Pioneer Valley Planning Commission

Valley Vision 4:
The Regional Land Use Plan for the Pioneer Valley

Growing smarter to reduce sprawl.
Revitalizing our community centers.

Produced by the Pioneer Valley Planning Commission with the support of the U.S. Department of Housing and Urban Development Sustainable Communities Initiative Regional Planning Grant Program.

February / 2014

Catalyst for Regional Progress
PVPC

Valley Vision 4: The Regional Land Use Plan for the Pioneer Valley

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Prepared by

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PDF copies of this plan may be downloaded at: www.SustainableKnowledgeCorridor.org.

Pioneer Valley Planning Commission

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1. INTRODUCTION: ELEMENT PLAN PURPOSE

Creating a more sustainable Pioneer Valley region will involve managing growth and development to: reduce sprawl; supporting and strengthening our urban and town centers, reducing vehicle miles traveled and the resulting air emissions; promoting availability of affordable housing for all; reducing water pollution; and protecting farmland, open space and natural resources. These are the goals of Valley Vision 4.

The main purposes of Valley Vision 4, this Land Use Plan Update for the Pioneer Valley, are to:

Update and expand the strategies in Valley Vision for managing the region's growth and development to include innovative new approaches such as transit-oriented development;

Promote integration and consistency between the region's land use and transportation plans;

Identify specific actions that will advance equity and address environmental justice;

Compare the recommendations of Valley Vision with land use plan strategies of the neighboring Capital Regional Council of Governments to promote bi-state consistency.

This plan is an update to Valley Vision, the Regional Land Use Plan for the Pioneer Valley. Valley Vision is a smart growth plan, in that it is designed to promote compact, mixed use growth in and around existing urban and town centers while promoting protection of open space and natural resources. As the fourth update to Valley Vision, we will refer to this plan as Valley Vision 4. It includes:

Updated Smart Growth Strategies: including models for Mixed Use Village Centers and Green Development Performance Standards.

Smart Growth Toolbox: a newly updated Valley Vision Toolbox of strategies, fact sheets, model bylaws and community checklists.

TOD Priority Locations, Strategies and Market Analysis

Strategies for Enhancing Equity and Environmental Justice

VALLEY DEVELOPMENT COUNCIL

Established in 2005, the Valley Development Council (VDC) is a multi-disciplinary advisory group that oversaw the update of the *Valley Vision* plan in 2007 and 2010, and is currently working on strategies for implementation. The Valley Development Council is also the advisory committee for housing strategies under the *Plan for Progress*, PVPC's regional economic development plan. The VDC members are:

VALLEY DEVELOPMENT COUNCIL MEMBERSHIP

Brad Campbell	**VDC Co-Chair; Western MA Home Builders & Remodelers**
Karen Mendrala	**VDC Co-Chair; Senior Planner, City of Holyoke**
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LAND USE TRENDS IN THE PIONEER VALLEY

This section describes trends in land use and related demographics in the Pioneer Valley since 1971, including the phenomena of suburban and rural sprawl, population growth and the net effect of immigration, growth in housing, and the pace of conversion of agricultural land to other uses.

SPRAWL WITHOUT POPULATION GROWTH

The Pioneer Valley region continues to experience a development trend that is relatively unique in regions outside Boston and major urban areas of the Northeast: suburban sprawl without population growth. While the Valley's population has been relatively stable since 1990, the continued conversion of farms, forests and other undeveloped areas to low-density suburban single-family residential use is consuming land at a per capita rate that far exceeds that of regions where population is actually growing, such as the Southwest and California. This has several adverse impacts, which are summarized below.

Sprawl Impacts in the Pioneer Valley

Loss of farmland and natural resources.

Increased vehicle miles traveled and traffic.

Increased greenhouse gas emissions and other air pollution from motorized vehicles.

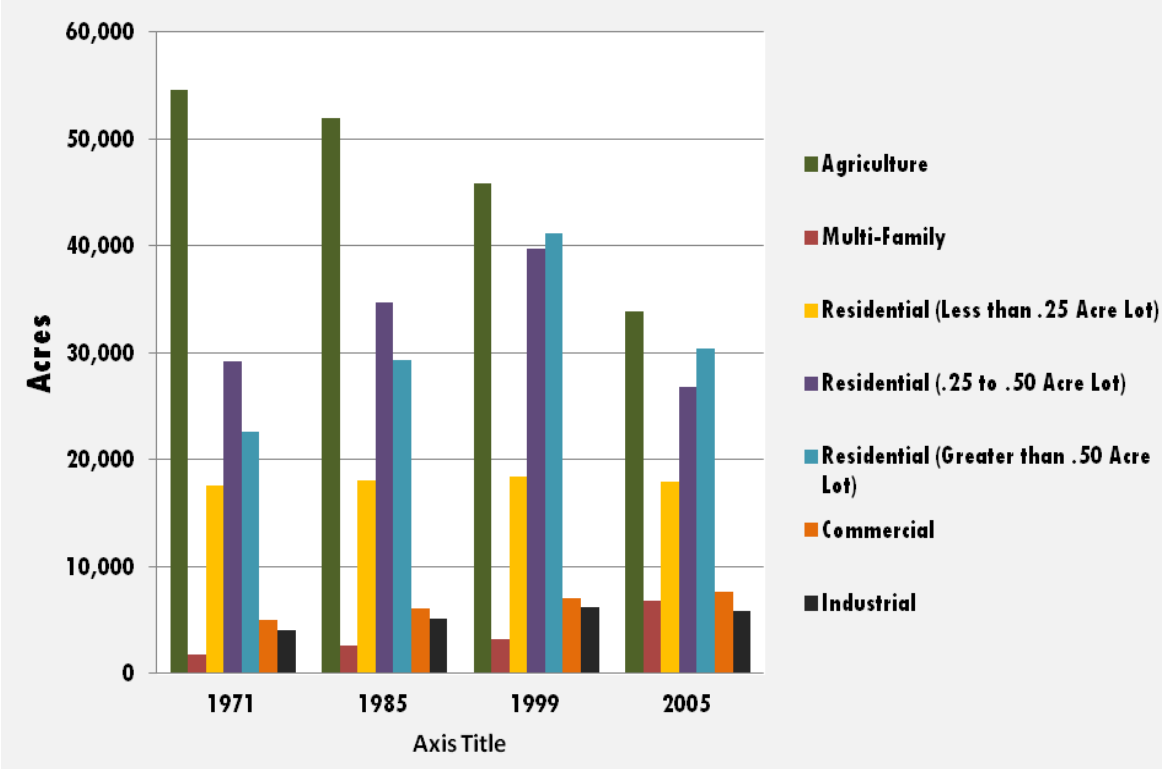
Increased impervious surfaces and stormwater runoff.

Loss of community character.

In 1999, the first edition of the Valley Vision plan identified an imbalance between the minimal population growth in the region and the large amount of acreage that was being converted to developed land uses. Recent data from the 2010 U.S. Census and other sources show that this trend continues, and although specific population groups are stabilizing the urban core, while migration and urban sprawl continue to affect the region's suburban communities.

The region's migration patterns had significant implications for land use trends. Between the years 1971 and 1999, more than 30,000 acres of undeveloped land were converted to residential development, while 4,500 acres were developed for commercial and industrial uses.

Figure 1-1: Land Use Trends in the Pioneer Valley (1971 – 2005)



During the past 35 years, the Pioneer Valley has seen a significant loss of farmland, with an increase in large-lot residential development and commercial development.

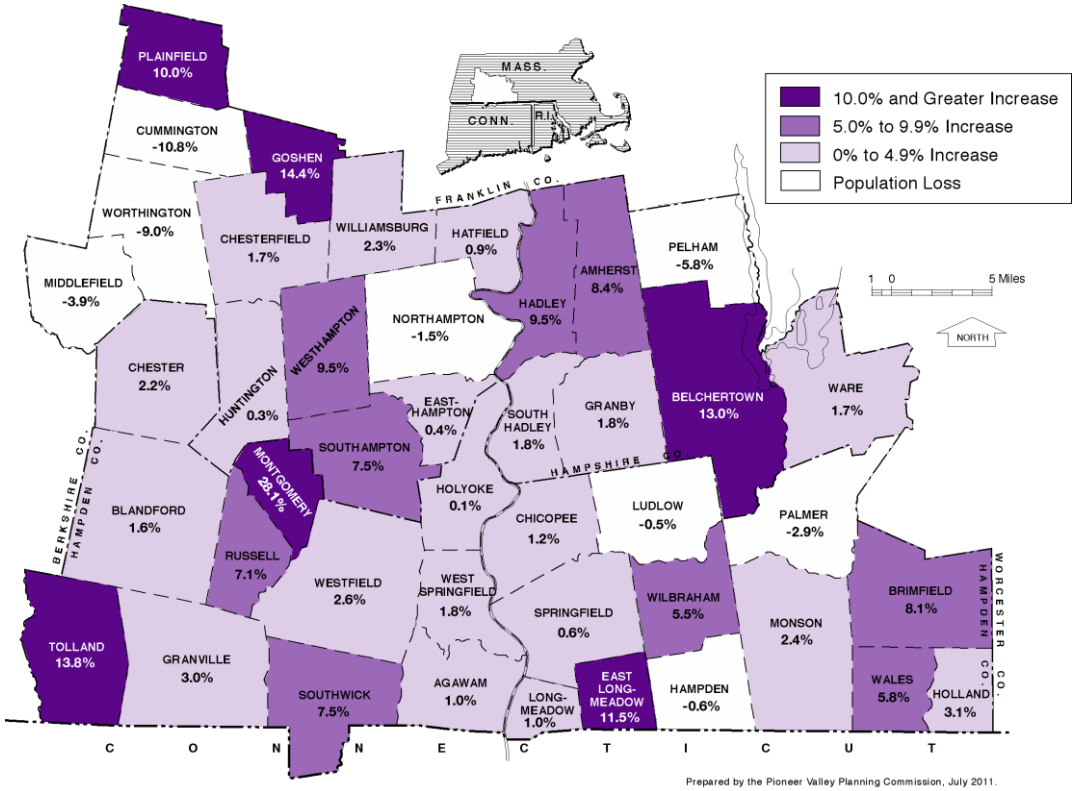
The figure above tells several important stories. First, the amount of land in agricultural use in the region (green bar) has declined dramatically since 1971. During the same period, the proportion of land devoted to single-family homes with relatively large lots (greater than .25 acres) has increased substantially. Secondly, there has been virtually no increase in the land area devoted to homes on smaller lots (less than .25 acres), which is the traditional lot size in neighborhoods and subdivisions in the region that were developed prior to 1960. Thirdly, commercial and industrial land uses, which account for much smaller proportions of the overall land area total, grew at very modest rates.

(Notes: The method for estimating land uses by agencies of the Commonwealth of Massachusetts was modified significantly between 1999 and 2005; therefore, the estimates in the "2005" columns at right are the result of this different land use estimation process and should not be considered comparable to the prior estimates for 1971, 1985 and 1999.)

POPULATION GROWTH TRENDS

Between 2000 and 2010, the population of the Pioneer Valley region grew by about 2.2%, slightly less than the 3.1% experienced by Massachusetts as a whole. This rate is similar to the 1% growth rate of the Pioneer Valley region during the prior decade 1990 to 2000. The relatively modest growth in the region occurred as suburban sprawl development continued and the populations of larger urban communities remained fairly constant (see figure below). The areas of fastest growth (darker) are generally located in rural areas.

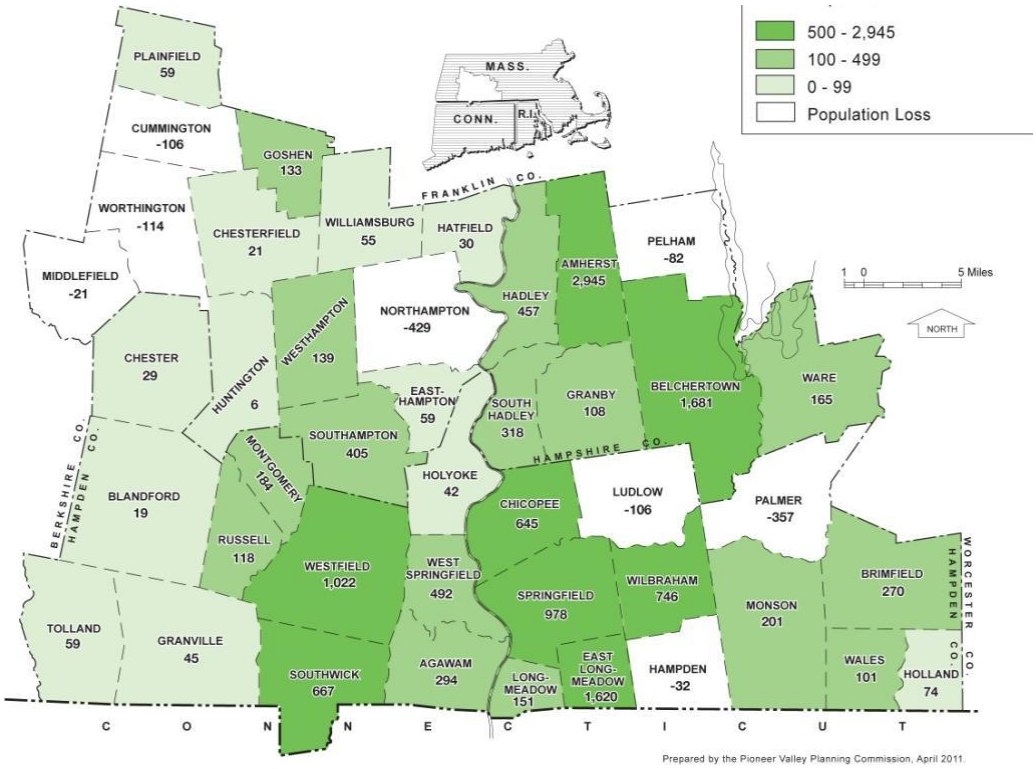
Figure 1-2: Population Growth by Percentage in the Pioneer Valley 2000-2010



Suburban and rural communities in the Pioneer Valley region have experienced the greatest percentage of growth over the past decade. Source: U.S. Census

The region's three largest cities, Springfield, Chicopee, and Holyoke, experienced a combined overall population increase of 1,665 residents or 0.7%. In contrast, the suburban/rural town of Belchertown grew by 1,681 residents, or 13.0%. Other outlying communities that experienced significant growth are Montgomery at 28.1%, Goshen at 14.4%, Tolland at 13.8%, East Longmeadow at 11.5%, Plainfield at 10%, both Hadley and Westhampton at 9.5%, and Amherst at 8.4%. Amherst, with a total increase of nearly 3,000 residents, had the largest population increase in the region. Northampton and Palmer experienced the greatest losses, with population declines of 429 (-1.5%) and 357 (-2.9%) respectively. Cummington lost 10.8% of its 2000 population, Worthington lost 9%, while Pelham lost 5.8%.

Figure 1-3: Total Population Growth by Number of Residents in the Pioneer Valley 2000-2010

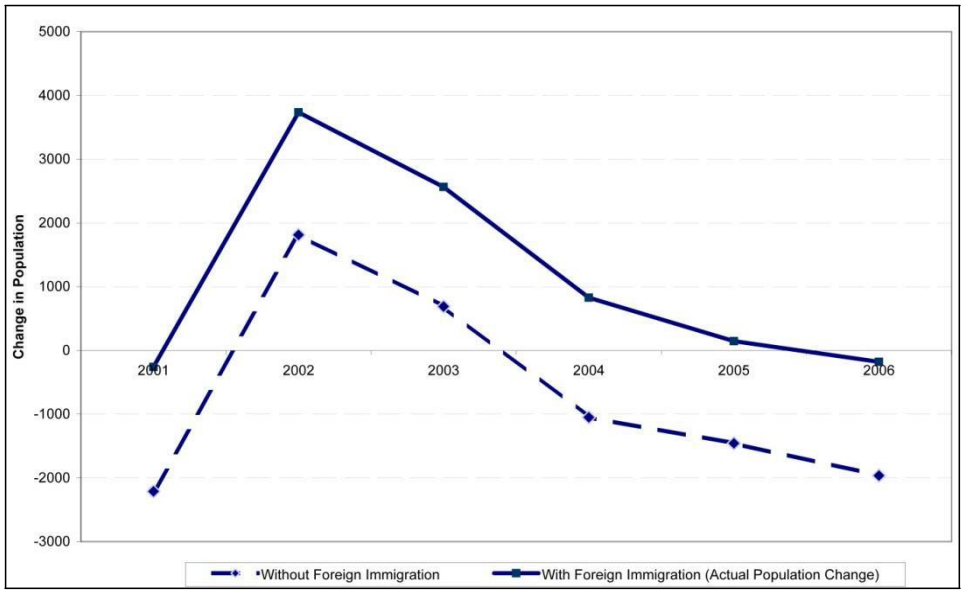


The suburban communities of Amherst and Belchertown had the largest amounts of total population growth in the region over the past decade. Source: U.S. Census

IMMIGRATION OF FOREIGN-BORN PERSONS OFFSETS OUTMIGRATION

During the past 20 years, population in Hampden and Hampshire Counties grew modestly, with an increase of about 20,000 residents, to a total of 621,580 (U.S. Census 2010). While the population in the rest of the Commonwealth increased by 6%, the region grew by only 2%. During the 1990s, the region experienced a significant out-migration, with more than 39,000 residents moving out. Anecdotal evidence suggests that a large proportion of those migrating out of the region may be young adults and parent-aged residents. This loss of resident population was offset by an increase in immigrants moving to the Pioneer Valley (see in figure below), particularly to the urban core, and this increase was critical to stabilizing the region's population.

Figure 1-4: Population Change in the Pioneer Valley Including Foreign Immigration 2001 to 2006



The influx of foreign immigrants has helped to stabilize the regional population. Here, the actual population change in the region represented by a solid line (above). The dotted line (below) shows the drop in regional populations without the influence of foreign immigrants.

Within the region, migration has favored suburbs over cities. Between 1990 and 2000, while most immigrant populations moved to the urban core communities of Springfield, Chicopee, and Holyoke, those same cities still experienced net population declines. Even as foreign immigrants moved into these communities, larger numbers of residents were moving out, leaving the region entirely or settling in the region's growing suburban communities, places like Southampton, Belchertown, Southwick and Ludlow.

However, since 2000, while the trend of higher growth rates in suburbs than urban areas has continued, our urban communities have experienced greater population growth than in the previous decade, while the suburban and rural areas have experienced less population growth than previous years. Since 2000, most of the urban core communities have grown slightly or maintained a stable population, and higher population growth continued in our suburban communities.

