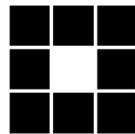


MINEOLA VILLAGE GREEN

**INCORPORATED VILLAGE OF MINEOLA
NASSAU COUNTY, NEW YORK**

TRAFFIC ANALYSIS REVIEW RMS PROJECT NO 2015-013

MARCH 2015



RMS ENGINEERING

Robinson, Muller & Schiavone Engineers, P.C.

355 New York Avenue, Huntington, NY 11743 • 631-271-0576 • Fax 631-271-0592

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Introduction

RMS Engineering has conducted a review of the Traffic Impact Study (TIS) included in the Expanded Environmental Assessment for the Mineola Village Green project. The traffic analysis was prepared by VHB Engineering, Engineering, Surveying and Landscape Architecture, P.C. (VHB) in October 2014 and was supplemented by additional observations which were conducted in response to concerns raised by the Village Board of Trustees during the November 12, 2014 public hearing.

The initial traffic analysis was conducted for the proposed development at 199 2nd Street in the Incorporated Village of Mineola, NY. The application involves the construction of 296 apartment units, 6,975 sf of restaurant floor area, 6,975 sf of general retail floor area, and a 478 stall parking garage. A location map for the development area within the Village has been included as drawing A-1 in the attachment to this document.

It is important to note that the Mineola Village Green development is located adjacent to the Mineola Long Island Railroad (LIRR) Station and is also located substantially contiguous to a major hub for Nassau County bus lines. Due to this fact, the project is considered a Transit Oriented Development (TOD) in accordance with definitions provided by the Institute of Transportation Engineers (ITE). Due to the location of the project site to the LIRR and other hubs for public transportation, it can be expected that there will be a lesser impact on the operation of the roadway network as a result of fewer vehicular trips.

The following report contains an assessment of the scope, methodology, and other considerations taken into account in the preparation of the above referenced analysis. Additionally a comparative analysis has also been conducted in order to determine the potential impacts associated with alternative developments, in accordance with existing zoning, at the subject property. Finally, due to the fact that transit oriented developments are not common in suburban Long Island, a detailed analysis of what constitutes such a project and how it may apply to the site specific concerns in the Village of Mineola has also been prepared and included in this report.

Scope of Study

The VHB TIS identified several intersections in the vicinity of the subject property which warranted study based on the potential traffic generated by the proposed development. These intersections are as follows:

1. Old Country Road at Mineola Boulevard/Franklin Avenue (Signalized Intersection with a Multi-phased controller)
2. Mineola Boulevard at 2nd Street (Signalized Intersection with a Multi-phased controller)
3. Main Street at 2nd Street (Unsignalized All-way Stop Controlled Intersection)
4. Main Street at Station Plaza North (Unsignalized Stop Controlled Intersection with the stop sign located on the westbound approach)

For the purposes of conducting the analysis, turning movement observations were performed at these locations during the potential weekday peak hours on Thursday September 11th, 2014 and Tuesday October 21st, 2014. Additionally, observations were also conducted during the potential Saturday peak hours on Saturday September 13th, 2014 and Saturday October 18th, 2014. These dates do not coincide with any major holidays or events and, as such, it is our opinion that these observations would be representative of the typical level of traffic activity at each location.

Based on comments received at the November 12, 2014 Board of Trustees public hearing, supplemental counts were performed at additional intersections for the purposes of expanding the analysis. These locations are as follows:

1. 1st Street at 3rd Avenue (Signalized Intersection with a two-phased controller)
2. Harrison Avenue at 3rd Avenue (Unsignalized Stop Controlled Intersection with the stop sign located on the northbound approach)
3. 2nd Street at 3rd Avenue (Unsignalized All-way Stop Controlled Intersection)

The additional observations were conducted at these locations during the peak hours of activity on Thursday December 4th, 2014 and Saturday December 6th, 2014. Similar to the initial turning movement counts, these dates do not coincide with any major holidays or events and would experience the typical level of traffic activity at each of the study intersections.

