

## CHAPTER 5



*Photo: North Pleasant Street, Amherst, MA*

### REGIONAL PROFILE

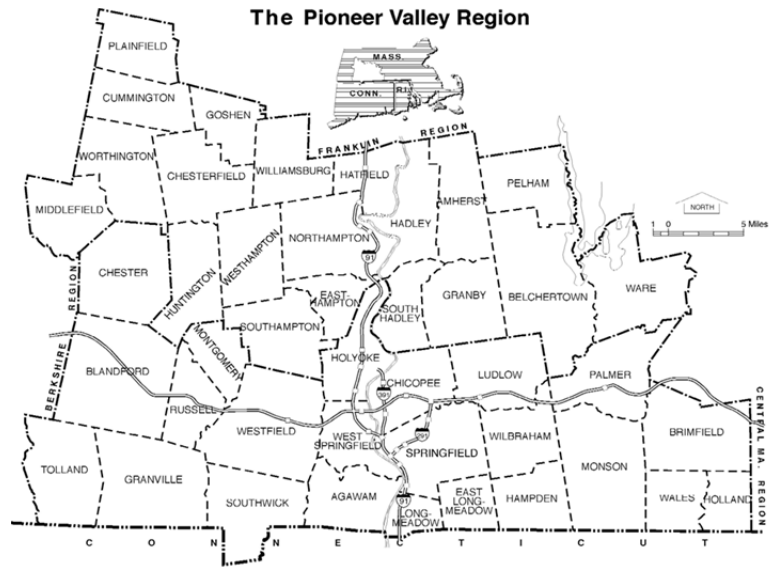
The Pioneer Valley Region is located in the Midwestern section of Massachusetts. Encompassing the fourth largest metropolitan area in New England, the region consists of 43 cities and towns covering 1,179 square miles. The Pioneer Valley is bisected by the Connecticut River and is bounded on the north by Franklin County, on the south by the State of Connecticut, on the east by Quabbin Reservoir and Worcester County and on the west by Berkshire County.

Unique within the Commonwealth of Massachusetts, the Pioneer Valley region contains a diverse economic base, internationally known educational institutions, and limitless scenic beauty. Prime agricultural land, significant wetlands, and scenic rivers are some of the region's premier natural resources. Its unique combination of natural beauty, cultural amenities, and historical character make the Pioneer Valley region an exceptional environment in which to live and work.

A more comprehensive version of Chapter 5 is presented in the Appendix to the RTP.

## A. HIGHWAY

The Pioneer Valley area is considered the crossroads of transportation in Western Massachusetts. Situated at the intersection of the area's major highways, Interstate 90 and Interstate 91, the region offers easy access to all markets in the Eastern United States and Canada. Major southern New England population centers are accessible within hours.

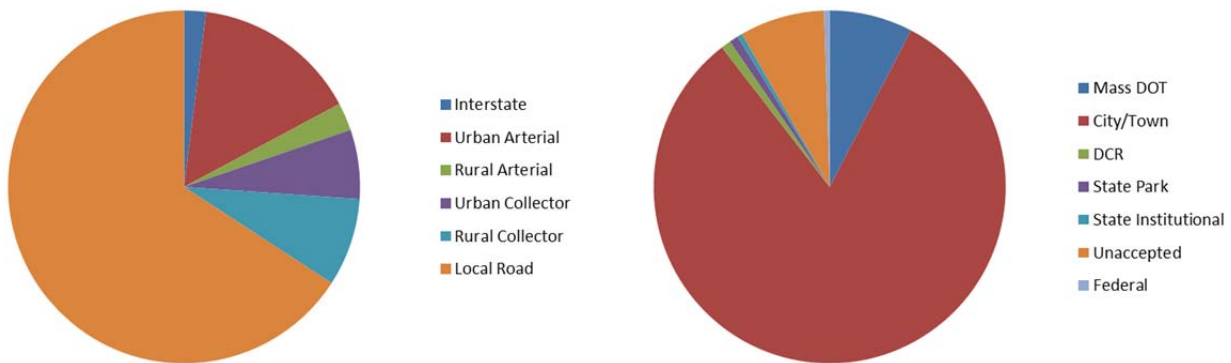


**Figure 5-1 – Pioneer Valley Region Map**

### Regional Highway Statistics

- 4,387 Roadway Miles
- 1,360 Federal Aid Eligible Roadway Miles
- 685 Bridges
- 15,331,000 Estimated Daily Vehicle Miles Travelled in 2020.
- 4 Designated Scenic Byways

There are just over 4,387 miles of roadway in the Pioneer Valley region. Roadway functional classification is a framework for identifying the role of a roadway in moving vehicles through the network of highways. Functional classification is based in part on roadway design, speed, capacity and its relationship to existing and future land use development. It is also used to establish funding eligibility. A total of 1,360 miles of regional roads are eligible for federal aid. Local roads, which are not eligible for federal aid comprise approximately 66% of the regional roadway mileage. Cities and towns are responsible for the maintenance of 82% of regional roadway miles.



