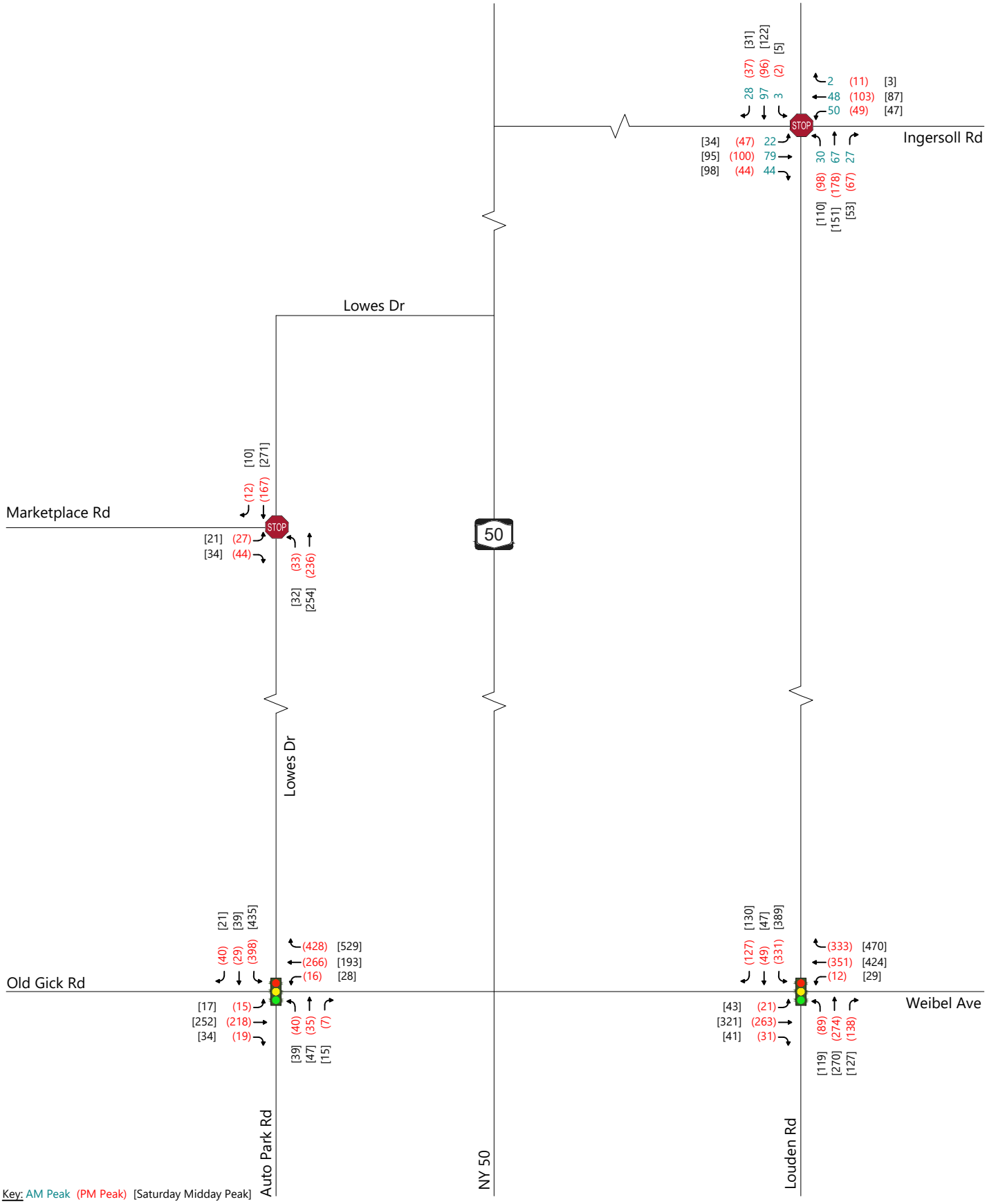


Key: AM Peak (PM Peak)

Not to Scale

2035 Projected Traffic Volumes
Maple Avenue Corridor
Traffic Planning Study
Town of Wilton, NY

Figure 7



Not to Scale

2035 Projected Traffic Volumes
Commercial Center
Traffic Planning Study
Town of Wilton, NY

Figure 8

4

Recommendations and Conclusions

An improvement/mitigation plan was developed to address the needs identified from a review of the existing and projected 2035 conditions. The plan identifies several mitigation measures to address existing and future conditions pertaining to safety, operations, and non-motorized transportation. Implementation costs account for planning, design, and construction.

