



October 30, 2023
Updated April 24, 2024

Ref: 22313.00

Mr. Yates Scott Lansing, PE, CPESC, CPSWQ
Lansing Engineering, PC
2452 State Route 9, Suite 301
Malta, NY 12020

Re: Traffic Impact Evaluation, 612 and 631 Maple Avenue Developments, US Route 9, Town of Wilton, NY

Dear Mr. Lansing:

VHB Engineering, Surveying, Landscape Architecture and Geology, PC (VHB) conducted a traffic impact evaluation to assess the potential traffic impacts associated with the development of the sites located at 612 and 631 Maple Avenue (US Route 9) in the Town of Wilton, New York dated October 30, 2023. Since completion of the traffic evaluation, the development has increased in size. The development at 612 Maple Avenue includes a two-story Medical Center with a 62,500 square-foot (sf) footprint totaling 125,000 sf. The development at 631 Maple Avenue includes 136 apartment units, 17,800 sf of retail space, and a 10,000 sf veterinarian's office. The Layout, Materials, & Grading Plans final revisions dated March 7, 2024, and April 19, 2024 prepared by Lansing Engineering, PC are included as Attachment A.

This letter supersedes the letter dated October 30, 2023 and includes an evaluation of the existing traffic operations and future conditions with and without construction of the proposed project. As detailed herein, capacity improvements are needed to mitigate impacts associated with the proposed project. The following are recommended to improve existing corridor operations and mitigate potential project impacts:

- Construct a southbound right-turn lane on Maple Avenue at Daniels Road
- Install a traffic signal at the Maple Avenue at Smith Bridge Road intersection
- Install a traffic signal at the Maple Avenue at Medical Office driveway opposite the Hewitt's driveway. The signal should include a marked crosswalk with pedestrian signals, countdown timer, and pushbuttons on the southbound approach to the intersection.
- Construct a sidewalk along the west side of Maple Avenue connecting the Medical Office and Mixed-Use parcels. The sidewalk should be constructed outside of the public right-of-way where feasible to allow for potential future widening of Maple Avenue.

Site Location and Proposed Development

The project sites, located on Maple Avenue between Northern Pines Road (County Route (CR) 34) to the north and Smith Bridge Road to the south in the Town of Wilton, New York, are currently vacant. The proposed project at 612 Maple Avenue includes the construction of a 125,000 sf Medical Center, and the proposed project at 631 Maple Avenue includes the construction of one three-story building and seven two-story buildings totaling 136 apartment



units, a 10,000 sf veterinary clinic, and 17,800 sf of retail space. Access to each site is proposed via a single full access driveway on Maple Avenue. Additional access at the Medical Center is proposed at the north end of the parcel via a right-in/right-out only driveway for emergency vehicles. The residential use at 631 Maple Avenue is intended to provide a housing option for professionals working at the Medical Center resulting in some interaction between the two sites. Both sites are expected to be fully built and occupied in 2026. The project location, and the three study intersections of Maple Avenue at Daniels Road, Smith Bridge Road, and Northern Pines Road, are shown on Figure 1.

The Town of Wilton is currently conducting an update to the Town-wide Traffic Planning Study (Planning Study). The Planning Study includes an evaluation of several intersections in the Town identified as key locations providing access throughout the Town and therefore have the potential to need additional capacity to accommodate anticipated future growth and development. Two of the study area intersections for this evaluation are included in the Town-wide study; Maple Avenue at Smith Bridge Road and Maple Avenue at Daniels Road, confirming that these intersections play a key role in the Town's transportation network.

Existing Conditions

Maple Avenue (US Route 9)

Maple Avenue (US Route 9) is classified as an urban minor arterial that generally provides north-south travel through Saratoga County and is under the jurisdiction of the New York State Department of Transportation (NYSDOT). Near the site, US Route 9 is designated as Maple Avenue south of Northern Pines Road and is designated as Saratoga Road north of Northern Pines Road. Maple Avenue 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 of 45-mph along the project frontages. Sidewalks are provided on Maple Avenue on the southeast and northwest quadrants of the Maple Avenue at Northern Pines Road intersection and along the frontages of more recently developed parcels, but are generally not provided on Maple Avenue in the study area. Data published by NYSDOT on the Traffic Data Viewer (TDV) from 2019 indicates that the annual average daily traffic (AADT) on Maple Avenue is 12,301 vehicles per day (vpd) near the project sites. Land use on Maple Avenue in the study area is primarily commercial and residential.

