Agenda

- About RiverCOG and this Plan

- Plan Vision and Goals

- Public Involvement

- Presentation of the Draft Plan

- Project Schedule and Next Steps

What is RiverCOG

- RiverCOG is a Regional Planning Agency that consists of 17 member municipalities

- RiverCOG is one of nine Council of Governments in the State

- Assists municipalities with Regional Planning and Funding

- Managed by a Board with members from each Municipality

What is a Regional Plan?

- Connect across municipalities
- Technical assistance
- Funding opportunities
- Economic opportunities
- Tourism
- Health
- Quality of Life

Priority Implementation Tiers

— Tier I Improvements
— Tier II Improvements
— Tier III Improvements

The Plan's Steering Committee

- Carrie Allen - Clinton Bicycle and Pedestrian Alliance
- Martin Anderson – Durham Complete Streets Committee
- Beth Emery – Middletown Complete Streets Committee
- John Hall – Jonah Center for Earth and Art, Middletown
- Janice Ehlemeyer, Sam Gold, Rob Haramut – RiverCOG

The Plan's Vision and Goals

1 The LCRV provides safe and inviting routes used by cyclists and pedestrians. They are assets that improve regional connectivity, promote public health, and are economic drivers.
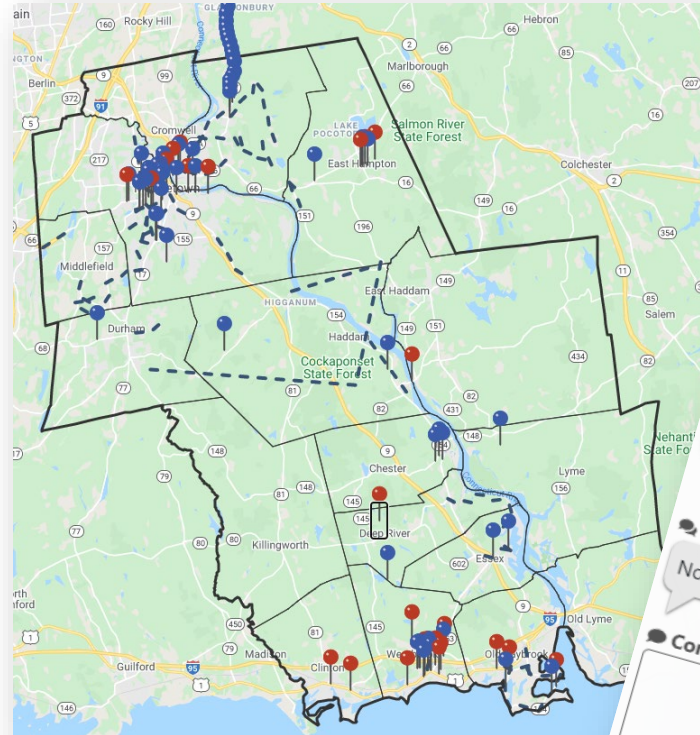
2 The LCRV has an equitable network of bicycle and pedestrian amenities that are accessible to users across the Region.

3 The LCRV provides bicycle and pedestrian facilities that connect village centers and nodes as well as the open space resources that are so valued across the Region.

Public Involvement - 2020

- Focused on Placemaking
- Online Mapping Tool
- Desire for Quick Build Projects

Public Involvement - 2020

Love Your Trails?

Share Feedback at
http://fhiplansurvey.com/riverCOG/

Lower Connecticut River Valley
Council of Governments

Love Biking?

RiverCOG's Bike and Pedestrian
Plan Needs Your Input!
http://fhiplansurvey.com/riverCOG/

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Council of Governments

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Draft Plan Highlights

- Draft Plan includes:
  - Existing Conditions Overview
  - Municipal Overview
  - Design Guidelines
  - Recommendations
  - Implementation Plan and Funding Sources

Lower Connecticut River Valley
Bicycle and Pedestrian
Master Plan 2022
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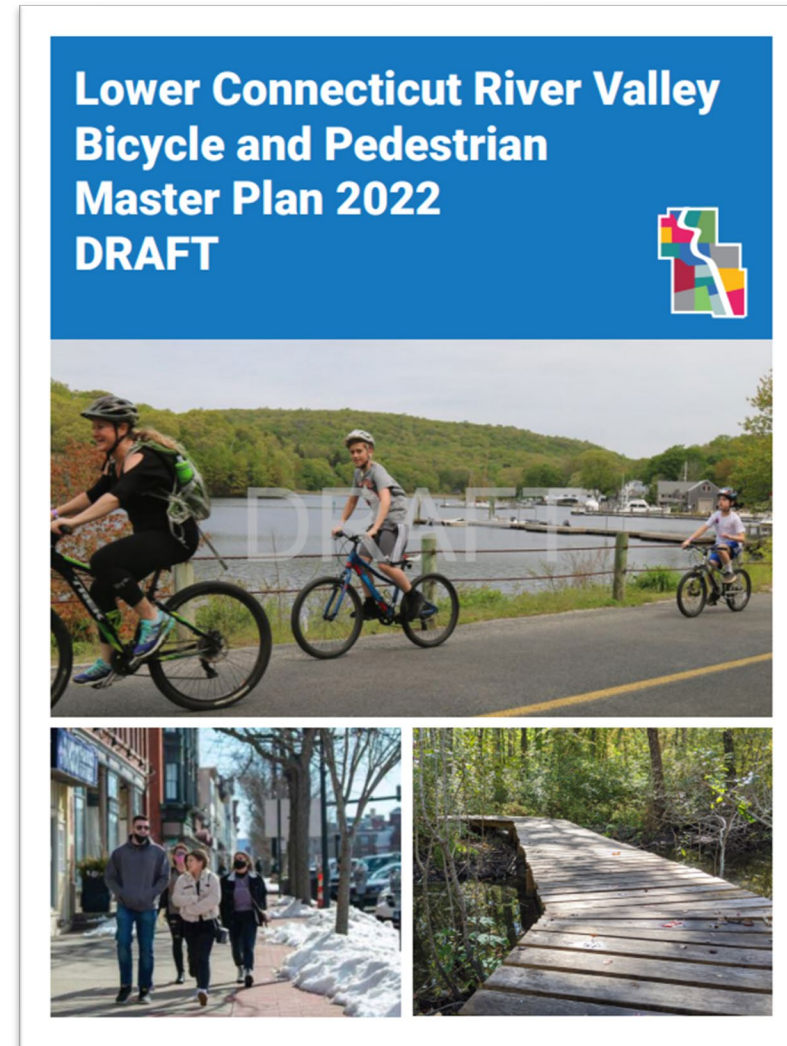
Existing Conditions Overview

- Existing Conditions includes:

  - About the Plan

  - Goals of the Plan

  - Review of past work efforts

  - Crash analysis

  - Strava/Streetlight findings

  - Sustainable CT Fellows highlights

Crash Data

- Crash Analysis for 2017 - 2019:
  - Bicycle and Pedestrian crashes highest in municipalities with the greatest population densities
  - Three fatal pedestrian crashes
  - One fatal bicyclist crash

Crash Type

- Pedestrian Crash
- Bicyclist Crash
- Fatality
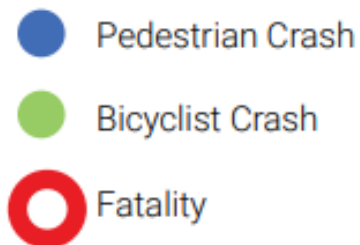
Table 1: Crashes by Municipality		
Municipality	**Bicyclist Crash**	**Pedestrian Crash**
Chester	0	1
Clinton	1	10
Cromwell	7	15
Deep River	2	0
Durham	2	1
East Haddam	0	0
East Hampton	1	5
Essex	1	0
Haddam	0	1
Killingworth	0	2
Lyme	0	0
Middlefield	1	3
Middletown	12	56
Old Lyme	1	5
Old Saybrook	11	8
Portland	1	3
Westbrook	2	3
LCRV Region Total	42	113

