MERRIMACK VALLEY ACTIVE TRANSPORTATION PLAN

January 2015

Merrimack Valley Planning Commission

*plan * develop * promote*

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English: if this information is needed in another language, please contact the MVPC Title VI Program Coordinator at (978) 374-0519, extension 29.

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Table of Contents

Cover Photo: Lawrence Ciclovia, 2014 by Groundwork Lawrence

Introduction

Photo by Groundwork Lawrence.

The Merrimack Valley has been experiencing a surge in interest in improving active transportation -- bicycle and pedestrian modes. Seven of 15 communities have multi-use trails that are open to the public. Twelve are either planning for or designing multi-use trails. In 2012, the Merrimack Valley Planning Commission teamed up with the Essex National Heritage Commission and the Northern Middlesex Council of Governments to determine a possible route for the Merrimack River Trail – the initiative was met with great interest. Successful coalitions of communities within the region have successfully pushed the development of trails and sub-regional trail networks. And, on-road bike routes, bicycle-activated signal lights and other on-road bicycle related improvements are popping up around the region.

With big ideas and limited funds, we need a regional plan that coordinates our collective ideas and visions, promotes new ideas and ensures that regional connections are made as they relate to existing policies and plans.

Benefits of Active Transportation

Livable Communities: Providing quality, safe and multi-modal transportation helps to achieve community and regional goals for a vibrant economy, accessing affordable housing, good jobs, education and recreation.

Healthy People: By designing our communities so that people ages 8-80 can easily walk or bicycle, we will make the healthy choice the easy choice.

Healthy Environment: According to the 2009 National Household Travel Survey, 28 percent of all trips made were one mile or less. One mile represents a 15-20 minute walk or even less by bicycle. Switching even a fraction of those trips from driving to walking or bicycling would significantly reduce local traffic congestion and in turn, auto-related air pollution.

Vibrant Economy: Active transportation networks are an economic benefit to individuals and communities; walkable communities are valued by employers and employees alike. Plus, by creating an inexpensive transportation choice, people save money.

Mobility for all: Many people can't or don't want to drive, but without a good active transportation network, their choices for getting around are far more limited. Designing streets for all types of transportation will ensure that no one is left out regardless of their age, income or abilities.

Policy Influences

The Active Transportation Plan coordinates with and is influenced by several existing plans and policies.

Regional Plans

Priority Growth Strategy

In 2009, MVPC worked with each of its member communities to determine where they want to grow. These priority development areas are defined as "areas of concentrated development, including a city or town center, consisting of existing and appropriately zoned commercial, industrial and mixed-use areas suitable for high-density development". MVPC's goal is to focus transportation infrastructure on these development sites in order to both efficiently utilize funding and support regional goals to preserve open space. The Active Transportation Plan seeks to focus the active transportation network on connecting to and within smart growth centers and village centers in particular.

Comprehensive Plan for Strategic Development (CEDS)

Developed in collaboration with leaders from the private, public, and nonprofit sectors, the CEDS outlines controlled, smart growth strategies for the entire region. The goals set out in the document encourage transportation that supports economic development through, for example, fostering tourism as well as access to jobs.

Regional Transportation Plan

A federally required long-range transportation plan, the Regional Transportation Plan (RTP) defines how federal transportation funds will be spent over a 25-year period using criteria established by the Federal government as well as the Commonwealth of Massachusetts. The goals and strategies within the Active Transportation Plan both coordinate with the 2012 RTP as well as influence the development of the 2016 RTP by creating a strategy that will, in part, be funded by federal transportation funds.

State Influences

In 2010, the Massachusetts Department of Transportation (MassDOT) adopted **GreenDOT**, which is a "comprehensive environmental responsibility and sustainability initiative" with three primary goals:

- Reduce greenhouse gas (GHG) emissions
- Promote the healthy transportation options of walking, bicycling, and public transit
- Support smart growth development.

To do this, MassDOT has set certain goals that include:

- Design a multi-modal transportation system
- Promote healthy transportation + livable communities
- Triple mode share of bicycling, transit and walking.

Healthy Transportation Directive

In 2013, MassDOT released its Healthy Transportation Directive, which is meant to formalize the agency's commitment to ensure that it reaches the goal of tripling the mode share for transit, bicycling and walking by ensuring that all MassDOT projects are "designed and implemented in a way that all our customers have access to safe and comfortable healthy transportation options at all MassDOT facilities and in all the services we provide."

Active Streets and Healthy Communities

The Commonwealth of Massachusetts took a step further and in 2014, adopted elements of the Active Streets and Healthy Communities initiative into its Transportation Bond Bill. This 'complete streets' legislation creates a certification program for communities that adopt complete streets bylaws, ordinances or administrative policies. The program includes funding of $50 million over 5 years to certified communities for complete streets projects.

Federal

MAP-21

MAP-21 contains a requirement that state DOTs and MPOs incorporate the use of performance measures in managing their transportation infrastructure. This is to be accomplished through the following three primary activities:

- Establish clear goals;
- Specify performance metrics that measure progress toward the attainment of these goals; and
- Set quantitative targets for each metric.

Chapter 1: Vision, Goals and Objectives

Vision

The MVPC envisions that the Merrimack Valley region will be connected by safe, convenient and appealing Active Transportation corridors that people of diverse ages and abilities will choose to use. The MVPC and its communities will achieve this vision by increasing bicycling and walking mode shares to promote environmental sustainability and healthier lifestyles while reducing automobile dependence and improving air quality. We will connect jobs, housing, civic and recreation activities to strengthen our region's livability and economic vitality.

Goals and Objectives

Goal 1: Expand Multi-Modal Access and Options

Create and Maintain flexible and seamless multi-modal transportation options for people of all ages, ethnicity, incomes and ability.

Objectives:

- Adoption and implementation of Complete Streets policies and bicycle and pedestrian plans in all Merrimack Valley communities;
- Improve Multi-modal Infrastructure and Service to Support Mode Shift;
- Create a Seamless Transportation System, and
- Ensure that the region's Environmental Justice Communities are served well by the public transportation

Goal 2: Provide Quality and Safe Transportation Network

Ensure that infrastructure is built and maintained in a way that promotes bicycling and walking safely and efficiently. Promote safer roads for all users.

Objectives

- Reduce the annual number of pedestrian and bicycle crashes and injuries.
- Maintain existing infrastructure in a state of good repair.

Goal 3: Support Livable and Economically Vibrant Communities.
Promote healthy, economically vibrant and livable communities by directing investment of transportation infrastructure to support Priority Growth Areas, specifically to those that are smart growth oriented or village centers.

Objectives:

- Transportation network will support healthy active living.
- Improve bicycle and pedestrian transportation investment to smart growth areas and village centers.
- Foster Tourism

Chapter 2: Existing Conditions

Photo: Bike taxi on the Clipper City Rail Trail.

Momentum is building in the Merrimack Valley to improve active transportation. A few communities have upgraded the pedestrian infrastructure in their village centers, such as Andover, North Andover and Haverhill. Reconstruction and reconfiguration of Merrimac Square is now underway, which will improve the pedestrian environment. All but two of our member communities have multi use trails either on-the-ground, in design or in the planning phase and the Mayor of Lawrence recently announced that conversion of their unused rail corridor into a trail is a priority. Another sign of increasing popularity is the number of trail-building efforts that are supported by locally-organized advocacy groups that diligently champion these single and multi-community projects.

While the majority of work has focused on multi-use trails, a few communities have dabbled in on-road bicycle facilities. Haverhill, Newburyport and Newbury have one bicycle lane each. MassDOT painted bicycle lane markings in the shoulder along Route 110 in Methuen. The Town of Andover is implementing its vision of a bikeable community and has begun striping bicycle lanes in accordance with its mapped plan. The table below provides a glimpse at some of these activities.

Table 1: Bicycle and Pedestrian Activity Around the Region

Community	Ped Upgrade to Village Center	Open Multi-use Trail	Bike/ Ped Project on TIP	Trail in design or Planning	Existing Bicycle Lanes/ Sharrows
Amesbury	•	•		•	
Andover	•			•	•
Boxford				•	
Georgetown			•	•	
Groveland	•			•	
Haverhill	•	•	•	•	•
Lawrence		•	•	•	•
Merrimac	•	•			
Methuen		•		•	•
Newbury				•	•
Newburyport	•	•	•	•	•
North Andover	•		•	•	
Rowley					
Salisbury	•	•	•		•
West Newbury					

Bicycling and Walking Today

Good data on how frequently people actually walk and bicycle just does not exist. According to the 2006-2010 American Community Survey (ACS), only 2% of residents in the Merrimack Valley actually walk to work and only .2% bicycle. In Lawrence, the most densely populated community in the Merrimack Valley, 3.5% of its commuters walk or bicycle to work. Keep in mind that journey to work data only counts a person's primary mode of travel and does not account for any other trips made during the day or outside of commuting. The Massachusetts Department of Transportation's household travel survey supports these numbers and shows that the rate of bicycling and walking in the Merrimack Valley is below the state percentage.

Table 2

Means of Transportation for Workers 16 and Over By Community

Community	Total	Drove alone	Carpool	Bus	Subway	Railroad	Bicycle	Walked	Taxicab	Motorcycle	Other method
Amesbury	8,880	6,980	810	200	0	80	0	150	15	10	75
Andover	15,145	12,130	1105	25	45	485	55	575	40	60	30
Boxford	3,845	3,050	185	45	0	50	20	50	0	0	10
Georgetown	4,040	3,545	173	30	15	10	0	50	0	0	0
Groveland	2,970	2,435	210	25	0	25	0	25	0	0	10
Haverhill	30,255	24,325	3065	450	35	475	50	625	95	60	35
Lawrence	30,050	19,445	8350	870	80	80	65	1,010	1,025	0	240
Merrimac	3,345	2,780	230	15	0	0	0	115	0	0	30
Methuen	22,125	18,580	2375	70	0	145	10	225	165	20	115
Newbury	3,440	2,885	50	15	0	80	40	60	0	10	30
Newburyport	9,130	6,945	540	240	0	140	75	320	10	20	105
North Andover	13,650	11,125	898	70	60	350	10	440	0	0	135
Rowley	2,955	2,735	45	0	20	30	0	0	0	0	0
Salisbury	4,505	3,645	415	30	10	60	0	40	0	35	40
West Newbury	2,120	1,625	80	40	0	20	10	55	0	0	0
Totals	**156,455**	**122,230**	**18,531**	**2,125**	**265**	**2,030**	**335**	**3,740**	**1,350**	**215**	**855**
Total Mode Share	**115%**	**78%**	**15%**	**1%**	**0%**	**1%**	**0%**	**2%**	**1%**	**0%**	**1%**

U.S. Census Bureau, American Community Survey 2006-2010 Five-year estimates. Special Tabulation: Census Transportation Planning

Table 3

2010-2011 Massachusetts Travel Survey
Mode to Work

Mode	Work Trips	Percent	State Percent
Works from Home	9,509	6%	6.50%
Walk	6,001	3.80%	4.80%
Bike	524	0.30%	1.70%
Auto Driver	119,968	75.10%	68.10%
Auto Passenger	10,014	6.30%	3.80%
Bus/Public Transit	10,144	6.30%	12.60%
Paratransit	606	0.40%	0.10%
Taxi	1,038	0.60%	0.20%
Other	1,376	0.90%	1.60%
Don't know	591	0.40%	0.30%
Refused	-	0.00%	0.20%
Total	**159,771**		

*Massachusetts Department of Transportation, Massachsuetts Travel Survey, June 2012.

Table 4

Mode to School

Mode	Merrimack Valley Trips	Merrimack Valley Percent	State Percent
Home Schooled	180	0.20%	2.4%
Walk	15,390	13.70%	12.4%
Bike	530	0.50%	1.1%
Auto Driver	19,653	17.50%	14.6%
Auto Passenger	31,481	28%	28.1%
Bus/Public transit	5,282	4.70%	9.1%
Paratransit	314	0.30%	0.1%
School bus	37,659	33.50%	29.7%
Other	1,361	1.20%	1.4%
Don't Know	541	0.50%	1%
Refused	-	0.00%	0.1%

*Massachusetts Department of Transportation, Massachsuetts Travel Survey, June 2012.

Safe Routes to School

The MassDOT Travel Survey indicated that only roughly 14%.of children walk or bicycle to school in the Merrimack Valley. We know that not all schools have sidewalks, making those schools inaccessible by foot. Nine of our 15 member communities have at least one school participating in the Commonwealth's Safe Routes to School Program. North Andover and Lawrence are both receiving federal funds to improve sidewalks and crosswalks to one school in each community.

Table 5: No Vehicles Available
(2007-2011 American Community Survey)

	Total Households	No Cars	%
Amesbury	6,543	402	6%
Andover	11,929	647	5%
Boxford	2,665	44	2%
Georgetown	2,790	65	2%
Groveland	2,372	43	2%
Haverhill	24,334	2,656	11%
Lawrence	27,048	6,413	24%
Merrimac	2,442	49	2%
Methuen	17,508	1,333	8%
Newbury	2,516	64	3%
Newburyport	7,534	555	7%
North Andover	10,223	546	5%
Rowley	2,254	134	6%
Salisbury	3,399	253	7%
West Newbury	1,497	7	0%

Chapter 3: Active Transportation Network (ATN)

MVPC set out to identify those bicycle and pedestrian facilities that are regionally significant. What defines that?

- They connect to village centers and priority growth areas/smart growth centers.
- They provide important connects within and between communities.
- They provide better bicycle and pedestrian access to transit.
- They improve walking and/or bicycling to schools.

The following pages review those regionally significant facilities identified with the help of community members. However, among these there are a few significant cross-region facilities that serve as spines of the system.

Border to Boston Trail

The B2B is multi-use trail that, when completed, willrun through Salisbury, Newburyport, Newbury, Georgetown and Boxford in this region, but which will also connect to communities south as well as be part of an interstate trail system that reaches from Calais, Maine to Key West, Florida. Two sections in Newburyport and Salisbury are open to the public and the remaining sections are being designed. Two of the remaining sections in Salisbury and Georgetown have been programmed into the region's 2015-2018 Transportation Improvement Program.

Photo: Wide shoulders run along most of Route 110. Photo by Silvester Humaj (Flickr.com).

Route 110

Until I-495 was built in the 1960s, Route 110 was the major transportation corridor following the Merrimack River. Now it is a local road that varies in character with industrial, commercial, residential, agricultural and scenic sections. It goes right through Merrimac's town center and connects six of the 15 MVPC communities. Currently, it is a two-lane road with wide (9' in some areas) shoulders with only one short section in Methuen designated for bicycle access.

Route 110 has not been recommended for bicycle access in the past because it is heavily traveled, is used by trucks and sometimes vehicle speeds can be high. In fact the section of Route 110 that connects Lawrence, Methuen, Dracut and Lowell was reduced to two lanes as a traffic calming strategy to reduce speeds along this high accident zone.

As part of 'slow traffic' economic development along this road, the MVMPO recommends that this road be reconstructed and the road surface be reallocated to allow for a separated multi-use path or cycle tracks.

Route 125

This road connects three communities, two colleges, three downtown districts, several schools and three priority growth areas. However, much of it is inaccessible to pedestrians and none of it is accessible to bicyclists. Haverhill recently completed a major update to the pedestrian infrastructure along South Main Street, but missed the opportunity to include bicycle lanes. Currently, the section in North Andover is under design and will include bicycle and pedestrian infrastructure. It is more challenging because some areas do not have large shoulders, but because it connects activity centers it is important to ensure that it becomes multi-modal.

Merrimack River Trail

In 2011, MVPC in partnership with the Essex National Heritage Commission undertook a strategic planning project focused on re-imaging the Merrimack River Trail as one of the region's outstanding recreational assts – a 50-mile long bicycle and pedestrian trail along the Merrimack River from Tyngsboro in the Northern Middlesex MPO region to Newburyport. The trail is composed of a combination of on- and off-road bicycle and pedestrian facilities on both sides of the river. Since the publication of the report, communities, as well as MassDOT, have grabbed onto the idea, incorporating the ideas in their projects.

Coastal Trails Network

While this trail network does not span the entire Merrimack Valley region, it is noteworthy for its cooperative multi-community dimension and it stands out as the most comprehensive plan that is being actively implemented. The network involves Amesbury, Salisbury, Newburyport, Newbury and West Newbury. The very active Coastal Trails Coalition advocates and supports the communities through events, fundraisers and being very active in the development process.

Community-by-Community

Andover cycling club, Andover Historical Society

A description of each community is provided in the next several pages as well as a list of bicycle and pedestrian facilities. Communities are organized by subregion in order to promote the idea of an interconnected network. These lists were developed in conjunction with the communities as being regionally significant and are not exhaustive lists of all bicycle and pedestrian projects. Some projects are envisioned, while others are already programmed within the Transportation Improvement Program.

Greater Lawrence Area

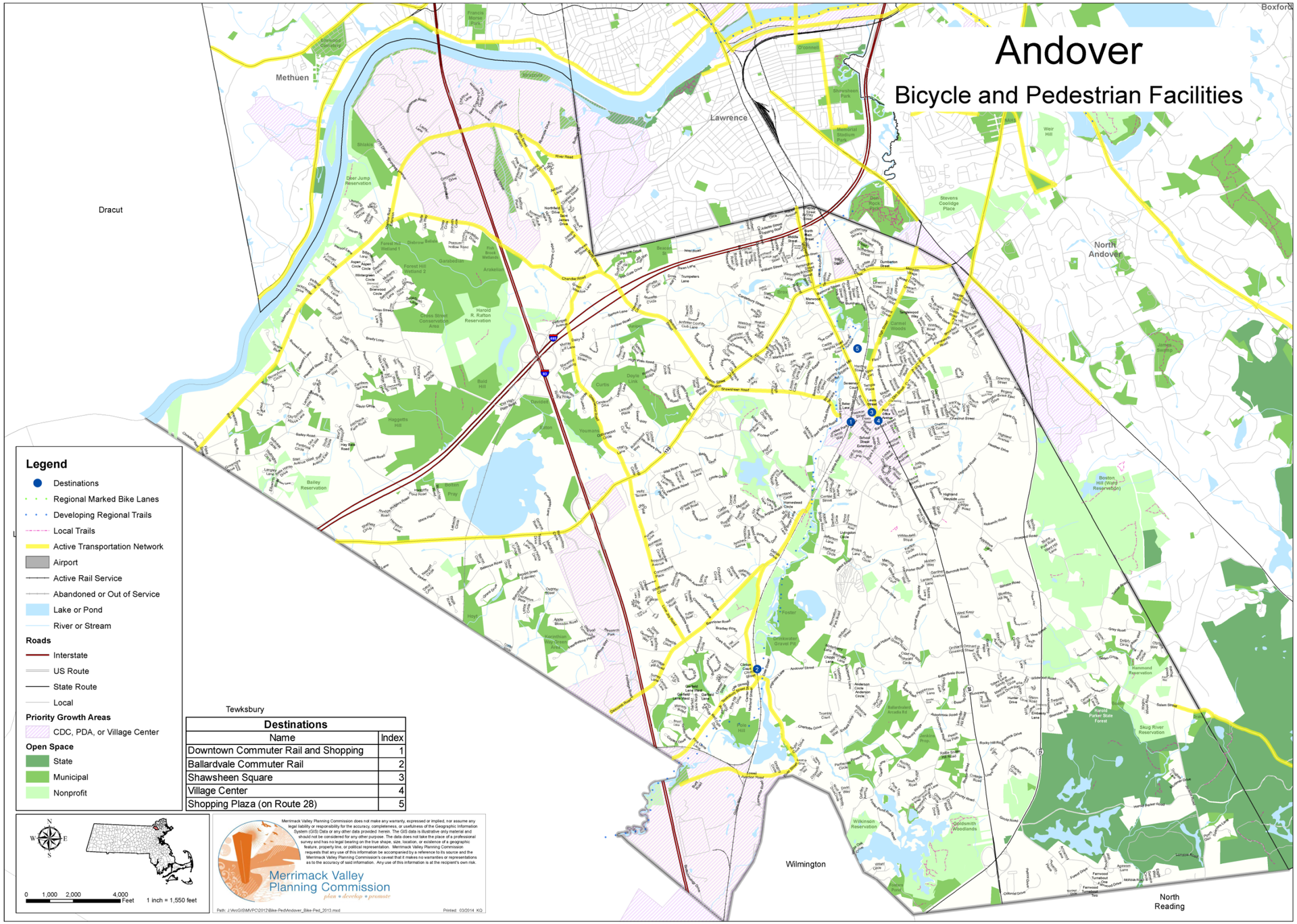
Andover

The Town of Andover envisions an interconnected network of on-road and off-road bicycle and pedestrian facilities. In 2013, the Town mapped out a plan for bicycle routes and has begun implementing those routes with bike lanes and painting bicycle sharrows on roads. One of the few covered bicycle racks in the region exists at the Andover commuter rail station. The jewel of Andover's network will be the Shawsheen River Greenway, which will connect important destinations including Shawsheen Square, Shawsheen Plaza (with grocery store), downtown, the commuter rail station, Ballardvale village (including the commuter rail station) and the Lowell Junction area. Complementing this trail will be a network of on-road facilities that further connect neighborhoods to the downtown and priority development areas.

Commuting by bicycle to the River Road area is becoming more popular. The Merrimack Valley Transportation Management Association has actively supported and promoted bicycling to work. They actively participate in bike to work week as well as help new cyclists with maps, a bicycle buddy program and more.

