


GREEN INTERNATIONAL AFFILIATES, INC.
CIVIL AND STRUCTURAL ENGINEERS

Complete Streets Tier 2 Prioritization Plan: Town of Ashland



January 30, 2018

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Meeting Objectives

- Report initial needs assessment findings.
- Confirm needs assessment findings / ID additional needs.
- Begin discussion of potential Tier 2 actions.

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Presentation Outline

- MassDOT's Complete Streets Program
- About Ashland
- Background Information
 - Complete Streets Policy
 - Transportation-Related Projects
- Completed Scope of Work
 - Obtain & review existing information
 - Safety data analysis
 - Windshield Survey Observations
- Key Findings - Issues
- Potential Opportunities

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Complete Streets – What are they?

Complete Streets...

...consider all users of streets, roads, and highways including pedestrians, bicyclists, persons with disabilities, seniors, children, motorists, movers of all commercial goods, operators of public transportation, public transportation users of all abilities, and emergency responders

Source: Institute of Transportation Engineers




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Complete Streets – What are they?



In other words, complete streets are for everyone – no matter who they are or how they travel.

Source: National Complete Streets Coalition



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Complete Streets – Why important?

- Provide for safe movement for all users
- Better design for older adults and children
- Attention to details to better allow travel by people with disabilities
- Improve safety

- Encourage better connections between transit and other modes
- Better health
- Stronger economies
- Reduce costs
- Provide choices
- Smarter growth

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Creating Connectivity

One objective of Complete Streets:


- Improve links for residents to safely walk/ride to:
 - Downtown Area
 - Local shops / businesses
 - Restaurants
 - Parks / Recreational Facilities
 - Schools
 - Public Buildings

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The MassDOT Complete Streets Program

- Provides assistance and incentives for municipalities to adopt Complete Streets policies and practice
- Encourages municipalities to adopt strategic and comprehensive approach to Complete Streets
- Provide funding for planning and implementing Complete Streets actions

- In the end, the program is facilitating better travel for all users

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The MassDOT CS Funding Program

- Tier 1 - Complete Streets Policy
- Tier 2 – Development of Complete Streets Prioritization Plan - up to \$38,000 available per participating community
- Tier 3 – Project Approval and Notice to Proceed for installation or construction – up to \$400,000 available per participating community per year
- Tier 2 Plan is required prior to applying for Tier 3 installation or construction grant.



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Tier 2 Prioritization Plan Process


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



Source: RoadSign.com
Source: McMahon Transport Engineers & Planners
Source: Asheville (NC) City Source

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Ashland Complete Streets Tier 2 Prioritization Plan

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Ashland Overview


- City of ~16,600, 12.5 square miles of land.
- Residential suburb 22 miles west of Boston
- Two major routes, Route 135 & Route 126, pass through Ashland.
 - Route 135 is dominated by older residential development of varying density and is also part of the route for the Boston Marathon.
 - Route 126 has developed rapidly since the 1980's, as farms have given way to shopping centers and condominiums.
- Ashland has its own stop on the Framingham/Worcester Commuter Rail Line and also has nearby access to both I-90, I-495 & Route 9.

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Town of Ashland's Complete Streets Policy (DRAFT)


- The purpose is to accommodate all road users; create a network that utilizes all transportation modes.
- The Town will, to the maximum extent practical, design, construct, maintain, and operate all streets to provide for a comprehensive and integrated street network of facilities for people of all ages and abilities.
- Complete Streets design recommendations shall be incorporated into all publicly and privately funded projects, as appropriate.
- Projects can obtain exemptions if deemed appropriate and approved by the approving department or board




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Downtown Ashland Revitalization and Redevelopment Plan – February 2011


- Overall goal is to increase the vitality of the historic downtown by Revitalizing the Town Center with an enhanced, pedestrian-friendly environment for everyone.
- Additional Goals for the Urban Renewal Plan:
 - Improve vehicle access to and mobility throughout downtown
 - Create opportunities for public open space