Mitigation and Implementation

The Traffic Planning Study includes analysis that accounts for 16 specific land development projects in the Town and a general background growth rate to project the future 2035 condition. Based on the growth projections, several intersections will experience poor levels of service requiring capacity related mitigation. In addition, there are limited pedestrian accommodations in the Town, including areas where higher density mixed-use development and/or commercial and retail land uses resulting in the potential for increased pedestrian travel. Table 24 summarizes the recommended mitigation and associated costs.

Operational Improvements

The existing and future operational characteristics indicate a need for major mitigation along Maple Avenue. The LOS analysis showed that the Smith Bridge Road and Daniels Road intersections with Maple Avenue would operate with acceptable levels of service with each of the four alternatives considered. In addition to acceptable intersection operations, the mitigation should provide good access to existing and future developments, allow capacity for future growth in the corridor, and create options for multi-modal travel while minimizing property and environmental impacts. It is recommended that Concept 4 – Roadway Widening from Northern Pines Road to Daniels Road be

pursued, while prioritizing the widening between Northern Pines Road and Smith Bridge Road and completing the widening south of Smith Bridge Road to Daniels Road if complete funding can be achieved.

Construction of a center two-way left-turn lane on Maple Avenue from Smith Bridge Road to Northern Pines Road with shared use path and sidewalks will provide good access to existing and future developments and support pedestrian and bicyclist access in this mixed-use corridor allowing users a safe and convenient alternative to motorized vehicles.

The existing approximate right-of-way on Maple Avenue is 57-feet wide providing ample space for the existing wide shoulders and single travel lane in each direction. The proposed cross-section would include an eight-foot wide shared use path, a five-foot wide sidewalk, five-foot wide buffers/snow storage areas, four-foot wide shoulders, and 11-foot wide travel lanes and center turn lane for a total width of 64-feet. Based on the existing right-of-way and the proposed cross-section, project implementation will require property acquisition and/or construction of sidewalks outside of the public right-of-way.

Multi-modal Connectivity

In addition to capacity mitigation, it is recommended that the Town continue to expand their multi-use path and sidewalk network. Sidewalks should be concentrated near commercial and mixed-use centers and multi-use paths should be constructed to connect residents to existing recreational and service uses. Review of the previous planning study noted recommendations for studying multi-modal connectivity at several specific locations and construction of a pedestrian connection between Lowes Drive and Old Gick Road to connect residents of the Old Gick neighborhood to the Town's commercial center. This connection has not yet been constructed and should be prioritized. Where construction of a sidewalk or multi-use path is not feasible due to right-of-way, environmental, or infrastructure constraints, a minimum five-foot wide shoulder could be constructed to provide accommodations for pedestrians and bicyclists.

It is recommended that the Town construct up to one mile of multi-use path and one-mile of shoulder widening (including the referenced Old Gick neighborhood) in a five-year period to expand the existing multi-modal network. Further prioritization should occur at locations identified in the Town of Wilton's ADA Transition Plan, Wilton Exit 16 Linkage Study, Town of Wilton Open Space, Recreation and Pathways Plan 2021 Update, the Saratoga Greenbelt – Wilton Connector Trail, and at locations with the greatest benefit to increase multi-modal travel. The current Open Space Trails and Connections are shown on Figure 9. When the Jones Road and Ballard Road bridges over I-87 are reconstructed, the Town should consult with NYSDOT to confirm that all users will be accommodated. Construction of up to one-mile of sidewalk could be pursued in the future.

Cumulative Impacts and Access Management

With significant new development occurring in neighboring municipalities, it is recommended that the Town prioritizes conducting and/or reviewing traffic studies to determine the impacts of these potential projects on the local roadway network. Investigations on cumulative traffic impacts could be conducted, including town-wide studies. Due to the potential future redevelopment of the Wilton Mall and recently identified new development projects near Louden Road, Weibel Avenue, and Old Gick Road, this area should be prioritized in the assessment of cumulative impacts.