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 two-way left-turn median and a shared through/right-turn lane. There are no sidewalks, marked crosswalks, or pedestrian signals at this intersection.

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/Saratoga Road (US Route 9) at Northern Pines Rd (CR 34)

The Maple Avenue/Saratoga Road at Northern Pines Rd (CR 34) intersection is a four-leg intersection operating under traffic signal control. The eastbound approach provides a shared left-turn/through lane and a right-turn lane. The westbound Northern Pines Road approach provides a single lane for shared travel movements. The northbound Maple Avenue approach provides a shared left-turn/through lane and a right-turn lane. The southbound Saratoga Road approach provides a single lane for shared travel movements. Sidewalks are provided along the southeast and northwest corners of the intersection and crosswalks with pedestrian signals, countdown timers, and pushbuttons are provided on the eastbound, westbound, and southbound approaches.

Traffic Volumes

Turning movement count (TMC) data was collected at Maple Avenue at Smith Bridge Road and Maple Avenue at Daniels Road on Tuesday June 13, 2023 and at Maple Avenue/Saratoga Road at Northern Pines Road on Wednesday September 13, 2023 from 7:00 to 9:00 a.m. and an extended afternoon peak period from 2:00 to 6:00 p.m. All data was collected when school was in session and the extended afternoon peak hour included the dismissal period for the nearby Maple Avenue Middle School. Based on the TMC data, 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 2023 Existing AM and PM peak hour traffic volumes are illustrated on Figure 2 and the TMC data is included in Attachment B.

Gap Study

A gap study was conducted at the two proposed site driveway locations to confirm the available gaps in traffic on Maple Avenue and the ability to accommodate vehicles entering and exiting the two parcels. Data was collected on Wednesday, September 13, 2023. Gaps were measured in the flow of traffic traveling northbound and southbound on Maple Avenue. Gap length for each turning movement is determined based on the 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). The gaps measured in the field were compared to the critical gaps recommended for left-turn movements entering the sites and left and right-turn movements exiting the sites. Tables 1 and 2 summarize the gaps available for vehicles entering and exiting the parcels. The gap data shows that, depending on peak hour and traffic movement, 94 to 230 vehicles can be served at the mixed-use residential driveway (631 Maple Avenue) and 117 to 259 vehicles can be served at the Medical Center driveway (612 Maple Avenue).

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



Table 1 Gap Summary – Mixed-Use Driveway

Weekday Time Period	1 Vehicle ^a	2 Vehicles ^a	3 Vehicles ^a	Vehicles Served ^b
Left-Turn Exiting	8 to 11.9 sec	12 to 14.9 sec	≥15 sec	
7:00 to 8:00 a.m.	33	16	25	140
8:00 to 9:00 a.m.	48	16	30	170
4:00 to 5:00 p.m.	33	8	15	94
5:00 to 6:00 p.m.	48	16	12	116
Right-Turn Exiting	7 to 10.9 sec	11 to 13.9 sec	≥14 sec	
7:00 to 8:00 a.m.	26	17	31	153
8:00 to 9:00 a.m.	39	22	33	182
4:00 to 5:00 p.m.	27	13	16	101
5:00 to 6:00 p.m.	40	15	21	133
Left-Turn Entering	6 to 8.9 sec	9 to 10.9 sec	≥11 sec	
7:00 to 8:00 a.m.	9	17	48	187
8:00 to 9:00 a.m.	13	26	55	230
4:00 to 5:00 p.m.	11	16	29	130
5:00 to 6:00 p.m.	16	24	36	172

a Number of vehicles stated gap is able to service

b Number of vehicles that can be serviced for stated movement and peak period based on the collected gap data