OUTLOOK FOR FUTURE GROWTH

If the past is any indication of the future, the Pioneer Valley region will continue to experience modest population growth, with foreign immigrant populations largely responsible for stabilizing the region's populations. Recent population projections conducted by the Pioneer Valley Planning Commission suggest the region may have nearly 660,000 residents in the year 2035, an increase of 40,000 residents from 2010.

Unless unplanned and dispersed development trends are reversed, fast-growing suburbs and rural areas will continue to expand in both population and developed acres while the population of the urban core will remain stable, due in part to the foreign immigration into our cities.

However, the past is not always an accurate indicator of the future, and there are new considerations that could significantly affect both population growth and development in the region. Most significantly, the large baby boom generation is beginning to retire, and where they retire could significantly impact future growth. National trends show aging populations are moving to urban areas where access to goods and services are more readily available. In addition to the baby boomers, changes in foreign immigration could affect future growth trends, and settlement patterns could depend on concentrations of foreign immigrant neighborhoods and communities. Young professionals are also moving back to urban centers in growing numbers.

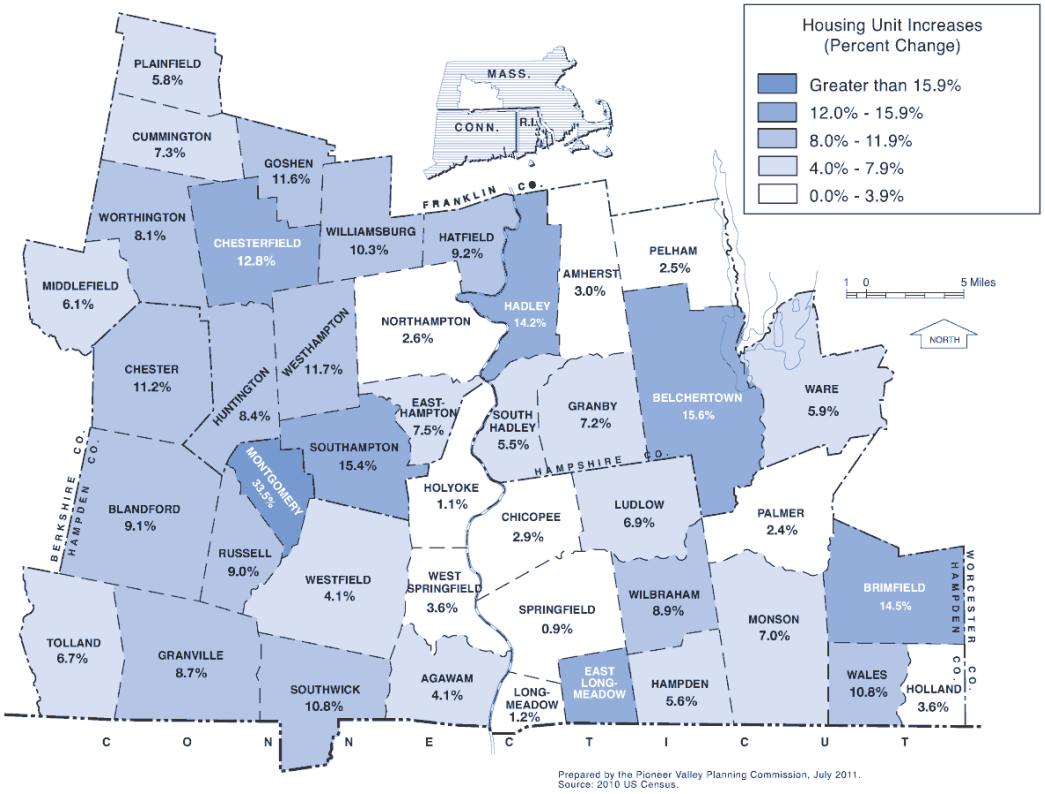
Another consideration is the current global changes that may influence living preferences. Increasing oil and gas prices may influence how far people are willing to commute to employments centers. Changes in our financing structure for home ownership may find more young professionals in need of rental housing options. And the potential for passenger rail may open more commercial and transit-oriented housing markets throughout the Pioneer Valley.

MODEST HOUSING GROWTH

From 2000 to 2010, the number of housing units grew modestly in the Pioneer Valley. During that time, 10,258 housing units were added to the Pioneer Valley region, bringing the total housing units to 254,778 in 2010, an increase of 4.2% from 2000. In comparison, the number of housing units in the entire Commonwealth increased by 7.1% to a total of 2,808,254. The more urbanized Hampden County area has over three times more housing units than Hampshire County.

On the other hand, the number of housing units in Hampshire County grew almost twice as fast between 2000 and 2010 as that in Hampden County. Much of the growth occurred outside of the region's major cities, in part because they are largely built out. The cities of Springfield, Chicopee, Holyoke, and Northampton and the towns of Amherst, Longmeadow, and Palmer experienced very slow growth in housing units compared to the rest of the region. The fastest growth was located in the outlying areas.

Figure 1-5: Housing Unit Growth in the Pioneer Valley 2000-2010



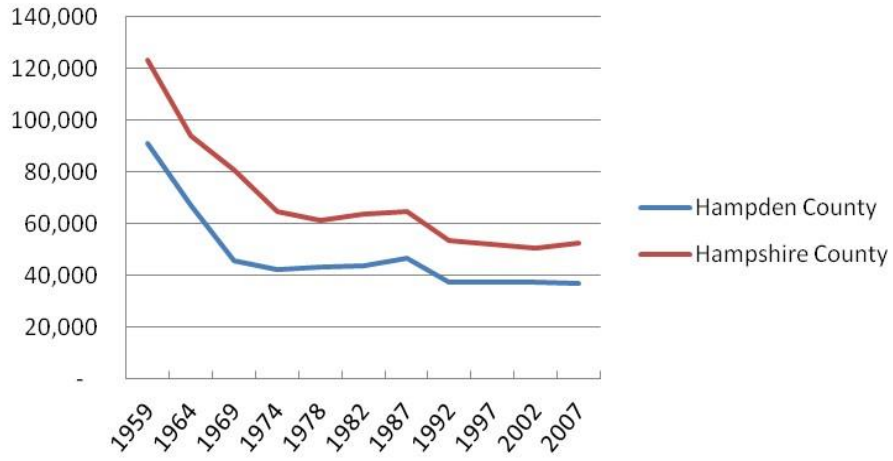
The greatest percentage increases in housing growth in the region have occurred in suburban and rural communities. Source: U.S. Census

Belchertown and East Longmeadow were the top two communities in the Pioneer Valley in terms of the number of additional housing units, adding a combined 1,532 units. These two towns accounted for about 15% of the entire region's new housing units from 2000 to 2010. The number of housing units in Montgomery increased by 33.5%, the fastest growth rate in the region, though it should be noted that in 2010 the Census determined that there were only 343 housing units in the town. Several other rural communities also saw a large percentage of new housing units.

PACE OF AGRICULUTRAL LAND LOSSES SLOWING

Farmland acreage in the Pioneer Valley substantially declined from the late 1950's to the 1990's, with most of the losses occurring by the late 1960's, according to the USDA Agricultural Census. During the past twenty years, Hampden County has held steady between 36 and 37, 000 acres of farmland, while Hampshire County has held steady at around 52,000 acres. More recently, between 2002 and 2007, Hampshire County has experienced modest gains in farmland.

Figure 1-6: Acres in Farming Use in the Pioneer Valley 1960 to 2007

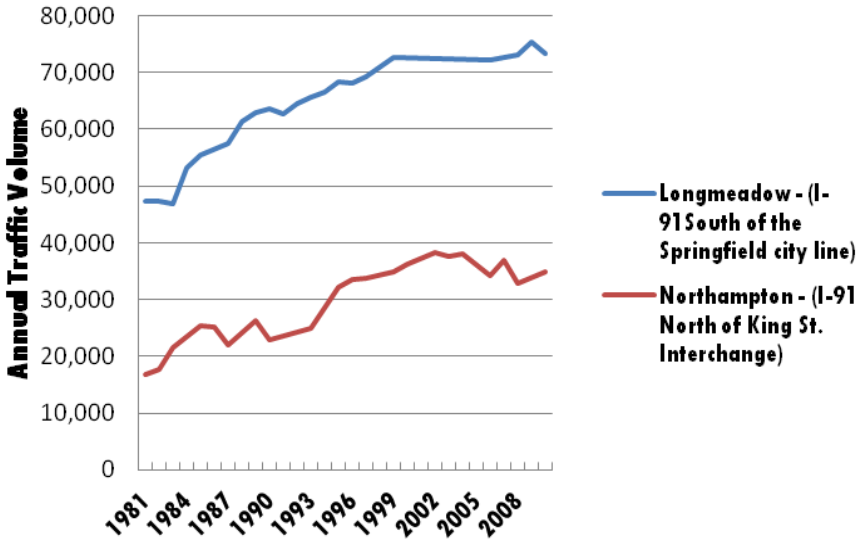


The region's farmland acreage has stabilized over the past decade, after several decades of steep declines. SOURCE: USDA Agricultural Census

INCREASING VEHICULAR TRAFFIC VOLUMES

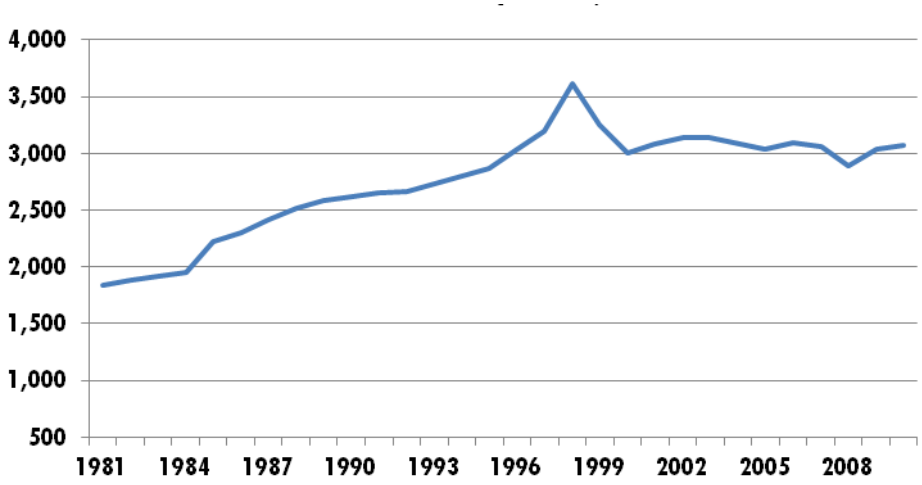
Between 1981 and 2010, two major segments of I-91 experienced significant increases in annual traffic volume. Traffic on the Longmeadow segment (south of the Springfield city line) increased 55% during this period, while traffic on the Northampton segment (north of the King St. interchange) grew 109%. These increasing traffic volumes are occurring at the same time that growth has shifted to suburban and exurban communities, suggesting a strong correlation between sprawl, increasing vehicle miles traveled, and traffic volumes.

Figure 1-7: Traffic Volumes on I-91 from 1981 to 2010



Rural routes also saw a significant increase in traffic volume during this period – Route 112 in Huntington (south of the Route 66 and 112 intersections) had a 67.3% increase in volume. The pattern of sprawl and increasing traffic affects even the region's rural communities.

Figure 1-8: Traffic Volumes on Route 112 1981 to 2010



Traffic volumes on Route 112 in Huntington have nearly doubled over the past 30 year, another indication of rural growth impact.

REGISTERED VEHICLES PER PERSON

Another indicator of the region's increased driving is the steady increase in the number of registered vehicles per person, especially in outlying communities. Like the increase in housing units, the communities with the largest increases in the number of registered vehicles per person were nearly all exurban and rural. Montgomery (.70), Goshen (.54), Plainfield (.51), and Tolland (.50) were the four

communities with the largest increases. Over the past 20 years, the Pioneer Valley region as a whole increased the number of vehicles by .35 vehicles per person.

Table 1-1: Changes in Number of Registered Vehicles Per Person 1990 to 2009

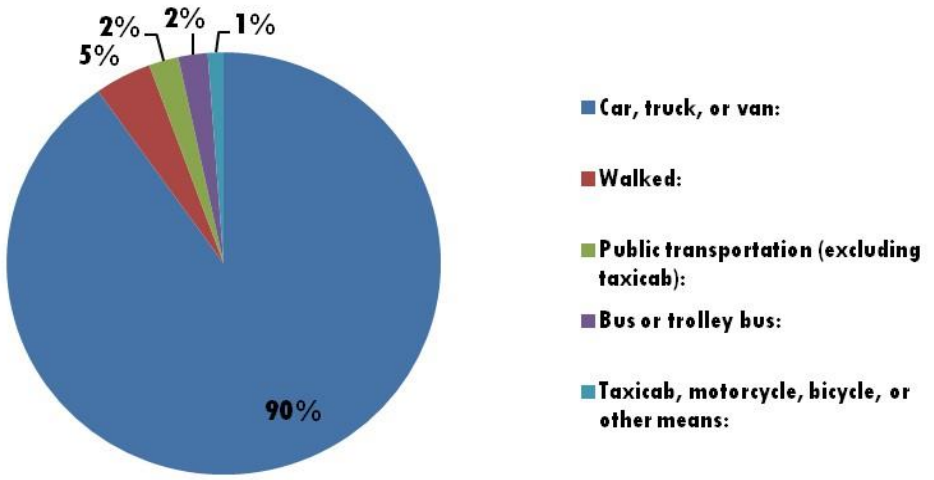
Montgomery	0.70
Goshen	0.54
Plainfield	0.51
Tolland	0.50
Hatfield	0.47
Wales	0.47
Brimfield	0.47
Granville	0.45
Chester	0.45
Huntington	0.45
Westhampton	0.44
Holland	0.44
Williamsburg	0.41
Monson	0.41
Cummington	0.38
Granby	0.37
Southwick	0.37
Belchertown	0.36
Chesterfield	0.36
Blandford	0.36
Middlefield	0.35
Pioneer Valley Region Ave.	**0.35**
Ware	0.34
Hadley	0.34
Southampton	0.32
Russell	0.30
Palmer	0.30
Easthampton	0.28
Hampden	0.28
Agawam	0.27
Pelham	0.27
South Hadley	0.24
Chicopee	0.23
Wilbraham	0.22
Westfield	0.22
Northampton	0.22
Hampden County	0.21
Ludlow	0.21
Massachusetts	0.20
Holyoke	0.18
East Longmeadow	0.18
Longmeadow	0.16
Springfield	0.16
West Springfield	0.14
Worthington	0.11
Amherst	0.09

Over the past twenty years, the number of registered vehicles has steadily increased, an additional indicator of the need for more travel due to sprawl. Source: Mass. Dept of Revenue 2012.

TRAVEL MODE

The vast majority of commuters (92.2%) in the Pioneer Valley drive an automobile as their means of transportation. Only 4.3% walk to work, while 4.5% use either a bus or some other form of public transportation.

Figure 1-9: Travel Mode to Work in Pioneer Valley

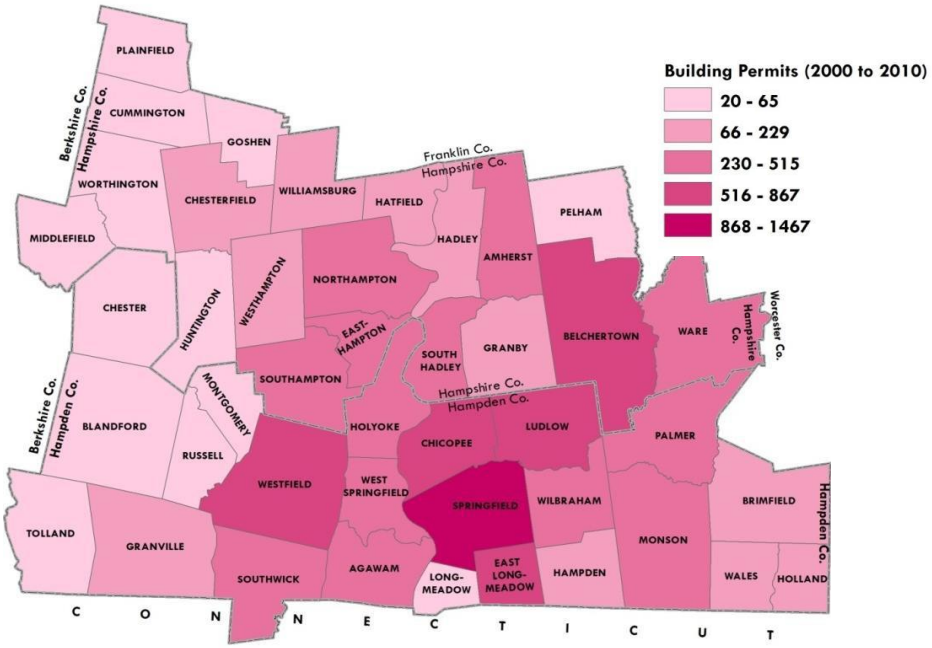


An overwhelming majority of the region's residents (90%) travel to work by car or truck.
Source: 2007-2011American Community Survey 5-Year Estimates

BUILDING PERMITS HIGH IN SUBURBAN COMMUNITIES

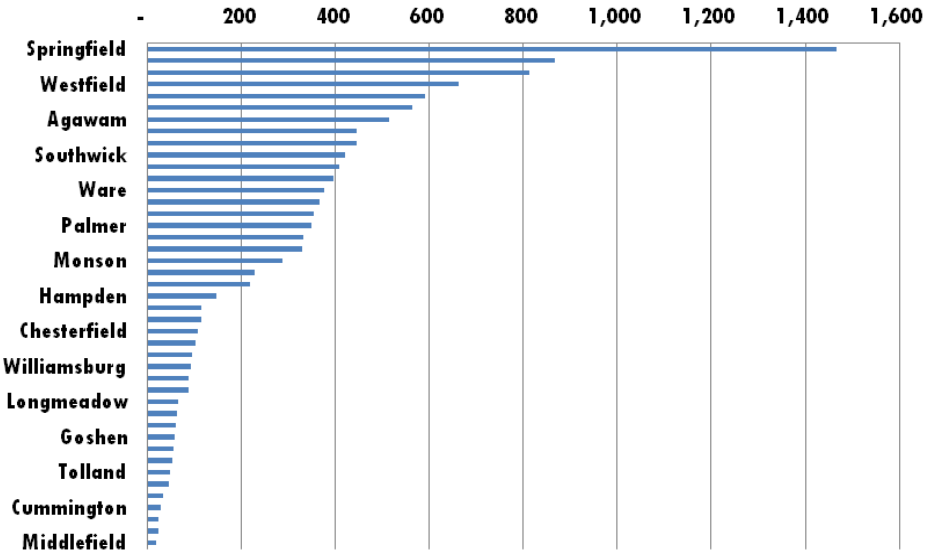
While Springfield (1,467) had the most number of building permits issued between 2000 and 2010, several of the suburban communities also saw a large number of permits issued, including East Longmeadow (867), Belchertown (812), Westfield (662), Ludlow (590) and Agawam (515).