Source: CT DOT Crash Data Repository, 2017 – 2019. https://www.ctcrash.uconn.edu/

Crash Analysis

Top Five Crash Locations
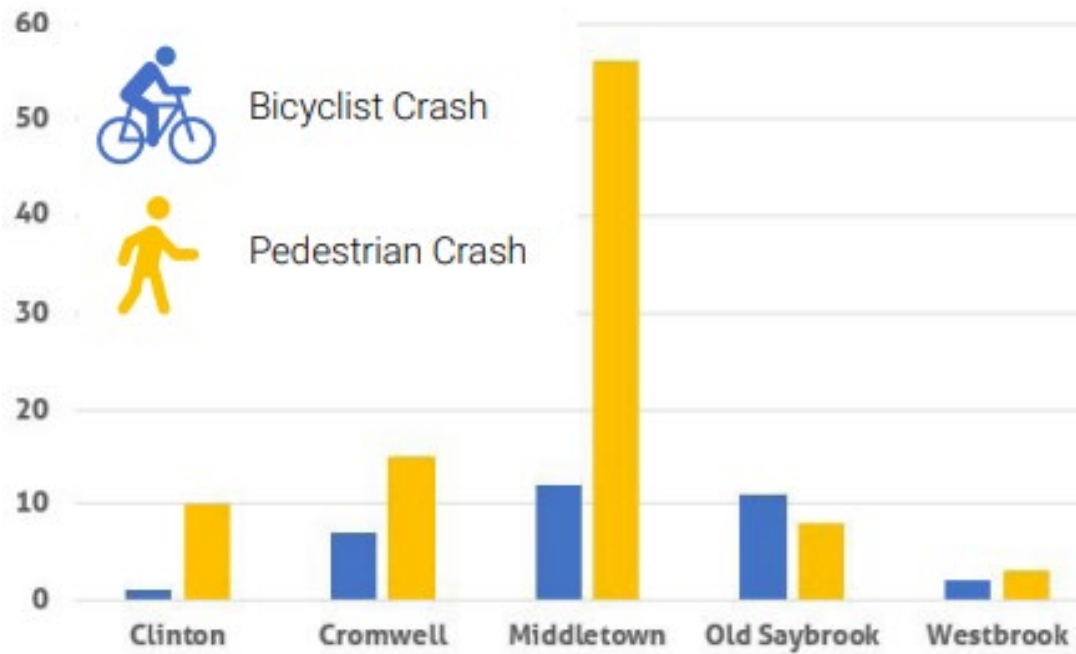
Source: CT DOT Crash Data Repository, 2017 – 2019.
https://www.ctcrash.uconn.edu/
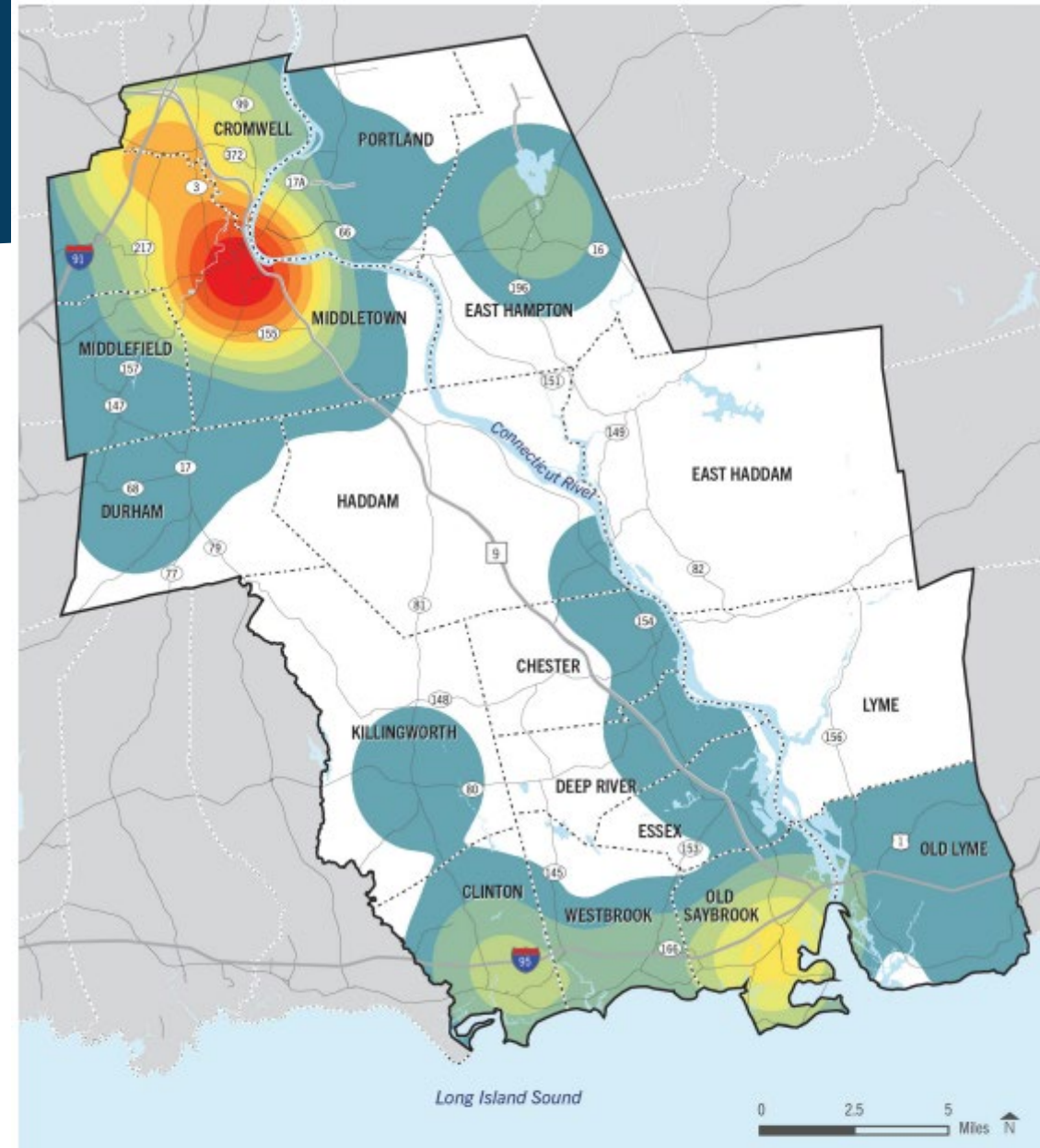
Strava Overview

What is Strava?

