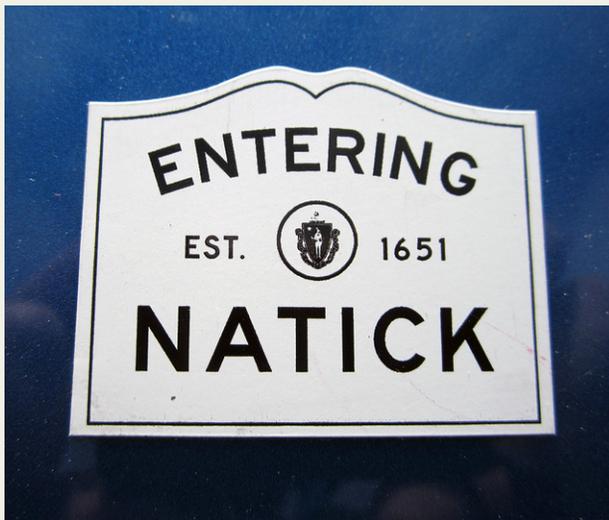


Complete Streets Tier 2 Prioritization Plan: Town of Natick



Source: www.benstich.com



Source: citytank.org

June 2016



Overall Tier 2 CS Plan Development Process

- **Gather and review available information**
- **Safety screening review with potentially “mini-audits**
- **Roadway windshield survey**
- **Needs assessment- sidewalk or other gap type analysis**
- **Identify potential actions**
- **Priority decision process**
- **Draft & Final Prioritization Plan**



Background Projects Capital Improvement Program 2017-2021

- **Marion Street Bridge Reconstruction (\$2.7 million)**
- **Widening, repaving, and sidewalks, traffic signal installations and upgrades on Route 27/North Main Street from North Avenue to Wayland Town Line, MassDOT Project 605034 (\$13.2 million)**
- **Reconstruction of the Route 9/Route 27 interchange (\$24.6 million)**
- **Completion of Cochituate Rail Trail**
- **Natick Center Station Accessibility/Modernization Project (\$4 million)**
- **Natick Center Comprehensive Design**
- **Capital project to improve crosswalks at
Route 27/Walcott St and Oak St/Border Rd**
- **Capital project to reconfigure Route 27/Cottage St**
- **Cottage Street Roadway Improvements**
- **Pleasant Street Bridge Rehabilitation**
- **Natick Five Year Paving Program**



Documents Reviewed Included

- **Natick: Our Community Yesterday and Today, Natick 360 Strategic Plan (MAPC 2007)**
- **Natick Center Plan (MAPC 2015)**
- **Boston Region Metropolitan Planning Organization Long-Range Transportation Plan**
- **Town of Natick Complete Streets Policy (Approved March 23, 2015)**
- **Natick Center MBTA Station Conceptual Design and Implementation Plan (2014)**
- **Natick Open Space and Recreation Plan (2012)**
- **Route 9 Smart Growth Plan and Corridor Study (2013)**
- **Natick Sidewalk Inventory (2013)**
- **Natick Safe Steps Program Analysis (2012)**
- **Natick Walking Map**
- **Road Safety Audit: Route 27 at Route 9 (2014)**
- **Natick Walkability Guide (2014)**
- **Five Year Paving Plan (2015)**
- **North Main Street Design Plans (25%)**



Walkability Study

– 2014 Questionnaire Responses

- **36%** of all respondents cited condition of sidewalks, crosswalks, and trails as preventing them from walking as often as they wanted
- **31%** of respondents with children reported that their children walk to school occasionally or frequently
- **34%** of respondents cited missing or unsafe sidewalks as barriers to walking to school
- **Schools most walked to:**
 - Johnson Elementary (82%)
 - Natick High School (82%)
 - Brown Elementary (46%)
 - Lilja Elementary (30%)
 - Wilson, Kennedy, Memorial (each 20%)