Table 2 Gap Summary – Medical Center Driveway

Weekday Time Period	1 Vehicle ^a	2 Vehicles ^a	3 Vehicles ^a	Vehicles Served ^b
Left-Turn Exiting	8 to 11.9 sec	12 to 14.9 sec	≥15 sec	
7:00 to 8:00 a.m.	40	22	20	144
8:00 to 9:00 a.m.	59	20	30	189
4:00 to 5:00 p.m.	43	16	14	117
5:00 to 6:00 p.m.	59	14	12	123
Right-Turn Exiting	7 to 10.9 sec	11 to 13.9 sec	≥14 sec	
7:00 to 8:00 a.m.	34	18	30	160
8:00 to 9:00 a.m.	47	28	34	205
4:00 to 5:00 p.m.	39	15	19	126
5:00 to 6:00 p.m.	46	27	12	136
Left-Turn Entering	6 to 8.9 sec	9 to 10.9 sec	≥11 sec	
7:00 to 8:00 a.m.	15	19	48	197
8:00 to 9:00 a.m.	21	26	62	259
4:00 to 5:00 p.m.	15	24	34	165
5:00 to 6:00 p.m.	14	32	39	195

^a Number of vehicles stated gap is able to service

^b Number of vehicles that can be serviced for stated movement and peak period based on the collected gap data

Future Conditions

To determine the impacts of the site-generated traffic volumes near the site, future traffic conditions were evaluated for the 2026 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. The following summarizes this traffic forecasting process.

No-Build Traffic Volumes

Information provided by the Capital Region Transportation Council (CRTC, formerly the Capital District Transportation Committee) indicates that traffic volumes on Maple Avenue are increasing by an annual average growth rate of 0.70 percent. Based on the data provided by CRTC, a background growth rate of 0.70 percent was utilized in this study.



VHB contacted the Town of Wilton and reviewed the Interactive Project Listing GIS website to identify additional projects that may impact traffic volumes in the study area. The 655-unit self-storage facility with access from the west leg of the Maple Avenue/Saratoga Road at Northern Pines Road was the only project identified for specific inclusion in the background traffic volumes.

In addition to applying the general background growth rate of 0.70 percent for three years, trips associated with the identified project were added to the 2023 Existing volumes as appropriate. The resulting 2026 No-Build peak hour traffic volumes are provided on Figure 3 and represent future traffic volumes in the study area prior to development of the proposed project.

Site Generated Traffic Volumes

The site generated traffic for the weekday AM and PM peak hours was estimated using the Institute of Transportation Engineers' (ITE) publication *Trip Generation, 11th Edition*². The number of vehicle trips generated by the proposed project using the ITE methodology was estimated based on Land Use Code (LUC) 220 – Multifamily Residential (Low Rise), LUC 720 – Medical Office, LUC 822 – Strip Retail (<40 ksf), and LUC 640 – Animal Hospital/Veterinary Clinic.

It can be expected that some of the trips to the retail land use will originate from traffic that is already on the adjacent roadway network. These trips, known as pass-by or diverted-link trips, contribute to the site driveway volumes, but do not add traffic volumes on the adjacent roadway network. The pass-by trip percentages applied to the site generated volumes are based on data published by ITE. Pass-by rates are not available for LUC 822; therefore, the pass-by rates for the retail space were estimated using LUC 821 – Shopping Plaza (40-150 ksf) as this land use best represents the travel patterns of the strip retail center, which are 30 percent during the AM peak hour and 40 percent during the PM peak hour.

Due to the mixed-use nature of the proposed project at 631 Maple Avenue, it is expected that some vehicle trips at the site will be multi-use or "internal" meaning that trips to more than one land use on the site are generated internally and do not add an additional trip to the adjacent roadway network. For example, a resident may stop at the retail portion of the site when they return to their apartment and will thereby stop at two land uses during one trip. The internal trip credit was estimated using the procedures outlined in the ITE publication *Trip Generation Handbook, 3rd Edition*³ and applied to the residential and retail land uses. The trip generation for the site is summarized in Table 3. As noted, the intent of the development of 631 Maple Avenue is to provide a housing option for professionals working at the Medical Center which has the potential to reduce vehicular travel between the two sites as workers may choose to walk or bike to work. No credit was taken to account for this potential reduction in vehicular travel.

