



May 17, 2023

Ref: 22195.00

Mr. Norman Ward, RLA
Lansing Engineering
2452 State Route 9, Suite 301
Malta, NY 12010

Re: Traffic Assessment, Proposed Senior Housing, 4029 NY Route 50, Wilton, New York

Dear Mr. Ward:

VHB Engineering, Surveying, Landscape Architecture, and Geology, PC (VHB) has conducted a trip generation, sight distance, and capacity analysis of the site driveway for the proposed Senior Living Community consisting of 390 multifamily residential units located at 4029 NY Route 50 in the Town of Wilton, Saratoga County, New York. The Conceptual Layout Plan prepared by Lansing Engineering, with final revision dated April 12, 2023, is included as Attachment A. The project is proposed in three phases with the initial phase being completed in 2026. To assess the full build out of the project, a design year of 2028 was used for the traffic evaluation. Below is a summary of the evaluation for full build out of the site.

Site Location and Proposed Development

The project site is located along the east side of NY Route 50 and south of the NY Route 50 at Old Gick Road/Ingersoll Road intersection in the Town of Wilton, New York. The proposed site access is located approximately 2,000 feet south of the NY Route 50 at Old Gick Road/Ingersoll Road intersection. The proposed senior housing residential development includes 390 residential units in three buildings. Access to the site is proposed via one full access driveway on NY Route 50. An emergency access is provided on NY Route 50 north of the primary site access. The project also includes a pedestrian connection to the recently approved Ingersoll Road Residential Conservation Subdivision to the northeast of the site.

Existing Conditions

NY Route 50 is classified as an urban minor arterial that generally provides north-south travel throughout Saratoga County and is under the jurisdiction of the New York State Department of Transportation (NYSDOT). At the project site, the roadway travels in northeast-southwest direction. Near the project location, NY Route 50 generally provides an 11-foot-wide travel lane in each direction with four-foot-wide paved shoulders and turn lanes at major intersections. NY Route 50 has a posted speed limit of 45-mph near the project site. There are no sidewalks on NY Route 50 near the project site, so pedestrians use the shoulders and bicyclists use the shoulders and/or share the roadway with motorized vehicles. NY Route 50 near the project site is primarily undeveloped, with a large commercial area approximately one mile southwest of the site.



Traffic Volumes

Automatic Traffic Recorder (ATR) data was collected for this project on NY Route 50 near the proposed site access from Wednesday, May 3, 2023, to Friday, May 5, 2023. Based on this data, the weekday AM peak hour occurred from 8:00 to 9:00 a.m. and the weekday PM peak hour occurred from 4:00 to 5:00 p.m. The two-way traffic volume on NY Route 50 for the weekday AM and PM peak hours was 664 vehicles per hour (vph) and 1,148 vph, respectively. The 2023 Existing AM and PM peak hour traffic volumes are illustrated on Figure 2 and the ATR data is included in Attachment B.

Future Conditions

To determine the potential impacts of the proposed project, future traffic conditions were evaluated for the 2028 design year. Traffic growth on area roadways is a function of the expected land development, environmental activity, and changes in demographics. A frequently used procedure is to identify estimated traffic generated by planned developments that would be expected to affect the project study area roadways. An alternative procedure is to estimate an annual percentage increase and apply that increase to study area traffic volumes. For this evaluation, both procedures were used. The following summarizes this traffic forecasting process.

Historic Growth

Information provided by the Capital District Transportation Committee (CDTC) for other projects in the study area indicates that NY Route 50 near the proposed project is expected to increase by an annual growth rate of approximately 0.89 percent.

Site Specific Growth

The Town of Wilton identified several other planned/approved projects to be included in this traffic assessment. The projects listed below are in various stages of approval from initial project discussion through site plan approval. The projects following list of projects was evaluated for inclusion in the background traffic volume development:

- › Ingersoll Road Conservation Residential Subdivision – 41 single family homes located on Ingersoll Road, northeast of the project site.
- › Perry Crossing – a 6,889 square foot (sf) auto parts store and two drive-in banks totaling 5,355 sf located on the northwest quadrant of the Perry Road at NY Route 50 intersection.
- › Wilton Marketplace – 180,000 sf of retail space located south of the site on NY Route 50
- › Forest Grove Subdivision – 468 single family homes located on Putnam Lane.
- › Grand Highlands (Edie Road) Residential – 38 single family homes for phase I and 12 lots for phase 2 located on the west side of Edie Road south of NY Route 50
- › 4205 Route 50 Retail and Daycare – 14,200 sf retail and 7,000 sf daycare
- › Wilton Mall Mixed Use Planned Development District (PDD) – 296 apartment units and 86 townhouse units located on the east side of the Wilton Mall property
- › Potential expansion of the Summit at Saratoga – 100+/- units with memory care
- › Bliss Subdivision – 30 single family homes with access through Grand Highlands



