



## Niagara Senior Center Walk Audit Fall River, MA

July 9, 2014

Massachusetts Council on Aging Grant  
Massachusetts Department of Public Health  
Fall River Division of Health and Human Services

**MAKING MASSACHUSETTS MORE WALKABLE**

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## Background on Niagara Senior Center

The Niagara Senior Center is located on Tucker Street, in Fall River's Niagara/Maplewood neighborhood. Under the auspices of the Fall River Division of Health and Human Services Mass in Motion program, led by Julie Kelly, and the Massachusetts Council on Aging Healthy Aging Program, WalkBoston led a walk audit training on July 9, 2014 with approximately 20 participants. Most of the participants were seniors living in Fall River who have expressed interest in helping make the City an easier, safer and more pleasant place to walk.

The event included a twenty-minute slide presentation on the elements of a good walking environment. This was followed by an on-street training session – with one group following a route to Canning Boulevard and a second group walking along Stafford Road (shown on the accompanying Route Map). Following the walk the group re-convened at the Senior Center to discuss their experiences and agreed to meet again the following week to do a walk audit near another Fall River Senior Center.

The mix of land uses in the vicinity of the Niagara Senior Center is not very conducive to destination-focused walking, with auto-oriented retail along Canning Boulevard and few viable retail uses along Stafford Road. However, with safety improvements, sidewalk repairs and some modest additions of amenities such as street trees, the area could be a pleasant environment for neighborhood walks. A brief illustrated glossary of the terminology used in the report is provided at the end of the report. Please refer to the glossary if you have questions about the observations and recommendations.

Below is a list of walk audit participants:

Paul Devillers  
Ben B.  
Kathy Lowney  
Amy Fragoza  
Shirley Bardsley  
Julie Cleare  
Cheryl Costa  
Elsie Dias  
Annette Audette  
Juliette Rodrigues  
Eric Andrade- Mass in Motion  
Julie Kelly- Mass in Motion Coordinator

## Walk Audit Map



## General Observations and Recommendations

Traffic on Tucker Street, Canning Boulevard and Stafford Road moves at relatively high speeds (often well in excess of the posted speed limit), and the walk audit participants felt that crossing each of these streets was unsafe. The most important safety recommendations focus on improving crossing safety and slowing traffic as it approaches the places where pedestrians are crossing the streets.

A number of recurring issues were seen in many places during the walk audit, and should be considered throughout the neighborhood. We also observed that several new sidewalks and curb ramps were being installed on some of the neighborhood side streets.



*New curb ramp being installed in neighborhood*



*Sloped sidewalk at driveway on Tucker Street*

- Missing or non-ADA compliant curb ramps exist at many of the neighborhood's corners, and need repair or replacement.
- Cars are travelling at relatively high speed on all of the neighborhood's main streets. The City should consider painting fog lines to reduce the apparent lane width, and add bulb outs to slow traffic and shorten crossing distances.



*Faded crosswalk at bus stop on Stafford Street*



*Broken curb ramp and storm drain*

- Repair sidewalks that pose tripping hazards to walkers. Several new sidewalks and curb ramps were being installed on some of the neighborhoods side streets.
- Replace faded or disappeared crosswalks at all intersections with new zebra stripe crosswalks.
- Replace sloping driveways with flat sidewalks with steeper driveway ramps when sidewalks are being replaced. This is especially important for winter walking when sloped sidewalks that are snowy or icy pose fall hazards.

- Narrowing wide curb cuts and tightening the turning radii at business entrances would protect pedestrians and slow turning vehicles.
- More street trees would both add shade and provide a more attractive walking environment.
- Benches should be added where possible, in particular at bus stops and on the nice, shady grounds of the Senior Center.



*Continuous curb cut on Lawton Street*

- Short-term
  - » Add a zebra striped crosswalk
  - » Install curb ramps serving the crosswalk
  - » Paint “bulb-outs” on the pavement, with no parking posted 20’ back from the crossing on either side
  - » Provide an “in-street pedestrian crossing sign on the street center line
- Long-term
  - » Construct permanent bulb-outs at the mid block crossing
  - » Investigate the need for a raised crossing (speed table) and/or pedestrian activated flashing warning lights (HAWK signal)



*Niagara Senior Center grounds*



*Crosswalk needed in front of senior center*

## Detailed Observations and Recommendations

Based on field observations, WalkBoston recommends that safety improvements be made at each of the locations described below (and numbered on the Route Map):

### 1. Mid-block crossing in front of the Senior Center

Traffic moves at high speeds along Tucker Street and many seniors cross the street when they are dropped off or picked up in front of the Center. There are no designated street crossings closer than several hundred feet from the Center. A walk audit participant pointed out a crosswalk that was in front of the previous location of the Senior Center (next to Maplewood Park on Stafford Road).

