Our Next Future: An Action Plan for Building a Smart, Sustainable and Resilient Pioneer Valley

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.

January / 2014
Our Next Future:
An Action Plan for Building a Smart, Sustainable and Resilient Pioneer Valley

Prepared by

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The Connecticut River and Mount Holyoke Range from the top of Mount Sugarloaf.  Photo: Chris Curtis
Introduction

An Action Plan for Building a Smart, Sustainable, and Resilient Pioneer Valley

This report was created to chart a course for a more vibrant, competitive, sustainable and equitable region. This is a regional plan, designed to achieve success through promoting collaboration of communities on a regional basis. With this plan, we are seeking to build a sustainable prosperity in the Pioneer Valley. This involves creating more livable communities, with opportunities for rewarding work and business growth, affordable and available housing, a clean environment, safe and walkable neighborhoods, options for healthy exercise and play, and viable transportation alternatives. The plan contains place-based strategies to enhance and support our region’s vibrant sense of place. This plan also seeks to promote sustainability of the world at large, through reducing our reliance on foreign oil, increasing our energy efficiency, cutting our greenhouse gas emissions and preventing water and air pollution.

“My community is sustainable when we work together for the same purpose.”
Eneida Garcia
Florence, MA

Note: This is the executive summary of our plan. To obtain or view a copy of the full plan, visit pvpc.org.
The 43 cities and towns of the Pioneer Valley are part of the Sustainable Knowledge Corridor, which links the Springfield and Hartford metropolitan regions. The Knowledge Corridor is stitched together by several large regional systems such as the Connecticut River, the Interstate 91 corridor and the Northeast Rail Corridor. Together, the region has over 80 communities and 1.6 million residents. The Pioneer Valley Planning Commission and the Capitol Region Council of Governments, acknowledging the links that tie their regions together, applied jointly for a Sustainable Communities grant from the U.S. Department of Housing and Urban Development.

Our plan is designed to meet the many challenges in the region's growth, development and economic prosperity. The plan is organized around the following issues and goals:

- **Climate Action and Clean Energy Plan:** Moving toward a carbon neutral future. Adapting to create resilient communities.
- **Food Security Plan:** No one goes hungry. We grow our own food.
- **Housing Plan:** Expanding housing choice. Creating communities of opportunity.
- **Environment Plan:** Protecting greenways and blueways. Growing vibrant communities in our watershed.
- **Green Infrastructure Plan:** Promoting clean water. Greening our streets and neighborhoods.
- **Sustainable Transportation Plan:** Improving Mobility. Promoting alternative modes of transportation.
- **Regional Brownfields Plan:** Cleaning up our industrial legacy. Building stronger neighborhoods and communities.
- **Valley Vision 4, The Pioneer Valley Land Use Plan:** Growing smarter to reduce sprawl. Revitalizing our community centers.
The plan also describes catalytic projects undertaken in three urban core communities, that provide models of how place-based activities can work to enhance the livability of urban centers and villages. Each of these projects address specific issues relating to sustainable community development ranging from transit oriented development, to greenway development and downtown redevelopment:

- Holyoke: Depot Square Redevelopment and Revitalization
- Springfield: Court Square
- Chicopee: Connecticut Riverwalk

The Sustainable Knowledge Corridor has adopted the six livability principles established by the U.S. Department of Housing and Urban Development, which are:

1. **Provide more transportation choices**: Develop safe, reliable and economical transportation choices to decrease household transportation costs, reduce our nation’s dependence on foreign oil, improve air quality, reduce greenhouse gas emissions and promote public health.

2. **Promote equitable, affordable housing**: Expand location- and energy-efficient housing choices for people of all ages, incomes, races and ethnicities to increase mobility and lower the combined cost of housing and transportation.

3. **Enhance economic competitiveness**: Improve economic competitiveness through reliable and timely access to employment centers, educational opportunities, services and other basic needs by workers as well as expanded business access to markets.

4. **Support existing communities**: Target federal funding toward existing communities—through such strategies as transit-oriented, mixed-use development and land recycling—to increase community revitalization, improve the efficiency of public works investments, and safeguard rural landscapes.

5. **Coordinate policies and leverage investment**: Align federal policies and funding to remove barriers to collaboration, leverage funding and increase the accountability and effectiveness of all levels of government to plan for future growth, including making smart energy choices such as locally generated renewable energy.

6. **Value communities and neighborhoods**: Enhance the unique characteristics of all communities by investing in healthy, safe, and walkable neighborhoods—rural, urban, or suburban.
A key challenge of any sustainable development effort is meaningful community and civic engagement. That challenge is particularly evident in the Pioneer Valley with its geographic, class, racial, and ethnic diversity. Our civic engagement strategy for this project was designed as a collaborative learning and decision-making process that broadened the range of communities engaged—with a specific emphasis on engaging underrepresented communities—and expanded the definition of sustainability. The following goals, to measure the success of our participatory planning process, were identified:

1. **Broaden the Conversation**: create civic dialogues and participatory platforms that restore the social dimension of sustainability and allow everyday stories to define what sustainable development means locally.

2. **Be Inclusive**: Develop engagement strategies that engage underrepresented populations (immigrant, migrant, people of color, low-income and geographically isolated) who are often excluded from planning processes.

3. **Be Accessible**: Use common language and clear graphics to explain the goals and strategies of this regional planning process and create a public education campaign that increases the awareness of sustainability throughout the region.

4. **Build Capacity**: Facilitate mutual learning and develop long-term strategies for participants to be active in developing local visions for healthy and sustainable communities long after the project timeline.
Our strategies for engagement recognized the need to not only engage a broad range of communities, but to also to create a unifying vision for the region—responsive to real differences, but creating a context to overcome the “silos” of planning and community concerns. A key strategy in addressing the challenges of engagement for this project was recognizing the importance of the social and community aspects of sustainability, and supporting the full participation of all residents in order to create a context for transformative engagement. With this insight, we framed our conversations on housing, transportation, jobs and the environment with a keen interest in increasing local communities’ investments in sustainability, and building the social capital that could support civic capacity and future action.

University of Massachusetts Amherst Architecture + Design program collaborated in the design and implementation of the civic engagement plan, and UMass architecture students participated as facilitators, researchers and designers of the community dialogues and its products. In addition, our key partnership with local United Way affiliates—United Way Pioneer Valley and United Way Hampshire County—was essential to our evolving engagement strategy. United Way’s participation allowed us to better involve, collaborate with, and empower the public in the development of this regional sustainability plan—and in making significant progress up the ladder of citizen participation. Through these key collaborations we were able to consistently engage with underrepresented communities as they articulated a vision of sustainability for their communities—and for our region. This is particularly important in Western Massachusetts as demographic trends show that population growth in the region is happening among the very underrepresented communities the we have engaged through this process—a population that will play an increasingly important role as agents and advocates for sustainability in the region.
The four themes that were created to make the goals of the project clear to the public.

Public Participation Methods

All of our public participation methods grew out of research on best practices in civic and community engagement. The following are the primary engagement methods that were used for this project. Detailed civic engagement reports and findings are available on the project website at: http://www.sustainableknowledgecorridor.org/site/participate

Communication Strategy

One of our key strategies to make the many issues of sustainability more accessible to the general public (and particularly underrepresented communities) was to avoid planning jargon and present the project issues in everyday language. Our primary way of addressing this was to develop four “themes” to organize and unite the disparate “element” plans that were at the center of the planning process. These four themes were “Live” (focus on housing), “Connect” (focus on transportation), “Grow” (focus on food and the environment) and “Prosper” (focus on jobs and education).
Discussion Briefs

This set of graphic documents was based on the element plans described in this report and were designed to familiarize the general public on the primary issues of sustainability in the region. Engagement facilitators and community organizers also used them to prepare participants for in-depth community dialogues. Downloadable PDFs of these briefs are available at: http://www.sustainableknowledgecorridor.org/site/content/sustainability

Video Case Studies

Three short video case studies were produced that highlighted grassroots success stories. Each video profiled a person in the region who was already doing something sustainable within their community and served to make the solutions feel more personal and realizable, and aid in the brainstorming that was part of the engagement sessions. One video highlighted a community initiated farmers market, another a tale of re-building “green” after the 2011 tornado, and the another on the potential for the green economy to offer broad support for a community. The videos can be viewed at: http://www.youtube.com/user/newenglandskc
Community dialogues were the key engagement method we used throughout this project. Most dialogues were arranged with United Way partner agencies, and almost all of them took place at a time and space convenient to the convening community partner. This allowed for a high level of participation from underrepresented groups and was a key success for the project. Dialogues in the first year of the project were focused on identifying key issues important to local communities. The dialogues in the second year focused on prioritizing the actions necessary to constructively respond to the issues identified earlier—and to increase social capital and build capacity for future actions by participants.

**Engagement Sessions’ Results**

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Values in this chart represent the percentage of participants who selected these priorities.

**Important “Write-In” Priorities**

- **Health Services:** Equal access to affordable health care—particularly in local communities
- **Community Building:** Connecting with neighbors and families to promote healthy communities
- **Local Control:** Provide more opportunities to participate and contribute to local planning decisions
- **Addressing Racism:** Develop local strategies to combat racism in all its implicit and explicit forms
- **Connect:** Many people cited broken bus service as keeping people from accessing jobs and healthy foods. Solving transportation issues is key to improvements in personal health & the local economy
- **Grow:** Community gardens and youth development were important parts of the Food Security conversation. Many participants also noted how successes in the other categories would have positive impacts on the environment.
CIVIC ENGAGEMENT

Introduction

Community dialogues across the region.
Eight of nearly one hundred Sustainable Portraits captured at community engagement sessions.

