

# **RECOMMENDED CHESTNUT STREET IMPROVEMENTS**

June 21, 2021

Transportation Advisory Committee

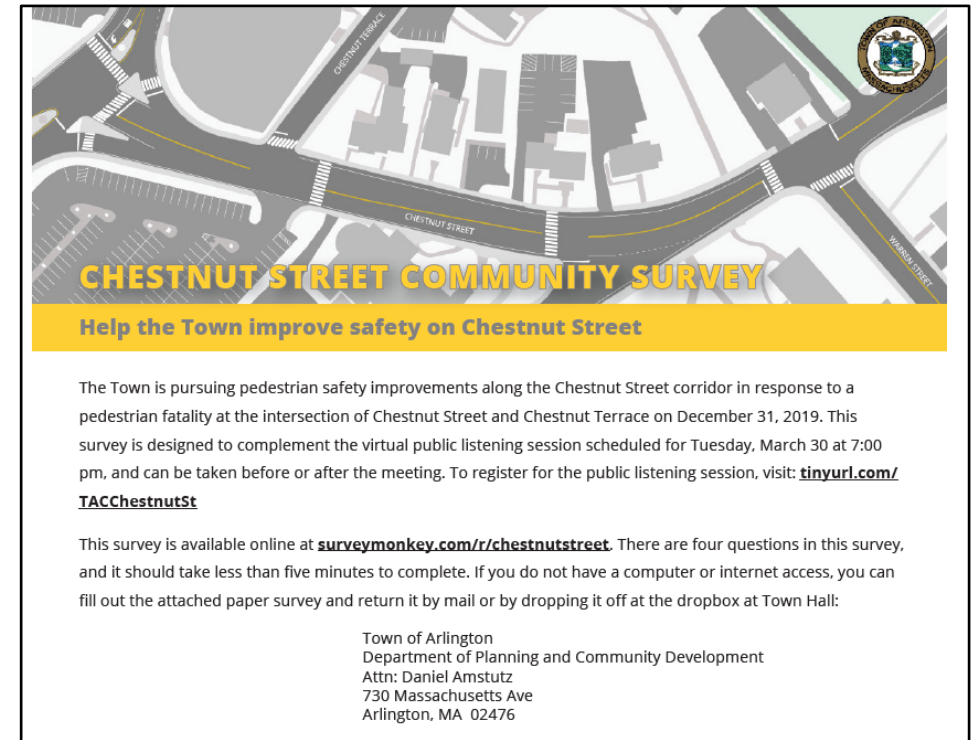
# Background & Street Context



- Pedestrian fatality at Chestnut Terrace crosswalk, December 31, 2019.
- Study of potential safety improvements along Chestnut Street between Mystic Street and Medford Street undertaken at the request of the Select Board. (May 6, 2020 & August 18, 2020 correspondence.) [TAC added orange crossing flags to the Chestnut Terrace crosswalk in April 2021 as an interim safety improvement.]
- Chestnut Street is 50 feet wide.
- Along state numbered Route 60, with significant traffic volumes (15,000+ estimated annual daily traffic) including buses and trucks.
- No bicycle accommodations.
- Parking allowed on north side; south side on weekends.
- “Slip lanes” (allow right turns at Mystic/Chestnut without entering the full intersection) allow high speed turns for vehicle traffic.
- Slip lanes and concrete islands at Mystic/Chestnut require multiple crossing phases for pedestrians.
- Chestnut Terrace crosswalk is approx. 215 feet from Mystic/Chestnut intersection crosswalk [middle crosswalk]. 235 feet from Medford Street crosswalk.