### 2. Tucker Street/Stafford Road Intersection

Due to the angle at which Tucker Street enters Stafford Road, vehicles turning from Tucker onto Stafford have obstructed sight lines. Vehicles move at high speeds on Stafford Road as they approach Tucker Street coming down the hill. Pedestrians crossing at this location are not clearly visible to drivers and the crossing felt quite hazardous to the walk audit participants.



*Faded crosswalk with pothole at Stafford and Tucket Streets*

- Short-term
  - » Re-paint all of the crosswalks at the intersection
  - » Add watch for pedestrian signs in advance of the intersection on both streets
  - » Provide a “Yield to Pedestrians” mid-street cone on the Stafford Road center line
- Long-term
  - » Consider addition of stop signs on both Stafford Road approaches to Tucker Street to create a three-way stop. This would both slow traffic and protect both pedestrians and drivers exiting Tucker Street onto Stafford.



*Faded crosswalk at proposed three-way stop at Stafford and Tucker Streets*

### 3. Tucker Street/Carl Street intersection – Boyd Day Care Center

Traffic moves at high speeds along Tucker Street and families must cross the street when children are dropped off or picked up at the Center.



*Boyd Day Care on Carl Street*

- Short-term
  - » Repaint the completely faded crosswalk across Tucker Street with zebra striped marking
  - » Install curb ramps serving the crosswalk
  - » Trim the bushes that block the sidewalk on Tucker Street on the far side of Carl Street from the Daycare Center
  - » Paint “bulb-outs” on the pavement, with no parking posted 20’ back from the crossing on either side
  - » Provide in-street pedestrian crossing signs on the street center line



*Overgrowth on sidewalk across from day care center on Tucker Street*

**Long-term**

- » Construct permanent bulb-outs at the crossing on Tucker Street
- » Investigate the need for a raised crossing (speed table) and/or pedestrian activated flashing warning lights

(2) a left turn arrow from Canning, and (3) a right turn arrow from Canning. All of the crosswalk markings are faded completely, and the curb ramps are not ADA compliant.



*Faded crosswalk at Canning Boulevard*

- Short-term
  - » Repaint all of the crosswalks with zebra striped marking
  - » Re-time the signal to eliminate the right-turn arrow and add a yield to pedestrians sign at the corner
- Long-term
  - » Provide new signal heads with countdown pedestrian crossing signals
  - » Fix all of the curb ramps
  - » Consider narrowing the travel lanes on Canning Boulevard to shorten the crossing distances



*Curb cut blocked by overgrown shrubs*

**4. Tucker Street/Canning Boulevard Intersection**

The traffic signal at this intersection does not have a pedestrian signal head, and the timing does not provide any protected crossing of Tucker Street. There are three signal phases: (1) a through green on Tucker,



*Signal that does not provide any walk time*

## 5. Canning Boulevard/Mariano Bishop Boulevard Intersection

As described by the Fall River participants, children from the north side of this intersection attend school on the south side of Canning Boulevard. The children must be provided with bus transportation because the intersection does not provide any pedestrian accommodation, and the roadway geometry designed is to accommodate vehicles and no pedestrian crosswalks. Pedestrians were observed in the median of Canning Boulevard and crossing the roadway in the vicinity of this intersection, clearly suggesting that there are pedestrians who need to cross the road in this area.



*Intersection of Mariano Bishop and Canning Boulevards*

- Due to the complexity of the roadway geometry and the lack of a clear route for pedestrians, WalkBoston cannot provide specific recommendations for this location. A traffic engineering review would be required to undertake changes at the intersection.



*Uneven sidewalk*

## 6. Lawton Street

Lawton Street is a primarily residential side street just south of the senior center. It merges with Canning Boulevard, and experiences some fast traffic. Given high traffic speed and the presence of children, extra measure should be taken to ensure safety on Lawton Street.

- A curb should be added at Lawton Street to protect the play space that is being used in front of the house. Residents have tried to protect the space by putting out plastic bumpers.



*Protecting a kiddie pool where there is no curb*

## Appendix A. Terminology

Below are images and definitions of the terms used to describe the walking environment in this report.