Sustainable Voices Portraits

These voluntary portraits, which were taken at the conclusion of every community dialogue, showed participants with a chalkboard sign where they had completed the sentence “My community is sustainable when...” Each portrait gives a “face” to issues and ideas that grew out of the engagement sessions, and act as a powerful documentary tool to communicate the project’s message.
PROMOTE SUSTAINABLE TRANSPORTATION

RESOURCES
www.RideBuzz.org
Ride Buzz
http://www.pioneervalley.info/great-outdoors/bike-paths/bike-paths-rail-trails_id=6
http://www.pvpc.org/activities/encourag_bike.shtml
http://www.mhd.state.ma.us/default.asp?pgid=content/bikepaths01&sid=about
MassBikes Website
The Regional Greenhouse Gas Initiative (RGGI)
Reconnecting America
http://www.ctod.org/portal/
http://www.completestreets.org/

SUSTAINABLE TRANSPORTATION

Having a diversity of transportation options in an area opens up the doors of opportunity. However, transportation choices in the United States—and especially in the Pioneer Valley—are geared to toward the private automobiles. Many people cannot afford to own a car and therefore cannot become involved in public transportation. Furthermore, single-occupancy vehicle (SOV) travel as the main form of transportation is not only expensive, but also has negative effects on our environment. Sustainable transportation seeks to reduce adverse impacts to the environment while promoting social and economic vitality. It offers underprivileged communities more choices for transportation so they have equal access to resources and a better ability to participate in civic and economic activities.

LOCAL CONTEXT

Many towns in Eastern Massachusetts are fortunate to have reliable public transportation that improves access to work, schools, employment, education, and shopping. But many communities within the Pioneer Valley struggle because there is a lack of transportation choice. Advancing fair increased service and sustainable development in your area that limit sprawl and provide access to goods, services, and jobs in close proximity to residential areas can help increase opportunities for yourself and your community. This guide has been produced to help community residents in our region make their voices heard to stand up for livable communities with better transit systems to improve the social and economic health of our region.

Did you know?

• US8s Dudley drive 3 trillion miles per year, more than 2/3 by personal car
• That’s 90% of the way to the nearest star
• That’s 1% of the way to the nearest star
• That’s 40% of the way to the nearest star
• Up to 20% of all US Green House Gas (GHG) emissions are from cars and trucks

Be a Sustainable Traveler

Identity Small Ways to Drive Less
Reduce your driving by 1/4 a year by finding a different mode of travel for you and your family. Walk, bike, carpool, or take public transportation instead.

Bicycle

Bicycling is economical, good for the environment, and good for your health. Cycling is a fun and convenient way to get around. It is a great way to lose weight, stay fit, and enjoy the outdoors. By increasing cycling throughout your community, you can help residents get out of their cars and into the sun. Bicycle parking hooks can provide easy access for bicyclers.

Carpool

Create a Car Sharing Program

Carpooling is a quick and easy way to cut the costs of owning a car. Carpooling is a quick and easy way to reduce the costs of owning a car. This program can be used for carpooling to work, school or anywhere you need to go. You can find others who need to go to the same place and then you can share the ride.

Use Car Pooling Programs

Do you want to rent a car? Our program allows you to rent a car for less than the cost of owning a car. This program can be used for carpooling to work, school or anywhere you need to go. You can find others who need to go to the same place and then you can share the ride.

Local Context

Many towns in Eastern Massachusetts are fortunate to have reliable public transportation that improves access to work, schools, employment, education, and shopping. But many communities within the Pioneer Valley struggle because there is a lack of transportation choice. Advancing fair increased service and sustainable development in your area help limit sprawl and provide access to goods, services, and jobs in close proximity to residential areas can help increase opportunities for yourself and your community. This guide has been produced to help community residents in our region make their voices heard to stand up for livable communities with better transit systems to improve the social and economic health of our region.

Resource Guides

Through the community dialogue process it was apparent that there was a need for clear resources and information that would allow participants to continue to be active in working towards sustainable communities in their region. These resource guides cover Housing, Transportation, Education, Economic Development, Food Security, the Environment and Civic Engagement. The guides are specifically designed for easy access and use by resident/citizen. They are available on the project website at: http://www.sustainableknowledgecorridor.org/site/participate, and will also be available at local offices of United Way and affiliated organizations who participated in the project.
An advisory group was convened for each topic area of this plan. The groups were made up of community leaders with expertise in the specific area. Advisory groups met on a quarterly basis and provided oversight and review on all areas of this report.
CIVIC ENGAGEMENT

Introduction

Web-based Outreach

The project website (www.sustainableknowledgecorridor.org) was an important resource throughout the project. It provided links to the project’s Facebook and YouTube pages as well as project updates and draft reports. The site also provided access to important elements of the project’s Bi-state plan. These included the SKC dashboard of sustainability indicators and the on-line survey tool “MetroQuest,” which allowed participants to set priorities, make choices and see project outcomes. For details of these features see the Bi-state plan which will be available in 2014.

Regional Community Events

PVPC staff members set up information tables at a variety of area events from cultural to regional fairs and provided opportunities to learn about the project and participate in MetroQuest surveying.
Our climate is already changing, and severe weather events are increasingly affecting the lives of Pioneer Valley residents.

Photo: Chris Curtis
The purpose of this Climate Action and Clean Energy Plan is to promote greater understanding of the causes and consequences of climate change in the Pioneer Valley. The plan is intended to help the people of the region respond to climate-related changes in their communities by creating workable strategies for local and regional actions to reduce greenhouse gas emissions, including greater use and production of clean and renewable energy, and protect their communities from climate-related damage.

This plan identifies the amounts and sources of the Pioneer Valley’s greenhouse gas emissions; offers regional targets for GHG reduction; and recommends strategies for both mitigating climate change impacts and actions to adapt our communities and infrastructure to the climate-related changes that are occurring and will continue to take place.

“My community is sustainable when most of its energy comes from sources other than fossil fuels and land use is consistent with the long-term conservation of natural resources and protection of ecological integrity.”

Scott Jackson
Whately, MA

Note: This is the executive summary of our plan. To obtain or view a copy of the full plan, visit pvpc.org.
OUR GOALS

Mitigate: Promote municipal and regional actions to mitigate the impacts of our region’s greenhouse gas emissions (GHG), conserve energy and move toward a carbon neutral future. Mitigation strategies include: focus on land use and zoning strategies to reduce GHGs by promoting more compact development; reducing auto trips; and planting and producing more trees; and clean energy.

Adapt: Adapt to the consequences of a changing climate and work to increase the resilience of the region’s communities to withstand and recover from extreme weather events. Identify and prepare for likely impacts to the region's critical infrastructure, and prepare vulnerable people for floods and extreme heat.

Act: Seek municipal action on climate and clean energy strategies in the near term, because our climate is already changing.

Damage after tornado in Monson. Photo: Tom Retting, Worcester Telegram
Village Hill, Northampton, an example of a compact, mixed-use energy efficient development

Photos: Chris Curtis
Scientific evidence is overwhelming that our climate is changing. According to the 2010 Massachusetts Climate Adaptation Report, “climate change is already having demonstrable affects in Massachusetts”.

In 2010, the National Academy of Sciences concluded that “there is a strong, credible body of evidence, based on multiple lines of research, documenting that climate is changing and that these changes are caused in part by human activities”.

Even if global greenhouse gas (GHG) emissions are reduced, some climate change is now inevitable. Because climate change is a global problem, no individual government can unilaterally solve the problem, and effective solution will require the cooperative participation of federal, state, regional and local governments, as well as individuals and businesses.
OUR FINDINGS

Long-term observed climate warming trends in our region include:

- The Northeast has been warming at a rate of nearly .5 degrees F per decade, and winter temperatures are rising at an even faster rate of 1.3 degrees F per decade;
- There are more frequent days with temperatures above 90 degrees;
- Snow packs are being reduced, with earlier spring snow-melts;
- Sea-surface temperatures and sea levels are rising;

One of the most significant predicted affects of climate change for our region is an increase in severe weather events. In 2011, a series of three severe weather events affect the Pioneer Valley region:

- On June 1, a series of category EF-3 tornadoes struck Springfield and nine other communities, the region’s worst outbreak of tornadoes in a century, causing $90 million in damages in Hampden County alone;
- On August 28-29, Tropical Storm Irene dumped as much as 10 inches of rain on the region, causing extensive flood damages totaling over $1 billion across the Northeast;
- On October 30, a record early snowstorm of 8-24 inches snapped branches and downed power lines, leaving 3 million people without power for up to 2 weeks, and causing $3 billion in damages across the Northeast.

Also in July, 2012 a brutal heat wave across the United States wilted crops, shriveled rivers, and fueled wildfires, and officially set the record for the hottest single month ever in the continental United States. In addition, the first seven months of 2012 were the hottest of any year on record, and drier than average as well.

Public perception of climate change impacts is also changing. A poll released in April, 2012 found that most Americans believe that global warming has played a role in a series of unusual weather events over the past year.
The Pioneer Valley faces significant climate changes moving forward. These impacts include:

- By 2050, average temperatures will rise by 3-5 degrees Fahrenheit, with increases of 5-10 degrees possible under higher emissions scenarios.
- More days of extreme heat in the summer, by century’s end we will have 30-60 days per year with temperatures above 90 degrees, compared to 5-20 now.
- The occurrence of 100-year floods will increase to one every two to three years.
- Massachusetts is expected to experience a 75% increase in drought occurrences, which could last 1-3 months.
- Precipitation is projected to increase, but the increase will likely all occur in winter as rain, with more extreme downpours.
- Health impacts, including heat stress, poor air quality, extreme weather events, and increase in infectious and waterborne diseases including those transmitted by insects and rodents.
- Economic losses, including the price, affordability and availability of insurance coverage, and the losses to the New England ski industry.
- Losses of wildlife species, as animal species are forced to migrate to new, cooler areas in order to survive.
- Agricultural impacts, including changes to growing seasons, frequency and duration of droughts, increased frequency of extreme precipitation events, and heat stress will make some areas unsuitable for growing popular varieties of produce (e.g., apples, cranberries), and increase irrigation needs.
- Changes in landscape, as temperature increases could affect New England’s brilliant fall colors as trees migrate north or die out, and maple syrup production may be jeopardized.