- Data showing where people are walking and biking

- Telling snapshot of desire lines

- Users have to log their trips to be counted
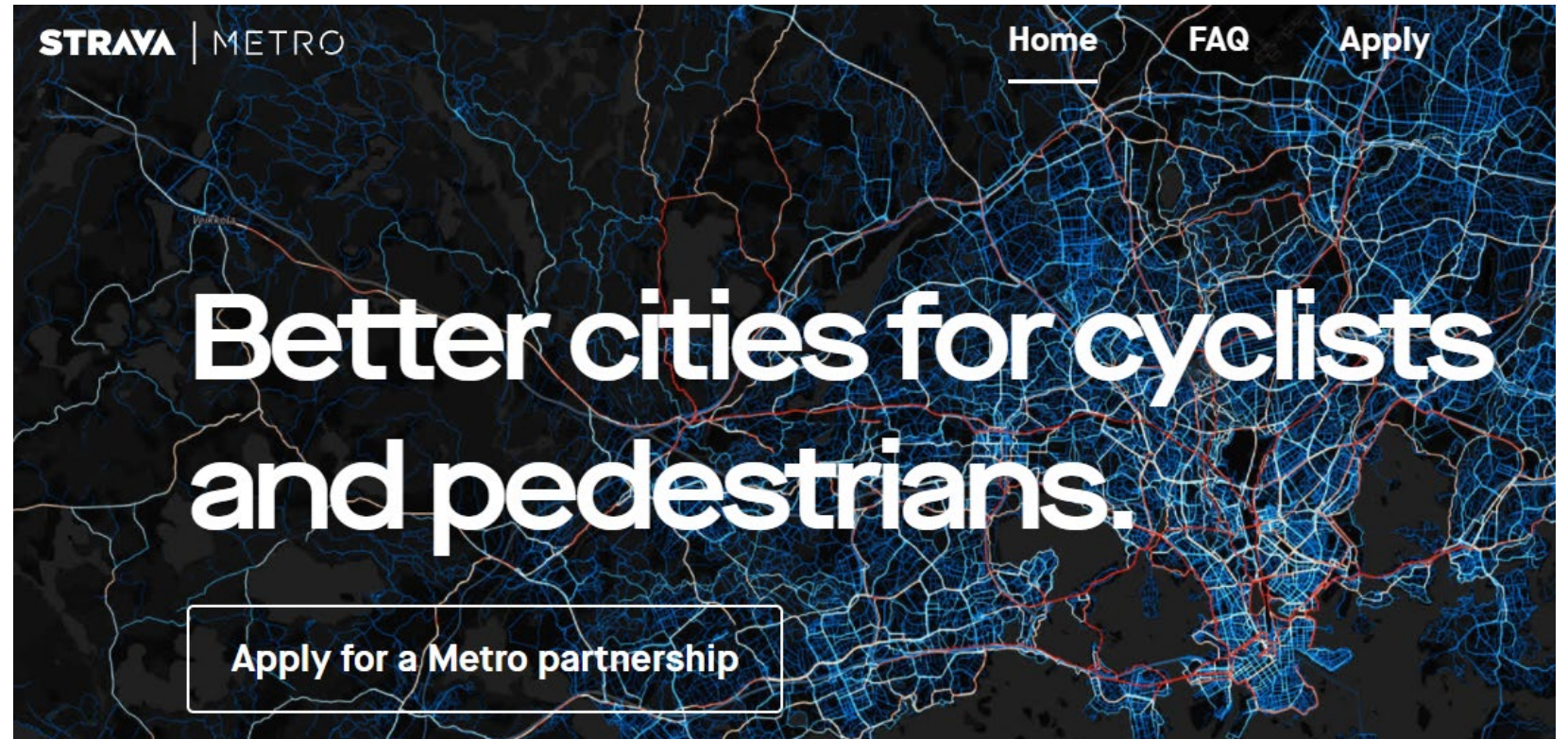
Review of Strava Analysis

Bicycle Activity – riders on busy State Routes tend to be weekend riders, morning peak has highest volumes.
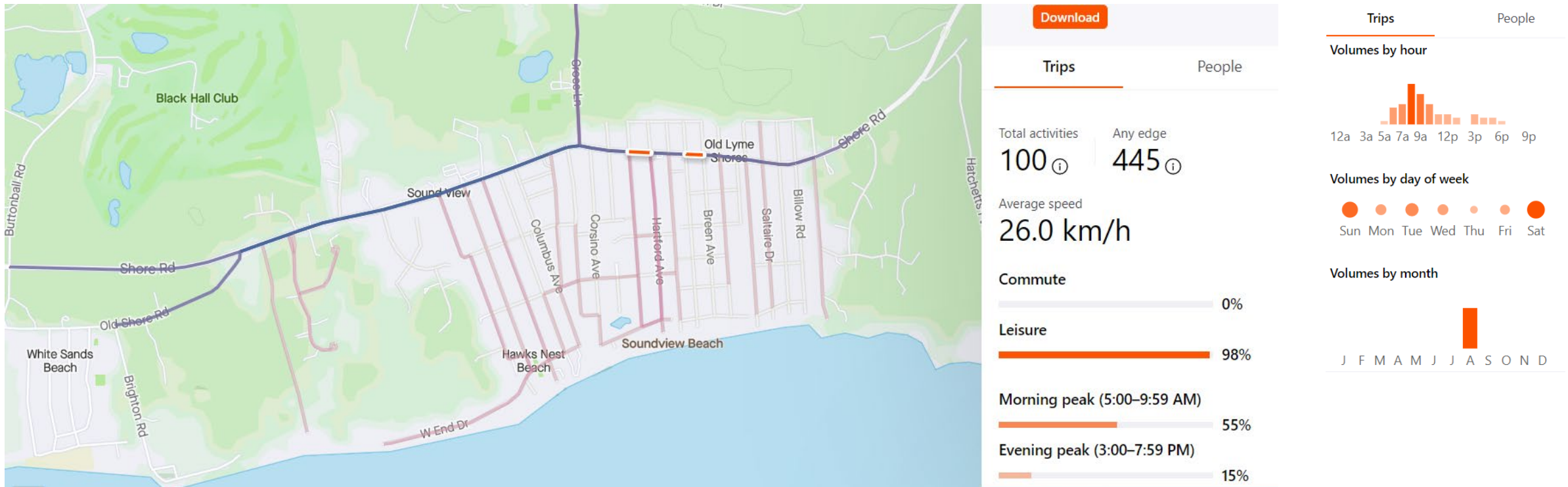
Strava Analysis Key Points

- Cyclist are using the busier State Routes, but highest ridership tends to be early morning weekend hours.

- Cyclist/ mountain bikers using open space trails throughout the week.

- Where alternative parallel routes exist, users often take those over the higher traffic volume State Routes.

- Pedestrian volumes heaviest around village/downtown nodes and in scenic areas like the beaches or the river.

Streetlight Overview

ORIGIN DESTINATION

Trip volume between and within zones to identify demand

SELECT LINK

Route alternatives to measure success of current infrastructure

STREETLIGHT InSight

Bike Traffic Patterns

Busiest Day of Week
Tuesday

Busiest Time of Day
4-5PM

Avg Bike Distance
1-2 Miles

Avg Bike Travel Time
15.5 Mins

< $20K
$20-35K
$35-50K
$50-75K
$75-100K
$100-125K
$125-150K
$150-200K
>$200K

TRAFFIC BY INCOME

O-D TRAFFIC
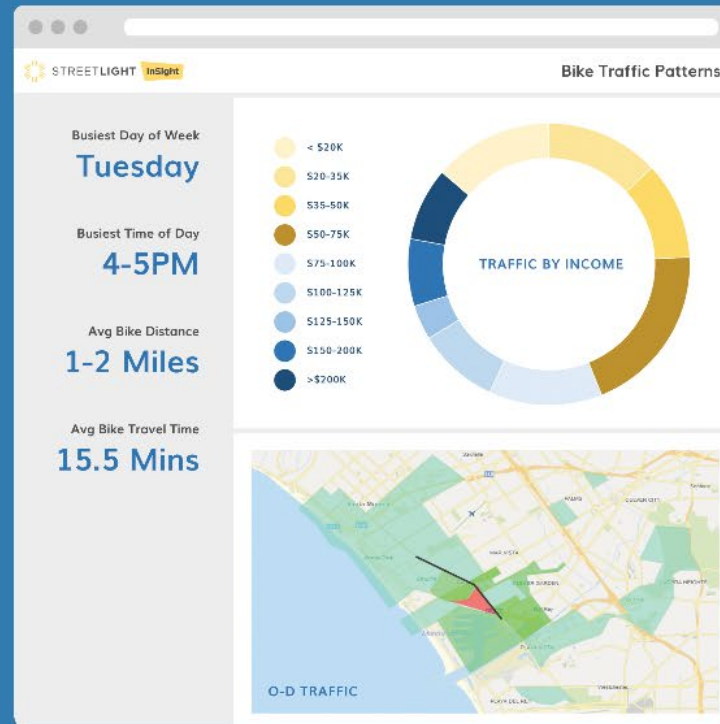
TRIP ATTRIBUTES

Travel distance, time, speed to address safety and first- and last-mile connections