Table 6

Community	Priority
Andover	Shawsheen River Greenway
Andover	Bicycle parking downtown
Andover	Sidewalk Improvements, Shawsheen Square
Andover	Improved bike/ped access to Lowell Junction
Andover	Additional or enhanced bicycle access to River Rd area
Andover	Complete on-road bicycle network


Andover
Bicycle and Pedestrian Facilities
Methuen
Lawrence
Dracut
North Andover
Tewksbury
Wilmington
North Reading
Boxford
Legend
Destinations
Regional Marked Bike Lanes
Developing Regional Trails
Local Trails
Active Transportation Network
Airport
Active Rail Service
Abandoned or Out of Service
Lake or Pond
River or Stream
Roads
Interstate
US Route
State Route
Local
Priority Growth Areas
CDC, PDA, or Village Center
Open Space
State
Municipal
Nonprofit
Destinations
Name | Index
Downtown Commuter Rail and Shopping | 1
Ballardvale Commuter Rail | 2
Shawsheen Square | 3
Village Center | 4
Shopping Plaza (on Route 28) | 5
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1 inch = 1,550 feet
Merrimack Valley Planning Commission
plan • develop • promote
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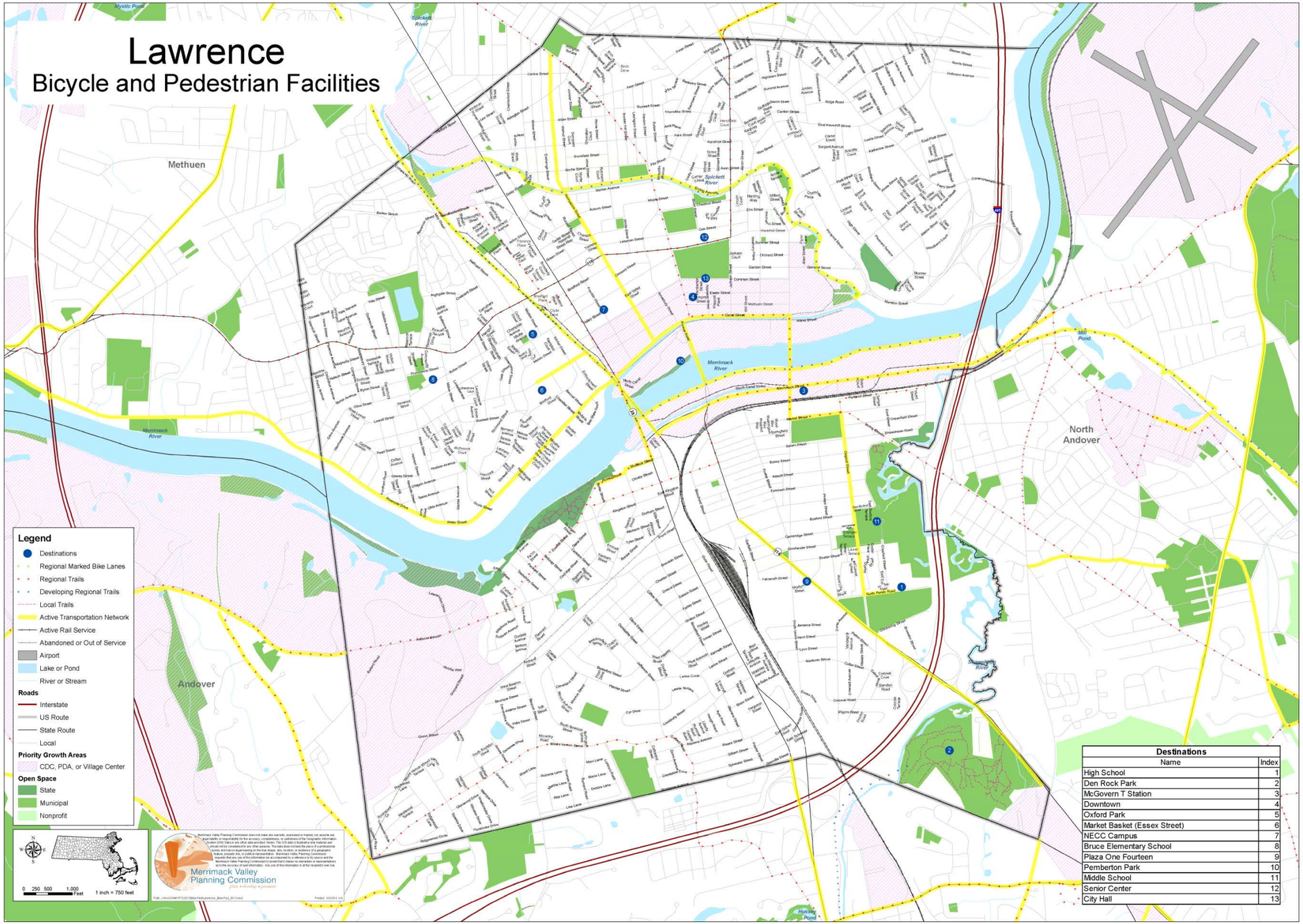

Lawrence
Bicycle and Pedestrian Facilities
Methuen
Andover
North Andover
Merrimack River
Spicket River
Mill Pond
Legend
Destinations
Regional Marked Bike Lanes
Regional Trails
Developing Regional Trails
Local Trails
Active Transportation Network
Active Rail Service
Abandoned or Out of Service
Airport
Lake or Pond
River or Stream
Roads
Interstate
US Route
State Route
Local
Priority Growth Areas
CDC, PDA, or Village Center
Open Space
State
Municipal
Nonprofit
0 250 500 1,000 Feet
1 inch = 750 feet
Merrimack Valley Planning Commission
Destinations
Name | Index
High School | 1
Den Rock Park | 2
McGovern T Station | 3
Downtown | 4
Oxford Park | 5
Market Basket (Essex Street) | 6
NECC Campus | 7
Bruce Elementary School | 8
Plaza One Fourteen | 9
Pemberton Park | 10
Middle School | 11
Senior Center | 12
City Hall | 13

Lawrence

The City of Lawrence is the region's most densely populated community and is racially diverse but also has a high percentage of low income residents. According to the 2010 Census, only 40% of the households own a car, making it the region's most dependent population on alternatives to single occupancy driving, i.e. carpooling, transit, bicycling and walking. In other words, residents of Lawrence are more likely to walk and take the bus.

In addition, the City of Lawrence is very compact (only 7.4 square miles) and it has sidewalks (at varying conditions) on most streets. However, this does not easily translate into more bicycling, walking or even transit use. Many people use taxi cabs to cris-cross the city, to quickly access hard to reach jobs or even to transport large loads of groceries home. Plus, many people feel the congested streets are not safe for bicycling. However, long boarding has become more popular among youth.

Like many American cities and towns, bicycling has not been included in the street design. Through meetings with employees at the Asian Center of the Merrimack Valley, we learned that while new Asian immigrants came from cultures where bicycling was the norm, here in Lawrence they did not feel it was safe to bicycle. Indeed, Lawrence has one of the highest rates of bicycle and pedestrian accidents in the Merrimack Valley region. MVPC has been working with the City to perform Road safety Audits at several intersections. However, more needs to be done with a combination of infrastructure, education and enforcement.

Table 7

Community	Priority Projects
Lawrence	Industrial Park sidewalks, crosswalks and transit shelter.
Lawrence	Spicket River Greenway
Lawrence	Merrimack River Trail
Lawrence	Essex Street sidewalks (between Broadway and Market Basket)
Lawrence	Merrimack Street separated bicycle facility (btw McGovern Center and Frontage Road) as well as safer pedestrian crossings.
Lawrence	Multi-use trail on M&L Branch
Lawrence	MA-114: Safe crossing at Parish Street, pedestrian access at Den Rock Park, and safe transit stops
Lawrence	Bicycle/long board facility to High School (possible route Parish/Osgood/O'Connell Park/Union Streets)
Lawrence	SR2S access to Bruce Elementary School
Lawrence	Riverwalk - Stone Dam to I495
Lawrence	North Canal walk
Lawrence	South Canal walk

The City is fortunate to have many active partners interested in increasing active transportation opportunities. The Mayor's Healthy Living Task Force is a coalition of organizations working together improve the health and well-being of residents of Lawrence, including healthy eating opportunities and creating more opportunities for physical activity.

Mayor Rivera participated in the City of Lawrence's first Ciclovia.

On August 3, 2014, the Mayor's Health Task Force held the city's (and region's) first Ciclovia, or open streets event, between 1-5 p.m. Inspired by what they learned from Bogota, Columbia's city-wide Ciclovia, the City of Lawrence closed off sections of downtown to car traffic, leaving it open for walkers, cyclists, in-line skaters, skateboarders and more. What is usually a ghost town on Sundays, restaurants and shops opened their doors to those attracted to the idea of being able to enjoy the streets by bike or by foot.

The City recently received a Mass in Motion grant through the Department of Public health to aid in the adoption and implementation of a Complete Streets policy and other work.

Youth enjoy riding along the Spicket River Greenway in Lawrence. Photo courtesy of Groundwork Lawrence.

Projects

The City has a strong partnership with Groundwork Lawrence to advance certain projects including the **Spicket River Greenway**, which connects several public parks and playgrounds. Groundwork Lawrence is also exploring the idea of redeveloping the network of alleyways for active transportation purposes

In July, Mayor Rivera announced that the city would make the rail-to-trail conversation of the Manchester and Lawrence rail line a priority. The City is interested in reuse (if it is abandoned) or

parallel use (rail-with-trail) of the Manchester and Lawrence Branch railroad corridor, which connects to the Methuen Rail Trail. The corridor is wide enough to accommodate both active rail and a multi-use trail. Commuters from New Hampshire and Methuen have expressed an interest in a safe, separate bicycle facility through Lawrence to jobs across the river in the industrial park. The trail would also accommodate the growing long-board community. It would connect to the Spicket River Greenway at the northern end and the Merrimack River to the south.

Community members expressed a desire to see better and safer on-road bicycle and long-boarding opportunities for youth, especially to the High School from north of the Merrimack River. However, the City has not developed a bicycle and pedestrian plan and so during the meeting, it was determined that more data was needed to determine the best routes through the City.

Photo 1: Methuen Rail Trail. Photo by J. Godsey.

Methuen

Methuen is a diverse community with urban, suburban and rural areas. It has a local trail organization that took the lead in developing a first phase of the Methuen Rail Trail. The community is working toward paving the trail, which will connect to other sections north in New Hampshire and eventually south into Lawrence. In town, the trail will provide important connections to downtown near the old railroad depot as well as to the Nevins Bird Sanctuary.

The community is interested in using bicycle and pedestrian improvements to increase economic development by bringing more people to businesses. Merrimack Street sits along the river and has the potential to become a hub of bicycle and pedestrian activity and thus increasing economic activity around the businesses and farmers market. Like much of MA-110, Merrimack Street is wide and could be redesigned to include cycle tracks or a multi-use trail to one side allowing for safe, separated travel space for families.

The state painted bike lanes along Route 110 from Pelham Street to the Haverhill City line. Currently they don't connect to anything, however the City is interested in making MA-113 a cross-town bicycle route. Cyclists already use this route for commuting.

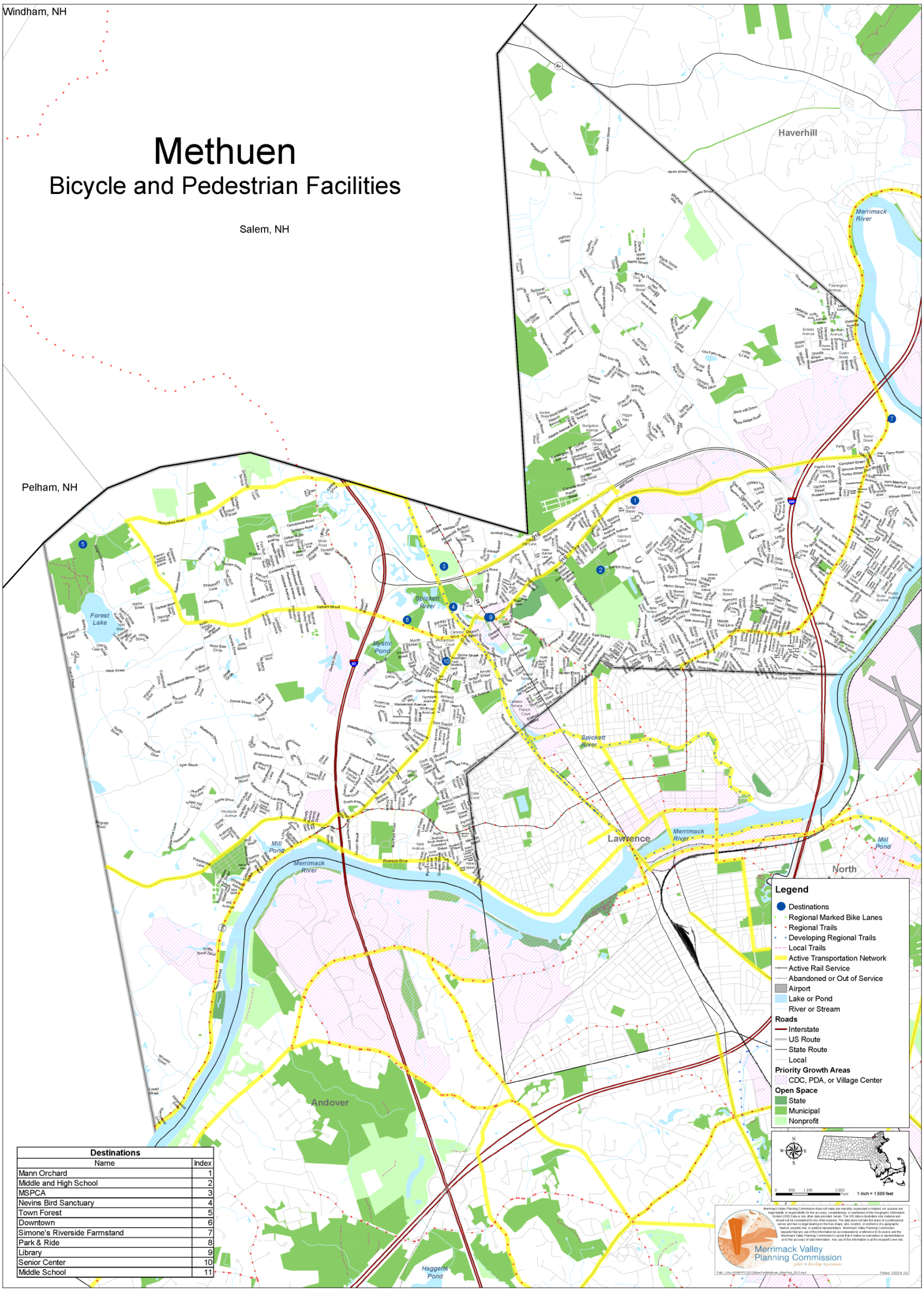
Table 8

Community	Priority
Methuen	MA-110 separated bicycle facility to Lowell and to Haverhill.
Methuen	MA-113 upgrade bicycle access to create cross-community transportation.
Methuen	Use MA-213 gas cut (Broadway to Loop) to create a bike/ped loop.
Methuen	Hampshire Street (from rail-trail to Pelham Street) on-road bicycle facility.
Methuen	Pedestrian hot spot on Pelham Street; needs ped safety enhancements
Methuen	Pelham Street bicycle facility (hampshire St. to Railroad Street). Would provide access to the park & ride.
Methuen	Methuen Rail Trail from Salem, NH to Downtown
Methuen	Enhancement pedestrian access to the Loop for nearby residents
Methuen	Uplands area bike/ped connection thru future development.

Methuen

Bicycle and Pedestrian Facilities

Salem, NH



Destinations	
Name	Index
Mann Orchard	1
Middle and High School	2
MSPCA	3
Nevins Bird Sanctuary	4
Town Forest	5
Downtown	6
Simone's Riverside Farmstand	7
Park & Ride	8
Library	9
Senior Center	10
Middle School	11

North Andover

In 2009, the town of North Andover reconstructed the sidewalks in the downtown district, improved crosswalks and added bump outs and plantings to improve safety and aesthetics.

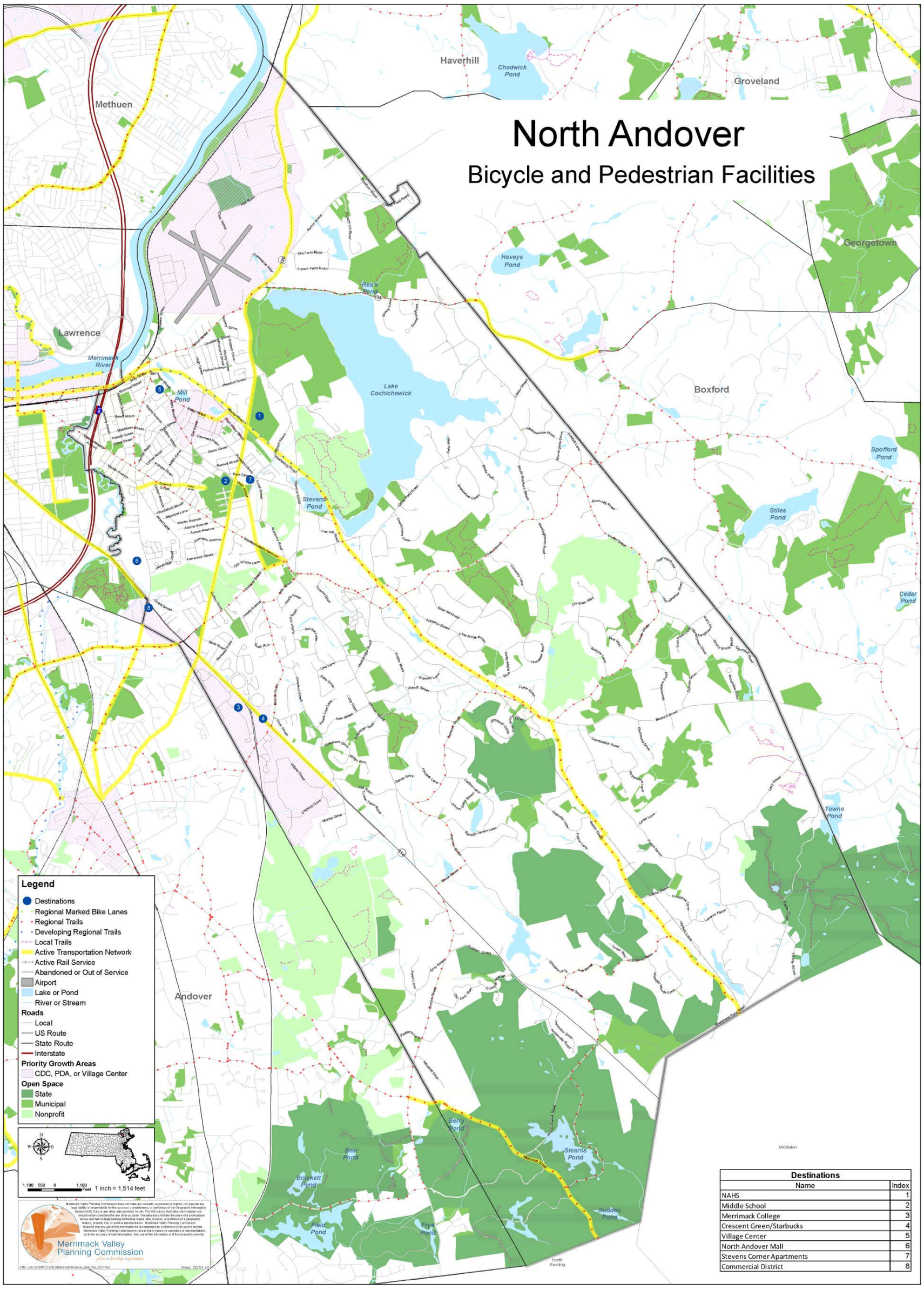
No bicycle facilities were included at that time. However, the Planning Board is looking to make further improvements by seeking Community Preservation Funds to develop a crushed stone path from the Machine Shop Village to Weir Hill along an old railbed. This trail will provide important connections to the High School as well.

The town is also benefiting from the state's Safe Routes to School program and funding is on the TIP to update sidewalks and crosswalks for children walking to the Atkinson Elementary School.

MA-114 in Lawrence and North Andover has received quite a bit of attention. MVPC prepared a report on conditions and recommendations along the corridor. A Road safety Audit was conducted in 2013 that provided recommendations for road improvements as well as needed pedestrian and bicycle improvements, especially in the area adjacent to Merrimack College.

Table 9

Community	Priority
North Andover	Sidewalks and bicycle access on Route 125 (between YMCA and Haverhill border) as well as within Osgood landing site if redeveloped for mixed use.
North Andover	Rail-trail (phase 1 - downtown to Weir Hill; phase 2 - High School to Blue Ridge Road; phase 3 - Campbell Road to Middleton town line.
North Andover	Improved and separated where possible pedestrian and bicycle access on MA-114. Includes pedestrian access near the North Andover Mall and Den Rock Park, as well as from Merrimack College to Harold Park State Forest.
North Andover	Safe crossing of Route 114 at Merrimack College
North Andover	Enhanced pedestrian access within Machine Shop Village
North Andover	Enhanced bicycle access from N. Andover to McGovern Center
North Andover	Osgood Street needs improved pedestrian access (between NAHS and Common).


North Andover
Bicycle and Pedestrian Facilities
Haverhill
Chadwick Pond
Groveland
Methuen
Georgetown
Hoveys Pond
Real's Pond
Lawrence
Merrimack River
Mill Pond
Lake Cochichewick
Boxford
Spofford Pond
Stevens Pond
Stiles Pond
Cedar Pond
Towne Pond
Andover
Berry Pond
Bear Pond
Brackett Pond
Field Pond
Frye Pond
Stearns Pond
Sudden Pond
North Reading
Middleton
Legend
Destinations
Regional Marked Bike Lanes
Regional Trails
Developing Regional Trails
Local Trails
Active Transportation Network
Active Rail Service
Abandoned or Out of Service
Airport
Lake or Pond
River or Stream
Roads
Local
US Route
State Route
Interstate
Priority Growth Areas
CDC, PDA, or Village Center
Open Space
State
Municipal
Nonprofit
1,100 550 0 1,100 Feet 1 inch = 1,514 feet
Merrimack Valley Planning Commission
Destinations
Name | Index
NAHS | 1
Middle School | 2
Merrimack College | 3
Crescent Green/Starbucks | 4
Village Center | 5
North Andover Mall | 6
Stevens Corner Apartments | 7
Commercial District | 8

Greater Haverhill Area

The middle sub-region in the Merrimack Valley includes the City of Haverhill and the towns of Merrimac, Groveland, Georgetown and Boxford. These communities are working together on a couple of large-scale trail projects including the Border to Boston trail and a future trail along the old Georgetown Branch rail alignment.

Haverhill

The City of Haverhill is developing multi-use trails on both shores of the Merrimack River. The Riverwalk and the Bradford Rail Trail will eventually create a loop between the Basiliere and Comeau bridges in the downtown . This loop will be connected to the larger community by a network of on-road routes. The City of Haverhill introduced bike lanes to Water Street, which connects to the stadium and Riverside Park. It could do similar simple striping modifications on many of its designated bike routes in the short term and plan for larger reconstruction projects where desired in the future.

The Haverhill Riverwalk will eventually connect to the Bradford Rail Trail on the opposite river bank.

The City of Haverhill is fortunate to have wider streets due to the original trolley layout. As a result, it has the space to reallocate its wide roads to include either cycle tracks on both sides of the street or multi-use trails to one side of the road.

Ginty Boulevard provides a good example of how a roadway can be reallocated and redesigned to be more complete. Ginty Boulevard is just under a ½ mile long, 90 foot wide right-of-way with a grassy median. For the most part, there are residences and businesses only on one side. Parking is provided in both directions. By reallocating the roadway, the City of Haverhill could create more of a greenway that included: (1) two 5 foot sidewalks; (2) a 12-foot bike trail; (3) two 11-foot traffic lanes; (4) two 9-foot parking lanes. That leaves 28 feet of width to

Photo: Ginty Boulevard, Haverhill, © Pictometry. Ginty Boulevard is a good example of a wide road that could be redesigned to easily accommodate non-motorized transportation.

create an appealing greenway with trees, flowers and grass that safely separates active transportation modes from automobile traffic.

