



Engineering Division

TOWN OF ARLINGTON
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ENGINEERING MEMORANDUM

To: M. Rademacher; DPW Director
Corey Rateau; APD Traffic Unit
Laura Swan; Transportation Advisory Committee; Chair
From: W. Chouinard
Re: Proposed Crosswalk at Summer St. and Sunset Rd.
Date: February 24, 2023

See attached documents detailing the issues related to the installation of the proposed Summer St./Sunset Rd. crosswalk recommendation approved by TAC. The TAC voted to approve the installation of a crosswalk at the October 12, 2022 meeting by an affirmative vote of six (6) members in favor and two (2) members opposed. The Police Department and Engineering Division representatives voted against the installation.

On October 24, 2022, the TAC provided a Recommendation to install a crosswalk as detailed in the TAC memo provided to the Select Board. As detailed in the approved minutes for the meeting the Select Board approved the request as detailed below:

Request for Crosswalk Across Summer St at Newland Rd for Peirce Elementary School.

TAC recommends installing a marked crosswalk across Summer St at the west side of Sunset Rd. The Town should also consider Designating no parking within 20' before the crosswalk per the Guidelines. However, automobiles generally do not park on the shoulder of this stretch of Summer St.

Mr. Hurd moved to follow TAC's recommendation to install a crosswalk on the west side Sunset Road across Summer Street as well as the designation of no parking signs as well as crosswalk and warning signs. A roll call vote was taken on the motion by Mr. Heim. Mr. Hurd: yes Mr. Diggins: yes Mr. Helmuth: yes Mrs. Mahon: yes Mr. DeCoursey: yes SO VOTED (5-0)

Upon approval by the Select Board, the Engineering Division was tasked with preparing a design and schedule for the installation of the recommended and approved crosswalk.

There is no standard layout for a curb ramp, each curb ramp is unique. Curb ramps must be designed to meet the existing topographical and physical constraints, and the requirements for curb ramp slope, cross slope, landings, and connection to the street. The most important goal is construct a curb ramp that will be usable by ALL pedestrians. When possible, typical design guidance should ensure that curb ramps are aligned with the sidewalk and crosswalk to provide an additional cue to assist the visually impaired and blind persons in aligning to cross the street. Paired curb ramps on a corner allow better alignment for people using mobility aids and for pedestrians with vision.

With these considerations in mind, please note that the TAC recommendation did not consider the constructability of the curb ramps. Rather, they analyzed whether a cross walk would be appropriate and safe at this location. The majority of the TAC voted to recommend installation of the cross walk, while the representatives of the Police Department and the Department of Public Works voted against approving the crosswalk location for a variety of reasons including, close proximity to the Park Ave. Ext./Summer Street signalized intersection, volume of vehicles, and the anticipated age of more vulnerable users. Being a well utilized pedestrian zone for young children accessing the Peirce School it was considered more important to provide the safest place to cross Summer Street, rather than the most convenient.

The request for the new crosswalk was submitted by adults that typically cross Summer Street in the vicinity of Newland Road and Sunset Road. This is perfectly acceptable considering that most adults are able to ascertain an

appropriate time to cross a street based on the judging of vehicle speed, volume and analysis of gaps in traffic. However, if a sidewalk is installed at this location, there is a strong likelihood that young students will utilize this location independently with a false sense of security due to the presence of crosswalk markings, without adult supervision, and without fully developed decision making skills needed to cross a heavily traveled thoroughfare.

Upon further on-site evaluation it was determined that there were numerous physical impediments including driveways, private walks, fire hydrant, catch basin grate and utility poles etc.. which limit possible curb ramp locations and could adversely affect the safety of the crosswalk. Even so, and though it is not a recommended location, the Engineering Division was able to develop a crosswalk layout sketch for final consideration. Since the layout developed has issues related to the offset from Summer Street and the directionality of the curb ramp detectable panels it is recommended that the final decision consider all issues addressed previously as well as those determined during the design to ensure the issues do not compound into a larger issue.

The following is a summary of the three developed alternatives and a comparison of site criteria:

Alternative #1:

This layout would maintain the existing curb and sidewalk alignment at the SW corner of Summer/Sunset. The existing curb ramp and crosswalk location across Sunset Road would be maintained. The existing detectable panel would function as an apex ramp serving both crosswalks and would be set back approximately 14 ft from the edge of Summer Street. This location would create visibility issues of pedestrians at the curb ramp, result in an extended crossing distance and the detectable panel would be severely out of alignment with the direction of pedestrian travel and could cause visibility impaired pedestrians to walk into the middle of the intersection.

Alternative #2:

This layout would require removal and re-setting of the existing curb line, sidewalk and adjacent driveway apron at the SW corner of Summer/Sunset (#534 Summer St.) and the installation of a new curb cut and ramp. This modification would reduce the curb radius of Sunset Road from 25 ft. to 15 ft. and shorten the pedestrian crossing distance across Summer Street. The existing curb ramp and crosswalk location across Sunset Road would be maintained.

The proposed detectable panel required for the crosswalk across Summer Street would function as a parallel/apex ramp and would be set back approximately 9 ft from the edge of Summer Street. This location would also have visibility issues due to the offset from the edge of Summer Street. Visibility issues of pedestrians at the curb ramp would be slightly improved compared to Alternative #1 and the pedestrian crossing distance would be slightly reduced. The detectable panel would be severely out of alignment and could result in confusion and create safety concerns for pedestrians with visibility impairments by directing them into the middle of the intersection.

Please note that during the re-construction of Summer Street the curb radius for Sunset Road was increased to the current configuration and a property taking and reimbursement payment required for the parcel located at 534 Summer Street.

Alternative #3:

This layout would require removal and re-setting of the granite curb with a smaller curb radius (10ft) and work on the sidewalk and adjacent driveway apron for #534 Summer Street. This modification would provide a 5 foot offset for the curb ramp from Summer Street and shorten the pedestrian crossing distance across Summer Street. The existing curb ramp and crosswalk location across Sunset Road would be maintained. This option does not meet turning radius for SU-30 vehicle equivalent to a trash truck or fire engine.

	<u>Pedestrian Visibility</u>	<u>Crossing Distance</u>	<u>Ramp Setback</u>	<u>Panel Alignment</u>	<u>Turning Radius</u>	<u>Cost</u>
Alternative #1:	very poor	48 ft	15 ft	very poor	suitable	\$11,500
Alternative #2:	diminished	42 ft	10 ft	very poor	suitable	\$20,800
Alternative #3:	good	38 ft	5 ft	very poor	unsuitable	\$22,500