**Figure 5-2 – Pioneer Valley Roadway Functional Classification and Jurisdiction**

## B. PASSENGER TRANSPORTATION

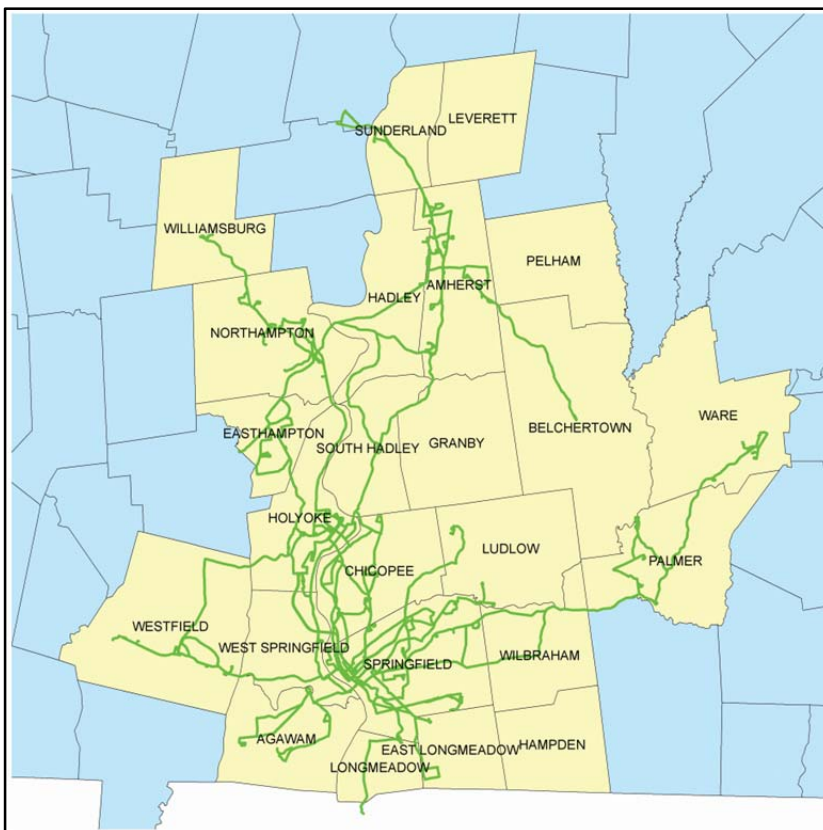
The Pioneer Valley provides an extensive transit system that offers many different modes of public transportation. Intra-county and Intercity buses, passenger rail service, van service for seniors and disabled riders, ridesharing, and park and ride lots are all vital to the mobility of the regions residents.

### 1. Pioneer Valley Transit Authority (PVTA)

- Largest regional transit authority in Massachusetts
- Serves 24 communities
- 189 vehicle fixed route fleet
  - 3 electric
- 42 fixed bus routes
- 2018 fixed route ridership of 10,902,207 (down 4.9%)
- 142 van paratransit fleet
- 2018 paratransit ridership of 291,932 (down 1.9%)

PVTA's service area begins at the Connecticut state line and stretches north to Leverett, MA. PVTA serves 24 communities with a total population of 561,952 (2017 U.S. Census estimate). A 2015/16 passenger survey found that 55.1% of PVTA riders use the bus to commute to work or school. A total of 71.5% of riders report earning less than \$20,000 per year and 68% of riders say they have no other way to make their trip other than using PVTA.

Figure 5-3 – PVTA Communities and Bus Routes



#### a) Paratransit Service

Paratransit is demand response door-to-door van service that is scheduled by the rider. These vans are equipped with wheelchair lifts and other special equipment to insure the safety of disabled riders. As the average age of the region's residents continues to rise, the need and demand for paratransit services will increase.

In addition to the PVTA, the Franklin Regional Transit Authority (FRTA) provides paratransit service under contract to 14 towns in the region. Councils on Aging (COAs) and Senior Centers in



the region also provide transportation to their senior residents. Days, hours of operations, fares and service frequency vary by town. Massachusetts has 3 Regional Coordinating Councils (RCC) formed under Executive Order 530 to enhance the efficiency of community and paratransit transportation services, raise awareness, report unmet needs, and develop regional priorities.

- Services providers:
  - PVTA
  - FRTA
  - COAs/Senior Centers
- 3 Regional Coordinating Councils
  - Pioneer Valley
  - Hilltown
  - Quaboag Valley

## 2. Other Transit Services

The Pioneer Valley is served by a number of other providers such as commercial bus passenger carriers that provide scheduled service to destinations within the region, as well as cities and towns throughout New England and North America. These carriers serve four bus terminals and other stops in the region. The Pioneer Valley also has a number of facilities, organizations and programs to help people share rides. The region has 3 designated and many informal park and ride lots where people may leave their car to board a bus or join a carpool.

