Chapter 8 Promote Economic Vitality

Transportation impacts the economic health of the region as a whole and each community, business and household. An efficient and effective, multi-modal transportation system can attract employers and employees to the region, help individuals access jobs and job training, and attract visitors.

Photo: Shoppers in downtown Newburyport on a rainy day. Essex Heritage/Elaine Gauthier.

Objective 1: Direct Transportation Investment to Priority Development Sites

Maintaining the unique character of our communities and preserving open space and recreation areas are vital concerns of residents and local officials in the region. After all, people are attracted to the Merrimack Valley for its natural beauty, livable communities and its access to jobs. The Merrimack Valley Priority Growth Strategy (PGS) encourages infill development and revitalization of built areas instead of continued sprawling development. Sprawl development impacts people's ability to access jobs and other services, because often these sites are far out of the town and city centers and thus are not served by public transit, lack sidewalks and are likely unsafe for your average cycliss.

The MVMPO's objective is to optimize the region's existing transportation infrastructure, enhance mobility choice and ensure that it best serves people so they can access those priority employment sites and business districts that the region has identified through the PGS. The strategies that are employed include:

Rehabilitating essential infrastructure to support smart growth development. Projects include:

- Basiliere Bridge rehabilitation, downtown Haverhill.
- Elm Street reconstruction, Amesbury.

Selectively expanding transportation services and infrastructure to better serve the region's smart growth PDAs. Projects include:

- Double tracking of the remaining single track sections of the Haverhill commuter rail line.
- Rail to trail conversion of M&L Branch line in Lawrence, which will connect two PDAs and create a second link in an inner–city greenbelt.
- Developing the Shawsheen River Trail which will connect three PDAs in Andover.

Supporting measures to help the region's residents and businesses contain transportation costs by maintaining the existing transportation network while improving conditions for ridesharing, transit, walking and bicycling. Projects include:

- Support the MVRTA's and MBTA's efforts to increase transit service to/from and within the Merrimack Valley region.
- Improve the bicycle and pedestrian network so that residents have additional transportation choices.

Promote Transit-Oriented Development. The MVMPO has been successful in assisting communities in preserving, rehabilitating and creating transit-friendly mixed-use development in areas such as downtown Haverhill, downtown Andover, Lawrence and Newburyport. The Clipper City Rail Trail (Phase III) will make the final connection between the eastern section of the trail across Route 1 to the Newburyport commuter rail station.

Concentrated Transportation Improvements. The following pages contain examples of clusters of transportation improvements that demonstrate the impact of targeted investment in our Village Centers and Priority Development Areas can have on economic vitality and livability. Abbreviated descriptions are provided here, but full discussions can be found in the *Merrimack Valley Priority Growth Strategy*. The PGS encourages infill development and redevelopment to promote economic development, reduce growth impacts on the Valley's rural areas, and preserve our communities' character.

Amesbury Lower Millyard/Downtown

The City of Amesbury has focused much investment in supporting its downtown and adjacent Lower Millyard. The City has made the following transportation improvements:

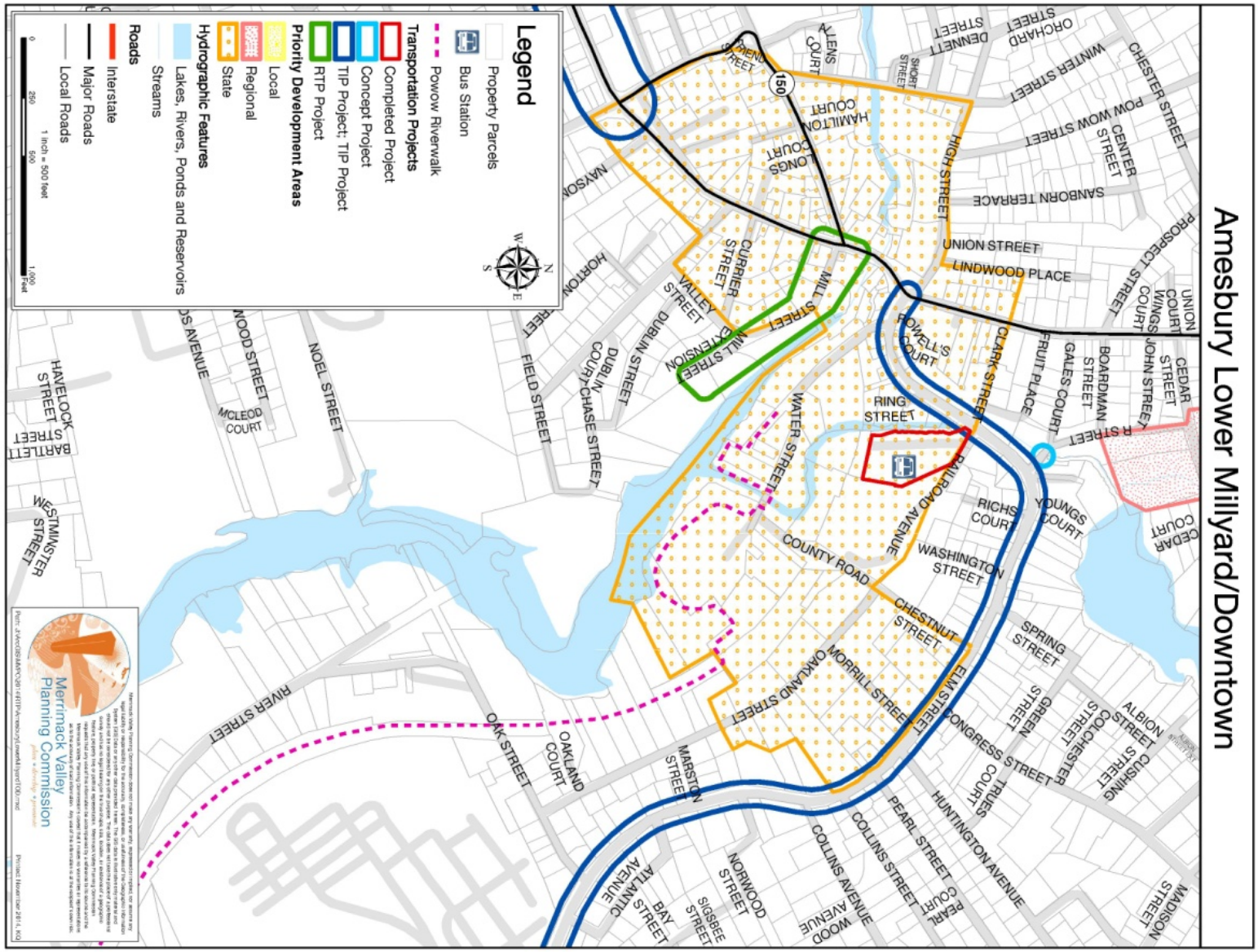
- Reconstruction of Route 150 (2014 TIP), a gateway road that provides access to these areas as well as the Route 150 Gateway Village.
- Reconstruction of Elm Street will improve pedestrian, bicycle and transit access (2018 TIP).
- Partnering with the MVRTA, the Costello Transportation Center was constructed in the Lower Millyard, providing easier access for residents. The Senior Center is housed here, making it more convenient for seniors.
- The Powow Riverwalk begins in the Lower Millyard. Connecting this facility with the Ghost Trail and the Whittier Bridge Trail will create broader access for residents as well as the 1 million visitors that are attracted to local beaches each summer.