Pedestrian access in the downtown has been one of the City's foremost projects in order to encourage transit oriented development and economic development and activity. However, it has several pedestrian and bicycle safety clusters that need to be addressed, including Merrimack Street, Winter Street, Lafayette Square and Washington Street (see Safety section).

Table 10

Community	Priority
Haverhill	On-road bicycle network
Haverhill	Sidewalks in Ward Hill area
Haverhill	Riverwalk - downtown
Haverhill	Bradford Rail Trail/Georgetown Branch Trail
Haverhill	Bicycle parking in downtown
Haverhill	Pedestrian crash cluster, safety measures, infrastructure and education
Haverhill	Route 110 bicycle/pedestrian improvements

Haverhill
Bicycle and Pedestrian Facilities

Atkinson, NH

Destinations	
Name	Index
High School	1
Bradford Train Station	2
Haverhill Train Station	3
Riverside Park	4
NECC Campus	5
Downtown	6
Kenoza Lake/Winnekenni Park	7
Millvale Resevoir	8
Whittier Birthplace	9
Riverside Plaza	10

Legend

- Destinations
- Regional Marked Bike Lanes
- Regional Trails
- Developing Regional Trails
- Local Trails
- Active Transportation Network
- Active Rail Service
- Abandoned or Out of Service
- Airport
- Lake or Pond
- River or Stream

Roads

- Interstate
- US Route
- State Route
- Local

Priority Growth Areas

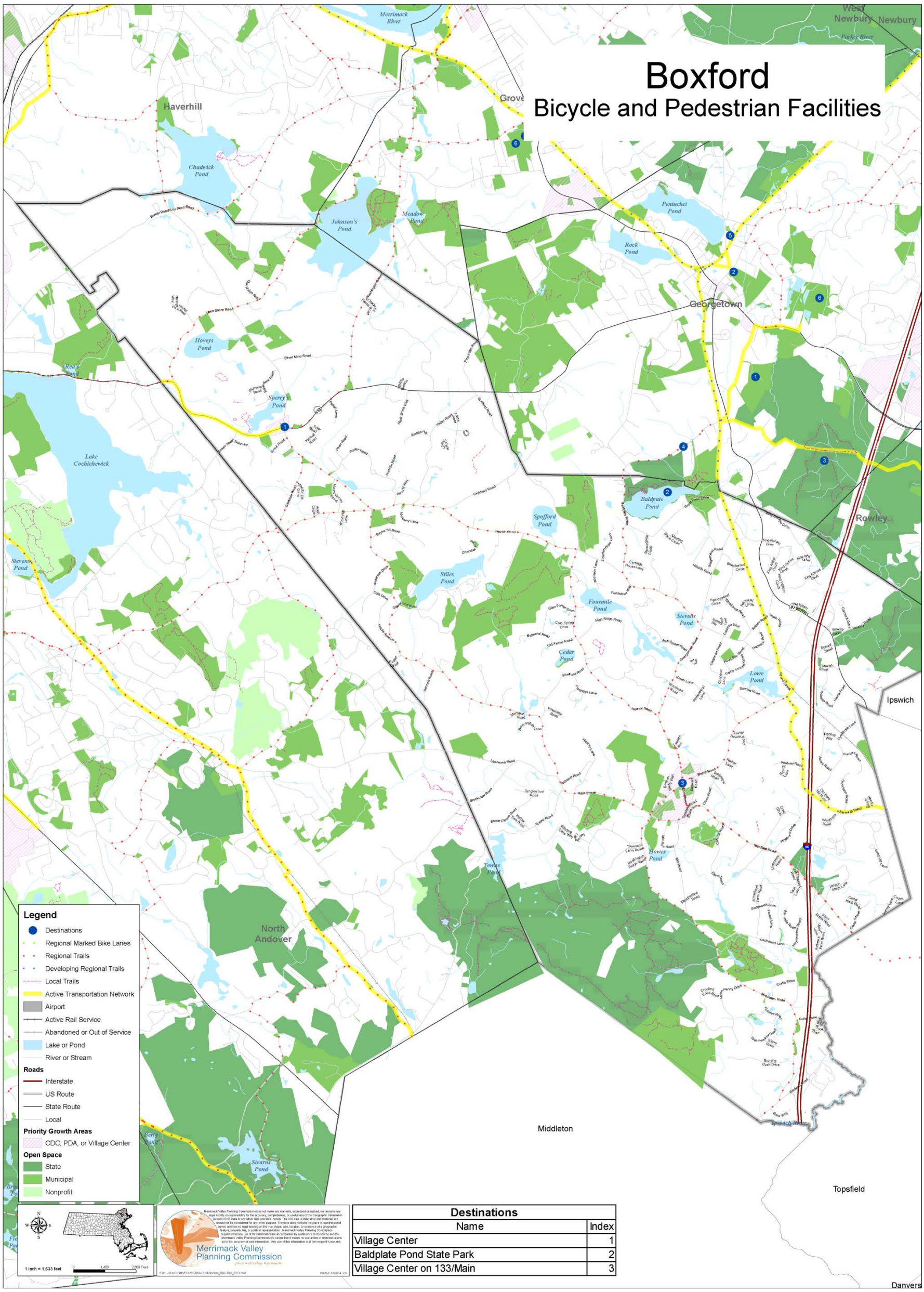
- CDC, PDA, or Village Center

Open Space

- State
- Municipal
- Nonprofit

Merrimack Valley Planning Commission

0 410 820 1,640 Feet — 1 inch = 1,205 feet


Boxford
Bicycle and Pedestrian Facilities
Haverhill
Merrimack River
West Newbury
Newbury
Parker River
Chadwick Pond
Johnson's Pond
Meadow Pond
Pentucket Pond
Rock Pond
Georgetown
Hoveys Pond
Silver Hill Road
Sperry Pond
Lake Cochichewick
Stevens Pond
Stiles Pond
Spofford Pond
Baldpate Pond
Rowley
Fourmile Pond
Cedar Pond
Lowe Pond
Howes Pond
Towne Pond
Ipswich
North Andover
Middleton
Topsfield
Danvers
Legend
Destinations
Regional Marked Bike Lanes
Regional Trails
Developing Regional Trails
Local Trails
Active Transportation Network
Airport
Active Rail Service
Abandoned or Out of Service
Lake or Pond
River or Stream
Roads
Interstate
US Route
State Route
Local
Priority Growth Areas
CDC, PDA, or Village Center
Open Space
State
Municipal
Nonprofit
1 inch = 1,633 feet
Merrimack Valley Planning Commission
Destinations
Name
Index
Village Center
1
Baldplate Pond State Park
2
Village Center on 133/Main
3

Boxford

The Town of Boxford is rural in character and does not have any special pedestrian or bicycle accommodation. It has focused much of its energy on the development of the Border to Boston Trail, which will connect it to Topsfield to the south and Georgetown to the north. A widely popular place to bicycle on road, the Town is designing MA133 to include wider shoulders to create safer cycling opportunities.

Table 11

Community	Priority
Boxford	Sidewalks between the Library and Main Street
Boxford	Sidewalks and crosswalks in village center
Boxford	Border to Boston Trail
Boxford	Widen shoulder for bicycle access on MA-133 (N. Andover T.L to Main Street)

Georgetown

Georgetown is a smaller community, yet its downtown is at the crossroad of two important travel routes (MA – 97 and MA-133) between I-95 and I-495. The same will occur with the development of its trail system with two multi-use trails intersecting in downtown Georgetown. The Town has worked with neighboring communities to develop the Border to Boston Trail. Currently, the section from Prospect Street south to Boxford is carried on the region's Transportation Improvement Program for construction in 2018. The trail will connect to a school via sidewalk and on-road improvements.

Photo: Old Georgetown Branch corridor may become the Groveland Community Trail. Photo by B. Steelman.

A secondary project would be to develop a connection to the Community Trail in Groveland either using the railroad corridor or by making improvements to West Main Street roadway that create safe pedestrian and bicycle access. In one direction, this trail would then connect to the Border to Boston on the outskirts of the downtown area and in the other direction it will connect to the Bradford commuter rail station.

Table 12

Community	Priority
Georgetown	Border to Boston Trail
Georgetown	Georgetown Branch Trail (from B2B to Groveland T.L.)
Georgetown	Elm Street (MA133 to Central Street)
Georgetown	MA-133 (Elm Street to proposed recreational area)
Georgetown	East Street and Pingree Farm Rd.

Groveland

The Town of Groveland has focused much of its energy recently on improving sidewalks along portions of MA-97 connecting to the Bagnall School, as well as on purchasing and preserving important tracts of land for conservation purposes. It has proposed to develop the Community Trail, which is comprised of the Georgetown Branch railroad corridor and make improvements along Route 113 that create better bicycle and pedestrian access (though currently undefined). By developing the Groveland Community Trail, the Town will connect many important activity centers and destinations including all the schools, the recreational facilities, Town offices, library and senior center as well as residential neighborhoods and conservation land. In addition, providing separated bicycle and pedestrian access along part of Route 97 would allow safe feeder access in the community for families to access both downtown and the trail.

Table 13

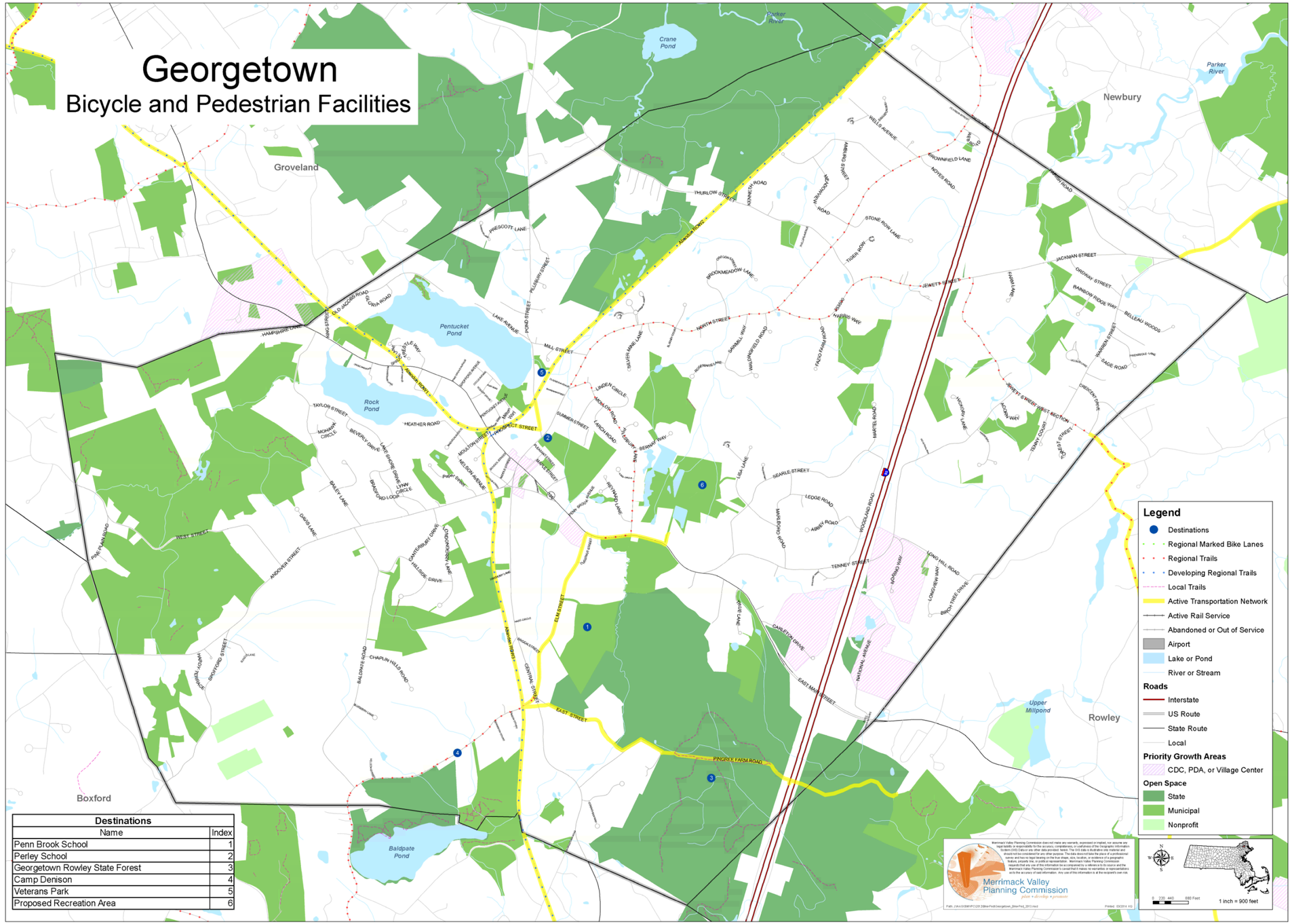
Community	Priority
Groveland	Sidewalks along MA-97.
Groveland	Bicycle parking and promotion Groveland Square
Groveland	Georgetown Branch Trail (Community Trail)
Groveland	MA-133 bicycle and pedestrian improvements (Community Trail/Merrimack River Trail)

Merrimac

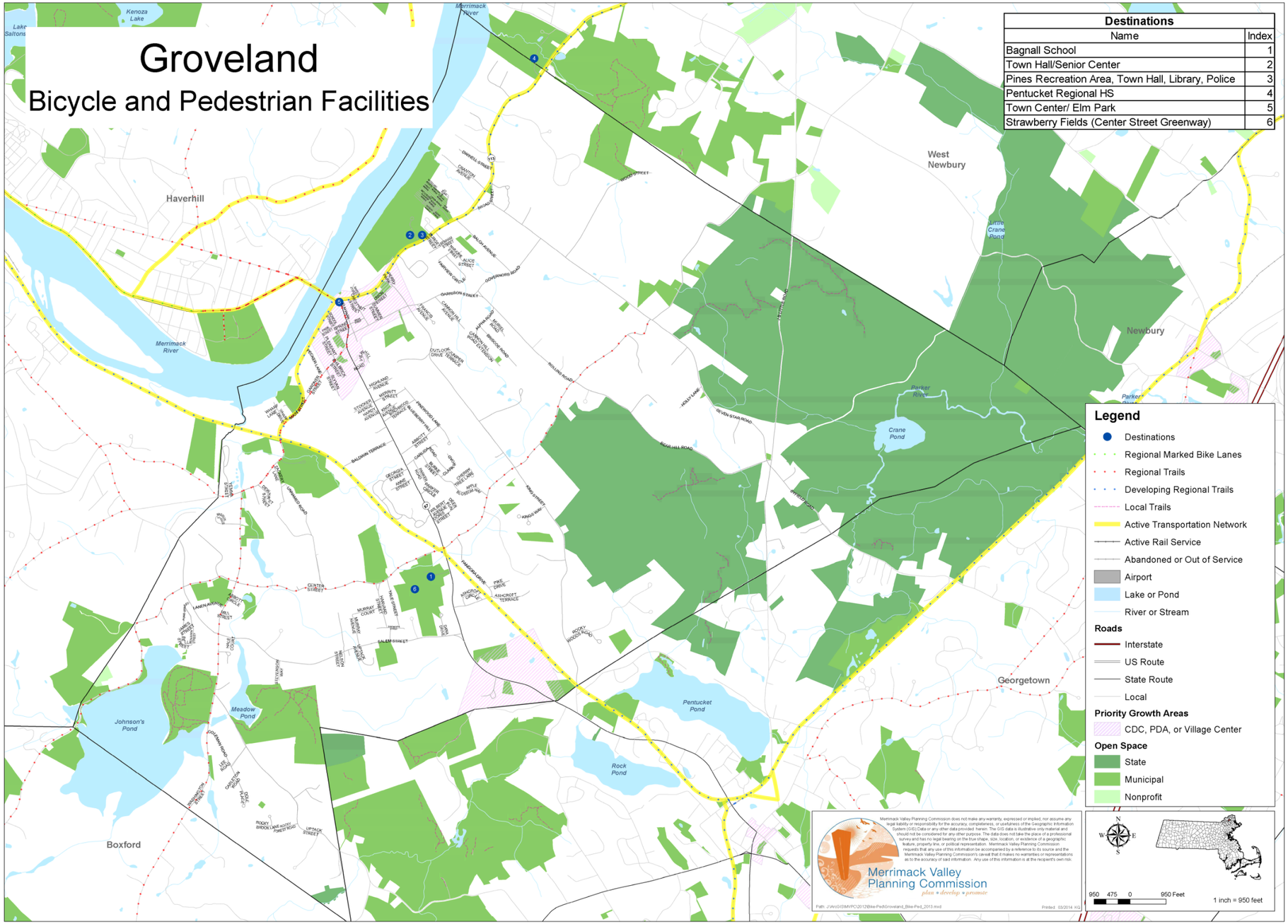
The Town of Merrimac has focused its energy on redesigning Merrimac Square, its village center, to be more pedestrian friendly as well as address thru traffic along MA-110. The majority of sidewalks are located in the village center, where the community is more densely settled. Nearby lies the McLaren Trail along a former rail line, but it needs a better defined entrance on Church Street. Members of the Conservation Committee mentioned that children do walk and ride bikes to school, usually on the sidewalks, though improvements could be sought to make these routes even safer. Other possible improvements include sidewalks on the southern side of MA-110 east of Broad Street to connect the mobile home park and Post Office to the downtown. Broad Street, a popular bicycling route which connects to the river, could potentially serve more cyclists if it was updated for safe access.

Table 14

Community	Priority
Merrimac	MA-110 Roadway and Sidewalk Projects. Sidewalks needed between downtown and Senior Center.
Merrimac	Improvements to McLaren Trailhead and direction signs to it from downtown
Merrimac	MA-110 Separated Bicycle Facility (or multi-use trail) as street widens after leaving village center.
Merrimac	Church Street: improved access to school and new entrance to McLaren Trail.
Merrimac	Broad Street bicycle access.



Destinations	
Name	Index
Penn Brook School	1
Perley School	2
Georgetown Rowley State Forest	3
Camp Denison	4
Veterans Park	5
Proposed Recreation Area	6


Groveland
Bicycle and Pedestrian Facilities
Destinations
Name | Index
Bagnall School | 1
Town Hall/Senior Center | 2
Pines Recreation Area, Town Hall, Library, Police | 3
Pentucket Regional HS | 4
Town Center/ Elm Park | 5
Strawberry Fields (Center Street Greenway) | 6
Legend
Destinations
Regional Marked Bike Lanes
Regional Trails
Developing Regional Trails
Local Trails
Active Transportation Network
Active Rail Service
Abandoned or Out of Service
Airport
Lake or Pond
River or Stream
Roads
Interstate
US Route
State Route
Local
Priority Growth Areas
CDC, PDA, or Village Center
Open Space
State
Municipal
Nonprofit
Haverhill
West Newbury
Newbury
Georgetown
Boxford
Merrimack River
Kenoza Lake
Lake Saltonstall
Johnson's Pond
Meadow Pond
Pentucket Pond
Rock Pond
Crane Pond
Little Crane Pond
Parker River
Merrimack Valley Planning Commission
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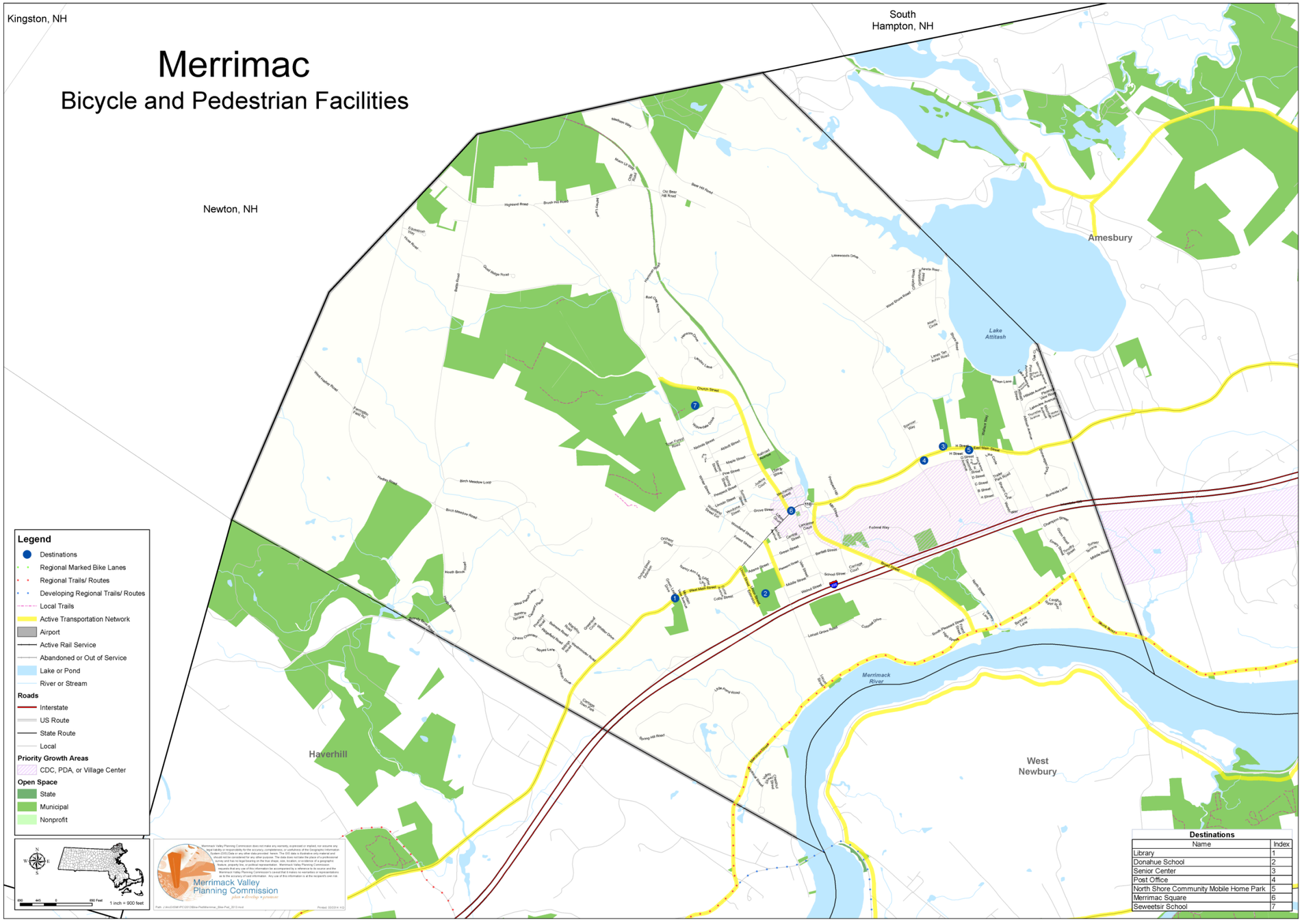
950 475 0 950 Feet
1 inch = 950 feet

Merrimac

Bicycle and Pedestrian Facilities



Destinations

Name	Index
Library	1
Donahue School	2
Senior Center	3
Post Office	4
North Shore Community Mobile Home Park	5
Merrimac Square	6
Seweetsir School	7

Greater Newburyport Area

The Greater Newburyport subregion sits at the mouth of the Merrimack River and encompasses seaside towns as well as two cities, Amesbury and Newburyport. Four of the communities have been working together on the Coastal Trails Network, which represents the most organized effort in the region resulting in the greatest accomplishments to date. Upcoming additions to the network include the Whittier Bridge trail and connections, Phase 2 of the Old Eastern Marsh Trail and Phase 2 of the Clipper City Rail Trail.