Figure 1-10: Building Permits Issued by Pioneer Valley Municipalities 2000 to 2010



Springfield led the region in building permits issued, but many suburban communities, including Belchertown, E. Longmeadow, Ludlow and Agawam ranked near the top.

Figure 1-11: Building Permits Issued by Pioneer Valley Municipalities 2000 to 2010



2. INTEGRATING LAND USE AND TRANSPORTATION PLANNING

A key goal of Valley Vision 4 is to identify themes and policies that are shared with the region's principle comprehensive transportation planning document, the Regional Transportation Plan, most recently adopted by the Pioneer Valley Metropolitan Planning Organization (PVMPO) in 2012. This section presents an analysis of the common aspects of both plans to improve existing processes, and develop new ones if necessary, to better integrate regional land use and transportation planning and prioritize implementation actions that achieve more sustainable outcomes.

STRATEGIC INTERSECTIONS: COMPARING THE PLANS

Land use and transportation planning are highly related activities. Transportation has a direct effect on land development patterns; likewise, land use decisions about housing and commercial development exert influence on mobility options and travel habits. Unplanned decisions about land use and transportation can result in the inefficient use of energy and resources, stunted economic growth and environmental degradation.

To better understand common land use and transportation themes and goals in the region, an analysis of the region's existing comprehensive land use plan (Valley Vision) and its adopted Regional Transportation Plan (2012) has been performed to identify areas of strategic intersection in policy and practice. Ten common topic areas were identified and are presented below with references and excerpts from each plan shown side-by-side to indication areas of policy overlap.

In summary, the two plans display a relatively high degree of consistency and share many policy goals. Notable among these are support of the Commonwealth's GreenDOT program; environmental protection measures, especially those to mitigate stormwater runoff impacts; and focusing growth in areas with adequate infrastructure to support it.

Topic 1: Consistency with Commonwealth of Massachusetts Sustainability Principles	
Land Use (VV 2011)	**Transportation (RTP 2012)**
Goal 1: Incorporate and implement the principles of smart growth and sustainability within our regional and local plans Smart Growth / Smart Energy Agenda Preservation of open space.	Foster and implement GreenDOT principles Promote transit oriented development. Encourage telecommuting and video conferencing. Utilize narrower road widths for local roads where appropriate. Invest in the repair and maintenance of existing transportation infrastructure. Refer new projects to Valley Vision Toolbox. Develop ordinances and bylaws that encourage mixed use and high density forms of development where appropriate.

Topic 2: Intermodal and Multi-modal Transportation	
Land Use (VV 2011)	**Transportation (RTP 2012)**
Goal 9: Support a coordinated, multi-modal, environmentally sound transportation system which moves people and goods safely, dependably, and efficiently. Bike/pedestrian network "Smart Parking" Integrate transit in town/urban centers	Provide accommodations for pedestrians, transit users, and bicyclists in roadway/bridge design and maintenance of existing facilities. Implement communications and ITS technologies to improve public safety, security. Implement real-time passenger and travel information systems. Promote the Safe Routes to School program. Seek innovative methods to increase transit use, including express routes and flex vans. Promote the implementation of bicycle lanes where practical. Identify locations for park and ride lots and supporting express transit service. Develop incentives to encourage businesses to use a mix of freight transportation alternatives.

Topic 3: Parks, Trails, Open Space, Access	
Land Use (VV 2011)	**Transportation (RTP 2012)**
Goal 2, Strategy 4: Provide public access to parks, open space, trails, and similar facilities for purposes of healthy exercise and recreation. Work with neighboring communities to establish regional greenways, bikeways and trails.	Support urban forestry initiatives. Support bikeways, greenways and pedestrian trails.

Topic 4: Focusing growth in areas with adequate infrastructure	
Land Use (VV 2011)	**Transportation (RTP 2012)**
Goal 2, Strategy 2: Promote grouping of homes on small lots and permanently protect open space. Goal 3, Strategy 1: Promote redevelopment of lands with access to existing infrastructure. Goal 3, Strategy 2: Provide adequate infrastructure and promote new development within these identified	Properly mitigate the adverse impact of sprawl by promoting development through the use of permitting and zoning measures. Develop transportation facilities to support and promote smart growth in and around existing city and town centers.

Topic 5: Intergovernmental cooperation	
Land Use (VV 2011)	**Transportation (RTP 2012)**
Goal 4: Encourage the coordination, cooperation, and collaboration among units of government.	Implement Hazard Mitigation Plans

Topic 6: Enhance and Strengthen Commercial and Industrial Centers	
Land Use (VV 2011)	**Transportation (RTP 2012)**
Goal 6, Strategy 2: Control commercial strip development and cluster new commercial development to minimize automobile dependency and promote non-auto transportation.	Promote transit oriented development. Create incentives for downtown revitalization.

Topic 7: Environmental Protection	
Land Use (VV 2011)	**Transportation (RTP 2012)**
Goal 8, Strategy 2: Protect environmental quality and prevent pollution Adopt municipal policies for Green Streets Adopt municipal road repair policies on Combined Sewer Outflow (CSO) abatement	Monitor congested areas using the regional Congestion Management Process (CMP). Manage roadway runoff using stormwater Best Management Practices, such as dry swales. Restore or maintain connected habitats that allow for movement of fish, water, and wildlife. Expand use of permeable pavements on sidewalks, paths, car-parks, and minor roads. Designate wild and scenic corridors along highways and streams of historic and natural significance. Mitigate impacts of roadway salt and chemical usage during snow season. Construct roads without curbing where practical to enable sheet flow.

Topic 8: Energy Efficiency and Conservation	
Land Use (VV 2011)	**Transportation (RTP 2012)**
Goal 11: Maximize energy efficiency and renewable energy opportunities in the region	Implement the Regional Clean Energy Plan. Encourage local municipal fleets to use clean fuel alternatives. Promote energy efficient travel modes. Advance and promote the use of alternatively fueled vehicles. Work with major employers to develop incentives to cut single occupant vehicle use. Utilize energy efficient lighting and solar panels in new facilities. Enforce idling reduction programs in major activity centers. Explore energy generation through solar paving slabs for new sidewalk projects.

Topic 9: Equity	
Land Use (VV 2011)	**Transportation (RTP 2012)**
Goal 12: Advance equity throughout local and regional land use and development decision making processes.	Provide an equitable transportation system that considers the needs of and impacts on low-income, minority, elderly and disabled persons. Place greater emphasis on health-related impacts of transportation projects, particularly those on environmental justice populations, need to receive greater consideration in transportation planning. Maintain equity in providing transportation services and access throughout the region. Create a public involvement process that identifies a strategy for engaging minority and low-income populations in transportation decision making. Institutionalize a planning process for assessing the regional benefits and burdens of transportation system investments for different socio-economic groups.

Topic 10: Economic Productivity	
Land Use (VV 2011)	**Transportation (RTP 2012)**
Identification of priority areas for development: TOD suitable areas Ch. 40R Districts Priority Development Sites (PDS) Renewable Energy Areas Areas suitable for Smart Growth Development Community identified priority development sites Undeveloped land zoned industrial PVTA transit stops	"...advance the economic vitality of the region." (from Vision statement) Maintain a transportation system that promotes and supports economic stability and expansion. Provide and maintain a transportation system that enhances quality of life and improves the social and economic climate of the region. Support economic vitality of metropolitan areas, especially by enabling global competitiveness, productivity, and efficiency.

3. TRANSIT-ORIENTED DEVELOPMENT

Up until the 1950s, transit-oriented development, or "TOD," was the typical urban growth pattern in the United States. Homes and businesses were grouped together, sometimes in the same building. Development was within walking distance of public transportation, usually a passenger rail station, trolley line or bus stop. During the latter half of the 20th century, however, new interstate highways, mass ownership of automobiles and suburban land development policies dramatically altered this traditional approach to community growth. But in recent decades as land costs, energy prices and commuting distances have begun to influence the real estate market, TOD is making a comeback in many areas of the country.

PROMOTING TRANSIT-ORIENTED DEVELOPMENT

Planning for development around transit stations in the region is essential in the coming years. The Knowledge Corridor region (which consists of the Pioneer Valley and the greater metro area of Hartford, Connecticut) will see $1.53 billion in new transit investment during the coming decade for several projects, including the redevelopment of Springfield's Union Station (at right, to open in 2014); New Haven-Hartford-Springfield (NHHS) commuter rail project (scheduled to begin service in 2016); the Vermonter realignment project between Springfield and Vermont with restored stations in Holyoke and Northampton (expected 2013); and the CTfastrak bus rapid transit service between New Britain and Hartford (scheduled to open in 2014). These significant transportation investments offer a rare opportunity for Knowledge Corridor communities to leverage other regional assets to support development and economic growth around transit facilities.

This section of the Land Use Element Plan summarizes two other TOD planning projects that are being performed as part of the Transportation Plan of the Sustainable Knowledge Corridor Project:

A regional analysis of sites within the Pioneer Valley to better understand where new TOD efforts would be most suitable.

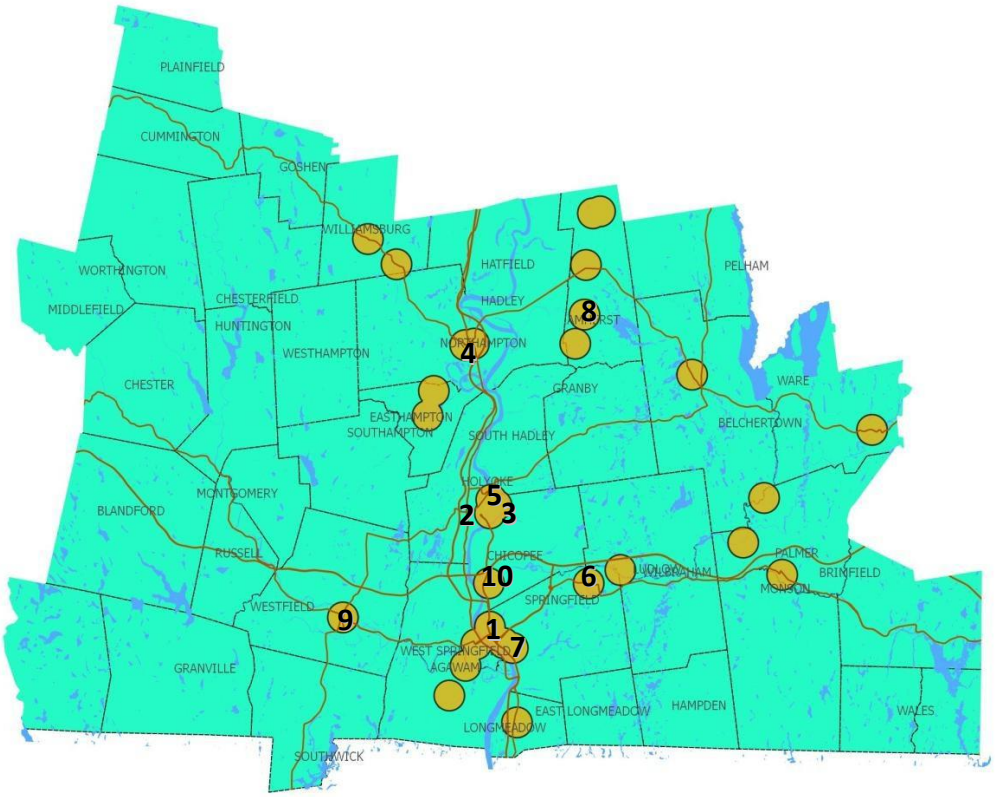
A TOD real estate market analysis that looks at the 10 Knowledge Corridor passenger rail stations in Massachusetts and Connecticut with new or increased Amtrak and commuter rail service and the 11 CTfastrak bus rapid transit stations between New Britain and downtown Hartford.

PIONEER VALLEY REGIONAL TOD SITE SUITABILITY ANALYSIS

An ongoing component of the Sustainable Transportation Element Plan is an analysis of the level and type of development transit can support in the Pioneer Valley region. The PVPC has developed a process to build upon existing regional plans, such as Valley Vision and the Plan for Progress, to identify a series of potential sites for Transit Oriented Development (TOD) demonstration projects.

An alternatives analysis of 30 candidate regional sites that have the potential to support TOD sites has been performed to identify the TOD merits of each location. This analysis involved a wide range of quantitative and qualitative measures with the involvement of a regional advisory committee. Information evaluated included detailed demographics (especially on Baby Boom and Generation Y age cohorts), existing levels of transit service, known transportation needs, and potential to support TOD.

Figure 3-1: Candidate TOD Sites in Pioneer Valley and Top 10 Suitability Ranking



1. Springfield -- Main Street
2. Holyoke Trans. Center (206 Maple St)
3. Holyoke City Hall area
4. Northampton -- Downtown
5. Holyoke Canal Walk/HPC
6. Springfield – State Street at Mason Square
7. Springfield – South End
8. Amherst Center
9. Westfield Center
10. Chicopee Center

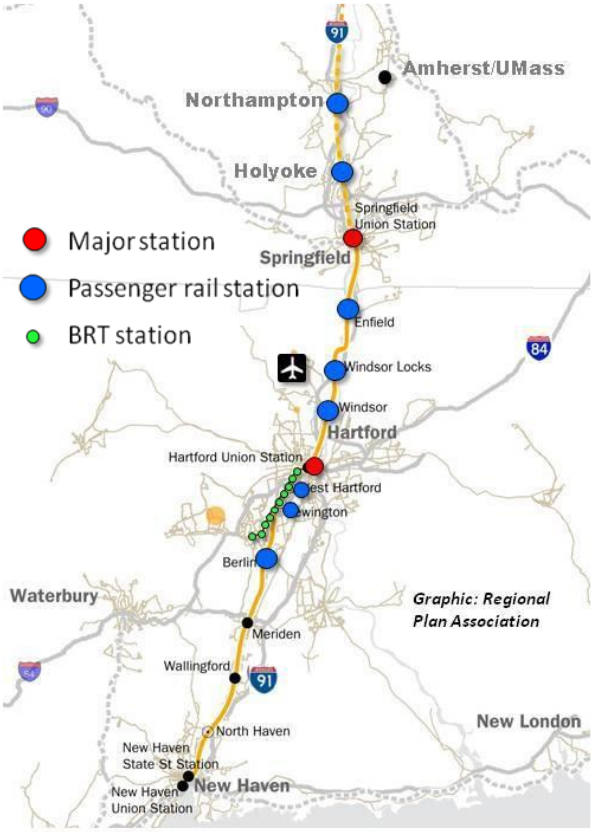
One of the leading sites will be chosen for a more detailed analysis geared towards the implementation of TOD in the future. Specifically, ridership surveys will be conducted along PVTA routes that are anticipated to be impacted by the proposed site to identify how proposed transit route modifications might impact existing ridership. In addition, an assessment of the location and condition of existing sidewalks in the vicinity of the proposed site will be conducted to identify key maintenance projects to maintain a safe walking environment. A series of short and long term recommendations will be developed based on the results of the analysis to assist in fostering economic development, advance projects that address congestion and pedestrian needs, and identify performance measures that can assist in monitoring effectiveness.

KNOWLEDGE CORRIDOR REGIONAL TOD REAL ESTATE MARKET ANALYSIS

The Knowledge Corridor Regional TOD Real Estate Market Analysis is an implementation-oriented project to assess and provide realistic expectations of what level and type of development may be supported near the 10 new or improved passenger rail stations and 11 CTfastrak bus rapid transit in the Knowledge Corridor. The study includes broad regional economic analysis, corridor level review and identification of station area types.

The broad goal is to improve understanding of the individual transit oriented development (TOD) opportunities that exist and how they may best fit into the regional economic context. The TOD market analysis is an implementation-oriented effort that is identifying the types of TOD investments that are likely to attract and retain homeowners, renters and commercial property owners within walking distance of these stations.

For each station type, the analysis proposes strategies that can be initiated at the state, regional and local levels to support desired development. Key emerging strategies include the active engagement of major educational and medical anchor institutions in TOD planning, the creation of TOD zoning districts, streetscape inventories and bike/pedestrian enhancements, and land banking.



4. BI-STATE REGIONAL LAND USE PLAN COMPATIBILITY

The purpose of this section is to compare the recommendations of PVPC's ***Valley Vision*** land use plan with the similar plan for the Hartford, Connecticut region, the Capitol Region Council of Governments plan, ***Achieving the Balance: A Guide to the Region's Future***. PVPC and CRCOG are working closely together to address issues of bi-state concern as part of the ***Sustainable Knowledge Corridor*** project. This project recognizes that the Knowledge Corridor transcends state boundaries, that the Pioneer Valley region and the Capitol region are inherently and strongly linked, and that the economic and land use futures of the linked regions will benefit from collaborative planning.

COMPARISON OF PVPC AND CRCOG LAND USE PLANS

A comparison of the CRCOG and PVPC land use plans illustrates the strong similarities and consistency in the goals and strategies of the two plans.

GOALS

Both plans include very similar goals to guide growth and development to existing city, town and regional centers utilizing existing infrastructure. The regions should promote urban revitalization and infill, remediation and reuse of brownfields and encourage multi-modal transportation.

The land use plans encourage making wise land use decisions by utilizing zoning and development regulations that address local and regional land use concerns and are consistent with community and regional master plans. Development should be designed to enhance a community's character, maximize the quality of life of its residents, and support a growing and diversified economy.

There is also consistency between the two plans in supporting the protection of more open space, working farms and other important agricultural lands through the coordination and prioritization of open space preservation efforts throughout both regions, including expanding and protecting open space along the Connecticut River corridor. Growth and development should be in harmony with natural resources, and should protect, restore and enhance our region's air, water and other key environmental assets.

There are no conflicting goals in the two plans. The specific goals of the two plans are compared in the matrix that follows.