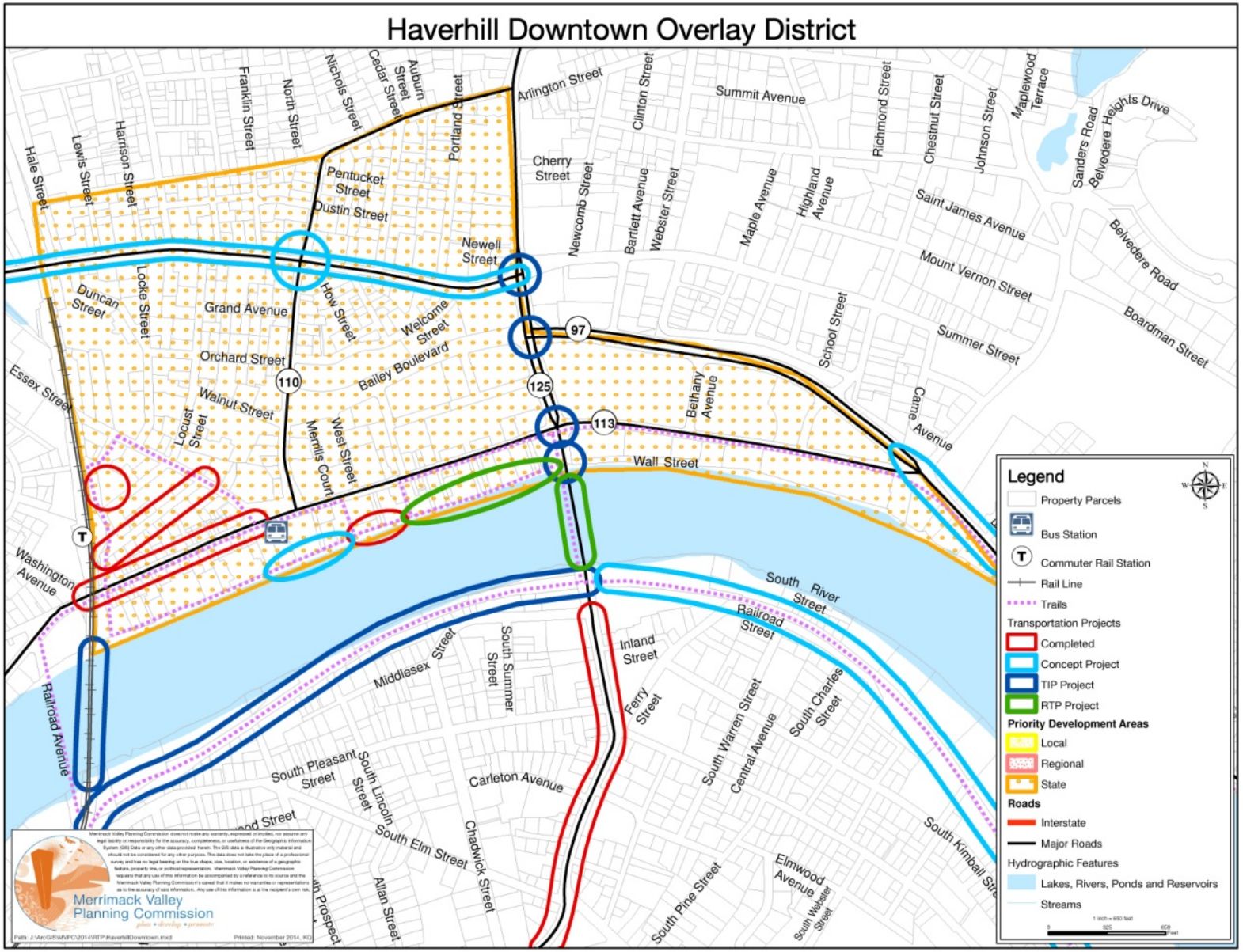
Haverhill Downtown Smart Growth Overlay District

Haverhill's multi-faceted community reinvestment strategy has targeted much of its transportation investment (and redevelopment) into its downtown. The transportation infrastructure improvements have complemented the conversion of vacant mills into new housing developments. Most recently, the UMass Lowell began redevelopment of a part of downtown which had been vacant for many years. Improvements include:

- MVRTA Intermodal Transportation Center, Granite Street adjacent to the MBTA commuter rail station (complete).
- Streetscape improvements (complete).
- Bradford Rail Trail construction (2014 TIP).
- Safety improvements at three intersections along Main Street (2016 TIP).
- Rehabilitation of the Basiliere Bridge (design).
- Reconstruction of S. Main Street (complete).

Additional improvements have been recommended as part of various studies along Winter Street.


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
Merrimack Valley Planning Commission
CHESTER STREET
ORCHARD STREET
WINTER STREET
POW WOW STREET
CENTER STREET
DENNETT STREET
SHORT STREET
HIGH STREET
SANBORN TERRACE
UNION STREET
LINDWOOD PLACE
PROSPECT STREET
UNION COURT
WINGS COURT
JOHN STREET
CEDAR STREET
BOARDMAN STREET
GALES COURT
FRUIT PLACE
CLARK STREET
ROWELL'S COURT
R STREET
CEDAR COURT
YOUNGS COURT
RICHS COURT
WASHINGTON STREET
RAILROAD AVENUE
COUNTY ROAD
CHESTNUT STREET
SPRING STREET
ELM STREET
CONGRESS STREET
GREEN STREET
ALBION STREET
CUSHING STREET
COLCHESTER STREET
TRUES COURT
HUNTINGTON AVENUE
PEARL STREET
PEARL COURT
COLLINS STREET
COLLINS AVENUE
WOOD AVENUE
NORWOOD STREET
SIGSBEE STREET
BAY STREET
ATLANTIC AVENUE
MARSTON STREET
MORRILL STREET
OAKLAND STREET
OAKLAND COURT
OAK STREET
RIVER STREET
MADISON STREET
RING STREET
WATER STREET
MILL STREET
MILL STREET EXTENSION
CURRIER STREET
VALLEY STREET
DUBLIN STREET
DUBLIN COURT
CHASE STREET
FIELD STREET
NOEL STREET
MCLEOD COURT
WOOD STREET
HAVELOCK STREET
BARTLETT STREET
WESTMINSTER STREET
HAMILTON COURT
LONGS COURT
ALLEN COURT
SHEND STREET
150