TRAVELER ATTRIBUTES

Demographics and inferred trip purpose to ensure access to affordable options

Streetlight

- Ten Zones were Selected to Analyze:
  - Cromwell
  - Middletown
  - Portland
  - East Hampton
  - Haddam/East Haddam
  - Deep River
  - Clinton
  - Westbrook
  - Old Saybrook
  - Old Lyme

Streetlight Zones

Clinton

Cromwell

Haddam/ East Haddam

Middletown

Deep River

East Hampton

Old Lyme

Old Saybrook
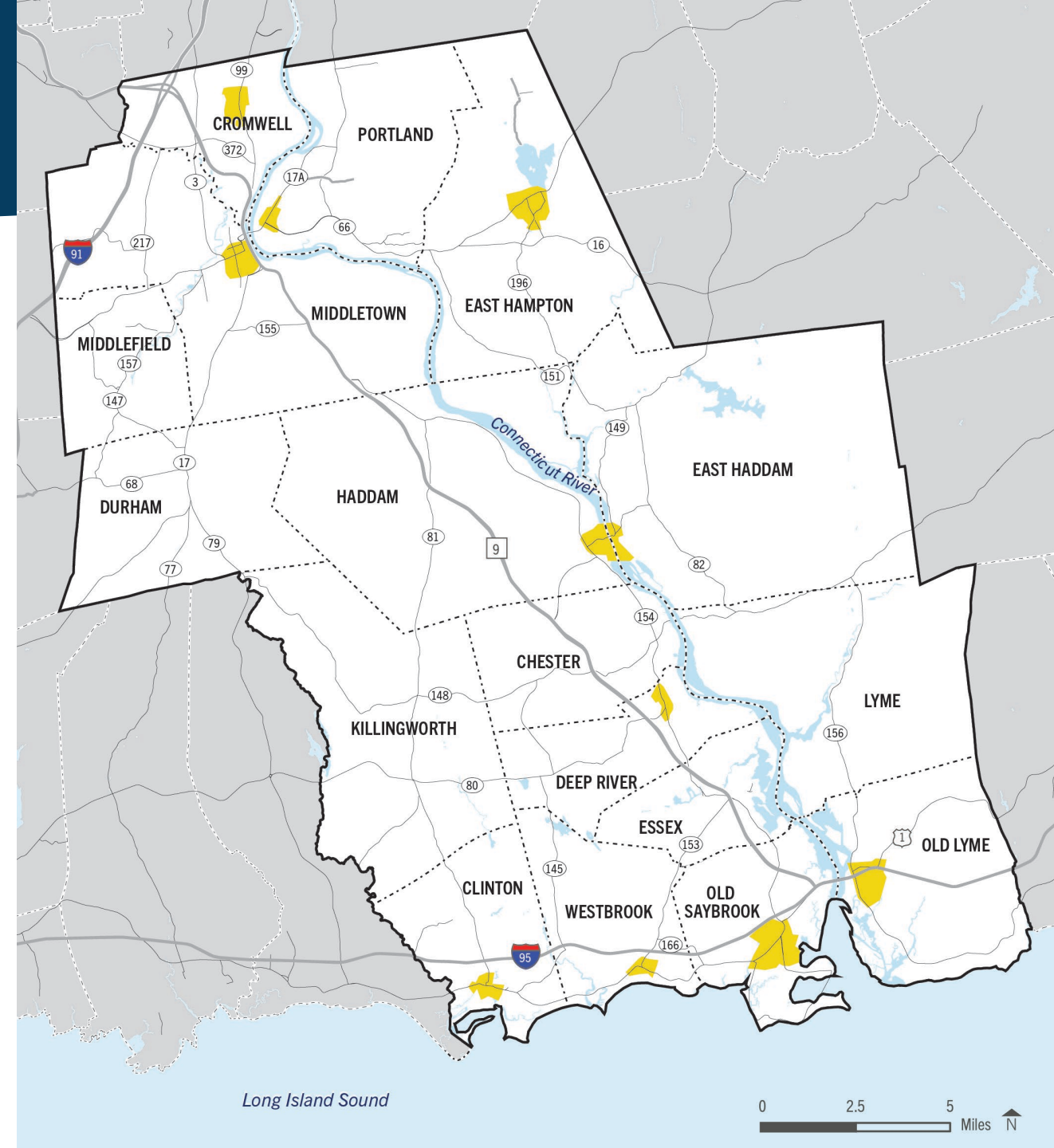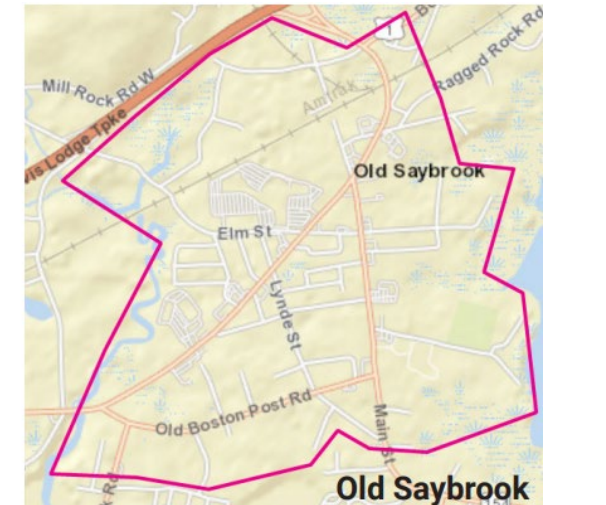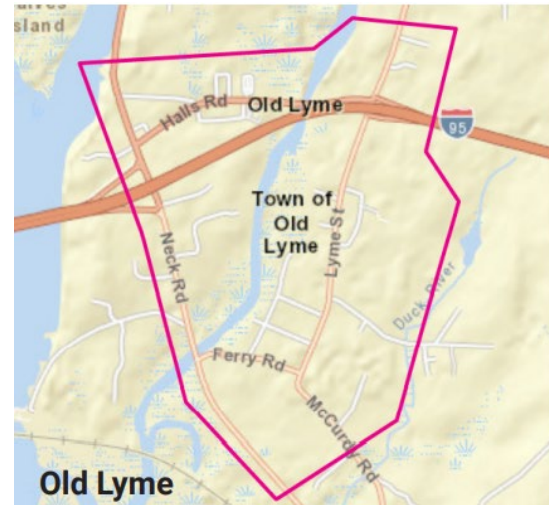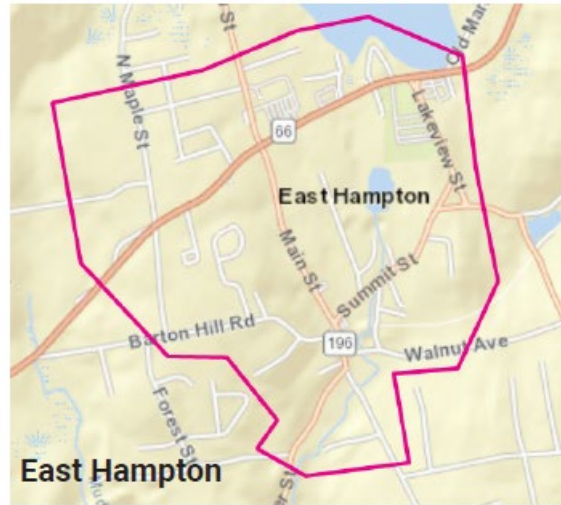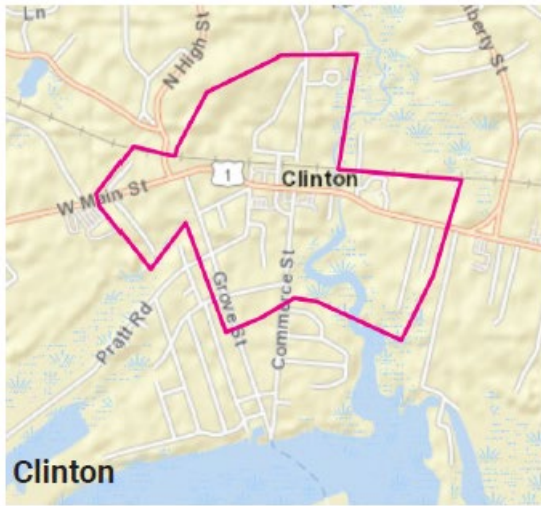
Streetlight Zones