Walkability Study

– 2014 Questionnaire Responses

• Safe Steps program revealed existing defects:

- **2,580** sidewalk issues (cracking, depressions, overhanging trees, grass, tree roots, trip hazards, lifting, patching)
- **1,438** ramp issues with only 37% providing detectable warning panels
- **359** crosswalks
- **147** sidewalk obstructions (including utility poles, trees, and hydrants)

Key Destinations: crossing Route 9, Natick Center, West Natick MBTA Station, Schools, Supermarkets, Mall, Parks/Farms

Streets respondents identified as unsafe:

Route 27

Speen Street

Route 135

Pine Street

Union Street

Woodland Street

Everett Street

Cottage Street

Pond Street

Cemetery Street

Washington Street

Roads near schools



Safety Screening Analysis

- **Crash data analysis for all roadways within Natick except Route 9 and I-90 for the years 2011-2013**
- **Town-wide pedestrian and bicycle crash history**
 - 2011: 7 bike crashes, 5 pedestrian crashes, 1 wheelchair crash
 - 2012: 7 bike crashes, 7 pedestrian crashes
 - 2013: 14 bike crashes, 4 pedestrian crashes



Windshield Survey Progress

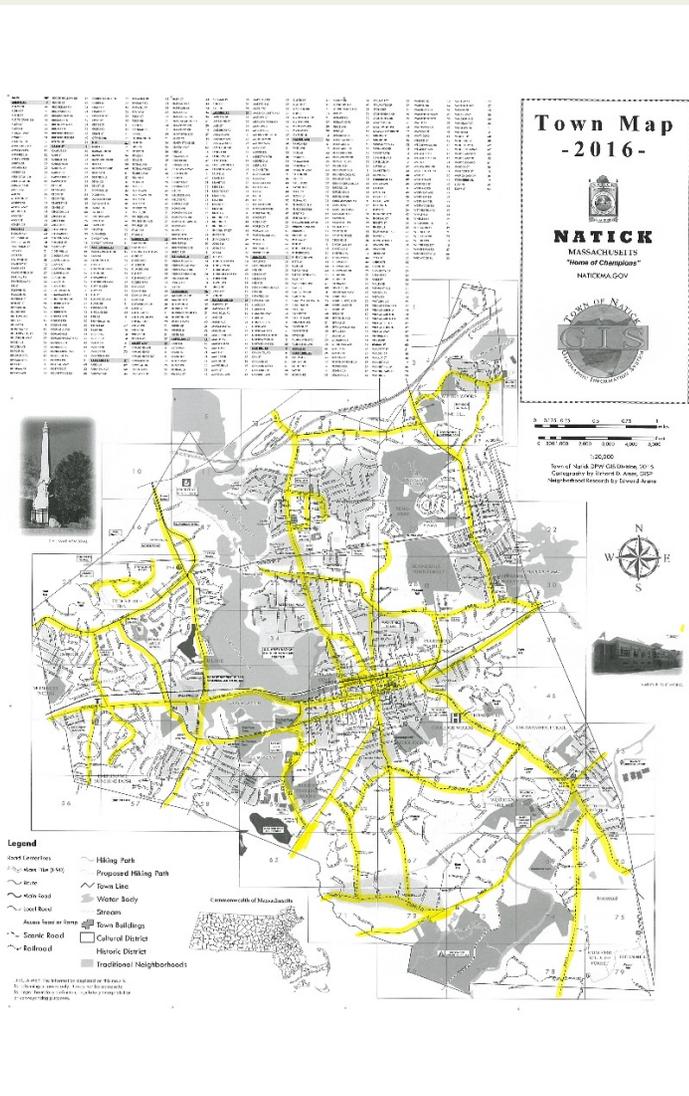
General Procedure

- Drive through each study corridor, passenger takes notes on roadway segment form
- Separate form developed for roadway segments and intersections
- Signalized intersections had additional information
- Measured roadway cross-sections as appropriate
- Midblock crosswalks and all intersections were analyzed by walking

