



TRANSPORTATION ADVISORY COMMITTEE.

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

Date: May 12, 2021.
To: Select Board.
From: Transportation Advisory Committee.
Subject: Recommended Chestnut St. Improvements.

Memorandum

1. Background

This memo presents recommendations for actions to be taken by the Town to improve pedestrian and bicycle safety on Chestnut St. between Mystic St. and Medford St. These are in response to a request from the Select Board dated May 20, 2020, for TAC to study traffic calming on Chestnut St, particularly at the crosswalk at Chestnut Terrace. The Select Board request was prompted by a pedestrian fatality at that crosswalk on December 31, 2019. TAC designated a Chestnut St. Working Group, consisting of Jeff Maxtutis (Group Lead), Howard Muise, Daniel Amstutz, and Paul Schlichtman, to conduct the study.

The TAC has discussed possible improvements at previous TAC meetings and conducted site visits to better understand existing conditions and potential actions to make improvements. TAC also received input from a public listening session conducted on March 30, 2021, in which about 30 people participated. In conjunction with the listening session, the Department of Planning and Community Development conducted a survey for which it received approximately 155 responses. The survey asked if respondents favored or did not favor various individual short-, medium- and long-term measures. The outreach regarding the survey and listening session focused on residents and abutters to Chestnut Street. Based on these various inputs, the working group identified the following safety issues for Chestnut Street:

- Vehicles turning right from Mystic St. northbound to Chestnut St. and vehicles turning right from Chestnut St. to Mystic St. northbound can move at high speed through the large radius turn (slip) lanes.
- Queueing of westbound vehicles from Mystic Street through Chestnut Terr. crosswalk.
- Neighborhood complaints of speeding on Chestnut St.
- Frequent bicycle traffic with no marked bicycle facilities.
- Broken sidewalk across Russell Common Parking Lot driveway
- Inadequate pedestrian accommodations across Medford St. at Chestnut St.
- Pedestrian safety concerns at the unsignalized crosswalks on Chestnut St at Chestnut Terrace and Medford Street.

2. Existing Conditions

Chestnut Street is approximately 600 feet long between Mystic Street and Medford Street (see Figure 1). Located in Arlington Center, Mystic St. is bordered by dense residential developments (Mystic Tower Condominiums, Chestnut Manor), schools (Arlington Catholic High School, St. Agnes School), the Russell Common parking lot, and Mt. Pleasant Cemetery. The signalized intersection of Mystic St. and Chestnut St. includes crosswalks, and there are unsignalized crosswalks at Chestnut Terr. and Medford St. Chestnut St. is also designated state numbered Route 60. Chestnut St. carries significant traffic volumes as a through route between the City of Medford and the Town of Belmont via Arlington Center.

Chestnut St. is marked for one wide travel lane in each direction and is approximately 50' wide between Chestnut Terr. and Medford St. The road widens at Mystic St. to accommodate right-turn lanes from and to Mystic St. northbound and two left-turn lanes from Chestnut St. to Mystic St. southbound. Parking regulations include "No Parking Anytime – Saturdays and Sundays Excluded" on the south side between the Chestnut Terr. crosswalk and Medford St. The same regulations apply on the north side between the Chestnut Terr. crosswalk and 9 Chestnut St., a distance of approximately 135 feet. Between 9 Chestnut St. and Medford St., the north side is signed for 4-hour unmetered parking.

At the Chestnut St. crosswalk at Chestnut Terr., the double yellow centerline is not centered in the roadway. It is 19 feet from the south curb, allowing for a 17-foot driving lane and a two-foot shoulder; and is 31 feet from the north curb, allowing for a 27-foot driving lane and a four-foot shoulder. East of the Chestnut Terr. Crosswalk, the double yellow line curves back towards the middle of the road and is located in the center of the roadway at Medford St.

3. Recommendations

The following recommendations (see Figure 2) are based on addressing the issues identified for Chestnut St. and effectively using the full 50-foot pavement width between Chestnut Terr. and Medford St.

1. Repair the sidewalk across the Russell Common parking lot driveway on the south side of Chestnut St. and install detectable panels on both sides of the driveway. The existing sidewalk is in poor condition (broken concrete) and not ADA compliant.
2. Install advance crosswalk warning signs on both approaches to the crosswalks at Chestnut Terr. and Medford St. Advanced warning signs would help increase driver awareness of the crosswalks and are commonly used at other crosswalks in Arlington. This recommendation also includes moving the crosswalk sign on the south end of the Chestnut Terr. crosswalk from the east side of the crosswalk to the west side where the sign typically would be located.
3. Install "No Turn on Red" (NTOR) sign on the right turn lane from Chestnut St. westbound to Mystic St. northbound.