In accordance recommended practices provided in the **2010 ITE Transportation Impact Analyses for Site Development**, the suggested study area limits for a traffic analysis are defined based on the nature of the proposed action and the volume of traffic that will potentially be generated. As depicted in Table 2-3 of that manual, the project qualifies as a *'Development w/ peak-hour trips between 200 and 500 during peak hour'* due to the fact that 256 trips are predicted during the Saturday Peak Hour which suggests that the study include *'All signalized intersections and access drives within 0.5 miles from a property line of the site and all major unsignalized intersections and access drives within 0.25 miles'*. The relevant table has been included in the attachment.

Based on the parameters established above, a visual depiction of the area within a 0.5 mile radius of the property has been prepared as drawing A-2 and included in the attachment. This exhibit depicts numerous signalized intersections existing within the suggested radius which were not included within the traffic study. However, a review of the proposed distribution of the site generated traffic revealed that the majority of the trips would be directed towards Old Country Road and Mineola Boulevard without traversing the other signalized intersections in a way that would significantly impact their operation.

Additionally, only the Saturday peak hour trips exceed the threshold for this requirement and, as a result, the development meets the criterion for a smaller area of influence during most other time periods of note. Further, based on an assessment of the collected data, the total intersection volumes indicate that the Saturday peak hour experiences the lowest level of activity relative to the AM or PM peak hours. Table 1 below depicts the total volume of traffic that traverses the intersections of Old Country Road at Mineola Boulevard and Mineola Boulevard at 2nd Street for the relevant peak hours which were studied.

Due to the fact that the Saturday peak hour generates the highest level of activity during the period when the total volume of traffic is the lowest, the impact at this time will be reduced. Based on this and the forgoing, we believe that the study intersections included in the VHB TIS represent those at which a significant impact could occur as a result of this development and adequately accommodate the necessary scope of the analysis of the proposed action.

Table 1: Total Intersection Volumes

PEAK HOUR		OLD COUNTRY ROAD AT MINEOLA BOULEVARD/ FRANKLIN AVENUE	MINEOLA BOULEVARD AT 2 ND STREET
AM COMMUTER PEAK HOUR	TOTAL TRAFFIC VOLUME	3,860 vehicles	2,023 vehicles
PM COMMUTER PEAK HOUR	TOTAL TRAFFIC VOLUME	4,221 vehicles	2,355 vehicles
SATURDAY PEAK HOUR	TOTAL TRAFFIC VOLUME	3,515 vehicles	1,601 vehicles

Site Access

As depicted on the plan prepared by the Stephen B. Jacobs Group, P.C. dated October 20, 2014, access to the property is to be provided primarily to the proposed parking structure from Station Plaza North/Front Street at the south side of the property. Additional access is also provided from 2nd Street, on the north side of the property, but this avenue only accommodates a ring road for drop offs and a 10 stall valet parking area which is ancillary to the primary parking facility. Due to the nature of the development, as well as the limited volume of traffic activity which will occur at these locations, it is the opinion of RMS Engineering that they will not experience significant delays or undue congestion.

Presently, Station Plaza North is a one way westbound roadway. In order to accommodate this action, the roadway is proposed to be converted to allow eastbound traffic for the segment of this road immediately east of the site driveways. In doing so, vehicles will be able to exit the property in either direction of travel, which will allow for improved circulation of the site generated traffic on the surrounding roadway network. However, it should be noted that, due to the limited curb-to-curb width on this stretch of roadway, accommodating this action will require the removal of 6 on-street parking spaces on the south side of the Station Plaza North roadway. It is the belief of RMS Engineering that the loss of these spaces is de minimis and will not result in undue parking hazard or congestion in the vicinity of the subject property.

Additionally, Station Plaza North/Front Street does represent one means of access to the loading areas on 3rd Avenue for the Winthrop University Hospital, located west of the development. However, the section of Station Plaza North/Front Street for which modifications are being proposed will not change the roadway geometry in such a way as to impede truck traffic; instead the widening and re-striping will eliminate parking stalls to provide two-way access. Additionally, alternative access to this area is available via 2nd Street at Mineola Boulevard/the Mineola Station Plaza. As a result, it is our opinion that converting the roadway to provide for two-way traffic will not impact delivery vehicles to or from the Hospital.