Amesbury

The City of Amesbury has one of the first sections of rail trail built in the region – the Powow Riverwalk. Two additional sections of the trail are under design leaving only one small, but important segment that will create the final connection between Amesbury's downtown and Salisbury and the Coastal Trails Network. Also under design is a stairway connection to the Whittier Bridge trail. The City has expressed a desire to further improve bicycle access in town by creating designated on-road routes that connect important destinations.

Photo: The Powow Riverwalk is being developed in several phases.

Table 15

Community	Priority
Amesbury	Enhancements to sidewalks, lighting in Cedar Street area
Amesbury	Powow Riverwalk (downtown connection)
Amesbury	Bicycle and pedestrian improvements to Rt. 150 Gateway village if developed for residential uses.
Amesbury	Create on-road bicycle network along Lions Mouth Road, Kimball Road, whitehall Road, High Street, Route 150, Main Street, Market Street and Southampton Road.
Amesbury	Separated bike access along MA-110.
Amesbury	Whittier Bridge Trail Connection at Main Street
Amesbury/ Salisbury	Connection between Ghost Train Trail and the Powow Riverwalk under I95 to Elm Street.
Amesbury	Powow Riverwalk (Elm Street to existing section)
Amesbury/ Salisbury/ Newburyport	Whittier Bridge Trail

Newbury

With the desire to maintain its rural character, the Town of Newbury has focused its attention on the cooperative development of the Border to Boston Trail, which will connect the village of Byfield to the Newburyport commuter rail station. It has also sought to increase pedestrian safety to Byfield by improving some sidewalks. The community striped bicycle lanes along Plum Island Turnpike.

Table 16

Community	Priority
Newbury	Border to Boston Trail, including separate access along Scotland Road.
Newbury	Enhanced bicycle/pedestrian accomodation in Byfield center
Newbury	Bike Lanes in Old Village Center as well as bike accommodations connecting to Parker River NWR
Newbury	Enhanced bicycle/pedestrian accommodation around US-1 Rotary and MBTA Commuter Rail station; connection to City

Amesbury

Bicycle and Pedestrian Facilities

Newton, NH

Seabrook, NH

Legend

- Destinations
- Regional Marked Bike Lanes
- Regional Trails
- Developing Regional Trails
- Local Trails
- Active Transportation Network
- Airport
- Active Rail Service
- Abandoned or Out of Service
- Lake or Pond
- River or Stream

Roads

- Interstate
- US Route
- State Route
- Local

Priority Growth Areas

- CDC, PDA, or Village Center

Open Space

- State
- Municipal
- Nonprofit

0 625 1,250 2,500 Feet

1 inch = 1,000 feet

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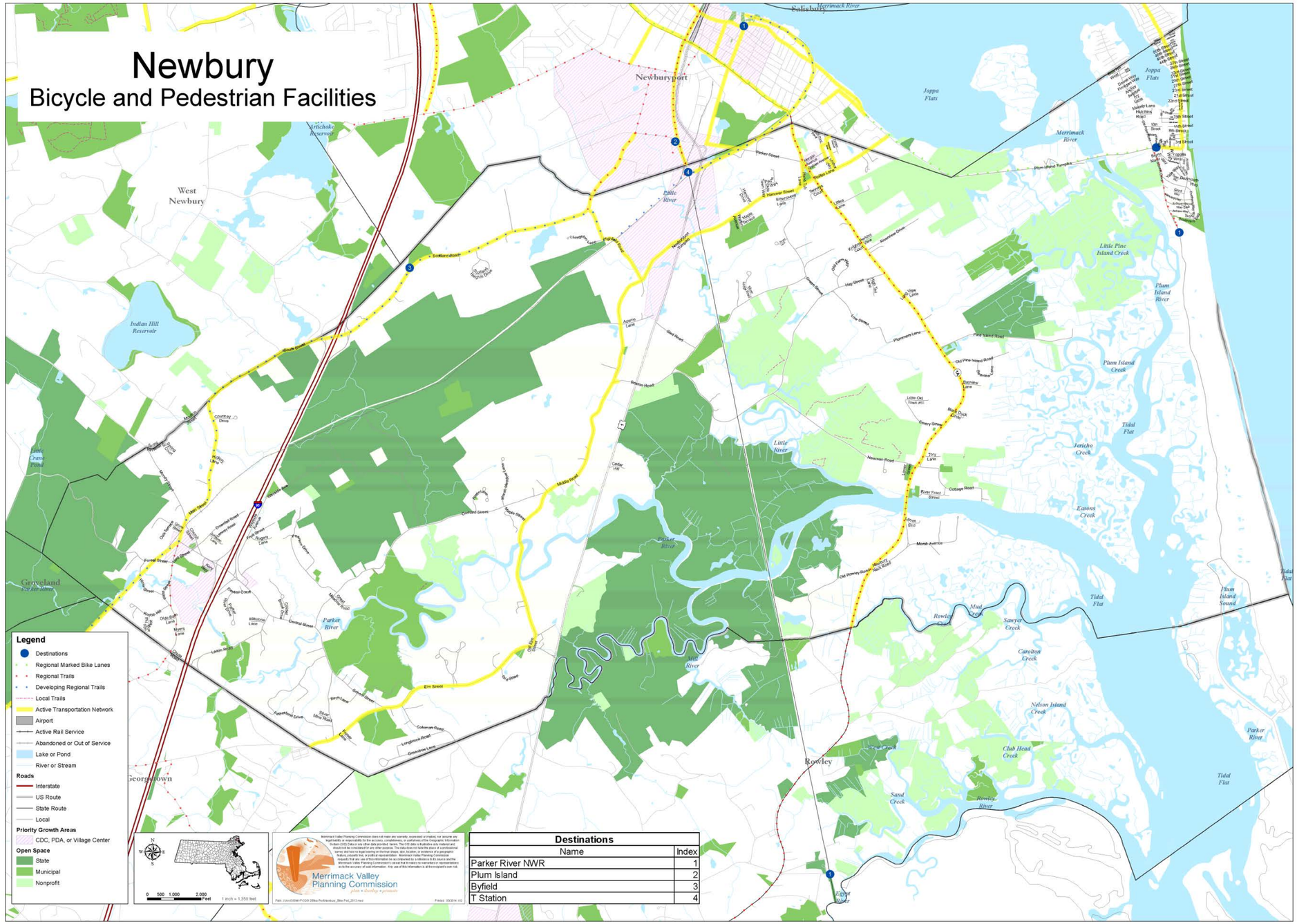
Printed: 03/2014 KG

Destinations	
Name	Index
Shopping Plaza	1
Costello Transit Center	2
Amesbury Village Center	3
Lower Mill Yard	4
Golden Triangle	5
Lake Gardiner	6
Camp Kent	7
Lake Attitash	8
Woodsom Farm	9
Lowell's Boat	10


Newbury
Bicycle and Pedestrian Facilities
Newburyport
West Newbury
Groveland
Georgetown
Rowley
Salisbury
Merrimack River
Joppa Flats
Little River
Parker River
Indian Hill Reservoir
Artichoke Reservoir
Little Pine Island Creek
Plum Island River
Plum Island Creek
Tidal Flat
Jericho Creek
Easons Creek
Mud Creek
Sawyer Creek
Carrolton Creek
Nelson Island Creek
Club Head Creek
Sand Creek
Rowley River
Plum Island Sound
Legend
Destinations
Regional Marked Bike Lanes
Regional Trails
Developing Regional Trails
Local Trails
Active Transportation Network
Airport
Active Rail Service
Abandoned or Out of Service
Lake or Pond
River or Stream
Roads
Interstate
US Route
State Route
Local
Priority Growth Areas
CDC, PDA, or Village Center
Open Space
State
Municipal
Nonprofit
Merrimack Valley Planning Commission
plan • develop • promote
Destinations
Name
Index
Parker River NWR 1
Plum Island 2
Byfield 3
T Station 4

Newburyport

The City of Newburyport is developing a bicycle and pedestrian network within town that connects to its neighboring communities as part of the Coastal Trail Network. The Clipper City Rail Trail anchors these projects with Phase I linking downtown to the commuter rail station. Phase II is under design and will create a loop through town and also contribute to the Merrimack River Trail. The City, along with Amesbury and Salisbury, advocated strongly for the Whittier Bridge Trail, which will end at Newburyport's park & ride lot on Storey Avenue (Route 113), but with the idea that it would connect to other trails.

Photo: Cyclists enjoying the open section of the Clipper City Rail Trail. The second phase of the trail is on the MVMPO TIP for 2015. By G. Vining, courtesy of Essex National Heritage Commission.

One of the first bicycle lanes was striped along High Street. The City is interested in investigating creative options for safe bicycle routes, such as contraflow bike routes (one way for cars, two way for bicycles) and designating the "Middle Way" route, which take cyclists along lesser traveled roads through downtown. Further improvements to bicycling infrastructure would make it safer to travel through the industrial park to points south, while reducing potential conflicts with trucks trying to access businesses in the area.

Table 17

Community	Priority
Newburyport	City Branch Trail (2 phases)
Newburyport	Waterfront trail
Newburyport	Boardwalk
Newburyport	Merrimack River Trail
Newburyport	Little River Nature Trail
Newburyport	Boston Road and Green Street
Newburyport	Downtown sidewalk repairs
Newburyport	Union Street
Newburyport	Merrimack River Trail extension
Newburyport	Emery Lane to Main St to Way to the River
Newburyport	Safe route to Rupert Middle School
Newburyport/ Salisbury	Route 1 Bridge

Rowley

The Town of Rowley is rural with a lovely historic center. The sidewalks (in need of repair) line the West side of Route 1A, which is also a designated Scenic Byway. Sidewalks also connect to the Commuter Rail Station on Railroad Street. The Town has asked MVPC to study pedestrian safety along MA-133 between MA-1 and -1A.

There are no particular bicycle facilities in the town, though cyclists do ride through the community on local roads. The community may want to further examine better connections to Georgetown through the Georgetown Rowley State Forest via the Pingree Farm Road I-95 pedestrian overpass.

Table 18

Community	Priority
Rowley	Enhancements to pedestrian infrastructure in village center
Rowley	MA-133 between Routes 1 and 1A pedestrian safety study by MVPC (2014).

Newburyport

Bicycle and Pedestrian Facilities

Destinations	
Name	Index
Village Center	1
T	2
Maudslay State Park	3
Park & Ride	4
Shopping Plaza	5

Legend

- Destinations
- Regional Marked Bike Lanes
- Regional Trails
- Developing Regional Trails
- Local Trails
- Active Transportation Network
- Airport
- Active Rail Service
- Abandoned or Out of Service
- Lake or Pond
- River or Stream

Roads

- Interstate
- US Route
- State Route
- Local

Priority Growth Areas

- CDC, PDA, or Village Center

Open Space

- State
- Municipal
- Nonprofit

Merrimack Valley Planning Commission

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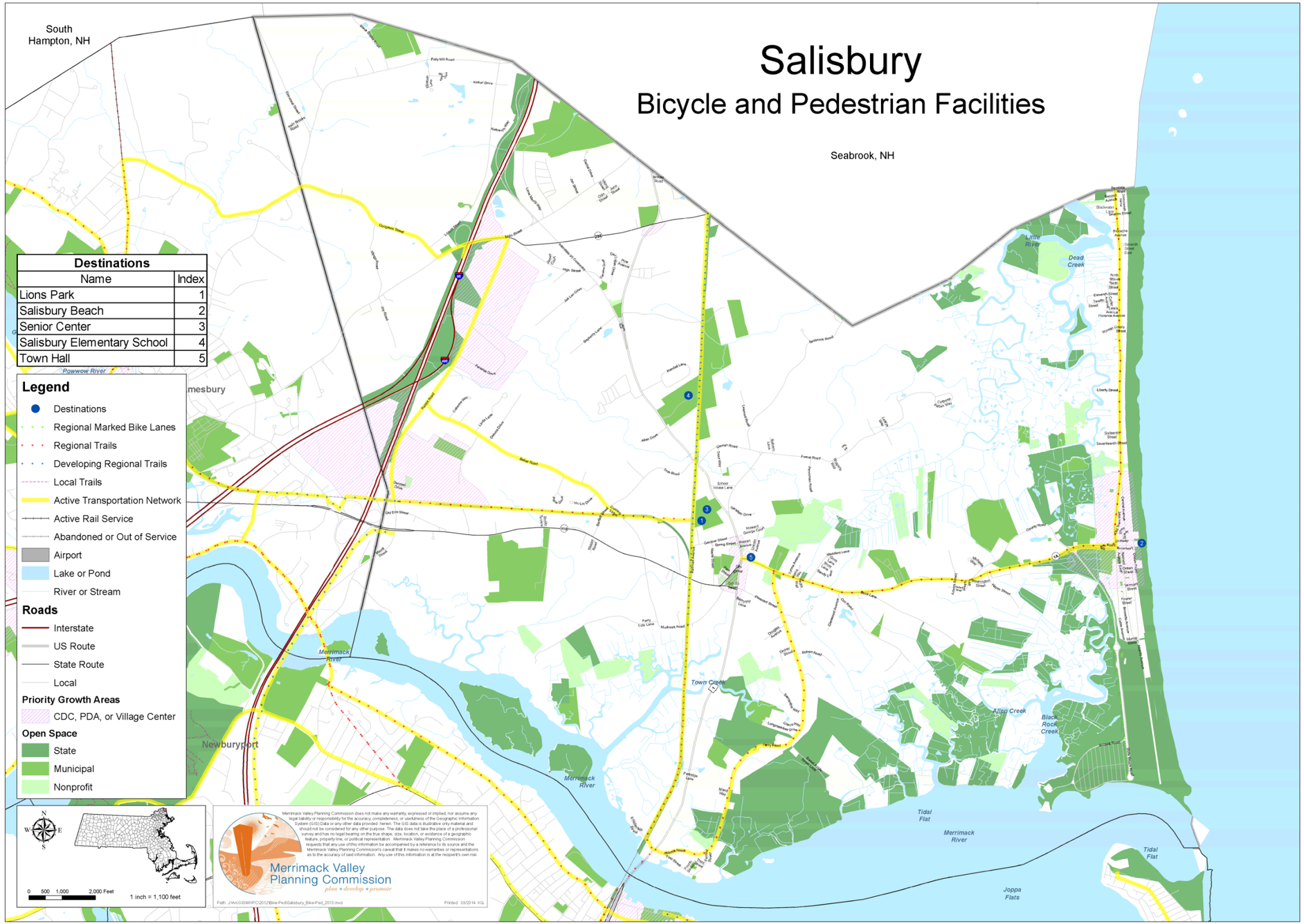
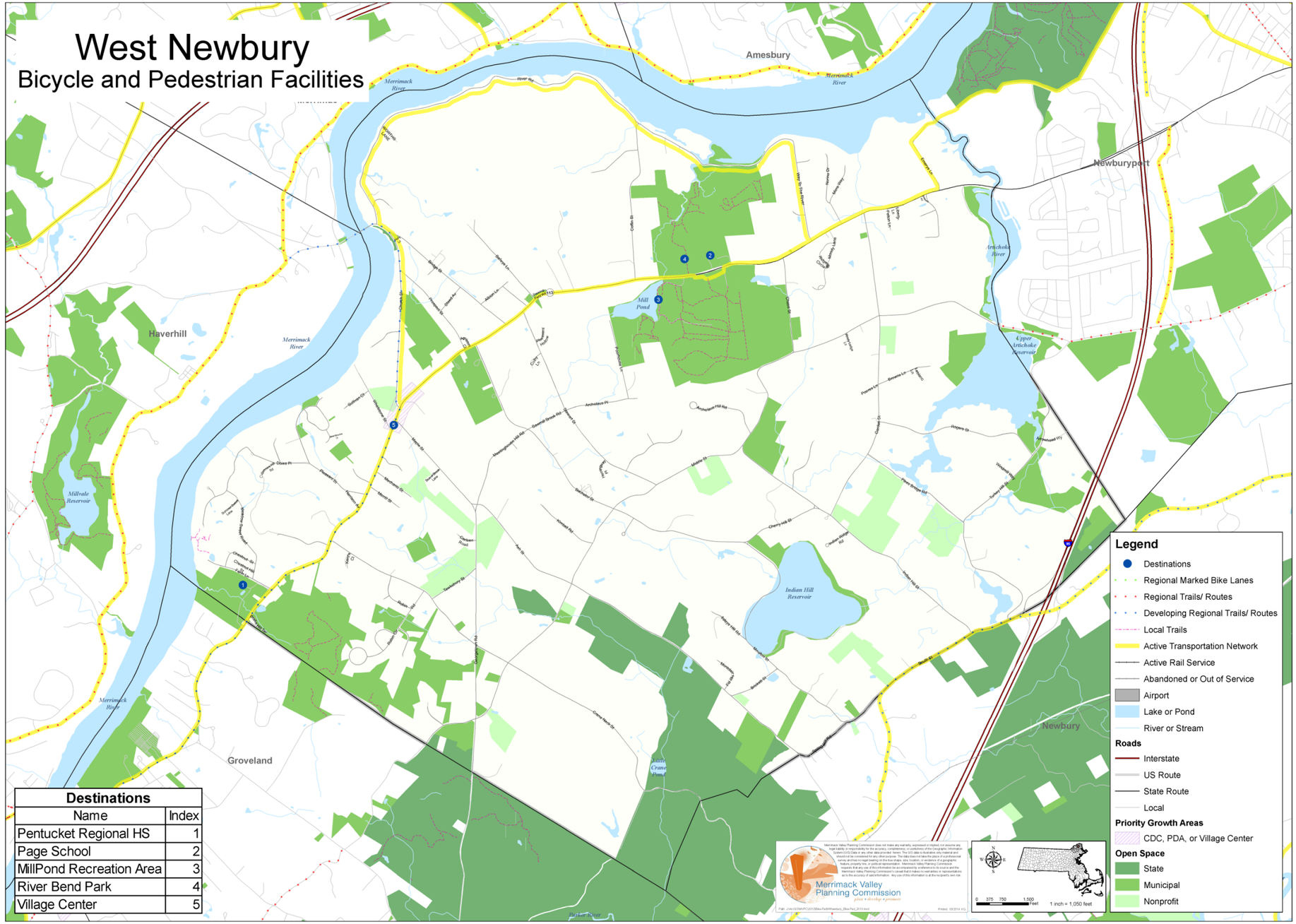
1 inch = 1,000 feet


Salisbury
Bicycle and Pedestrian Facilities
South Hampton, NH
Seabrook, NH
Newburyport
Destinations
Name | Index
Lions Park | 1
Salisbury Beach | 2
Senior Center | 3
Salisbury Elementary School | 4
Town Hall | 5
Legend
Destinations
Regional Marked Bike Lanes
Regional Trails
Developing Regional Trails
Local Trails
Active Transportation Network
Active Rail Service
Abandoned or Out of Service
Airport
Lake or Pond
River or Stream
Roads
Interstate
US Route
State Route
Local
Priority Growth Areas
CDC, PDA, or Village Center
Open Space
State
Municipal
Nonprofit
0 500 1,000 2,000 Feet
1 inch = 1,100 feet
Merrimack Valley Planning Commission
plan • develop • promote
Merrimack River
Powwow River
Town Creek
Dead Creek
Little River
Allen Creek
Black Rock Creek
Tidal Flat
Joppa Flats

West Newbury
Bicycle and Pedestrian Facilities



Destinations	
Name	Index
Pentucket Regional HS	1
Page School	2
MillPond Recreation Area	3
River Bend Park	4
Village Center	5

Salisbury

The Town of Salisbury has two faces. One consists of the small year round resident community while the second face of Salisbury emerges during the summer months when the town hosts over 1 million people who are attracted to its beautiful beach and beachfront activities. The annual change brings festive activities as well as notorious traffic congestion. The Salisbury bicycle and pedestrian network aims to create cross-town connectivity. The northern section of the Eastern Marsh Trail (Border to Boston) will provide the only safe pedestrian access to the elementary school.

Photo: Salisbury's Eastern Marsh Trail, photo by J. Klima.

To date, the town has successfully built the Ghost Trail and part of the Old Eastern Marsh Trail on former railroad right-of-ways. It also has designated bike routes within town to create connections. Some of these routes, including Beach Road and North End Blvd, could be enhanced further to promote bicycling and walking. One of the few existing bike lanes in the region provides access to the Salisbury Beach State Reservation. The Town will also benefit from the connection to the Whittier Bridge Trail via Rabbit Road to the entrances at Route 110 and at Merrill Street.

Table 19

Community	Priority
Salisbury	Eastern Marsh Trail (Mudnock Road to NH state line)
Salisbury	Access between rail-trails and Beach Road
Salisbury	Beach Road improved bicycle and pedestrian access.
Salisbury	Forest Street and Seabrook Road on-road connection to Eastern Marsh Trail.
Salisbury	Merrill Street and Rabbit Road on-road route to connect to Ghost Trail.
Salisbury	Transportation enhancements at Beach Center
Salisbury	I-95 tunnel connecting the Ghost Trail to the Powow Riverwalk

West Newbury

West Newbury has in the past expressed a desire to improve pedestrian access along MA-113 between Pentucket Regional Schools and Page School. The town continues to create off-road trails that are incorporated into the Merrimack River Trail.

Bicycling along West Newbury's picturesque rural roads is very popular. However, no improvements to or additional facilities have been identified.

Table 20

Community	Priority
West Newbury	Sidewalk improvements along Route 113.