² ITE Trip Generation Manual, 11th Edition, Institute of Transportation Engineers, Washington D.C., September 2021

³ Trip Generation Handbook, 3rd Edition, Institute of Transportation Engineers, Washington D.C., September 2017



Table 3 Trip Generation Summary

Land Use	Weekday AM Peak Hour			Weekday PM Peak Hour		
	Enter	Exit	Total	Enter	Exit	Total
Mixed-Use						
Multifamily Residential ^a	16	49	65	50	29	79
Internal Capture ^b	0	0	0	-15	-6	-21
Strip Retail ^c	25	17	42	59	58	117
Internal Capture ^b	0	0	0	-6	-15	-21
Pass-By Credit ^d	-6	-6	-12	-19	-19	-38
Animal Hospital/Vet Clinic ^e	26	12	38	16	25	41
Total Trips	67	78	145	125	112	237
Internal Capture Trips	0	0	0	-21	-21	-21
Pass-by Trips	-6	-6	-12	-19	-19	-38
Total New Trips	61	72	133	85	72	157
Medical Center						
Total Trips ^f	233	62	295	152	354	506
Total New Trips	233	62	295	152	354	506
Total Combined New Trips	294	134	428	237	426	663

- a Based on ITE Trip Generation LUC 220 Multifamily Residential (Low Rise) for 136 units
- b Based on ITE methodology
- c Based on ITE Trip Generation LUC 822 for 17,800 sf
- d Based on ITE Pass-By Credits for Shopping Plaza (40-150 ksf) of 30% AM peak and 40% PM peak
- e Based on ITE Trip Generation LUC 640 for 10,000 sf
- f Based on ITE Trip Generation LUC 720 Medical Office for 125,000 sf

The proposed residential/retail site is expected to generate 133 new vehicle trips during the weekday AM peak hour (61 entering and 72 exiting) and 157 new vehicle trips during the weekday PM peak hour (85 entering and 72 exiting). The Medical Center is expected to generate 295 new vehicle trips during the weekday AM peak hour (233 entering and 62 exiting) and 506 new vehicle trips during the weekday PM peak hour (152 entering and 354 exiting). Combined, the two sites will generate 428 new vehicle trips during the AM peak hour and 663 new vehicle trips during the PM peak hour.

Build Traffic Volumes

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 65 percent of the new site generated traffic will travel to and from the south on Maple Avenue and 35 percent will travel to and from the north on Maple Avenue/Saratoga Road with 10 percent traveling to and from Northern Pines Road. Travel to and from Smith Bridge Road and Daniels Road will vary slightly depending on the land use. It is expected that



between zero and five percent of site-generated traffic will travel to and from Smith Bridge Road and between 15 and 20 percent will travel to and from Daniels Road. The primary trip distributions for the project are shown on Figures 4 and 5, and the pass-by trip distribution for the retail land use is shown on Figure 6. The primary and pass-by trip assignments for the project are shown on Figures 7, 8, and 9 respectively. These assigned volumes were added to the 2026 No-Build peak hour traffic volumes to develop the 2026 Build peak hour traffic volumes. The 2026 Build traffic volumes are summarized on Figure 10.

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 (6th edition) of the *Highway Capacity Manual (HCM)*⁴. 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 Attachment C.

Intersection Capacity Analysis

Level of service analyses were conducted for the 2023 Existing, 2026 No-Build, and 2026 Build conditions at the three off-site study area intersections and for the 2026 Build condition at the two site access intersections. Tables 4 and 5 summarize the capacity analysis results for the weekday AM and PM peak hours, respectively. The capacity analyses worksheets are included in Attachment D.

The Maple Avenue at Daniels Road signalized intersection currently operates at overall LOS D during the AM peak hour and overall LOS C during the PM peak hour. In the No-Build condition during the AM peak hour, the southbound approach drops from LOS D to LOS E conditions. During the Build condition, the intersection operates at overall LOS E during both the AM and PM peak hours. The southbound Maple Avenue approach to the intersection drops to LOS F during both peak hours and the eastbound Daniels Road approach drops from LOS D to E during the PM peak hour. The other lane groups and approaches operate at LOS C or better or maintain levels of service consistent with No-Build conditions. Potential intersection mitigation is discussed after Table 5.