Streetlight Findings

- Surprisingly, high percentages of bicycle trips under two miles

- All Vehicle trips are those that could potentially shift to walking or biking trips if facilities are provided for

Table 4: Share of Trips Under Two Miles			
Zone Municipality	Pedestrian	Bicycle	All Vehicles
Cromwell	98%	50%	30%
Middletown	98%	64%	34%
Portland	97%	20%	29%
East Hampton	98%	34%	31%
Haddam/ East Haddam	99%	20%	16%
Deep River	98%	89%	25%
Clinton	98%	52%	31%
Westbrook	97%	50%	23%
Old Saybrook	99%	72%	28%
Old Lyme	98%	60%	15%

Municipal Overviews

- Highlights from each municipality
  - Recent accomplishments
  - Issues and concerns
  - Opportunities – influenced recommendations

DEEP RIVER

The Town of Deep River is located on the west side of the Connecticut River, north of the shoreline. Deep River is one of the region's riverside communities, with recreational destination amenities such as marinas and the Essex Steam Train and riverboat stop located at Deep River Landing.

Deep River's transportation network includes State Highway Route 9, and State Routes 154, 145, 602, and 80.

Once known as the "Queen of the Valley", Deep River has a rich industrial past rooted in the piano key manufacturing business and the Piano Works factory. Factory worker homes were built in close proximity to the Downtown, creating a dense pattern on residential development that is still prevalent today. Most of the residential neighborhoods in the Downtown are connected by sidewalks. Land uses in Deep River consist of a mix of local businesses and restaurants, residential neighborhoods, industrial businesses, and wooded areas and open space.

Deep River had a population of 4,480 in 2019[1], and a population density of 329 persons per square mile. Roughly 0.5% of workers age 16 and over did not have access to a vehicle. Approximately 1.3% of workers utilized public transportation, 3.4% walked to work and 0.3% bicycled to work. Approximately 3.1% of Deep River's workers worked from home. The majority of workers (84%) drove alone to work.[2] Public transportation in Deep River includes 9 Town Transit (two routes have stops in Deep River). The CTTransit Express bus to Middletown and Hartford stops in the neighboring Town's of Essex and Chester.

Recent Accomplishments

A sidewalk expansion project is planned that will extend the existing sidewalk on River Street (currently ends at River Lane) down to the Deep River Landing. This location is a regional destination as it is a stop for the Essex Steam Train and Riverboat. The completion of this sidewalk network will provide a pedestrian link between the Connecticut River and Downtown.
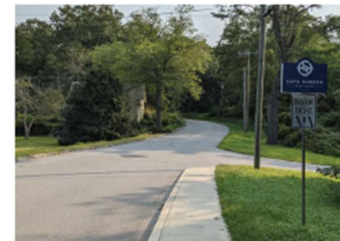
Location of sidewalk extension project planned for River Street
Source: FHI Studio

Issues and Concerns

Speeding, particularly in the downtown has been a concern for many residents. Route 154 (Main Street) runs directly through Deep River's commercial business center. Deep River Elementary School students who reside on the neighboring streets are often walk between the school and the various businesses and the downtown (ice cream shop, coffee shop, Town Library). The safety of students and residents is a priority for the Town. There is a crosswalk on Main Street, but due to the presence of vehicles parked on street, drivers often do not see pedestrians attempting to cross until they are well into the roadway.

Speeding on Route 80 and 145 is also a concern. Posted speeds are a high as 50 mph on the State Roadways and shoulders tend to be narrow. Vegetation encroachment limits visibility of riders in many locations. Despite high vehicular speeds, these roadways are common cyclist routes that connects Deep River to Killingworth, Chester and points further west and north.

Opportunities

Opportunities exist to enhance the bicycle and pedestrian network in Deep River, these include:

- Install dynamic speed feedback signs along CT-80 and 154 to discourage speeding
- Restrict on-street parking within the vicinity of midblock pedestrian crossings to enhance visibility.
- Consider the implementation of rectangular rapid flashing beacons (RRFBs) or pedestrian hybrid beacons (PHBs) in the village center.

Narrow shoulders on Route 80 in Deep River
Source: Google Maps

Sidewalk and on-street parking lane in Downtown Deep River
Source: FHI Studio

Crossing with sidewalk bump-out on Route 154 in Deep River
Source: FHI Studio

Design Guidelines

- Facility selection guide
  - Sidewalks
  - Pedestrian Lanes
  - Shared Roadway
  - Bike Lane
  - Buffered Bike Lane
  - Separated Bike Lane
  - Advisory Shoulder
  - Sidepath
  - Shared-Use Path

Advisory Shoulder Lane

Description

Advisory shoulder lanes create usable shoulders for bicyclists on a roadway that is otherwise too narrow to accommodate one. The shoulder is delineated by pavement marking and optional pavement color. Motorists may only enter the shoulder when no bicyclists are present and must overtake these users with caution due to potential oncoming traffic.

Note: Advisory shoulders are a new treatment type in the United States and no performance data has yet been collected to compare to a substantial body of international experience. In order to install advisory shoulders, an approved Request to Experiment is required as detailed in Section 1A.10 of the MUTCD. FHWA is also accepting requests for experimentation with a similar treatment called "dashed bicycle lanes."

Application & Design Guidance

Advisory lanes are appropriate for streets with low to moderate traffic volumes. The recommended application range for advisory lanes is on collector roadways that see under 3,000 vehicles per day and with motor vehicle operating speeds under 25 miles per hour. Advisory lanes also have been shown to work on roadways with volumes as high as 6,000 vehicles per day with operating speeds under 35 miles per hour. They are best utilized between, and within built up areas with bicycle and pedestrian demand and limited available paved roadway surfaces.

Standards

Unlike a conventional shoulder, an advisory shoulder is a part of the traveled way, and it is expected that vehicles will regularly encounter meeting or passing situations where driving in the advisory shoulder is necessary and safe.

The advisory shoulder space is a visually distinct area on the edge of the roadway, offering a prioritized space for people to bicycle and walk.

The preferred width of the advisory shoulder space is 6 ft (2.0 m). Absolute minimum width is 4 ft (1.2 m) when no curb and gutter is present.

Advisory Shoulder Lanes Application Guidance		
Traffic Volume	Recommended	3,000 ADT
	Acceptable	6,000 ADT
85th Percentile Speeds	Recommended	0-25 mph
	Acceptable	0-35 mph

Advisory Shoulder Typical Elevation View

Advisory Shoulder 6' | Center Two-way Travel Lane 10 - 18' | Advisory Shoulder 6'
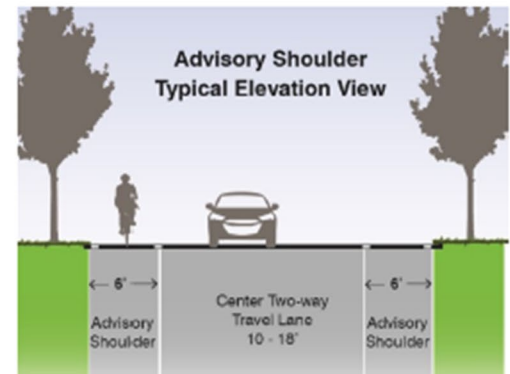
Elevation view of a 6 foot advisory shoulder lane

Advisory shoulder in Burlington, Vermont
Source: Alta Planning

Design Guidelines

- Bicyclist design user profiles
- Facility user matrix
- All ages and abilities
  - Safe
  - Comfortable
  - Equitable
- Environmental benefits
- Health and wellness
- Signage guideline
- Infrastructure and amenities

BICYCLIST DESIGN USER PROFILES

Interested but Concerned
51%-56% of the total population

Often not comfortable with bike lanes, may bike on sidewalks even if bike lanes are provided; prefer off-street or separated bicycle facilities or quiet or traffic-calmed residential roads. May not bike at all if bicycle facilities do not meet needs for perceived comfort.