List of Streets Surveyed:

Speen St
 Boden Lane
 Bacon St
 Union St
 Eliot St/Route 16
 Cottage St
 Pond St
 West Central St/Route 135
 Walnut St
 Pleasant St South
 Rutledge Road
 Marion Street
 South Avenue
 Newfield Drive
 Mercer Road
 Rockland Street
 West Street
 Rathbun Road
 Pine Street

Kendall Lane
 Mill St
 Washington Ave
 Glen St
 Everett St
 South Main St/Route 27
 East Central St/Route 135
 Oak St
 Hartford St
 Woodland St
 East Evergreen Road
 North Avenue
 Cemetery Street
 Strathmore Road
 North Main Street
 Farwell Street
 Winter Street
 Campus Drive
 Middlesex Avenue





Roadway Windshield Survey

Washington Avenue*

Why?/Needs

- Only ¼ mile from Town Center
- Basketball Courts (Navy Yard Field) abut the roadway on the east side
- Tony Anniballi Memorial Park is on the west side
- Densely populated residential neighborhood
- Pedestrian activity was observed



Issues

- Roadway too narrow to accommodate bicyclists (only 9' lane/1.5' shoulder per direction)
- Gap in the sidewalk exists on the east side between Cochituate Street and Lagrange Street
- Trip hazards are present on the sidewalk
- Asphalt curb ramps are uneven and either steep or non-existent
- Few detectable warning panels



*Scheduled for repaving in 2017



Roadway Windshield Survey

Bacon Street

Why?/Needs

- Commercial activity prevalent near Route 27
- Lilja Elementary School - NE corner of Oak Street
- Playground - SE corner of Walnut Street
- Heavy pedestrian activity observed

Issues

- Gaps in sidewalk on south side, east of Route 27
- No bicycle accommodations
- No sidewalk west of Route 27





Roadway Windshield Survey

Pleasant Street South

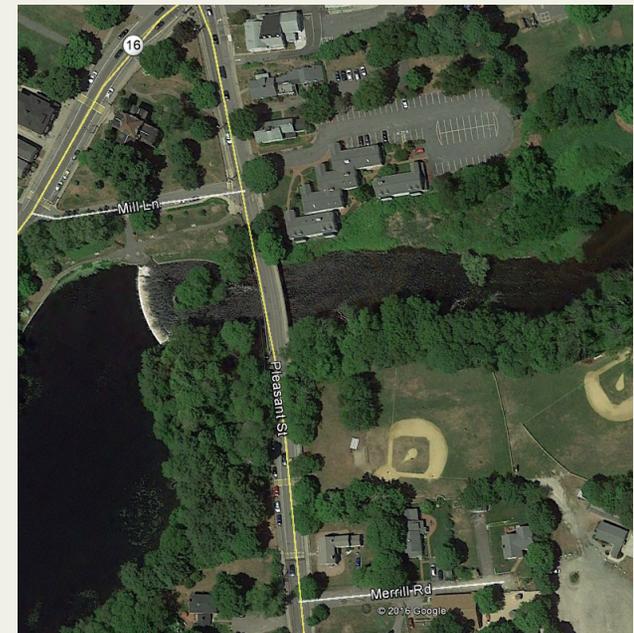
Why?/Needs

- Basketball courts are located on the west side of Pleasant Street South
- Significant pedestrian and bicycle activity was observed, partially coming from on-street parking
- Bicyclists were found riding on sidewalks
- The northern end of Pleasant Street South is in South Natick Center, where a scenic bridge crosses the Charles River with an entrance to a park overlooking the water



Issues

- Gaps exist in the sidewalk along Pleasant Street South
- Multiple midblock crosswalks are present without warning signage adjacent to Little League fields
- A bicycle crash has occurred in this area
- Limited or no bike parking