The westbound approach of the unsignalized Maple Avenue at Smith Bridge Road intersection currently operates at LOS F during both the AM and PM peak hours. The southbound approach of this intersection currently operates at LOS A during the AM peak hour and LOS B during the PM peak hour. All movements at this intersection maintain the same LOS through the No-Build and Build conditions with increases in delay on the Smith Bridge Road approach to Maple Avenue during both peak hours of the Build condition. Potential intersection mitigation is discussed after Table 5.

The Maple Avenue at Northern Pines Road signalized intersection currently operates at overall LOS B conditions during the AM and PM peak hours with all lane groups and approaches operating at LOS C or better. The overall LOS B condition will be maintained during the AM peak hour and will drop to LOS C during the PM peak hour in the

⁴ Highway Capacity Manual, 6th Edition, Transportation Research Board, Washington D.C., 2016



Build condition. All approaches and lane groups will continue to operate at LOS D or better during the Build conditions; therefore, no mitigation is recommended.

At the Maple Avenue at Medical Center Site Access intersection, vehicles exiting the site and the Hewitt's driveway experience LOS F during the AM and PM peak hours. Vehicles turning left from Maple Avenue experience LOS A/B during the AM and PM peak hours. Review of the gap evaluation at the proposed site access shows that there are not sufficient gaps in traffic to accommodate vehicles exiting the site during the PM peak hour (354 vehicles exiting and between 117 and 136 available gaps). Potential intersection mitigation is discussed after Table 5.

At the Maple Avenue at Mixed-Use Site Access intersection, vehicles exiting the site experience LOS D during the AM peak hour and LOS F during the PM peak hour. Vehicles turning left into the site experience LOS B during the AM peak hour and LOS A during the PM peak hour. Review of the gap evaluation for the PM peak hour at the proposed site access shows that there are sufficient gaps to serve the 67 left-turn entering trips (130 available gaps from 4:00 to 5:00 p.m. and 172 available gaps from 5:00 to 6:00 p.m.) and the 91 exiting trips (94 to 101 available gaps from 4:00 to 5:00 p.m. and 116 to 133 available gaps from 5:00 to 6:00 p.m.). Although the site access approach experiences LOS F conditions during the PM peak hour, the longer vehicle delays are limited to one peak period and the gap study verifies that sufficient gaps are available to accommodate the site traffic; therefore, it is recommended that this site access operate with single lanes entering and exiting the site and unsignalized control.



Table 4 AM Peak Hour Level of Service Summary

Intersection	Approach	Lane Group	Existing 2023		No-Build 2026		Build 2026	
			Delay ^a	LOS ^b	Delay	LOS	Delay	LOS
Maple Ave at Daniels Rd	EB	LR	56.5	E	58.0	E	77.5	E
	NB	L	23.1	C	23.6	C	24.1	C
		T	10.5	B	10.9	B	13.3	B
		Approach	12.6	B	13.0	B	14.6	B
	SB	TR	50.2	D	60.5	E	108.7	F
	Overall		42.8	D	48.4	D	74.5	E
Maple Ave at Smith Bridge Rd	WB	LR	51.9	F	58.8	F	172.3	F
	SB	LT	8.7	A	8.8	A	9.5	A
Maple Ave at Northern Pines Rd	EB	LT	24.4	C	25.0	C	29.4	C
		R	26.2	C	26.9	C	31.4	C
		Approach	25.4	C	26.1	C	30.6	C
	WB	LTR	19.2	B	19.9	B	23.5	C
	NB	LT	13.3	B	13.7	B	14.8	B
		R	3.8	A	3.8	A	3.4	A
		Approach	11.4	B	11.8	B	12.5	B
	SB	LTR	16.1	B	16.7	B	19.0	B
	Overall		16.4	B	17.0	B	19.2	B
Maple Ave at Medical Center Dwy	EB	LTR	--	--	--	--	50.4	F
	WB	LTR	--	--	--	--	88.3	F
	NB	LTR	--	--	--	--	9.7	A
	SB	LTR	--	--	--	--	9.1	A
Maple Ave at Mixed-Use Dwy	EB	LR	--	--	--	--	31.1	D
	NB	LT	--	--	--	--	10.2	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 5 PM Peak Hour Level of Service Summary

