



# TOWN OF BELMONT DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

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## **CROSSWALK SAFETY IMPROVEMENT POLICY**

Adopted by the Select Board – March 25, 2024

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### **I. INTRODUCTION**

This policy is modeled after the Town of Belmont Traffic Calming Policy and is focused on the promotion of pedestrian safety and improving walkability in the Town. This policy is based on the guidance for unregulated crossings as described by Mass DOT and Federal Guidance found in the Manual on Uniform Traffic Control Devices (MUTCD).

An unregulated crossing is one where there is no existing method of traffic regulation such as Stop Signs and Traffic Lights. The Town approaches improving crosswalk safety with both reactive (response to alerts/complaints) and proactive (as a result of planning or project design) methods. The Crosswalk Safety Improvement Policy is meant to support both methods, making improvements while evolving a plan to make Belmont a safe walking community.

### **II. OBJECTIVES OF THE CROSSWALK SAFETY IMPROVEMENT POLICY**

The objective of this policy is to:

- Increase driver observance of the rights of pedestrians/cyclists at designated crosswalk locations.

- Decrease delays in stopping time of drivers approaching pedestrians and cyclists in a crosswalk.
- Increase the use of walking routes in Belmont for residents and visitors by linking safer crossings to make walking/cycling more appealing across the town.

### **III. CROSSWALK SAFETY EVALUATION PROCESS OVERVIEW**

The crosswalk safety evaluation process is meant to provide a method for making and managing requests to improve the safety of crosswalks in Belmont. The emphasis on most crosswalk improvements is on unregulated crossings, as defined above, and school crossings.

This process starts by considering whether action under the Traffic Calming Policy is indicated for the street containing the crosswalk. The crosswalk safety evaluation process may begin as a separate process if either of these situations apply:

- None of the traffic calming policy Preliminary Evaluation Criteria have been met
- The Select Board votes not to recommend a traffic calming plan (recommended by the TAC) that would apply to the crosswalk

A request for a crosswalk safety evaluation is to be directed to the Town Engineer.

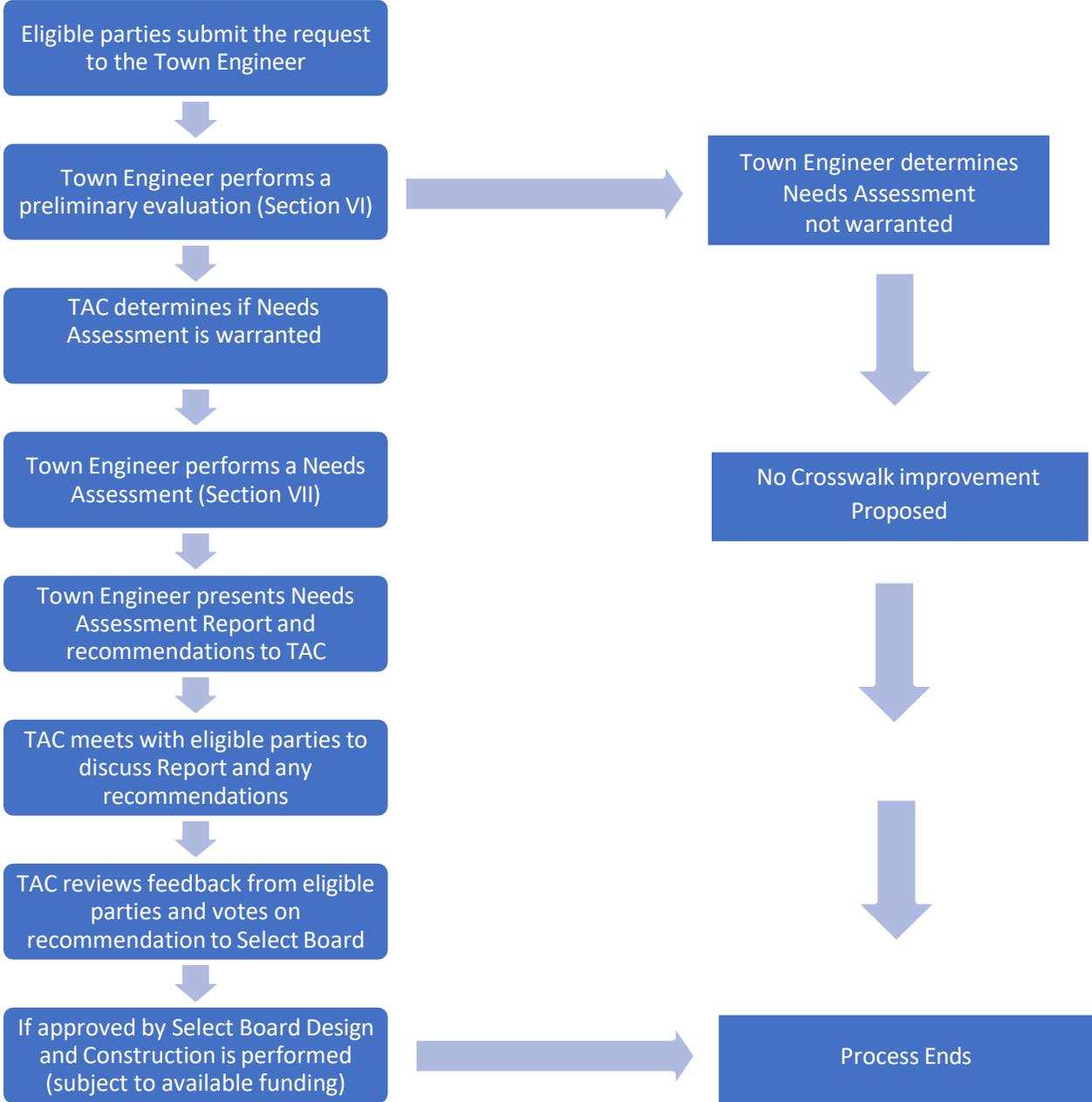
A candidate crosswalk should be characterized by at least one of the following:

- The issue is with a specific unsignalized / uncontrolled crossing on a specific street or intersection of streets (not with a length of the street itself).
- The improvement is needed for pedestrian/bicycle safety and to support walking routes that use the crossing.

Note: Crosswalk improvements may occur outside of this process as a result of an infrastructure project, such as:

- Recommendations included in town planning documents such as a transportation plan, Complete Streets Prioritization Plan, Safe Streets and Roads 4 All Plan, or School/Town construction design documents.
- As part of a Pavement Management Program reconstruction project, or an intersection or roadway redesign within the Town.

The crosswalk safety evaluation process is summarized in the flow chart below:



#### **IV. CROSSWALK SAFETY IMPROVEMENT METHODS**

Different methods that meet standard engineering practice exist for enhancing the safety and visibility of a crosswalk. Some examples are:

##### **Pedestrian Warning Signs**

###### **At Uncontrolled Crossings**

Pedestrian in crosswalk signs (W11A-2 with downward arrow plaque W16-7p) - installed at each end of the crosswalk location. The signs are placed in advance of the crosswalk adjacent to the travel lane and facing the driver.

Advance pedestrian warning signs (W11-2) - installed at a distance of at least 150 feet, but not exceeding 700 feet, in advance of the crosswalk. Advance pedestrian warning signs may be accompanied by supplemental plaques with the legend "AHEAD" (W16-9p) or "XXX FEET" (W16-2a).

###### **At School Crossings**

A School Crossing Warning Assembly (SCWA) consisting of a School Crossing Sign (S1-1) with a diagonal downward arrow plaque (W16-7p) - installed at each end of the crosswalk location. The signs are placed in advance of the crosswalk adjacent to the travel lane and facing the driver. The SCWA are not used at marked crosswalks other than those adjacent to schools or on established school routes. The SCWA shall not be installed on intersection approaches controlled by traffic signal or Stop Sign.

A School Advance Warning Assembly consisting of a School Crossing Sign (S1-1) and a supplemental plaque with the legend "AHEAD" (W16-9p) or "XXX FEET" (W16-2a) shall be installed at a distance of at least 150 feet, but not exceeding 700 feet in advance of the crosswalk, in either direction.

##### **No Parking Zones**

Restricting parking within 20 feet of a marked crosswalk, as measured by the gap between the parking space and the closest crosswalk marking, can help improve motorist visibility.

##### **Street Lighting**

The addition of street lighting, when practicable, can help to further identify the presence of pedestrians at a crosswalk.

### **In-Street Pedestrian Crossing Signs**

In-street pedestrian crossing signs may be used at crosswalks as to remind road users of the applicable laws. The signs shall read "Yield To Pedestrians". Signs indicating "Stop For Pedestrians" shall not be used. The signs shall include the legend "STATE LAW". The yellow portion of the sign background shall be fluorescent yellow-green in color.

The signs shall not be used at signalized intersections and may be used seasonally to prevent damage caused by snow plowing operations. In-street pedestrian crossing signs may be installed or removed by the Department of Public Works, Chief of Police or his designee.