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Downtown Ashland Revitalization and Redevelopment Plan – February 2011


- Proposed Urban Renewal Actions:
- Short-Term Projects
 - Main Street/Front Street Public Space Enhancements
 - Marathon Park Expansion
 - Streetscape/Roadway/Gateway Improvements
 - Along Main St & Front St
 - Railroad Crossing Improvements and Improved Access to Parking & Businesses
 - Railroad Crossing Quiet Zone Project
- Mid-Term Projects
 - Address Parking Deficiencies, Property Access & Gateway Treatment – Summer/Main Streets
 - Gamewell Parcel Redevelopment Project
- Long-Term Projects
 - Police & Fire Redevelopment Project

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Ashland Upper Charles Trail Conceptual Design & Feasibility Study

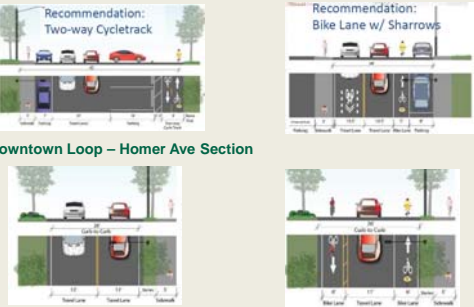
- Conceptual design presented to the Board of Selectman in December 2017
- Study determined that a trail is feasible
 - 8.3 miles of trail using key state & Town-owned properties
 - Mostly off-road with short stretches on local streets
- Ashland State Park Route
 - Incorporates MBTA Access Road side path
 - Exclusively off street
- Downtown Loop
 - Provides connections to destinations
 - Primarily on-street bike facilities




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Ashland Upper Charles Trail Conceptual Design & Feasibility Study



- Downtown Loop – Park Rd & Summer St Segments
 - Recommendation: Two-way Cycletrack
 - Recommendation: Bike Lane w/ Sharrows
- Downtown Loop – Homer Ave Section
 - Existing Conditions
 - Proposed Conditions




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Ashland Upper Charles Trail Conceptual Design & Feasibility Study

Recommended Route – East

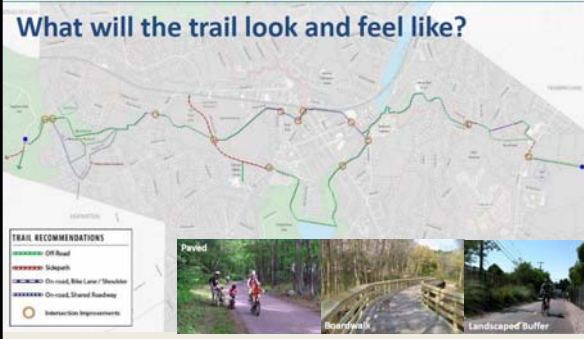


Ashland High School Inset

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Ashland Upper Charles Trail Conceptual Design & Feasibility Study

What will the trail look and feel like?



TRAIL RECOMMENDATIONS

- Off-Road
- Subpath
- On-road, Bike Lane / Shoulder
- On-road, Shared Roadway
- Intersection Improvements



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Sudbury Riverwalk Bridge Design & Trail Enhancement -Green



Design of a 0.8 mile Riverwalk trail including:

- Short span ADA compliant pedestrian bridge
- ADA compliant observation platform
- ADA compliant section & parking area
- Long span ADA compliant pedestrian bridge

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Civil and Structural Engineers

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Transportation-Related Projects

Route 126 Reconstruction – Green International Affiliates, Inc. (Green)

- MassDOT Project 604123
- On the MassDOT TIP FFY 2020
- Reconstruction of a 1.7 miles section of Route 126 (Pond St) from Holliston Town Line to Framingham Town Line
 - Addition of sidewalks & bike lanes along Route 126 corridor
 - Access management improvements
 - Intersection Improvements



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Safe Routes to School (SRTS)