Intersection	Approach	Lane Group	Existing 2023		No-Build 2026		Build 2026	
			Delay ^a	LOS ^b	Delay	LOS	Delay	LOS
Maple Ave at Daniels Rd	EB	LR	44.0	D	48.0	D	75.2	E
	NB	L	17.4	B	18.5	B	24.7	C
		T	12.4	B	13.0	B	15.5	B
		Approach	13.2	B	13.9	B	16.8	B
	SB	TR	29.2	C	31.9	C	110.8	F
	Overall		27.3	C	29.7	C	69.5	E
Maple Ave at Smith Bridge Rd	WB	LR	88.0	F	104.9	F	>200	F
	SB	LT	10.2	B	10.3	B	11.3	B
Maple Ave at Northern Pines Rd	EB	LT	26.4	C	27.9	C	37.9	D
		R	23.1	C	24.5	C	33.2	C
		Approach	25.8	C	27.3	C	37.1	D
	WB	LTR	23.2	C	24.9	C	34.1	C
	NB	LT	16.4	B	17.5	B	28.2	C
		R	5.5	A	5.6	A	5.1	A
		Approach	13.1	B	13.8	B	21.2	B
	SB	LTR	13.9	B	14.6	B	19.3	B
	Overall		16.5	B	17.6	B	24.6	C
Maple Ave at Medical Center Dwy	EB	LTR	--	--	--	--	>200	F
	WB	LTR	--	--	--	--	>200	F
	NB	LTR	--	--	--	--	9.1	A
	SB	LTR	--	--	--	--	11.0	B
Maple Ave at Mixed-Use Dwy	EB	LR	--	--	--	--	85.7	F
	NB	LT	--	--	--	--	9.4	A

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

The results of the analysis for the Maple Avenue at Daniels Road and Smith Bridge Road intersections show that the need for additional capacity at these intersections exists today and increases with the additional traffic generated in the Maple Avenue corridor with the proposed project. Inclusion of these intersections in the Town-wide Traffic Planning Study currently underway, indicates that the Town has identified these as key intersections providing access in the Town.



Approximately 65 percent of site-generated traffic is expected to travel to and from the south through the Daniels Road and Smith Bridge Road intersections resulting in increases in the vehicle delay and LOS E/F conditions. To mitigate existing operations and site-related impacts, the following roadway network changes were analyzed:

- Installation of a traffic signal at the Maple Avenue at Medical Office driveway intersection
- Construction of a southbound right-turn lane on Maple Avenue at the intersection of Daniels Road and Maple Avenue
- Installation of a traffic signal at the intersection of Maple Avenue at Smith Bridge Road

The mitigation analysis is summarized below, and the capacity analysis results are illustrated in Tables 6 and 7.

Maple Avenue at Medical Center Driveway – A traffic signal warrant analysis was conducted for the 2026 Build condition for the Maple Avenue at Medical Center driveway intersection. The analysis was performed in accordance with the 2009 Manual on Uniform Traffic Control Devices (MUTCD)⁵ with Revisions 1, 2, and 3 and the New York State Supplement⁶ to the MUTCD. There are nine warrants described in the MUTCD and the installation of a traffic signal should only be considered if one or more of the nine signal warrants are met. For this analysis, three of the volume warrants were considered applicable to the project and were examined. The warrants considered are outlined below:

- Warrant 1, Eight-Hour Vehicle Volume
- Warrant 2, Four-Hour Vehicle Volume
- Warrant 3, Peak Hour

The results of the traffic signal warrant analysis for Warrants 1, 2, and 3 show that the volume and delay criteria are satisfied for Warrants 1, 2 and 3 for the 2026 Build conditions. The detailed technical analysis is provided in Attachment E.

After review of the signal warrant analysis and the intersection capacity analysis, it is recommended that a traffic signal be installed at the Maple Avenue at Medical Center driveway intersection, opposite the Hewitt's driveway, with construction of the proposed project. Traffic signal construction will require approval from NYSDOT. The analysis shows that there will be little delay to through traffic on Maple Avenue with installation of the signal and single lanes approaching the Medical Office driveway during the AM and PM peak hours. The 95th percentile queue ranges from 5.7 to 11.7 vehicles and the average queue ranges from 3.5 to 7.3 vehicles on the northbound and southbound approaches during the peak hours.