“Although Massachusetts would not likely be the place in the world to suffer most from a changing climate, the potential negative impacts here are many and serious”.

Rising to the Challenge / MassINC / 2012
We need to think globally.

In considering local and regional actions to address climate change, it is important to understand not only the potential impacts to our region, but to our world. This is a classic case where communities and individuals must “think globally and act locally.” Among the many parts of our Earth that are threatened by global climate change are:

- **Antarctica:** During the past 50 years, temperatures in parts of the continent have jumped between 5 and 6 degrees F, rate five times faster than the global average. Including Antarctica’s rapid ice melt, researchers believe sea levels could shoot up 3-6 feet by the end of the century.

- **The Great Barrier Reef:** Coral cover alone has been reduced by half in the last 50 years, and the GBR as a whole only has a 50% chance of survival if global CO2 emissions aren’t cut by at least 25% by 2020.

- **The Alps:** Increased carbon dioxide emissions are causing glaciers in the Alps to melt rapidly.

- **The Himalayas:** In 2010, 95% of the Himalayas’ glaciers were shrinking, affecting one-sixth of the total global population—that depend on glacial melt to stave off drought and starvation.

- **The Amazon Rainforest:** At current deforestation rates, 55% of the Amazon’s 1.4 billion acres of rain forests could be gone by 2030. The rain forests contain up to 140 billion metric tons of carbon, which helps stabilize the global climate.
Massachusetts has set ambitious state GHG reduction goals. Massachusetts has set goals to reduce our statewide GHG emissions to 25% of 1990 levels by 2020 and 80% of 1990 levels by 2050. Massachusetts has taken important and innovative steps to address climate change, including:

- **Regional Greenhouse Gas Initiative (RGGI):** A region wide, market-based program to reduce emissions from all power plants larger than 25 megawatts and to create an active carbon market and an auction that generates energy efficiency funding.
- **Green Communities Act:** The Green Communities Act of 2008 required utilities to undertake all investments in energy efficiency and renewable energy generating facilities, and established a Green Communities Program and net metering (a policy allowing customers to receive credit at retail rates for electricity they generate on-site).
- **Global Warming Solutions Act:** The Global Warming Solutions Act established a statewide legislative goal of reducing emissions to 80% below 1990 levels by 2050.
- **State Climate Plan:** The Massachusetts Clean Energy and Climate Plan for 2020 contains the measures necessary to meet state GHG goals.
“Climate change is the challenge of our age. For the obvious reason – failing to respond could alter the environment with profound and dire consequences – but also because it is a critical test of government’s ability to accomplish something complex for the common good. As this report shows, Massachusetts has been a true laboratory of democracy on this issue. Working across agencies, across levels of government, and across state and national boundaries, we have put in place an array of sophisticated programs and policies to curb our greenhouse gas emissions without inhibiting economic growth or degrading our quality of life. Our progress to date is truly astounding.”

From “Rising to the Challenge: Assessing the Massachusetts Response to Climate Change” 2012

Our region can help meet state GHG goals.

Our region and our communities have a key role to play in meeting state wide GHG reduction goals, as our region’s share of Massachusetts’ emissions is estimated at 10% of the state total, or about 9.2 million metric tons of carbon dioxide equivalent. Federal and state governments alone cannot solve the climate crisis. Success will require efforts from local and regional governments, and indeed individuals and businesses, to reduce our carbon footprint.

Taking strong action to address climate change and adopt cleaner energy sources will benefit the Pioneer Valley region in ways that go far beyond reducing share of global carbon emissions. Some of these benefits include:

- **Energy Independence:** transitioning to clean energy sources, to achieve independence from the high economic, environmental, and political costs of fossil fuels.
- **Savings on Individual Energy Bills:** investment in building energy efficiency or renewable energy sources will result in significant direct savings in monthly energy bills.
- **Regional Economic Benefits and Jobs:** with clean energy sources, we can produce our own power here in the region, create jobs, and keep our dollars in the region as well.
- **Environmental Benefits:** Stabilizing the climate and reducing emissions from burning fossil fuels will have enormous global and regional environmental benefits.
- **Health Benefits:** Climate action will reduce illness and deaths due to diseases, heat waves, extreme weather events, poor air quality and reduce overall health care costs.
A regional greenhouse gas emissions (GHG) inventory was completed for the Pioneer Valley region, which showed that the region produces 9.2 million metric tons of carbon dioxide equivalent. The region’s largest sources of GHGs were transportation, followed by heat for buildings.

<table>
<thead>
<tr>
<th>Sector</th>
<th>MT CO2e</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation</td>
<td>2,922,382</td>
</tr>
<tr>
<td>Heat for buildings</td>
<td>2,428,076</td>
</tr>
<tr>
<td>Electricity consumption</td>
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<tr>
<td>Industry</td>
<td>1,663,689</td>
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<tr>
<td>Waste</td>
<td>110,547</td>
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<tr>
<td>Agriculture</td>
<td>12,806</td>
</tr>
<tr>
<td>TOTAL</td>
<td>9,201,933</td>
</tr>
</tbody>
</table>

MT CO2e = million metric tons of carbon dioxide equivalent
We have work to do.

The Pioneer Valley region faces a steep task in meeting our share of the state’s 80% GHG reduction target, as shown in the figure below.

Pioneer Valley GHG Reduction Target
80% Scenario

We must work on two tracks: mitigation and adaptation.

Mitigation:
Strategies to reduce greenhouse gas emissions and slow climate change.

Cross-cutting
Strategies that benefit both mitigation and adaptation.

Adaptation:
Strategies to protect communities from the damage that climate change is causing.

The Pioneer Valley region must address climate change on two tracks simultaneously: mitigation of greenhouse gas emissions; and adaptation to protect communities from damage due to a changing climate.
In 2008, PVPC released the Pioneer Valley Clean Energy Plan, which outlined strategies to promote energy conservation and use of renewable clean energy sources. The Clean Energy Plan set a goal to develop a 6-fold increase by year 2020 in new clean energy facilities, with the capacity to generate an additional 654 million kilowatt hours per year (kWh/yr) of clean energy in the region (Hampshire and Hampden Counties) for a total of 754 million kWh/year total (including 100 million kWh/yr already being generated in 2008).

Between 2008 and 2012, an additional 181 million kWh/yr in clean energy generating capacity was created in the region, bringing total clean energy generation to 281 million kWh/yr in 2012. Assuming this rate of clean energy development continues, it is anticipated that by 2020 the region will achieve 72% of its original goal: a total of 570 million kWh/yr of clean energy generated.
In the last five years, the amount of solar energy in Massachusetts has increased almost thirty-fold, from less than 4 megawatts in 2007 to 110 megawatts in 2012. Western Massachusetts communities and in particular Holyoke, Amherst, Springfield and Northampton are on the forefront of the solar energy movement in the state.

Holyoke is second in the state, only behind Boston, in total solar energy produced by photovoltaic panels, followed by Pittsfield in third and Springfield. Holyoke’s solar energy capacity is 4,527 kilowatts, while Boston’s is 5,647. In terms of the number of solar installations, Northampton and Amherst are tied for fourth, with 81 arrays each. Greenfield is tied with Framingham for 12th place, with 44, and Hatfield and Montague are 38th in the state with 28 installations each. The report was compiled using the most recent data available, but does not reflect the impact of new solar arrays that have gone online in the past few months, such as Easthampton’s 2-megawatt solar array on the capped Oliver Street landfill.

Western Massachusetts is the region of the Commonwealth with the most solar energy installations and the largest amount of solar generating capacity, while the Cape and Islands lead Massachusetts in per capita measures of solar energy deployment.
Two critical areas of vulnerability to climate change in the Pioneer Valley are transportation and wastewater treatment. Transportation infrastructure, including roads, highways, bridges, stream crossing structures, railroads and airports, is vital to the daily functioning of the Pioneer Valley. There are 4,364 miles of road in the region, 74% of which are maintained by city and town governments. Significant adaption to climate change is necessary to maintain transportation facilities in safe and usable operating conditions.

A primary threat to the region’s transportation infrastructure is from flooding. Major roadways and railroad lines within and immediately adjacent to the 100-year and 500-year flood zones are considered to be at greatest risk.

Climate change poses a series of threats to wastewater infrastructure, including:

- Flooding of wastewater treatment plants, with resulting release of raw sewage to waterways.
- Flood-related erosion and damage to sewer lines, pump stations and related wastewater infrastructure.
- Electrical failures knocking out critical wastewater treatment functions, lack of back-up generators for many electric pump stations.
- Increased storm flows in combined sewers result in large-scale overflows of raw sewage to waterways.

Tropical Storm Irene demonstrated the severity of damages that can occur with catastrophic flooding due to major weather events in the region. The Greenfield wastewater facility was inundated by floodwaters, knocked off line, and discharged raw sewage to the Connecticut River for several days, sending it downstream into the Pioneer Valley, with estimated total infrastructure damage of approximately $16 million.
Flood Plains and Highways Vulnerable to Flooding

Key regional transportation routes, including interstate 91, Route 20, 5, and 9 and the region’s north south rail corridor are vulnerable to flood impacts.
Other key areas of vulnerability include:

- **Dams and Flood Control Infrastructure**: The region has 268 state-regulated dams. Of these, 43 are rated as high hazard. There are also more than 22 miles of levees, most constructed in the 1940's to meet flood needs of that era.

- **Energy and Electrical System Failures**: Overhead electrical transmission lines are particularly vulnerable to high winds, falling trees, and heavy snows, as occurred in the October, 2011 snowstorm.