Haverhill Downtown Overlay District
Legend
Property Parcels
Bus Station
Commuter Rail Station
Rail Line
Trails
Transportation Projects
Completed
Concept Project
TIP Project
RTP Project
Priority Development Areas
Local
Regional
State
Roads
Interstate
Major Roads
Hydrographic Features
Lakes, Rivers, Ponds and Reservoirs
Streams
Merrimack Valley Planning Commission
Arlington Street
Summit Avenue
Cherry Street
Newell Street
Grand Avenue
Orchard Street
Bailey Boulevard
Walnut Street
Wall Street
Washington Avenue
Railroad Avenue
South River Street
Railroad Street
Middlesex Street
South Summer Street
Inland Street
Ferry Street
South Pleasant Street
South Lincoln Street
Carleton Avenue
South Elm Street
Chadwick Street
Allan Street
South Warren Street
Central Avenue
South Charles Street
South Kimball Street
Elmwood Avenue
South Pine Street
Essex Street
Hale Street
Lewis Street
Harrison Street
Franklin Street
North Street
Nichols Street
Cedar Street
Auburn Street
Portland Street
Pentucket Street
Dustin Street
Duncan Street
Locke Street
How Street
Welcome Street
Locust Street
Merrills Court
West Street
Newcomb Street
Bartlett Avenue
Webster Street
Clinton Street
Maple Avenue
Highland Avenue
Richmond Street
Chestnut Street
Johnson Street
Maplewood Terrace
Sanders Road
Belvedere Heights Drive
Saint James Avenue
Mount Vernon Street
Belvedere Road
Boardman Street
School Street
Summer Street
Bethany Avenue
Cause Avenue
97
110
125
113
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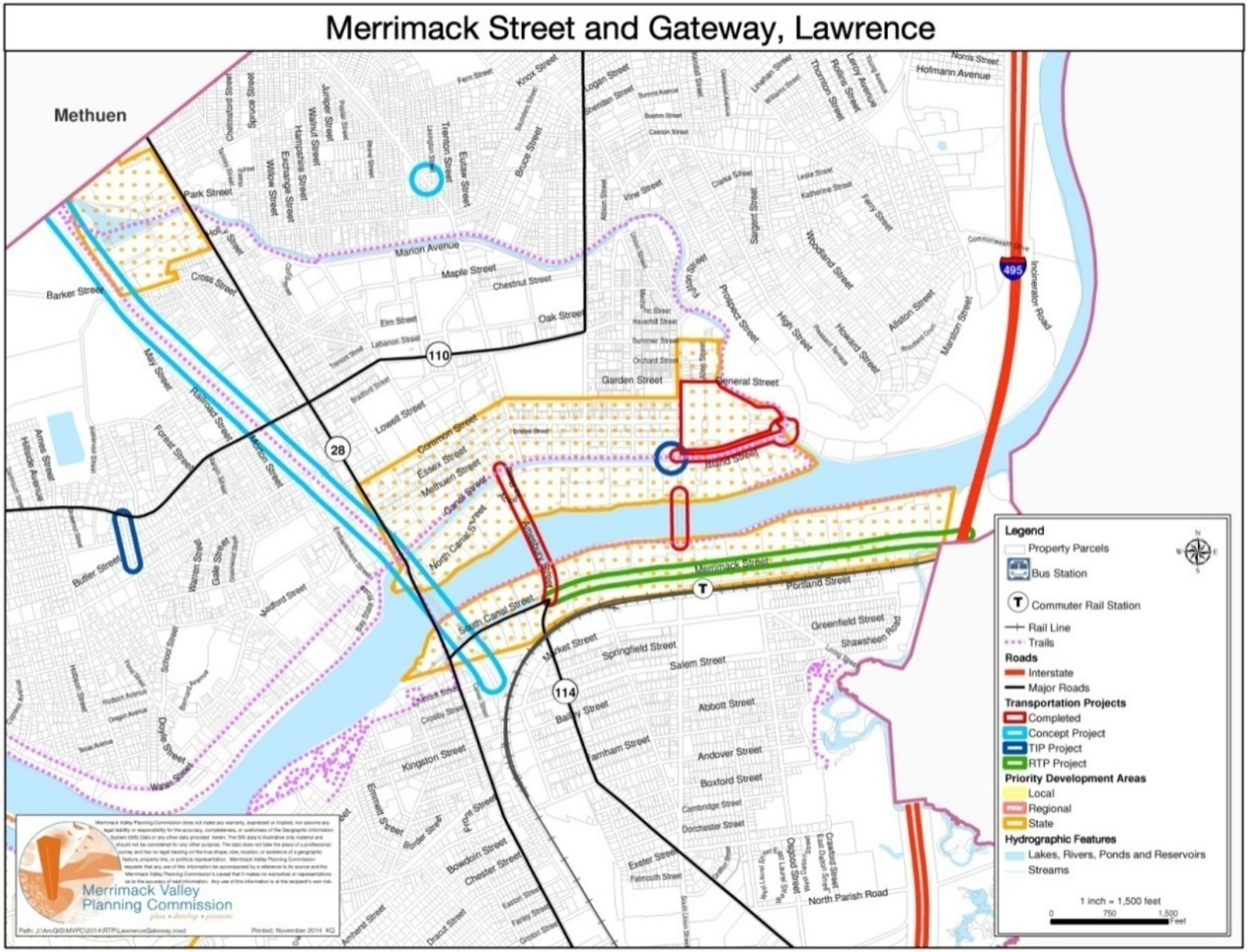

Merrimack Street and Gateway, Lawrence
Methuen
Legend
Property Parcels
Bus Station
Commuter Rail Station
Rail Line
Trails
Roads
Interstate
Major Roads
Transportation Projects
Completed
Concept Project
TIP Project
RTP Project
Priority Development Areas
Local
Regional
State
Hydrographic Features
Lakes,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

Merrimack Street and Downtown Lawrence

This PDA spans the Merrimack River and includes the entire downtown business district as well as the Merrimack Street business area. The area is served by the MVRTA-owned and operated McGovern Transportation Center, which receives MBTA Commuter Rail, MVRTA Boston Commuter Bus, and MVRTA Route 33 local bus services. The MVRTA's primary hub operates out of the city-owned Buckley Transportation Center on Common Street.

Several improvements have been made to this area including:

- Rehabilitation of the Union Street and Broadway bridges over the Merrimack River.
- Gateway project including parking, transit access, reconstruction of Canal Street and bridge.

New projects that will improve mobility in this area include:

- Reconstruction of Merrimack Street corridor with bike lanes, crosswalks and a new traffic signal. Construction will begin on the eastern section in 2015.
- The City received a $200,000 grant from EPA for project planning for a rail-to-trail conversion of the M&L Branch, which connect two PDAs: Malden Mills and Merrimack Street.

Measuring Success

Number and quality of infrastructure improvements made to increase mobility to and within PDAs.

Each transportation project being considered for federal funding through the MVMPO is evaluated based on a set of criteria that look at the magnitude of improvement in the condition, mobility and safety of transportation projects, as well as the community effects and support, land use and economic development impact and the environmental effects.

Table 8.1 Transportation Evaluation Criteria (TEC) Summary provides a glimpse into these scores as they pertain to the impacts that transportation projects included on the TIP since 2012 have on economic vitality (a full list is in the appendix). Here's how it breaks down.

Consistent with PGS (0-3 points) – This is a subcategory within the Land Use and Economic Development category. The higher the score, the greater the impact on PDAs.

Total Averaged Land Use and Economic Develop. Category (0-3 points) – This is an average of the four subcategories (includes job creation, land use plans, etc). The higher the score demonstrates a greater impact on economic development.

Total TEC Score (18 points maximum) – An aggregated score of all evaluation criteria. This score provides a **quality** measure, because the higher the score, the greater the impact across all categories.

Since the last RTP, 16 projects included in the TIP have improved mobility to or within at least one priority development area. The Clipper City Rail Trail and the Powow Riverwalk scored the highest in the Economic Development category, though no project scored a 2 or a 3.

The three overall highest scoring projects include South Main Street reconstruction in Haverhill, the Methuen Rotary and the Lawrence St./Park St. intersection reconstruction project in Lawrence. These scores show the quality of the projects as they address mobility, safety and more. No project has ever received an overall score of 18 overall, the highest possible score.

