Memorandum

11337-03

To: Tex Haeuser, Director of Planning, City of South Portland

From: Curtis Thompson, EI, Transportation Engineer, Sebago Technics
Steve Sawyer, P.E., Senior Vice President of Transportation Services, Sebago Technics

Date: November 19th, 2018

Subject: Broadway at Walnut St. Crosswalk Evaluation

The following memo details our evaluation of the crosswalk just north of the intersection of Broadway and Walnut Street in South Portland. It is our understanding that the safety of the crosswalk has recently come into question due to a near miss between a pedestrian in the central median and a vehicle. The pedestrian was waiting in the central median for northbound traffic to yield and southbound traffic was stopped due to congestion. A southbound vehicle moved into the two way left turn lane with the intent of driving over the flush median to get to the additional southbound through lane south of the Walnut Street intersection.

Existing Conditions

In general Broadway is relatively straight and flat in the proximity of the intersection leading to sight distances beyond the minimum requirements. Broadway is considered to be a minor arterial by the Maine DOT and both Broadway and Cottage Road serve as the collectors for the eastern part of South Portland. There are 11 foot travel lanes in each direction with an 11’ two way left turn lane north of the crosswalk and there are 5.5 foot bike lanes in each direction. The posted speed is 35 miles per hour. There is a school speed limit zone starting just south of the Walnut Street intersection, however the crosswalk is not within the zone.

The existing crosswalk is supported by yield triangles in both directions with a “yield here to pedestrians” sign for the northbound traffic. Both ramps are ADA compliant with detectable warning fields and are
identified with the pedestrian crossing warning signs, identified as W11-2 within the MUTCD. The center of the crosswalk is shadowed by a flush painted median in both directions.

Based on a field visit, both pedestrian crossing warning signs are obscured by vegetation and the “yield here to pedestrians” sign is not present at the southbound yield triangles.

The nearest crosswalk is located roughly 750 feet to the south at the Broadway and Cottage Road signalized intersection. The closest crosswalk to the north is about 1,100 feet and is located at the signalized intersection of Broadway at Mussey Street. There are two bus stops near the Walnut Street crosswalk, one located at the intersection of Broadway and Clemons Street and the other located just south of the Broadway at North Richland Street intersection. Both Bus stops are located on the northwest side of Broadway and it is likely that the Walnut Street crosswalk services most of the bus passengers from the neighborhood southeast of Broadway at these stops.

The South Portland Greenbelt Pathway multiuse path runs parallel to Broadway in this location and is likely a major destination for pedestrian traffic. Although there isn’t any formal entrances or connections to the Greenbelt Pathway from the Broadway sidewalk today, there is evidence of warn paths at the rear of the American Legion parking lot and at the Clemons Street bus stop. From historic aerial imagery there used to be a connecting path on the north corner of the American Legion parking lot, however this path was blocked after construction of the adjacent building.

**Crosswalk Evaluation**

Based on the information we received it appears that the near miss incident was caused due to a combination of the congestion from the Broadway at Cottage Road traffic signal and drivers failing to yield to a pedestrian in a crosswalk. There are a few options to improve pedestrian visibility at the crosswalk, however most of the typical recommendations are already present such as yield triangles and signage.

The pedestrian crossing signs could be upgraded with rapid rectangular flashing beacons to increase visibility and also convey the pedestrian’s intent to cross to motorists, increasing the amount of vehicles yielding. Additionally a “yield to Pedestrians” in street sign, which is identified in the MUTCD as R1-6, could be placed within the flush median in both directions to both increase visibility of the crosswalk and to prevent motorists from using the median as a travel lane. The in street signs can be mounted on a heavy rubber base for temporary or removable installations and can also be mounted directly to the pavement. In both cases the sign has a spring at the base allowing the sign to be hit and self-right with little to no damage to the sign or the vehicle.

A formal connection between Broadway and the Greenbelt Pathway in the nearby vicinity of the crosswalk should be considered. The warn paths that can be seen in aerial imagery suggest that pedestrians are commonly crossing between Broadway and the Greenbelt Pathway in this area. This location is also the closest that the Greenbelt is to Broadway north of the Mill Creek area.
The attached Sheet 1 details the proposed improvements to the crosswalk north of the Walnut Street intersection.

**Conclusion**

There are a number of improvements that can be made to improve the visibility and safety of pedestrians at the crosswalk near the intersection of Broadway and Walnut Street. Based on our evaluation of the existing conditions, our recommended improvements are to replace the pedestrian crossing warning signs with solar powered RRFB’s and place in street yield to pedestrian signs mounted on a heavy rubber base in the median. The in street signs should be removed and stored during the winter months to avoid damage during plowing. Additional consideration should also be given to the possibility of creating a formal connection to the Greenbelt Pathway.

**Attachments:**

Sheet 1: Proposed Crosswalk Improvements
PROPOSED CROSSWALK IMPROVEMENTS
OF: BROADWAY AT WALNUT STREET

LOCATION: SOUTH PORTLAND, MAINE
FOR: CITY OF SOUTH PORTLAND

SCALE: 1"=75'
DATE: 11/1/18

HERE
TC

STATE LAW
TO
WITHIN CROSSWALK

TRIM VEGETATION OBSCURING SIGN
INSTALL YIELD HERE FOR PEDESTRIAN SIGN (RI-5)
INSTALL IN STREET YIELD TO PEDESTRIAN SIGN (RI-6)
TRIM VEGETATION OBSCURING SIGN

POTENTIAL LOCATION FOR CONNECTION BETWEEN GREENBELT PATHWAY AND BROADWAY
GREENBELT PATHWAY CONNECTION WAS BLOCKED AFTER THE CONSTRUCTION OF ADJACENT BUILDING
EXISTING BUS STOP

REPLACE PEDESTRIAN CROSSING SIGN WITH RAPID RECTANGULAR FLASHING BEACON

BROADWAY
CLEMONS STREET
WALNUT STREET