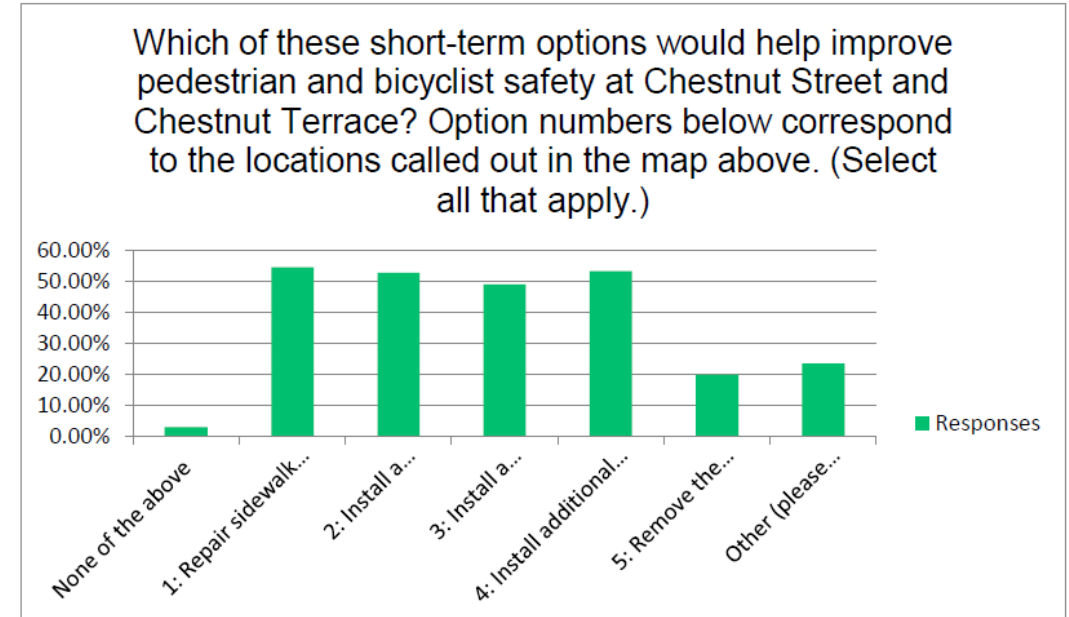
# Public Engagement

- Extensive discussion at TAC meetings – was on TAC monthly agenda for every meeting from March 2020 to May 2021 (14 meetings)
- Chestnut Street Community Survey
  - Survey of possible short-, medium-, and long-term safety improvements
  - Mailed to 109 properties around Chestnut St/Chestnut Terrace area
  - Printed surveys available at Winslow Towers, Chestnut Manor, Cusack Terrace, and Robbins Library
  - 162 responses received [slightly higher than noted in memo]
- Chestnut Street Public Listening Session held March 30, 2021
  - About 30 participants



# Issues Identified & Public Engagement Results

- Speeding on Chestnut Street.
- High speed turns through slip lanes.
- Drivers not yielding to pedestrians at crosswalk on turns from Chestnut Street to northbound Mystic Street.
- Pedestrian safety concerns at the unsignalized crosswalks on Chestnut St at Chestnut Terrace and Medford Street including poor driver yielding behavior.
- Inadequate pedestrian accommodations across Medford Street at Chestnut Street.
- Vehicles lining up from Mystic Street through Chestnut Terrace crosswalk.
- Frequent bicycle traffic with no marked bike lanes.
- Broken sidewalk across Russell Common Parking Lot driveway.



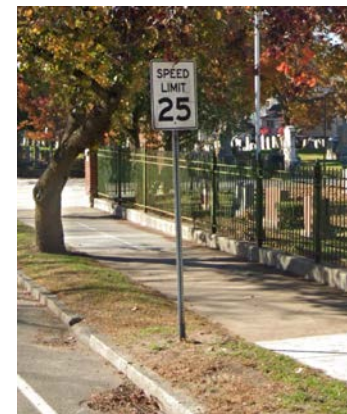
Answer Choices	Responses	
None of the above	3.11%	5
1: Repair sidewalk spanning the Russell Common Lot driveway; install detectable panels	54.66%	88
2: Install a temporary bumpout at the Chestnut Terrace crosswalk and monitor improve	52.80%	85
3: Install a temporary pedestrian island mid-street at the Chestnut Terrace crosswalk and	49.07%	79
4: Install additional crosswalk warning signs throughout the Chestnut Street corridor	53.42%	86
5: Remove the crosswalk at Chestnut Terrace and re-route pedestrians to crosswalks at M	19.88%	32
Other (please specify)	23.60%	38
Answered		161
Skipped		1

