

Ref: 7745

December 18, 2019

Mr. Mark Regan, Chairman
Winchester Zoning Board of Appeals
Town Hall
71 Mt. Vernon Street
Winchester, MA 01890

Attn: Ms. Janine Viarella

Re: Response to Transportation Impact Assessment Peer Review
Proposed Multifamily Residential Development – 19-35 River Street
Winchester, Massachusetts

Dear Chairman Regan and Members of the Zoning Board of Appeals:

Vanasse & Associates, Inc. (VAI) is providing responses to the comments that were raised in the October 24, 2019 memorandum prepared by Toole Design on behalf of the Zoning Board of Appeals (ZBA) in reference to their review of the March 2019 *Transportation Impact Assessment* (the “March 2019 TIA”) prepared by VAI in support of the proposed multifamily residential development to be located at 19-35 River Street in Winchester, Massachusetts (hereafter referred to as the “Project”). Listed below are the comments that were identified in the subject letter followed by our response on behalf of the Applicant. In addition, we have attached a summary table outlining the elements of the transportation improvement program for the Project, the associated costs and the fair-share contribution based on methodology defined in consultation with Toole Design.

Vehicular Travel Speeds

Comment: *The TIA performed by VAI does not mention implementing any traffic calming measures along the Cross Street corridor in order to slow vehicular speeds and improve safety. Toole Design recommends that consideration be given to the implementation of traffic calming measures particularly those identified in the Cross Street Traffic Calming Study and Concept Development Study¹ pertaining to River Street, Holton Street/East Street/Lowell Avenue and enhanced connection to the Tri-community Greenway crossing.*

Response: The Applicant is committed to providing funds to the Town to advance the traffic calming measures identified in the *Cross Street Traffic Calming Study* in the context of the overall mitigation program for the Project and in amount commensurate with the impact of the Project as defined by the increase in the number households located within one-half mile of the Cross Street corridor. Toole Design has estimated that there are currently approximately 700 households within one-half mile of the Cross Street corridor, which will increase to 847 households with the completion of the Project. As such, the Project represents 17.4 percent of the total households

¹Cross Street Traffic Calming and Concept Development, Toole Design Group, July 26, 2019

that will be located within one-half mile of Cross Street. The mitigation methodology that Toole Design has recommended (using households vs. vehicle trips), is a conservative approach that produces a higher “fair share” obligation for the developer. Nevertheless, in the spirit of cooperation, the Applicant has agreed with that methodology.

Sight Distance

Comment: *To ensure the safe and efficient flow of traffic to and from the site, Toole Design recommends that any proposed plantings, vegetation, landscaping, and signing along the site frontage be kept low to the ground (no more than 3.0 feet above street level) or set back sufficiently from the edge of roadway and driveways so as not to inhibit the available sight lines.*

Response: The Applicant agrees with this recommendation.

Crash History

Comment: *The TIA performed by VAI states that there have been no crashes within the analysis period (2012-2016) that involved a vulnerable user, pedestrian or bicyclist. However, Toole Design recently conducted crash analysis as part of their traffic calming assessment efforts for Cross Street which yielded seven (7) crashes that involved vulnerable users, bicyclists or pedestrians, from 2011 through 2015. Within the Cross Street traffic calming assessment, there were reportedly the following vulnerable user crashes:*

- *Three (3) crashes involved a vulnerable user (2 bicyclists and 1 pedestrian) at the intersection of Cross Street at Main Street;*
- *Three (3) crashes involving vulnerable users (2 bicyclists and 1 pedestrian) at the intersection of Cross Street at Holton Street/Lowell Avenue; and*
- *One (1) crash involving a bicyclist at the intersection of Cross Street at Forest Street.*

Given the crash history inconsistencies, Toole Design recommends that the Proponent collect and incorporate the crash reports for the crashes that involved vulnerable users along the Cross Street corridor to potentially identify safety deficiencies in these locations.