- **Drinking Water Supply and Infrastructure**: Surface water reservoirs provide virtually all of the water supply for three of the region's largest cities, Springfield, Chicopee and Holyoke, all of which are vulnerable to dam or pipeline failures in severe weather.

- **Agriculture**: Crops will not only be affected by warmer temperatures but also variations in rainfall and flood damages;

- **Buildings and Structures**: Flooding is the region's potentially most expensive natural hazard threat, with 10% of the region's area in the 100-year floodplain, much of which includes high density urban development.

- **Human Health**: A changing climate will have direct impacts on human health, including heat waves, insect-borne illnesses, and storm damages.

- **Fish and Wildlife**: Animals will be affected by a reduction in their natural habitats, due to changes in aquatic habitats, tree species and forest composition, and temperature increases.
Reducing auto travel is a key element in addressing the region's GHG emissions.
The Climate Action and Clean Energy Plan includes strategies to mitigate greenhouse gas (GHG) emissions and adapt to the consequences of climate change that are already happening. These are summarized below.

## Mitigation Strategies

### REVIEW
Zoning for GHG Reduction Practices

- Undertake zoning conformance reviews of existing municipal zoning and provide a technical assistance program to help communities adopt their zoning to improve GHG reduction in the built environment.

  **PARTNERS:** PVPC, Municipalities
  **CROSS-CUTTING STRATEGIES:**

### CREATE
Municipal Policies & Intergovernmental Compact on Climate Action

- Seek approval from all 43 Pioneer Valley communities for municipal policy statements and an intergovernmental compact on climate change committing communities to specific actions to help regional GHG reduction targets.

  **PARTNERS:** PVPC, Municipalities

### ADOPT
Transit Oriented Development (TOD) Zoning

- Promote transit-oriented development by adopting new TOD zoning districts that promote more walkable compact development near transit station.

  **PARTNERS:** Planning Boards
  **CROSS-CUTTING STRATEGIES:**

### TRACK
GHG Emissions Reductions

- Reduce and track greenhouse gas emissions to meet regional targets

  **PARTNERS:** PVPC
  **CROSS-CUTTING STRATEGIES:**
Work with MassDOT and the Pioneer Valley Metropolitan Planning Organization (MPO) to support efforts to adopt sustainable project review criteria for use in review and ranking of all transportation projects in regional TIPs.

PARTNERS: PVPC, MassDOT, MPO
CROSS-CUTTING STRATEGIES:

Provide regional funding for infrastructure to support development of Transit Oriented Development districts (TODs).

PARTNERS: MassDOT, MPO
CROSS-CUTTING STRATEGIES:

Communities with landfills should install methane recovery systems to reduce the release of methane into the atmosphere from landfills by more than half. Also, reduce food waste in landfills, which is the largest generator of methane.

PARTNERS: Municipalities
CROSS-CUTTING STRATEGIES:

Encourage the region’s municipalities to seek designation under the state Green Communities Act to promote greater energy efficiency and the development of renewable energy.

PARTNERS: Municipalities, PVPC
CROSS-CUTTING STRATEGIES:

Create a regional Livability Program, which is a funding initiative 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.

PARTNERS: PVPC, MPO, MassDOT
CROSS-CUTTING STRATEGIES:
Adaptation Strategies

**OUR PLAN**

**SUPPORT**
Fuel Efficient Vehicles and LED Traffic Signals and Lights

Support municipal purchase of fuel efficient vehicle fleets and LED traffic signals and lights.

PARTNERS: Municipalities
CROSS-CUTTING STRATEGIES:

**FORMALIZE**
Emergency Intermunicipal Water Connections

Formalize agreements creating emergency water supply inter-connections with neighboring communities.

PARTNERS: Municipalities
CROSS-CUTTING STRATEGIES:

**UPDATE**
Flood Maps and Zoning

Work with municipalities, state agencies, and Federal Emergency Management Agency (FEMA) to update 100-500 year FIRM flood zone boundaries.

PARTNERS: PVPC, FEMA, MEMA
CROSS-CUTTING STRATEGIES:

**INVENTORY AND**
Storm-proof Infrastructure

Inventory, conduct vulnerability assessments and stormproof critical infrastructure, including energy generation, electrical transmission and distribution, drinking and wastewater facilities, roads and highways, dams and flood dikes to better withstand extreme weather.

PARTNERS: Municipalities
CROSS-CUTTING STRATEGIES:

**ASSIST**
Vulnerable Populations, Provide Cooling Shelters

Educate the people who are most likely to be vulnerable to extreme weather about what they can do during severe weather events, including floods, storms, heat waves. Seek funding for a network of notification procedures for vulnerable populations, “check your neighbor” programs and new cooling shelters.

PARTNERS: Municipalities, PVPC
CROSS-CUTTING STRATEGIES:
**ESTABLISH**

**Extreme Weather Warning System**

Consider establishing a public warning system for extreme weather events, to send emergency alerts to residents by email, text message or telephone.

**UPGRADE**

**Stream Crossings, Bridges and Culverts**

Pro-actively prioritize and replace under performing culverts and bridges with structures that are correctly designed to accommodate floods and allow wildlife passage.

**CONDUCT**

**Dam Inspection and Removal or Repair**

Inspect dams and remove or repair poor condition dams that are rated as significant or high hazard.

**RE-LOCATE**

**Powerlines Underground**

Investigate costs and feasibility of re-locating powerlines underground, on a long-term phased basis.

**PLAN**

**For Municipal Hazard Mitigation**

Include climate adaptation strategies, inventories of vulnerable infrastructure and updated flood mapping in all municipal Hazard Mitigation Plans. Seek funding for improved preparedness, including funding for dam inspection, maintenance and removal.
OUR PLAN

UPGRADE
Aging Water/Wastewater Infrastructure

Protect and upgrade aging water and wastewater infrastructure, with particular attention to wastewater treatment plant flood damages, similar to those experienced in Greenfield, MA, and provide emergency backup equipment.

PARTNERS: Municipal water and sewer departments, DPWs
CROSS-CUTTING STRATEGIES:

SUPPORT
State Loans for Green Infrastructure

Support changes in the State Revolving Fund (SRF) Program, which provides $100 million in low-interest loans to water and wastewater projects, to address climate vulnerabilities, and promote green infrastructure.

PARTNERS: State Legislature, DEP, Municipalities
CROSS-CUTTING STRATEGIES:

PREPARE
For Severe Droughts

Prepare municipal water supply systems for severe droughts, including repairing leaks, installing water efficient fixtures, and installing greywater re-use systems for lawns and gardens.

PARTNERS: Municipal water departments
CROSS-CUTTING STRATEGIES:

ACHIEVE
Greater Energy Efficiency

- Assist homeowners with completing energy assessments through Mass Save program, and in making recommended energy efficiency improvements such as insulation, air sealing, boiler and hot water heater replacements.
- Assist businesses and industries in new cost-saving energy efficient strategies, such as electrical demand management.
- Support municipal energy committees in producing and updating their local energy reduction plans as part of the Green Communities program.

PARTNERS: Municipalities, PVPC, Utility
CROSS-CUTTING STRATEGIES:

GENERATE
More Clean Energy, Greener Power

Reduce the carbon intensity of our electricity supply by investing in solar, wind, and hydro projects.

PARTNERS: Utilities, municipalities
CROSS-CUTTING STRATEGIES:
ADOPT
Solar and Wind Zoning

Adopt local bylaws for solar and wind zoning to streamline permitting for renewable energy sources and promote passive solar access in citing of new buildings.

PARTNERS: Planning Boards, PVPC

CROSS-CUTTING STRATEGIES:

ADOPT
The “Solarize Mass” Program

Assist municipalities in joining the Mass Department of Energy Resources Solarize Mass Program, which assists homeowners in purchasing photovoltaic solar systems, by reducing costs through bulk purchasing, tax incentives and rebates.

PARTNERS: Municipalities

CROSS-CUTTING STRATEGIES:

RETROFIT
Municipal Buildings for Energy Efficiency

Conduct energy assessments and upgrade energy efficiency in older leaky municipal buildings. A municipality can partner, with an Energy Service Company (ESCO) with assistance from various agency programs.

PARTNERS: Municipalities, utilities

CROSS-CUTTING STRATEGIES:

CREATE
Clean Energy Financing Districts

Adopt state legislation to enable local programs for clean energy financing (also known as PACE, Property Assessed Clean Energy) programs to set up a revolving loan fund that can pay for energy efficiency retrofits or renewable energy systems.

PARTNERS: Municipalities

CROSS-CUTTING STRATEGIES:

CROSS CUTTING STRATEGIES ICONS: The following icons are used in reference to issues and strategies related to other element plans of this report.
Healthy food event at Nuestras Raíces farm in Holyoke. Photo: J. Krupczynski
Food Security Plan

No one goes hungry.
We grow our own food.

The Pioneer Valley is blessed with a robust, highly functioning and well integrated regional food system. The key entities and organizations involved in local food production and hunger relief programs cooperate effectively, communicate well and share many goals.

Dozens of successful small and medium sized farms cultivate some of the most fertile agricultural soils in the world. Our many grocery stores and co-ops stock as many local products as possible, and residents can take advantage of an ever expanding number (over 50 in 2013) of seasonal farmers markets and an increasing number of winter markets—many of which now accept Supplemental Nutritional Assistance Program (SNAP) benefits. There is good access to major transportation routes that allow growers and manufacturers to move products to market efficiently. Local food advocates and hunger relief organizations have a history of success providing food to hungry residents, helping them take advantage of food assistance programs, and facilitating the adoption of progressive food security-related policies at the state and local levels, including urban farming ordinances, municipal “right-to-farm” bylaws, as well as regulations that prohibit unhealthy foods in schools. There is a well-established commitment among institutional food providers, particularly schools, to supporting local farmers and producers. And a variety of organizations are active in efforts to develop and expand organic waste composting programs as well as developing waste to energy and other clean energy sources, on farms.