STRATEGIES

Both regional land use plans include very similar strategies to meet similar goals, although the strategies in PVPC's ***Valley Vision*** plan are more specific and detailed. Both plans encourage use of zoning tools to achieve plan goals of promoting more compact growth in and around existing developed centers, while protecting farmland, open space and natural resources.

Revitalizing the urban core areas and downtowns by encouraging residential, commercial, and industrial development in areas where adequate infrastructure is already available has been identified in both plans as a major regional need. This can be accomplished by promoting compact mixed use community centers, infill development and encouraging Traditional Neighborhood Developments (TND). Housing opportunities can be expanded through the use of accessory apartments, inclusionary zoning and providing incentives for home ownership and mixed income housing to stabilize neighborhoods in core cities.

Both CRCOG and PVPC will work with local communities in assessing and updating their zoning and development regulations to ensure that wise land use decisions are being made. As an example, applying commercial development performance standards and encouraging the sustainable design of buildings and projects can help address problems of suburban sprawl and urban decline.

Intermunicipal and intergovernmental compacts can be utilized to promote regional cooperation in addressing regional issues, protect and restore regional environmental resources and accommodate development opportunities of region wide significance.

Farm and farmland protection, a high priority in both plans, can be accomplished by adopting Transfer of Development Rights (TDR) bylaws or ordinances, working with local land trusts for farmland preservation, promoting local farmers markets and establishing Right-to Farm districts. Both plans strongly support cluster subdivisions and advocate for consistency of local zoning regulations with municipal, regional, and state plans of conservation and development to preserve open space and community character.

Our region's air, water and other environmental assets can be protected and restored by community's adopting a wide variety of bylaws, ordinances and regulations. These can include water supply protection zoning, stormwater management and floodplain bylaws, low impact development standards and smart growth transportation measures to reduce greenhouse gases. The remediation and reuse of brownfields can be advanced by supporting local efforts to identify, prioritize, remediate, market and redevelop contaminated sites. Federal and state funding for site assessments and clean-up can be identified and applied for, and additional funds advocated for. Industrial uses should be encouraged, by offering tax and zoning incentives, to re-use existing buildings and sites rather than developing greenfields.

There are no conflicting strategies in the two plans. The specific goals and strategies of the two plans are compared in the matrices that follow.

GOALS	
CRCOG's ***Achieving the Balance*** plan identifies the following goals for land use, zoning, opens space and farmland preservation, and natural resource conservation:	PVPC's ***Valley Vision*** plan identifies these similar land use and zoning goals:
#1 - Land use and zoning: Guide growth to regional centers and areas of established infrastructure Increase redevelopment and infill development efforts Revise zoning and subdivision regulations to address local and regional land use concerns	*#1: Land Use Planning* Use land wisely and in accordance with smart growth principles, making sure that community zoning bylaws or ordinances are consistent with community and regional master plans. *#2: Growth Impacts and Community Character* New development is designed to enhance community character, maximize quality of life, and support a diversified economy. *#3: Revitalization of City and Town Centers* City and town centers are the vibrant focus of community life and commerce. *#4: Residential Development* Residents have a choice of housing they can afford in compact pedestrian and bicycle friendly neighborhoods. *#5: Commercial and Industrial Development* Our existing commercial and industrial centers are revitalized. *#7: Transportation* A coordinated, multi-modal, environmentally sound transportation system which moves people and goods safely, dependably, and efficiently. *#8: Infrastructure* We build and maintain needed infrastructure, striving to promote smart, sustainable development.

GOALS (continued)	
CRCOG's ***Achieving the Balance*** Plan	PVPC's ***Valley Vision*** Plan
#2 - Open space and farmland preservation: Support protection of more open space in the Capitol Region Encourage preservation of farmland in the Capitol Region Encourage preservation of declassified water company land as open space Coordinate and prioritize open space preservation throughout the region Expand and protect open space along major rivers	*#9: Farmland Preservation* Goal: Working farms and important agricultural lands are preserved and sustained.
#3 - Natural resource conservation: Protect air, water, and soil quality in the region Grow and develop in harmony with natural resources Promote active natural resource stewardship	*#6: Environmental Quality* Protect, restore and enhance our region's key environmental assets.

STRATEGIES

CRCOG's ***Achieving the Balance*** plan identifies the following land use and zoning strategies:	PVPC's ***Valley Vision*** plan has very similar goals to the CRCOG plan, but includes more detailed strategies to achieve these goals:
GOAL: guide growth and development to existing city, town and regional centers utilizing existing infrastructure, promoting urban revitalization and infill, and encouraging multi-modal transportation.	
CRCOG	**- STRATEGIES - PVPC**
Encourage residential, commercial, and industrial development in areas where adequate infrastructure is available. Discourage residential and commercial development in areas that are out of scale relative to the character and capacity of those areas. Support policies that revitalize and strengthen Hartford and other core areas of the region. Support redevelopment in urban as well as rural areas already served by infrastructure. Increase the number and size of mixed-use zones in community and regional centers.	*Strategy #1: Encourage Traditional Neighborhood Developments (TND). Tools:* • TND and TOD zoning bylaws or ordinances • TND subdivision regulations *Strategy #2: Promote Compact, Mixed Use Village Centers. Tools:* • Mixed use commercial zoning • Density-based zoning incentives • Retrofit suburban shopping centers *Strategy #3: Revitalize Urban Core Areas and Downtowns. Tools:* • Downtown zoning to promote mixed uses and infill development • Zoning for downtown residential uses • District Improvement Financing (DIF) • Business Improvement Districts • Economic Target Areas/Tax Increment Financing • Main Street Programs • Standards for design, landscaping and streetscape • Improve urban parks and green spaces • Recycle underutilized city land • Encourage government or private institutions to locate downtown • Incentives to reduce costs for rehabilitation of older buildings for mixed use and housing

	Strategy #5: Improve Housing Opportunities and Neighborhood Quality. Tools: • Accessory apartment bylaws or ordinances • Inclusionary zoning bylaws or ordinances • Elderly and handicapped zoning bylaws or ordinances • Zoning for limited commercial use in neighborhoods • Incentives for home ownership and mixed income housing to stabilize neighborhoods in core cities • Use of Community Preservation Act funds to construct or repair affordable housing, or to rescue expiring affordable units • Parks and recreation areas in neighborhoods
GOAL: making wise land use decisions by utilizing zoning and development regulations that address local and regional land use concerns	
CRCOG	**- STRATEGIES - PVPC**
Support intermunicipal and regional cooperation on development opportunities of region-wide significance. Encourage and assist municipalities in reexamining zoning policies that contribute to problems of suburban sprawl and urban decline and in efforts to rezone, revitalize and market urbanized areas. Assist municipalities in efforts to rezone and revitalize urbanized areas. Encourage revision of commercial zone regulations, especially in community centers, to allow more human-scale, pedestrian friendly and context sensitive development. Continue outreach efforts to solicit wider citizen participation in community and regional visioning and planning.	*Strategy #11: Control Commercial Strip Development. Tools:* • Commercial development performance standards • Split highway business zones into specific use districts • Create a building streetline with pedestrian features • Planned business village zoning *Strategy #12: Improve Infrastructure in Urban Areas and Limit Infrastructure Expansions. Tools:* • Policies to limit sewer and water extensions • Targeted state and federal funding for infrastructure improvements *Strategy #13: Encourage Sustainable Design. Tools:* • Incentives for energy efficient buildings and those that are heated and powered by clean energy • Promotion of clean, renewable energy on municipal, commercial, and residential buildings and land

GOAL: making wise land use decisions by utilizing zoning and development regulations that address local and regional land use concerns (continued)	
CRCOG	**- STRATEGIES - PVPC**
	• Green building construction and certification • Development of eco-industrial parks • Zoning bylaws to encourage solar access, require energy efficiency standards, and use native plants in landscaping to reduce water use • Expedited permitting for green development *Strategy #14: Overhaul Antiquated State and Local Zoning Laws. Tools:* • State land use regulatory reform • Reduced lot size and dimensional requirements in urban and village centers • Adoption of smart growth zoning tools, such as mixed use districts, TND, and TDR. • Adoption of smart growth zoning districts *Strategy #15: Promote Regional Solutions to Growth Problems. Tools:* • Regional or county gas or sales tax to fund regional issues such as open space protection and river clean-up • Intergovernmental compacts to address regional issues or protect or restore regional resources such as aquifers, greenbelts, rivers, and mountains • Commonwealth Capital incentives for regional Plan adoption and cooperation *Strategy #16: Assist Small Towns in Addressing Unique Growth Problems. Tools:* • Part-time Planning Board assistance on regional basis • Assistance with grants, and Commonwealth Capital

GOAL: supporting the protection of more open space, working farms and other important agricultural lands

CRCOG	- STRATEGIES -	PVPC
Encourage the preservation of farmland and open space as a balance to necessary residential and commercial development. Support modification of street design and sidewalk regulations to encourage pedestrian and bicycle uses. Strongly support cluster subdivisions, where appropriate, to preserve open space and community character. Advocate for consistency of local zoning regulations with municipal, regional, and state plans of conservation and development.		*Strategy #4: Develop Incentives for Cluster Development. Tools:* • By-right Cluster zoning bylaws and ordinances *Strategy #7: Preserve Farmlands and Support Farm Businesses. Tools:* • Transfer of development rights bylaws or ordinances • Local land trusts for farmland preservation • Technical assistance to farm businesses • "Omnibus" state farm retention legislation • Regional year-round farmers market • Local agricultural commissions • Right-to-Farm districts • Tax benefits for farmers *Strategy #8: Establish Greenbelts and Blueways for Open Space Protection. Tools:* • Adopt Community Preservation Act • Wetland protection overlay zoning • River protection overlay zoning • Scenic upland overlay zoning • Dedication of parkland in new developments • Public access areas on waterfronts • Regional open space coordinator • Create regional open space funding pool *Strategy #9: Build an Intermodal Pedestrian Bicycle and Transit Network. Tools:* • Build regional trail system • Develop bicycle amenities • Create bike lanes • Park and ride lots • Re-establish commuter rail links • Traffic calming measures • Improve public transit with links to intermodal centers • Required bicycle and pedestrian amenities in new developments • Pedestrian-friendly street design standards

GOAL: protect, restore and enhance our region's air, water and other key environmental assets and remediation/reuse of brownfields		
CRCOG	**- STRATEGIES -**	**PVPC**
Support local efforts to identify, remediate and redevelop contaminated sites (brownfields). Encourage increased state and federal funding to address local contamination cleanup.		*Strategy #6: Redevelop Brownfields. Tools:* • Prioritize and market brownfields sites • Federal and state seed funding for site assessments and clean-up • Tax and zoning incentives for redevelopment • Discourage greenfields development for Industrial uses and encourage re-use of existing buildings and sites *Strategy #10: Protect Environmental Quality and Prevent Pollution. Tools:* • Water supply protection overlay zoning • Stormwater bylaws • Intergovernmental water compacts • Low impact development • Zoning bylaws for floodplains, steep slope, environmentally sensitive areas • Reduce greenhouse gas emissions from transportation through smart growth

5. ADVANCING EQUITY AND ENVIRONMENTAL JUSTICE

Appropriate land use planning is critical in the development of equitable communities. Environmental justice has come to be closely associated with equity, especially in planning processes. It originated in several cities around the U.S. during the 1960s and 70s in the actions of low-income and ethnic minority residents concerned about the adverse health and social consequences of large interstate highway projects and other transportation facilities in or near urban neighborhoods without appropriate mitigation of environmental impacts, such as air pollution, noise and traffic (hence the name "environmental justice").

Formal principles of equity and environmental justice in planning are generally acknowledged to have first been codified in Title VI of the Civil Rights Act of 1964, which prohibits discrimination in projects supported with federal funds. Presidential Executive Order 12898 of 1994 established environmental justice guidelines for the development of EJ policies by federal agencies, primarily those engaged in planning for transportation and housing.

A community outreach meeting at Casa Latina in Northampton. Environmental Justice includes increasing the participation of people who have previously been left out of planning processes.

While transportation and housing are significant causes of environmental impacts, local and regional land use planning decisions about industrial land use are critical to environmental justice analysis because industrial areas generally impose a significant environmental burden in terms of pollution impacts and risks (Maantay, 2001). These include adverse air quality leading to higher asthma rates; increased traffic congestion leading to more accidents and poorer air quality; and emissions and releases of toxic materials into the air, soil and water, which may increase rates of cancers and other diseases. Minorities and individuals with a relatively low socioeconomic status are documented to suffer from higher rates of illnesses linked to air pollution exposure, as these groups tend to live closer proximity to air pollution emitters (U.S. EPA, 2009).

This section provides a brief analysis of social equity issues related to land use planning in the Pioneer Valley. Many groups of people have been left out of planning processes in the past, including those with comparatively low incomes, non-white ethnic backgrounds, disabilities, senior citizens and those who are not proficient in English. Therefore, this section also identifies related actions to better engage people who have not been included in land use planning previously.

ENVIRONMENTAL JUSTICE REGULATIONS AND GUIDANCE

The following laws and policies are the general basis for the environmental justice analysis provided in this plan.

Presidential Executive Order 12898 (1994)	**Disproportionate high or adverse health or environmental effects on minority and low-income communities.**
U.S. Civil Rights Act of 1964 Title VI (42 CFR § 2000)	Race, color, or national origin will not be excluded from of denied benefits from any activity or program receiving federal funds.
U.S. Department of Transportation	Avoid, minimize, and mitigate discrimination.
U.S. Department of Housing & Urban Development	Ensuring that environmental and human health is fairly protected for all people.
Federal Highway Administration	Prevent denial of, reduction in or significant delay in receipt of benefits
Commonwealth of Massachusetts	Equitable distribution of environmental benefits/ consequences for all people; Meaningful involvement of all people; public participation in planning and activism

Environmental justice status in the Pioneer Valley is determined under a definition originally adopted by the Pioneer Metropolitan Planning Organization in 2001 and most recently endorsed September 2010. In this region, environmental justice criteria are evaluated at the U.S. Census block group level and defined as meeting either one or both of the following criteria:

Low income: An area with a proportion of people living at or below the federally defined poverty level that exceeds the proportion of people in poverty in the region as a whole, which is 15.4% as of the 2010 Census. The 2010 income thresholds for the federal poverty level are:

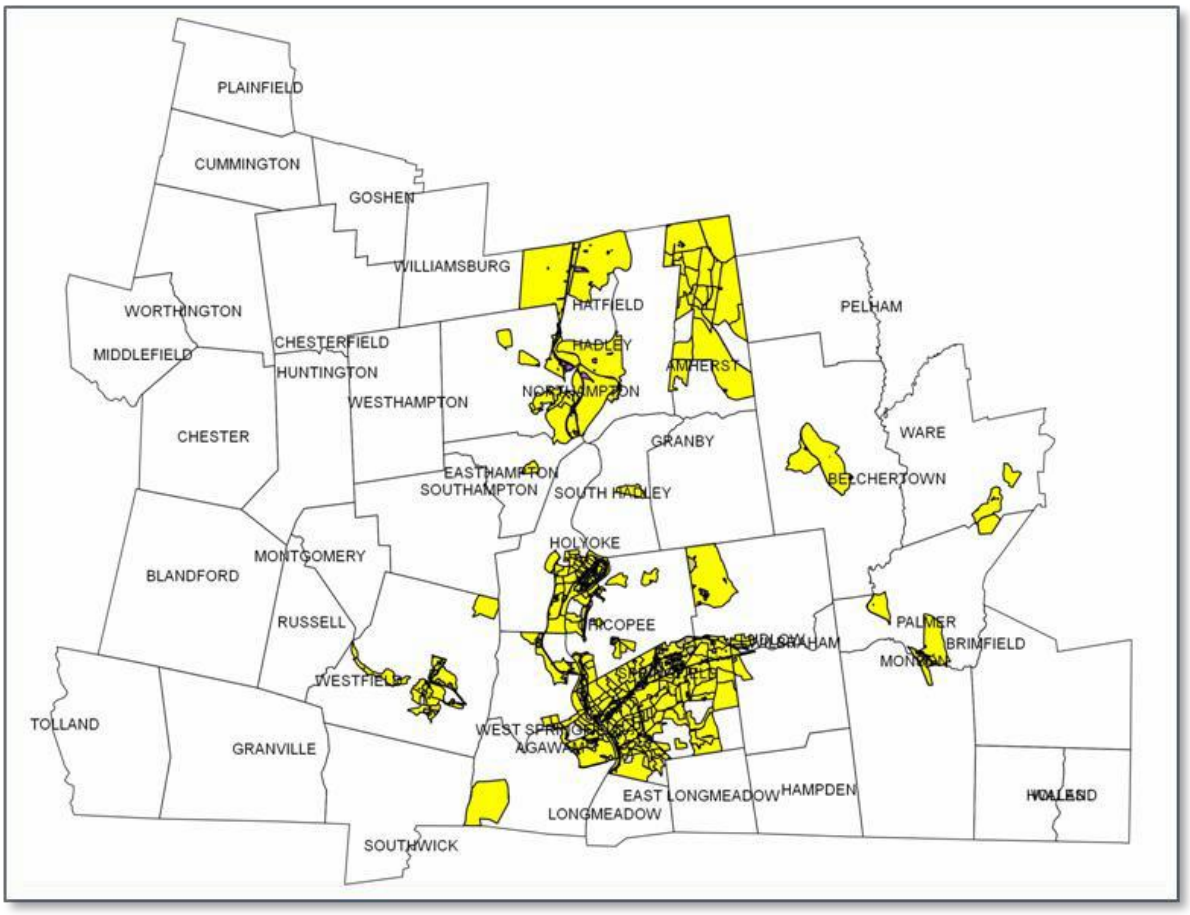
1 person:	$8,500
2 persons:	$10,800
3 persons:	$13,290
4 persons:	$17,000
5 persons:	$20,000

Minority: An area in which the percentage of people with non-white racial minority background is greater than the percentage of people who are minorities in the entire region. The regional average percentages for race (defined by U.S. Census) as of 2010 are shown below.

White alone:	79.61%
Black or African American alone:	7.33%
American Indian/Alaska Native alone:	0.35%
Asian alone:	2.62%
Native Hawaiian/Other Pacific Islander alone:	0.05%
Some other race alone:	7.27%
Two or more races:	2.76%
Total	**100.00%**

The geographic areas meeting either one or both of these criteria, together known as "Environmental Justice" areas, are shown below. EJ areas are 9.3% of the region's total 3.1 million acre land area and are predominantly located in urbanized areas.

Figure 5-1: Pioneer Valley Environmental Justice Areas (Census Block Groups) 2010



Source: U.S. Census 2010 and PVMPO Environmental Justice definition.