Community	Priority
Rowley	Enhancements to pedestrian infrastructure in village center
Rowley	MA-133 between Routes 1 and 1A pedestrian safety study by MVPC (2014).
Community	**Priority**
Salisbury	Eastern Marsh Trail (Mudnock Road to NH state line)
Salisbury	Access between rail-trails and Beach Road
Salisbury	Beach Road improved bicycle and pedestrian access.
Salisbury	Forest Street and Seabrook Road on-road connection to Eastern Marsh Trail.
Salisbury	Merrill Street and Rabbit Road on-road route to connect to Ghost Trail.
Salisbury	Transportation enhancements at Beach Center
Community	**Priority**
West Newbury	Sidewalk improvements along Route 113.
Community	**Priority**
Haverhill	On-road bicycle network
Haverhill	Sidewalks in Ward Hill area
Haverhill	Riverwalk - downtown
Haverhill	Bradford Rail Trail/Georgetown Branch Trail
Haverhill	Bicycle parking in downtown
Haverhill	Pedestrian crash cluster, safety measures, infrastructure and education
Haverhill	Route 110 bicycle/pedestrian improvements
Community	**Priority**
Newburyport	Clipper City Rail Trail
Newburyport	Waterfront trail
Newburyport	Boardwalk
Newburyport	Merrimack River Trail
Newburyport	Little River Nature Trail

Chapter 4: Multi-Modal Access and Options

Local Planning and Policies

Photo: The Town of Andover installed bump outs downtown to enhance pedestrian safety.

Bicycle and Pedestrian Plans

Most of the communities in the Merrimack Valley region have addressed walking or bicycling in one way or another. Often multi-use trails are included in open space plans and some schools participate in the state's Safe Routes to Schools program, for example. However, none of the communities has a bicycle and pedestrian plan that takes a comprehensive look at active transportation for ages 8 to 80. Such a plan will also impact how roads are maintained by the local department of public works. Most DPWs have no directive to provide better bicycle accommodation, because it is not in any plans or budgets.

Complete Streets

The concept of Complete Streets is based on the assumption that roadways (or transportation corridors) should be designed to accommodate all potential users and transportation modes. It encourages looking at a road from the outside in, in order to ensure that walkers, bicyclists, wheelchair users, children, elderly, transit users, cars and trucks are all taken into consideration.

A complete streets policy lays out how a community can better design, engineer and maintain its infrastructure so that all uses are incorporated. Communities that adopt these policies will benefit from better coordination to achieve their visions but also will be able to take advantage of the Commonwealth's new Active Streets and Healthy Communities program, which promises to provide small grants to communities with complete streets policies. The funds would supplement existing Chapter 90 funds, giving communities additional funds, for example, to improve ADA ramps, repair sidewalks, paint bike lanes, purchase updated pedestrian signals/signage or design a safer intersection.

What a complete streets policy does ***not*** do is require that a community stripe bike lanes on every road, nor use all Chapter 90 funds to implement bicycle and pedestrian

improvements.

To date, no Merrimack Valley communities have adopted or implemented complete streets policies. The City of Lawrence adopted a Healthy Active Living Resolution, which touches upon some of the complete streets concepts. The Lawrence Mayor's Health task Force was awarded a grant from the Massachusetts Department of Public Health to draft, adopt and implement a complete streets policy by the end of 2017.

The MVPC will see to assist communities in drafting and implementing such policies in our member communities.

Resources on complete streets policies can be found at:

- Smart Growth America houses the Complete Streets Coalition (http://www.smartgrowthamerica.org/complete-streets). The Complete Streets policy workbook and the report on the Best Complete Streets policies can be found on this web site.

- Boston's Complete Streets web site (http://www.smartgrowthamerica.org/complete-streets) provides a wealth of information including their Complete Streets Guidelines.

Strategy for Progress:

- Provide technical assistance to communities to draft Complete Streets policies and implement them.
- Support the development of local bicycle and pedestrian plans.

Riding to Plum Island. Photo by B. Steelman, ENHC.

Improve Multi-modal Infrastructure and Services

The Commonwealth of Massachusetts set a goal to triple the mode share of bicycle, pedestrian and transit travel. To do this, the bicycle and pedestrian infrastructure must support the majority of people who could use these modes. This is the idea of designing for ages '8-80'. The MVPC met with each community to identify regional priorities. Those priorities are discussed in Chapter 3 and are known as the Active Transportation Network (ATN). MVPC and the Merrimack Valley MPO (MVMPO) support the development of the ATN in a few ways:

- Coordinating and participating in multi-community trail development projects.
- Funding the construction of multi-use trails through the MPO process, and through grant writing.
- Supporting planning efforts through, for example, infrastructure condition inventorying and mapping.
- Hosting workshops on bicycle and pedestrian related topics.

Two additional regionally-related recommendations came from the development of the 2011 Merrimack River Reconnaissance Report that could be applied to the ATN generally, including:

- Regionally coordinating the aggregation and creation of a central source of information on the development of the Merrimack River Trail, its location, layout, points of access, etc.
- Coordinating the creation of a downloadable trail route (GPS) for distribution on state, regional and local websites; and possibly the production of a similar smart phone application.

How many people bike/walk?

The MVPC has focused its efforts to date on the development of facilities. However, with the state goal of tripling the mode share, MVPC must create a way to better measure the number of trips taking by bicycling and walking. Journey to work data supplied by the U.S. Census provides only a snapshot of the number of people who bicycle and walk as their primary mode of transportation to work, but it does not provide a full picture of how people use these modes on a daily basis. Currently, MVPC does not have the capacity to

count users on any regular basis. Annually, the Commonwealth collects data on trail users, but it is dependent upon the availability of volunteers, making it a challenge. MVPC is researching different methods of counting bicycle and pedestrian activity.

Increase Awareness and Promote Active Transportation

In addition to building the infrastructure, community engagement and education is needed to bring more awareness of how to share the road as well as to promote these modes of transportation. There are a few good examples of community outreach and awareness in the Merrimack Valley.

Ciclovía

In August 2014, the Lawrence Mayor's Health Task Force initiated the first Ciclovía (or open streets) in the Merrimack Valley as a way of promoting use of the streets for bicycling and walking as well as to promote healthy living and support downtown businesses.

Photo: A family out for a ride at the Ciclovia.

Essentially open streets programs promote the use of public streets for recreation.

Ciclovías originated in Bogota, Colombia over 30 years ago and have been adopted by communities across the United States. They can be large weekly events that connect multiple neighborhoods and include a variety of activities that appeal to different people. Or, they these events can be organized on a smaller scale and simple include closing some streets to cars and allowing free use for foot and bicycle traffic.

Embraced by Mayor Rivera and supported by the the Lawrence Police and other City departments and the coalition of organizations that constitute the Mayors Health Task Force, the city closed sections of Common and Essex Streets to create a circuit for safe family fun. Popular zumba classes were held and the newly created Bicocina set up shop to help people tune their bicycles.

The event was a great success. Businesses, usually closed on Sundays, opened their doors, served healthy foods and said it was just what the downtown needed.

Local Trail Advocacy Organizations

Advocacy for trail development is active in the Merrimack Valley where multi-use trails are being developed in nearly all communities. The Coastal Trails Coalition (CTC) is one of the earliest and most successful regional advocacy organizations that grew out of a four-community effort to develop an interconnected on- and off-road bicycle and pedestrian

network in Amesbury, Newbury, Newburyport and Salisbury. CTC holds events, such as the Slow Bike Race, as well as walks, trail cleanups and fundraisers to promote cycling and the development and maintenance of the network. CTC also applies for grants and makes grants from its own funds to support the development of the CTNetwork. This group has also successfully implemented adopt-a-trail and adopt-a-bench programs to help with maintenance. The organization was initially founded with the help of the Essex National Heritage Commission and the National park Service Rivers and Trails Program.

Strategy for Progress

- Support the development of the ATN through technical assistance, funding and coordination.
- Seek new ways to promote the coordinated development of the ATN through interactive on-line tools, etc.
- Implement bicycle and pedestrian count program.

Seamless Transportation

Creating better connections among different modes of transportation will lead to a more efficient, equitable and user-friendly transportation system.

Bicycle Parking

Ample, safe and convenient bicycle parking adds tremendous value to a bicycle network, promotes bicycle trip making, and prevents bicycle parking in unwanted places. In the Merrimack Valley, bicycle parking can be found in the usual places, such as libraries and transit stations, but is hard to find ample parking in downtown districts or village centers. In addition, the type of parking available varies and is sometimes not useable.

MVPC completed a survey of bicycle parking facilities on a May weekday at park and ride lots and commuter rail stations in the Valley. Table on the next page shows the inventory. Note that this is a snapshot and not the average daily use. Public comments provided noted that many cyclists park their bicycles around the Newburyport commuter rail station, but they do not always use the bike racks. Here's what we found:

- All commuter rail stations have bicycle racks; 5 out of 8 park and ride lots have bike racks, and there are no racks at the Costello or Buckley Transportation Centers.

- There are four (4) covered bicycle parking areas. Of the two that are located at or near the Haverhill Commuter Rail Station, the one that is located in the MVRTA parking garage next to the security office is packed with

Photos: (top) Inverted 'u' bike rack at the MVRTA parking garage in Haverhill. (Middle) Comb style bike rack at Ballardvale Station demonstrates some of the problems with this style of rack. Bottom: Bike racks at McGovern Center are placed near the security office, but too close to the building, making it hard to fully use the rack on the left.

bikes, whereas the one on the platform is nearly empty.

- The vast majority of bicycle racks are not up-to-date with current standards. Twelve locations have installed either wave or comb style bike racks, which are no longer recommended for bicycle parking.

- Installation of some racks is incorrect or awkward, making them hard to use, such as at the Lawrence commuter rail station where one rack was located at an awkward angle next to the building making it harder to park bicycles.

Table 21

Bicycle Parking Facilities at Commuter Rail and Park & Ride Lots

May 27, 2014

Commuter Rail Stations

Community	Location	# bike racks	Style	# of bikes Parked
Andover	Railroad Ave.	3	comb/covered IU/wave	10
Andover	Ballardvale	1	comb	0
Haverhill	Bradford	1	wave	0
Haverhill	Railroad Square	2	wave/IU*	1
Haverhill	MVRTA parking garage	1	IU	7
Lawrence*	Merrimack St	2	coil	0
Newburyport	Rte.1 (Lot A)	1	wave	0
Newburyport	Rte.1 (Lot C)	1	wave	4
Newburyport	Clipper City RT	4	post and loop	0
Rowley	Railroad Ave.	1	wave	5

Park and Ride Lots

Community	Location	# bike racks	Style	# of bikes Parked
Andover	Dascomb Road	1	IU	0
Andover	Shawsheen Square	0		0
Ballardville	Faith Lutheran Church	0		0
Georgetown	Rte. 133 / Main St.	1	comb	0
Methuen	Pelham Street	1	wave	0
Newburyport	Storey Ave.	1	wave	0
Salem, NH	Exit 2, I-93, Pelham St.	1	wave	0
Plaistow, NH	Westville Rd.	0		0

* IU = Introverted U

Bicycle Parking Recommendations

Communities should consider bicycle parking in two general ways:

1. Long-term Parking
   Long-term parking is needed for a full day, such as for commuting. For best use, these need to be covered and secure. The MVRTA parking garage in Haverhill is the best example in the Merrimack Valley. The Parking is in the garage next to the security office. Andover's downtown commuter rail station has covered bicycle parking. This rack is packed with bicycles where the other racks are empty.

2. Short-term Parking
   Short-term parking needs to be located in places that are very convenient for short trips, such as in downtown districts where, for example, someone might pop into a store or meet a friend for lunch. Bike racks should be convenient and visible. Lollipop or post and loop racks placed along the sidewalk with easy access to business are good examples

Bicycle Parking Styles

When choosing a bicycle rack, the following simple rules should be considered:

1. Support the bicycle in at least two places.
2. Be securely anchored on a permanent foundation.
3. Keep both wheels on the ground.
4. Prevent the bicycle from tipping over, to prevent bicycles from being bent and damaged.
5. Have a locking pole that is no more than 1.5 inches in diameter.

Photo: Racks should support bikes in two places.

Examples of 'good' parking styles include the (1) inverted 'U' or 'A' and (2) post and loop.

Photos: Left shows inverted "U" (Photo: MVPC) and the bike racks on the right are Post and Loop (Photo: L. Reid)

Zoning Ordinances and Parking Guidelines

A bike parking zoning ordinance helps lay out the requirements for bike parking for new commercial and residential developments. It helps communities build the bicycle parking needed to support this transportation mode. The City of Somerville adopted a more detailed zoning ordinance and provides a Bicycle Parking & Installation Guide. The City of Northampton adopted a simple zoning ordinance with a reference to their bicycle parking guide:

> "Except in the Central Business District, bicycle racks or other provision for indoor or outdoor storage of bicycles must be provided for all uses for which the zoning requires 10 or more parking spaces. Storage must allow for the locking of bicycles to racks or inside of storage containers. See http://www.northamptonma.gov/opd/Sustainable_Transportation/ for the 2009 Northampton Bicycle Parking Guide." (Source: http://ecode360.com/11957604)

There are many examples of parking guidelines. Cambridge and Northampton have developed guidelines for their cities and can be found on their web sites. The Association of Bicycle and Pedestrian Professionals (APBP) also provides bicycle parking guidelines that they have developed so that communities can simply adopt them as their own local guidelines. It can be found at: http://www.apbp.org/?page=publications.

Layout Dimensions

The layout of your bike racks will depend on the demand and location. Again, the bicycle guidelines referenced above lay out dimensions. Also, *Dero Bike Racks* provides the

following helpful diagram along with other helpful recommendations for proper spacing of bicycle racks.

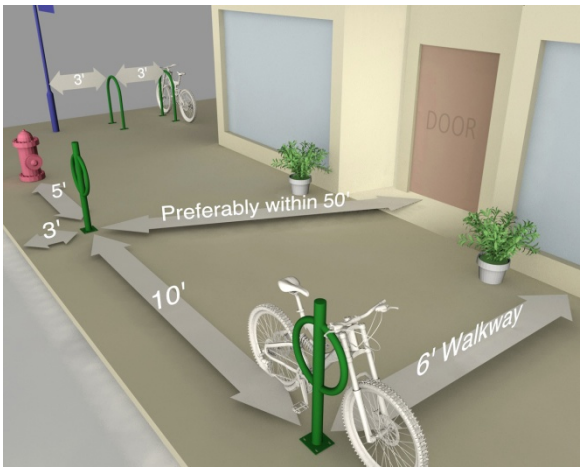


Photo: Dero, http://www.dero.com/bike-parking-guide/space-use.html

Coordinating Transit and Active Transportation Modes

Transit is an important mode of transportation in the Merrimack Valley, especially for providing access to jobs as well as for important essential destinations such as grocery stores and medical facilities. By its nature, transit is connected to active transportation, because so many transit trips often begin with and/or end in a walking . Likewise, if better bicycle access were provided, far more people could access commuter stations by bike, save on parking charges and have the bonus of getting exercise.

Photo: MVRTA bus picks up passengers a the McGovern Transportation Center.

The Merrimack Valley is served by the MBTA for commuter rail service to Boston from Newburyport on the eastern end and from Haverhill on the western end of the region. The MBTA does provide a bicycle train on weekends along the Newburyport line.

The MVRTA provides local bus transit service, on-demand service to rural communities as well as commuter bus service to Boston. The MVRTA does not have bike racks on the front of its buses, but is looking into adding racks on the front of the buses. Currently, bicycles are allowed in the buses and must be secured in the same area as wheelchairs. However, wheelchair users are prioritized over bicycles. In addition, if the bus is too crowded, then bicycles are not permitted on the bus. The MVRTA runs on a flag system, meaning that customers may flag down the bus at any point along the route as long as it is not in a 'no stop zone'. However, one drawback to this type of operation is that it is harder to know where to catch the bus. The MVRTA has few bus stops, primarily because it is a local decision made by the community. However, the MVRTA does have some bus route markers and is looking into updating these. Further, the MVRTA invested in the creation of a new system map that it will post at its stations.

The American Public Transportation Association's publication, *Defining Transit Areas of Influence*, (2009 APTA. *Defining Transit Areas of Influence*, APTA SUDS-UD-RP-001-09, Washington DC) describes the factors that can impact the catchment area of walkers and bicyclists. The catchment area is the sphere from which people will likely walk or bicycle to the transit station. Keeping in mind that transit service in the Merrimack Valley is limited to street transit and regional rail service, people can be expected to walk up to ½ miles (for street transit) and between ½ mile (walking) to 5 miles (bicycling) for rail. The table below provides a brief overview of the pedestrian and bicycle access for each of the transit stations. Park and Ride facilities were not included.

Several communities are taking steps to overcome some of the impediments to walking or bicycling to transit stations. For example, Newburyport's commuter rail station abuts busy Route 1 and is not located in the downtown, which make it challenging for people to get to without a car. The City has invested in the development of a loop trail, the Clipper City Rail Trail, which connects the train station to the downtown. The City is also hoping to see more transit oriented development surrounding the train station.

Both of Haverhill's train stations are easily accessible. The City is developing the Bradford Rail-Trail with a long-term desire to create a rail-with-trail to give pedestrians direct access to the station using the old railroad bridge over Railroad Avenue. The City has also invested in upgrading the pedestrian environment around the downtown train station, though the train station remains largely cut off from the surrounding neighborhood.

The list below provides a glimpse into the investments that are being made that will create stronger bicycle and pedestrian connections.

Table 22

Factors that Impact the Transit Area of Influence

	Ballardvale	Andover	McGovern	Bradford	Haverhill	Rowley	Newburyport	Buckley	Washington Square	Costello
	Transit Centers									
At grade station	x	x	x			x	x	x	x	x
Located in densely settled area		x	x	x	x			x	x	x
Connected street networks/direct pedestrian paths		x	x	x	x		x	x	x	x
Adequate lighting on sidewalks/crosswalks								x		
On-road marked bicycle routes										
Multi-use trail connection (existing)							x			
Secure bicycle parking		x	x		x		x			
Wayfinding signage										
Good visability	x	x	x			x	x	x	x	x
Pedestrians must traverse large parking lot										
High-speed auto traffic							x			
Steep topography		x		x	x					x
Poor pavement conditions										
High transit frequency								x		

Table 23

Transportation Projects within 1/2 mile of Transit Center

Community	Project	Transit Facility
Amesbury	Powow Riverwalk	Costello Transportation Center
Amesbury	Elm Street	Costello Transportation Center
Andover	Shawsheen River Trail	Downtown and Ballardvale transit stations
Georgetown	Border to Boston Trail	Georgetown Park and Ride
Groveland	Groveland Community Trail	Park and Ride, Riverside, Haverhill
Haverhill	Bradford Rail Trail	Bradford Transit Station
Haverhill	Riverwalk	Washington Square Transportation Center and Haverhill Train Station
Haverhill	Water Street Sidewalk widening	Washington Square Transportation Center and Haverhill Train Station
Haverhill	Main Street 3 intersection improvements	Washington Square Transportation Center and Haverhill Train Station
Haverhill	Basiliere Bridge	Washington Square Transportation Center and Haverhill Train Station
Lawrence	Merrimack Street Reconstruction	McGovern Transportation Center
Lawrence	Rail-Trail project	McGovern Transportation Center and Buckley Transportation Center
Newburyport	Clipper City Rail Trail	Newburyport Train Station
Newburyport	Whittier Bridge trail	Storey Avenue Park and Ride

Strategies for Progress:

- Support multi-modal connections to transit.
- Encourage more comprehensive approach to providing bicycle parking in downtown areas.

Equitable Access to Active Transportation Modes

As discussed throughout the report, bicycling and walking for exercise, recreation and transportation is coming into focus in communities throughout the Merrimack Valley as people look for more ways to simultaneously live healthier lives, reduce transportation costs and have fun. Likewise, communities are seeking to make their communities more livable for existing residents and employees as well as to attract visitors, new residents and new employers.

This section delves into some of the issues surrounding bicycling and walking in some of the Merrimack Valley's low income and minority communities. Why is this important? First, it is important to ensure that the needs of traditionally underserved groups are addressed so that people in these communities are also able to safely and enjoyably walk or bicycle for work and recreation. Second, as a regional entity, the MVMPO is concerned with regional connections and this includes our minority and low income communities. Third, the MVMPO is further required to meet Title VI requirement and comply with Environmental Justice policies.

What are Title VI and Environmental Justice?

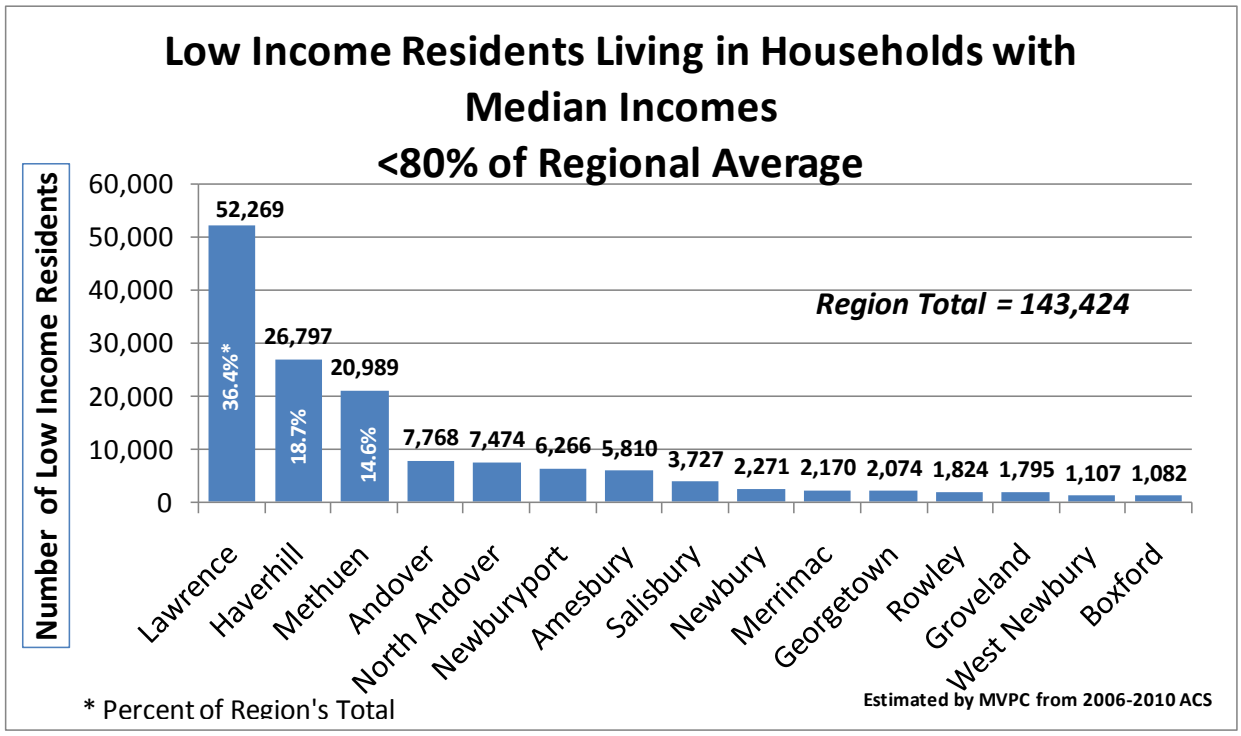
Title VI prohibits discrimination in federally assisted programs and requires that no person in the United States of America shall, on the grounds of race, color or national origin (including limited English proficiency) be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity receiving federal assistance.