And yet, our region continues to lose farmland to development and farmers to other careers. We import the vast majority of the food we consume and have only just begun developing regional food processing facilities. We have increasing numbers of food insecure households due to poor access to healthy food, economic injustice and poverty. And we compost or recover energy from only a tiny percentage of our food waste. Today, we have a unique opportunity to catalyze existing food planning efforts so that we can do more, and do it faster, to improve food security at both the household and regional scales—which are the goals of this strategic plan.

Note: This is the executive summary of our plan. To obtain or view a copy of the full plan, visit pvpc.org.
OUR GOALS

No one goes hungry
- Further integrate emergency food systems and programs into the overall regional food system.
- Expand consumer outreach, education and advocacy to enhance use of healthy, local and culturally appropriate food.
- Increase access to healthy food.
- Make sure that as many people as possible who are eligible for food assistance receive it (Supplemental Nutrition Assistance Program; Women, Infants and Children; other programs).

We grow our own food
- Collaborate with organizations across New England and within our region to work toward the goal of producing 50% of all food that is consumed in the region.
- Preserve farmland and work to convert available land that may not currently be used as farmland to agricultural purposes.
- Invest in food system infrastructure.
- Provide training and resources to build the capacity of people growing the regional food system.

This 50% goal is drawn from the New England Good Food Vision 2060 for the six New England states produced by Food Solutions New England, most recently updated in April 2012. <http://www.foodsolutionsne.org>

This plan was produced by the Pioneer Valley Food Security Advisory Committee, which is staffed by the Pioneer Valley Planning Commission in partnership with Community Involved in Sustaining Agriculture (CISA), the region’s leading organization working to strengthen local agriculture by building connections between farmers and community, and The Food Bank of Western Massachusetts, the region’s primary hunger relief agency. The planning process included both qualitative and a quantitative assessments of food security issues in the Pioneer Valley. This included extensive interviews with farmers, advocates, planners, and others working in the various components of the food system, and the analysis of federal, state, and local data. The process also included research on best practices in regional food security across the United States to identify potential solutions to local needs. It also involved the engagement of members of the general public, as well as the community of people and organizations associated with PVGrows, a collaborative network dedicated to enhancing the ecological and economic sustainability and vitality of the Pioneer Valley food system, to assist in the identification of issues and prioritization of solutions.
According to the Food Bank of Western Massachusetts, one in every 8 residents in the agency’s service area (which includes Hampden, Hampshire, Franklin and Berkshire Counties), or about 110,000 people, go hungry each year—including 22,000 children.

At the household level, food security is generally understood to mean that people cannot regularly obtain a sufficiently diverse selection of foods for a healthy diet because food is not accessible or affordable. "Food insecurity" describes households that do not have enough money to make sure there is enough food for every meal. In the Pioneer Valley, the rate of food insecurity is 14.3% in Hampden County, 10.2% in Hampshire County and 11.5% in Franklin County, which translates to approximately 90,900 people in the region—of which nearly 35,000 are children—who cannot regularly buy the food they need for a healthy diet (Feeding America 2011).

### Food Insecurity in the Pioneer Valley

<table>
<thead>
<tr>
<th></th>
<th>Hampden County</th>
<th>Hampshire County</th>
<th>Franklin County</th>
<th>Region</th>
<th>Mass. statewide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food insecurity rate</td>
<td>14.3%</td>
<td>10.2%</td>
<td>11.5%</td>
<td>12.0%</td>
<td>11.2%</td>
</tr>
<tr>
<td>Food insecure population</td>
<td>66,880</td>
<td>15,780</td>
<td>8,240</td>
<td>90,900</td>
<td>727,530</td>
</tr>
<tr>
<td>Child food insecurity rate</td>
<td>24.3%</td>
<td>16.3%</td>
<td>20.2%</td>
<td>20.3%</td>
<td>18.1%</td>
</tr>
<tr>
<td>Child food insecure population</td>
<td>27,530</td>
<td>4,470</td>
<td>2,910</td>
<td>34,910</td>
<td>262,650</td>
</tr>
</tbody>
</table>

Franklin County data is also included, as it is part of the Food Bank of Western Massachusetts’ service area and considered by many residents to be part of the Pioneer Valley.
OUR FINDINGS

More than 16,000 people live in “food deserts.”

“Food desert” describes specific geographic areas where healthy food from a full-line grocery store is not regularly available. The U.S. Department of Agriculture finds that a person’s ability to access and purchase healthy, affordable food is substantially reduced in low-income and racial and ethnic minority neighborhoods that do not have a full-line grocery store, as well as rural areas where people may live more than 10 miles from a full-line grocery store and not have the means to travel there. According to USDA and the Centers for Disease Control, 3,515 people (2.2%) living in the urban areas of Hampden County and 12,580 people (2.7%) in urban Hampshire County do not have access to a car and live more than 1 mile from the nearest full-line grocery store. PVPC’s 2012 analysis found that a total of 24,627 residents in the rural areas of these countries live more than 10 miles from a full-line grocery store. Compounding the lack of accessible nutritious and healthy foods is the high quantity of unhealthy food choices, especially low-priced fast food. Lower-income food desert areas often have substantially higher concentrations of fast food establishments. Areas such as this where there are few, if any, alternatives to high-calorie food with low nutritional value are sometimes known as “food swamps.”

Nutritional assistance is not fully utilized in the region.

In the Pioneer Valley, the USDA’s Supplemental Nutrition Assistance Program (SNAP, formerly known as Food Stamps) is an important source of help for low-income residents fighting food insecurity. There are 54 providers of SNAP and the Women, Infants and Children (WIC) child and adult food programs in the region: 40 in Hampden County, 8 in Hampshire County, and 6 in Franklin County. The number of people participating in SNAP alone in these counties rose from 37,436 in 2000 to 137,464 in 2011—a 367% increase—while the population grew less than 5%. The value of SNAP benefits disbursed in the region rose from $25 million in 2000 to $143 million in 2009.

SNAP is designed to expand the number of people who receive benefits during tough economic times. Like the rest of the nation, the Pioneer Valley continues to experience the effects of the economic downtown that began in late 2008, and so the number of SNAP participants remains high. However, many families who are eligible for SNAP benefits do not use them for a variety of reasons, including stigma about accepting government assistance and a lack of awareness of available benefits. In recent years, the Food Bank of Western Massachusetts and other anti-hunger advocates have worked to increase awareness of eligibility for SNAP to increase the number of people who receive food. This includes outreach to local farmers markets and food businesses about accepting SNAP benefits from their customers.
In many respects, regional food systems function as a loop, like the one illustrated below.

This plan finds that within the food system of the Pioneer Valley, there are several points along this loop where new opportunities and potential exist for greater economic growth and improved sustainability.

Local farms and food producers make significant contributions to the regional economy.
There is economic development potential in more local food production and processing.

A 2008 study estimated that current Pioneer Valley farms and food production could satisfy about 16% of the demand for food consumed in the region. Current estimates suggest that Massachusetts as a whole is producing enough agricultural products to meet 4.0% to almost 6% of its food needs, and that our region could produce 5.6% of all of Massachusetts’ total food need. In Franklin, Hampden, and Hampshire counties, approximately 13% of household food budgets are spent on local food (not including purchases made by restaurants, retailers, and institutions). Therefore, the total value of agricultural products produced and consumed within our region is actually likely to be slightly higher.

There are at least 62 food processing facilities in the region (approximately half are commercial and retail bakeries), and sales from food manufacturing totaled $2.13 million in 2009. However, Western Massachusetts today lacks sufficient food processing facilities to meet demand for local consumption and exports. This shortcoming limits the amount and variety of processed foods created from local ingredients available in local markets—and economic growth.

One of the region’s greatest production facility needs is for additional value-added processing facilities to where locally grown food can be processed and packed for distribution and sales. Many local food businesses have used the Western Massachusetts Food Processing Center (FPC), a business incubator and shared-use commercial kitchen operated since 2001 by the Franklin County Community Development Corporation. In some cases, the center provides co-packing services, allowing farmers to supply ingredients and obtain a finished product for sale without providing the labor or recipe development. Also, additional slaughtering facilities, both mobile and fixed, are needed for animal products; currently, many farmers in the region must transport their animals long distances for slaughter, reducing the financial return.
Pioneer Valley farms sell $181 million dollars worth of agricultural products and employ 2,260 people annually. This represents 0.4% of all economic activity in the region and approximately 7.4%, of all agriculture sales.

There are approximately 1,960 farms in the Pioneer Valley, which is one-fourth of all farms in Massachusetts. The region contains about 169,000 acres of farmland, which is 14% of the total land area of the region and one-third of all agricultural land statewide. The region’s farms produce 13% of all Massachusetts agricultural products by value (see chart).

Nearly 500 farms sell their products directly to individuals, with total sales of $8.9 million annually (as of 2007). This includes sales at farm stands and the region’s 58 community supported agriculture, or “CSA” share farms. A total of 86 farms produce certified organic products, with sales of $4.4 million, or about 4% of total agricultural sales in the region—even though total farmland in organic production is less than 2,000 acres.

In 2007, there were 470 farms that employed workers, with total employment of about 3,800 workers earning a total $27 million. This total includes paid family members but excludes contract laborers. In 2007, a total of 86 farms hired migrant farm workers.

Since 1972, about 23,000 acres of cropland and pasture land in the region have been lost to development. In 1997, American Farmland Trust listed the Connecticut River Valley in Massachusetts and Connecticut as one of the 20 “most threatened agricultural regions in the United States.”
There is a strong consumer demand for local food.