Rectangular Rapid Flashing Beacon signs can be added to crosswalks to increase the visibility of the crossing and warn drivers of an impending crossing by a pedestrian.

In a few cases, an unregulated crossing can be changed to a regulated crossing by the addition of a pedestrian activated stoplight with examples of this on Trapelo Rd in Waverly square and on Concord Ave. at Orchard St.

### **Pavement Markings**

Refreshing existing crosswalk lines or delineating the edge of roadway on the approach to the crosswalk can help improve motorist awareness of the crossing. Markings in protected bike lanes can also alert bicyclists they are approaching a crosswalk.

### **Raised Elements and Bump-Outs**

Raised crosswalks and the placement of speed tables in advance of a crosswalk are two methods to slow vehicles approaching a crosswalk. Bump-outs reduce the distance and amount of time needed to cross the street.

### **Removing Visual Obstructions**

Cutting back shrubbery and removing/relocating parking spaces are two methods to improve visibility of pedestrians using a crosswalk.

## **V. INDIVIDUALS AND ORGANIZATIONS THAT MAY SUBMIT CROSSWALK IMPROVEMENT REQUESTS**

A Crosswalk Safety Improvement request may be submitted to the Town Engineer by any of the following:

- Town residents and abutters of Town-owned streets, those who own or work in Town businesses.

- The Belmont Police Department, the Town Engineer, the Select Board, the Transportation Advisory Committee (TAC).

Applicants should utilize the application form found at the end of this section. With each completed form, the applicant must submit signatures representing either:

- At least five different street addresses or
- Fifty percent of the abutters in the directly affected area (whichever is less).

**VI. PRELIMINARY EVALUATION OF CROSSWALK SAFETY IMPROVEMENT REQUESTS**

Town staff will conduct a preliminary evaluation based upon the criteria shown below in Table One.

**Table One: Preliminary Evaluation Criteria**

Criteria	Evaluation
Vehicles Not Stopping	If more than 3 vehicles drive through the crosswalk, from either direction, before the traffic stops, a wait time condition has been determined if this situation is documented on three different days in a two-week period.
Excessive Crossing Distance	If the width of the roadway, measured from the edge of the crosswalk to the opposite edge or a raised pedestrian island, whichever is less, is more than 26 feet, then excessive crossing distance has been determined.
Traffic Collisions	Any collision involving an automobile and a pedestrian (including cyclist) in the crosswalk, that results in a Police report, establishes collisions as a problem.

If the preliminary evaluation documents Vehicles Not Stopping, Excessive Crossing Distance, or Traffic Collisions, as described in Table One, the Town Engineer will conduct a full Crosswalk Safety Improvement Needs Assessment.

If the preliminary evaluation does not document Vehicles Not Stopping, Excessive Crossing Distance, or Traffic Collisions, no further action will be pursued under the Belmont Crosswalk Safety Improvement Program.

**VII. CROSSWALK SAFETY IMPROVEMENT NEEDS ASSESSMENT**

If an application satisfies one of the three preliminary evaluation criteria (Vehicles Not Stopping, Excessive Crossing Distance, or Traffic Collisions), The Town Engineer shall compile the following data to prepare the Crosswalk Safety Improvement needs assessment:

## **Crosswalk Attributes**

- Roadway Description (width, grade and alignment, number and width of lanes, pavement condition, , bike lanes, and other relevant descriptors)
- Location
- Posted speed limits and other regulatory signage or traffic controls
- 85th percentile Traffic Speed
- Average Traffic Speed
- Average Daily Traffic Volume
- Peak-hour traffic volume
- On-street parking
- Required / Actual Stopping Site Distance
- Existing roadway lighting
- Visual obstructions (e.g., shrubbery)

## **Evaluation Scoring**

If an application satisfies one of the three preliminary evaluation criteria (Vehicles Not Stopping, Excessive Crossing Distance, or Traffic Collisions), The TAC will hold the initial review of the application at a TAC meeting and invite the application filing parties. The Town Engineer will score each Crosswalk Safety Improvement request according to the criteria listed below in Table Two.<sup>1</sup> The scoring will be used to prioritize TAC recommendations approved by the Select Board.