### Crosswalk and Stop Line

Crosswalks can be painted in a variety of ways, some of which are more effective in warning drivers of pedestrians. Crosswalks are usually accompanied with stop lines. These lines act as the legally mandated stopping point for vehicles, and discourage drivers from stopping in the middle of the crosswalk.



Crosswalk patterns  
Source: USFHA



Crosswalk and stop line  
Source: [http://safety.fhwa.dot.gov/ped\\_bike/tools\\_solve/ped\\_scdproj/sys\\_impact\\_rpt/images/fig16.jpg](http://safety.fhwa.dot.gov/ped_bike/tools_solve/ped_scdproj/sys_impact_rpt/images/fig16.jpg)

### Curb Ramp and Detectable Warning Strip

Curb ramps provide access from the sidewalk to the street for people using wheel chairs and strollers. They are most commonly found at intersections. While curb ramps have improved access for wheelchair-bound people, they are problematic for visually impaired people who use the curb as an indication of the side of the street. Detectable warning strips, a distinctive surface pattern of domes detectable by cane or underfoot, are now used to alert people with vision impairments of their approach to streets and hazardous drop-offs.



Curb ramp and detectable warning strip in Woburn, MA

### Curb Extension/Curb Bulb-out

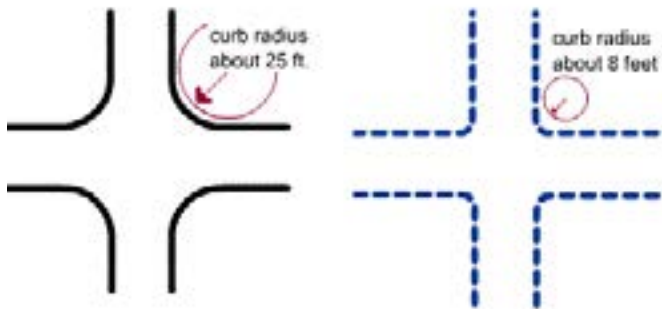
A sidewalk extension into the street (into the parking lane) shortens crossing distance, increases visibility for walkers and encourages eye contact between drivers and walkers.



Curb extensions are often associated with mid-block crossings

## Curb Radius

A longer curb radius (on the left in figure below) allows vehicles to turn more quickly and creates longer crossing distance for pedestrians. A shorter curb radius (on the right in the figure below) slows turning speeds and provides pedestrians shorter crossing distances.



There are two excellent examples of the shortening of curb radii in Woburn, MA. The first (A) is a low-cost solution using a gravel-filled zone between the original curb line and the newly established road edge. The second is a higher-cost solution using grass and trees and extending the sidewalks to the new curb. Both work to slow traffic.

## Fog Line

A fog line is a solid white line painted along the roadside curb that defines the driving lane and narrows the driver's perspective. Fog lines are most often used in suburban and rural locations, but may be appropriate in some urban conditions.



*Fog lines delineate the vehicular driving zone on wide roadways.*



*(A) Gravel-filled curb extension*



*(B) Grass, trees and extended sidewalk in curb extension*

## In-street Pedestrian Crossing Sign

In-street pedestrian crossing signs are used at the road centerline within crosswalks to increase driver awareness of pedestrians in the area. These signs are a relatively low-cost, highly effective tool in slowing traffic by the narrowing travel lanes. They are popular with road maintenance departments since they can be easily moved for snow removal.



## HAWK Signal

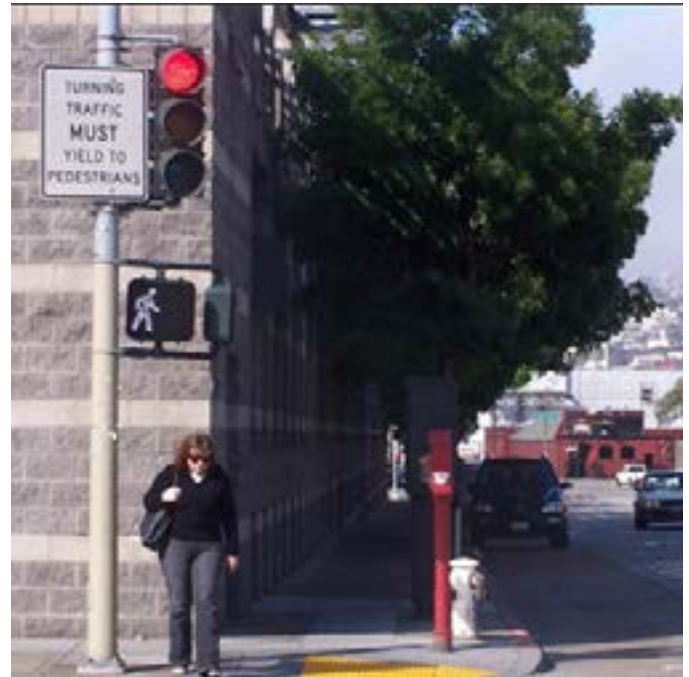
A HAWK beacon (High-Intensity Activated crossWalk beacon) is a traffic signal used to stop road traffic and allow pedestrians to cross safely. It is officially known as a Pedestrian Hybrid Beacon (PHB). The purpose of a HAWK beacon is to allow protected pedestrian crossings, stopping road traffic only as needed. Where standard traffic signal 'warrants' prevent the installation of standard three-color traffic signals, the HAWK beacon provides an alternative.