- Bus Terminals
- Springfield Union Station
  - Northampton Bus Terminal
  - Holyoke Transportation Center
  - Olver Transit Pavilion
- Commercial Carriers
- Peter Pan Bus Lines
  - Greyhound Lines, Inc.
  - Private Van Service
  - Charter Tour Service
  - Taxis
  - Uber/Lyft

- Ridesharing
- Bay State Commute
  - UMass Rideshare
  - Private ride matching sites
  - ZipCar
- Park and Ride
- Sheldon Field, Northampton
  - Veteran’s Administration, Northampton
  - Massachusetts Turnpike Exit #7 - Ludlow

### 3. Passenger Rail

The Springfield Union Station is currently served by 24 trains daily providing service in the northeastern U.S. and connections nationwide. Passenger rail service is provided on both East-West routes and North-South routes in the region.



Photo: Springfield Amtrak Service

#### North/South Rail Service

- Amtrak and CTRail
- 11 arrivals/11 departures
  - 4 CTRail
  - 6 Amtrak
  - 1 Vermonter
- 28,000 riders in 2017

#### East/West Rail Service

- Lake Shore Limited
  - Chicago to Boston
- MassDOT Study examining service from Boston to Springfield and Pittsfield

#### Passenger Rail Terminals

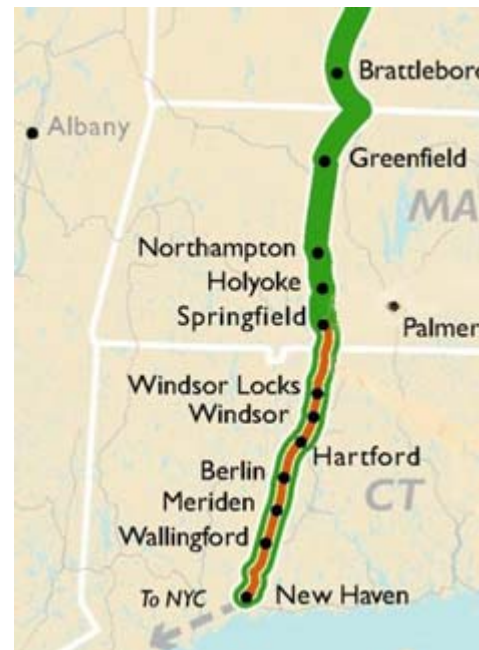
- Springfield Union Station
- Holyoke
- Northampton

Most trains in Springfield operate south to New Haven as either Amtrak or CTRail trains. Amtrak provides daily through service on the Vermonter between St. Albans Vermont and Washington D.C., with major stops at Springfield, Hartford, New York City and Philadelphia. The highest ridership origin-destination pair along the Vermonter route is Northampton, MA to New York City, NY averaging over 900 riders per year.

Service on the Connecticut River Line is very successful with a 2017 annual ridership of nearly 28,000. Based off this success, 4 new trips per day are planned between Greenfield and Springfield. This new service will debut as a pilot program in the summer of 2019.

A long distance train, the *Lake Shore Limited* serves Springfield by providing daily service between Chicago and Boston. The Pioneer Valley's East-West service is limited by control over the track by the host freight railroad CSX.

In December of 2018, MassDOT began a study to examine the feasibility of implementing passenger rail service from Boston to Springfield and Pittsfield. The study will assess up to six alternatives, including high speed rail and potential infill stations.



Map: Connecticut River Line

### C. INTELLIGENT TRANSPORTATION SYSTEMS

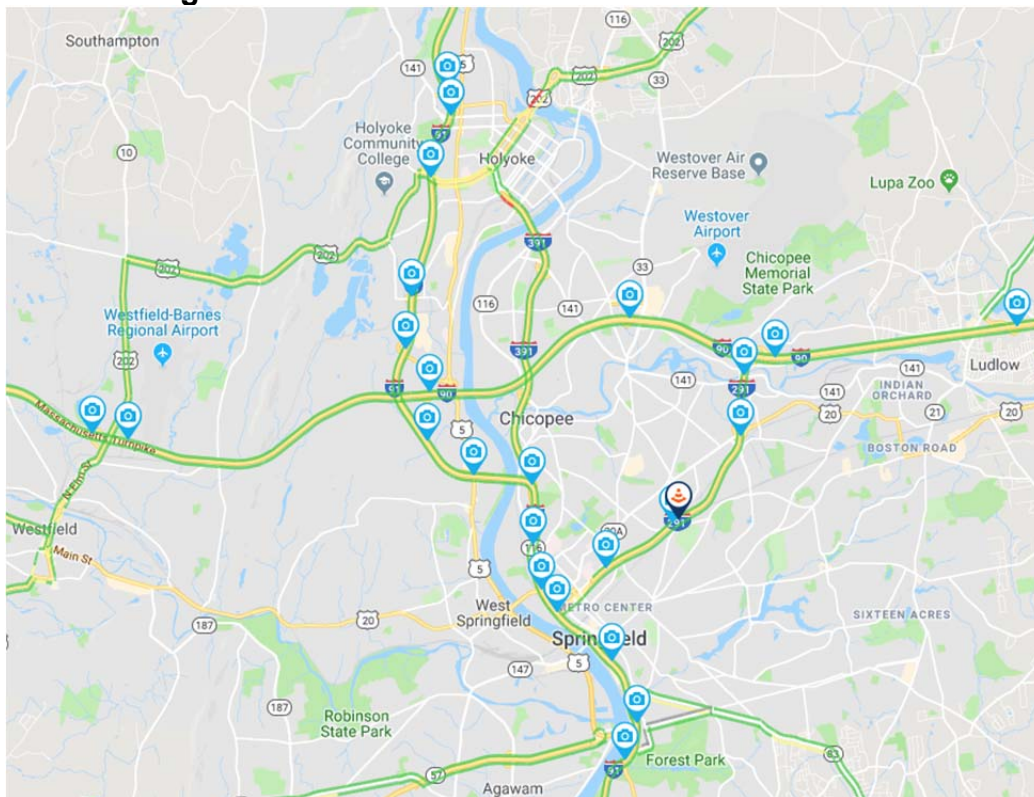
Intelligent Transportation Systems (ITS) utilizes technology in traffic control, communications, computer hardware and software to improve the performance of an existing transportation system. The dissemination of real-time travel information improves safety and efficiency while reducing congestion.