# Chestnut Terrace Crosswalk

- Crosswalk is about 215 feet from Mystic/Chestnut
  - Minuteman Bikeway crossing of Mill Street is about 111 feet from Mill/Summer crosswalk (with Rapid Flashing Beacon)
  - Town Hall crosswalk at Mass Ave is about 114 feet from Central/Academy/Mass Ave crosswalk (unsignalized)
  - Tufts Street crosswalk on Broadway is 215 feet from Bates/River/Broadway crosswalk (signalized)
- Chestnut Street is posted 25 mph – acceptable stopping distance at this speed (see table at right)
- “Crosswalks should be spaced **200 to 300 feet** apart in developed areas, though up to **500 feet** is acceptable.” (MassDOT Municipal Resource Guide for Walkability, 2019, pg. 17)
- Urban/built up area (Arlington Center)
- Countermeasures exist to make the crosswalk safer
- Public support of crosswalk location – only 20% of survey respondents said it should be removed
- Multi-stage crossing at Mystic/Chestnut is unsatisfactory; crossing at Chestnut Terrace may continue to occur



Eastbound Chestnut St  
at Chestnut Terrace



Westbound Medford  
Street at cemetery

**Table 6C-2. Stopping Sight Distance  
as a Function of Speed**

Speed*	Distance
20 mph	115 feet
25 mph	155 feet
30 mph	200 feet
35 mph	250 feet
40 mph	305 feet
45 mph	360 feet
50 mph	425 feet
55 mph	495 feet
60 mph	570 feet
65 mph	645 feet
70 mph	730 feet
75 mph	820 feet

