

MEMORANDUM

October 24, 2019

To: Beth Rudolph, P.E.
Organization: Town of Winchester, MA Engineering Department
From: Jason DeGray, P.E., PTOE
Heather Georgallas, EIT
Project: Transportation Impact Assessment Peer Review

Re: 19-35 River Street Residential Development – Winchester, Massachusetts

Toole Design has performed a peer review of the transportation-related aspects of the proposed multifamily residential community (herein referred to as the "Project") development located at 19-35 River Street in Winchester, Massachusetts. The site encompasses approximately 3.15 acres of land that is bound by residential properties to the north and west; commercial properties to the south, and River Street to the east. This review focuses specifically on the *Transportation Impact Assessment (TIA)* prepared by Vanasse & Associates, Inc. (VAI) dated March 2019, as submitted within the *Comprehensive Permit Application* in June 2019 by SLV River Street, LLC (the "Proponent"). Within the Permit Application, the following sections were included in our review:

- *Transportation Impact Assessment – Section 11 (entire report was submitted separately)*
- Architecture, Engineering and Landscaping Plans – Section 12
 - C-102: Layout and Materials Plan
 - C-105: Fire Truck Turning Plan
 - A010: Site Plan
 - A100: Parking Level Plan
 - Concept Layout Plan

Based on the submitted TIA, the project proposes to construct a 147-unit multifamily community and 206 associated off-street parking spaces. In conjunction with the Project, the two (2) commercial buildings and associated appurtenances currently on the site will be removed. The site access and egress are proposed by way of two (2) driveways. An entrance-only driveway that will intersect River Street from the west approximately 160 feet south of Cross Street and will provide access to the surface parking area and underground parking garage. A full access driveway is proposed to intersect River Street from the west approximately 560 feet south of Cross Street and will provide access to the parking garage beneath the proposed residential building. A gated emergency vehicle access driveway will also be provided approximately 610 feet south of Cross Street, while a secondary emergency vehicle access to River Street and the Project site is currently provided by a gated driveway that connects to The Village residential condominium community located off Swanson Street.

Overall Toole Design finds the transportation impacts of the proposed Project are prepared in a manner consistent with transportation local requirements and industry standards. While Toole Design finds the materials

provided in support of the Project to be representative of the Project's transportation impacts, we recommend that further consideration be provided for various site plan elements and mitigation along River Street and Cross Street, specifically regarding pedestrian and bicycle accommodations.

Based on the submitted information, Toole Design offers the following findings and recommendations for the Town's review:

Vehicular Travel Speeds

Existing traffic volume, classification, and speed data along Cross Street, in the vicinity of River Street, were collected by conducting 48-hour Automatic Traffic Recorder (ATR) counts from September 19th (Wednesday) through September 20th (Thursday). The posted and regulator speed limit along Cross Street is 30 miles per hour (mph) in both the eastbound and westbound directions. According to the ATR data, the 85th percentile speeds along the corridor were found to be 35 mph in the eastbound direction and 34 mph in the westbound direction, approximately 5 mph over the posted speed limit.

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.

Sight Distance

Within the submitted TIA, stopping sight distance (SSD) and intersection sight distance (ISD) measurements were calculated and measured in the field. The available sight lines to and from River Street at Cross Street/Verplast Avenue and to and from the Project driveways at River Street were found to exceed the minimum required sight distances. 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.

Crash History

Crash data for the study area was obtained from the Massachusetts Department of Transportation Crash Portal database for the time period from 2012 through 2016. As part of the Cross Street Traffic Calming Assessment performed by Toole Design, a crash history analysis was performed as well, however from 2011 through 2015. Though there is a slight shift in the analysis time period, there are inconsistencies within the analyzed data.

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;

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

- 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.

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. 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.

Pedestrian Accommodations

Within 0.5-mile from the proposed Project site, there is a school, sport fields, athletic facility, and dance studios. Due to the close proximity of these land-uses and the affordable multi-family residential nature of the community, it is anticipated that the Project site will produce a significant number of pedestrian trips. Consideration should be made to improving the pedestrian accessibility along Cross Street and River Street.

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.

Within the submitted TIA, the Proponent states that a sidewalk will be provided along the west side of River Street and will extend to the existing sidewalk along Cross Street to the extent that there is available public right-of-way for the extension beyond the Project site frontage. **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.

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 signalizing 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.

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

Bicycle Accommodations

The proposed Project is projected to provide on-site bike secure bicycle parking by providing exterior bicycle parking located in convenient proximity to building entrances and weather protected bicycle parking located in a secure area within the building. While Toole Design is in favor for providing exterior and interior bicycle parking, Toole Design recommends that the Proponent coordinate with the Town of Winchester with regards to the quantity of bicycle parking provided on-site. Toole Design also recommends that consideration be given to installing bicycle lanes along Cross Street.

Site Plan Review

Based on the submitted TIA, access to the Project will be provided by two (2) driveways. An entrance-only driveway that will intersect River Street from the west approximately 160 feet south of Cross Street and will provide access to the surface parking area and underground parking garage. A full access driveway is proposed to intersect River Street from the west approximately 560 feet south of Cross Street and will provide access to the parking garage beneath the proposed residential building. A gated emergency vehicle access driveway will also be provided approximately 610 feet south of Cross Street, while a secondary emergency vehicle access to River Street and the Project site is currently provided by a gated driveway that connects to The Village residential condominium community located off Swanson Street.

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.

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.

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.

Conclusion

As described in this review memorandum, Toole Design has identified areas where additional project mitigation is warranted to support the development of the 147-unit facility which should be addressed pedestrian accommodations and safety along the Cross Street corridor. Toole Design recommends that the proponent commit to implementing these specific mitigation measures identified within this memorandum.

We hope that this letter aids the Town of Winchester in their review. Should you have any questions, or require additional information, please contact Jason DeGray P.E., PTOE at 617-619-9910 x217 (jdegray@tooledesign.com).