ZONING

The Pioneer Valley Regional Housing Plan (PVPC, 2013), a companion plan to this Land Use Plan, provides a comprehensive assessment of land use and zoning issues related to environmental justice communities.

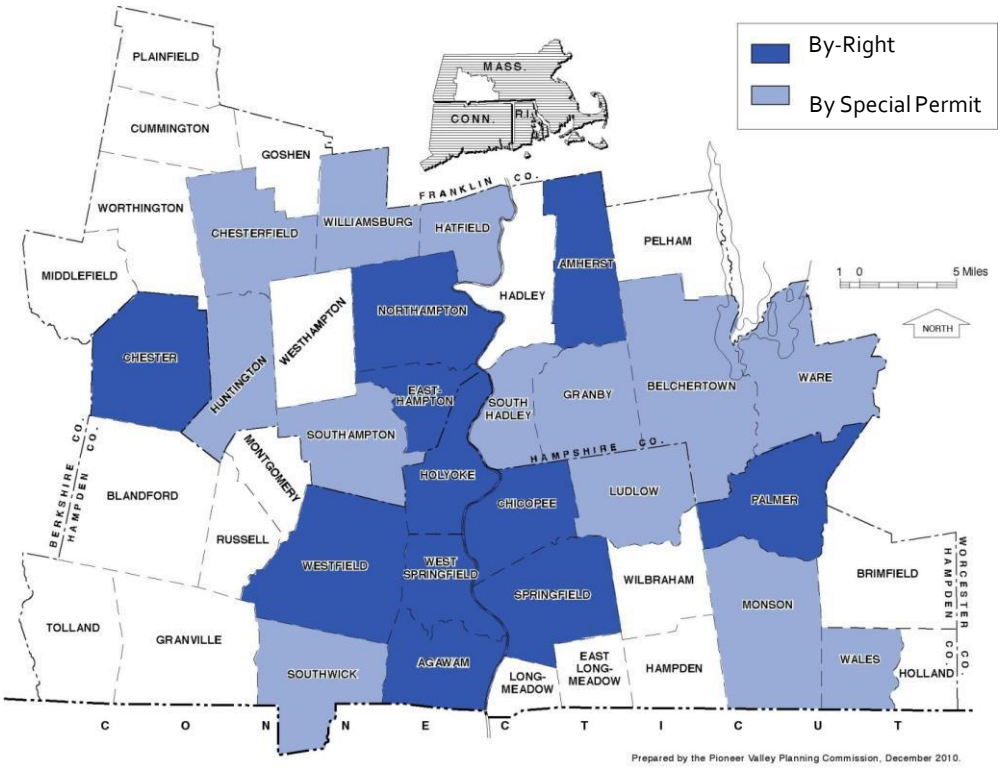
Following is a summary of key zoning-related findings from the Regional Housing Plan:

> About a tenth of the region's single-family detached housing consists of rental structures, though a few small communities in the region have over three-fifths of their rental housing stock as single-family detached homes, such as Blandford, Middlefield, Montgomery, Tolland, Chesterfield, and Westhampton. All of these communities, with exception of Blandford, have

zoning that discourages or prohibits the construction of housing other than single family homes.

The majority of communities in the region restrict multi-family housing, which is typically the most affordable housing choice for low-income people. In the region, 13 communities allow multifamily housing by-right or through a limited site-plan review process in one or more zoning districts in the community while 11 allow multifamily housing by special permit from the Planning Board or Zoning Board of Appeals in one or more zoning districts in the community, Nineteen communities prohibit multifamily housing (see below).

Figure 5-2: Pioneer Valley Municipalities that Allow Multi-family Housing in One or More Zoning Districts



Source: Pioneer Valley Regional Housing Plan 2013 (Draft)

INCOME INEQUALITY: GINI INDEX

The Gini Index is a summary measure of income inequality, which varies between 0 and 1. A value of 1 indicates perfect inequality where only 1 household has any income. A value of 0 (zero) indicates perfect equality, where all households have equal income. The Gini Coefficient (named for Italian statistician Corrado Gini, who developed the method in 1912) measures inequality among values of a frequency distribution. In the case of personal income levels, the U.S. Census has applied this coefficient to create the "Gini Index."

Income inequality in the region varies by community. Amherst, with a Gini Index score of .53, has the most unequal distribution of income, followed by Longmeadow at .50.

Holyoke and Northampton, both at .48, have a similar score to those of rural and exurban communities, such as Heath (.47) and Hatfield (.46). In general, communities with a Gini Index score below .40 are primarily rural and exurban.

Table 5-1: GINI Index of Income Equality

Amherst	0.53
Longmeadow	0.50
Holyoke	0.48
Northampton	0.48
Hatfield	0.46
Springfield	0.46
Westfield	0.46
Palmer	0.44
Pioneer Valley Average	**0.45**
West Springfield	0.43
Cummington	0.43
Montgomery	0.43
East Longmeadow	0.42
Chicopee	0.42
Worthington	0.41
Southampton	0.41
Tolland	0.41
Pelham	0.40
Hampden	0.40
Huntington	0.40
Ware	0.40
Williamsburg	0.40
Agawam	0.40

Easthampton	0.40
Blandford	0.39
Chesterfield	0.39
Wilbraham	0.39
Hadley	0.39
Belchertown	0.39
Southwick	0.39
Wales	0.39
Granville	0.38
Ludlow	0.38
Chester	0.37
Holland	0.37
Monson	0.36
Plainfield	0.36
South Hadley	0.36
Russell	0.35
Granby	0.35
Goshen	0.34
Brimfield	0.34
Middlefield	0.34
Whately	0.32
Westhampton	0.32

SOURCE: 2006-2010 American Community Survey 5-Year Estimates

POVERTY

The urban core communities of Holyoke (27%) Springfield (21.8%) have the largest proportion of families below the federal poverty thresholds (see page 43), followed by exurban and rural communities of Hatfield (16.6%), Cummington and Ware (both 12.8%).

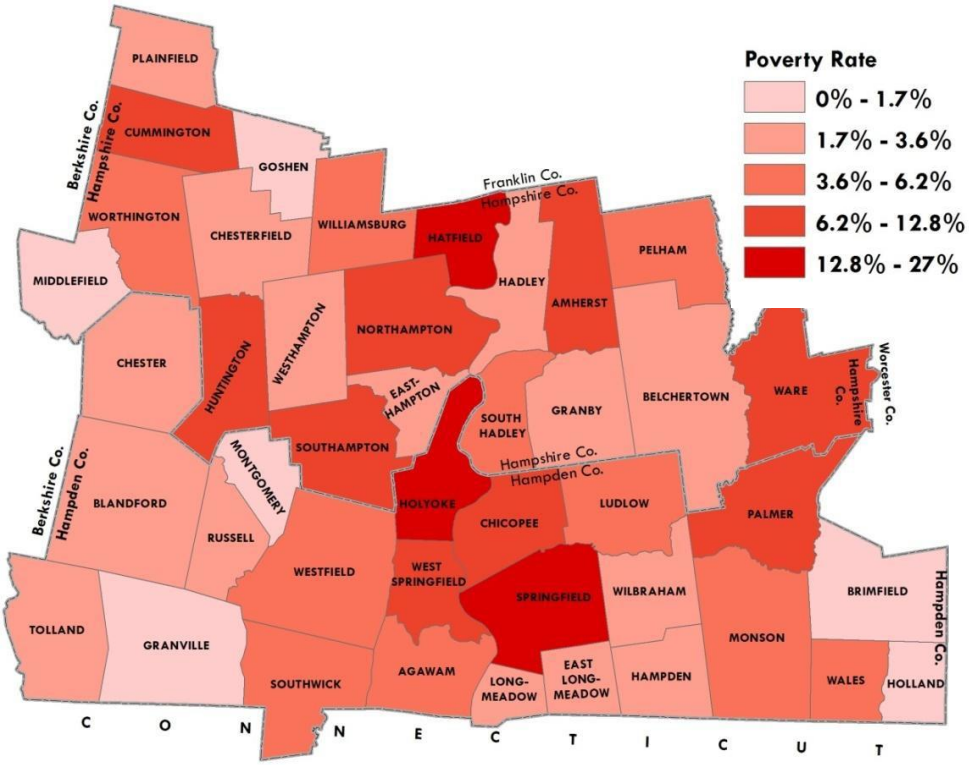
Table 5-2: Proportion of Families Below Federal Poverty Level per year (2007-2011)

Agawam	6.2%
Amherst	9.0%
Belchertown	2.6%
Blandford	2.7%
Brimfield	1.2%
Chester	3.6%
Chesterfield	3.1%
Chicopee	9.8%
Cummington	12.8%
East Longmeadow	2.5%
Easthampton	2.8%
Goshen	0.0%
Granby	3.0%
Granville	0.5%
Hadley	2.0%
Hampden	2.9%
Hatfield	16.6%
Holland	1.5%
Holyoke	27.0%
Huntington	8.1%
Longmeadow	2.2%
Ludlow	4.0%

Middlefield	0.0%
Monson	4.2%
Montgomery	1.7%
Northampton	9.1%
Palmer	7.7%
Pelham	4.7%
Plainfield	3.0%
Russell	3.5%
South Hadley	4.8%
Southampton	7.3%
Southwick	4.2%
Springfield	21.8%
Tolland	2.4%
Wales	4.8%
Ware	12.8%
West Springfield	9.3%
Westfield	5.4%
Westhampton	2.6%
Wilbraham	2.0%
Williamsburg	4.5%
Worthington	3.9%

SOURCE: 2007-2011 American Community Survey 5-Year Estimates. Poverty level established as $10,830 per year for one person, $22,050 per year for family of four. U.S. Department of Health and Human Services Poverty Guidelines Federal Register, Vol. 75, No. 148, August 3, 2010, pp. 45628–45629

Figure 5-3: Proportion of Families Below Federal Poverty Level per year (2007-2011)



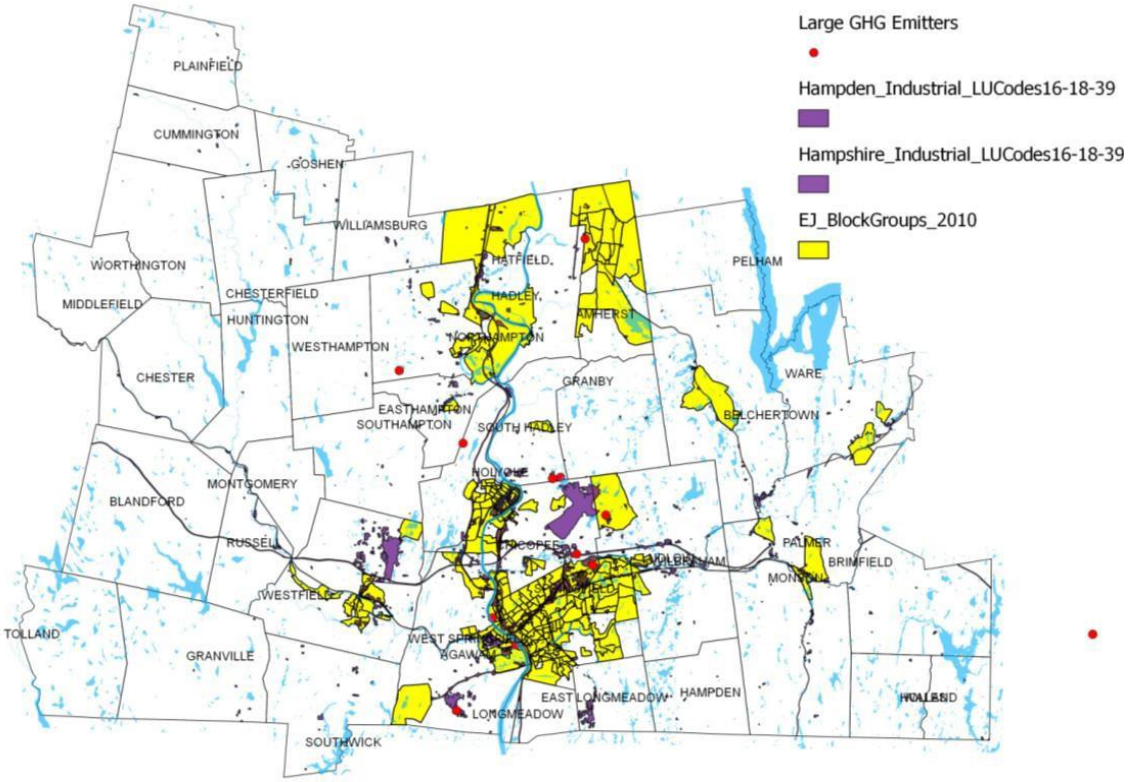
SOURCE: 2007-2011 American Community Survey 5-Year Estimates. Poverty level established as $10,830 per year for one person, $22,050 per year for family of four. U.S. Department of Health and Human Services Poverty Guidelines Federal Register, Vol. 75, No. 148, August 3, 2010, pp. 45628–45629

INDUSTRIAL LAND USES AND ENVIRONMENTAL JUSTICE NEIGHBORHOODS

The locations of industrial land uses are critical to environmental justice analysis because industrial areas generally carry a higher environmental burden in terms of pollution impacts and risks than other land uses (Maantay, 2001).

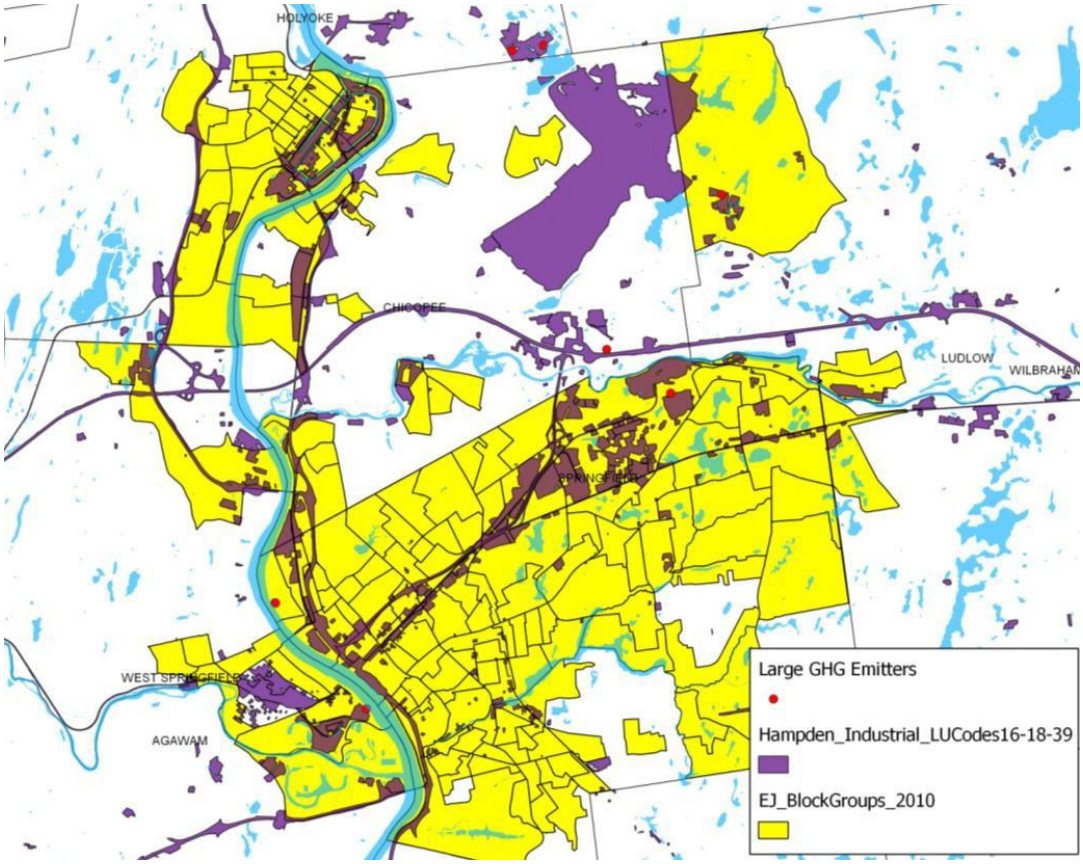
A regional spatial analysis of industrial land uses and environmental justice neighborhoods performed for this plan found that 6.4% of environmental justice census block groups contain land that is classified industrial (MassGIS land use codes 16 manufacturing, 18 industrial parks and 39 junkyards) versus 1.8% for the region as a whole. Environmental justice areas constitute 9.3% of the region's total land area.

Figure 5-4: Industrially Zoned Land in Environmental Justice Census Block Group Areas in the Pioneer Valley 2010



Method and data sources: GIS intersection of 2010 Environmental Justice layers (low-income and minority) with the following MassGIS 2005 Land Use codes 16 "Light and heavy industry, including buildings, equipment and parking areas"; 18 "Transportation: Airports (including landing strips, hangars, parking areas and related facilities), railroads and rail stations, and divided highways (related facilities would include rest areas, highway maintenance areas": and 39 "Junkyard." Note: Large portions of the Town of Amherst are classified as environmental justice due to the relatively low incomes of the large number of students at the University of Massachusetts and other academic institutions in that municipality.

Figure 5-5: Industrially Zoned Land in Environmental Justice Census Block Group Areas in Springfield and Chicopee Areas 2010



This inset of the map on the prior page shows that environmental justice areas of Springfield, Chicopee and Holyoke (in yellow) have significantly greater proportions of industrial land uses (in purple) than non-EJ area. (The large industrial area in the northwest corner of Chicopee is Westover Air Force Base and Westover Industrial Park.