The ITS infrastructure is continually expanding in the region. Interstate 90, 90 and 291 have a network of cameras and variable message signs to assist in incident management. PVTA vehicles are equipped with technology to allow real time tracking of the fleet. The Massachusetts Turnpike converted to all electronic tolling in October of 2018.

MassDOT also works with communities to include ITS technology in future roadway improvement projects.

- I-91/I-90
  - Closed circuit cameras
  - Variable message signs
  - Linked to MassDOT and Mass State Police
- PVTA
  - ITS equipped vehicles
  - Automatic counters
  - Automatic announcements
  - Real-time bus tracker
- Massachusetts 511
- Real Time Traffic Management
  - Live travel time information
- Smart Work Zones
  - Efficient construction areas
- EZDriveMA
  - All electronic tolling

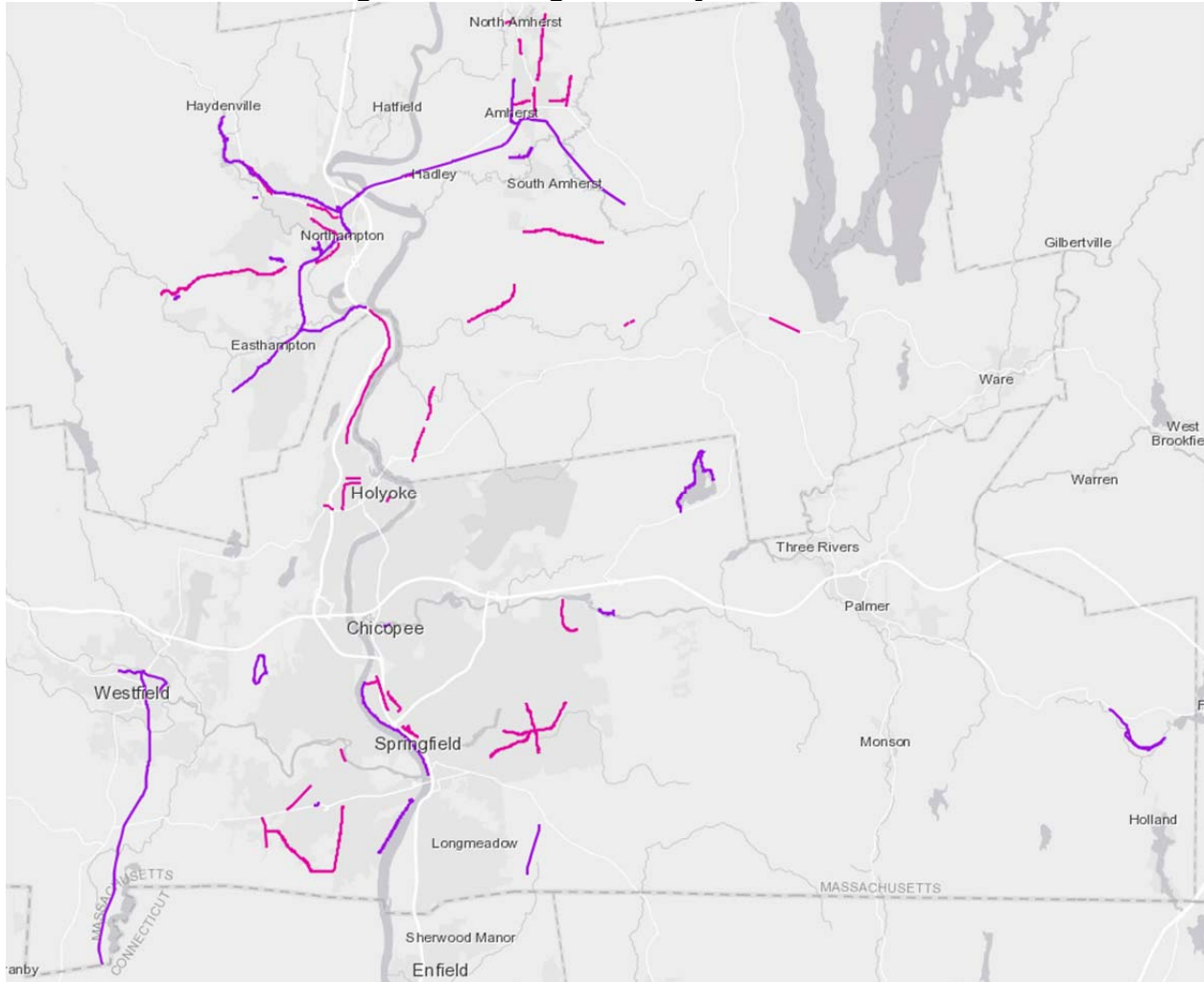
**Figure 5-4 – Massachusetts 511 Real Time Traffic**