Response: VAI has completed a further review of the MassDOT motor vehicle crash data for the study area intersections for the five-year period 2012 through 2016, inclusive, and identified two (2) motor vehicle crashes that involved a pedestrian which occurred at the Cross Street/Holton Street/East Street/Lowell Avenue intersection and were not included in Table 4 of the March 2019 TIA. A revised Table 4R is attached which includes these crashes. In addition, a review of pedestrian/bicycle crashes at the study intersections for 2011 was also completed for consistency with the crash data that was presented in the *Cross Street Traffic Calming Study*.² In 2011, there were three (3) crashes that involved a pedestrian at the Main Street/Cross Street intersection and one (1) at the Cross Street/Holton Street/East Street/Lowell Avenue intersection.

²Ibid.



Comment: *The TIA prepared by VIA commits to performing a road safety audit (RSA) at the intersection of Main Street at Cross Street which Toole Design supports.*

Response: No response required. As discussed with Toole Design, the Applicant will provide funds to the Town for the completion of the RSA or to be used toward the completion of improvements along the Cross Street corridor.

Comment: *Toole Design recommends that further consideration be given to mitigation measures at the intersection of Cross Street at Holton Street/East Street/Lowell Avenue. As stated within the submitted Cross Street Traffic Calming Assessment, Toole Design recommends tightening the intersection by use of curb extensions which will drastically reduce pedestrian crossing distances. Toole Design recommends signaling the intersection of Cross Street at Holton Street and Lowell Avenue and providing pedestrians with an exclusive pedestrian crossing phase to provide a protected crossing Cross Street in advance of the MBTA bridge crossing of Cross Street which restricts the available sidewalk to the north side only.*

Response: The Applicant has committed to advancing the design and construction of improvements at the Cross Street/Holton Street/East Street/Lowell Avenue intersection in the context of the overall mitigation program for the Project and in amount commensurate with the impact of the Project along the Cross Street corridor as defined previously. As documented in the March 2019 TIA, this intersection was found to meet at least one (1) of the warrants to justify the installation of a traffic control signal.

Pedestrian Accommodations

Comment: *Consideration should be made to improving the pedestrian accessibility along Cross Street and River Street.*

Response: The Applicant will design and construct pedestrian accessibility and safety improvements along both Cross Street and River Street, including the construction of a sidewalk along River Street, at the Applicant's sole expense, between the Project site and Cross Street. Additional pedestrian accessibility improvements along Cross Street will be advanced in the context of the overall mitigation program for the Project and in amount commensurate with the impact of the Project along the Cross Street corridor as defined previously.

Comment: *The submitted TIA recommends installing a STOP-sign and STOP-line on the Verplast Avenue approach at the intersection with Cross Street in order to formalize the assignment of the vehicular right-of-way at this intersection. This intersection will see the most traffic generated from the proposed Project. Toole Design recommends constructing curb extensions to tighten the intersection to reduce vehicular speeds, provide enhanced pedestrian refuge and reduce pedestrian crossing distances.*

Response: The Applicant has committed to design and construct a sidewalk along River Street between the Project site and Cross Street subject to receipt of all necessary rights, permits and approvals. The addition of the sidewalk along Cross Street will serve to provide enhanced pedestrian safety and will reduce vehicular speeds for vehicles turning from Cross Street onto River Street. The balance of the recommended improvements will be advanced in the context of the overall mitigation



program for the Project and in amount commensurate with the impact of the Project along the Cross Street corridor as defined previously.

Comment: *Toole Design views the installation of a sidewalk along River Street between the project site and Cross Street as an absolute necessity to support this project. Without this sidewalk residents of the 147 unit facility will not be afforded safe and efficient access to the surrounding land use by foot and will be encouraged to utilize personal vehicles for short distance trips. Should there be right-of-way constraints along the west side of River Street the proposed sidewalk should be considered along the east side of the roadway and a crosswalk be installed to provide a connection to the project site. Given the low traffic volumes along River Street consideration could be given to utilizing a portion of the existing roadway cross-section to be lent to this sidewalk.*

Response: The Applicant will design and construct a sidewalk along River Street between the Project site and Cross Street subject to receipt of all necessary rights, permits and approvals.