An overall Access Management Plan should also be considered by the Town. Good access management reduces the number of curb cuts on main roads and minimizes the number of vehicle conflict points and potential for crashes. With fewer vacant parcels in the Town, future development will often occur as infill, allowing for internal connections between adjacent parcels and reducing the number of curb cuts. For example, with construction of Marketplace Road and the connection between Aldi's and Lowe's shown in the aerial image below, the Lowe's Driveway connection to Lowe's Drive could be closed reducing the number of driveways intersecting Lowe's Drive.

Table 24 Mitigation Summary

Location	Cost
Capacity and Access	
Maple Avenue from Smith Bridge Road to Northern Pines Road Construct a two-way left-turn lane on Maple Avenue from Smith Bridge Road to Northern Pines Road. Include shared use path, sidewalk, and open drainage along Maple Avenue. This includes new signals at the intersection of Maple Avenue with Northern Pines Road and Smith Bridge Road with pedestrian accommodations.	$6,300,000
Edie Road at NY Route 50 Intersection improvements including either realignment of the northbound and southbound approaches with the construction of a new traffic signal or the construction of a roundabout at this location. (per previous intersection evaluations)	$2,000,000
Multi-modal Accommodations	
Multi-use Path Construct up to one mile of multi-modal paths accommodating pedestrians and bicyclists ($300 per linear foot)	$1,600,000
Shoulder Construct up to one-mile of five-foot wide shoulders ($210 per linear foot)	$1,100,000
Cumulative Impacts and Access Management	$500,000
Total Cost	**$11,500,000**

Previous versions the Traffic Planning Study have primarily included very limited construction mitigation, focusing on minor roadway restriping, multi-modal connections, and planning and policy initiatives. These types of mitigation are much less costly than capacity mitigation measures and therefore result in lower mitigation costs and fees. The above identified mitigation measures, totaling $11,500,000 cannot be funded strictly through implementation fees.

Since Maple Avenue and NY Route 50 are owned and maintained by NYSDOT, any changes to the roadways will require NYSDOT approval and the projects would typically be placed on the regional Transportation Improvement Program (TIP) list through CRTC. These projects are publicly funded and require a local contribution of 20 percent of the project cost. It is recommended that the municipal match for the Capacity and Access mitigation ($8,300,000) be funded through implementation fees.

Except for the bike lanes and sidewalks along Maple Avenue, new sidewalks, multi-use paths, and widened shoulders are primarily located along Town or County roads and are unlikely to be part of the regional TIP; therefore, these Multi-modal Accommodations ($2,700,000) would be funded through local development and municipal funds. Paths and sidewalks should also be constructed as part of new or redevelopment through the site plan approval process. Additionally, the Cumulative

Impact and Access Management studies would be funded in the same manner. In contrast to the capacity mitigation, it is recommended that 80 percent of the multi-modal accommodations and 50 percent of the cumulative impacts and access management be funded through implementation fees.

Two options to determine mitigation fees associated with development in the Town are a set fee per trip to fund town-wide mitigation or a cost per capacity used to fund more isolated mitigation. It is recommended that the Town establish a fee per trip based on new weekday PM peak hour trips generated by new development projects or changes in use to fund the recommended Capacity and Access Mitigation. The Multi-modal Accommodations and Cumulative Impacts and Access Management studies should also be funded on a fee per trip basis. Table 25 summarizes the implementation fees.

Table 25 Implementation Fees

Identified Mitigation	Cost
Capacity and Access Mitigation	$8,300,000
State and Federal Funding (80%)	$6,640,000
Municipal Contribution (20%)	$1,660,000
Cost per trip (2,200 trips)	$755/trip
Multi-modal Accommodations	$2,700,000
Municipal Share (20%)	$540,000
Private Share (80%)	$2,160,000
Cost per trip (2,200 trips)	$980/trip
Cumulative Impacts and Access Management	$500,000
Municipal Share (50%)	$250,000
Private Share (50%)	$250,000
Cost per trip (2,200)	$115/trip

The monies collected as transportation mitigation fees should be used for activities related to transportation/mobility projects that will reasonably benefit residents from growth and development in the Town. Collection of fees does not obligate the Town to construct the mitigation measures identified herein since other funding sources, approvals, and project sponsors may be required to implement a mitigation activity. The Town may choose to increase fees over time due to the escalation of construction costs for mitigation.