Table 8.1 shows the TEC scores for projects that appear in the MVMPO's FFYs 2015-2018 TIP. Table 8.2 shows scoring for all future projects being considered for inclusion in the RTP. Only those projects that have begun the project development process get scored.

Table 8.1: Transportation Evaluation Criteria for Projects on the TIP

Project Number	Town	Project	Consistent with PGS	TOTAL Averaged Land Use and Economic Develop.	Total TEC Score All Categories	TIP Year
600214	Haverhill	South Main St. (Rt. 125) reconstruction	1.0	0.6	**6.1**	**2010-12**
605181	Methuen	Methuen Rotary reconstruction	1.0	1.5	**9.63**	**2013-14**
602469	Merrimac	Merrimac Square/MA-110 reconstruction	1.00	1.00	**6.38**	**2013**
602033	Amesbury	MA-150 reconstruction	1.00	0.50	**5.07**	**2014**
600214	Haverhill	Bradford Rail Trail construction	1.00	1.00	**5.27**	**2014**
607374	Lawrence	Union Crossing roadway improvements	2.00	1.25	**6.52**	**2014**
608075	Lawrence	Lawrence St. at Park St. intersection improvements	2.00	1.25	**10.53**	**2015**
606503	Newburyport	Clipper City Rail Trail, Phase 2	2.00	1.75	**6.95**	**2015**
606669	Amesbury	Powwow Riverwalk, Phase 1	2.00	1.75	**3.85**	**2016**
605114	Groveland	MA-97 from Georgetown Line to Parker St.	1.00	1.00	**6.72**	**2016**
606161	Haverhill	MA-125, three intersections	1.00	1.00	**9.32**	**2016**
606159	North Andover	MA-125 at Mass. Ave. intersection improvements	2.00	0.75	**7.70**	**2016**
607573	Haverhill	MA-97 from Silver Birch Lane to Research Drive reconstruction	1.00	0.75	**6.75**	**2017**
602418	Amesbury	Elm St. reconstruction	2.00	1.50	**5.98**	**2018**
607541	Georgetown	Border to Boston Trail South construction	1.00	0.75	**4.47**	**2018**
605020	Salisbury	Border to Boston Trail, Phase 2 construction	1.00	0.75	**6.08**	**2018**

Table 8.2: Transportation Evaluation Criteria Summary for Projects in Development

Project Number	Town	Project	Consistent with PGS	TOTAL Averaged Land Use and Economic Develop. Category	Total TEC Score All Categories
605199	Andover	New interchange on I-93 between exits 41 & 42.	2.00	3.00	**9.48**
	Lawrence	Merrimack St. (Rt. 28 to South Union St.) reconstruction	2.00	1.75	**9.05**
	Lawrence/ North Andover	Rt. 114 (I-495 to Andover St.) reconstruction	2.00	1.50	**12.80**
608095	North Andover	Rt. 114 (Andover St. to Stop & Shop) reconstruction	2.00	1.50	**11.17**
	Andover	Rt. 133 (Lovejoy Rd. to Shawsheen Sq.) reconstruction	2.00	1.50	**9.60**
607737	Amesbury/ Salisbury	Whittier Bridge and Ghost Trail connectors	2.00	1.50	**6.25**
607542	Georgetown	Border to Boston Trail North construction	2.00	1.50	**5.22**
608028	Amesbury	Rt. 110/Rt.150 Intersection improvements	2.00	1.25	**8.47**
608029	Newburyport	Rt. 1/ Merrimack St. Intersection improvements	2.00	1.00	**6.88**
604950	Georgetown	Park & Ride Lot construction near Rt. 133/I-495 interchange	2.00	0.75	**3.78**
605690	Haverhill	Resurfacing various locations resurfacing	1.00	1.25	**4.33**
608027	Haverhill	Bradford Rail Trail (Phase II) construction	1.00	0.50	**5.47**
602202	Salisbury	Rt. 1(Salisbury Square to NH SL) reconstruction	1.00	0.75	**7.30**
605694	North Andover	Rt. 125 resurfacing	1.00	0.75	**6.95**
607710	Salisbury	Rt. 1A (Salisbury Sq. to NH SL) resurfacing	1.00	0.75	**6.05**
607711	Haverhill	Rt. 125 (Boston Rd. to North Andover TL resurfacing	1.00	0.75	**4.97**
605753	Groveland	Rt. 97 (Parker to Gardner St.) resurfacing	1.00	0.75	**4.85**
606721	Boxford	Rt. 133 (North Andover TL to Main St)	1.00	0.50	**5.65**
602843	Georgetown	Rt. 97 (Moulton St. to Groveland TL) reconstruction	1.00	0.50	**4.27**

Continued

Project Number	Town	Project	Consistent with PGS	TOTAL Averaged Land Use and Economic Develop. Category	Total TEC Score All Categories
607708	Andover	Rt. 28 (Lawrence Line to Harding St.) resurfacing	1.00	0.50	**4.22**
607476	Methuen	Rt. 213 (I-495 to I-93) resurfacing	1.00	0.50	**3.93**
607540	Boxford	Border to Boston Trail construction	1.00	0.50	**3.32**
607708	Lawrence/ North Andover	Rt. 114 (to Waverly Rd.) resurfacing	0.00	0.50	**3.97**
	Boxford	Rt. 97 (Reconstruction of Rt. 97	0.00	0.00	**2.03**

Objective 2: Support freight movement to, within and through the Merrimack Valley Region

Freight in the Merrimack Valley

Under MAP-21, the national freight policy is to

> "improve the condition and performance of the national freight network to provide the foundation for the United States to compete in the global economy and achieve goals related to economic competitiveness and efficiency; congestion; productivity; safety, security, and resilience of freight movement; infrastructure condition; use of advanced technology; performance, innovation, competition, and accountability in the operation and maintenance of the network; and environmental impacts. [§1115; 23 USC 167]"

The U.S. and State Departments of Transportation are responsible for performing most freight-related oversight and planning tasks associated with the above policy. Their principal tasks are:

- Data collection;
- Freight plan development;
- Freight industry regulation, inspection and oversight;
- Vehicle environmental performance, i.e. emissions standards, idle reduction;
- Oversize/Overweight Permits and Emergency Permits, and
- Providing grants for freight technologies and facilities.

In addition, MAP-21 charges the USDOT, state DOTs, and MPOs (in that order) with the development of freight performance goals and metrics. The state DOTs are expected to adopt the USDOT performance management goals and metrics (once they are finalized) and to set additional state-specific freight goals and metrics. The MPOs, in turn, must adopt the federal goals/metrics as well as their respective state goals/metrics, and may consider adopting MPO region-specific goals and metrics. This process, originally expected to be operational during MAP-21's initial effective period, remains in development.