Roadway Windshield Survey

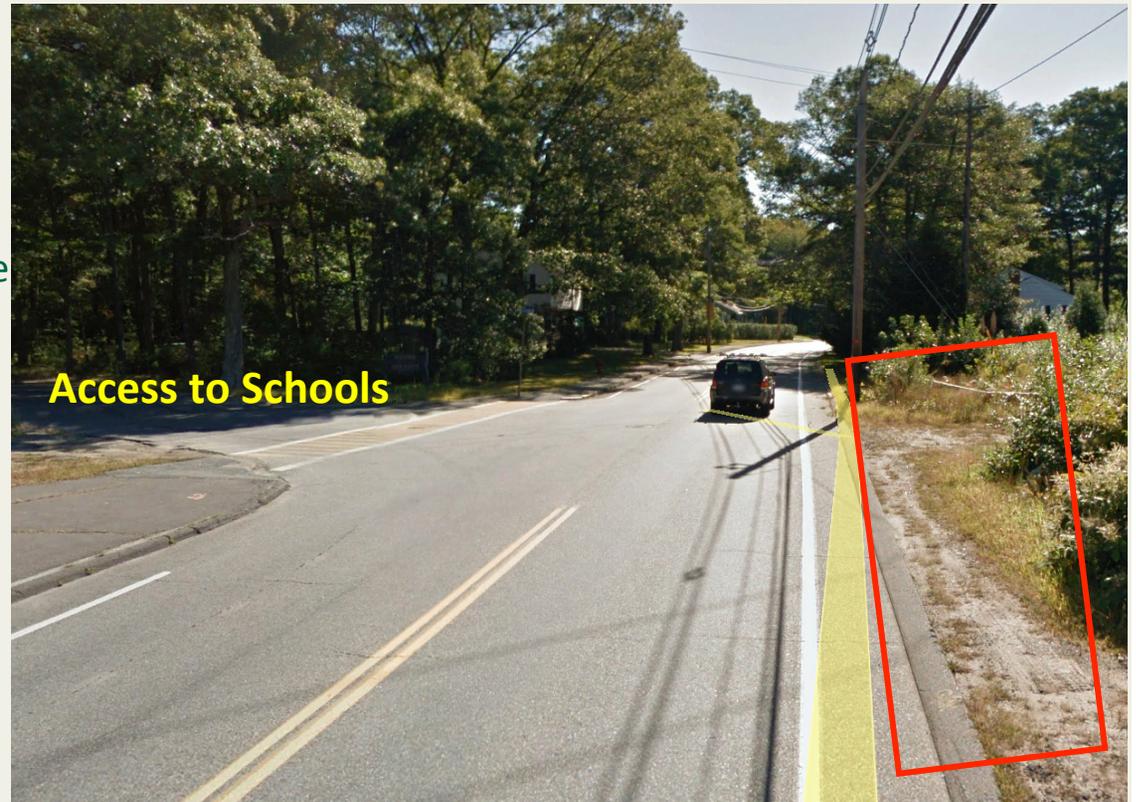
Mill Street

Why?/Needs

- Brown Elementary and a Kennedy Middle school are accessed via Mill Street
- West Hill Park is also located along the east side of Mill Street
- Significant pedestrian activity was observed along Mill Street – a “goat trail” is noticeable

Issues

- There are gaps in the sidewalk along Mill Street



Looking south on Mill Street at school access



Roadway Windshield Survey

Middlesex Avenue

Why?/Needs

- Near Natick Center MBTA Station
- Heavy pedestrian and bike activity – goat trails present
- Middlesex Path trail starts at west end

Issues

- No sidewalk on north side – wide uneven driveways but many businesses
- No bike accommodations
- No buffer zone between sidewalk and road on south side
- Tree root tripping hazards





Roadway Windshield Survey

North Main Street/Route 27

Why?/Needs

- Near Natick Center commercial district
- Heavy pedestrian and bike activity –
- Softball fields on east side
- Elderly pedestrians with canes observed