Environmental Justice policies require that the MVMPO seek to:

- Avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority and low-income populations;
- Ensure the full and fair participation in the transportation decision-making process by all potentially affected communities, and
- Preventing the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.

Low Income and Minority Communities in the Merrimack Valley

Low income is defined in a variety of ways. The MVMPO follows the Federal Transit Administration's definition: those residents living in households with median incomes of less than 80% of the regional average. As the chart below shows, Lawrence, Haverhill and Methuen have the largest number of people who fall in this category.



Similarly, the MVMPO looked at the number of minority residents in each community. Those Census tracts with minority populations that exceeded the region's average of 28.66% minority were included in the Title VI group. These tracts are located in four communities: Haverhill, Lawrence, Methuen and North Andover

Trends in Title VI and EJ Communities

- Nearly half of all the people in the Merrimack Valley who walk or bicycle to work live in Haverhill, Lawrence and Methuen.
- 81% of all crashes involving bicyclists and pedestrians in the Merrimack Valley region occurred in Haverhill, Lawrence and Methuen. The majority of these bicycle and pedestrian crashes occurred in predominantly minority and/or low income neighborhoods.
- Lawrence, Haverhill and Methuen adults have among the highest rates of diabetes, obesity/overweight and lack of physical activity. (BFRSS).

Bicycle and Pedestrian Initiatives

While not a laundry list of all the initiatives that may be occurring in Title VI or Environmental Justice communities, below is a snapshot of some of the current transportation projects and well as planned or concept projects that will positively impact those communities.

Haverhill

- Haverhill Bicycle and Pedestrian Safety Program
- Improvements of three intersections on Main Street.
- Construction of the Bradford Rail Trail.
- Road Safety Audits at Lafayette Square and Winter/White Streets intersection.
- Sidewalk assessments/inventory.
- One school participates in the state's Safe Routes to School program.

Lawrence

- Butler School Safe Routes to School infrastructure improvement project.
- Road Safety Audit and concept project at Park/Lawrence Streets intersection.
- Merrimack Street reconstruction project.
- M&L Branch rail-to-trail conversion project concept.
- Road Safety Audits at Water Street/Canal Street/Broadway and Andover Street/Parker Street intersections.
- Route 114 reconstruction concept project.
- Sidewalk assessments/inventory.
- 12 schools participate in the state's Safe Routes to School program.
- Mayor's Health Task Force works on initiatives to improve access to healthy food and physical exercise.
- Mayor's Health Task Force held first Ciclovia (open streets) in August 2014.

Methuen

- Methuen Rail Trail construction project.
- 1 elementary school participates in the state Safe Routes to School program.

Strategies for Progress:

- Ensure that communities are taking advantage of all resources available to increase safety and opportunities for active transportation.
- Work with communities to identify active transportation needs and projects with the greatest impact for Title VI/EJ neighborhoods.

Chapter 5: Provide Quality and Safe Network

Figure 1: Cyclist riding through Haverhill's Lafayette Square, which is an area of high

Safety

Although accidents involving bicyclists and pedestrians make up only about 1.9% of all accidents in the Merrimack Valley region, these accidents are significant, can cause serious injury and can impact the livability of a community. Between 2007-2011, 812 accidents in the Merrimack Valley involved non-motorists (cycles, skateboards, pedestrians, wheelchairs, etc.). More than 80% of them occurred in Haverhill, Lawrence and Methuen with Haverhill topping that region with 302 crashes

Table 24

Non-Motorized Crashes by Community (2007-2011)

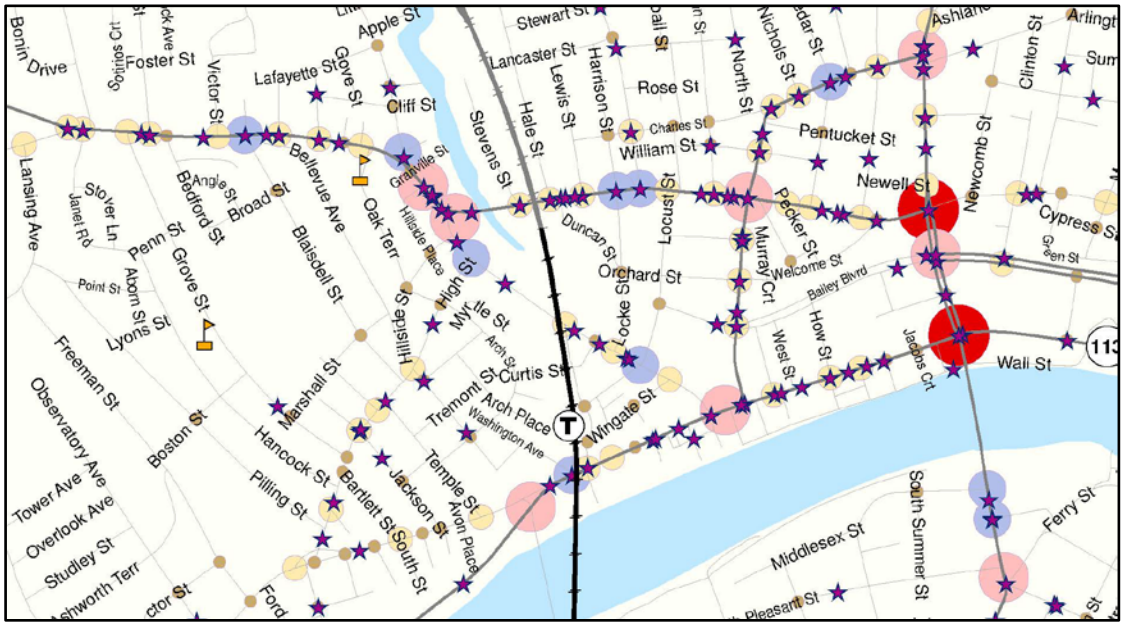
Community	2010 Population (Census)	Average annual 07-11 non-motorist crashes	Crashes/ 100000 pop	Total Crashes
Haverhill	60,879	60.4	99.21	302
Lawrence	76,377	51.4	67.30	257
Methuen	47,255	19.4	41.05	97
Newburyport	17,416	7	40.19	35
Amesbury	16,283	6	36.85	30
Salisbury	8,283	5	60.36	25
Andover	33,201	5	15.06	25
North Andover	28,352	2	7.05	10
Georgetown	8,183	1.6	19.55	8
Newbury	6,666	1.4	21.00	7
Rowley	5,856	0.8	13.66	4
Merrimac	6,338	0.8	12.62	4
West Newbury	4,235	0.6	14.17	3
Groveland	6,459	0.6	9.29	3
Boxford	7,965	0.4	5.02	2

The maps below show the locations of crashes that occurred between 2009-2011 and from these we can easily identify clusters of accidents in these communities (full maps are included in the appendices). The stars represent the bicycle and pedestrian crashes, whereas the circles represent high auto crash locations. In Lawrence, Haverhill and Methuen, the majority of the crashes occur in Title VI neighborhoods, meaning these have high populations of minorities, low income and/or Limited English populations. Crash clusters in Haverhill and Lawrence are located in the downtown areas, with the exception of Park and Lawrence Streets intersection in Lawrence.

The City of Haverhill has the highest number of bicycle and pedestrian crashes in the region and many of them are clustered along Routes 97, 110/113 and 125. In FY2014, MassDOT approached the Merrimack Valley Planning Commission and other regional planning agencies to initiate a bicycle and pedestrian safety program across the state. The program was created as a strategy toward achieving the goal of reducing bicycle and pedestrian crashes and injuries. Using specific criteria, MassDOT had identified those communities with the greatest need for intervention. The City of Haverhill was chosen for this program in the Merrimack Valley region.

The program was planned on a three pronged approach: education, enforcement, and environment. To date, the program has focused on law enforcement and outreach by the Haverhill Police Department as well as identification of infrastructure needs, which was coordinated with WalkBoston and MassBike. Because the program is new, no results are yet available, but the project has focused on Washington Square/Merrimack St., locations along Winter Street as well as one location along Route 125.

Image: City of Haverhill Bicycle and Pedestrian Crashes.



The City of Lawrence also has a high number of bicycle and pedestrian crashes, but they are not clustered closely as is the case in Haverhill. The image below provides a snapshot of part of the city. Roads with more bicycle and pedestrian accidents (with a star symbol) include Broadway (Route 28), Essex Street (both downtown and by the Market Basket), as well as on Park Street.

Image: Map of City of Lawrence bicycle and pedestrian crashes. Stars represent bicycle and pedestrian crashes and circles represent car crashes.

State Performance Goals

While the ultimate long-term goal is to have zero bicycle and pedestrian crashes, short term goals have been set to align with the Commonwealth's statewide goals. The Massachusetts Strategic Highway Safety Plan has set the following goals:

- Reduce the five-year average pedestrian fatalities by 20% by 2019
- Reduce the five-year average pedestrian hospitalizations by 20% by 2019
- Further reduce the low number of fatalities and hospitalizations from bicycle crashes.

3 E's: Enforcement, Education and Environment

In order to achieve the performance goals, the Merrimack Valley MPO will work with our member communities to implement multi-faceted programs that include **enforcement** of laws to impact behavior, **education** and outreach, and implementation of **environmental changes**/infrastructure where needed. As mentioned earlier, we have already begun work with the City of Haverhill and hope to expand that program in the future.

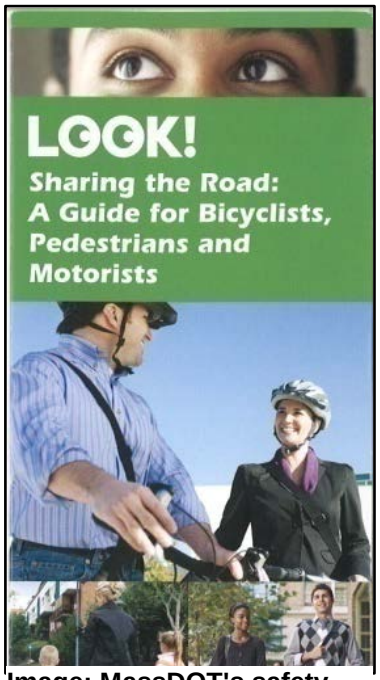


Image: MassDOT's safety brochure reviews the rules of the road for bicyclists, pedestrians and drivers.

Enforcement

Local law enforcement agencies are essential partners in this task since they not only enforce the laws in our communities, but they also engage in public outreach to people of all ages and abilities. Important components of enforcement activities include:

- Officer Training: MassBike released a police training video on YouTube (https://www.youtube.com/watch?v=hhkEb0ie7Cg&feature=youtu.be) to ensure that officers are well versed in the rules of the road for bicyclists and pedestrian behavior.

- Issuing Warnings and Citations for dangerous behaviors for all users of the right-of-way.

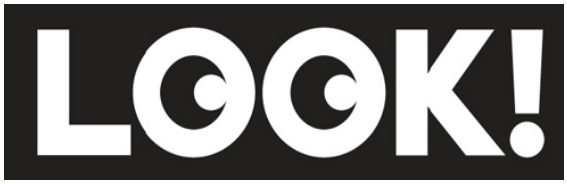
- Public Safety Information and Feedback: Talking to bicyclists, pedestrians and drivers about safely sharing the road is just as important as issuing citations. Many people in the Merrimack Valley probably are not even aware of the laws (such as bicyclists must ride with traffic instead of against traffic) or how to properly

share the road with other users. MassDOT has published a new safety brochure to assist law enforcement officers with getting the word out to the public.

- It is also helpful for officers ask for feedback from people about why they made less safe choices. For example, if a pedestrian crosses the street without using the pedestrian light, asking them why they did it may reveal that the pedestrian light is not working. This information can be passed along to the proper department to be fixed.

Education

Teaching people how to safely share the road is an important component to ensuring safety on the streets. In the Merrimack Valley many people are not accustomed to sharing the road with bicyclists. Add confusion over unfamiliar on-road painting guidelines (like, bike sharrows, bike boxes, bike lanes) as well as confusion over actual bicycle rules of the road (i.e. do you ride facing traffic or with traffic), crosswalk use and new pedestrian crossing lights can add up to a lot of user conflict.



As a child, most people are taught to look both ways before crossing the street, but with today's distractions many people forget. New York City instituted the Look Campaign to get the attention of pedestrians crossing the street. The street marking above is has been used to get the attention of distracted pedestrians. The sign below is used to make people more aware of cyclists sharing the road and to look before opening doors.

http://www.nyc.gov/html/dot/html/pedestrians/look.shtml

Achieving a goal of making the streets safer and usable for people of all ages and abilities requires a multi-pronged strategy that necessitates collaboration between government agencies, advocacy organizations and takes advantage of a variety of traditional and new media/social media outlets. Educating the public is not a one-size fits all prospect. People receive messages in different ways. For example:

- Youth: The easiest way to reach young children is through school. Incorporating safe pedestrian and bicycle behavior training at schools could be done as part of aSafe Routes to School program, physical education, after school programming and during school assemblies.

- Teenagers: Techniques to reach tweens and teens might include social media (YouTube, etc.), competitions among teens for creating media related to safe behaviors, health education class instruction, drivers ed training, peer-to-peer advocacy programs, youth clubs, church youth groups and more. MassDOT is investigating this avenue for a statewide program.

- Seniors: Reaching today's seniors is best through in-person presentations. However, future seniors will be far more tech savvy and already accustomed to social media, internet, and other venues.

Environment (aka Infrastructure)
A variety of tools are now available to communities that can make their streets safer that range in cost. From new signage to updated pedestrian crossing signals to installation of bump-outs, these are but a few of the solutions available. The new NACTO guidelines provide a wealth of new ideas for communities.

Funding is limited, so prioritizing changes is important. To do that, communities need data on:

1. Pedestrian and bicycle crashes (MVPC can provide this)
2. High speed zones (law enforcement)
3. Walkability assessment (see resources)
4. Pedestrian, bicycle and auto movements and counts (MVPC can provide this)

Photo: Cyclist crossing Broadway at Water Street — a high crash intersection in Lawrence.

MVMPO
To address these clusters, MVPC has been and will continue to work with our member communities and MassDOT to identify infrastructure changes that can be made to address safety hazards. Examples of past efforts include:

- Road Safety Audit of Water and Route 28, Lawrence
- Road Safety Audit of Winthrop and Andover Streets intersection, Lawrence
- Road Safety Audit of Route 114, North Andover
- Road Safety Audit of Winter and White Streets intersection, Haverhill
- Road Safety Audit of Lafayette Square, Haverhill

Strategies for Progress:

- Perform Road Safety Audits at sites of bike/ped crash clusters.
- Encourage and participate in enforcement/infrastructure/education programs directed at bicycle and pedestrian safety.
- Increase the number of Merrimack Valley schools participating in the Safe Routes to school program.

Asset Management

When talking to people about walking and bicycling, common complaints revolve around the conditions of the roads and sidewalks. Bicyclists often site that the shoulders and road edges are not kept free of debris. Pedestrians and wheelchair users are quick to complain about snow removal in winter, lack of ADA ramps and even some disappearing sidewalks.

Addressing the needs of bicyclists and pedestrians requires daily maintenance and asset management that includes, but is not limited to paving roads. Not all communities have asset management programs.

In the 2012 Regional Transportation Plan (RTP), the MVPC reported that 80% of the federal-aid roadways in the Valley were in good to excellent condition. MVPC is currently assessing the state of the roads for the 2016 RTP. Roadway maintenance is a major expense for both MassDOT and the cities and towns. Maintaining them in good condition makes the pavement last longer and contributes to the overall livability of the community. A poorly maintained road exacts a heavy toll on automobiles and trucks and for bicyclists it can lead to injuries. For cyclists who use roads, maintenance also requires that the bike lanes and shoulders be kept free of debris.

Sidewalks

All trips begin and end with walking, making the sidewalk a valuable transportation corridor. After all, sidewalks are the main thoroughfares that get people to their jobs, to restaurants in downtowns, shopping, schools and more. Maintaining them for people ages 8-80 means making sure that they are in good to excellent condition with updated ADA ramps, benches,

and tree shade. These are important factors that contribute to the pedestrian environment and ensure that people will want to walk around town. However, sidewalks are often neglected until they are crumbling. This impacts the livability of the community, quality of life, safety and can impact the economic vitality of a business district.

Just as communities engage in pavement management practices, so too should they engage in sidewalk management in order to plan ahead for improvements. The MVPC has conducted sidewalk inventories for a couple of Merrimack Valley communities that are monitoring the condition of their sidewalks..

Out in the field, sections of sidewalks along streets are often grouped if they have similar characteristics for:

- Surface Type
- Width
- Presence of a Buffer Between Sidewalk and Roadway
- Condition
- Functional Classification of the Roadway (i.e. Local, Collector, Principal Arterial, etc.)
- Jurisdiction (i.e. who owns/maintains the sidewalk)

A change in either the surface type of the sidewalk, its width, the presence/width of the buffer between the sidewalk and the edge of road, or any of the other factors would lead to the creation of a new sidewalk segment.

The survey should collect the following data attributes: sidewalk type (i.e. bituminous concrete, Portland cement concrete, brick, cobblestone, composite, or other), sidewalk width, buffer presence and width, and sidewalk condition. The condition of the sidewalk should be rated with the following ranges of conditions and objective standards for those conditions:

Condition Standards

Hazardous - Sidewalk structure has failed, and requires entire replacement. Portions of the sidewalk are missing. Major buckling and breakup of structure are evident. Maintenance methods would be unable to fix the problem. Mobility impaired pedestrians would be unable to use this sidewalk.

Poor - Sidewalk structure is severely distorted; buckling and break up of structure may be present. Severe heave distortions may be present due to mature tree roots or the severe sag distortions may be due to settlement of the base around some sidewalk utility or amenity. The extent of all of the distresses within the structure is typically greater than half of the structure. Major maintenance efforts would be required to repair, such as

replacing the distressed concrete slabs, replacing the sections of brick or cobblestone and the base structure, or jack hammering out and rebuilding sections of bituminous concrete sidewalks. Mobility impaired pedestrians would have difficulty using this sidewalk.

Fair -Sidewalk structure is partially distorted. The severity of the distresses is slightly greater than for those sidewalks in good condition. Some fairly predominant distresses exist, such as cracking of PCC or bituminous concrete sidewalks, spalling or pitting of PCC sidewalks, raveling or edge breakup of bituminous concrete sidewalks, heaving or settling of bituminous concrete/brick/cobblestone sidewalks or the slab edges of PCC sidewalks. Fairly predominant extent constitutes a number of PCC slabs (half or less), a number of bricks or cobblestones, or between one quarter and one half of the bituminous concrete sidewalk area. Minor maintenance efforts would be required to correct this problem, such as repairing or replacing those PCC slabs, repairing or replacing the bricks or cobblestones, or filling in settlement distortions or edge breakup of bituminous concrete sidewalks. Mobility impaired pedestrians could use this sidewalk with a little difficulty.

Good - Sidewalk structure is in good condition. Some localized distresses exist, such as cracking of PCC or bituminous concrete sidewalks, spalling or pitting of PCC sidewalks, raveling or edge breakup of bituminous concrete sidewalks, heaving or settling of bituminous concrete/brick/cobblestone sidewalks or the slab edges of PCC sidewalks. Localized extent constitutes a few PCC slabs, a few bricks or cobblestones, or less than one quarter of the bituminous concrete sidewalk area. Localized minor maintenance is required, such as repairing some PCC slabs, repairing some bricks or cobblestones or their mortar, or filling in settlement distortions or edge breakup of bituminous concrete sidewalks. Mobility impaired pedestrians could easily use this sidewalk.

Very Good - Sidewalk structure has no visible defects, however it is more than a few years old. No distresses exist. No maintenance is required. Mobility impaired pedestrians could easily use this sidewalk.

Excellent - Sidewalk structure is newly or recently constructed. No maintenance is required.

Strategies for Progress:

- Support community efforts to implement sidewalk management programs.
- Signals, ADA ramps and other infrastructure should be updated to meet current standards.

Chapter 6: Support Livable and Economically Vibrant Communities

Photo: A local bodega does business with people out riding during the Lawrence Ciclovia.

Active transportation is an integral part of creating livable and economically vibrant communities. After all, walking bookends each trip we make…at the very least. It is essential to so many things that we do: walk to school, walk to jobs, walk for exercise and recreation. Walkable and bikeable communities attract people…and businesses.

Transportation Network will Support Healthy Active Living

Over the past decade, the growing number of U.S. residents who are overweight or obese has become recognized as a major problem that generates serious health and economic consequences. People who are overweight or obese often suffer from more serious health problems (such as diabetes), a lower quality of life, and higher health care costs. In 2006, medical costs associated with obesity were estimated at $147 billion in the U.S.[1]

According to the Massachusetts Department of Public Health (MDPH), 57.3% of adults in the Merrimack Valley region were obese or overweight, slightly higher than the Commonwealth average of 56%. In particular, a 2012 MDPH report, The Status of Childhood Weight in Massachusetts, 2011 further illuminated health weight issues in the Commonwealth. The MDPH, using the Body mass Index measure, found that the percentage of overweight or obese children that were screened in Grades 1,4,7 and 10, was 44.6% in Lawrence and 39.1% in Haverhill.[2]

[1] Finkelstein EA, Trogden JG, Cohen JW, Dietz W. Annual medical spending attributable to obesity: payer- and service-specific estimates. Health Aff 2009;28:w822–831.

[2] School Health Unit, Bureau of Community Health and Preventions, Massachusetts Department of Public Health, *The Status of Childhood Weight in Massachusetts, 2011, Preliminary Results from Body Mass Index Screening in Massachusetts Public School Districts, 2009-2011,* http://www.mass.gov/eohhs/docs/dph/com-health/school/status-childhood-obesity-2011.pdf, p. 30.

To address and reverse these troubling heath trends, communities across the Commonwealth have created coalitions and participate in programs that seek to influence policy, programmatic, and environmental changes so that the healthy choice becomes the easy choice.

The Lawrence Mayor's Health Task Force was created in 2002 to address health disparities. In 2013, the Healthy Active Living working group launched the S.A.L.S.A (Supporting Active LifeStyles for All) campaign to increase access to healthy food options and promote opportunities for staying active. The fruit of their efforts has led to:

- The city-wide adoption of the Healthy Active Living Resolution.
- Initiation of a program to increase healthy food options at local bodegas.
- Initiation of the first Ciclovía.