Another major strength of the Pioneer Valley food system is the strong consumer demand for locally grown and produced foods—both for cooking at home and dining out. CISA along with its 340 local hero farms and food-related businesses and other vital community-based organizations and businesses have developed a strong local food culture. They have also created a local food infrastructure that supports economic growth, as well as addressing the need to combat hunger. There are now approximately 300 businesses in the region that sell and market local food, including new food cooperatives and restaurants that emphasize their use of local produce, and direct farm sales through farm stands. The number of farmers markets continues to increase—now 45 with some selling during the winter months—and member share-supported farms now total 58. Throughout the region, there is recognition of the value of local farmers and encouragement for new value-added food businesses.
New opportunities for local food sales are on the way, thanks in part to the Massachusetts School Nutrition Law enacted in 2010, which makes it easier for school districts to buy fresh produce directly from local farmers. The law also requires the establishment of a School Wellness Advisory Committee for school districts. The intent is that the committee will encourage development of a program that actively promotes wellness in schools and to maximize the school district's opportunities for grant awards. Also, the recently formed Massachusetts State Food Policy Council supports agriculture and local food consumption in Massachusetts through increased production and sales, including to institutional buyers.

Much more food waste could be recovered for composting.

Food disposal is a critical part of the regional food system. As more landfills in the region reach their capacity and must close, new solutions are needed for disposing of food. A 2010 study by PVPC estimated that Hampshire County alone (which has roughly one-third of the region's population) produces more than 51 tons of organic food waste a day—and of this, nearly 36 tons per day (70%) can be recovered for compost. However, the capacity of existing composting facilities in the county is just 15 tons per day, which means an additional 21 tons per day of organic food waste is available for composting. Applying similar assumptions in Hampden County, another 40 to 45 tons per day of compostable food is likely available, resulting in a regional total of 60 to 65 tons of waste food generated per day that is available to be composted. This compost could be available for farms, home gardens and commercial landscaping—and play a much greater role in the regional food cycle.
Fresh greens display at Nuestras Raices farm in Holyoke.
Photo: J. Krupczynski
A total of 30 strategies for improving food security in the Pioneer Valley have been developed and refined through ongoing work with the Pioneer Valley Food Security Advisory Committee and many other stakeholders.

### SEEK
**Inter-organizational Collaboration**

Continue and expand ongoing communication and collaboration between hunger relief organizations, such as the Food Bank of Western Massachusetts, with Buy Local food organizations, such as CISA, via the regional food system network in the Pioneer Valley, PVGrows.

**PARTNERS:**
- Food Bank of W. Mass., CISA, PVGrows, PVPC

**CROSS-CUTTING STRATEGIES:**

### SUPPORT
**Emergency Food Systems Programs**

Facilitate wider acceptance of Supplemental Nutrition Assistance (SNAP-formerly food stamps), WIC coupons and other programs at farmers' markets and CSA farms to assist more people in accessing healthy food.

**PARTNERS:**
- Hunger relief organizations, state agencies, farmers market organizers

**CROSS-CUTTING STRATEGIES:**

### SEEK
**Consumer Education**

Continue to educate consumers about proper nutrition and food safety through community outreach, education and advocacy. Focus on healthy, local and culturally appropriate foods.

**PARTNERS:**
- Hunger relief and food community organizations, local food policy councils

**CROSS-CUTTING STRATEGIES:**

### ACCESS
**Information About Where to Buy Healthy Food**

Address food access issues by creating “feedability guides” that connect consumers with healthy food retail locations and availability information.

**PARTNERS:**
- Local food policy councils

**CROSS-CUTTING STRATEGIES:**
SEEK
New Retail Outlets for Healthy Food

Support, expand and replicate initiatives that increase the number or neighborhood retail outlets selling healthy food, such as the healthy bodega program in Springfield.

PARTNERS: Local food policy councils
CROSS-CUTTING STRATEGIES: 

INCREASE
Neighborhood Access to Fresh Food

Work to bring full-line grocery stores with a full line of fresh produce and meats to neighborhoods that do not have one.

PARTNERS: Community-based organizations, local food policy councils
CROSS-CUTTING STRATEGIES: 

PROVIDE
Access to Sources of Healthy Food

Provide free or reduced-fare bus passes to low-income riders for trips to garden plots, farmers' markets and other community food sources.

PARTNERS: Community-based organizations, PVTA
CROSS-CUTTING STRATEGIES: 

PROVIDE
Training and Technical Assistance

Provide ongoing technical assistance and training to community based organizations working to feed hungry people, such as volunteer recruitment/retention, management training, organizational development, strategic planning and fund-raising.

PARTNERS: Hunger relief organizations, Community Foundations, Leadership Pioneer Valley
CROSS-CUTTING STRATEGIES: 

EXPAND
Access to Healthy Food for Low-income Residents

Expand the number of low-income Community Supported Agriculture (CSA) models to increase access to fresh food in low-income areas by improving access for seniors, increasing the use of SNAP for CSA membership payment, and similar efforts.

PARTNERS: Hunger relief organizations and agencies, CISA
CROSS-CUTTING STRATEGIES: 

Food Security Plan
**OUR PLAN**

**PROVIDE**

**Zoning and Regulatory Assistance**

Work with member municipalities to assess how local zoning and other regulations may help or hinder residents’ access to healthy food, and develop solutions to fix problems that are identified. This may include easing restrictions on vegetable gardens and livestock in residential districts, facilitating adoption of right to farm bylaws and similar actions.

**PARTNERS:** PVPC, local planning officials

**CROSS-CUTTING STRATEGIES:**

**SUPPORT**

**Retail Best Practices for Healthy Food**

Support retail policies and practices, such as in-store displays requirements and signage that promote healthy food. Work to implement these at all levels of government and community, such as healthy locally grown snacks at public meetings.

**PARTNERS:** Municipalities, Local Food Policy Councils, Community-based Organizations

**CROSS-CUTTING STRATEGIES:**

**ENCOURAGE**

**More Local Food Purchases by Schools and Other Institutional Meal Providers**

Support, incentivize and facilitate purchases of local food for lunches by schools, as well as elder care facilities, senior meals programs (i.e., Meals on Wheels). Includes developing contract requirements and incentives to increase private contractor purchases of local foods and services.

**PARTNERS:** School boards and districts, senior centers, care facilities, CISA, MA Farm to School

**CROSS-CUTTING STRATEGIES:**

**ASSURE**

**Food Assistance Benefits are Fully Used**

Work to assure that all people eligible for SNAP, WIC and similar program benefits are enrolled in the program.

**PARTNERS:** Hunger relief organizations, social service agencies

**CROSS-CUTTING STRATEGIES:**

**OVERCOME**

**Assumptions and Stereotypes**

Work to de-stigmatize poverty in general and the use of hunger assistance benefits. Provide information about the nutritional needs of low-income residents of the region and the public health benefits of a healthy population, especially to growing children.

**PARTNERS:** PVPC, Hunger relief organizations, public officials

**CROSS-CUTTING STRATEGIES:**
**OUR PLAN**

**Food Security Plan**

**ASPIRE**

**To Produce 50% of Food Consumed in the Region**

Collaborate with organizations throughout the Commonwealth and within the Pioneer Valley to work toward the goal of producing 50% of the food that is consumed in the region.

**SHARE**

**Information About Food Production**

Create an online electronic platform for food-related data to enable food organizations to share existing data and describe future needs. This service could also provide training and education about food data collection and use, and technical assistance for farm business operators, food distributors and retailers.

**PROMOTE**

**Local Food Businesses**

Support local policies and regulations that address food insecurity and promote local agriculture, such as “Right-to-Farm” bylaws, local agriculture commissions, and municipal laws to regulate fast food establishments.

**Protect**

**Prime Agricultural Lands**

Continue incentives and programs to keep agricultural land in production. Support regulations that direct new development to urban and suburban infill areas with the existing infrastructure to support it. Use Agricultural Preservation Restrictions (APRs) and other regulatory/policy means to preserve prime farmland and convert available land that may not currently be used as farmland to agricultural purposes. Work with land owners and land protection organizations to develop new, innovative strategies for protecting agricultural lands. Utilize local funds from Community Preservation Act (CPA) and transfer of development (TDR) rights to leverage and match state APR funds. Actively outreach to farmers to encourage APR applications. Produce a brochure about the benefits of the APR program.

**PARTNERS:**

CISA, PVPC, Food producers and distributors, MA Food Policy Councils

**CROSS-CUTTING STRATEGIES:**

$ ☀

**PARTNERS:**

CISA, Food Bank of W. MA., PVPC

**CROSS-CUTTING STRATEGIES:**

$ ☀

**PARTNERS:**

PVPC, municipalities

**CROSS-CUTTING STRATEGIES:**

$ ☀ ☀

**PARTNERS:**

Land owners, MA Dept of Agriculture, PVPC, municipalities

**CROSS-CUTTING STRATEGIES:**

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OUR PLAN

CONNECT
Farmers With Land Owners

Connect land owners with farmers to facilitate agricultural production. Actively participate in Hampden County pilot project collaboration with the New Entry Sustainable Farming Project and its partners.

PARTNERS: PVPC, MA DAR
CROSS-CUTTING STRATEGIES:

ENCOURAGE
Urban Agriculture

Support urban agriculture, including livestock ordinances, GIS mapping of available parcels, and foster partnerships among property owners and businesses to develop and expand community gardens and commercial urban agriculture projects.

PARTNERS: Municipalities, PVPC, MA DAR
CROSS-CUTTING STRATEGIES:

GROW
School Gardens

Support on-site vegetable gardens at schools, day care facilities, adult care facilities and other similar entities.

PARTNERS: School districts, care facility operators
CROSS-CUTTING STRATEGIES:

CREATE
Renewable Energy and Efficiency

Support development of on-farm clean and renewable energy sources and systems. Help improve the efficiency of existing energy systems. Includes participation in Massachusetts Clean Energy Center municipal pilot program for community renewable energy development.