Transit Oriented Developments

As mentioned in the introduction to this report, the Mineola Village Green project is being considered a Transit Oriented Development (TOD) due to its proximity to the Mineola Long Island Railroad Station and other municipal transportation hubs. In principle, when a major hub for public transportation is available at a particular location, the level of vehicular traffic will be reduced as denizens will utilize said hub to travel elsewhere outside of the immediate area. While such developments are more common in urban environments, where multiple modes of municipal transportation are available, they are also contemplated in more densely populated suburban areas, such as the section of Mineola where the development is proposed, but with a lesser reduction in generated traffic.

Information regarding the traffic generation characteristics of a TOD is relatively limited in comparison to land uses. The most prevalent source of data is presented by the **Transit Cooperative Research Program (TCRP)** in **Report 128** titled **Effects of TOD on Housing, Parking, and Travel**. This report was prepared based on data assessment case studies performed in the metropolitan areas surrounding Philadelphia, Washington D.C., San Francisco Bay, and Portland and specifically focused on the types of transportation available and how they would impact the vehicular traffic and parking in comparison to what the industry standard data would suggest.

In accordance with the information presented in the TCRP research, and as stated in the VHB TIS, a transit oriented development in an urban environment can decrease the vehicular trips generated by a residential use by as much as 50%, which significantly reduces the impact of an action on the operation of the roadway network. This information is summarized in Table 2.4 of **TCRP Report 128** which has been included in the attachment to this document.

As a part of the TIS for the Mineola Village Green, a reduction factor (25% on weekdays and 15% on weekends) was applied to the peak hour trips generated by the proposed apartments to account for the effects discussed above. By applying a lesser rate than that suggested by the research for Transit Oriented Developments, the nature of the development was accounted for; while the municipal transportations hubs are nearby and the population density is higher than other parts of Long Island, a suburban sprawl does exist in the vicinity of the project, which would require denizens of the apartment units to have a personal vehicle available to access. Based on this, it is the belief of RMS Engineering that the transit oriented development was properly accounted for in the VHB study and that the reduction in generated trips accurately depicts the future condition upon the construction of the proposed action.

Trip Generation and As-of-right Comparison

The VHB report indicates that the **ITE Trip Generation, 9th Edition** was reviewed for each of the relevant uses within the development (Land Use Code 223: Mid-rise Apartments | Land Use Code 820: Shopping Center | Land Use Code 931: Quality Restaurant) to determine the volumes of traffic that will be generated in the future condition. This represents industry standard data and is commonly consulted for the purposes of preparing a traffic analysis. The ITE data is prepared from the statistical analysis of the traffic generated by similar uses that have been studied throughout the United States and provide average rates and, when enough data is present, regression equations to represent trip volumes relative to known variables (commonly gross floor area for retail and restaurant uses and total units for apartment complexes). In accordance with the information in this manual, as well as the size of the relevant uses in the development, the trips generated during the relevant peak hours are as follows:

Table 2: Mineola Village Green Trip Generation Summary

PEAK HOUR		PROPOSED MINEOLA VILLAGE GREEN DEVELOPMENT	
ITE LAND USE CODE		223/820/931	
AM PEAK HOUR	ENTER:	28	Tph*
	<u>EXIT:</u>	<u>52</u>	<u>Tph*</u>
	TOTAL	80	Tph*
PM PEAK HOUR	ENTER:	98	Tph*
	<u>EXIT:</u>	<u>68</u>	<u>Tph*</u>
	TOTAL	166	Tph*
SATURDAY PEAK HOUR	ENTER:	142	Tph*
	<u>EXIT:</u>	<u>114</u>	<u>Tph*</u>
	TOTAL	256	Tph*

*Trips Generated based on VHB TIS dated October 2014

It is important to note that these values are all calculated based on the average rate of the ITE data. In accordance with the **Trip Generation Handbook** included as a part of Volume 1 of the **ITE Trip Generation, 9th Edition**, criteria are suggested to determine whether to utilize the average rates,

regression equations, or locally collected data. A summary of these criteria have been included in the attachment to this document. Based on these criteria, it is the belief of RMS Engineering that utilizing the average rates for each of the uses represents the best estimate of traffic generated by the proposed development. In addition to that, the TOD rate reductions discussed in the previous section of this report have been applied as well.