Safe Routes to School

Safe Routes to School originated in Denmark in the 1970s to address the problem of children getting killed or injured while walking or bicycling to school. The Massachusetts Safe Routes to School (SRTS) program is managed by the Massachusetts Department of Transportation though MassRIDES. It's objectives are to reduce congestion, air pollution and traffic congestion near schools, while increasing the health, safety, and physical activity of elementary and middle school students.

The program includes components that cover education, encouragement, enforcement, evaluation engineering. The program provides technical assistance as well as promotional materials and training. It also provides assessments, design and construction to qualifying projects. North Andover and Lawrence both have schools that are benefiting from the infrastructure improvement component of the program.

Photo: Walk to School Day, North Andover

Not all Merrimack Valley schools and communities are participating in this program. To date, only the following communities have schools participating: Amesbury, Andover, Haverhill, Lawrence, Methuen, Merrimac, Newbury, Newburyport and North Andover.

Strategies for Progress:

- Encourage more communities to participate in the Safe Routes to School program.
- Assist communities in engaging a broader coalition of interested organizations, agencies and individuals to promote active transportation modes.

Photo: Cyclists riding through downtown Newburyport. Photo by Linda Orlomoski courtesy of Essex National Heritage Commission

Direct Transportation Investment to Smart Growth Areas and Village Centers

In 2009, the Merrimack Valley Planning Commission created the Merrimack Valley Priority Growth Strategy (PGS) as a way to better promote the coordinated and orderly development of the region. The strategy is based on "Smart Growth" principles, which identifies the roles each community plays and promotes a shared vision. The vision is a region that promotes development in the right places that generates good jobs, new tax revenues, creates affordable housing, stimulates the economy and creates a sense of place. A region that balances growth with preservation, maintains open space and character of the region, and is **served by an effective transportation system**.

In the spring of 2012 the Commonwealth of Massachusetts through the Executive Office of Housing and Economic Development (EOHED) began working with MVPC to expand the State's "Planning Ahead for Growth" strategy into the Merrimack Valley. The EOHED had begun to work in various regions of the State with regional planning agencies to identify promising areas of new growth.. In addition to identifying areas for growth, EOHED partnered with the Executive Office of Energy and Environmental Affairs (EEA) to ensure that regional plans reflect a well-balanced analysis of future land use objectives for the region by also identifying appropriate areas to prioritize for preservation. Using the Priority Growth Strategy Report, the state was able to accelerate its analysis of regional priorities in the Merrimack Valley. The result of this planning exercise was a list of state, regional and local priority growth areas.

The MVPC uses the PGS as an effective tool for prioritizing transportation network investments that advance the overall regional development strategy. It evaluates each community's transportation network, identifies future mobility needs, creates a vision and develops strategies for achieving that vision. The active transportation priorities described within this plan, will inform the update of the PGS as well as the upcoming Regional Transportation Plan.

The Active Transportation Plan prioritizes bicycle and pedestrian infrastructure improvements within those priority growth areas designated as village centers and smart growth centers (see below).

Smart Growth Center: Areas that allow high density concentrated development and a mix of uses, has suitable infrastructure to support development, has good access both auto and pedestrian, is served by transit and has limited environmental constraints.

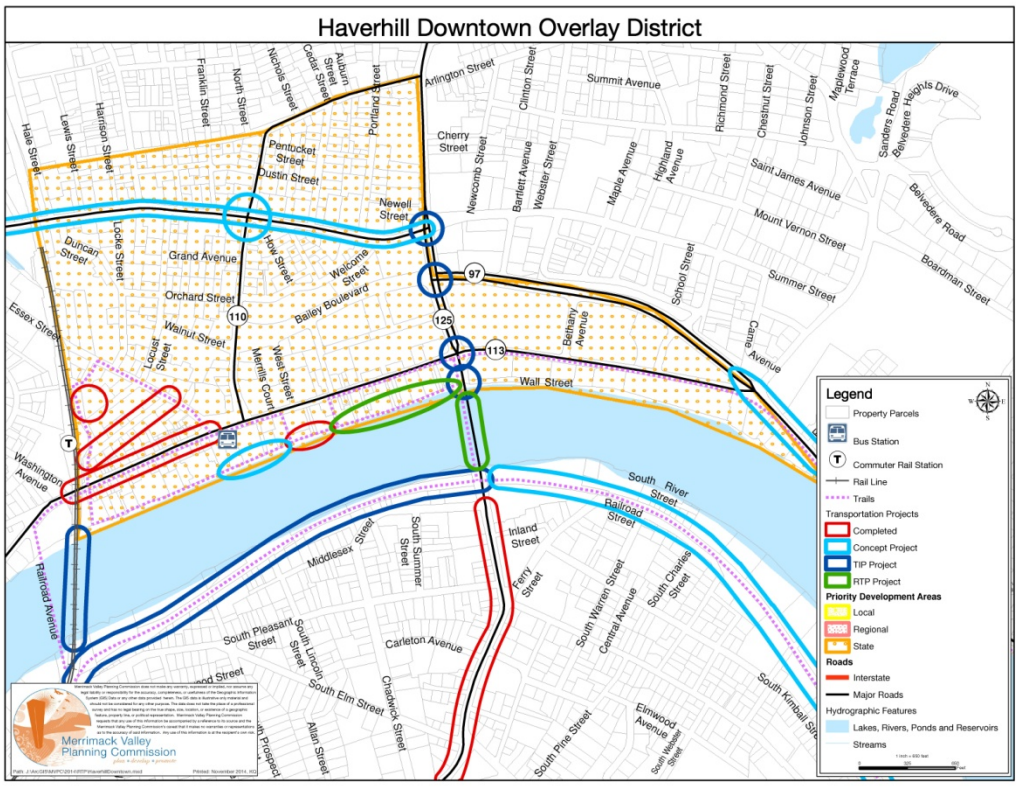
Village Center: Areas of concentrated development of appropriate density in context, commonly known as a town center or a community's downtown. Encourages a mix of uses, has access to infrastructure, served by transit, pedestrian friendly and has limited environmental constraints.

Supporting Smart Growth

The PGS identified 19 smart growth areas and village centers within the Merrimack Valley. The table *Active Transportation Access to Merrimack Valley Smart Growth Centers and Village Centers* provides a summary of improvements that have already been made, or are planned or needed. Ten areas have either already improved the pedestrian environment or have plans to improve it by, for example, reconstructing sidewalks, improving ADA ramps or constructing bump outs at pedestrian crossings. Thirteen areas have existing multi-use trails or have plans for them. For example, Haverhill's Bradford Rail Trail will be under construction in FY2015. Georgetown and Salisbury are currently designing trails that will connect with their downtowns, and Lawrence and Andover have concepts for building multi-use trails that will provide multiple transportation connections within their communities.

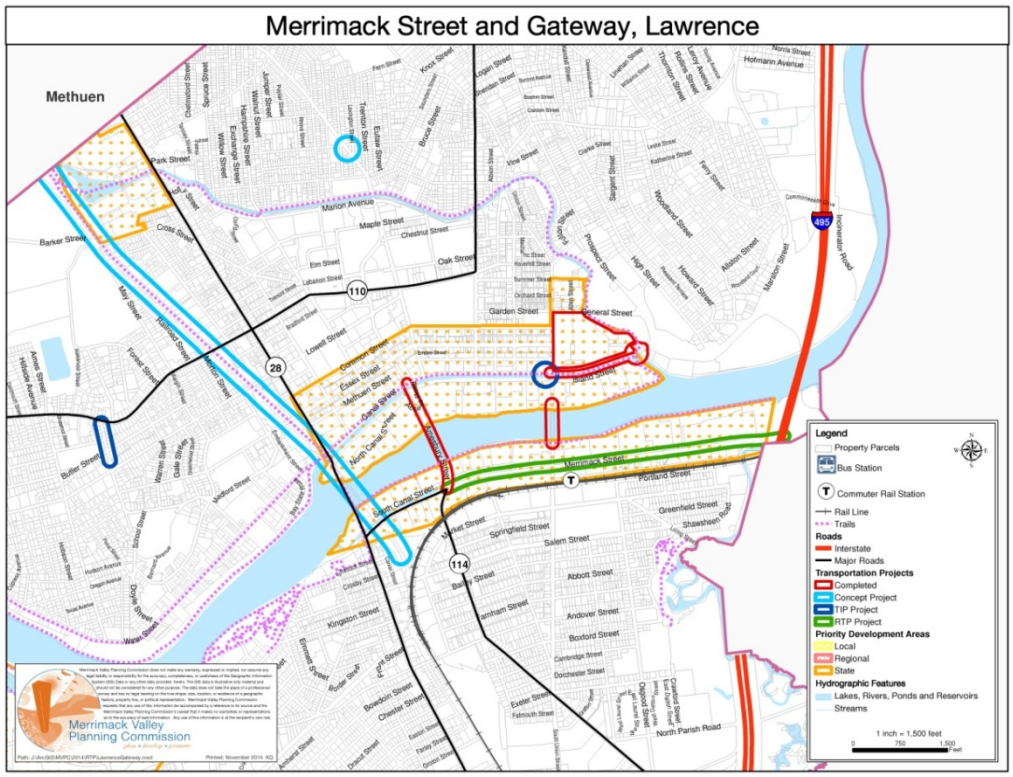
The vast majority of Merrimack Valley communities do not have good bicycle access within or connecting to their smart growth areas or village centers, though more and more are creating concept plans that need to be implemented. Further, the vast majority do not have adequate bicycle parking to make it easier for people to make trips to these destinations by bicycle.

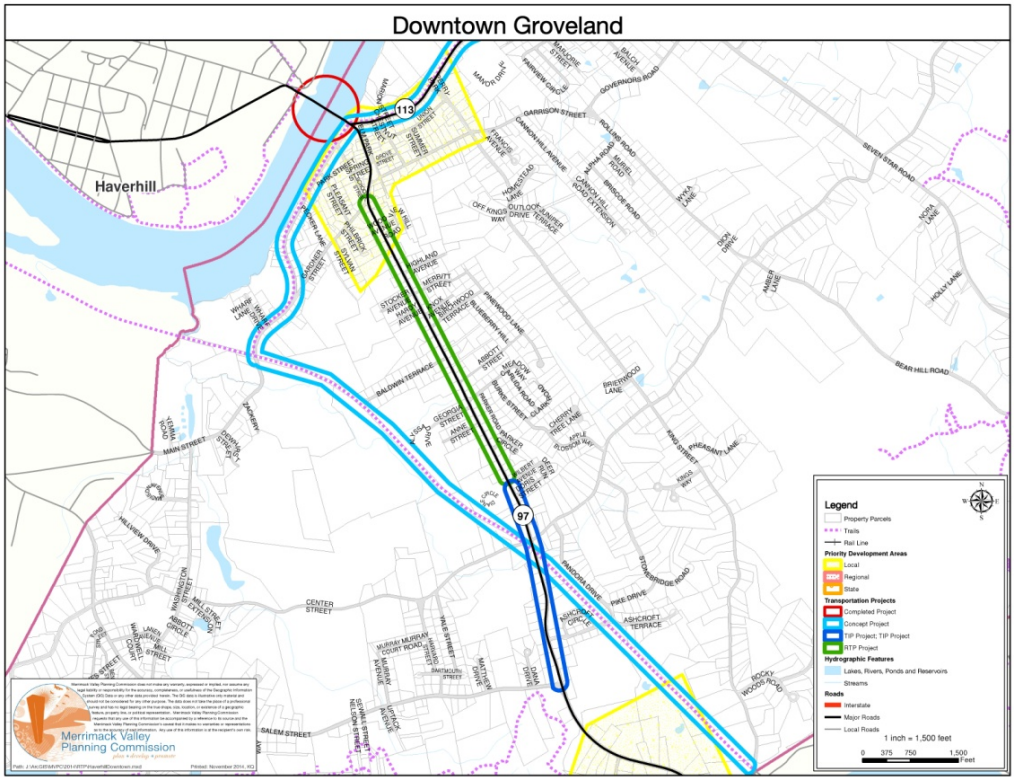
The Merrimack Valley MPO continues to make investments in active transportation infrastructure that supports smart growth centers and village centers. The maps on the following pages demonstrate the targeted impact of these investments. Further work needs to be done to include bicycle access. In many of these cases, communities need to incorporate their plans for bicycle access in both their large construction projects as well as their annual road work conducted by their public works departments. Chapter 90 money should be used for both road repaving as well as sidewalk reconstruction, ADA ramp upgrades, crosswalks, bump outs, bicycle lanes and more. As mentioned in Chapter 4, complete streets policies would help communities coordinate responsibilities and also make communities eligible for future funding tied to complete streets projects.

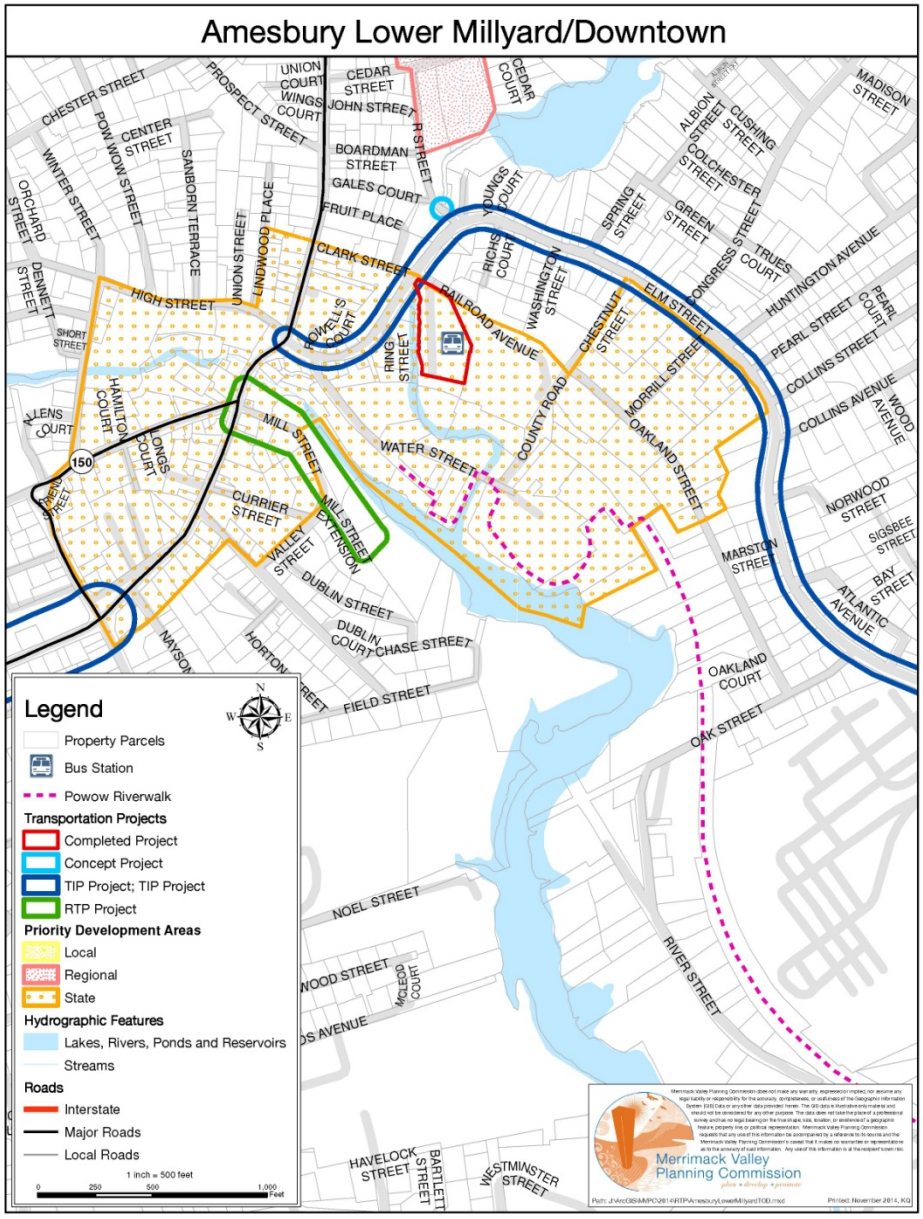


The above map of downtown Haverhill demonstrates the concentration of investment in transportation infrastructure. Concept projects include those along Winter Street, which could address the bicycle/pedestrian safety issues along this street, as well as an extension of the Bradford Rail Trail and increased bike/pedestrian access along Water Street.

Investments in Lawrence and Amesbury tell similar stories. Projects are concentrated in downtown districts, close to transit centers and they include multi-use trails. The map of Groveland provides a glimpse at how transportation investments can have an impact on a much smaller, more rural community. The Town of Groveland is currently planning/designing a multi-use trail along the old rail-road right-of-way as well as improved access along Route 113. These investments will create significant safe non-motorized connections between neighborhoods, schools, recreational facilities and town offices.


Merrimack Street and Gateway, Lawrence
Methuen
Legend
Property Parcels
Bus Station
Commuter Rail Station
Rail Line
Trails
Roads
Interstate
Major Roads
Transportation Projects
Completed
Concept Project
TIP Project
RTP Project
Priority Development Areas
Local
Regional
State
Hydrographic Features
Lakes, Rivers, Ponds and Reservoirs
Streams
1 inch = 1,500 feet
Merrimack Valley Planning Commission


Downtown Groveland
Haverhill
Legend
Property Parcels
Trails
Rail Line
Priority Development Areas
Local
Regional
State
Transportation Projects
Completed Project
Concept Project
TIP Project; TIP Project
RTP Project
Hydrographic Features
Lakes, Rivers, Ponds and Reservoirs
Streams
Roads
Interstate
Major Roads
Local Roads
1 inch = 1,500 feet
Merrimack Valley Planning Commission


Amesbury Lower Millyard/Downtown
Legend
Property Parcels
Bus Station
Powow Riverwalk
Transportation Projects
Completed Project
Concept Project
TIP Project; TIP Project
RTP Project
Priority Development Areas
Local
Regional
State
Hydrographic Features
Lakes, Rivers, Ponds and Reservoirs
Streams
Roads
Interstate
Major Roads
Local Roads
1 inch = 500 feet
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Merrimack Valley Planning Commission
CHESTER STREET
PROSPECT STREET
UNION COURT
WINGS COURT
CEDAR STREET
JOHN STREET
CEDAR COURT
MADISON STREET
ALBION STREET
CUSHING STREET
COLCHESTER STREET
CENTER STREET
POW WOW STREET
SANBORN TERRACE
WINTER STREET
ORCHARD STREET
BOARDMAN STREET
R STREET
GALES COURT
FRUIT PLACE
UNION STREET
LINDWOOD PLACE
YOUNGS COURT
SPRING STREET
GREEN STREET
CONGRESS STREET
TRUES COURT
HUNTINGTON AVENUE
CLARK STREET
RICHS COURT
WASHINGTON STREET
ELM STREET
PEARL COURT
PEARL STREET
COLLINS STREET
COLLINS AVENUE
WOOD AVENUE
DENNETT STREET
SHORT STREET
HIGH STREET
HOWELLS COURT
RAILROAD AVENUE
RING STREET
CHESTNUT STREET
MORRILL STREET
OAKLAND STREET
COUNTY ROAD
WATER STREET
MILL STREET
HAMILTON COURT
LONGS COURT
N LENS COURT
150
CURRIER STREET
MILL STREET EXTENSION
VALLEY STREET
DUBLIN STREET
DUBLIN COURT
CHASE STREET
FIELD STREET
NORWOOD STREET
SIGSBEE STREET
MARSTON STREET
BAY STREET
ATLANTIC AVENUE
OAKLAND COURT
OAK STREET
NOEL STREET
RIVER STREET
HAVELOCK STREET
BARTLETT STREET
WESTMINSTER STREET

Table 25: Active Transportation Access to Merrimack Valley Smarth Growth Centers and Village Centers

			Pedestrian Improvement			Multi-use Trail			Bicycle Improvements			Transit Improvements		
Community	Name	Village or SG	Complete	Planned	Identified Need	Existing	Planned	Concept	Complete	Planned	Needed	Has Transit	Recent Upgrades	Needed
Amesbury	Cedar St.	SG	x								x			
Amesbury	Downtown	V		x			x					x	x	
Amesbury	Lower Millyard	SG		x		x	x					x	x	
Andover	Downtown	V	x					x			x	x	x	
Boxford	Village Center	V			x						x			
Georgetown	Georgetown Square	SG & V					x				x	x		
Groveland	Village Center	V		x			x							
Lawrence	Malden Mills	SG				x	x				x	x		
Lawrence	Merrimack St.	SG		x	x						x	x		
Lawrence	Gateway/Downtown	SG	x		x			x			x	x	x	
Merrimac	Village Center	V	x			x					x	x		
Methuen	Downtown	V (SG)	x			x	x				x	x		
Newbury	Byfield Ctr.	V		x	x		x				x			
Newburyport	Downtown	SG			x	x	x		x		x	x	x	
North Andover	Osgood Landing	SG			x						x	x		x
North Andover	Machine Shop Village	SG	x				x				x	x		
Rowley	Village Center	V			x						x	x		
Salisbury	Village Center	V				x	x				x	x	x	

The table above provides a basic overview of all the bicycle and pedestrian infrastructure that is existing or needed in those priority development areas that are considered smart growth areas or village centers.

Strategies for Progress:

- Strengthen active transportation mode access in smart growth and village centers.

Fostering Tourism

The tourism industry is an important regional economic engine. According to a report published by the Massachusetts Office of Travel and Tourism, *ECONOMIC IMPACT OF TRAVEL ON MASSACHUSETTS COUNTIES: CY2012*, Essex County ranks fifth highest in travel-generated economic benefits. During the calendar year 2012, travel-related expenditures were estimated at $780.5 million; 6.2 thousand people were employed and saw local tax receipts of $20.2 million. This is not a surprise when you take a look at some of the destinations that the Merrimack Valley region has to offer:

- Parker National Wildlife Refuge;
- Great Marsh;
- Plum Island and Salisbury beaches;
- Four National Historic Landmarks;
- Five state-owned and manage parks, including the Salisbury Beach Reservation;
- Three Trustees of Reservations properties;
- Over one hundred Essex County Greenbelt conservation lands properties totaling 2,206 acres.

Regional Transportation Plan Strategies

Enhancing the visitor experience and improving mobility are specific strategies highlighted in the 2012 Regional Transportation Plan by:

- Reducing seasonal traffic congestion and environmental impacts to coastal communities;
- Eliminating 'disconnects' between transportation modes that effectively limit the public's ability to use and enjoy these regional assets without driving, and
- Providing or upgrading low-impact transportation options such as park-and-ride shuttles, trails and sidewalks.

Reducing Seasonal Traffic Congestion

Festivals, bicycling events, concerts, and other events hosted by communities throughout the region bring people from far and near to enjoy everything that the Valley has to offer and with them comes related traffic congestion. For the most part, residents and visitors drive to these destinations causing gridlock. A coordinated active transportation system would potentially draw visitors as well as alleviate traffic congestion.