Ashland has three (3) partner schools with the MassDOT SRTS program:

- Ashland Middle School
- David Mindess School
- Henry Warren Elementary School



David Mindess Elementary School Assessment Report – January 2017

- Infrastructure Recommendations
 - Main St / Pleasant St
 - Main St Midblock Crosswalk at the Federated Church of Ashland
 - Main St / Front St
 - Front St Midblock Crosswalk at Ashland Public Library
 - Front St / Concord St
 - Concord St / Raymond Marchetti St
 - Concord St / School's West Driveway
 - Concord St / Fountain St


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Development Projects

Proposed Development Projects

- 128 Main St – Mixed Use Building w/ 17 residential units & commercial space
 - Review process before the Planning Board
- 0 Tri St – 5 Lot Cluster Development
 - Review process before the Planning Board
- 73 Olive St – 4 Lot Subdivision
 - Review process before the Planning Board
- Rail Transit District Phase II
 - Preliminary Plan disapproved
 - Zoned for ~250 age restricted units
 - Nothing new has been filed




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Crash History

- Crash data reviewed as part of this Complete Streets Study were obtained from the MassDOT Crash Record System.
- Recent crash history for the Town of Ashland for the most recent three-year period available (2013-2015) were reviewed.
- Eight (8) crashes involving Pedestrians :
 - 4 along Main St in vicinity of Downtown Area
 - 1 along Pleasant St
 - 3 along Route 135
 - 1 Fatality on W Union St (Rt. 135) near Ashland Middle School
- Nine (9) crashes involving Bicycles:
 - 3 in vicinity of Downtown Area
 - Remaining crashes were dispersed throughout the Town.
- Vast majority of Pedestrian and Bicycle crashes occurred on streets surveyed as part of the Windshield Survey.

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Pedestrian & Bicycle Crash Cluster

- Pedestrian & Bike crash cluster:
 - Downtown Ashland
 - 7 pedestrian crash locations
 - 5 bike crash locations

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Crash History – Vehicle Hot Spots

- In addition to crashes involving Pedestrians & Bicycles “Hot Spots” were identified as any location experiencing 3 or more crashes per year throughout the most recent 3 year available period
- The following 7 locations were identified as local “Hot Spots”:
 - Main St. / Pleasant St.
 - Main St. / Summer St. / Homer Ave
 - Main St. / Union St. (Rt. 135)
 - Prospect St. / Eliot St.
 - Union St. (Rt. 135) / Fountain St.
 - Oak St. / Oregon Rd.
 - Oak St. / Cordaville Rd.

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Windshield Survey Routes

List of Streets Analyzed

- West Union St. (Rt. 135)
- Union St. (Rt. 135)
- Waverly St. (Rt. 135)
- East Union St.
- Main St.
- Fruit St.
- Oak St.
- Prospect St.
- Eliot St.
- Summer St.
- Homer Ave
- Front St.
- Fountain St.
- Myrtle St.

- High St.
- Cross St.
- Howe St.
- Cherry St.
- Megunko Rd.
- Park Rd.
- Esty St.
- Concord St.
- Oregon Rd.

Total: 28 Streets, approximately 26 miles

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Crossings Without Curb Ramps



No ramps at crosswalk crossing West Union St at Presidents Row



Crossing across Main St at Front St does not lead to the curb ramp opening



No ramps at crosswalk crossing Park Rd at Summer St



No ramps at mid-block crosswalk crossing West Union St at Honey Dew Donuts.