Table 5-3: Major Emitters of Greenhouse Gases in Pioneer Valley in Tons of Carbon Dioxide Equivalents

Facility	Municipality	Address	County	Industry Type (subparts)	Total reported direct emissions	CO2 emissions (non-biogenic)	Methane (CH4) emissions	Nitrous Oxide (N2O) emissions	General Stationary Combustion	Electricity Generation	Landfills
Bondi Island Landfill	Agawam	M St Extensio	Hampden	HH	17,703		17,703				17,703
Berkshire Power	Agawam	36 Moyland Lr	Hampden	C,D	399,448	399,063	155	229	1,037	398,411	
Chicopee Landfull	Chicopee	161 New Lomb	Hampden	C,HH	37,366	144	37,221	0	145		37,221
Covanta Springfield	Agawam	188 M St	Hampden	C	27,623	25,405	755	1,463	27,623		
Granby Landfill	Granby	11 New Ludlo	Hampshire	HH	14,936		14,936				14,936
MASSPOWER	Springfield	750 Worceste	Hampden	C,D	252,555	252,312	98	145	180	252,375	
Mustang Motorcycles	Palmer	4 Springfied S	Hampden	C	99	98		0	99		
Mount Tom Power Plant	Holyoke	200 Northamp	Hampden	C,D	478,577	474,880	1,175	2,523	21	478,556	
Northampton Landfill	Northampton	170 Glendale	Hampshire	C,HH	28,807	36	28,771		36		28,771
Solutia - Indian Orchard	Springfield	730 Worceste	Hampden	C	157,516	156,487	332	698	157,516		
South Hadley Landfill	South Hadley	12 Industrial I	Hampshire	C,HH	11,734	10	11,724		10		11,724
Stony Brook	Ludlow	327 Moody St	Hampden	C,D	157,971	157,957	4	10	1,163	156,808	
Umass Physical Plant	Amherst	360 Campus C	Hampshire	C	102,816	102,561	52	202	102,816		
West Springfield	W. Springfield	15 Agawam Av	Hampden	C,D	87,083	87,078	1	3	1,291	85,792	
Pioneer Valley Total of Major Emitters					**1,774,234**	1,656,033	112,928	5,273	291,937	1,371,942	110,356

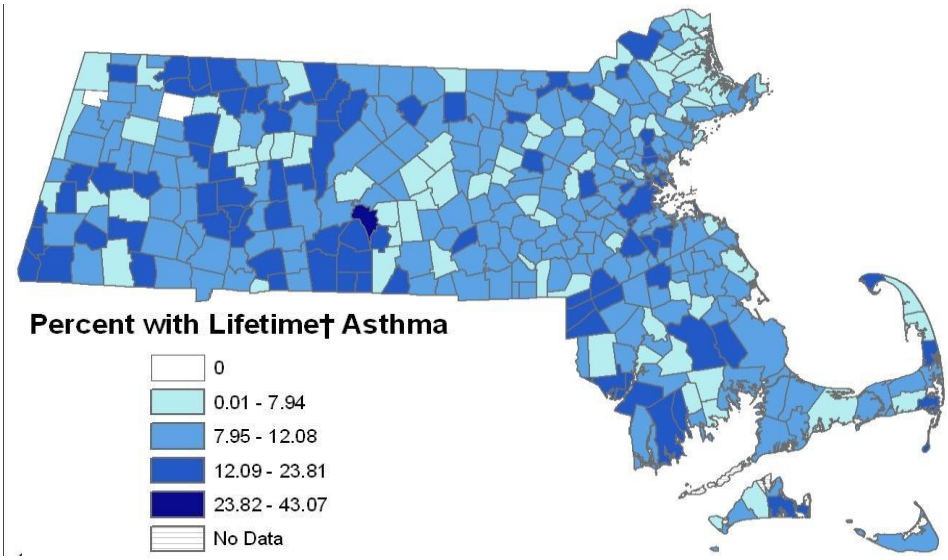
Source: U.S. EPA 2010.
Industry Type codes: HH=Landfill Emissions; C=Stationary Combustion; D=Electricity Generation.

PUBLIC HEALTH

Because air pollution is often associated with industrial land uses and major air pollution emitters in and near environmental justice neighborhoods, understanding the prevalence of asthma and the burdens that it places on the residents of these areas is an important part of environmental justice assessments.

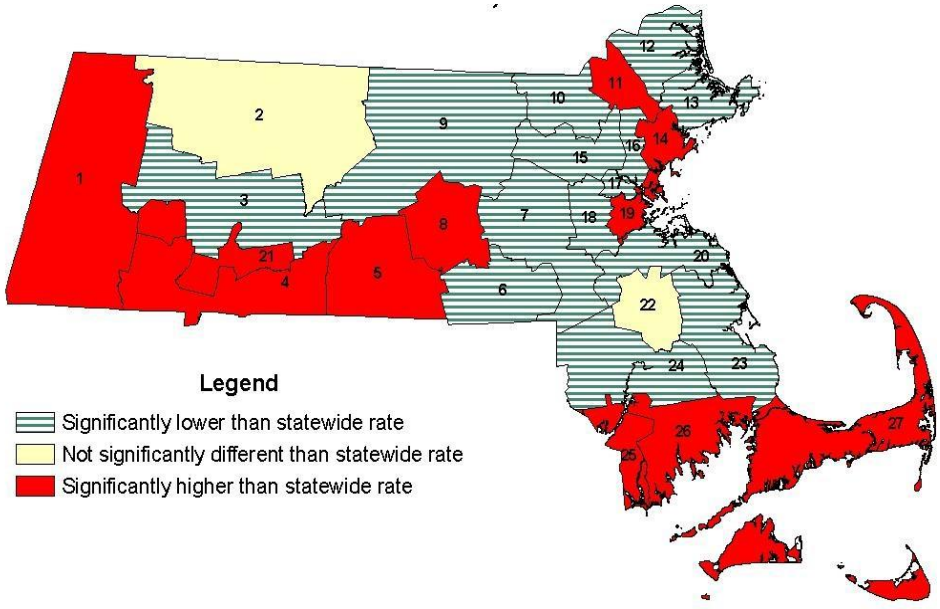
The most recent information from the Massachusetts Department of Public Health's Bureau of Environmental Health finds that in most communities in the region, the proportion of elementary and middle school children who have been diagnosed with lifetime asthma is between 8% and 24%. Urban areas, such as Springfield and Holyoke, have higher levels, and hot spots for asthma. For example, in Springfield's Genera School, 27% of students have asthma.

Figure 5-6: Prevalence of Lifetime† Asthma among Elementary/Middle School Children by Community of Residence, 2006/2007 School Year (Students K-8)



† Lifetime asthma in the Pediatric Asthma Surveillance is a combination measure for the prevalence of lifetime and current asthma. Source: Pediatric Asthma Surveillance, Bureau of Environmental Health, Massachusetts Department of Public Health 2009.

Figure 5-7: Three-year Average Annual Age-adjusted Rate of Emergency Room Visits due to Asthma 2003-2005 (Mass. Residents)



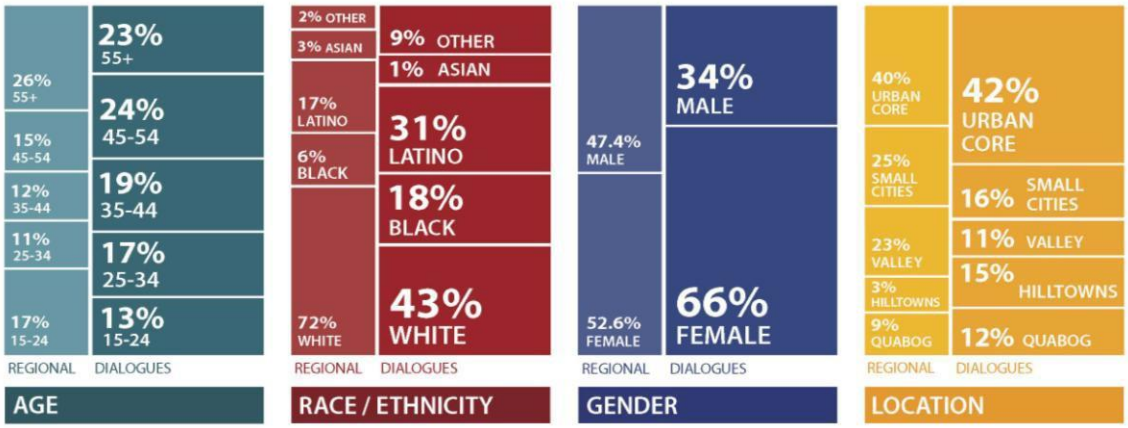
Source: 2003-2005 Massachusetts Emergency Department Discharge Database, Massachusetts Division of Health Care Finance and Policy

CIVIC ENGAGEMENT FOR SUSTAINABLE KNOWLEDGE CORRIDOR

Civic engagement for this Land Use element plan is taking place as part of the overall Sustainable Knowledge Corridor Civic Engagement program. This is an ongoing three-year program with a major focus on increasing engagement among people who have not participated in planning processes previously.

Year 1 of the civic engagement effort has been devoted to personal engagement of project staff in diverse locations throughout the region. A total of 20 groups and 200 participants were engaged from October 2011 thru May 2012. A demographic summary of participants is shown below. Proportions of ethnic minorities exceed regional averages

Figure 5-8: Demographic Summary of Persons Participating in Sustainable Knowledge Corridor Civic Engagement Sessions 2011-2012.

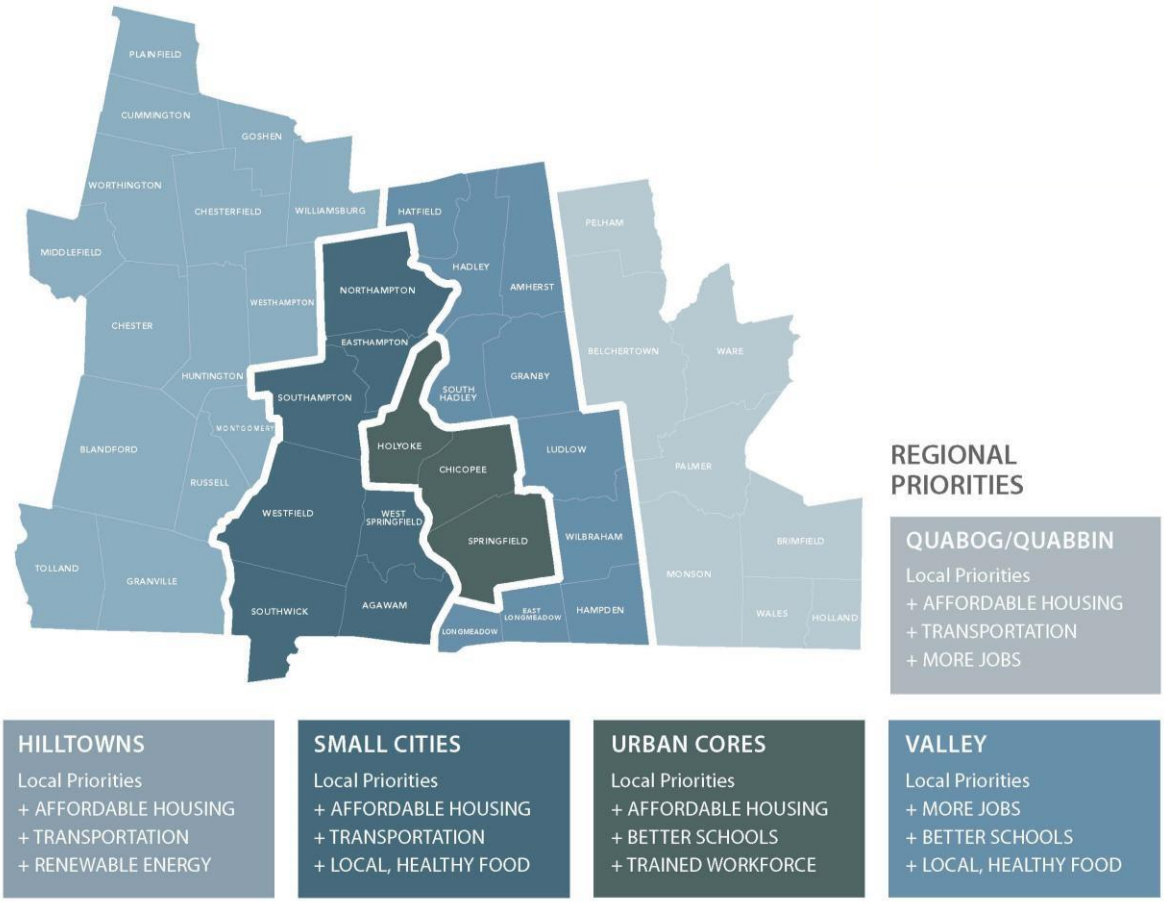


Source: PVPC

A general regional land use theme that participants raised during the sessions was the challenge of incorporating social equity into growth strategies so that low-income people and communities of color are not priced out of the centers where more compact development and redevelopment begins to occur. A second major land use theme was the risk in some communities of losing portions of the natural environment to increasing development; related issues included habitat protection, water quality, and cleaning up the environmental hazards from the area's industrial past. Many people are also concerned with public access to these natural areas and other parks.

The following graphic summarizes the issues raised at these 20 outreach sessions by geographic area. Note that affordable housing was a leading concern in all but one of the five areas.

Figure 5-9: Summary of Local Priorities Identified by Civic Engagement Participants 2011-2012 by Sub-Region



Source: PVPC

The civic engagement program is entering its implementation phase, in which participants from the first year will work to begin taking action on the priorities identified in the first phase. PVPC is working with community partners United Way of Hampden and Hampshire Counties to help participants develop skills and technical capabilities they may need to work on specific tasks to advance the priorities shown above.

Throughout all phases of the civic engagement program, ongoing outreach to the broader region is taking place with general meetings and presentations, as well as the communication through the project website (www.sustainableknowledgecorridor.org), a regional "scenario planning" online tool (www.skc.metroquest.com) and popular social media sites (Facebook and Twitter).

FAIR HOUSING AND EQUITY ANALYSIS

One of the requirements of the HUD Sustainable Communities Regional Planning Grant is to develop a Fair Housing and Equity Assessment (FHEA) for the Sustainable Knowledge Corridor region. The FHEA is a regional study that will be produced to provide a fuller picture of regional equity and opportunity, and to inform action strategies that will be developed for the bi-state Knowledge Corridor Region. The FHEA will include the following assessment components:

1. Segregated Areas and Areas of Increasing Diversity and/or Racial/Ethnic Integration
2. Racially/Ethnically Concentrated Areas of Poverty
3. Access to Existing Areas of High Opportunity
4. Major Public Investments
5. Fair Housing Issues, Services, and Activities

The Knowledge Corridor FHEA will be completed in 2013.

OPPORTUNITY MAPPING

The analysis presented in prior sections conforms to existing policies and practices for environmental justice assessment. The type of indicators involved are generally geared toward understanding the adverse effects of facilities that have undesirable environmental impacts on the immediate geographical areas they occupy.

Another approach to environmental justice assessments instead focuses on the positive elements of social systems, as well as the environment, that are available to environmental justice residents of a region. This approach, known as "Opportunity Mapping," has been developed by the Kirwan Institute for the Study of Race and Ethnicity at the University of Ohio in Columbus. The Sustainable Knowledge Corridor project is also incorporating this type of environmental justice in this plan.

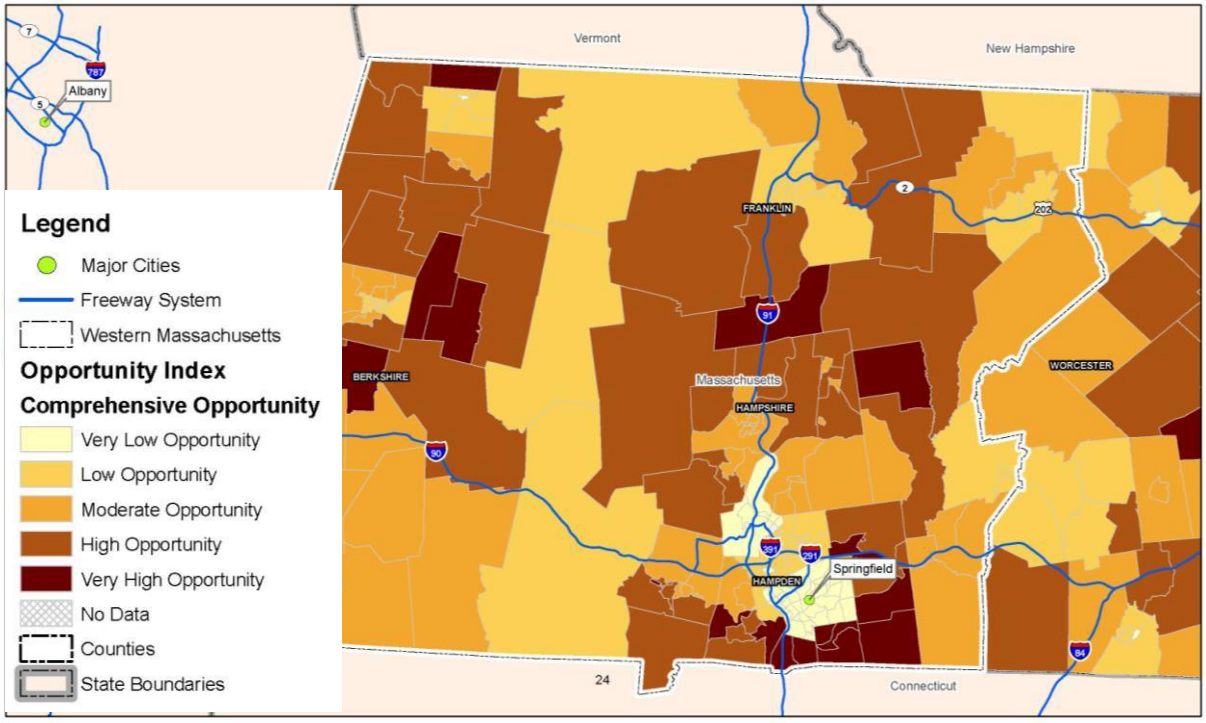
The U.S. Department of Housing and Urban Development describes six general types of opportunities that may be considered in opportunity mapping:

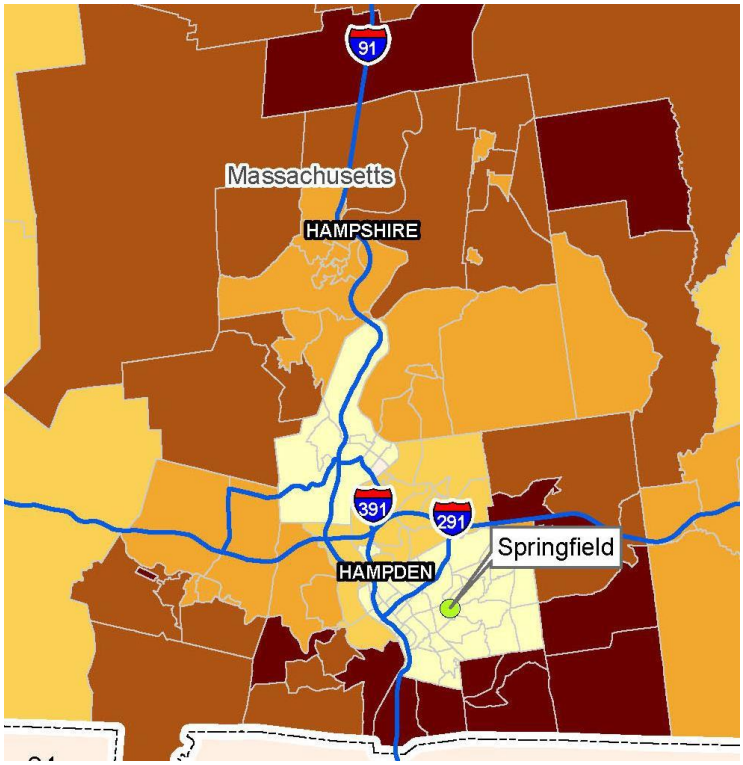
1. Not areas of concentrated poverty
2. Access to better than average schools
3. Availability of jobs, especially entry-level
4. Access to jobs, especially via public transportation
5. General access to public transportation options
6. Lower risk of exposure to known health hazards

To create an opportunity map, the general opportunity types above are operationalized for the smallest U.S. Census geography available (usually tracts) using the following input variables and data.