Comment: *Currently, the sidewalk along the south side of Cross Street ends at Lowell Street and picks up again approximately 50 feet east of the MBTA rail bridge. As part of the Cross Street Traffic Calming Assessment, Toole Design conducted a field visit to collect roadway measurements under the existing bridge in order to assess the feasibility of constructing a sidewalk along the south side of Cross Street, under the rail bridge. The existing roadway width under the rail bridge is approximately 23.75', eliminating the option for constructing a sidewalk along the south side without extensive bridge reconstruction which was deemed unfeasible with the existing two-lane roadway. Since the construction of a sidewalk along the south side of Cross Street between Holton Street/Lowell Street and the Tri-Community Greenway is not feasible, further consideration is recommended to enhance the existing crosswalk traversing Cross Street at Holton Street in order to allow pedestrians to safely cross the roadway in order to continue to travel along the continuous sidewalk network. This would best be accomplished by signaling and reconfiguring the Cross Street/Lowell Avenue/Holton Street/East Street intersection. Toole Design recommends the proponent provide a fair share contribution towards this work as is noted in the proponents traffic study.*

Response: The Applicant has committed to advancing the design and construction of improvements at the Cross Street/Holton Street/East Street/Lowell Avenue intersection in the context of the overall mitigation program for the Project and in amount commensurate with the impact of the Project along the Cross Street corridor as defined previously. As documented in the March 2019 TIA, this intersection was found to meet at least one (1) of the warrants to justify the installation of a traffic control signal.

Comment: *Toole Design continues to recommend tightening the intersection by use of curb extensions and also recommends realigning the East Street approach to intersect Holton Street as far north as feasible given right-of-way and construct constraints. Realigning and tightening the intersection of Cross Street at Holton Street and Lowell Avenue will improve safety by slowing turning vehicles, formalizing the lane assignments for the Holton Street approach, and dramatically reducing pedestrian crossing distances for all crosswalks at the intersection. While the geometric recommended modifications to the intersection will improve safety, signaling the intersection is*



recommended for implementation so an exclusive pedestrian phase may be provided for pedestrians to safely cross the intersection.

Response: The Applicant has committed to advancing the design and construction of geometric and traffic control improvements at the Cross Street/Holton Street/East Street/Lowell Avenue intersection in the context of the overall mitigation program for the Project and in amount commensurate with the impact of the Project along the Cross Street corridor as defined previously. As documented in the March 2019 TIA, this intersection was found to meet at least one (1) of the warrants to justify the installation of a traffic control signal.

Bicycle Accommodations

Comment: *Toole Design recommends that the Proponent coordinate with the Town of Winchester with regards to the quantity of bicycle parking provided on-site.*

Response: The Applicant has committed to providing bicycle parking within the Project site to include both short-term bicycle parking proximate to the building entrance and weather-protected bicycle parking/storage within the parking garage. The quantity of bicycle parking to be provided will be determined in consultation with the Town.

Comment: *Toole Design also recommends that consideration be given to installing bicycle lanes along Cross Street.*

Response: The Applicant has committed to the design and construction of pedestrian and bicycle access and safety improvements along the Cross Street corridor in the context of the overall mitigation program for the Project and in amount commensurate with the impact of the Project along the Cross Street corridor as defined previously.

Site Plan Review

Comment: *According to the Architecture, Engineering and Landscaping Plans sheets that were reviewed, ladder-style crosswalks are provided across the full access driveway and the gated emergency vehicle driveway. Toole Design recommends that detectable warning panels be provided on either ends of the proposed crosswalks. Detectable warning panels are noted to be installed on either side of the northern entrance-only driveway, however no crosswalk is shown across the driveway approach. Toole Design recommends installing a ladder-style crosswalk across this driveway as well to provide continuous pedestrian accommodations along the Project frontage.*

Response: The Site Plans will be revised to add the requested features.