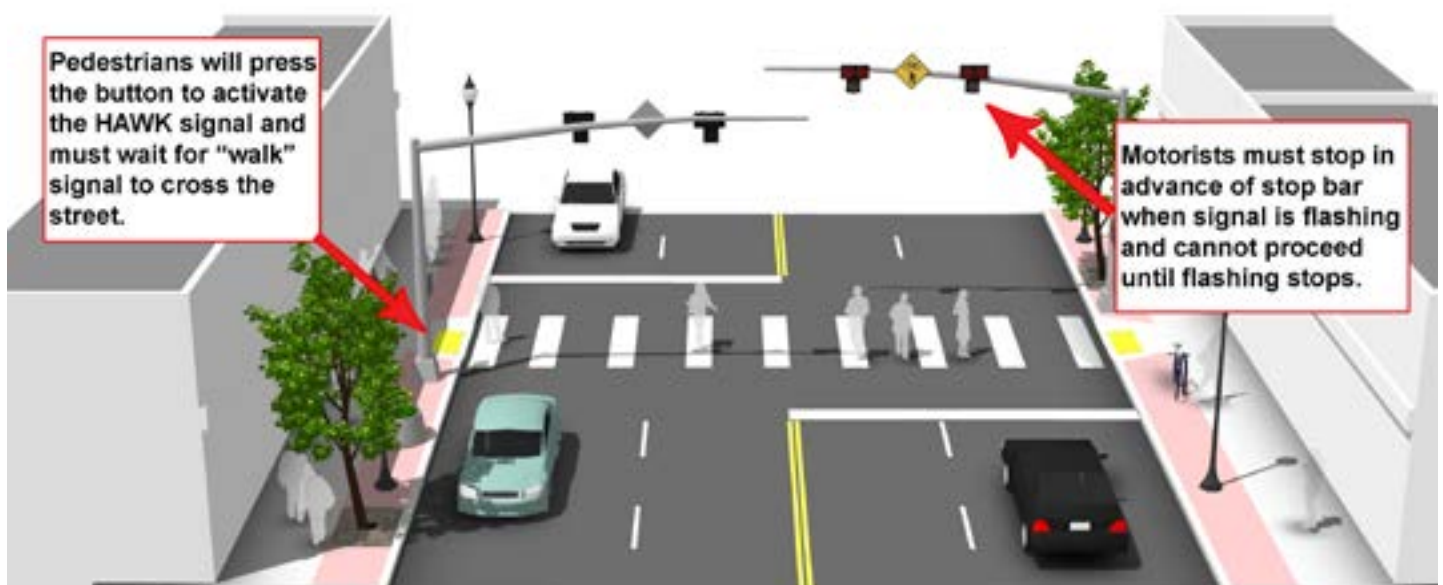
Source: <http://www.achdidaho.org/Projects/Images/NewHawkSignal092209%20014.jpg>

## Leading Pedestrian Indicator

A leading pedestrian indicator gives pedestrians an advance walk signal before motorists get a green signal, giving the pedestrian several seconds to start walking in the crosswalk before a concurrent signal is provided to vehicles. This makes pedestrians more visible to motorists and motorists more likely to yield to them. Typical LPI settings provide 3 to 6 seconds of advance walk time.



Source: [http://safety.fhwa.dot.gov/ped\\_bike/tools\\_solve/ped\\_scdproj/sys\\_impact\\_rpt/images/fig34.jpg](http://safety.fhwa.dot.gov/ped_bike/tools_solve/ped_scdproj/sys_impact_rpt/images/fig34.jpg)



Source: <http://bloomington.in.gov/media/media/image/jpeg/13144.jpg>