Opportunity Dimensions	Input Variables	Source
Poverty Index	Family Poverty Rate	ACS 2006-2010
	Pct. Households Receiving Public Assistance	ACS 2006-2010
Neighborhood School Proficiency Index	School Math Proficiency / State Math Proficiency	Dept. of Education
	School Reading Proficiency / State Reading Proficiency	Dept. of Education
Labor Market Engagement Index	Unemployment Rate	ACS 2006-2010
	Labor force Participation Rate	ACS 2006-2010
	Pct. with a Bachelor's or higher	ACS 2006-2010
Job Access Index	block-group-level Job Counts	LED, 2010
	block-group-level Job Worker Counts	LED, 2010
	Origin-Destination Flows	LED, 2010
	Distance	GIS-Derived
Transit Access Index	Distance to stops and accessibility of stops (defined above)	GTFS
	Distance to Nearest Rail or BRT Station	DOT
Health Hazards Exposure Index	TRI Facilities, Releases	EPA, 2009
	RSEI Toxicity Assessment	EPA, 2007
	Distance	GIS-Derived

Figure 5-10 Comprehensive Opportunity Map of Western Massachusetts





Areas of greater opportunity (darker colors) are generally located outside urban areas with higher concentrations of environmental justice residents. Produced by the Kirwan Institute using U.S. Census 2000, Mass. State Police 2008 and U.S. Dept of Housing and Urban Development 2008 data.

6. UPDATED VALLEY VISION TOOLBOX

The Valley Vision Toolbox was developed as part of the original Valley Vision Regional Land Use Plan's first update (Valley Vision 2) to help educate member communities about smart growth principles and strategies, and to assist them in implementing them at the local level. As Valley Vision has evolved through its various updates over the years, the number of strategies in the Toolbox has also expanded. To date there are sixteen Toolbox strategies, each including a fact sheet, case studies and model bylaws (see Table below). These smart growth concepts can be used by local planning officials and boards as well as local citizens to promote land use regulations and development patterns within their own community that promote compact, mixed use growth proximate to already existing urban and town centers utilizing existing infrastructure and utilities, while also promoting the protection of the community's dwindling open space and natural resources. The Toolbox also includes an individual Smart Growth Community Checklist for each of our regions communities to help them evaluate and select the smart growth strategies that they believe are appropriate for them.

With the Pioneer Valley continuing to experience an increase in residential and commercial development disproportionate to its' modest population growth, the need for communities to consider adopting smart growth strategies becomes even more important. The regions new development is primarily residential housing and takes the form of sprawl along existing streets or traditional standard subdivisions. The migration of Pioneer Valley residents from urban areas to suburban and exurban homes is prompted by preferences and market forces that support the sprawling form of development shaping our region. The exodus of Pioneer Valley residents to suburban and exurban homes is strongly linked to the national trend for a single family home in the country where the perception is that there are better schools, more affordable housing rates, security, reduced traffic, more amenities and a sense of community. Compounding this trend it the fact that housing choices in the Pioneer Valley region are limited, and in many communities, especially the more rural ones, there are no alternatives to single family homes on large frontage lots. Prospective homebuyers need more choices such as Open Space Developments, Traditional Neighborhood Developments, and mixed use/housing types as alternatives to help reduce sprawl.

To facilitate the implementation of the Valley Vision Regional Land Use Plan the Valley Development Council (VDC) was established. The VDC includes area builders, planners, developers, housing advocates, representatives from financial institutions, academics, land trust staff and volunteers, transportation and transit planners, architects, and others committed to promoting smart growth principles in the Pioneer Valley. VDC members serve as community liaisons for advancing the strategies of the Valley Vision Plan in the region. The VDC oversees the regular updating of the regional land use plan, engages community members, constituents, and stakeholders in the planning process, and develops and promotes public events and community meetings related to smart growth. Such efforts have been realized in the bi-annual Pioneer Valley Smart Growth Awards program which recognizes developments in the region that promote smart growth principals such as compact development, walkability, infill and reuse, affordable housing, and environmental protection, while providing a benefit to the surrounding community. The VDC's role is also to increase general public involvement and education on smart growth which has been accomplished through the development of an interactive website making smart growth tools available in digital format.

UPDATED VALLEY VISION SMART GROWTH TOOLBOX COMPONENTS

STRATEGY	FACT SHEET	MODEL BYLAW
#1 Create Traditional Neighborhood Developments	• Traditional Neighborhood Development (TND) • Transit Oriented Development (TOD)	• Traditional Neighborhood Development District (TND)
#2 Promote Mixed Use	• Mixed Use Development Districts • Planned Unit Development	• Mixed Use Development • Mixed Use Village Center • Planned Unit • Residential Development (PURD)
#3 Revitalize Urban Core Areas and Downtowns	• Adaptive Reuse and Infill Development • Business Improvement Districts • District Improvement Financing & Tax Increment Financing • Shared Parking Bylaws • Sign Bylaws	• Infill Development Overlay District • Shared Parking
#4 Develop Incentives for Open Space Development	• Conservation Development	• Conservation Development Zoning • Open Space Residential Development (OSRD)
#5 Improve Housing Opportunities and Neighborhood Quality	• Accessory Apartment • Inclusionary Zoning • Home Based Business • Chapter 40R – Smart Growth Districts	• Accessory Apartment • Smart Growth Zoning • Home-Based Business
#6 Redevelop Brownfields	• Brownfield Inventories	• Brownfields Tax Agreement
#7 Preserve Farmlands and Support Farm Businesses	• Transfer of Development Rights • Agricultural Commissions • Right to Farm Bylaws	• Transfer of Development Rights (TDR) • Agricultural Commission Warrant Article • Right to Farm
#8 Establish Greenbelts and Blueways for Open Space Protection	• Rivers Protection Overlay District • Community Preservation Act • Scenic Upland Protection	• River Protection and Floodplain • Ridgeline/Hillside Protection District

#9 Build an Intermodal Pedestrian, Bicycle, and Transit Network	• Bike and Pedestrian Features • Traffic Calming Measures	• Bicycle and Pedestrian Features for Site Plan Approval • Sidewalk Regulations-Zoning and Subdivision
#10 Protect Environmental Quality and Preventing Pollution	• Low Impact Development • Stormwater Management • Stormwater Utilities • Green Development • Performance Standards	• Residential Low Impact Development • Erosion and Sediment Control • Illicit Connections • Water Supply Protection • Stormwater Utility • Green Development Performance Standards
#11 Control Commercial Strip Development	• Commercial Site Plan Review • Commercial /Industrial Development Performance Standards	• Commercial Corridor Site Plan Approval • Commercial/Industrial Development and Performance Standards • Planned Business and • Industrial Development
#12 Improve Infrastructure in Urban Areas and Limit Infrastructure Expansions	• Urban Growth Boundary (UGB)	• Sewer Extension Plan • Phased Growth Zoning
#13 Encourage Sustainable Design	• Green Building/Stretch Codes & Standards • Municipally Owned Renewable Energy • Green Development Performance Standards	• Green Building Standards • LEED Certification Building Standards
#14 Overhaul Antiquated State Statutes and Local Zoning Laws	• Comprehensive Zoning Overhaul	
#15 Promote Regional Solutions to Smart Growth Problems	• Intergovernmental Compacts	
#16 Assist Small Towns in Addressing Unique Growth Problems	• Planning Board Assistance Program • District Local Technical Assistance Program	

The Valley Development Council has prioritized Valley Vision strategies for the region, and has ranked the following as the region's top ten priority smart growth strategies:

1. Mixed Use Village Districts
2. Bike and Pedestrian Features
3. Traditional Neighborhood Development
4. Adaptive Reuse and Infill Development
5. Cluster or Open Space Residential Development
6. Low Impact Development
7. Community Preservation Act
8. Planning Board Assistance Program
9. Brownfields Redevelopment Projects
10. Tax Incentives and Business Improvement Districts

7. RECOMMENDED STRATEGIES

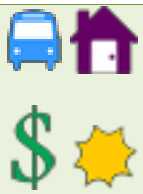
The way our region grows and develops directly affects our landscape, and our communities' character and economic health. But our growth patterns also indirectly have large affects on our quality of life, the number of miles we drive, traffic congestion, air and water pollution, the amount of greenhouse gases we emit, the cost of our housing, our ability to attract employers, and a whole host of related issues. In short, land use is a very important and influential part of planning for a more sustainable region.

This chapter provides a menu of strategies for reducing urban sprawl, promoting more compact mixed use development in and around the region's urban and town centers, protecting natural resources, farmland and open space, revitalizing urban centers, reducing air and water pollution, and promoting land uses complimentary to a multi-modal transportation system.

There are several parts to our Land Use Strategy:

- **Valley Vision Strategies for Land Use and Zoning**
- **Land Use with Transportation Strategies**
- **Environmental Justice Strategies**
- **Cross-cutting Strategies** – these strategies serve multiple goals, and cut across more than one of the Element Plans in the overall Sustainable Knowledge Corridor strategy
- **Bi-state Strategies** – these strategies can be most effective when cooperatively adopted by Knowledge Corridor communities in both Massachusetts and Connecticut
- **Implementation Projects** – these strategies are prioritized to be implemented in the initial "doing" phase of the Sustainable Knowledge Corridor project

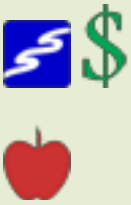
VALLEY VISION STRATEGIES FOR LAND USE AND ZONING

STRATEGY	DESCRIPTION	LEAD ROLE	CROSS CUTTING STRATEGIES
Encourage Transit Oriented Developments (TODs) and Traditional Neighborhood Developments (TNDs) • **Transit Oriented Development Zones** • **Traditional Neighborhood Development or Compact Neighborhood Zones**	TOD zones are within walking distance of major transit lines in urbanized areas, and allow for higher density and mixed-use. TODs typically consist of a mixed-use core commercial area adjacent to the transit stop. Surrounding the core commercial area is a mix of housing types, including small-lot single family, townhouses, condominiums, and apartments. TNDs replicate the features of older neighborhoods, including compact design, pedestrian-friendly layout, front porches, common open space, and some commercial uses. *Examples: The Village at Hospital Hill, Northampton; Pioneer Valley Co-housing, Amherst; Westfield and Holyoke Multi-modal Transportation Areas*	Planning Boards	
Promote Compact Mixed Use Village Centers • **Mixed Use Overlay Districts**	Mixed Use Overlay Districts promote a diversity of housing and commercial uses in pedestrian-friendly, compact layout.	Planning Boards	

• **Planned Unit Development Zoning**	Planned Unit Development zoning offers incentives to allow for reduced lot sizes, increases in the allowed percentage of a lot that can be built upon, and reduced parking space requirements provided that the development is clustered and planned as an integral unit. *Examples: South Hadley Village Commons; Pomeroy Commons, Amherst; Palmer Village Zoning*		
Revitalize Urban Core Areas and Downtowns • **Adaptive Reuse and Infill Development** • **Business Improvement Districts** • **Tax Incentive Programs**	Adaptive reuse is the act of finding a new use for a building. Infill development zoning incentives help to bring vacant or under-utilized lots back into productive use, by revising standards such as frontage and lot area. In a business improvement district, formed pursuant to M.G.L. Chapter 40O, at least three-fourths of the area is zoned or used for commercial, industrial, retail, or mixed uses. A BID "Improvement plan", a strategic plan which sets forth the supplemental services and programs, revitalization strategy, budget and fee structure, and the management entity for the business improvement district, must be approved by the local municipal governing body. Massachusetts offers several types of tax credits to spur commercial development:	Planning Boards, Chief Elected Officials, Economic Development officials	

	Brownfields Tax Credits; Renewable Energy Credits (RECs); Investment Tax Credits; Historic Tax Credits; and Low-Income Housing Tax Credits. Under Tax Increment Financing (TIF) state enabling legislation, landowners may be granted property tax exemptions of up to 100% of the tax increment. A municipality may enter into a TIF Agreement with a landowner for a maximum term of 20 years. The legislation also authorizes TIFs for housing in urban centers. A city or town must initiate a TIF by a vote of its governing body approving the TIF Plan.		
• **Historic Preservation Districts**	Historic preservation can be supported by establishing Historic Preservation Districts or using CPA funds to support acquisition of historic restrictions.		
• **Reduced Downtown Parking Requirements**	Strategies can include joint parking agreements, reduced off-street parking standards, specifications for on-street parking and accommodating bike lanes. *Examples: Holyoke Economic Target Area; Springfield and Westfield Business Improvement Districts; Indian Orchard Design Guidelines*		
Develop Incentives for Cluster Development • **Cluster Development or Open Space Residential Development Zoning**	Cluster Development replicates the traditional New England land use pattern by clustering homes on smaller lots surrounded by protected open space.	Planning Boards	

	Examples: Belchertown and Hatfield By-right Cluster Bylaws		
Improve Housing Opportunities and Neighborhood Quality • **Accessory Apartment Zoning** • **Inclusionary Zoning** • **Smart Growth Zoning Districts (Chapter 40R)** • **Home Based Business Zoning**	Accessory dwelling units provide supplementary housing that can be integrated into existing single family homes to provide lower priced housing alternatives with little or no negative impact on the character of the neighborhood. Zoning can require developers to make a fixed percentage of their housing affordable to low- or moderate-income households, while offering incentives or "cost offsets" (e.g., density bonuses, expedited permitting processes, or fee waivers) to help developers meet the cost of producing affordable homes. Communities can adopt Smart Growth zoning overlay districts, under MGL Chapter 40R, to zone for primary residential use as of right at minimum density requirements of 8 units/acre for single family homes, 12 units/acre for two and three family homes, and 20 units/acre for multifamily units, with design standards to preserve existing character in the district. Communities can encourage small-scale economic development by allowing home-based businesses in	Planning Boards, Housing Authorities, Housing Partnerships, Chief Elected Officials	

	Residential zones, with performance standards to protect neighbors. *Examples: Holyoke Hope VI Project; Amherst CPA and Affordable Housing; HAP Green Affordable Housing; Treehouse at Easthampton; Rocky Hill Co-housing, Northampton*		
Redevelop Brownfields • **Brownfields Inventory**	A Brownfield Inventory can assist a municipality in prioritizing sites for redevelopment by identifying its assets and liabilities for redevelopment potential. This data can help potential redevelopment partners identify sites to locate their project. *Examples: PVPC Brownfields Revolving Loan Fund; Eastworks, Easthampton; Chester Regional Elementary School*	Municipalities	
Preserve Farmlands and Support Farm Businesses • **Transfer of Development Rights Zoning**	TDR bylaws allow development rights to be purchased in the Sending Area and transferred to the Receiving Area for use in more compact residential or business development projects. Project proponents can either purchase development rights directly from farmers or landowners, or can make a cash contribution to the community for purchasing agricultural or open space preservation restrictions.	Planning Boards, Agricultural Commissions, Conservation Commissions, Open Space Committees	

• **Agricultural Commissions** • **Right to Farm Bylaws**	Ag Commissions can sponsor Right-to-Farm bylaws, inventory and identify agricultural properties in the community, create guides and brochures for community farms, research resources for farmers, and have host community agricultural events. A right-to-farm bylaw encourages the pursuit of agriculture, promotes agriculture-based economic opportunities, and protects farmlands within the community by allowing agricultural uses and related activities to function with minimal conflict with abutters and town agencies. *Examples: TDR zoning in Hadley, Hatfield, Easthampton and Westfield; Agricultural Commissions in 20 communities; Holyoke Farmers Market; Community Involved*		
Establish Greenbelts and Blueways for Open Space Protection • **River Protection Overlay Districts**	A River Protection Overlay District can be designated from the riverbank to an established distance inland from each bank. Uses permitted by right should be limited to those consistent with the scenic qualities of the river, such as agriculture, recreational uses, reasonable emergency procedures, and residential development on individual (ANR) lots. Residential subdivisions can be required to include mandatory clustering, and be located away from the shoreline.	Planning Boards, Open Space Committees, CPA Committees, Conservation Commissions	

• **Community Preservation Act (CPA)** • **Scenic Upland Protection Zoning** • **Critical Lands Acquisition Programs**	The Community Preservation Act (CPA) enables communities to establish, through a ballot referendum, a local Community Preservation Fund dedicated to historic preservation, low and moderate income housing, and open space including recreational uses. Revenue for the fund is generated through a surcharge of 0.1 to 3% of the local property tax, and state matching funds are provided. Scenic upland protection zoning bylaws can regulate alterations to the land which may have significant effects on these natural resources. All proposed development is scrutinized for potential negative effects on the environment, and on the scenic amenities of the district. Communities can establish land preservation funds to help protect critical lands such as water supply areas, farmlands, recreation areas. Local funds can leverage additional state and federal grants. *Examples: Westfield River National Scenic River and bylaws; CPA adoption in 11 communities; Town of Amherst land protection program*		
Build and Intermodal Pedestrian and Bicycle Network • **Zoning for Bike and Pedestrian Amenities**	Zoning bylaws can require sidewalks, bike path connectors, bike parking and bike amenities in all new developments, and internal pedestrian linkages in large projects	Planning Boards, Public Works Departments, PVPC, MDOT	