Comment: *Detectable warning panels are noted to be installed on either side of the northern entrance-only driveway, however no crosswalk is shown across the driveway approach. Toole Design recommends installing a ladder-style crosswalk across this driveway as well to provide continuous pedestrian accommodations along the Project frontage.*

Response: The Site Plans will be revised to add the subject crosswalk and to incorporate continuous pedestrian accommodations along the Project frontage.



Comment: *The Proponent is seeking a variance for the angled parking stall dimensions since the site proposes 18' stall depths opposed to the required 19' parking stalls. Toole Design recommends that the Proponent coordinate with the Town and Winchester Fire Department (WFD) to see if the WFD is comfortable with the close proximity the fire truck access and egress path come to the proposed parking spaces.*

Response: The Applicant has been and will continue to coordinate with the Winchester Fire Department regarding access and circulation within the Project site.

Comment: *Finally, the proponent notes that a school bus waiting area will be incorporated into the plans in coordination with the Town of Winchester. Toole Design would like to ensure this discussion happens and a school bus waiting areas is incorporated into the project site plans.*

Response: The Applicant will consult with the School Department on the design and location of the proposed school bus waiting area. The Applicant would expect this to be a condition to receiving a building permit.

We trust that this information is responsive to the comments that were raised in the October 24, 2019 letter from Toole Design concerning their review of the March 2019 TIA prepared in support of the Project. If you should have any questions or would like to discuss our responses in more detail, please feel free to contact me.

Sincerely,

VANASSE & ASSOCIATES, INC.



Jeffrey S. Dirk, P.E., PTOE, FITE
Partner

Professional Engineer in CT, MA, ME, NH, RI and VA

JSD/jsd

Attachments

cc: B. Rudolph, P.E. – Town of Winchester Engineering Department (via email)
J. DeGray, P.E., PTOE – Toole Design (via email)
G. Engler - SEB, LLC (via email)
File



Table 4R
MOTOR VEHICLE CRASH DATA SUMMARY^a

	Cross St./Holton St./ East St./Lowell Ave.	Cross St./ River St./ Verplast Ave.	Main St./ Cross St./ Border St.	Cross St./ Loring Ave.	Swanton St./ Loring Ave.
Traffic Control Type: ^b	U	U	U	U	U
<i>Year:</i>					
2012	3	0	8	0	1
2013	3	0	8	0	0
2014	0	1	7	0	2
2015	1	0	5	2	1
<u>2016</u>	<u>0</u>	<u>0</u>	<u>7</u>	<u>2</u>	<u>1</u>
Total	7	1	35	4	5
Average	1.40	0.20	7.00	0.80	1.00
Rate ^c	0.20	0.04	0.89	0.14	0.26
MassDOT Crash Rate: ^d	0.57/0.57	0.57/0.57	0.57/0.57	0.57/0.57	0.57/0.57
Significant? ^e	No	No	Yes	No	No
<i>Type:</i>					
Angle	4	1	26	2	4
Rear-End	1	0	4	2	1
Head-On	0	0	4	0	0
Sideswipe	0	0	0	0	0
Fixed Object	0	0	0	0	0
Pedestrian/Bicycle	2	0	0	0	0
<u>Unknown/Other</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>
Total	7	1	35	4	5
<i>Conditions:</i>					
Clear	4	1	32	3	4
Cloudy	0	0	2	1	0
Rain	1	0	0	0	0
<u>Snow/Ice</u>	<u>2</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>1</u>
Total	7	1	35	4	5
<i>Lighting:</i>					
Daylight	6	0	26	2	3
Dawn/Dusk	0	0	3	1	0
Dark (Road Lit)	0	1	6	1	2
<u>Dark (Road Unlit)</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	7	1	35	4	5
<i>Day of Week:</i>					
Monday through Friday	6	1	33	3	5
Saturday	0	0	1	0	0
<u>Sunday</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>0</u>
Total	7	0	35	4	5
<i>Severity:</i>					
Property Damage Only	4	1	29	2	5
Personal Injury	3	0	6	2	0
<u>Fatality</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	7	1	35	4	5

^aSource: MassDOT Safety Management/Traffic Operations Unit records, 2012 through 2016.