## D. NON-MOTORIZED TRANSPORTATION

Bicycling and walking are inextricably linked to quality of life in our communities. The Pioneer Valley region affords some of the best environments for walking and bicycling in the Commonwealth. An expanding network of off-road trails, vibrant downtowns laced with sidewalks and scenic shared-use roadways create an unmatched potential. As a destination or as a place to call home, the Pioneer Valley offers a wide range of transportation choices.

**Figure 5-5 – Regional Bicycle Network**



Currently seventeen communities provide over 90 miles of bicycle lanes, multi-use paths or “rail trails” in the region. Eleven communities provide 45 miles of designated on-road bicycle facilities. The Pioneer Valley Transit Authority supports a popular “Rack and Roll” bikes-on-buses program for the entire region. All fixed route buses are equipped with bicycle racks.

Pedestrian access and circulation are typically better in town or city centers due to the physical design of such places. Shops, offices, restaurants and other amenities



**Bicycle Network**

- 90+ mile network across 17 communities.
- 45 miles of on-road lanes
- 2019 = 20<sup>th</sup> year of Bike Week
- ValleyBike regional bike share
  - 55 Stations
  - 6 communities
  - 550 electric assist bikes
  - 26,353 trips in 2018
- Bike racks on all fixed route transit vehicles
  - 62,778 uses in 2017

**Pedestrian Network**

- Varies by community
- More comprehensive in downtown and village centers
- Massachusetts Safe Routes to School Program
  - 83 participating schools

**Complete Streets Program**

- 38 communities participating
- 18 advancing requirements
- 12 adopted policies

are generally clustered together and connected by a pedestrian network which is often more accessible and efficient than the vehicle network. Sidewalks are the most common infrastructure feature devoted to pedestrian circulation. The provision of sidewalks in the region varies with respect to location, quality and function.



*Photo: South Maple Street Crossing in Hadley, MA*

The Massachusetts Safe Routes to School program promotes healthy alternatives for children and parents in their travel to and from school. A total of 83 schools in the Pioneer Valley activity participate in the program. Benefits include education on the

value of walking and bicycling and funding for sidewalks, crosswalks, and traffic calming measures.

The Pioneer Valley MPO funded \$1.3 million using the federal Congestion Mitigation and Air Quality program in 2017 for Valley Bike, a docked bicycle sharing system in Amherst (including the University of Massachusetts), Holyoke, Northampton, South Hadley, and Springfield. Valley Bike launched in the spring of 2018 and will expand into the City of Easthampton in 2019. All total, 550 electrically assisted bicycles are deployed at 55 stations.

Month	Rides	Avg. Distance	Avg. Rides/Bike
June	98	2.2	1.0
July	2836	3.6	30.2
August	7369	3.8	31.1
September	9889	3.0	65.1
October	4404	2.3	29.2
November	1757	2.0	8.7
Total	26353	3.1	157.8