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4. Install curb extensions on both ends of the Chestnut St. crosswalks at Chestnut Terr. and Medford St. The extensions will shorten the length of the crossings requiring less time needed for pedestrians to cross and be exposed to on-coming traffic. Temporary extensions should be implemented this year and, if successful in improving pedestrian safety without negatively impacting bicycle or vehicular operations, should be installed permanently when Chestnut St. is repaved (expected to be done in 2022). Estimated cost for permanent implementation is approximately \$45,000 for four extensions.
5. Install a five-foot center island in the middle of the Chestnut Terr. and Medford St. crosswalks to provide pedestrian refuges in the middle of the roadway. A temporary island should be implemented this year and, if successful in improving pedestrian safety without negatively impacting bicycle or vehicular operations, should be installed permanently when Chestnut St. is repaved (expected to be done in 2022). With the recommended curb extensions and center island, there would be 15.5 feet of roadway width to accommodate vehicles and bicycles at the crosswalks. Estimated cost for permanent implementation is approximately \$10,000-\$15,000 for each island.
6. Install a pedestrian-activated warning signal (such as a rectangular rapidly flashing beacon) or an automatic flashing warning signal at the Chestnut Terr. crosswalk. This would help focus drivers' attention on the crosswalk and pedestrians in it. Estimated cost is approximately \$25,000.
7. Restripe Chestnut St. to include the following:
 - a. 11-foot travel lanes in each direction. In conjunction with the recommended improvements in b. through d. below, this would narrow the travel way, encouraging drivers to travel at lower speeds.
 - b. 7-foot parking lanes on the both sides of Chestnut Street with 4-hour parking permitted, which is typical for on-street parking throughout Arlington Center and was recommended as part of the Arlington Center Parking Study.
 - c. 5-foot bicycle lanes on each side of Chestnut Street.
 - d. 2-foot buffer lanes between the parking travel lane and bicycle lane on both sides of Chestnut Street.

Some of the seven recommendations listed above contain specific dimensions and locations for the improvements. The TAC expects that as planning, design and construction of these improvements proceed, adjustments in the specified dimensions and locations may need to be made. These recommendations are intended to be flexible so that appropriate modifications can be made in keeping with the intent of the recommendations.

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As part of its study of traffic calming on Chestnut St., TAC will analyze the potential redesign of the Chestnut St. and Mystic St. intersection to eliminate the separate westbound and southbound right-turn “slip” lanes. This could allow for the replacement of the three existing crosswalks across Chestnut St. on the east side of Mystic St. with a single crosswalk. This, in turn, would provide a shorter crossing length and reduce the three separate pedestrian signal phases currently needed to cross with only one signal phase. If the redesign proves feasible and desirable, the TAC will consider recommending that the Town proceed with the preparation of a functional design report and reconstruction of the intersection.

TAC in conjunction with the Town Departments represented on TAC will study the intersection of Chestnut St. and Medford St. to determine if a reconfiguration of the intersection is warranted. The existing layout of the intersection does not accommodate a continuous sidewalk or crosswalk across Medford St. Any pedestrian traveling east along the south sidewalk of Chestnut St. must travel south on Medford St. approximately 115 feet to reach the crosswalk at Compton St. to cross Medford St. In addition, there is a northbound merge area for Chestnut St. and Medford St. Medford St. travels straight through the merge area allowing drivers to easily miss the YIELD control on its approach to Chestnut St. The merge from Medford St. likely suffers from sight distance issues due to the acute merge angle Between Chestnut St. and Medford St.

Both studies will consider crash data (vehicles, pedestrians, bicycles), traffic volume and speeds, pedestrian and bicycle volumes, adjacent land uses, and the existing intersection geometries and traffic control. With the elimination of restrictions due to the Covid-19 pandemic, the TAC likely will be able to have counts at the intersections taken in the fall. The studies will identify the impacts and seriousness of deficiencies at the intersections with respect to pedestrian, bicycle, and vehicular safety. Potential improvements, including possible redesign of the intersections and changes in traffic control, will be identified and evaluated. TAC will recommend appropriate changes at the intersections and next steps to the Select Board.

Submitted by:
Howard Muise, Chair.
Transportation Advisory Committee.