Somewhat Confident
5-9% of the total population
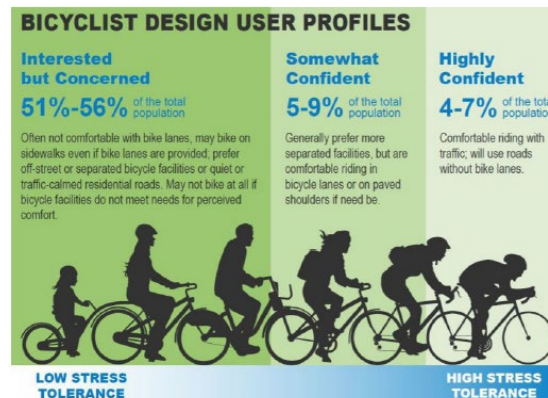
Generally prefer more separated facilities, but are comfortable riding in bicycle lanes or on paved shoulders if need be.

Highly Confident
4-7% of the total population

Comfortable riding with traffic; will use roads without bike lanes.

LOW STRESS TOLERANCE — HIGH STRESS TOLERANCE

Table 9: Facility User Matrix of Options

	Shared Roadway	Bike Lane	Buffered Bike Lane	Separated Bike Lane	Advisory Shoulder Lane	Sidepath	Shared-Use Path
Highly Confident Bicyclist	✓	✓	✓	✓	✓	✓	✓
Somewhat Confident Bicyclist		✓	✓	✓		✓	✓
Interested but Concerned Bicyclist			✓	✓		✓	✓

Children
School-age children face unique risks because they are smaller and less visible from the driver's seat than adults. They often have less ability to detect risks or navigate conflicts with vehicles.

Women
Women are consistently under-represented as a share of total bicyclists, but the share of women riding increases in correlation to better riding facilities. Safety in numbers has additional significance for female bicyclists.

People of Color
While Black and Hispanic bicyclists make up a rapidly growing segment of the riding population, a recent study found that fewer than 20% of adult Black and Hispanic bicyclists and non-bicyclists feel comfortable in conventional bicycle lanes.

People with Disabilities
People with disabilities may use adaptive bicycles including tricycles and recumbent handcycles, which often operate at lower speeds, are lower to the ground, or have a wider envelope than other bicycles.

Seniors
People aged 65 and over are the fastest growing population group in the US, and the only group with a growing number of car-free households. Seniors can make more trips and have increased mobility if safe riding networks are available.

Bike Share Riders
Riders often use bike share to link to other transit, or make one-way trips. Bike share users range widely in stress tolerance, but overwhelmingly prefer to ride in high-quality facilities. All Ages & Abilities networks are essential to bike share system viability.

Low-Income Riders
Low-income bicyclists rely extensively on bicycles for basic transportation needs like getting to work. In addition, basic infrastructure is often deficient in low-income neighborhoods, exacerbating safety concerns.

Confident Cyclists
Confident cyclists are very experienced and comfortable riding in mixed motor vehicle traffic conditions are also accommodated by, and often prefer, All Ages & Abilities facilities, though they may still choose to ride in mixed traffic.

Recommendations

- Village District Recommendations
  - Focused on village centers and nodes
  - In rural communities- Lyme and Killingworth, recommendations target open space resources
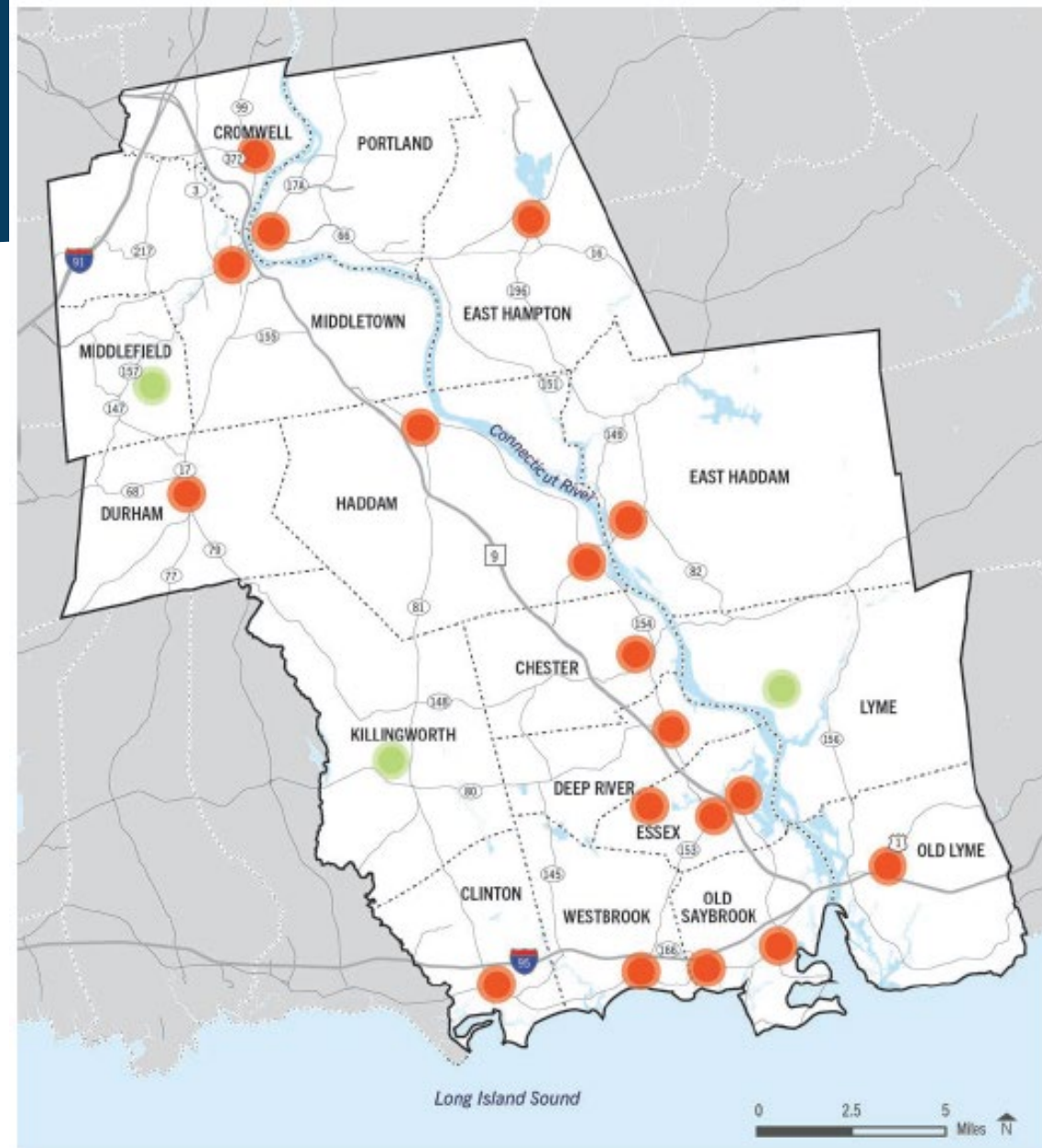
Village District Nodes