Given the size, type, and location for the Summit of Saratoga with current access to Perry Road, south of our site, it was assumed that it would continue to provide access via Perry Road and the volume of traffic accounted for in the background growth rate. Trips associated with the other approved/proposed projects were included as appropriate.

No-Build Traffic Volumes

The 2028 No-Build traffic volumes were generated with consideration of the general and site-specific growth described above. The resulting 2028 No-Build peak hour traffic volumes are provided on Figure 2 and represent future traffic volumes in the study area prior to development of the proposed project. The general and site specific growth in the study area results in an additional 395 trips (154 northbound and 241 southbound) during the AM peak hour and 696 trips (385 northbound and 311 southbound) during the PM peak hour. This corresponds to an increase of 44% and 60% in the AM and PM peak hours, respectively.

Site Generated Traffic Volumes

To estimate the site-generated traffic anticipated at the project site, the Institute of Transportation Engineers' (ITE) publication *Trip Generation, 11th Edition*¹ was utilized. The number of vehicle trips generated by the proposed project at full build out was estimated based on ITE Land Use Code (LUC) 252 – Senior Adult Housing – Multifamily. The proposed project is expected to generate 78 new vehicle trips during the weekday AM peak hour (27 entering and 51 exiting) and 98 new vehicle trips during the weekday PM peak hour (55 entering and 43 exiting).

The magnitude of site generated trips results in less than the NYSDOT and ITE trip thresholds of the generation of 100 vehicle trips on a single intersection approach for determining the need for detailed off-site intersection analysis. These agency thresholds were developed as a tool to identify locations where the magnitude of traffic generated has the potential to impact operations at off-site intersections and screen out locations that do not meet the threshold and are therefore unlikely to require mitigation. Based on the magnitude of traffic generated at the site and the industry guidelines, detailed analysis of off-site intersections is not warranted. The site traffic will be accommodated for by the existing surrounding roadway network; therefore, the detailed analysis of future traffic operations is limited to the site access intersection with NY Route 50.

Trip Distribution

The directional distribution of traffic approaching and departing the site is a function of several variables including population densities, existing travel patterns, and the efficiency of the roadways leading to and from the site. Based on a review of the existing travel patterns and population centers in the area it is estimated that 35 percent of the site generated traffic will travel to and from the north on NY Route 50 and 65 percent will travel to and from the south on NY Route 50.

Build Traffic Volumes

The project-related traffic volumes were assigned to the NY Route 50 at Site Access intersection based on the anticipated trip distribution. These assigned volumes were then added to the 2028 No-Build peak hour traffic

¹ ITE Trip Generation Manual, 11th Edition, Institute of Transportation Engineers, Washington D.C., September 2021



volumes to develop the 2028 Build peak hour traffic volumes. The 2028 Build traffic volumes are summarized on Figure 2.

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 site access intersection is based on the procedures set forth in the latest version of the *Highway Capacity Manual (HCM)*². LOS is a measure that considers a number of 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.

Intersection Capacity Analysis

Levels of service analyses were conducted for the 2028 Build conditions for the NY Route 50 at Site Access intersection. No analyses were performed for the Existing and No-Build conditions as the proposed intersection exists under only the Build condition. As such, the northbound and southbound flow of traffic is unimpeded for the Existing and No-Build conditions. Table 1 summarizes the capacity analysis results for the site access intersection. The capacity analyses worksheets are included in Attachment C.

Table 1 Intersection Levels of Service Summary – Build Condition

Location/Movement	AM Peak Hour		PM Peak Hour	
	Delay ^a	LOS ^b	Delay	LOS
NY Route 50 at Site Driveway				
Site Access WB LR	21.7	C	109.3	F
NY Route 50 SB L	8.2	A	11.6	B

a Average total delay in seconds per vehicle
 b Level of service

The analysis shows that the site driveway will operate at LOS C during the AM peak hour and LOS F during the PM peak hour. The delay exiting the site is primarily attributed to the significant increase in through traffic on NY Route 50 between the existing and No-Build conditions. As previously mentioned, the AM and PM peak hours experience 44% and 60% increases in traffic between the Existing and No-Build conditions. The LOS F condition only occurs during the PM peak hour with construction of the many site-specific developments identified above. Therefore, the site-related contribution to the town-wide mitigation fees will address the proposed project related impacts. No additional mitigation is recommended.