The MassDOT 2010 Statewide Freight Plan remains the most recent comprehensive freight

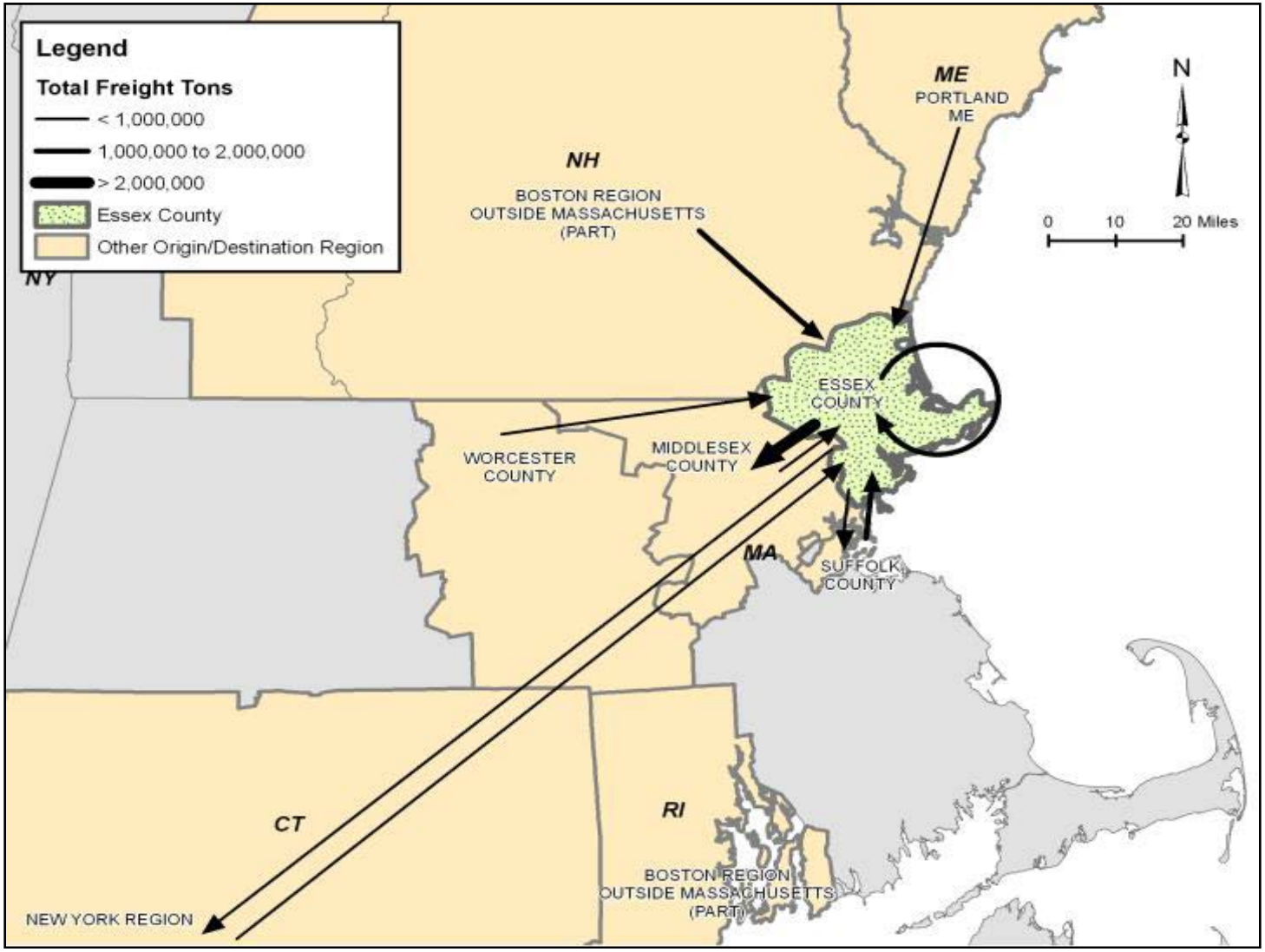
planning effort available for Massachusetts. However, the Central Transportation Planning Staff (CTPS) analyzed freight movements for the Commonwealth for the Boston MPO in 2013. These two resources provided the following insight into freight movement in the Merrimack Valley:

- The region is a net consumer of freight and freight movements of goods produced in our region are comparatively modest.
- Significant quantities of freight move through the region – from NY/NJ and Canada.
- Trucks transport most freight to and from the region. Freight moves through the region by both truck and rail. Freight movement is also dependent upon air, rail, water and/or air transportation located in Massachusetts, New Hampshire, Maine and the Canadian Maritimes.
- Interstates 93, 95 and 495 and state numbered routes provide access to most of the region's manufacturers, warehouse and distribution facilities.
- PanAm Railways (PAR) is the region's sole freight rail operator.
- Over 19 million tons of freight moved throughout Essex County in 2007 – the majority were inbound to the County.
- The majority of outbound shipments from Essex County were destined for other Massachusetts locations, particularly Middlesex County.

The map on the next page shows the level of freight movements to/from Essex County.

CTPS reported that trucks accounted for 87% of the freight tonnage with a Massachusetts origin or destination. A substantial portion of the remaining 13% of tonnage, moved by rail, utilized a truck for pickup/delivery.

In the Merrimack Valley region, data collected from 2010-2014 on I-495 just west of I-95 showed that truck traffic constituted 10% of all traffic. MassDOT projects that highway freight volumes throughout Massachusetts would increase by up to 70% by 2030.



Map: Level of freight movements to/from Essex County.

All of the MVMPO region's principal freight classification, warehousing and distribution clusters are truck-oriented and are located on sites proximate to the Interstates in:

- Amesbury/Salisbury near I-95/Route 286
- Haverhill's Ward Hill
- Lawrence's Industrial Park and Merrimack Street corridor
- Methuen's Aegean and Griffin Brook Industrial Parks, and
- Newburyport's industrial park.

Truck Freight Issues

Issues identified by the trucking industry, MVMPO and through the CTPS and MassDOT studies included:

- Highway congestion;
- Lack of truck parking and rest areas;
- Permitting and routing of overweight and oversized loads;
- Maintaining roads in a state of good repair.

Highway Congestion: A study conducted jointly by a trucking industry group and FHWA showed that there are no major freight bottlenecks on Merrimack Valley's highways. However, MassDOT's I-495 Corridor Study identified congestion as a problem in Andover, Lawrence and Methuen, which would also impact trucks. One of the key recommendations for addressing this problem was to widen I-495 in the MVMPO region from the Andover/Tewksbury line to Exit490 in Haverhill.

Truck Parking/Rest Areas: There are two small parking/rest areas along I-495 in the Merrimack Valley region. One is located on I-495 northbound in Haverhill and the other is off of I-495 southbound in Merrimac. Little or no accommodation for larger trucks is provided at either of these facilities. Larger truck parking and rest areas are located just outside the Merrimack Valley in New Hampshire and in Massachusetts. The Merrimack Valley has only 20 miles of I-495 and may not warrant an additional rest area. CTPS recommended further study and suggested that a truck rest facility might be useful in the northwest part of I-495, outside the MVMPO region.

While a truck rest stop may ultimately be a MassDOT decision, the MVMPO would require evidence of its necessity and our member

communities would need to support such a proposal.

The truck freight industry has long advocated for permitting of oversized/overweight carriers. While MassDOT has provided some permits, MassDOT and local communities are unlikely to permit larger, heavier trucks and/or tandem trailers due to legitimate roadway safety and maintenance issues. Such vehicles are also difficult to accommodate in densely developed urban settings common to the Northeastern U.S.

Measuring Success

The 2012 RTP identified eight projects to support the movement of freight in the region. The status of these projects is as follows:

1. Route 125/Ballardvale Road intersection improvement is no longer identified as a project priority;
2. Lowell Junction Interchange is no longer a regional priority;
3. Dascomb Road PWED – the Northern Middlesex Council of Governments addressed issues at the Dascomb Road/East Street intersection.
4. Haverhill – roadway improvements have been addressed by the City;
5. Methuen – Route 110/113 rotary is under construction;
6. Newburyport – Hale St. and Parker St. drainage improvements have not been addressed;
7. Whittier Bridge replacement is under construction, and
8. Salisbury – Route 286 intersection improvements have been completed.