^bTraffic Control Type: U = unsignalized; TS = traffic signal.

^cCrash rate per million vehicles entering the intersection.

^dStatewide/District crash rate.

^eThe intersection crash rate is significant if it is found to exceed the MassDOT crash rate for the MassDOT Highway Division District in which the Project is located (District 4).

**PROPOSED MULTIFAMILY RESIDENTIAL DEVELOPMENT
19-35 RIVER STREET
TRANSPORTATION IMPROVEMENT PROGRAM
DECEMBER 18, 2019**

Location	Improvement Measure	Estimated Cost			Fair-Share Cost Allocation (C x 17.4%)	Notes
		(A) Design	(B) Construction	(C = A + B) Total		
<i>Cross Street</i>	– Install bicycle lanes between Main St. and Tri-Community Greenway	\$10,000	\$20,000	\$30,000	\$5,220	
	– Improve sidewalk to meet ADA requirements including the installation of granite curbing where missing	\$45,000	\$320,000	\$365,000	\$63,510	
	– Replace asphalt sidewalk with concrete sidewalk behind wide driveways between Loring Ave. and Verplast Ave. (north side)	\$10,000	\$65,000	\$75,000	\$13,050	
<i>River Street</i>	– Install a sidewalk between the Project site and Cross St.	\$9,000	\$75,000	\$84,000	\$84,000 (100%)	The Applicant has agreed to design and construct this improvement at their exclusive expense
<i>Main Street/Cross Street/Border Street</i>	– Conduct Road Safety Audit (RSA)	\$14,000	--	\$14,000	\$14,000 (100%)	Funds to be provided to the Town
<i>Cross Street/River Street/Verplast Avenue</i>	– Construct curb extensions on all (4) corners	\$16,000	\$45,000	\$61,000	\$10,614	
	– Install ladder-type crosswalks across River St. and Verplast Ave.	\$0	\$1,000	\$1,000	\$174	



**PROPOSED MULTIFAMILY RESIDENTIAL DEVELOPMENT
19-35 RIVER STREET
TRANSPORTATION IMPROVEMENT PROGRAM
DECEMBER 18, 2019**

Location	Improvement Measure	Estimated Cost			Fair-Share Cost Allocation (17.4%)	Notes
		Design	Construction	Total		
<i>Cross Street/Holton Street/ East Street/Lowell Avenue</i>	– Realign East St. to intersect Holton St. north of Cross St.; Extend curblin on northeast corner and eliminate raised island; Relocate crosswalk across Cross St. to the west leg of the reconstructed intersection	\$30,000	\$178,000	\$208,000	\$36,192	
	– Install ladder-type crosswalks across Cross St. west leg, Holton St. and realigned East St.	\$0	\$1,500	\$1,500	\$261	
	– Install a traffic control signal (subject to meeting the necessary warrants) <u>or</u> a High-Intensity Activated crossWalk (HAWK) signal for the Cross St. crossing	\$15,000	\$180,000 (signal) <u>or</u> \$85,000 (HAWK)	\$195,000 (signal) <u>or</u> \$100,000 (HAWK)	\$33,930 (signal) <u>or</u> \$17,400 (HAWK)	
<i>Cross Street/Loring Avenue</i>	– Install Yield lines and pedestrian crossing warning signs in both directions at the crosswalk across Cross St.	\$1,000	\$1,500	\$2,500	\$2,500 (100%)	The Applicant will design and construct this improvement
TOTAL:		\$150,000	\$887,000 (signal) <u>or</u> \$792,000 (HAWK)	\$1,037,000 (signal) <u>or</u> \$942,000 (HAWK)	\$176,951 (signal) <u>or</u> \$160,421 (HAWK)	Total Value of Constructed <u>and</u> Fair-Share Transportation Improvements: Up to \$256,921