- 🔴 Village District Nodes
- 🟢 Open Space/ Recreation Nodes

Recommendations

- Beach Community Recommendations
  - Focused on improving safety in densely populated beach/lake neighborhoods
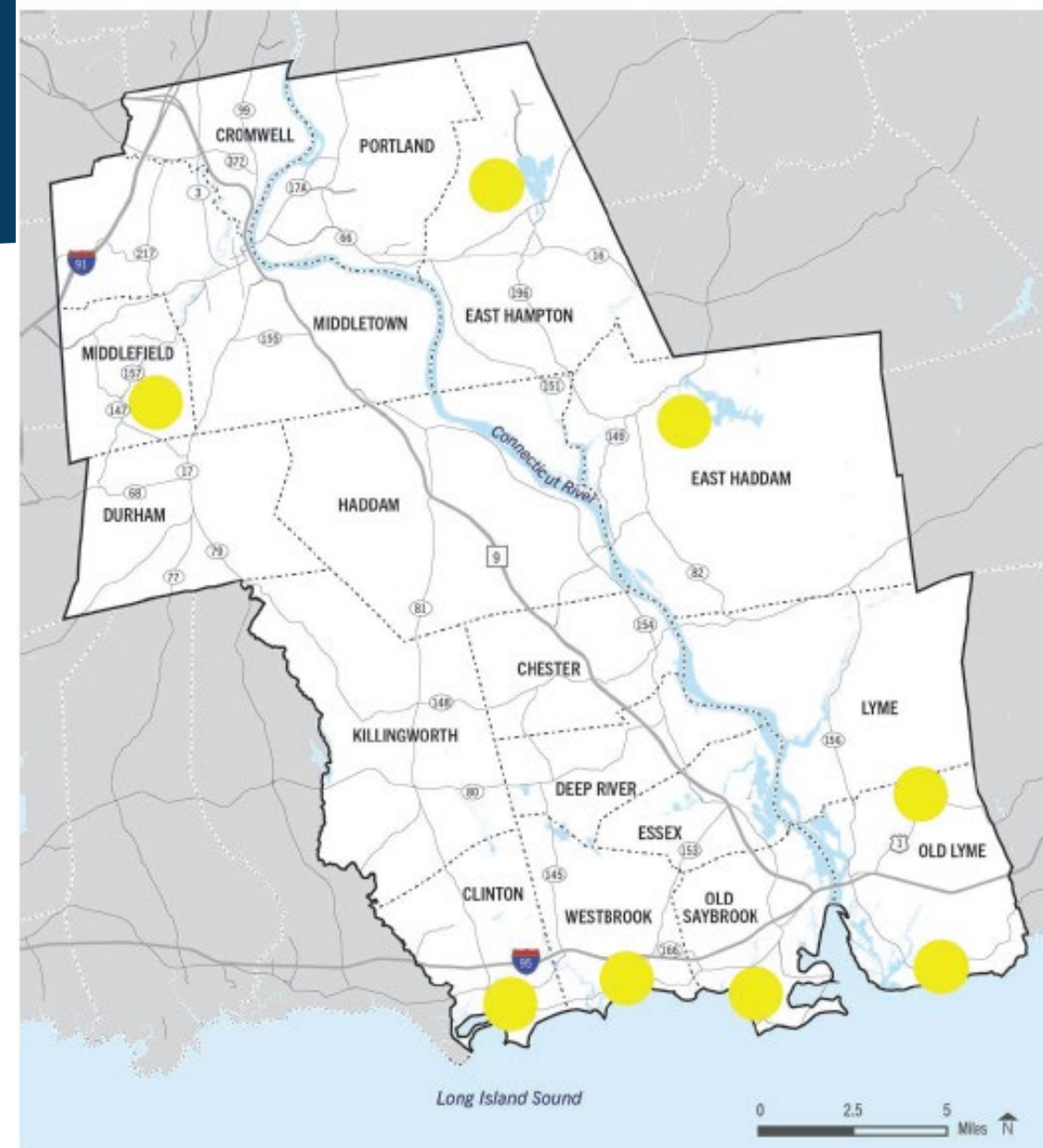
Beach Communities

🟡 Beach Community Locations*

* Inland communities include Lake Neighborhoods such as Rogers Lake, Bashan Lake, Lake Pocotopaug, and Lake Beseck

Recommendations

- Greenway and Trail Recommendations
  - Focused on regional connections to open space resources

Recommendations
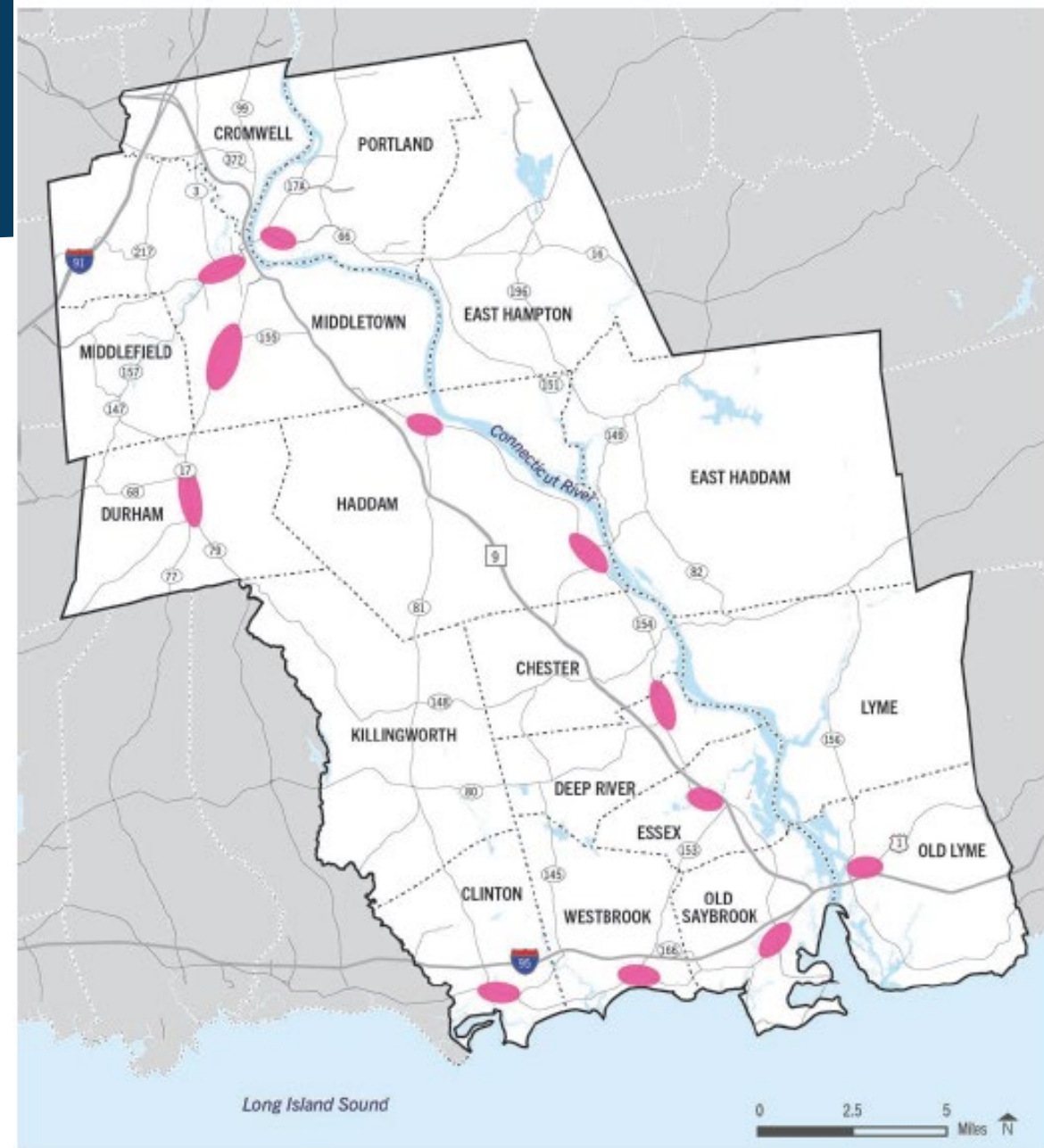
- State Route Commercial Node Recommendations
  - Focused on recommendations in commercial areas of RT 1, RT 17, RT 66, and RT 154