The MVMPO has identified 31 projects that would have some impact on truck freight. Of these, eight projects are either in construction or have been completed. Five projects are in design and the remaining have been either studied, proposed, or simply identified as a need. A full list of the projects is located in the freight appendix.

The MVMPO has identified the following projects as having a more significant impact on truck freight movement.

Merrimack Street (S. Union Street to Route 28)

In 2015, the City of Lawrence received a MassWorks grant to study the land uses and transportation needs in the industrial zone located on Merrimack Street between Route 28 and South Union Street, also including South Canal Street. Several large employers are located in this area including New Balance. This area is heavily used by trucks. The geometry of this street is challenging and reconstruction will need to ensure safe use by multiple modes with truck freight at the top of the list.

Bridges

Bridge height or bridge weight restrictions have been identified on four bridges. Those that are actively being pursued include:

- Route 28 bridge over the MBTA tracks in Andover, which has weight restrictions. This project is under design.
- Manchester Street Bridge in Lawrence, which carried the old rail corridor, is proposed to be replaced when the City converts the rail corridor to a trail.

Route 114

The Route 114 corridor is a top priority for the MVMPO. Addressing congestion near I-495 and farther east will no doubt improve freight movement.

Rail Freight

The principal freight provider in the MVMPO region is PanAm Railways (PAR). PAR operates on its own properties and over MBTA-owned rights-of-way. MVPC observes that most of the freight originates from and is destined for locations outside the region; however, there are a few customers clustered in the Lawrence Industrial Park. There are no rail freight operations on the Newburyport Line within the MVMPO region.

Track Weight Capacity Increases

Several rail weight capacity improvement project commitments dating from 2008-2009 remain active in 2015. PAR agreed to increase the 263,000 pound per axle ('263K') track weight rating to 286,000 pound per axle ('286K') along their corridor in northern Massachusetts from Ayer through Lowell to Lawrence. The MBTA is responsible for 286K track capacity on its MVMPO region rights-of-way from Andover through Haverhill. Track weight limit upgrades north of Haverhill have been funded in New Hampshire and Maine, leveraged by the Northern New England Passenger Rail Authority (NNEPRA) for operation of the Amtrak Downeaster.

Track Clearances for Double Stack Rail Freight

For many years, the rail freight industry has been upgrading bridge clearances to create or expand container handling/transfer capabilities to meet the growing demand for international freight movement. First-generation double-stack requires a 19'6" minimum clearance, and full double-stack intermodal rail requires a 20'8" minimum clearance.

Data indicate that bridges along the Haverhill Main Line have clearances below 20'. However, MassDOT's Highways Division and the MBTA show different clearances for the bridges on that line.

Freight Rail Sidings

The 2012 RTP indicated the need for an improved freight rail siding in the Lawrence Industrial Park. This project was completed by the PAR in 2014.

Double Tracking

The Haverhill Rail Line has long suffered from inadequate service due to the lack of double tracking for much of its length. The MBTA is currently undertaking double tracking the line in the MVMPO region. However, in order to reap the full benefits from this work, double tracking may also need to occur south of the Wildcat Branch.

Photo: MassDOT is in the process of double tracking the Haverhill Line in downtown Andover.

Strategies for Progress

- The MVMPO will continue to advocate for a Complete Streets approach to road improvements that include freight needs, especially in high impact areas.
- Continue to monitor freight needs in the Valley, including outreach to the freight industry and business community.

Photo: Throngs of visitors flock to coastal beaches every summer causing notorious traffic congestion.

Objective 3: Foster Tourism through Enhancing Visitor Experiences and Improving Mobility

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: CY2013, Essex County ranks fifth highest in travel-generated economic benefits. During 2013, travel-related expenditures were estimated at $816.3 million; 6,400 people were employed and communities saw local tax receipts of $20.9 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 and beach areas;
- 4 National Historic Landmarks;
- 5 state-owned and managed parks, including Salisbury Beach Reservation;
- 3 Trustees of Reservation properties, and
- Over 100 Essex County Greenbelt conservation land properties totaling 2,206 acres.

All of the communities in the MVPC region lie within the larger Essex National Heritage Area (ENHA), designated by the U.S. Congress in 1996 to recognize the quantity and quality of the region's historical, cultural and natural resources. A National Heritage Area is "an area in which natural, cultural, historic and scenic resources combine to form a cohesive, nationally distinctive landscape arising from patterns of human activity shaped by geography. These patterns make National Heritage Areas representative of the national experience through the physical features

that remain and the traditions that have evolved in them." – Essex National Heritage Area Plan, 1999.

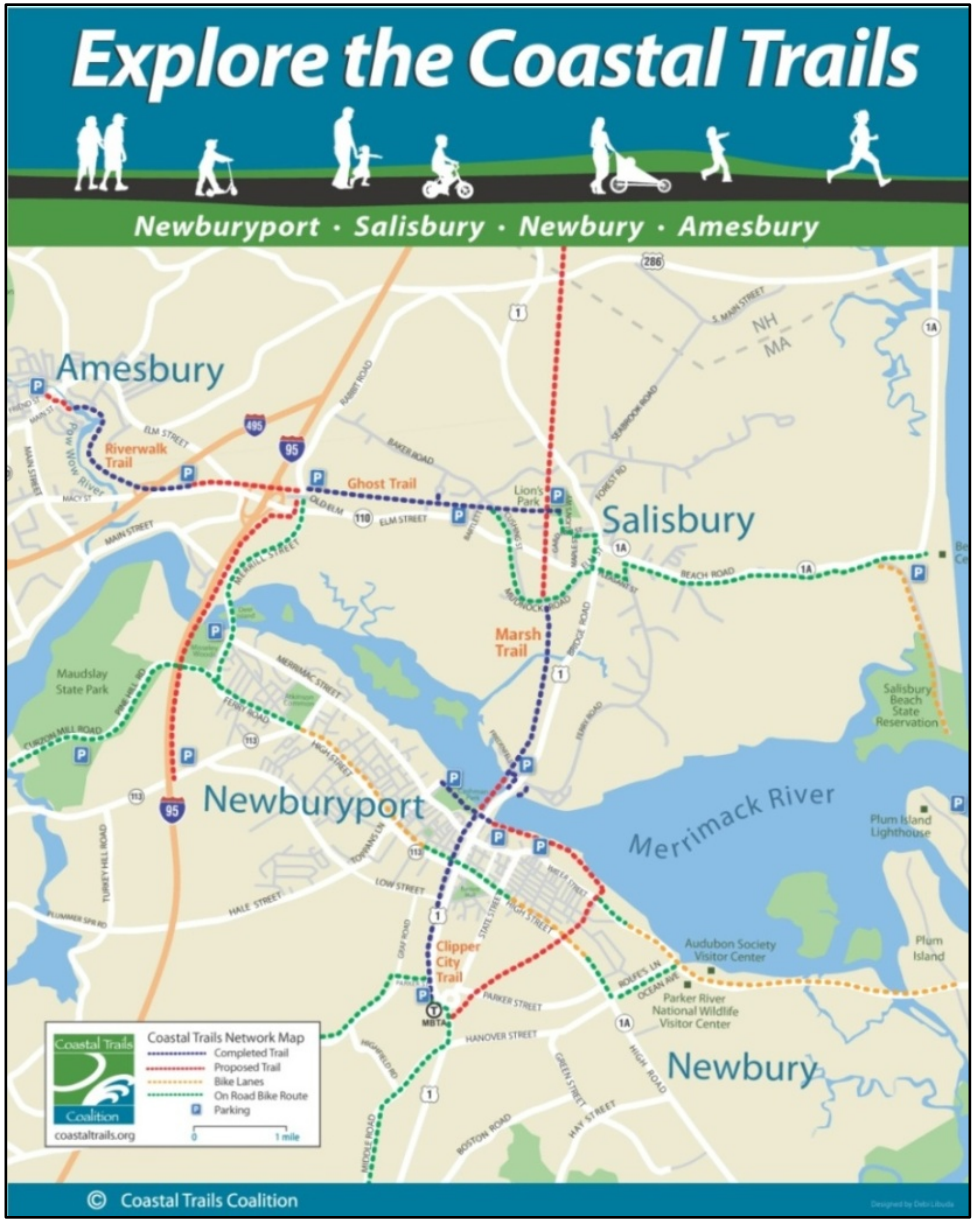
In addition, the Essex National Heritage Commission spearheaded the Essex Coastal Scenic Byway, which follows Route 1A in Newburyport, Newbury and Rowley and continues along the coast south to Rockport and Gloucester.