**Table Two: Needs Assessment Scoring**

<b>Criteria</b>	<b>Criteria Threshold/ Remediation</b>	<b>Score</b>
Speeding	For each 5-mph increment that the 85 <sup>th</sup> -percentile speed is above the legal speed limit	10
Traffic Volume (a)	Average daily traffic (ADT) volume less than or equal to 3,000	0
Traffic Volume (b)	ADT volume in the range 3,001–8,000	10
Traffic Volume (c)	ADT volume greater than 8,000	20

<sup>1</sup> Examples of streets with ADT volume less than or equal to 3,000 are School St, Goden St, and Louise Rd. Examples of streets with ADT volume in the range 3,001–8,000 are Washington St and Winter St. Examples of streets with ADT volume greater than 8,000 are Park Ave and Pleasant St.

High Pedestrian Volume	More than 25 pedestrians using the crossing during the 7–9am; 3-6pm periods averaged over 3 different days when the Belmont public schools are open	10
Stopping Site Distance	For each 10 feet less than the required stopping site distance	10
Obstructions	For each instance of an obstruction limiting visibility of pedestrians using the crosswalk (shrubbery, parking space, utility pole, etc.)	10
School Walking Route	Crosswalk is located along a designated School Walking Route	20
Proximity to Commercial District	Crosswalk is located within 200 feet of a commercial district	20
Collisions- Personal Injuries	For each vehicle collision with a pedestrian or cyclist, or other incident, in last five years that results in a Police report	80

Engineering recommendations will answer the following questions:

- Which Crosswalk Safety measure(s) may be appropriate?
- Could the measures be designed and implemented by Community Development or DPW or would outside engineering services be required?
- What is the best estimate of design and installation costs?
- Does the problem merit experimental installation of temporary measures before a final determination is made?

**VIII. REVIEW OF NEEDS ASSESSMENT AND FINAL RECOMMENDATIONS**

The Town Engineer will present the findings of the Crosswalk Safety Needs Assessment and the engineering recommendations to the TAC at a TAC monthly meeting and the Committee may hear additional public comment during this meeting. A quorum of the TAC must be present for a final recommendation to be approved. this meeting.

The TAC will work with the Town Engineer to determine the appropriate catchment area for notification for this meeting and the Town will send advance notification to those in the catchment area. The meeting will also be posted on the Town website.

After review and discussion of the Needs Assessment and the presentation of engineering recommendations, the TAC will allow two weeks for written public comment and will then vote to “Recommend” or “Not Recommend” that the requested crosswalk project be placed on the

Town of Belmont’s “Priority List of Crosswalk Improvement Projects”. If the Committee does not have sufficient information to make a final recommendation, or a crosswalk first merits an initial test of experimental measures, a TAC vote on the matter may be tabled for a period not to exceed ninety (90) days.

Actual placement of a recommended crosswalk improvement on the Priority List of Crosswalk Improvement Projects requires a majority vote by the Select Board. Any initial test of experimental measures for a crosswalk also requires a majority vote by the Select Board.

Crosswalk improvement requests that receive a “Not Recommend” vote may be resubmitted for future consideration starting one year after that vote.

## **IX. PRIORITY LIST OF CROSSWALK IMPROVEMENT PROJECTS**

The Town of Belmont may approve more crosswalk improvement projects than it can implement in a given year. The TAC shall use the Needs Assessment scoring outlined in Section VII of this Policy to create and maintain a prioritization list of approved projects. The Town Engineer shall select projects for implementation using both the Needs Assessment scoring and his or her professional judgment in the context of multiple factors, including budgetary constraints, the timing of pavement-management and sidewalk repair projects, and other utility work, and make a final recommendation for projects to be undertaken in each budget cycle. Recommended crosswalk improvement projects that are funded in whole or in part by the Town’s annual capital budget must also be approved by the Comprehensive Capital Budget Committee and will be subject to final approval and appropriation by Town Meeting.

## **X. REFERENCE STANDARDS**

- **Sources for Crosswalk Safety Improvement Policy/Application Appendix:** USDOT-FHA Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations: [https://safety.fhwa.dot.gov/ped\\_bike/step/docs/STEP\\_Guide\\_for\\_Improving\\_Ped\\_Safety\\_at\\_Unsig\\_Loc\\_3-2018\\_07\\_17-508compliant.pdf](https://safety.fhwa.dot.gov/ped_bike/step/docs/STEP_Guide_for_Improving_Ped_Safety_at_Unsig_Loc_3-2018_07_17-508compliant.pdf)
- SRTS Guide: Marking and Signing Crosswalks
- 2009 MUTCD guidance on Crosswalk Markings
- Main MUTCD site: <https://mutcd.fhwa.dot.gov/>
- Town of Concord Crosswalk Policy and design Guidelines