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Figure 1 Existing Conditions

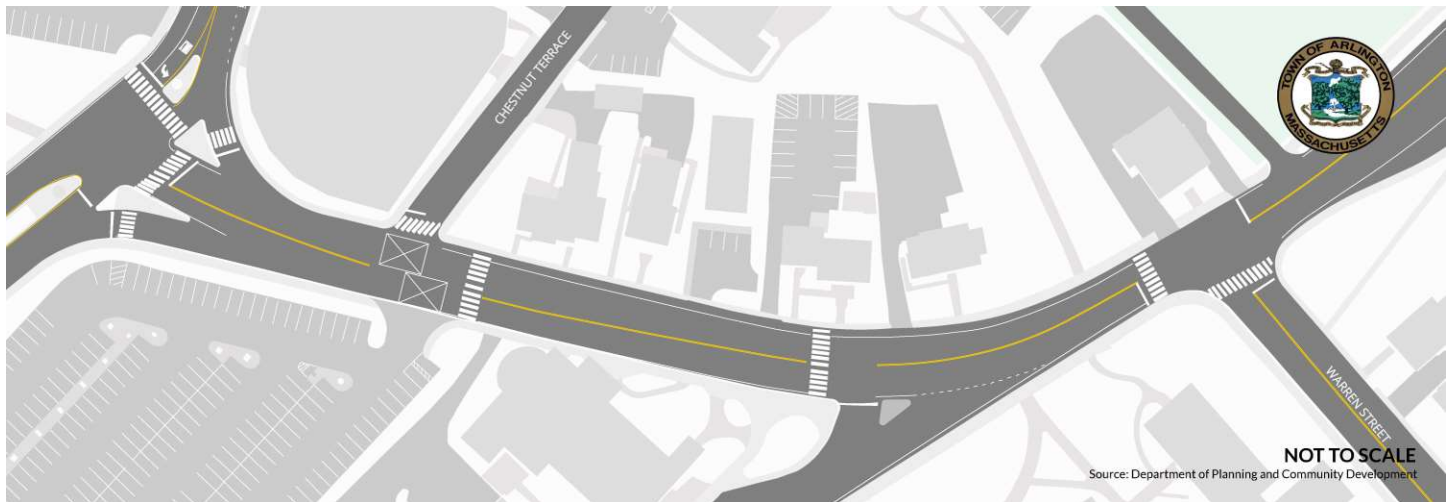
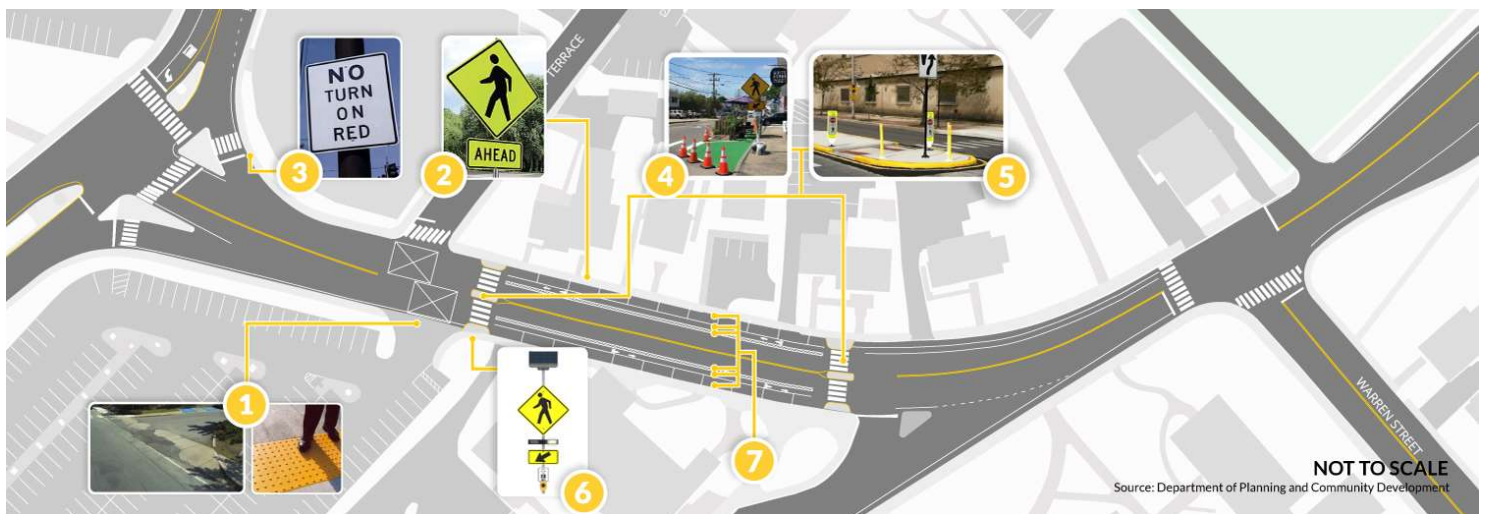


Figure 2 Recommendations



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