Addressing Seasonal Traffic Congestion

With popularity comes traffic congestion. The beaches in Salisbury and Plum Island are two of the region's most popular seasonal residential and tourist attractions. For example, the Town of Salisbury estimates that approximately 18,000 people visit Salisbury per day during the summer, compared to a year-round resident population of 8,396. Unfortunately, most people drive to get there.

Strategies that could aid in mode shift include:

1. Increase seasonal transit access during summer months.



The MVRTA has taken some steps to increase access by initiating the Route 54 and allowing the Beach Bus (Route 83) to stop in Salisbury. In 2015, it increased the number of scheduled runs for the Route 83. Beginning on May 29, 2015, the MVRTA began operating a summer shuttle bus service within the City of Newburyport. This new service operates on Friday, Saturday, and Sunday and connects the MBTA Newburyport Commuter Rail station with downtown Newburyport and Plum Island. The service will operate until Sunday, September 6th, 2015.

2. Completing the multi-use trail network.

The communities of Amesbury, Salisbury, Newbury and Newburyport have taken steps to increase multi-modal access. By developing an interconnected network of off- and on-road improvements, residents and tourists of all ages and abilities will have more safe options for getting around. The MVMPO has supported the development of this network over time including:

Open sections:

- Amesbury Powow Riverwalk
- Newburyport Clipper City Rail Trail

- Salisbury Ghost Trail
- Salisbury Eastern Marsh Trail

Sections nearing or in construction:

- Clipper City Rail Trail (Phase 2) 2015 TIP
- Salisbury Eastern Marsh Trail (Phase 2) 2017 TIP
- Powow Riverwalk (Phase 2) 2016 TIP
- Whittier Bridge Trail (in construction)

Additional sections under development include:

- Whittier Bridge stair connection in Amesbury.

- Amesbury Trail Connector (between the Ghost Trial and Elm Street)
- Newburyport Clipper City Rail Trail (Phase 3)
- Amesbury Carriagetown Connector
- Newbury Border to Boston section
- Route 1 bike lanes

3. Implementing seasonal bike share.

   A feasibility study for a seasonal bike share project should be done in the coastal region.

4. Better utilizing MBTA parking lots and other park and ride facilities to accommodate visitors with connecting shuttles and bike share connections.

5. Creating incentives to utilize alternatives such as parking fee strategies. Parking fee strategies are needed to provide an incentive for people to take transit and bicycle rather than drive.

6. Upgrading bicycle facilities along Beach Road (1A) and along the coast in Salisbury to encourage more people of all ages and abilities to walk and bicycle.

   Sidewalks along Beach Road need to be upgraded to support a high-use multi-modal corridor. Shoulders are used for cycling, but increasing the comfort level of families riding to the beach is imperative to creating a mode shift. MassDOT has initiated a project to improve these facilities.

7. Putting bike racks on buses.
   While bicycles are allowed in buses, when buses are packed, they cannot be accommodated. Also, bike racks provide better advertising for this function.

8. Creating wayfinding signage geared toward cyclists and pedestrians.

Strategy for Progress

- Complete multi-modal network;
- Count bicycles and pedestrians;
- Investigate bike share and other options;
- Enhance coordinated mobility information for visitors.

Measuring Success

- Number of people bicycling, walking and riding transit to Salisbury Beach and Newburyport during the summer months.

  Currently, we have no counts for bicycling and walking in the region, but the MVMPO is pursuing this task.

- Miles of Coastal Trail Network completed. 14 miles have been completed and 13.7 are either in design, construction or planning phases.

Photo: Salisbury Connector provides safe passage under busy Route 1 to the Eastern Marsh Trail.

Merrimack River

The Merrimack River binds the region together, it is what forms the Valley and created the opportunity for the region to develop and prosper. Today we sometimes take the river's existence for granted and fail to focus on the fact that the river has, does and can further drive the development of the region.

The Merrimack Valley Planning Commission and the Greater Haverhill Chamber of Commerce and a number of coalescing partners will be holding a summit this fall to talk about Merrimack River as a catalyst for economic development ranging from the construction of mixed use developments, to generating tourist attraction, to stimulating recreational activities.

Among the ideas that have been generated include water transportation from Haverhill up to the Newburyport area. An additional option for increasing multi-modal access is to create a water taxi or ferry connection between Salisbury and Newburyport to provide connections for bicyclists and pedestrians. Such water access would also intersect with the Merrimack River Trail, an on- and off-road bicycle and pedestrian trail that would connect all the communities along the river.

Photo: Local Motion in Burlington, VT, served 12,000 bicyclists over 100 days in 2014 via bicycle ferry. The ferry bridges the gap in the causeway and creates the connection to the islands. Credit: Local Motion

Objective 4: Reduce congestion on region's NHS roadways that serve transit and/or existing population and places of employment

Not all congestion is created equal. Congestion on highways is viewed as increasing air pollution and costing money and a potential deterrent to economic development. However, some congestion is expected, and perhaps desirable, in the region's village centers. This congestion tends to reduce vehicle operating speeds, thus allowing bicyclists and pedestrians to share the use of local streets. It also allows for safer vehicle turning and parking maneuvers, and for entering/exiting vehicles. MVPC's priority is to match its congestion management activities to the facility's purpose and its context.

Over the years, the MVMPO has monitored congestion on the roadways, at intersections, on transit, and for freight. The MVMPO is required to maintain a Merrimack Valley Congestion Management Process (MVCMP). Table 8.3 briefly lists the sections of roadway that are considered congested.

Photo: Traffic Congestion on I-93 in Andover.

Many of the congestion problems can be attributed to intersections in need of updated signal technology and other improvements. The largest project undertaken by the MVMPO and supported by the MassDOT is the reconstruction of the Methuen Rotary, which is currently under construction.