PARTNERS: MA Farm Energy Program (MFEP), PVPC, municipalities
CROSS-CUTTING STRATEGIES:

GROW
Year-round Food Production

Facilitate and expand year-round food production capacity in the region, including hydroponic greenhouses.

PARTNERS: Farmers, DAR, CISA
CROSS-CUTTING STRATEGIES:
**OUR PLAN**

### INVEST

**Financial Resources in Local Food Businesses**

Provide flexible capital for innovative local farm and food businesses, particularly those to improve food system infrastructure.

**PARTNERS:** Common Capitol, PV Grows, Financial Institutions

**CROSS-CUTTING STRATEGIES:** $53

### INCREASE

**Large-scale Composting Opportunities**

Develop new and expand existing large-scale composting of food waste generated by retail food stores, businesses, institutions. Support and/or establish waste source separation programs and hauling routes. Help strengthen the composting market with greater incentives (i.e., landfill tipping fees) to divert organic wastes to composting and develop stronger consumer demand for finished compost products.

**PARTNERS:** PVPC, municipalities, food businesses and institutional meals providers

**CROSS-CUTTING STRATEGIES:** $54

### CREATE

**More Residential Composting**

Expand residential composting by encouraging sales of in-home and outdoor bins by municipalities and local businesses. Widely distribute easy-to-understand information about how to compost at home.

**PARTNERS:** Municipalities, DEP

**CROSS-CUTTING STRATEGIES:** $55

### CONNECT

**Farmers and Institutional Meal Providers**

Help develop and expand the capacity of farmers to sell produce directly to institutional meal providers, such as colleges, universities, schools, hospitals, day-care, senior meals programs and nursing homes.

**PARTNERS:** MA Farm to School, CISA, DAR, AFT

**CROSS-CUTTING STRATEGIES:** $56
OUR PLAN

SCALE UP
Local Food Production

Implement recommendations from CISA food system infrastructure report, Scaling Up Local Food. Key steps include facilitating working relationships between meat producers and slaughter, processing and marketing outlets; improving the capacity of dairy processing in the region; establishing a temperature-controlled regionally shared root cellar facility; expanding capacity for local value-added processing, freezing and co-packing; logistical support for ordering; and grain processing.

PARTNERS:
CISA, state agencies, municipalities, food businesses, Common Capitol, PV Grows, MA Workforce Alliance

CROSS-CUTTING STRATEGIES:
$

SUPPORT
Business Needs of Local Food Producers

Provide technical assistance and business development support to local farms and food businesses, including compliance with food safety requirements. This may include enterprise development, marketing and financial management. Initiatives could include creation and staffing of a Valley-focused agricultural business support center, and greater collaboration with new Greenfield Community College's Farm and Food Systems degree and certificate program. A designated municipal point person could serve as liaison between local farmers and these services.

PARTNERS:
CISA, financial institutions, municipalities, Common Capitol, PV Grows

CROSS-CUTTING STRATEGIES:
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CREATE
More Jobs Throughout the Local Food System

Work to fill gaps in all sectors of the local food system with local jobs, especially in the food production and waste/compost sectors. Provide education and training to increase the skills and capacities of food system workers through formal programs, such as the GCC Farm and Food Systems degree and certificate programs, as well as apprenticeships and internships at local farms and food businesses.

PARTNERS:
Community college academic and training programs, MA Workforce Alliance, Regional employment agencies, CISA

CROSS-CUTTING STRATEGIES:
$

CROSS CUTTING STRATEGIES ICONS: The following icons are used in reference to issues and strategies related to other element plans of this report.
Fresh Produce at a Farmer’s Market
Old Housing still in use in Holyoke.

Cold Spring Common Development in Belchertown
Photo: Dietz & Co. Architects
The purpose of this Regional Housing Plan is to identify opportunities related to housing market stability, housing affordability and fair access to housing in the Pioneer Valley in order to create a region in which all residents are able to choose housing that is affordable and appropriate to their needs. The plan is intended to assist municipal officials, state government, and fair housing associations in creating a sustainable region that empowers our urban, suburban, and rural places.

Note: This is the executive summary of our plan. To obtain or view a copy of the full plan, visit pvpc.org.
OUR GOALS

- **Enhance housing choice** by enabling a full range of housing opportunities that are affordable to households of all racial and ethnic backgrounds, abilities, and income ranges and that are integrated with our region’s employment and transportation networks.
- **Transform economically distressed areas, which are often racially and ethnically segregated areas,** into communities of opportunity so all have access to quality jobs, schools, affordable housing, transportation, and cultural and physical amenities.
- **Promote fair housing opportunities** by ensuring equal and free access to housing regardless of race, religion, national origin, age, ancestry, military background or service, sex, sexual preference, marital status, familial status, disability, blindness, deafness, or the need of a service dog.
- **Integrate housing investments** in a manner that empowers our urban, suburban, and rural places to undertake the interdependent challenges of: 1) economic competitiveness and revitalization; 2) social equity, inclusion, and access to opportunity; 3) energy use and climate change; and 4) public health and environmental impact.
- **Encourage collaboration** by developing multi-jurisdictional planning efforts that integrate housing, land use, economic and workforce development, transportation, and infrastructure investments to direct long-term development, reinvestment, and address issues of regional significance.

Granby Heights—a new Granby Housing Authority development. 
*Source: PVPC*
A row of houses in the Churchill Homes development in Holyoke  Photo: Chris Curtis
The main revitalization challenge facing our cities is a weak housing market. Weak demand for homes, created chiefly by concerns over crime and safety and the quality of public education, has led to low property values and high vacancies. Low property values create a disincentive for homeowners and landlords to make capital or maintenance improvements to their properties because the cost of these improvements can be greater than the overall value of the property or does not increase the value of the property. Divestment from low property values has led to vacant or deteriorating housing, which creates neighborhood blight and makes for unsafe living conditions.

The depressed housing market also makes it financially difficult to develop new housing on infill lots or within existing mill and commercial buildings or renovate existing multi-unit residential buildings for households that would pay market rent. Anecdotal evidence suggests that there are young professionals, empty-nesters, or two person households who desire to rent apartments or buy condominiums in our cities but are unable to find housing that suits their tastes in areas they find safe and that have ready access to goods and services. Housing developers point to the problem that current market rents are typically insufficient to support the cost of new construction or significant rehabilitation of multi-unit housing. The limited state or federal public subsidies that exist to help developers fill the financing gap require income-restricted housing as a condition of receipt of these funds. These restrictions are good practice in many instances but can also serve as one more barrier to attracting an economically diverse population to urban neighborhoods and to increasing home-ownership rates.
A variety of household types live in our region.

The region continues to have a variety of household types in terms of size, age, income, and ability, which results in the need for a variety of housing options. Region-wide, we are seeing much smaller households than in decades past as more people choose to live alone, have no children or have fewer children. Consistent with national trends, over 60 percent of all households in the region consist of one or two person households. Our rural communities, in particular, have seen a great decrease in families with children and an increase of older, childless households.

It is anticipated that the general trend toward smaller households may create new demands for smaller, more efficient housing options over larger single family homes. Many of our cities and towns are working toward improving the overall quality of life in their downtowns and neighborhoods to capture this potential demand. At the same time, there remains a need, particularly in communities outside of the central cities, for rental units with three or more bedrooms to accommodate families with children.
Our fastest growing communities include many of our small towns as well as a few of our rural and suburban communities. Many of the communities that saw an increase in the number of housing units also saw negative or minimal population growth. This phenomenon reflects local, regional and national trends towards smaller household sizes.

Our small towns and suburban communities have become attractive to those seeking easy to moderate commuting distance from the region’s major job centers and desiring “rural” character. Anecdotally, our rural communities have become attractive to empty-nesters and retirees as well as to people who can afford and do not mind long-distance commuting or who telecommute.

Housing production in our fastest growing communities has almost exclusively been single-family homes, which is a reflection of what is allowed to be constructed under municipal zoning in these communities. Housing production outside of the region’s more urbanized areas also occurred despite the surplus of vacant homes in our central cities.

Most housing unit production occurred outside of the region’s more urbanized areas.
Municipal zoning restricts housing choice and mobility in the region.

Communities are legitimately concerned about maintaining community character, protecting natural resources and keeping up with demand for municipal services. However, housing choice and mobility in our region is limited by the fact that:

- 19 of our communities do not allow for multi-family housing,
- 12 of our sewered communities require minimum lot sizes greater than ¼ acre, and
- 14 of our communities require minimum lot sizes of one acre or more.

Zoning that promotes large-lot single family homes favors larger households and higher-income households to the disadvantage of all other households in the region. Multi-family housing, two-family housing, and smaller single family homes on smaller lots tend to be more affordable to a wider range of households than larger single family homes on large lots.

In general, communities with public water, public sewer, good soils and flat topography can more easily accommodate residential development at higher densities than those communities that lack these characteristics. Municipalities without public water and public sewer can still allow multi-family housing or smaller lot sizes. State building, health, and environmental regulations offer minimum standards—regulations for permeable soils, adequate depth to groundwater, setbacks to property lines, drinking water wells and wetlands, and bedrooms per acre—that municipalities can use as a starting point for permitting more housing choices. There are also a number of technological opportunities to address these challenges such as shared systems (multiple homes on one septic system), alternative septic systems, and small private wastewater treatment plants.
Families in Poverty (2007-2011)

Our economically distressed areas need expanded opportunities.

Many of our residents live in racially, ethnically, and economically segregated areas in the Pioneer Valley—both rural and urban—that lack access to quality jobs, schools, affordable housing, transportation, and cultural and physical amenities. The “Families in Poverty” map highlights the communities with the highest instances of economic insecurity in our region. In areas or neighborhoods within these communities, housing quality can be distressed and substandard. There is a regional need to transform these areas into communities of opportunity through good schools, healthy and safe environments, decent housing, and access to financially stable employment to reduce social disparities and allow all residents to succeed, thrive and excel in society.
There is a shortage of accessible and barrier-free housing throughout the region.