Issues

- Sidewalk on west side in very poor condition
- Narrow with tripping hazards and overgrown vegetation
- No bike accommodations

Note: North Main Street improvements currently under design





Roadway Windshield Survey: Natick Center MBTA Station



**No ramps or elevators despite
difference in grade – does not meet ADA**

Bike Storage insufficient

**No bike lane and drop-off area produces
conflict**

Significant MWRTA Activity





Roadway Windshield Survey

North Main Street (Route 27) at Neil Circle

Why?/Needs

- Softball fields on east side
- Heavy pedestrian and bicycle activity in commercial district
- Abutting property primarily residential

Issues

- Pedestrian warning signs are non-standard and NB sign is bent away from roadway
- Curb ramp is rutted asphalt with no detectable warning panels
- Crosswalk markings are faded



Note: North Main Street improvements currently under design



Roadway Windshield Survey

Route 27 at Curve Street/Circular Avenue

Why?/Needs

- Johnson Elementary School is immediately northwest of the intersection
- Abutting property primarily residential
- Heavy pedestrian and bike activity observed including many children

Issues

- Heavy vehicular traffic, drivers often block crosswalks due to restricted sight triangle and must focus more on conflicting vehicles and constrained geometry
- Only the east crosswalk includes detectable warning panels
- Bike crash occurred at this intersection



Looking north on Route 27



Looking south on Route 27



Roadway Windshield Survey

Walnut Street/Bacon Street/Chestnut Street

Why?/Needs

- 5-leg all-way STOP-controlled intersection with school and playground on southeast corner with skewed alignment
- Abutting property primarily residential

Issues

- WB Bacon Street to SB Walnut Street left turns are directed into the inside corner (see aerial)
- No crosswalk provided on east side of intersection





Roadway Windshield Survey

Marion Street/Pauline Drive

Why?/Needs

- Location is near Natick Center Station and will see significant pedestrian activity, especially when bridge is repaired

Issues

- Rutted asphalt on curb ramp, no detectable warning panels
- Old-style pedestrian warning signage
- Curvature reduces sight distance





Roadway Windshield Survey

Bacon Street/Oak Street/Arbor Circle

Why?/Needs

- Lilja Elementary School is located on the northeast corner, while residential areas are west of the intersection
- Significant pedestrian activity was observed including children walking home from school

Issues

- Curb ramps do not have detectable warning panels and are not aligned with crosswalks
- There is no school speed limit on the Bacon Street approaches, but a crest vertical curve, a 60' wide 2-lane cross section (encouraging high speeds), and outdated 8" signal heads restrict drivers' visibility of pedestrians crossing
- The walk indication is text and not the standard man symbol
- The pedestrian timing for the exclusive phase does not meet MUTCD standards – 6 seconds "walk" and 9 seconds FDW are provided for a 60' crossing across Bacon Street (40' across Oak Street)
- No countdown timers are provided with the pedestrian signals



Looking north on Arbor Circle



Roadway Windshield Survey

North Main Street (Route 27) / Bacon Street

Why?/Needs

Significant pedestrian and bicycle activity
North Main Street runs through the commercial district
A playground is located on the east side of Route 27
Heavy truck traffic exacerbates conflict

Issues

Pedestrian signal indications inconsistent - text or standard symbols, and some are bent or dark
Pedestrian signals do not have countdown timers
No bicycle lanes or detection
No sidewalk
Crosswalk markings faded
Vehicle congestion due to heavy left-turn volumes with no left turn lanes or protected phases results in blocked crosswalks

Note: North Main Street improvements currently under design





Roadway Windshield Survey

North Main Street (Route 27) / East Evergreen Road

Why?/Needs

Significant pedestrian and bicycle activity
North Main Street runs through the commercial district
Bennett Elementary School is on East Evergreen Street