For the purposes of comparison, the trip generation characteristics for development of the property with other permitted uses has also been examined. In doing so the **ITE Trip Generation, 9th Edition** was again consulted for an office use (Land Use Code 720: Medical/Dental Office) 120,000 sf and 180,000 sf in size. It is important to note that the Medical/Dental Office land use was selected because it demonstrates similar level of traffic activity as a non-medical office during the weekday peak hours and presents a potential ‘worst-case scenario’ for the Saturday peak hour, as general office buildings will not typically be open at those times. Additionally, the Incorporated Village of Mineola does not specify a separate parking rate for general offices and medical offices. In accordance with this data, the trips generated for each use is as follows:

Table 3: As-of-Right Trip Generation Summary

PEAK HOUR		PROPOSED 120,000 SF OFFICE SPACE (ITE RATES)	PROPOSED 180,000 SF OFFICE SPACE (ITE RATES)
ITE LAND USE CODE		720	720
AM PEAK HOUR	ENTER:	227 Tph*	340 Tph*
	EXIT:	<u>60</u> Tph*	<u>90</u> Tph*
	TOTAL	287 Tph*	430 Tph*
PM PEAK HOUR	ENTER:	120 Tph*	180 Tph*
	EXIT:	<u>308</u> Tph*	<u>463</u> Tph*
	TOTAL	428 Tph*	643 Tph*
SATURDAY PEAK HOUR	ENTER:	249 Tph*	372 Tph*
	EXIT:	<u>187</u> Tph*	<u>281</u> Tph*
	TOTAL	436 Tph*	653 Tph*

*Trips generated per ITE Trip Generation Manual, 9th Edition

It should be noted that the 120,000 sf building could be accommodated in conformance with the existing zoning at the property but the 180,000 sf building would require a minor zoning modification in the form of a building height variance.

Based on this, it can be determined that redeveloping the subject property for a medical office use would potentially generate more traffic than the proposed Mineola Village Green. Assuming a similar distribution of the vehicular trips under either scenario (in comparison to the proposed action), it is the opinion of RMS Engineering that the alternative uses would result in a greater impact on the operation of the roadway network in the vicinity of the site and would potentially require additional mitigation.

Finally, the VHB TIS indicates that the existing uses which occupy the property to be developed were not vacant at the time that the traffic observations were performed. As a result, the trips generated by those uses are included in the existing data. However, to provide a conservative analysis, no reduction credit was applied to the proposed trips generated to account for the traffic which would be eliminated.

Based on the above, we believe that the traffic generated by the proposed develop is consistent with alternative uses at the subject premises and will potentially generate a lesser impact than other potential developments which could be contemplated. Additionally, it is our opinion that the trip generation characteristics predicted by VHB for the proposed action are conservative for the purposes of the analysis that was prepared.

Mitigation Analysis

In accordance with the October 2014 VHB traffic study, after the newly generated traffic is superimposed upon the existing roadway network (after accounting for ambient growth and other planned projects in the area), turning movements at the study intersections will experience increases in delay and some degradation in Level of Service (LOS). For certain movements, particularly at the intersection of Mineola Boulevard and 2nd Street, the degradation in LOS would cause it to be below what is considered the acceptable limits based on the standard methodologies. As such, several roadway modifications will be necessary in order to preserve the operation of the roadway network and optimize the circulation of vehicles through the area. The mitigation proposed is as follows:

1. Re-striping the westbound approach at the intersection of Mineola Boulevard and 2nd Street to add a dedicated right turn lane. This necessitates the elimination of 2 on-street parking spaces.
2. As previously mentioned, re-striping the portion of Station Plaza North east of the proposed site driveway to accommodate two-way traffic (only westbound traffic is presently permitted). This requires the elimination of 6 on-street parking spaces.

By instituting these changes, all turning movements at the signalized and unsignalized intersections would be able to preserve, the level of operation associated with the 'No Build' condition. No signal timing modifications or other major roadway improvements would be provided based on this assessment.