\* Posted speed, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed

2009 Manual on Uniform Traffic Control  
Devices, pg. 555, Section 6C.06



1

2

3

4

5

6

7

TERRACE

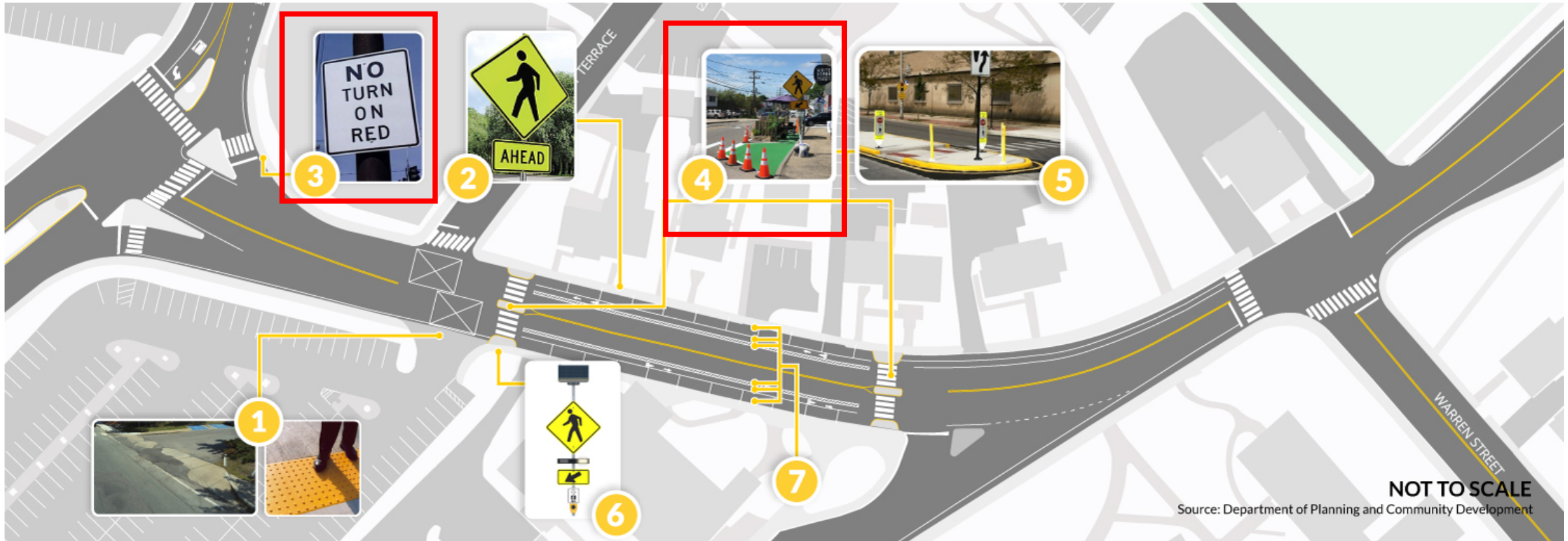
WARREN STREET

NOT TO SCALE

Source: Department of Planning and Community Development

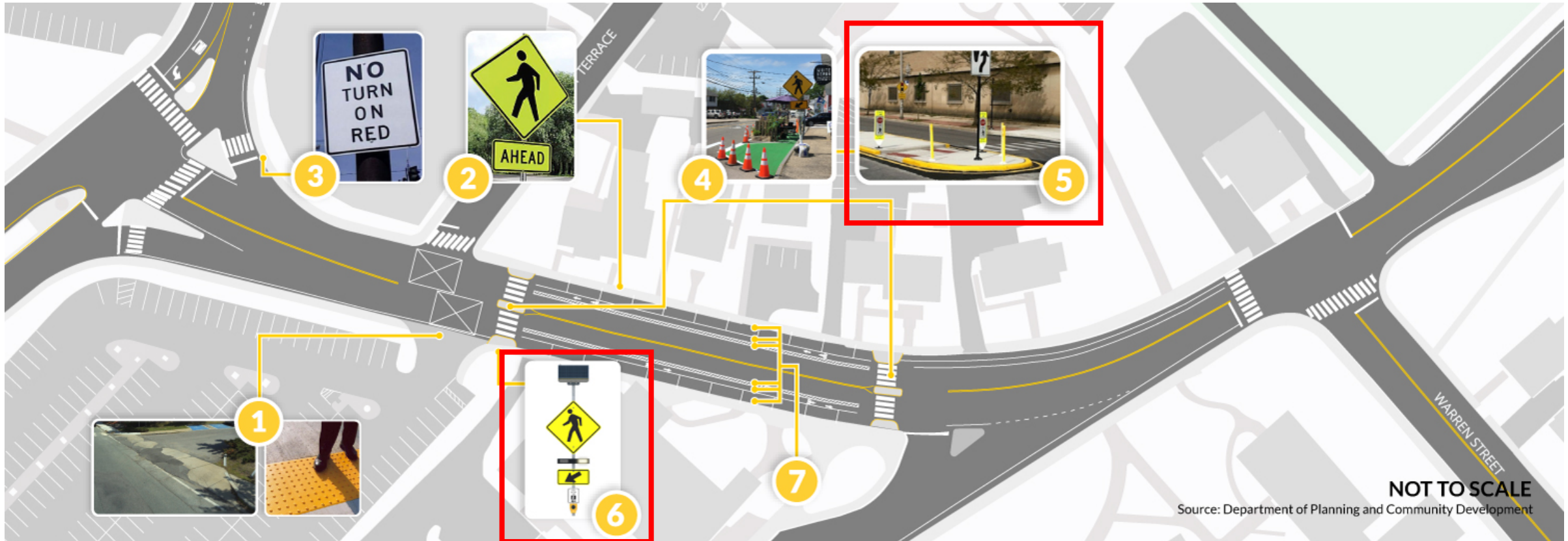
1. Repair sidewalk across the Russell Common Lot driveway and install detectable panels on both sides of driveway.
2. Install advance crosswalk warning signs on both approaches to the crosswalks at Chestnut Terrace and Medford Street.