Issues

Pedestrian signal timing insufficient
Antiquated equipment (text "walk" on NE corner)
Crosswalk only marked across north leg
No push buttons on SE or SW corner
NW curb ramp uneven and blocked by signal pole
No bike facilities
Marked Crosswalk at an angle – longer than needed
No countdown timers
Conflicting STOP sign on signalized EB approach

Note: North Main Street improvements currently under design





Roadway Windshield Survey

North Main Street (Route 27) / Shopping Center North of Route 9

Why?/Needs

Route 27 is a major shopping trip generator and sees significant pedestrian activity

Issues

Faded pavement markings

“WALK” text indication on NE corner
and man symbol on NW corner both dark

Pushbutton on NE corner not ADA-compliant

No countdown timers



Note: North Main Street improvements currently under design



West Natick MBTA Station

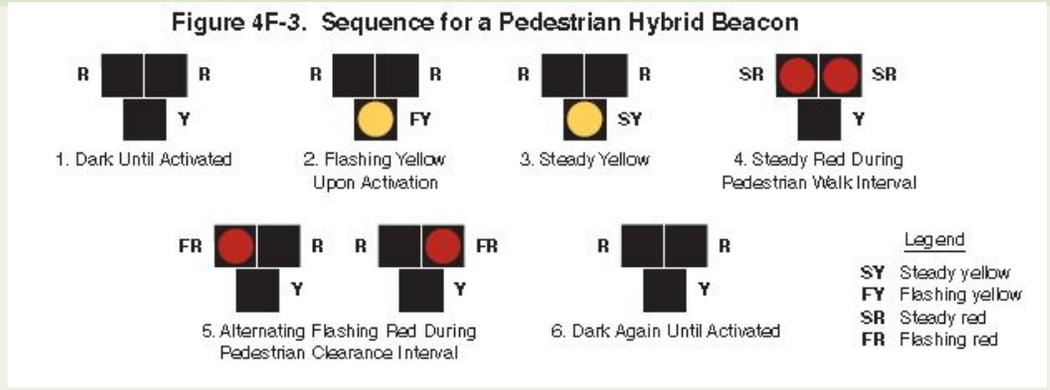
Why?/Need

West Natick MBTA Station sees heavy pedestrian activity during peak hours

Issue

It is difficult for pedestrians to cross Route 135 at Boden Lane to access residences on the south side without signal control

Potential Pedestrian Hybrid Beacon (PHB)





Examples of Non-Compliant Pedestrian Warning Signs in Natick



Route 27 southbound, just south of MassPike overpass



Route 27 northbound approaching Neil Circle



East Evergreen Road westbound approaching Bennett Elementary School



Examples of Lack of Detectable Warning Panels or Curb Ramps in Natick



Pond Street at Oakland Street



Mill Street at Hartford Street



**Washington Street at North Avenue
(Natick Center MBTA/MWRTA Route)**



**Walnut Street at Bacon
Street/Chestnut Street**



Examples of Missing Sidewalk Connections in Natick within School/MBTA/MWRTA Buffer Zones



North side of Bacon Street near Lilja Elementary School



East Evergreen Road near Bennett Elementary School



Middlesex Avenue near Natick Center MBTA Station



Union Street near Morse Hospital



Locations in Need of Bike Storage in Natick



Pleasant Street South Fields



Navy Yard Field, Washington Avenue



Natick Center MBTA Station



Summary of Common Types of Issues/Needs

- **Sidewalk condition**
- **Lack of sidewalks / connectivity**
- **ADA compliance**
 - **Wheelchair Ramp Condition**
 - **Lack of Detectable Warning Panels**
- **Crosswalks**
 - **Faded Striping**
 - **Lack of Pedestrian Warning Signage**
- **Bicycle Accommodation**
 - **Storage**
 - **Signs / pavement markings**
 - **Roadway width**
 - **Signal Detection**