Table 8.3: Congested Areas in the Merrimack Valley

Roadway	Community	Project	Progress
I-93	Andover/Methuen	Bus on Shoulder/HOV lane in Boston MPO area	MVPC study completed; CTPS completed feasibility study for constructing a reversible "Preferred Lane" that would extend into MVPC region
I-93	Andover/Methuen	Highway widening	Project still in preliminary design
Georgetown Square	Georgetown	Intersection improvements	MVPC Study Completed
MA-125	Haverhill	Merrimack St to Winter intersection improvements	Project in TIP (FFY 2016)
MA-125	Haverhill	I-495 to New Hampshire Line	none
I-495	Lawrence/Andover	Highway congestion	MassDOT study completed in 2008.
I-495	Methuen	Interchange at Merrimack St. in	2016 Study planned
MA-28	Methuen	Methuen has requested a study between Rt. 213 and the New Hampshire line	MVPC study completed; RSAs completed for Route 28/Route 213 Interchange and Route 28 north of Route 213; City proposing project to improve Route 28/Rosewood Ave. intersection.
I-93	Methuen	Rotary reconstruction	Under construction
I-495	North Andover	Massachusetts Ave interchange	RSA completed
MA-114	North Andover/ Lawrence	Studies and RSA completed	MassDOT project initiated for section between Andover Bypass and Stop & Shop in North Andover
US-1/MA-133	Rowley	Intersection improvements	Signal phasing modified complete
MA-286	Salisbury	Intersection improvements	Complete

Photo: Humorous Electric Signage, by MassDOT

Intelligent Transportation Systems (ITS)

The electronic information signs alerting drivers of lane closures, congestion and other highway information are important communications devices. These services and many others that are not visible have become an integral part of transportation safety and management on our roads, highways and transit systems.

ITS are electronics-based technologies used in transportation service planning and congestion management that are equally useful for transportation security and safety.

ITS technology can be used to communicate with truckers about planning their routes to avoid bridges with insufficient clearances.

Adaptive Signal Controls are being used in Salem, NH to address congestion on Route 28 and MassDOT has begun using them in places where congestion varies and signal adjustments are useful.

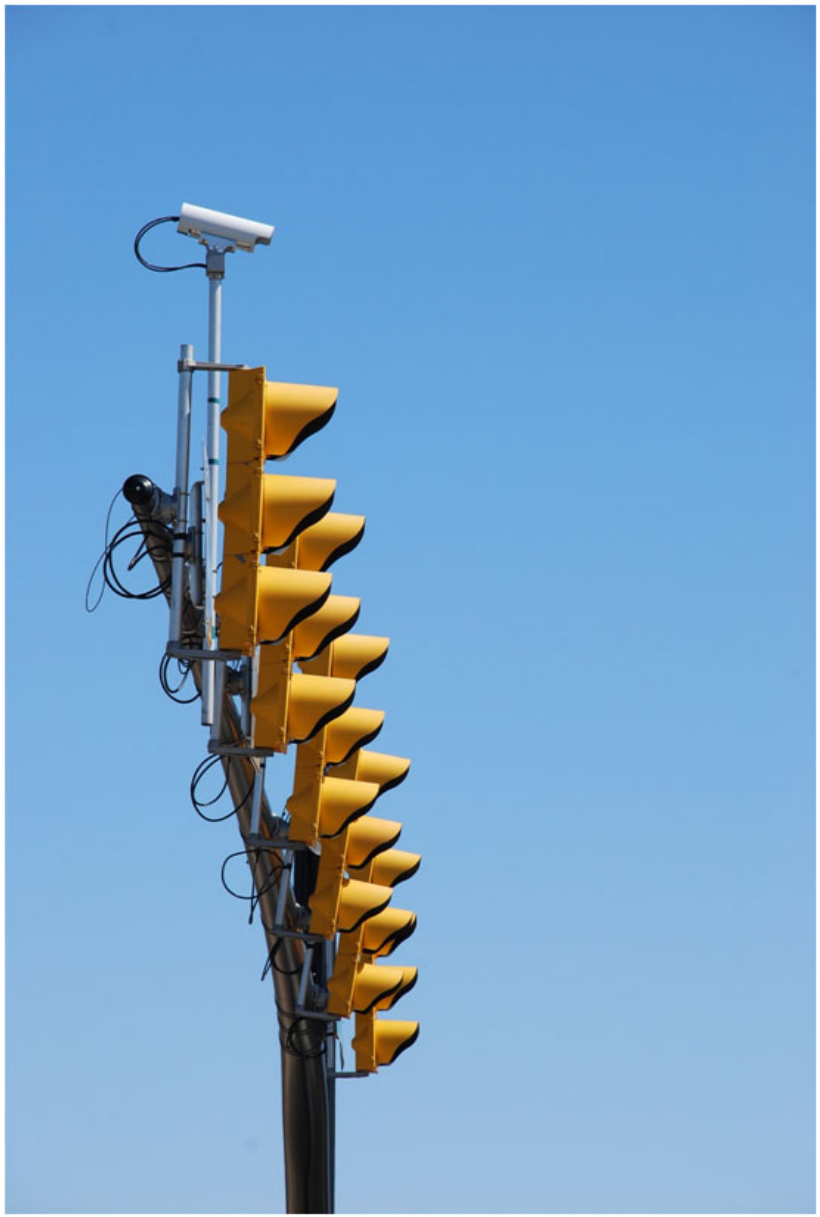
ITS for Transit

The MVRTA employs the following ITS technologies:

- Automated Vehicle Locators for fixed-route and paratransit services;
- Onboard vehicle security systems;
- Automated Voice Announcement Systems;
- Upgraded communications system to digital based, which will allow for implementation of real time bus/van location/arrival time information by FY2017, and
- Automated Fare collection/Charlie Card.

MVMPO Region ITS Activities

Within the MVMPO region, ITS technologies are perhaps most widely used by municipal public safety agencies. Public works departments are either considering or have procured AVL equipment for their vehicles. The City of Haverhill owns and operates a closed loop signal preemption system that is managed by the Haverhill Fire Department.



Adaptive Signal Controls

Ever sit in traffic and wonder if you were ever going to make it home from work? Traffic congestion can often be impacted by outdated traffic lights that either aren't coordinated or are coordinated poorly.

Adaptive signal control technologies automatically adapt to the traffic situation by collecting data, evaluating it and adjusting the signal timing as needed. These 'smart' signals can adjust to traffic changes due to events, crashes, weather and other regular or unexpected traffic congestion much more effectively than traditional traffic signal systems.

According to the Federal Highway Administration, ASCT can improve travel time by 10-50% depending on how outdated the original traffic signals are. The results are better traffic flow and less air pollution.

Photo: Signal heads. FHWA, http://www.fhwa.dot.gov/everydaycounts/technology/adsc/multimedia.cfm

Conclusion

The MVMPO will elevate its region's economic vitality by:

- Using its Priority Growth Strategy (PGS) to direct transportation investment to the areas that the Commonwealth and the region have prioritized, in order to contain transportation costs and promote Smart Growth;
- Supporting federal and Commonwealth freight industry planning and oversight while programming TIP projects that improve freight mobility in the region;
- Growing its tourism industry by developing and promoting transportation projects that expand access to key regional sites and attractions, as well as projects and services that contain or reduce congestion – particularly in its coastal communities;
- Continuing to implement its Congestion Management policies and projects on NHS roadways serving transit and/or existing population and employment centers, and
- Programming TIP funds for MassDOT and MVRTA ITS technologies – particularly to communicate vital information, aid safety/security actions, elevate transit service quality, and attract transit riders.