# TAC Recommended Improvements



3. Install “No Turn on Red” (NTOR) sign on the right turn lane from Chestnut Street westbound to Mystic Street northbound.
4. Install curb extensions on both ends of the Chestnut Street crosswalks at Chestnut Terrace and Medford Street (temporary to permanent). (Est. cost \$45,000 for all extensions for permanent installation)

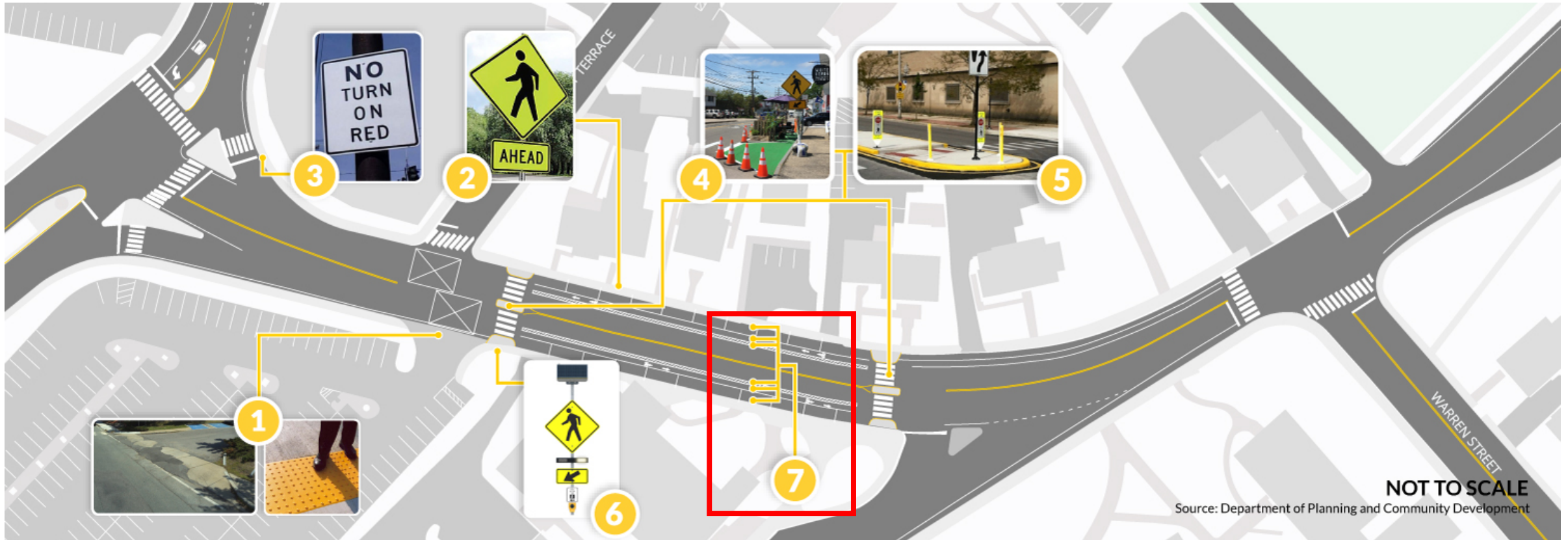
# TAC Recommended Improvements



5. Install a five-foot center island in the middle of the Chestnut Terrace and Medford Street crosswalks to provide pedestrian refuges in the middle of the roadway (temporary to permanent). (Est. cost \$10,000-\$15,000 for each island for permanent installation)
6. Install a pedestrian-activated warning signal (such as a rectangular rapidly flashing beacon) or an automatic flashing warning signal at the Chestnut Terrace crosswalk. (Est. cost is approximately \$25,000)



# TAC Recommended Improvements



7. Restripe Chestnut Street to include the following:
  - a) 11-foot travel lanes in each direction.
  - b) 7-foot parking lanes on the both sides of Chestnut Street with 4-hour parking permitted.
  - 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.

# Additional Recommendations & Next Steps

- Review intersections of Chestnut Street & Mystic Street and Chestnut Street and Medford Street as part of future TAC work
  - Determine if redesign is desirable and slip lanes can be eliminated while still allowing Route 60 traffic (including trucks and buses)
- If these recommendations are approved, items 1, 2, and 3 could be implemented quickly, and temporary installations could be installed this year for items 4 and 5 above.
  - However, refuge islands may not be able to be installed until center line is moved
  - If successful, more permanent installations could be installed after repaving in 2022
- Action requested: Approve recommendations for Chestnut Street