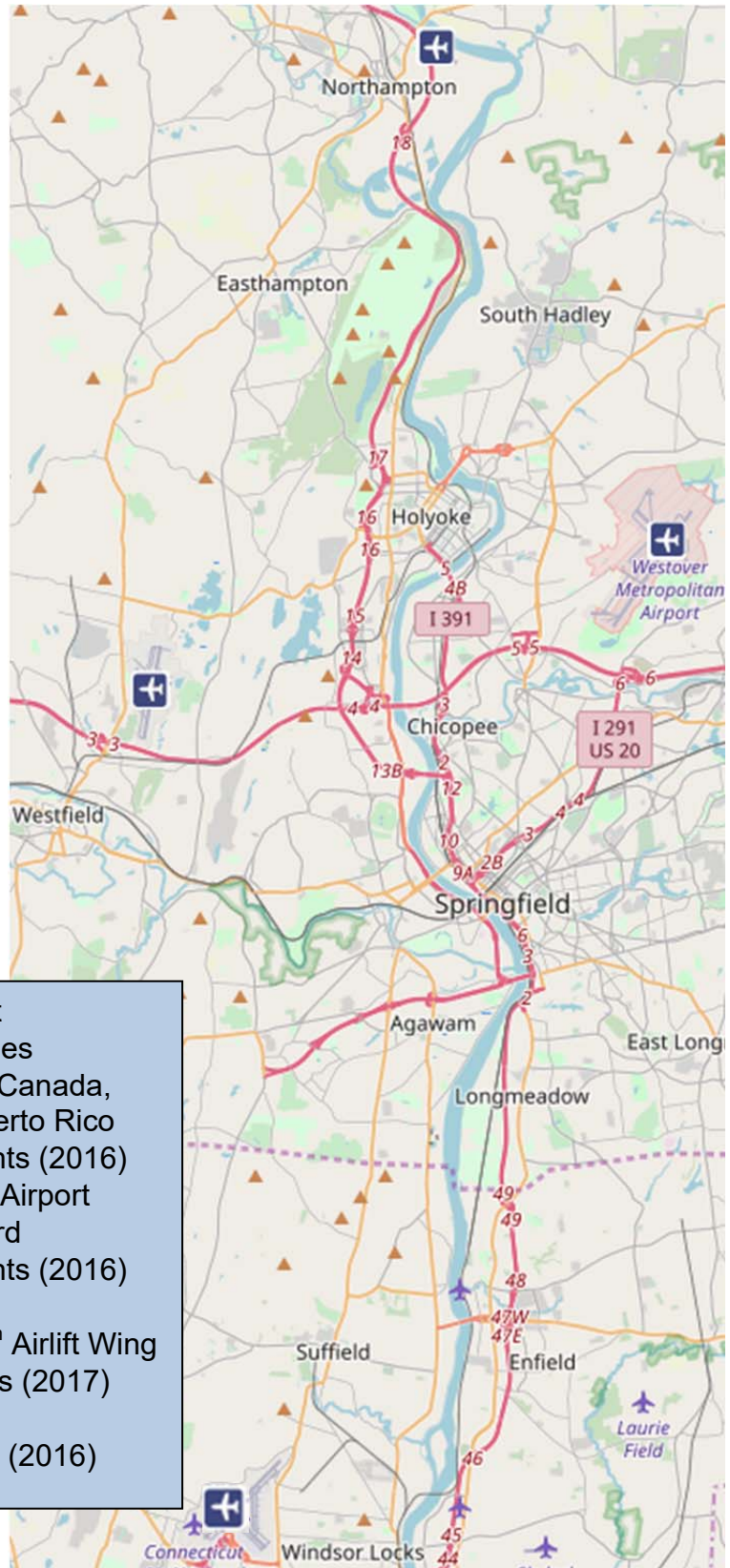
**Table 5-1 – ValleyBike Monthly Ridership**



## E. AVIATION

The Pioneer Valley is well served by air transportation facilities located within or adjacent to the region. Most air travel from the region goes through Bradley International Airport in Windsor Locks, Connecticut situated 15 miles south of the City of Springfield. The largest airport the Pioneer Valley region is the Westover Air Reserve Base and Metropolitan Airport facility in Chicopee and Ludlow. The Westfield-Barnes Airport is located in the City of Westfield and is a general aviation facility that also houses the Air National Guard 104th Tactical Fighter Group. The Northampton Airport is a small privately owned airport serving both business and recreational uses.

- Bradley International Airport
  - Served by 9 major airlines
  - International service to Canada, Ireland, Mexico and Puerto Rico
  - Averaged 256 daily flights (2016)
- Westfield Barnes Municipal Airport
  - Mass. Air National Guard
  - Averaged 113 daily flights (2016)
- Westover Air Reserve Base
  - Air Force Reserve 439<sup>th</sup> Airlift Wing
  - Averaged 54 daily flights (2017)
- Northampton Airport
  - Averaged 85 flights/day (2016)



Map: Pioneer Valley Airports

## F. TRANSPORTATION OF GOODS

### Trucking

- Dominant mode for freight
- Small, private carriers
- Shortage of truck rest areas

### Rail Carriers

- CSX Transportation
  - Terminal in West Springfield
- Pan AM Southern Railways
- New England Central
- Pioneer Valley Railroad
- MassCentral Railroad

### Air Freight

- No major regional facilities
  - Typically shipped through Logan and Bradley airports