Commercial Nodes

Commercial Nodes on Routes 1, 17, 66 and 154

Recommendations

- Policy Recommendations
  - Complete Streets
  - Health and Wellness
  - Actions:
    - Education and training
    - Bicycle and pedestrian counts
    - Road Safety Audits
    - ADA-Compliant facility assessment
    - Support of Bicycle and Pedestrian Advocacy Groups

Ribbon–Cutting Ceremony for the Portland Air Line Trail held on June 3, 2018
Source: The Jonah Center for Earth and Art. https://thejonahcenter.org/

Discussion during a RSA recently conducted in Litchfield, CT
Source: FHI Studio

Recommendations

- Recommendations by municipality
  - High level recommendations by Town
  - Based on discussions with Steering Committee, existing conditions findings, and municipal survey results from across the Region

Table 10: Recommendations by Municipality				
Municipality	Village District Recommendations	Beach Community Recommendations	Regional Connections Greenways and Trail Recommendations	State Route Commercial Node Recommendations
Old Lyme	• Consider creating a Bicycle and Pedestrian Plan • Expand sidewalk network in the downtown to residential neighborhoods to provide connections to the High School	• Explore opportunities to re-stripe primary beach roads with advisory shoulders or sharrows • Consider the use of speed humps at locations where vehicle speeds are an issue	• Enhance connections to active recreational areas • Acquire and expand open space connections and linkages	• Pursue opportunities to conduct an RSA • Create a sidewalk and street scape plan for Halls Road (Route 1)
Old Saybrook	• TOD/Town Center bike and pedestrian improvements to support economic development and more affordable housing development • Consider installing RRFB or HAWK lighting on Main Street to optimize crosswalk safety	• Explore opportunities to re-stripe primary beach roads with advisory shoulders or sharrows • Consider the use of speed humps at locations where vehicle speeds are an issue	• Develop a regional bikeway along the railroad spur that leads from the train station to the Preserve, Essex and beyond • Explore the possibility of a walkway over the CT River along the current railroad bridge or enhance access over Baldwin Bridge into Old Lyme	• Continue to close gaps in the sidewalk network on Route 1 • Incorporate access management where feasible • Pursue opportunities to conduct an RSA
Portland	• Traffic calming measures should be implemented to slow traffic on Main Street • Pedestrian improvements should be considered near the approach to the Arrigoni Bridge		• Enhance connections to active recreational areas • Expand the Air Line trail west across the Connecticut River, creating a connection to the Farmington Canal Trail	• Incorporate access management where feasible on Route 66 • Advocate for bicycle facilities such as bike lanes and shared roadways when state and local roads are planned for reconstruction or improvement
Westbrook	• Improve pedestrian access between the train station and the Downtown • Strategically close existing gaps in the sidewalk system	• Explore opportunities to re-stripe primary beach roads with advisory shoulders or sharrows • Consider the use of speed humps at locations where vehicle speeds are an issue	• Enhance connections to active recreational areas	• Incorporate access management where feasible on Route 1 • Pursue opportunities to conduct an RSA

Implementation
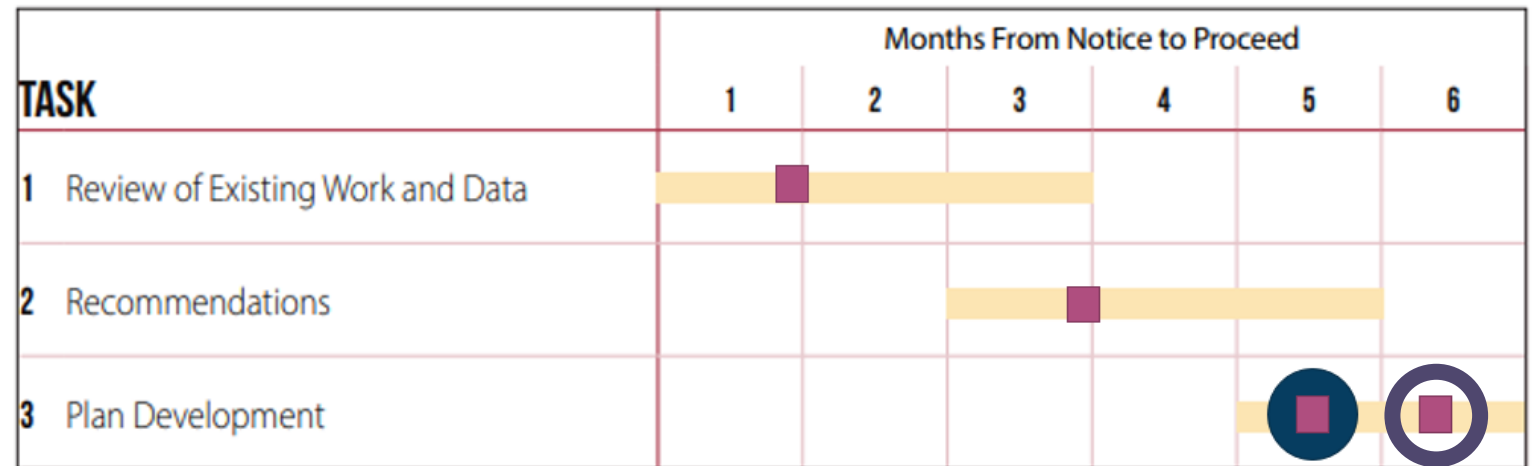
- Implementation Summary
  - Recommendations based on timeframe: short, medium, and long term
  - Goal(s) achieved for each recommendations identified

Table 11: Implementation by Length		
Type of Recommendation	**Short-term** **>2 Years**	**Medium-term** **2 - 5 Years**
Village District Recommendations	• Encourage municipalities to complete individual bicycle and pedestrian plans and or sidewalk plans. **1+2** • Explore opportunities to apply for CTDOT's Community Connectivity Program's Road Safety Audits. **1+2** • Further promote open space and trail resources; provide parking, maintenance, wayfinding, and branding and marketing where appropriate. **1+3**	• Encourage bicycle and pedestrian links between neighborhoods, employment centers, schools, parks and other destinations. **3** • Look for ways to enhance pedestrian connections and amenities through additional facilities, sidewalk maintenance and improvements, crosswalk expansion, lighting, wayfinding, etc. **1+3**
Beach Community Recommendations	• Consider the use of speed humps at locations where vehicle speeds are an issue. **1** • Provide signage directing pedestrians to walk facing traffic. **1+3**	• Explore opportunities to re-stripe primary beach roads with advisory shoulders (traditional shoulders appropriate on roads at least 28' wide). **1**
Regional Connections Greenways and Trail Recommendations	• Support bicycle-based tourism. **1** • Support and expand existing trail networks and improve trail head amenities. **3** • Connect public parks to trails and pathways and other pedestrian or bicycle networks where feasible to provide linkages and connectivity between recreational uses. **1+3**	• Support efforts to connect the Air Line Trail and Farmington Canal Trail. **1+3** • Extend the Shore Line Greenway from Hammonasset Beach to Clinton and points further east where feasible. **1+3**
State Route Commercial Node Recommendations	• Pursue funding and assistance for Complete Streets planning for sidewalk planning and construction, with the regional goal of linking dense population clusters within the towns. **3** • Encourage bicycle links between neighborhoods, employment centers, schools, parks and other destinations. **1+3**	• Improve walkability by encouraging pedestrian-oriented design of public and private projects in areas where higher levels of pedestrian activity are present or desired. **3**

Next Steps

- Public Meeting/4th Steering Committee Meeting – TODAY!

- Plan under review and comment

- Incorporate comments and finalize plan

TASK	Months From Notice to Proceed					
	1	2	3	4	5	6
1 Review of Existing Work and Data						
2 Recommendations						
3 Plan Development						

■ Steering Committee Meetings

◯ Public Meeting and Comments

Discussion

- Questions?

- Thank you for your involvement!

Durham Bicycle Lanes, Installed in 2021
Source: Durham Complete Streets Comittee, Martin Anderson