



TRANSPORTATION ADVISORY COMMITTEE.

Arlington Planning Department, 730 Mass Ave,
Arlington MA, c/o Daniel Amstutz.

Date: July 8, 2020.
To: Adam Chapdelaine, Arlington Town Manager.
From: TAC Arlington High School Working Group.
Subject: Arlington High School Supplemental Traffic Impact Analysis Review – Draft.

Memorandum.

This memo contains two sections. The first summarizes and explains the recommendations made in the Supplemental TIA. The second identifies questions from the working group's review of the Draft TIA, dated October 30, 2018, that are not addressed in the Supplement TIA.

1. A TAC working group consisting of Jeff Maxtutis, Melissa Laube, Dan Amstutz (Planning Department) and Howard Muise (TAC Chair), has reviewed the Supplemental Traffic Impact Analysis Report, dated February 2020, and offers the following summary of the report's recommendations.

The Town should consider installing traffic signals at the Grove Street intersections with Summer Street and Massachusetts Avenue. This recommendation is based on an analysis which indicates both intersections will operate at deficient levels of service under no-build and two build conditions (1. two driveways at Schouler Court and Mill Brook Drive, and 2. three driveways with the addition of a driveway to Grove Street). The report concludes that both intersections will meet warrants for installing traffic signals and that with signalization, both intersections will operate at acceptable levels of service (LOS D or better) in the morning, school (mid-afternoon), and evening peak hours. The report also notes that there will be an increase in delay on both approaches of Summer Street at the intersection with Brattle Street and Symmes Road.

The Town should consider installing a traffic signal at the intersection of Mill Street, Mill Brook Drive and Millbrook Square Driveway along with "Do Not Block Intersection" signing and pavement markings. The Mill Brook Drive approach to the intersection is projected to operate at LOS F in all three peak hours. With a traffic signal, the Mill Brook Drive approach would improve to LOS D or better in all three peak hours. The overall intersection would operate at LOS C or better in all peak hours under build conditions. Backups from the southbound approach of Mill Street to Massachusetts Avenue would extend to Mill Brook Drive only in the morning peak hour during about five percent of the signal cycles. To address possible queuing back to Mill Brook Drive on Mill Street, the report recommends installing "Do Not Block Intersection" signing and pavement markings at the Mill Street, Mill Brook Drive, and Millbrook Square Driveway.

The Town should retime the signal at the intersection of Massachusetts Avenue, Schouler Court and Lockeland Avenue after the new school building opens. With the two driveway alternative, the signal is projected to operate at LOS D in the morning peak and LOS B in the school afternoon peak hour. Retiming would improve the overall level of service to C in the morning peak hour and would not change the afternoon level of service. The recommendation also includes

reviewing timing at other signals in the area and making any necessary adjustments after the new building opens. The report also studied coordination between the Schouler Court traffic signal and the pedestrian signal on the Massachusetts Avenue in front of the school. The results indicated coordination would reduce level of service at both the intersection and the crosswalk in both the morning and school afternoon peak hours.

The Town should adjust the pedestrian signal timing at the crosswalk on Massachusetts Avenue in front of the school to conform with current Manual on Uniform Traffic Control Devices (MUTCD) guidelines. Since the original timings were developed for the signalized crosswalk, the guidelines for pedestrian walk and change (flashing don't walk) intervals have been updated, i.e. the calculated walking speed has been reduced to 3.5-feet per second. This requires a longer pedestrian crossing time. The report considered alternatives to the existing pedestrian signal – A pedestrian hybrid beacon and flashing beacons. The report concluded that the existing pedestrian signal was the best alternative for this location because it provides the most definitive direction to drivers and retains the current operation, which drivers are accustomed to.

The Town should consider installing a pullout on eastbound Summer Street at the existing paved connection between the sidewalk and the Minuteman Bikeway. This improvement also includes a bicycle ramp between the street and sidewalk west of the pullout to allow for direct bicycle access to the proposed bicycle and pedestrian ramp between the school building and Summer Street. The pullout would allow vehicles to pull out of the travel to allow for drop-off and pick-up at the top of the ramp between the school and Summer Street. Vehicles using this location would be able to avoid traveling on campus or roadways around the campus.

The eastbound roadway has a 12.5-foot travel lane, and a seven and a half-foot shoulder. There is sufficient stopping sight distance at this location and room to realign the roadway curb line and sidewalk.

The report also investigated installing a crosswalk between the south side and the north side of the street at this location and concluded it was not a suitable location for a crosswalk. The north side has no sidewalk because of an existing rock ledge close to the edge of the road. Also, there is insufficient stopping sight distance on the westbound approach because it is on the inside of a horizontal curb. To help discourage westbound vehicles from stopping, "No Stopping" signs could be installed. Pedestrians should cross Summer Street at Oak Hill Drive or Mill Street. A new crosswalk could potentially be added at Richfield Road which would be about 500 feet closer to the connection to the Bikeway than the crosswalk at Mill Street..

At this time, a cycle track or cycle track elements cannot be implemented on Massachusetts Avenue without obtaining additional right-of-way. The existing cross section of Massachusetts Avenue between Schouler Court and Newman Way (opposite CVS) is 75 feet. This allows for an eight and half-foot sidewalk, eight-foot parking lane, five-foot bike lane, and 11-foot vehicle travel lane on each side of the roadway plus a ten-foot center turn lane. To convert the existing bike lane to a cycle track between the parking lane and sidewalk, a three-foot separation between the parking lane and bike lane would be required. This separation is needed so that a bicyclist is not hit by the opening of the passenger side door of a parked car. The additional three feet on each side of the

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roadway would need to be taken from the existing lanes and/or sidewalk, or the right of way would need to be increased by six feet.

2. The TAC working group also found that the following requests for additional information were not addressed in the Supplemental TIA:

1. Clarify the assumptions about how the roadway behind the school would operate in the Build condition.
2. Provide information showing that there is sufficient room at the back of the school to accommodate expected drop-off/pick-up and pedestrian activity and provide information on queuing and delay.
3. Consider how to accommodate drop-off and pick-up activity that will likely occur at the front of the school, including providing an on-site driveway or pull-out along Massachusetts Avenue.
4. Include a Build condition parking supply/demand analysis to assess the impact of future parking on area roadways.
5. Provide a plan that shows how pedestrians will access the buildings, circulate between buildings on the campus and connect to sidewalks on Massachusetts Avenue, Mill Street and Grove Street.

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