### Pipeline

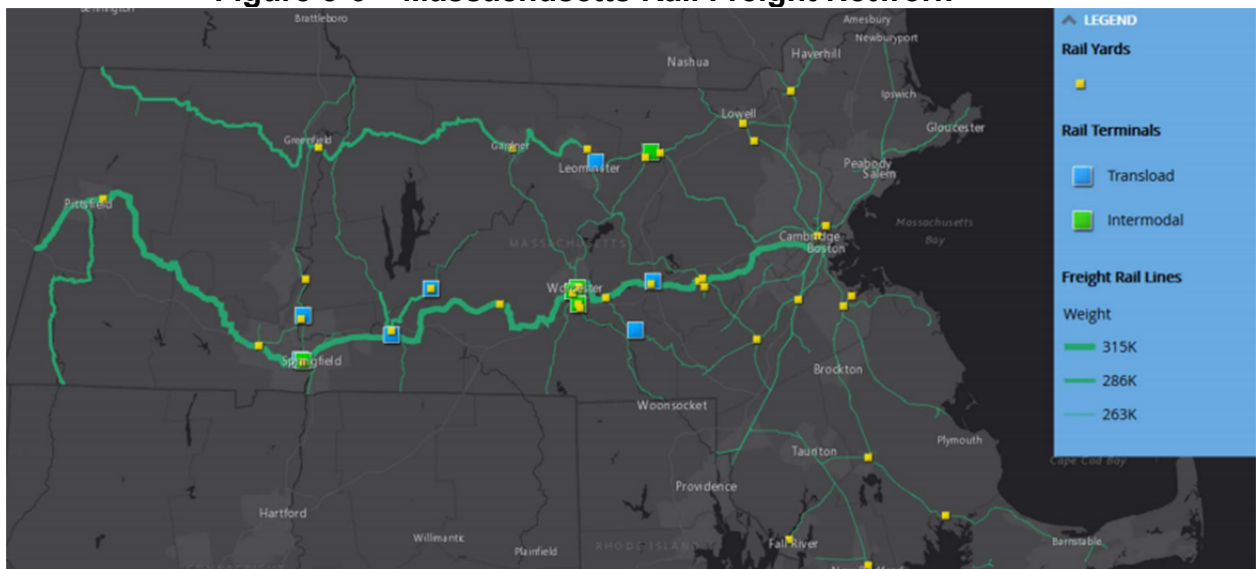
- Natural Gas
- Jet Fuel
- Gas, Kerosene, Distillates

The major interstates and rail lines in the Pioneer Valley Region enable the quick delivery of goods to some of the nation's largest cities. The proximity of the region to major and middle sized cities allows goods from the Pioneer Valley to be quickly transported to competitive markets. Freight is moved in and out of the Pioneer Valley primarily by truck with rail, air and pipeline carrying the remaining goods.



Map: 2011 Freight Flows

**Figure 5-6 – Massachusetts Rail Freight Network**



Source: Massachusetts Freight Plan

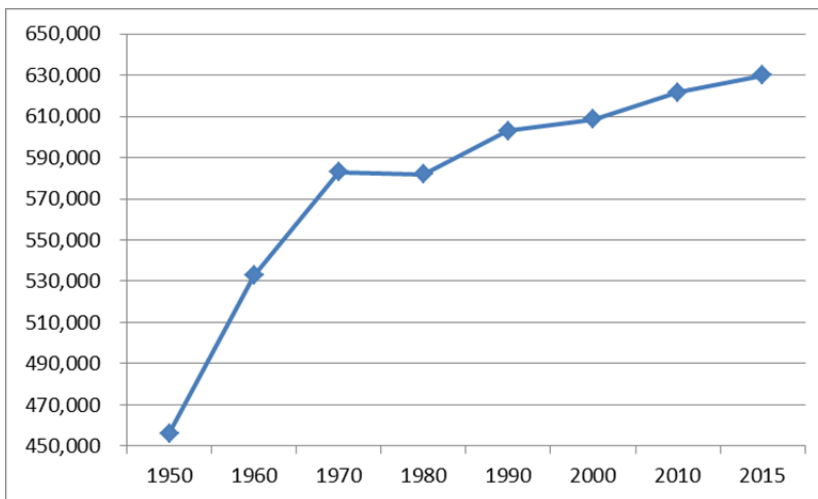
## G. DEMOGRAPHICS

Demographic data was developed for the RTP by the PVPC Data section using the latest information available from sources such as the US Census Bureau, American Community Survey (ACS), U.S. Bureau of Economic Analysis, Massachusetts Department of Revenue, and Massachusetts

Department of Employment and Training. For more information, please visit the Pioneer Valley Data Portal at <http://pioneervalleydata.org/>.

- 2017 population = 630,385
  - Up 1.4% from 2010
- 2017 regional households = 237,713
- 2017 total employment = 273,376
- Median household income = \$55,666
- 2015 registered vehicles = 489,999

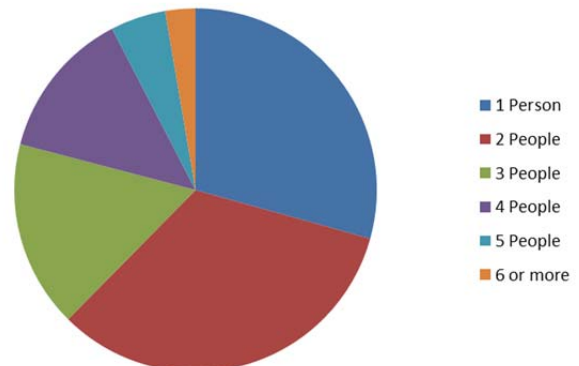
**Figure 5-7 – Population Change 1950 - 2015**



The regional population continues to grow at a steady rate. Between 2000 and 2010, the region's population grew by 2.4%. Population growth is a direct result of foreign immigration as the region has steady trend of domestic migration to other parts of the country the last several years.