It is the opinion of RMS Engineering that the required mitigation associated with this action will be minor in nature and will assure the continued operation of the roadway network at acceptable levels of service. However, to accommodate the improvements, 8 on-street parking stalls are being eliminated. As discussed later in this report, ample parking is expected to be provided on the subject premises to accommodate the parking to be generated by the proposed action. Because the new parking activities will not require the on-street areas, and because the reduction in the availability of on-street parking is minimal, it is the opinion of RMS Engineering that undertaking this action will not result in undue hazard or congestion in the area

Parking Analysis

As previously stated, the traffic study indicates that the proposed action includes the establishment of a parking structure, which is to provide 478 parking stalls. In addition, 10 valet parking stalls are to be located off a secondary site access driveway located on 2nd Street. In accordance with the Zoning Code for the Village of Mineola, 655 parking stalls are required for the proposed action (592 for the apartment units, 35 for the proposed restaurant, and 28 for the proposed retail. The following detailed calculations, as cited directly from the October 2014 VHB traffic study, are therefore relevant:

Use	Requirements per Zoning Code	Size / No. of Units	Required Off-Street Parking Spaces	Proposed Parking
B-2 Business	1 Space per 250 SF	6,975 SF	1 Space/ 250SF x 6,975 SF = 28 Spaces	22
B-2 Restaurant	1 Spaces per 200 SF or (1/3 dining seats + 1/2 bars seats + 1/3 employees)	6,975 SF	1 Spaces/ 200 SF x 6,975 SF = 35 Spaces	22
B-2 Residential	2 Spaces for per Unit	296 Units	2 Spaces/ Units x 296 Units = 592 Spaces	444 (296 units x 1.5 spaces per unit)
Total Required			655	488

Based on this, a deficit of 167 parking stalls exists, necessitating a parking variance of that magnitude.

In accordance with the traffic study prepared by VHB, the actual parking demand for the transit oriented development will be reduced (similar to the generated trips) due to the increase in reliance on public transportation. In doing so, it is predicted that the actual demand for the residential portion of the development will be 1 parking stall per unit, rather than 2 as is required by the Village code.

The information presented in **TCRP Report 128** indicates that there is a considerable range in parking required for a transit oriented development, including rates in the vicinity of those proposed in the traffic study for this development. When not accounting for the TOD, industry standard data compiled in the **ITE Parking Generation Manual, 4th Edition** suggests that the average parking demand for standalone apartments (ITE Land Use Code 221: Low/Mid-Rise Apartment) is 1.23 spaces per unit in a suburban environment. Based on this, it is our belief that predicting the use to generate approximately 1 parked vehicle per apartment unit represents a reasonable assumption, after accounting for the reduction in required parking based on the availability of public transportation.

It should also be noted that the uses contemplated in the Mineola Village Green development typically generate parking demands which are complementary in nature. This is to say, the peak number of parked vehicles generated for each use occur at different time periods, resulting in a lower overall demand. In accordance with the **ITE** data, apartment units generate their maximum demand during the late evening hours (approximately 10:00 PM to 5:00 AM) on a given day when all residents have returned from work/errands. Similarly, retail uses typically experience their peak of activity during the midday peak hours (approximately 11:00 AM to 3:00 PM) and a quality restaurant will experience its peak activity during the earlier evening hours (approximately 7:00 PM to 8:00 PM).

Due to the fact that the uses contemplated at the subject property do not experience the maximum parking demand at the same time, and because the transit oriented development reduces the need for denizens of the apartment units to have a personal vehicle, we are in agreement with the VHB TIS regarding the adequacy of the parking provided for the proposed facility.

Conclusion

Based on the information provided to RMS Engineering in the VHB TIS regarding the proposed Mineola Village Green Development, it is our opinion that the methodology utilized is consistent with standard procedures enumerated in the **2010 Highway Capacity Manual** and accurately predicts the future operation of the existing roadway network upon the completion of the project. Furthermore, the scope of the study adequately encompasses the area of influence that would potentially be impacted as a part of the proposed action.

Additionally, we believe that the site specific concerns for the trips generated by this development, due to its designation as a Transit Oriented Development, are adequately accounted for based on the available research in **TCRP Report 128**. Similarly, analysis of the parking provided on the subject property indicate that adequate capacity will be available on the premises and hence will not spill over to the on-street areas, which would potentially interfere with the parking activities for the Mineola Train Station or the Winthrop University Hospital Campus.

RMS Engineering is also in agreement regarding the necessity for the proposed roadway mitigation in the area, as it will encourage improved circulation and minimize congestion without requiring significant roadway improvements. Finally, it is our opinion that the size and nature of the development as a whole is consistent with other uses in the area and other potential occupants of the subject property. As such, we believe that the proposed action will not have a significant impact on traffic activity in the project area.