If a proposed project includes construction of a sidewalk or multi-use path that is not included in an identified plan (listed above) or as required in the Town Zoning Code, then the Town could consider construction of the sidewalk or multi-use in path as a credit toward the Multi-modal Accommodations mitigation fee.

Future Considerations

In addition to the recommended mitigation discussed in the Mitigation and Implementation section of this report, the town should consider future mitigation if funding becomes available or additional unanticipated development occurs within the Town. Table 26 summarizes the potential future mitigation considerations and associated costs.

Table 26 Mitigation Summary – Future Considerations

Location	Cost
Maple Avenue from Daniels Road to Smith Bridge Road Construct a two-way left-turn lane on Maple Avenue from Daniels Road to Smith Bridge Road. Include shared use path, sidewalk, and open drainage along Maple Avenue. Widen the Daniels Road approach to include a left-turn and right-turn lane. This includes a new signal at the intersection of Maple Avenue with Daniels Road with pedestrian accommodations.	$2,500,000
Sidewalk Construct up to one mile of five-foot wide sidewalks with no curb ($200 per linear foot)	$1,000,000

Sight Distance, Crash History, and Operating Speed

The recommendations listed below address existing crash history and sight distance concerns. The recommendations should be completed as part of typical Town maintenance and not by using Traffic Mitigation Fees.

Ballard Road at Northern Pines Road – Add retroreflective strips to the existing signposts to further enhance the visibility of the stop signs.

King Road at Ruggles Road – Install supplemental stop signs with retroreflective strips on the northbound and southbound approaches and add retroreflective strips to the existing signposts to further enhance the visibility of the stop signs.

Edie Road at NY Route 50 – Coordinate with NYSDOT to address the potential to install an Intersection Warning sign on the northbound NY Route 50 approach to Edie Road.

Ballard Road at Edie Road/Gurn Springs Road – Install supplemental stop signs with retroreflective strips on the northbound and southbound approaches and add retroreflective strips to the existing signposts to further enhance the visibility of the stop signs.

Northern Pines Road at Davidson Drive – Install a stop bar on the northbound approach to the intersection. The stop bar should be installed to encourage drivers to approach Northern Pines Road at a 90-degree angle to provide better visibility when looking left at the stop sign.

Old Gick Road at New Country Way –It is recommended that pavement striping and symbols be continually maintained on the New Country Road approach to Old Gick Road. A curbed median should be considered to further enforce the right turn only movement.

Wilton Gansevoort Road at Dimmick Road/Palmer Ridge Road – Install all-way stop control with stop bars.

Wilton Gansevoort Road at Northern Pines Road – Coordinate with the landowner to clear vegetation and regrade the earthen berm on the northeast quadrant of the intersection.

Parkhurst Road at Gailor Road/Greenfield Road – Coordinate with the landowner to clear vegetation on the southeast quadrant of the intersection.

Louden Road – Update the advisory speed plaques at four locations.

Conclusions

The Town of Wilton has historically and continues to experience residential growth and commercial development. The recommendations included in this Traffic Planning Study, will allow the Town to continue to meet the needs of the residents and visitors to the community. The application of implementation fees will result in an affordable way for the Town to construct major improvements along Maple Avenue to allow good access to existing and future land uses while providing opportunities for multi-modal access along this mixed-use corridor. The fees will also allow for major improvements at the Edie Road at NY Route 50 intersection improving safety and benefitting existing and future land uses. The additional multi-use path connections and shoulder widening will further enhance the existing residential development by connecting important land uses and recreational opportunities.

Existing Open Source Key

C = County of Saratoga
City = City of Saratoga Springs
NYS = State of New York
P = Private
Plan = Saratoga Land Conservancy
School = School District
T = Town of Wilton
TNC = The Nature Conservancy

Trails and Connections

- Existing Signed On Road Bike Lane
- Proposed Signed On Road Bike Lane
- Existing On Road, Paved Shoulder
- Proposed On Road, Paved Shoulder
- Proposed On Road, No Improvements
- Proposed Off Road
- Wilton Wildlife Preserve Trails
- DEC Fishing Access
- Existing Open Space
- Parcels
- Hamlet of Wilton
- Saratoga_County_Trails

0 5,000 Feet

N