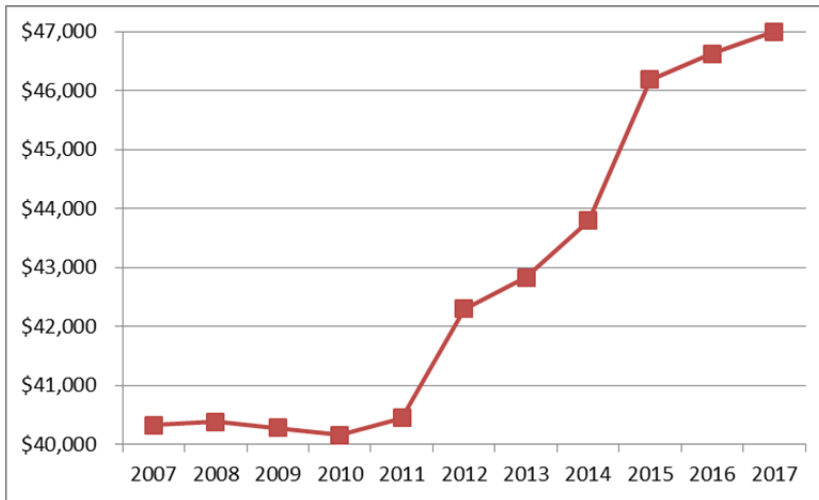
**Figure 5-8 – 2017 Households by Size**

Information from the US Census shows a total of 237,713 households in the region in 2017, nearly a 1% increase from 2010. Overall household size is decreasing. Only 20% of all households report a size of four or more. Over 62% of all households are comprised of 1 or 2 occupants.





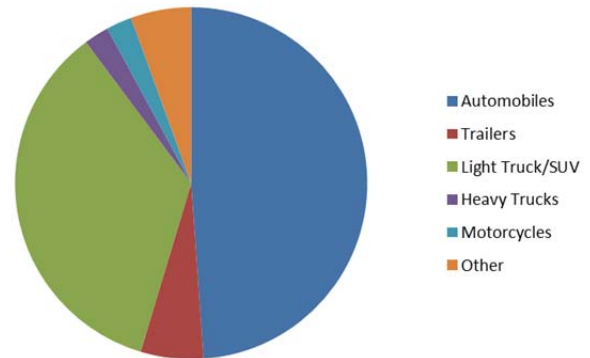
**Figure 5-9 – Per Capita Income Change 2007 - 2017**



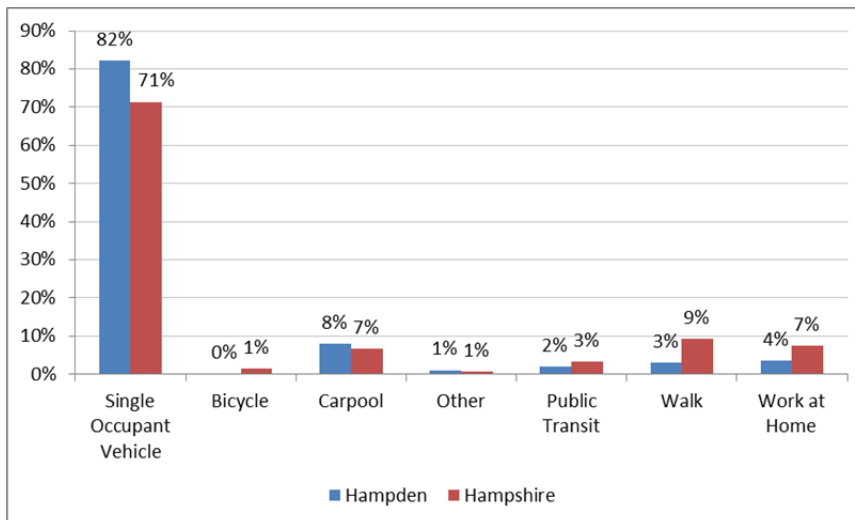
Per capita income in the Pioneer Valley region, has been increasing steadily. Despite two recessions in the 2000s, per capita wages continue to increase. The largest increases occurred between 2011 and 2012 and 2014 and 2015. All total, per capita income has grown by nearly \$7,000 since 2011.

**Figure 5-10 – 2015 Vehicle Registration**

Based on 2015 data, a total of 489,999 vehicles, or approximately 0.78 vehicles per person were registered in the Pioneer Valley. Between 2000 and 2015, automobile registrations dropped by over 23 percent. Light trucks and SUVs registrations continue to grow and comprise over one-third of registered vehicles. The City of Springfield has the most registered vehicles with 90,493. This translates to 18.5 percent of all registered vehicles.



**Figure 5-11 – Employment Mode of Travel by County**



The mode share differences between Hampden and Hampshire Counties are significant but both skew towards single occupant vehicles. More commuters walk, bicycle or take public transit in Hampshire County potentially due to the large student population in the Five College area.