Maple Avenue at Daniels Road – The analysis shows that the construction of a southbound right-turn lane at the intersection of Daniels Road and Maple Avenue results in overall LOS C operations and LOS D or better on all approaches with delays comparable to or better than 2026 No-Build conditions. Construction of the right-turn lane is recommended with construction of the proposed project and will require approval from NYSDOT. With

⁵ Manual on Uniform Traffic Control Devices with Revision Numbers 1 and 2 incorporated, FHWA, May 2012.

⁶ New York State Supplement to the Manual on Uniform Traffic Control Devices for Streets and Highways (2009 Edition), Effective March 16, 2011



construction of the southbound right-turn lane, the southbound average queue is reduced from 35.4 vehicles to 13.0 vehicles during the AM peak hour and 35.8 vehicles to 12.2 vehicles during the PM peak hour.

Maple Avenue at Smith Bridge Road - Existing and future traffic volumes were compared to the volume thresholds for Warrant 3, Peak Hour at the Maple Avenue at Smith Bridge Road intersection. The evaluation, included in Attachment E, shows that the existing and future traffic volumes at the intersection satisfy the peak hour warrant criteria for installation of a traffic signal at this intersection. Installation of a signal results in overall LOS A operations with the Smith Bridge Road intersection approach operating at LOS D during both peak hours and is recommended with construction of the proposed project. Installation of a traffic signal will require approval from NYSDOT. The average northbound queue at the intersection will range from 3.6 to 8.5 vehicles during the peak hours and the southbound queue will range from 0.7 to 5.0 vehicles during the peak hours.

Table 6 AM Peak Hour Level of Service Summary – Future Conditions

Intersection	Approach	Lane Group	No-Build		Build		Build with Mitigation	
			Delay ^a	LOS ^b	Delay	LOS	Delay	LOS
Maple Ave at Daniels Rd	EB	LR	58.0	E	77.5	E	46.6	D
		L	23.6	C	24.1	C	18.1	B
	NB	T	10.9	B	13.3	B	15.3	B
		Approach	13.0	B	14.6	B	15.7	B
		TR [T]	60.5	E	108.7	F	44.0	D
	SB	[R]	--	--	--	--	20.7	C
		Approach	60.5	E	108.7	F	36.5	D
	Overall		48.4	D	74.5	E	33.2	C
Maple Ave at Smith Bridge Rd	WB	LR	58.8	F	172.3	F	38.3	D
	NB	TR	--	--	--	--	7.1	A
	SB	LT	8.8	A	9.5	A	1.7	A
	Overall		--	--	--	--	6.6	A
Maple Ave at Medical Center Dwy	EB	LTR	--	--	50.4	F	31.5	C
		LTR [LT]	--	--	88.3	F	32.7	C
	WB	[R]	--	--	--	--	33.3	C
		Approach	--	--	--	--	32.9	C
	NB	LTR	--	--	9.7	A	8.4	A
	SB	LTR	--	--	9.1	A	6.2	A
	Overall		--	--	--	--	8.2	A

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

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

LTR [LT] = Existing geometry [Future geometry]

^a Average delay in seconds per vehicle

^b Level of service

-- Not Applicable



Table 7 PM Peak Hour Level of Service Summary – Future Conditions

Intersection	Approach	Lane Group	No-Build		Build		Build with Mitigation	
			Delay ^a	LOS ^b	Delay	LOS	Delay	LOS
Maple Ave at Daniels Rd	EB	LR	48.0	D	75.2	E	52.8	D
		L	18.5	B	24.7	C	18.8	B
	NB	T	13.0	B	15.5	B	18.4	B
		Approach	13.9	B	16.8	B	18.5	B
		TR [T]	31.9	C	110.8	F	30.9	C
	SB	[R]	--	--	--	--	21.2	C
		Approach	31.9	C	110.8	F	27.6	C
	Overall		29.7	C	69.5	E	30.5	C
Maple Ave at Smith Bridge Rd	WB	LR	104.9	F	>200	F	50.2	D
	NB	TR	--	--	--	--	10.7	B
	SB	LT	10.3	B	11.3	B	7.6	A
	Overall		--	--	--	--	11.3	B
Maple Ave at Medical Center Dwy	EB	LTR	--	--	>200	F	36.6	D
		LTR [LT]	--	--	>200	F	44.8	D
	WB	[R]	--	--	--	--	32.3	C
		Approach	--	--	--	--	40.4	D
	NB	LTR	--	--	9.1	A	6.7	A
	SB	LTR	--	--	11.0	B	10.5	B
	Overall		--	--	--	--	14.1	B