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Curb Ramps in Below Average Condition



Midblock Crosswalk crossing Front St at Ashland Public Library



Crossing across Park Rd at Summer Catch-basin is a tripping hazard

Note:
ADA Detectable warning panels were not observed on any windshield survey streets



Crossing across James Jackson Way (Ashland Middle School Entrance) at West Union St



Alden St at William Pittaway Elementary School Access Driveway

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Missing Crosswalk Connection

Crosswalk desirable across west leg of Union Street at Fountain Street (signalized) to provide connection to Mindess Elementary School, Ashland High School, and Downtown



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Bike Accommodation Networks

- No bike lanes or shared-lane markings observed on any windshield survey streets
- Streets in Ashland are not wide enough to safely support on-street bicycle lanes
- Shared lane markings can still be provided



Source: Google Street View

West Union Street, connecting the Middle School, the community center, Ashland State Park, Stone Park (via Summer Street), & Downtown is only 24' wide; a minimum of 32' of pavement width required for bike lanes


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Signal Equipment - Bikes

- Of the 11 signalized intersections included as part of the Windshield Survey, 10 do **not** appear to have bicycle detection.
- The only signalized intersection with evidence of bicycle detection is the Union St / Chestnut St intersection
 - Only on the Union St approaches; signage not MUTCD standard




Union St EB approach to the Union St / Chestnut St intersection

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Signal Equipment – Ped Push Buttons

- Outdated and/or non-ADA-compliant pedestrian push buttons. Some examples:




NE Corner of Union St at Summer St

- Old signal equipment, not ADA-compliant.
- Pushbutton is too small to be ADA-compliant.




NW Corner of Union St at Summer St

- Old signal equipment, not ADA-compliant.
- Pushbutton is too small to be ADA-compliant.

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Signal Equipment – Ped Push Button Locations

- Pedestrian Push buttons placed at far distances from curb ramps. Some examples:




Fountain St at Front St

- Push button is located on a steep slope behind guardrail at a far distance from the curb ramp




Main St at Chestnut St

- Pedestrian push button is located within the traffic island with a 3.5 foot separation from the edge of curb
- Pedestrian cannot reach push button without stepping over the curb onto the raised island


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Limited Sightlines for Pedestrians



Source: Google Street View

Main St at Chestnut St, looking south
(Also Note Lack of Pedestrian Crossing Warning Signage)



Source: Google Street View

Fruit Street at Eliot Street, looking southeast;
visibility of waiting pedestrians is restricted around corners

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Typical Sidewalk Issues

- No curb exists to adequately separate sidewalk from edge of roadway.
- Deteriorating walking surfaces resulting in cracking and holes causing trip hazards for pedestrians.
- Uplifts in cement concrete panels causing an uneven walking surface.
- Missing sidewalk links evidenced by worn dirt paths and observed pedestrian activity (Cherry St shown at right)
 - Also noted: Myrtle Street, Fountain Street, Cedar Street, High Street, Chestnut Street
- Utility poles blocking sidewalks (primarily on Oak St)



Source: Google Street View
Cherry Street, looking north



Source: Google Street View
Oak Street, looking north

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Key Sidewalks in Below Average Condition

Examples of locations that could provide connections between residential neighborhoods and Downtown public facilities, parks, stores, churches, and schools:



North side of Union St;
looking east from just
east of Alden St



Esty St; looking south



Cherry St;
looking south




Park Rd;
looking west

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Pedestrian Crossing Warning Signage

- Park Road midblock crosswalk at Stone Park (at right) is missing signage. Sightlines are partially obstructed by vehicles parked on-street.



Source: Google Street View

- Crosswalk across West Union St at Ashland Commons (at right) has outdated school crossing sign (with crosswalk lines and no downward arrow plaque), but also is not located at a school



Source: Google Street View

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Eliot Street/Fruit Street Intersection Safety

- Sightlines for pedestrians, bicyclists and vehicles exiting Fruit Street onto Eliot Street are poor
- School zone speed limit sign is improperly placed on the left side as drivers approach Fruit St Elementary School
- Sidewalk is not in good condition