• **Traffic Calming** • **Bikeway Planning and Design**	Traffic calming incorporates design elements into roadways, such as raised crosswalks, traffic roundabouts and traffic circles, to promote driving at reduced speeds. Bikepaths should be designed to link the region's urban centers, shopping and employment areas. Transportation Enhancement funds can support construction of bikepaths. *Examples: Connecticut Riverwalk and Bikeway; Manhan Rail Trail, Southwick and Westfield Rail Trails, Bike lanes in Holyoke, Amherst and Northampton, traffic calming on Route 9 at Amherst College*		
Protect Environmental Quality and Prevent Pollution • **Low Impact Development (LID) Standards**	Within delineated building envelopes, a broad range of design techniques or BMPs, such as shared driveways, permeable pavers, and bioretention are used to reduce the level of impervious cover and improve the quantity and quality of stormwater drainage. Other LID design techniques include green roofs, rain barrels, rain gardens, grassed swales, stormwater infiltration systems, and alternative landscaping.	Planning Boards, Conservation Commissions	  

• **Stormwater and Erosion Control Standards** • **Green Infrastructure Zoning Incentives**	A storm water management bylaw/ordinance can require all new development to provide a Stormwater Pollution Prevention Plan (SWPPP) and design that incorporates Best Management Practices (BMPs) to reduce runoff impacts. The goal is to prevent post-development increases or decreases in the total volume or rate of stormwater discharges from the site, as compared with pre-development conditions. BMPs include vegetated swales, retention or detention basins, oil and grease separators, infiltration basins, constructed wetlands or other measures. Create zoning incentives for green roofs, permeable parking lots, on-site stormwater recharge and other green infrastructure. *Examples: Stormwater Zoning in multiple communities*		
Control Commercial Strip Development • **Commercial Development Performance Standards**	These are essentially "good neighbor" standards because they minimize adverse impacts on surrounding properties and the community. They include standards for access and traffic impacts, pedestrian amenities, parking, landscaping, screening, appearance and architectural design, stormwater runoff, water quality, and lighting, *Examples: Commercial Development Performance Standards, Hadley; Big Box zoning regulations, Northampton*	Planning Boards, Public Works Departments	

Improve Infrastructure in Urban Areas and Limit Infrastructure Expansions • **Urban Growth Boundaries** • **Stormwater Utilities**	Even in states without enabling legislation, such as Massachusetts, it is possible to combine multiple growth control strategies to create "de facto urban growth boundaries." This could include: moratoria on sewer and water extensions beyond the established urban growth boundary; reduced lot size, and related zoning incentives for areas within the UGB and lot size disincentives for areas outside the UGB; annual building permit limits for areas inside and outside UGBs. Westfield and Chicopee have adopted stormwater utilities based on fees assessed for amounts of impervious surfaces. These fees are used to fund stormwater improvement projects. *Examples: Westfield Stormwater Utility; Hadley Infrastructure Limits*	Planning Boards, Public Works Departments	
Encourage Sustainable Design • **Green Building Codes**	Codes and standards are increasingly being used to encourage the development of renewable energy, energy-efficient technologies, and high-performance buildings in Massachusetts. The green building standard most used is the Leadership in Energy and Environmental Design (LEED) System, developed by the United States Green Building Council. LEED	Municipalities,businesses, public utilities	

• **Municipally Owned Renewable Energy**	promotes a whole-building approach to sustainability in five key areas: sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality. Municipalities make the decision to invest their limited resources in clean energy, hire consultants to help determine what source of clean energy is available and makes the most sense for the community, allocate the resources necessary (some funding is available from MTC—on a reimbursement basis) and install the facilities. *Examples: River Valley Market; Kittredge Center;*		
Overhaul Antiquated State and Local Zoning Regulations • **State Zoning Reform Legislation** • **Comprehensive Municipal Zoning Overhaul and Update**	Massachusetts has one of the most out-dated state zoning enabling acts in the United States. Zoning reform legislation is crucial to address including approval not required development, impact fees, and many other issues Municipalities need to update their zoning on a regular basis to stay current with state law and trends in the field, including adopting tables of use regulations. Communities can promote better planned development simply by updating and overhauling antiquated zoning regulations and eliminating loopholes and inconsistencies.	State Legislature, Municipal Planning Boards	

Promote Regional Solutions to Growth Problems			
• **Approve the intergovernmental compact or "Memorandum of Agreement for Implementing Valley Vision"**	Communities should sign the Memorandum of Understanding for Valley Vision, to commit to actively supporting and implementing Valley Vision.	Chief Elected Officials	
• **Support the adoption of a regional or county gas or sales tax to fund regional issues, such as open space protection, livable communities programs and river clean-up.**	Establishment of a regional gas or sales tax requires state legislation. Revenues from such a tax could be controlled within the region for the region's priorities.	Municipalities and residents	
• **Support intergovernmental compacts to address regional issues, or protect or restore regional resources, such as aquifers, greenbelts, rivers, mountains, etc.**	Communities can collaborate to address regional issues through crafting and approving regional intergovernmental compacts. These compacts can result in regional review of development projects impacting shared natural resources, joint funding for resource protection or restoration. *Examples: Barnes Aquifer Protection Advisory Committee; Connecticut River Clean-up Committee*		
Assist Small Towns in Addressing Unique Growth Problems		Planning Boards	
• **PVPC's Planning Board Assistance Program**	Provide "part-time town planner" services to smaller or rural communities, on a fee for services basis. *Examples: PVPC Planning Board Assistance Program for Hadley*		

Promote Climate Action • **Zoning for Climate Change Best Practices**	Undertake conformance reviews, develop and adopt land use regulations for reducing GHG emissions, including reduction of impervious surfaces, on-site stormwater retention, tree protection and planting, parking, complete streets, lot coverage and height restrictions, green roofs, and solar access.		
Promote Improved Transportation-Land Use Connections • **Complete Streets Policy** • **Trip Reduction**	Complete streets are roadways designed and operated to enable safe, attractive and comfortable access and travel for all users, and include the following features: bike lanes; sidewalks; traffic calming devices; pedestrian crosswalks and features; street furniture; bus shelters; bike racks; trees; sidewalk pavers; interconnected streets. Adopt local zoning, within the Site Plan Approval process, to require trip reduction strategies for large commercial uses, including carpooling and vanpooling programs, transit access, bicycle facilities, flexible work hours, and on-site housing or services.		
Improve Assessment and Remediation of Disproportionate Environmental Impacts in Environmental Justice Neighborhoods • **Reduce exposure to poor air quality**	Establish and track human health indicators related to	PVPC, MA Dept. of Public Health,	

	poor air quality (i.e., asthma) and proximity to point and non-point sources of air pollution; develop strategies for reducing/eliminating human exposure.	municipal departments of health	
• **Brownfields assessment & remediation**	Prioritize brownfield assessment and remediation plans in EJ neighborhoods	PVPC, state agencies, municipalities	
• **Toxics monitoring & reporting**	Improve monitoring and reporting of toxics releases; improve enforcement actions	EPA, Mass. DEP	
• **Prevent trash dumping**	Perform neighborhood outreach to identify dumping areas and involve law and environmental enforcement authorities to prevent trash dumping.	Neighborhood associations, municipal governments, Mass. DEP, law enforcement	
Address and Mitigate Sources of Racial and Economic Inequity in Development			
• **Promote greater inclusion of EJ residents in land use planning**	Improve participation of people previously underrepresented in land use planning, including more convenient meeting times and locations, alternative media, different languages.	Planning boards, municipal officials, state agencies	
• **Identify zoning barriers to equitable development**	Undertake municipal zoning analyses to ascertain compliance with relevant EJ state and federal regulations and guidelines, as well as general goals of environmental justice.	Planning boards	
• **Encourage zoning for infill development**	Infill development in urban areas of poverty helps promote general economic revitalization, increases affordable housing choices and attracts more living wage jobs. Increasing the number of people who live close to	Planning boards, economic development agencies and boards, community based organizations	

	promotes equity and overall sustainability by reducing transportation costs and related GHG emissions.		
• **Encourage a mix of market-rate and affordable housing**	Promote measures such as Massachusetts Housing Development Incentive Program (HDIP), that utilize tax incentives density bonuses in appropriate areas (such as near transit).	Local legislative bodies, elected officials, municipal housing agencies	
• **Upgrade infrastructure in urban areas**	Sufficient capacity for public water, sewer, roads, sidewalks, parks, transit, energy, telecommunications and other infrastructure are necessary to support more compact infill development.	Local utility commissions, legislative bodies, DPWs, community/ neighborhood associations	

BI-STATE STRATEGIES

STRATEGY	DESCRIPTION
Regional Funding for TODs	Regional planning and transportation agencies in many areas of the United States provide funding to promote and support Transit Oriented Development. Funds are provided for a variety of uses including TOD planning, site acquisition and clearance, and project development costs. Fund sources typically include federal transportation funds and general obligation bonds. *Examples: Portland, OR and Minneapolis, MN*
Protection of Watersheds for Drinking Water Supplies	Collaborate on a bi-state basis toward adoption of consistent water supply protection zoning to protect drinking water reservoirs and aquifers that cross MA/CT state boundaries.
Farmland Preservation	Develop a bi-state strategy for preserving large contiguous blocks of farmland positioned along the bi-state MA/CT border, including consistent farmland zoning districts.
TOD Zoning for Commuter Rail Corridor	Seek adoption of TOD zoning districts focused around all commuter rail stations on the new bi-state commuter rail corridor.
Sustainable Transportation Project Criteria	Work with MDOT and the Metropolitan Planning Organization (MPO) to support efforts to adopt sustainable project review criteria, reflecting Valley Vision goals, for use in review and ranking of all transportation projects in regional TIPs.
Livability Programs	Livability programs are specific funding programs using transportation funding streams that support community- and land use- oriented transportation projects, such as pedestrian, streetscape, mixed-use infill, transit-oriented development and transit improvement projects. Funding sources include federal STP or CMAQ funding, and toll revenues. *Examples: San Francisco, Denver, Dallas, Albany, Atlanta*

PROJECT NAME	RESPONSIBLE PARTY
Valley Vision Technical Assistance Continue to provide staff support to member municipalities in drafting and adopting zoning or other policies to implement Valley Vision strategies. Utilize funding sources such as District Local Technical Assistance to help implement Valley Vision strategies.	Pioneer Valley Planning Commission, in collaboration with municipalities
Sustainable Transportation Project Criteria Work with the Metropolitan Planning Organization and Joint Transportation Committee to produce a model set of sustainable criteria for evaluating transportation projects, reflecting Valley Vision goals. Seek to adopt compatible criteria on bi-state basis.	Pioneer Valley Planning Commission, in collaboration with municipalities and Capitol Region COG
TOD Zoning Adoption Provide technical assistance to communities in drafting and adopting TOD overlay zoning districts, focused on the region's high speed rail corridor and high capacity bus routes.	Pioneer Valley Planning Commission, in collaboration with municipalities
Multi-family and Mixed Use Districts Remove zoning obstacles and create zoning incentives for mixed use, multi-family uses, and market rate housing in downtowns and transit corridors.	Pioneer Valley Planning Commission, in collaboration with municipalities
Bicycle and Pedestrian Features Utilize zoning to help promote features such as sidewalks, bikeway connectors and reduced parking in downtown areas to enhance bike and pedestrian uses.	Pioneer Valley Planning Commission, in collaboration with municipalities
Bi-state Farmland Preservation Develop a bi-state strategy for preserving large contiguous blocks of	Pioneer Valley Planning Commission, in collaboration

farmland positioned along the bi-state MA/CT border, including consistent farmland zoning districts. Map and prioritize farmlands, work with owners on protection.	with Capitol Region COG
Bi-state Bikeway-Walkway Linkages Collaborate with Connecticut to support design and construction of bi-state bikeway-walkway linkages, connecting facilities such as the Connecticut Riverwalk, Farmington Canal Heritage Greenway, and Southwick Rail Trail. Study options for internal linkages from Springfield to Forest Park and Agawam, and from Holyoke to Chicopee and the Manhan Trail, among others.	Pioneer Valley Planning Commission, in collaboration with Capitol Region COG
Livability and TOD Funding Programs Seek to identify creative state and regional funding sources to establish Livability or TOD funding programs for the region.	Pioneer Valley Planning Commission, in collaboration with Capitol Region COG
Bi-state Water Supply Protection Collaborate on a bi-state basis toward adoption of consistent water supply protection zoning to protect drinking water reservoirs and aquifers that cross MA/CT state boundaries. Seek funding for land protection, for example, Forest Legacy funds.	Pioneer Valley Planning Commission, in collaboration with Capitol Region COG
Federal and State Funding Program Changes Make recommendations for appropriate changes to HUD and state funding programs to improve sustainability in public investments.	Pioneer Valley Planning Commission

CROSS CUTTING STRATEGIES ICONS

The following icons are used in reference to issues and strategies also identified in the other nine Sustainable Knowledge Corridor Element Plans, called as "cross cutting strategies". To learn more about the cross cutting strategy as it may pertain to the topics and analysis in the cross cutting Element Plan, visit www.SustainableKnowledgeCorridor.org .

 FOOD SECURITY	 LAND USE	 CLIMATE ACTION
 GREEN INFRASTRUCTURE	 TRANSPORTATION	 ECONOMIC DEVELOPMENT
 HOUSING	 BROWNFIELDS	 ENVIRONMENT

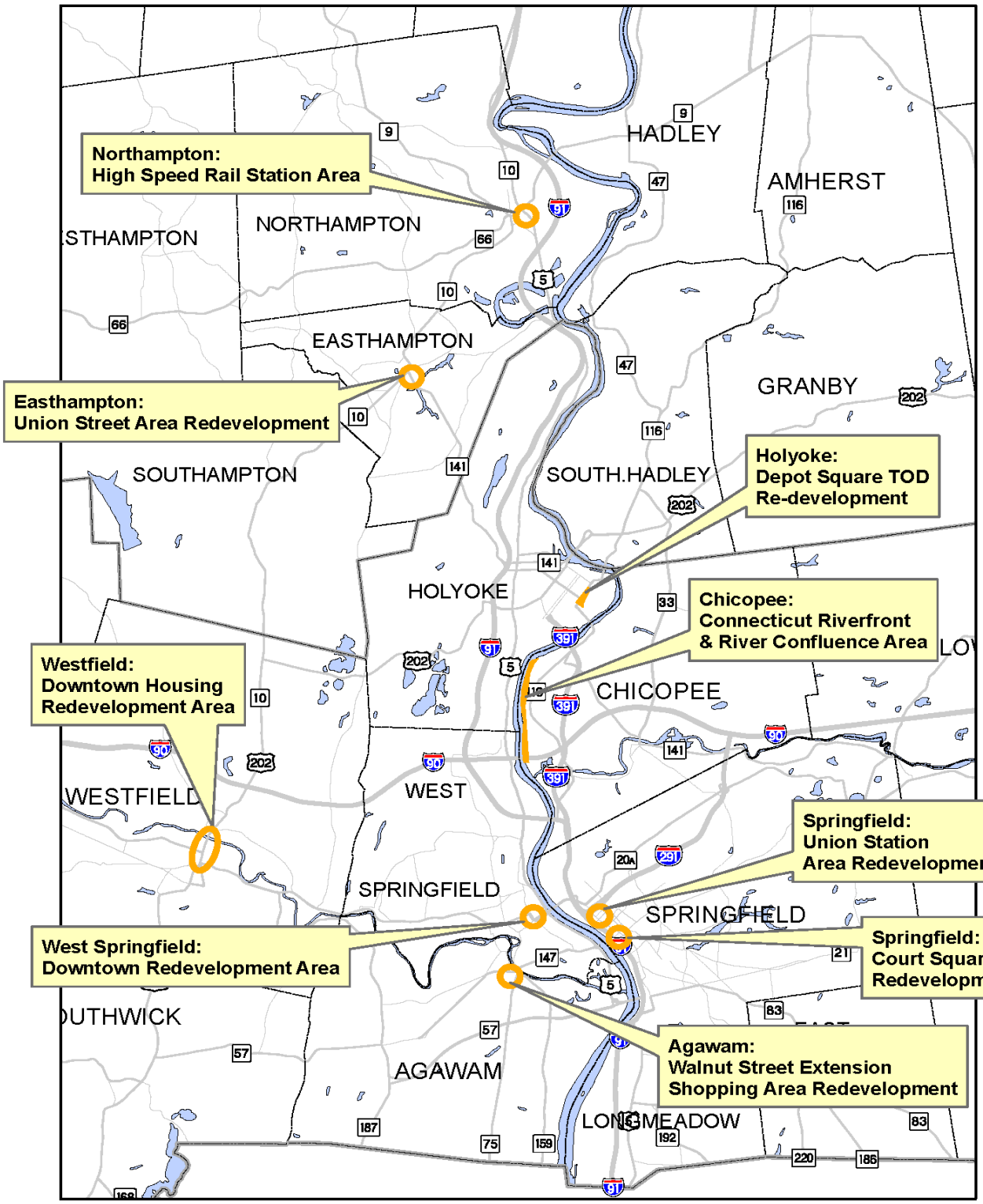
PLACE-BASED STRATEGIES AND PROJECTS

COMMUNITY	PROJECT
Agawam **Walnut Street Extension Shopping Area Redevelopment**	Establish mixed use zoning district, including housing, retail and restaurant uses, pedestrian and transit access features and low impact development standards.
Holyoke **Depot Square TOD Redevelopment**	Establish transit oriented development zoning district focused on new high speed rail station area. Provide financial support for design of high speed rail platform.
Springfield **Court Square Redevelopment** **Union Station TOD Development**	Support redevelopment of historic Court Square Building, with financial support for design and engineering. Establish transit oriented development zoning district focused on new high speed rail station area. Stimulate spin-off commercial development.
Easthampton **Union Street Area Redevelopment**	Establish mixed use zoning, assist with design challenges to increase pedestrian and transit accessibility.

West Springfield **Downtown Redevelopment Area Zoning and Parking Standards**	Create incentives for businesses such as restaurants and mixed use, using reduced parking and setback requirements.
Northampton **High Speed Rail Station Area**	Establish transit oriented development zoning changes focused on new high speed rail station area. Examine the Central Business District to remove any regulatory or non-regulatory barriers to TOD, including height limits. Examine the residential areas within 1/2 mile of the center of downtown and 1/4 mile of the edge of central business to look at opportunities to allow more development in those areas.
Chicopee **Riverfront and River Confluence Area**	Promote river recreational access, linkage with Connecticut Riverwalk. Re-use Delta Park river confluence area for recreation and appropriate Brownfields redevelopment.
Westfield **Downtown Neighborhood Housing Redevelopment Area**	Promote development of market rate housing in downtown neighborhoods.

Valley Vision 4

Place-based Strategy Areas



Catalyst for Regional Progress
PVPC

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Pioneer Valley Planning Commission - 2/15/2013.

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