The coastal communities in particular have focused on creating an on- and off-road bicycle pedestrian network that, when complete, will not only attract additional visitors looking for this type of experience, but will provide a way for vacationers and residents to

get around without experiencing and/or adding to the vehicle traffic congestion. Strategies that could increase the number of people who bicycle and/or walk include:

- Completing the multi-use trail network.
- Implementing seasonal bike share.
- Better utilizing of the MBTA parking lots and other park and ride facilities to accommodate visitors with connecting shuttles and bike share connections. The City of Newburyport is interested in creating a seasonal downtown shuttle that would increase opportunities.
- Creating incentives to utilize alternatives such as parking fee strategies.
- Upgrading bicycle facilities along Beach Road and along the coast in Salisbury to encourage more people to bicycle and walk to and at the beach. These facilities need to be constructed for ages '8-80' in order for the average American bicyclist and family to ride to the beach.
- Putting bike racks on the fronts of buses.
- Creating wayfinding signage geared toward cyclists and pedestrians.

Strategies for Progress:

- Convene working group to create a coordinated approach to wayfinding and other tourism-related bicycle and pedestrian needs in the region.

Chapter 7: Summary

With the Active Transportation Plan for the Merrimack Valley, the Merrimack Valley MPO has set a tone for how we plan to accomplish the vision and goals outlined in the introduction. Within each chapter, the MVMPO has set out a work strategy through the strategies of progress. The information will be used both for guiding the work that we do and how we choose to influence infrastructure projects. In addition, the MVMPO is required to evaluate its program and the projects that it invests in to show progress toward meeting both the MVMPO's goals and those of MassDOT. The table below summarizes how those goals, strategies and proposed evaluation measures relate. The evaluation measures are proposed at this point and will be addressed again in the upcoming Regional Transportation Plan.

Table 26: Goals, Objectives and Performance Measures

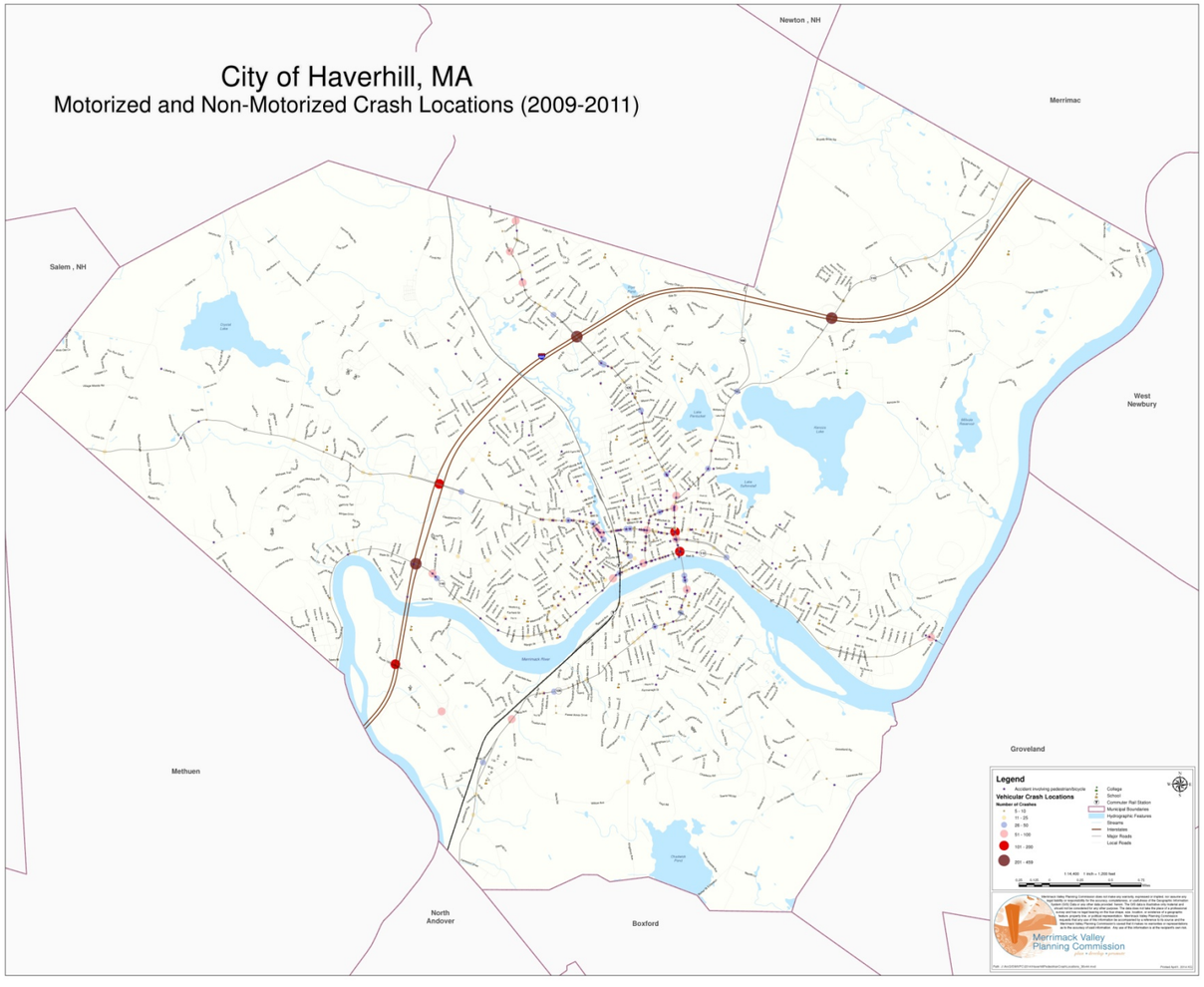
Goal 1: Expand Multi-Modal Options and Access		
Objectives	**Strategies**	**Draft Performance Measure**
1.1 Adoption and implementation of Complete Streets Policies and bicycle and pedestrian plans in all MV communities.	• Provide technical assistance to communities to draft Complete Streets policies and implement them. • Support the development of local bicycle and pedestrian plans.	• Number of policies adopted and implemented • Number of Merrimack Valley communities with bicycle and pedestrian plans
1.2 Improve multi-modal infrastructure and services to support mode	• Support infrastructure along Active Transportation Network (ATN). • Increase awareness of/promote active transportation modes. • Implement a bicycle and pedestrian count program	• # of miles of multi-use trail open • # of miles of bike lane • # of people using active transportation to get to transit. • # of students using fixed bus service • Baseline counts for bicyclists and pedestrians. •

1.3	Create a seamless transportation system	• Support multi-modal infrastructure improvements to transit. • Encourage more comprehensive approach to providing bicycle parking in downtown areas.	• Condition of sidewalks and bicycling facilities linking to transit centers and park & ride lots. • Bicycle parking at transit centers/village centers/downtowns.
1.4	Ensure that the region's environmental justice communities are served well by the transportation system.	• Ensure that communities are taking advantage of all resources available to increase safety and opportunities for active transportation. • Work with communities to identify active transportation needs and projects with the greatest impact for Title VI/EJ neighborhoods.	• # of projects that positively impact EJ and Title VI communities. • # of multi-modal projects in EJ and Title VI communities.
Goal 2: Provide Quality and Safe Active Transportation Network for ages '8-80'.			
2.1	Reduce annual number pedestrian and bicycle crashes and injuries.	• Perform Road Safety Audits at sites of bike/ped crash clusters. • Encourage and participate in enforcement/infrastructure/education programs directed at bicycle and pedestrian safety. • Increase the number of schools participating in the Safe Routes to School Program.	• Number of bicycle and pedestrian crashes; percent change • Infrastructure change impact

2.2 Maintain existing infrastructure in a state of good repair.	• Support community efforts to implement a sidewalk management program with an emphasis on downtowns; village centers; transit oriented development, and EJ/Title VI communities. • Signals, ADA ramps and other infrastructure should be updated to current standards.	• % of sidewalks in target areas in good condition. • % of signal lights in target area with updated pedestrian signals.
Goal 3: Support Livable and Economically Vibrant Communities		
3.1 Transportation network will support healthy active living.	• Encourage more communities to participate in the Safe Routes to School program. • Assist communities in engaging a broader coalition of interested organizations, agencies and individuals to promote active transportation modes.	
3.2 Improve multi-modal access to priority growth areas and village centers	• Continue to direct investment toward connections to and within smart growth areas and village centers.	
3.3 Fostering Tourism	• Convene working group to create a coordinated approach to wayfinding and other tourism-related bicycle and pedestrian needs in the region.	

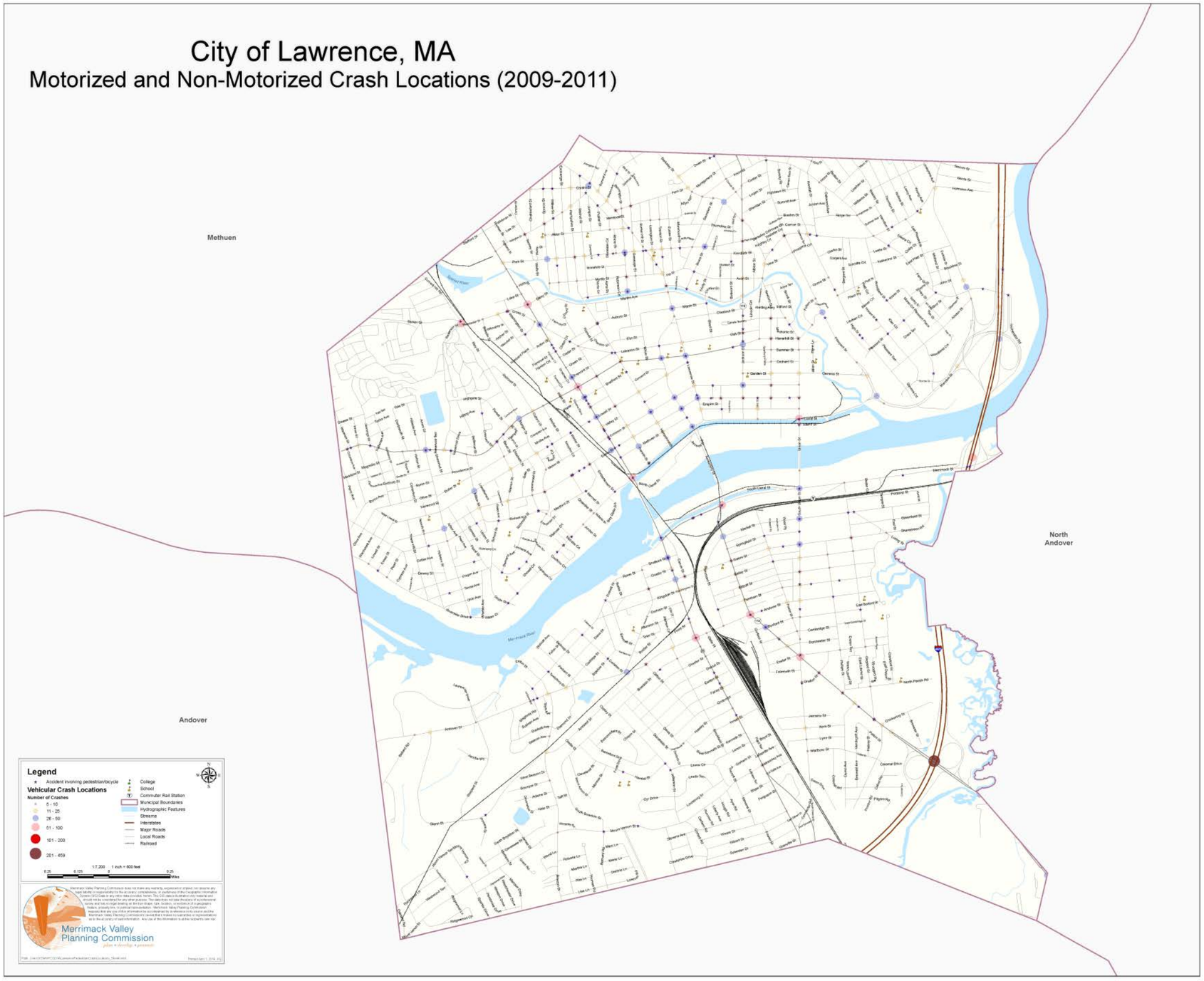
Appendix

Full bicycle and pedestrian crash maps.



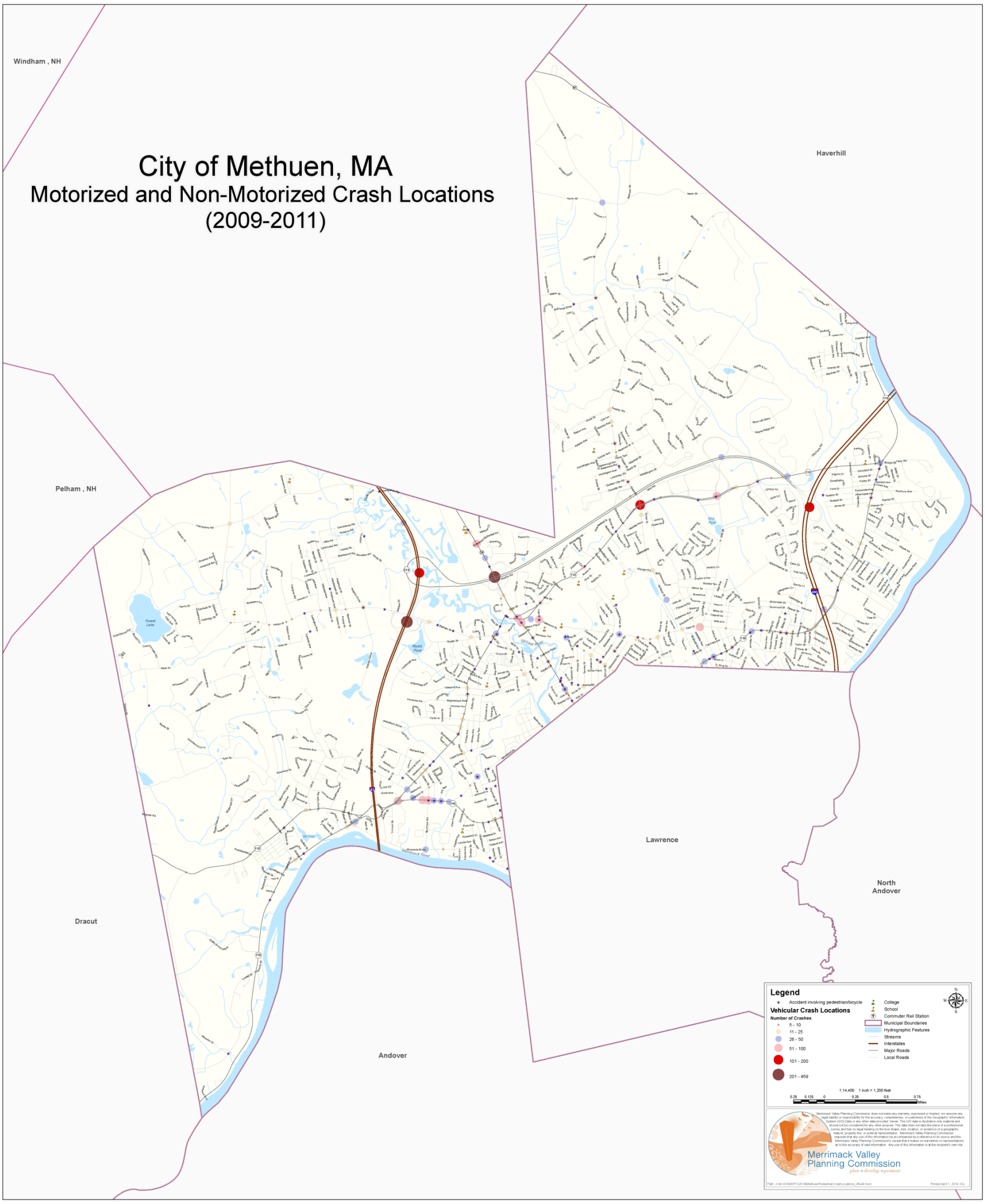
City of Lawrence, MA

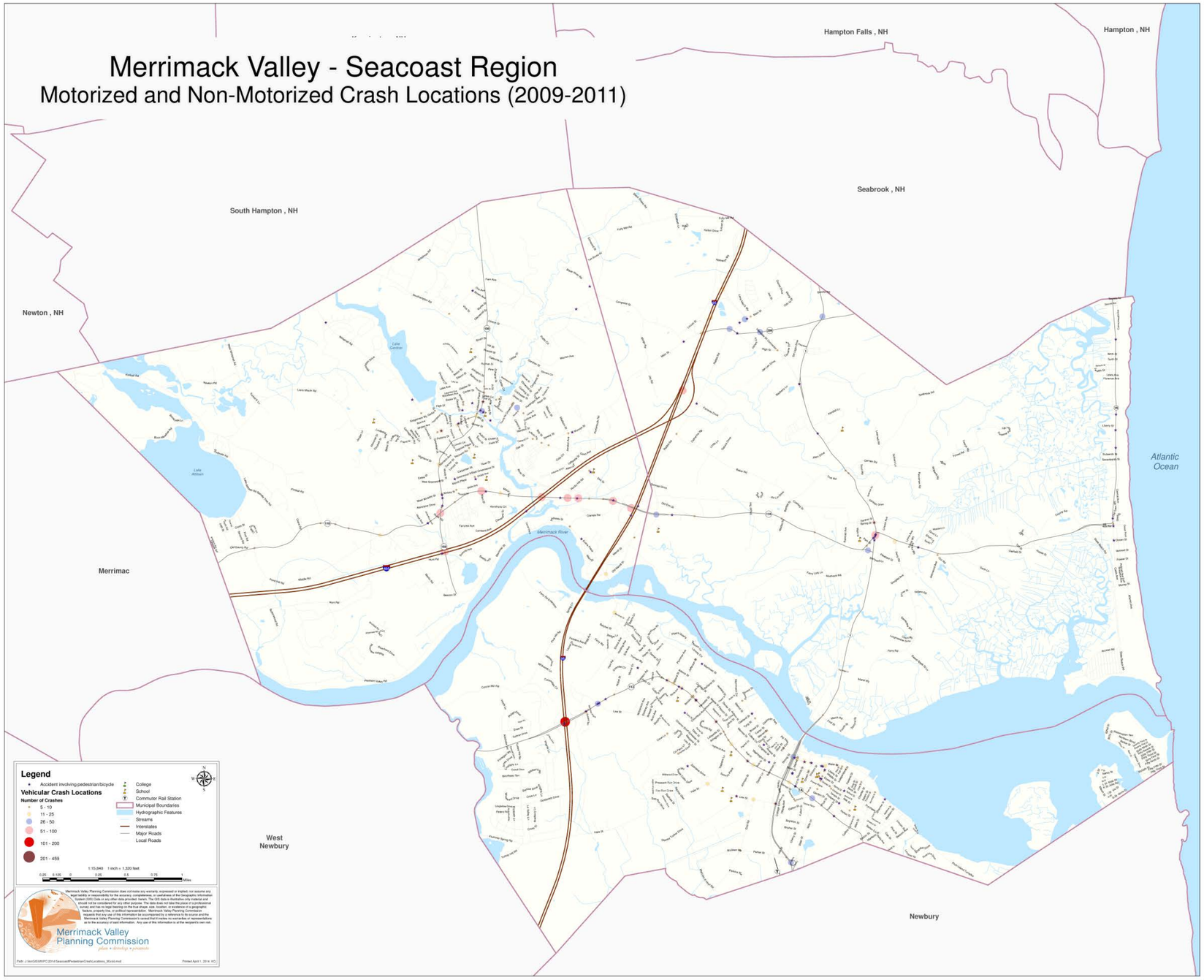
Motorized and Non-Motorized Crash Locations (2009-2011)



City of Methuen, MA

Motorized and Non-Motorized Crash Locations
(2009-2011)




Merrimack Valley - Seacoast Region
Motorized and Non-Motorized Crash Locations (2009-2011)
Hampton Falls , NH
Hampton , NH
Seabrook , NH
South Hampton , NH
Newton , NH
Merrimac
West Newbury
Newbury
Atlantic Ocean
Merrimack River
Legend
Accident involving pedestrian/bicycle
Vehicular Crash Locations
Number of Crashes
5 - 10
11 - 25
26 - 50
51 - 100
101 - 200
201 - 459
College
School
Commuter Rail Station
Municipal Boundaries
Hydrographic Features
Streams
Interstates
Major Roads
Local Roads
1:15,840 1 inch = 1,320 feet
Merrimack Valley Planning Commission
plan • develop • preserve

Public Participation

The Merrimack Valley Planning Commission met with all communities except for West Newbury during the process of gathering information for this plan. Depending on the needs and requests of each community for public input, staff members either met with planners, small committees or held open public meetings in each community.

MVPC received the following comments during the public comment period:

During the public hearings on December 17 Jerry Klima of Salisbury provided the following comments, which were then included in the final document.

- In the table, "Bicycle and Pedestrian Activity Around the Region," include that Salisbury has upgraded its village center as well as has a trail in design; and Amesbury has a project on the TIP.
- Under the brief description of the Coastal Trails Network in Chapter 3, mention the projects on the TIP and the Whittier Bridge Trail.
- Map changes: add the bike lanes on the Plum Island Turnpike and going into the Salisbury State Beach. Also, add the Salisbury State Beach as a separate destination. [These items have not been updated yet only because we could not do it by the MPO meeting, but they will be completed shortly]
- He updated the Salisbury priority project list and added I-95 tunnel.
- Add two phases of the City Branch Trail to the Newburyport Section.
- Elaborate on the role of the Coastal Trails Network's maintenance and fundraising programs.
- He was surprised that no bicycles were parked at the bike racks on the date that MVPC observed. He noted that many bicycles are seen parked all over the commuter rail platform. Most do not use the bicycle racks. We discussed the need for bicycle racks on platform.

On January 5, 2015, MVPC staff member Betsy Goodrich met via conference call with Vilma Lora and Elecia Miller with the City of Lawrence to discuss the plan and receive their comments. Their suggestions were as follows:

- Mention the Healthy Active Living Resolution and the upcoming Complete Streets work to be done as part of the Mass in Motion grant program in the Complete Streets Section of the document.
- Add information about the flag system and the need for system maps at bus stops such as the senior center.

In an e-mail dated December 19, Joe Costanzo, MVRTA, provided the following comment:

“We are in the process of purchasing what is called a low profile bike rack for the font of the bus. It adds about 2’ to the length of the bus. Once installed, we will be able to test how it works -- when the “test bus” is parked in the garage, how the bus and rack go through the bus wash system and how things go during normal/not so normal driving and weather conditions. It will take a few weeks to purchase and then install.”