Source: Google Street View

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Summary of Needs

- No bike lane or shared-lane pavement markings or signage observed in the windshield survey
- Bike detection only present at one signalized intersection
- Pedestrian crossings need to be made more visible with proper signage at critical locations.
- Some pedestrian/vehicle sightlines are inadequate
- ADA compliance is lacking town-wide
 - No detectable warning panels observed
 - Many missing curb ramps
 - Many existing curb ramps cracked or uneven
 - Obstacles on sidewalks/landings
- Some pedestrian pushbuttons are inaccessible

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Summary of Needs, continued

- Sidewalk presence and/or condition within buffer zones (easily walkable distances) of key public facilities is inconsistent
- Sidewalks are missing in several desired locations. Sidewalk demand is apparent based on the presence of worn dirt paths and observed pedestrian traffic on:
 - Main Street (east side) between Union St and Kidde driveway
 - Myrtle St north of Strobus Ln
 - Cherry St north of Park Rd
 - Fountain St east of Green St
 - Cedar St north of Grover Rd
 - High Street
 - Chestnut Street

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Ashland Complete Streets Potential Tier 2 Opportunities

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Types of Eligible CS Actions: Pedestrian Safety



pedestrian-activated LED sign



Curb Extensions to Shorten Crossings

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Types of Eligible CS Actions: Pedestrian Mobility



High-visibility crosswalks
ADA-compliant curb ramps
Updated pedestrian signals



Meandering Paths



Sidewalks

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Improving Pedestrian Crossings

- Upgrade and regrade non-ADA/AAB-compliant ramps
- Crosswalks without ramp openings should have ramps constructed
- Crosswalks leading to obstructions should be shifted or modified



Source: Midwestern Transport Engineers & Planners

ADA-Compliant Curb Ramp with Detectable Warning Panels

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Reducing Long Crossing Distances

Main St at Pleasant St. has wide radii and diagonal crossings; hence long pedestrian crossings – an unsafe condition.

Source: Safe Routes to School Report: David Mendes Elementary School

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Bike Parking

Mostly adequate supply in Ashland but potential additional locations for bike racks at:

- Ashland Community Center (West Union St)
- Murphy Square (Main St/Homer Ave)
- Stone Park (Park Road)

Examples of Bike Racks installed using Complete Streets Tier 3 Grant \$

#300 King St Recreational Facility – Littleton, MA Long Lake Beach – Littleton, MA

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Shared Lanes

- For narrow streets or street segments where roadway widths do not allow for sufficiently wide shoulders
 - Roadways under 32' wide
- Add R4-11 signs and sharrows to encourage shared lane use
- Potential Locations in Ashland:
 - Main Street
 - West Union Street/Union Street
 - East Union Street
 - Waverly Street
 - Pleasant Street
 - Concord Street
 - Front Street
 - Fountain Street (connecting with Union Street)
 - Summer Street
 - Prospect Street

R4-11
Source: MUTCD

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Types of Eligible CS Actions: Innovative Configurations

Mixed Traffic Facilities (Yield Roadway)

W11-15 

W16-1P 



Travel Area
12-20 ft (3.6-6.0 m)

Roadside/Parking/
Queuing
Varies

Sisters, OR—Population 2,170

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Types of Eligible CS Actions: Innovative Configurations

Mixed Traffic Facilities (Advisory Shoulder)



Advisory Shoulder
6-8 ft (1.8-2.4 m)

Center Two-Way Travel Lane
10-18 ft (3-5.5 m)

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Bus Stop Amenities

- Opportunities to install:
 - Signage
 - Shelters
 - Benches
 - Bicycle Storage Racks
 - ADA Compliant Curb Ramps



Source: MBTA

Source: NACTD

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Traffic Speed Management

- Narrow lanes to 11 feet where applicable (Road Diet)
- Add speed monitoring display (solar-powered) on long tangents or roads leading towards sensitive areas
 - e.g. Oak Street
 - Main Street / Prospect Street
 - Pleasant Street
 - Route 135
- In-road R1-6 signs at crosswalks in busy or seemingly empty areas
 - e.g. Main Street
 - Pleasant Street
 - Front Street



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