² Highway Capacity Manual, 6th Edition, Transportation Research Board, Washington D.C., 2016.



Sight Distance

Sight distance analysis, in conformance with guidelines of the American Association of State Highway and Transportation Officials (AASHTO) in A Policy on the Geometric Design of Highways and Streets, 7th Edition³ was performed at the proposed site access on NY Route 50. Both stopping sight distance (SSD) and intersection sight distance (ISD) at the proposed site access were measured. The speed limit on NY Route 50 near the project site is 45-mph. The travel speed data collected by VHB in May 2023 on NY Route 50 near the project site showed that the 85th percentile operating speed was 52-mph in both the northbound and southbound directions. Therefore, the sight distance evaluation was completed based upon a 55-mph operating speed in each direction.

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 a driveway or a vehicle waiting on the mainline to turn into the site. Table 2 summarizes the stopping sight distance evaluation.

Table 2 Stopping Sight Distance

Location	Traveling	Field Measurement (feet) ^a	AASHTO Guideline (feet) ^b
NY Route 50 at Site Access	NB	960	495
	SB	840	495

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 55-mph operating speed

Table 2 shows that the stopping sight distances along NY Route 50 meet the AASHTO recommended guidelines for a 55-mph operating speed at the proposed site access in both the northbound and southbound directions.

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. Table 3 summarizes the intersection sight distance analysis.

³ A Policy on the Geometric Design of Highways and Streets, 7th Edition, American Association of State Highway and Transportation Officials, 2018.



Table 3 Intersection Sight Distance

Location	View	Field Measurement (feet) ^a	AASHTO Guideline (feet) ^b		
			Left-turn Out	Right-turn Out	Left-turn In
NY Route 50 at Site Access	Looking Left	1,010	610	530	NA
	Looking Right	925	610	NA	NA
	Looking Straight	1,010	NA	NA	495

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 55-mph operating speed.
 NA Not applicable

A review of Table 3 illustrates that the intersection sight distances looking left and right from the site driveway and looking straight along NY Route 50 meet the AASHTO recommended guidelines for all movements in to and out of the site access driveway. To maintain good sight lines at the site access intersection, vegetation along the site frontage should be cleared and maintained a minimum of 14.5 feet back from the travel way. Site signage and landscaping should also be designed with consideration to the sight lines.

Conclusions

VHB completed a traffic assessment for the proposed site driveway on NY Route 50 for the Senior Living Community consisting of 390 multifamily residential units in three buildings. The project is expected to be constructed in three phases with phase 1 being completed in 2026 and the remaining phases completed by 2028. Primary access to the site is proposed via one full access intersection on NY Route 50. An emergency access is also proposed on NY Route 50.

- › The proposed project is expected to generate 78 new vehicle trips during the weekday AM peak hour (27 entering and 51 exiting) and 98 new vehicle trips during the weekday PM peak hour (55 entering and 43 exiting).
- › The capacity analysis for the proposed Site Access on NY Route 50 shows that the Site Access approach to NY Route 50 will operate at LOS C during the AM peak hour and LOS F during the PM peak hour. The LOS condition is due to the 60 percent increase in through traffic on NY Route 50 associated with potential other developments. No mitigation is recommended beyond the GEIS mitigation fees assessed by the Town.
- › The sight distance evaluation indicates that the stopping sight distances and intersection sight distances at the proposed site access meet the AASHTO guidelines for a 55-mph operating speed in both the northbound and southbound directions. To maintain good sight lines at the site access intersection, vegetation along the site frontage should be cleared and maintained a minimum of 14.5 feet back from the travel way and site signage and landscaping should be designed with consideration of the sight lines.

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Ref: 22195.00
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Page 7



Please call with any questions regarding the above evaluation.

Sincerely,

VHB

A handwritten signature in blue ink, appearing to read "Alanna Moran".

Alanna Moran, PE,
Senior Traffic Designer
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A handwritten signature in black ink, appearing to read "Eamon McCandless".

Eamon McCandless
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Attachments