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

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

LTR [LT] = Existing geometry [Future geometry]

^a Average delay in seconds per vehicle

^b Level of service

-- Not Applicable

The proposed off-site mitigation with the construction of a southbound right-turn lane on Maple Avenue at Daniels Road and a traffic signal at the Maple Avenue at Smith Bridge Road intersection will provide a public benefit by mitigating existing long queues and poor operations at these two intersections. The intersection improvements will also mitigate site-related off-site capacity impacts.

Connectivity

As noted, the mixed-use development at 631 Maple Avenue is intended to provide a housing option for professionals working at the Medical Center resulting in some interaction between the two sites. To provide



employee-residents or patrons the opportunity to travel between the two parcels, a dedicated connection between the two sites should be provided. It is recommended that a sidewalk be constructed on the west side of Maple Avenue between the mixed-use parcel and the proposed traffic signal at the Medical Center driveway intersection. To accommodate pedestrian crossings, the proposed traffic signal be designed with a marked crosswalk with pushbuttons, pedestrian signals, and countdown timers across the north leg of the intersection on Maple Avenue. If feasible, the sidewalk should be constructed outside of the public right-of-way to allow the potential widening of Maple Avenue as a result of the Planning Study.

Conclusions

VHB has conducted a traffic impact evaluation to assess the potential traffic impacts associated with the development of the sites located at 612 and 631 Maple Avenue in the Town of Wilton, New York. The proposed project at 612 Maple Avenue includes the construction of a 125,000 sf Medical Center, and the proposed project at 631 Maple Avenue includes the construction of 136 residential units, 17,800 sf of retail space, and a 10,000 sf veterinarian's office. Access to each site is proposed via full access driveways on Maple Avenue. An emergency vehicle right-in/right-out driveway is also proposed at the northern end of the Medical Office parcel. The project is expected to be fully built and occupied in 2026.

- The proposed mixed-use site is expected to generate 133 new vehicle trips during the weekday AM peak hour (61 entering and 72 exiting) and 157 new vehicle trips during the weekday PM peak hour (85 entering and 72 exiting).
- The Medical Center is expected to generate 295 new vehicle trips during the weekday AM peak hour (233 entering and 62 exiting) and 506 new vehicle trips during the weekday PM peak hour (152 entering and 354 exiting).
- Combined, the two sites will generate 428 new vehicle trips during the AM peak hour and 663 new vehicle trips during the PM peak hour.
- The LOS analysis shows that there are existing capacity constraints at the study area intersections and additional capacity is needed at the Maple Avenue intersections with Daniels Road, Smith Bridge Road, and the Medical Center driveway intersection to accommodate future development. The following is recommended:
 - › Construct a southbound right-turn lane on Maple Avenue at the Daniels Road intersection.
 - › Install a traffic signal at the Maples Avenue at Smith Bridge Road intersection.
 - › Install a traffic signal at the proposed Medical Center intersection with Maple Avenue.
- Construct a sidewalk on the west side of Maple Avenue between the mixed-use parcel and the Medical Center to accommodate pedestrian travel between the two sites and facilitate pedestrians crossing Maple Avenue at the recommended traffic signal. Where feasible, the sidewalk should be constructed outside of the existing right-of-way to allow the potential widening of Maple Avenue, as a result of the Planning Study.

Mr. Yates Scott Lansing, PE, CPESC, CPSWQ
Ref: 22313.00
Updated April 24, 2024
Page 16



As detailed in the traffic evaluation, the proposed project will be adequately serviced by the surrounding roadway network with the recommended mitigation measures.

Please call with any questions regarding the above evaluation.

Sincerely,

VHB

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

Alanna Moran, PE
Project Manager

A handwritten signature in blue ink, appearing to read "John Donnan".

John Donnan, IE
Traffic Designer

Attachments