There is a great shortage of housing units that are accessible to people with physical disabilities including mobility impairments, sight impairments, hearing impairments, environmental sensitivities and other disabilities. Approximately 43,000 residents age 18 to 64 (10 percent of all residents age 18 to 64) and 30,000 elderly residents in the region (40 percent of all elderly) had one or more disabilities in comparison to the estimated 330 accessible/adaptable units and 270 ground floor/elevator accessible units in our region. Accessible and barrier free housing enables people with physical disabilities to live independently in the community. The number of people with physical disabilities within the region suggests the need for more concerted efforts to integrate accessible housing and housing with supportive services into our planning for market-rate and affordable housing development.
The region has too many households that pay more than they should to own or rent a home. An indicator of this problem is the fact that more than 30 percent of homeowners and 50 percent of renters in the Pioneer Valley spend more than 30 percent of their income on housing related costs, which means they are “cost-burdened” and may have difficulty affording necessities such as food, clothing, transportation and medical care as well as saving for their future. Bolstering the supply of housing that is affordable to all income levels is critical to building and retaining talent for the innovation economy and improving the region’s overall economic competitiveness.

A variety of housing cost challenges exist in our region depending on the household’s level of income. For our middle-income households, the problem is that household incomes have not kept pace with increased housing costs, making it difficult for some families to enter the homeownership market. Communities that currently have housing that is affordable to middle income families should consider strategies to preserve this supply.

For our low-income households, homeownership is generally out of reach or unsustainable with today’s lending market. Rents can be unaffordable to the working poor, especially for those households without a housing subsidy. Even households with housing subsidies face challenges finding decent, safe, and affordable housing. The high cost of rent in the greater Amherst-Northampton area rental market has pushed lower income households into lower-cost communities such as Holyoke, Chicopee, and Springfield. In turn, this perpetuates the concentration of lower-income households in these communities.

For our very low-income households—those who make less than $20,000—finding a decent, safe and affordable place to live is most challenging. Households without subsidies are either spending significantly more than 30 percent of their income on rent, living in substandard housing, or are situationally homeless and may be living with a friend or relative. In general, the demand for income-restricted housing (also known as “affordable” or “subsidized” housing) in the region is greater than the supply. See Chapter Three of the Regional Housing Plan for more information on this complex topic.

Our upper-income households have the most housing choices and can afford to live in our region’s most expensive communities. Anecdotal evidence suggests a need for more high-end housing—homeownership and rentals—to recruit and retain executive-level professionals.
Homelessness affects every community in the Pioneer Valley. The causes of homelessness are complex, including both societal factors—such as housing costs that have outpaced income growth, the loss of manufacturing jobs, and housing discrimination—and individual factors—such as domestic violence, divorce, chronic illness, and substance abuse. While our image of homelessness is often that of chronically homeless people, the reality is that most people who experience homelessness have a single episode of homelessness and then recover to regain housing stability. The number of households that experience this type of housing crisis is very high—estimated to be over 2,000 households per year in our region.

The region’s plan to end homelessness, “All Roads Lead Home: A Regional Plan to End Homelessness”, and the work of the Western Massachusetts Network to End Homelessness provides a regional approach to homelessness that is proactive and committed to solving this difficult problem. In addition, the City of Springfield has been implementing its own 10-Year Plan to End Long-Term Homelessness, “Homes Within Reach.” The purpose of all these efforts is to reduce chronic homelessness, reduce street homelessness, and reduce the need for emergency shelter for individuals. They emphasize permanent supportive housing, provided through what is known as a “Housing First” approach, as a better response to homelessness than emergency shelter.
Our findings

Well-maintained older homes are an important part of a community’s local history and help preserve historic character; however, older houses can be costly to maintain due to the increased need for maintenance and repairs and outdated heating, cooling, and insulation systems that can result in higher associated utility costs. Since the cost to rehabilitate and achieve code compliance in older houses can be extremely high, some landlords and homeowners cannot afford to make these improvements or, in the case of weak market areas, some have not invested in their properties because low home values do not justify the cost of capital or maintenance improvements. Older homes can also be expensive to retrofit for people with mobility impairments.

Many older homes may still contain lead-based paint, which can create personal health risks, particularly in children. Massachusetts’ lead paint law requires owners of properties built before 1978 to abate any property in which a child under the age of six resides in accordance with the state’s lead paint requirement. Some landlords in the region have tried to avoid renting to families with young children because of the presence – or the perceived presence – of lead paint in their units and the associated expense of lead abatement and disposal, even though doing so is prohibited by law. This has the effect of limiting the supply and availability of housing, especially for families with young children.

This historic home in Springfield’s Old Hill neighborhood was ready to be torn down. HAP Housing, one of the region’s community development corporations, with public and private support renovated it into an attractive, owner-occupied, energy-efficient home as part of a strategy to revitalize this neighborhood and preserve its historic character.

Source: HAP Housing

Older homes can be costly to update, maintain, and adapt.
Discriminatory housing practices limit housing choice and equal opportunity.

Discrimination, in addition to the structural issues such as economic insecurity and poverty, can hinder mobility and residents’ abilities to obtain stable housing situations, especially for persons of color. Despite the existence of state and federal laws that protect specific categories of people from housing discrimination, the following are prevalent forms of housing discrimination in our region:

- Predatory lending, redlining and other housing discriminatory practices.
- Active steering towards certain areas of a community and/or the region based on race/ethnicity, economic characteristics, and familial status.
- Rental discrimination against families with minor children.
- Rental discrimination against families with young children due to the presence or potential presence of lead-based hazards.
- Linguistic profiling in both the rental and homeownership markets, especially against persons of Latino origin.
- Landlords who refuse to make reasonable accommodations for individuals with disabilities.
- Landlords who refuse to accept housing subsidies as a source of rental payment such as Section 8 housing vouchers.
The region has a limited supply of income-restricted affordable housing—public and private—outside of our central cities, which reduces housing choices and concentrates poverty. Besides our three central cities, only Amherst, Hadley, and Northampton have surpassed the 10 percent income-restricted affordable housing goal set by M.G.L. Chapter 40B—the Comprehensive Permit Act. Housing production of new income-restricted units has not kept up with demand for these units nor with the loss of existing income-restricted units due to their term of affordability expiring. In addition, the lack of affordable rental housing outside of the region’s central cities limits rental options for housing choice rental voucher holders. All of these factors serve to reduce housing choices and concentrate poverty in cities such as Springfield, Holyoke and Chicopee.
Amherst is one of the most expensive communities in the region to buy or rent a home. Although the town has more than 10 percent of its share of income-restricted affordable housing, there was and continues to be a significant need for affordable housing units, particularly for people who may work in town but cannot afford to live there. HAPHousing proposed a 26-unit housing development near Hampshire College in the early 2000s to provide more housing options in the community.

This development took almost 10 years to complete because of neighborhood opposition and the complexity of assembling funding for new affordable housing projects. This housing project received a Comprehensive Permit (Chapter 40B) from the Amherst Zoning Board of Appeals in the early 2000s, but local neighbors then filed a series of legal challenges to prevent its construction. The Massachusetts Supreme Judicial Court ultimately affirmed a Land Court ruling that the Amherst Zoning Board of Appeals did not exceed its authority when it granted a Comprehensive Permit for affordable housing. During the period of these legal challenges, the project lost its initial investors as a result of the economic downturn. HAPHousing was finally able to assemble financing for this project from a multitude of public and private entities and the project broke ground in 2010.

Today, Butternut Farm is a 26-unit development that includes one, two, and three-bedroom apartments within a restored farmhouse and three new townhouse-style buildings on a total of four acres of land. The facility also includes an indoor public area with a kitchen, children’s play area, basketball court, and laundry area. To be eligible to live in the development, tenants must earn 60 percent or less of the area median income.
The full Regional Housing Plan recommends 55 strategies to initiate, maintain or improve market conditions; local, regional, state and federal policy; and the delivery of housing services to enable people to access the housing that they desire. The 55 recommended strategies are framed around the following 13 organizing objectives:

- Promoting Regional Action
- Affirmatively Furthering Fair Housing
- Supporting Revitalization and Stabilization Efforts of Our Central Cities
- Addressing Vacant, Abandoned or Foreclosed Properties
- Maintaining Quality Housing
- Increasing Homeownership Opportunities
- Supporting Public Housing and Tenant Services
- Increasing and Preserving the Supply of Private Income-Restricted Housing Outside of the Central Cities
- Ending Homelessness
- Creating Elderly Housing Opportunities
- Producing and Integrating Accessible Housing
- Enabling More Housing Choices Outside of Central Cities Through Regulatory Action
- Strengthening Local and Regional Housing Program Capacity

Our recommended strategies can take a variety of forms, from the sharing of ideas and best practices to the full sharing of housing services, to policy changes enacted at the local, state, or federal level. Many of the communities in the region are already pursuing these strategies and have demonstrated a long-standing commitment to provide housing choices for a diverse population.

For some communities in the region, the strategies presented here may be new ideas or may provide goals around which a future community consensus could be reached. The following pages highlight a selection of the Regional Housing Plan’s strategies. For more details about any of the strategies listed below or to view all 55 strategies, please see the full Regional Housing Plan.
ENCOURAGE

Employer Assisted Housing Programs

Meet with area employers to understand their employment needs and propose strategies that employers can use to invest in workforce housing solutions. These strategies may include public support of a new housing development, providing on-site home buyer education classes, down payment assistance, loan guarantees, and in some cases, rental assistance or new housing development.

PARTNERS: Municipal staff, PVPC
CROSS-CUTTING STRATEGIES:

USE

M.G.L. Chapter 40B, M.G.L. Chapter 40R, and Compact Neighborhoods Program to Create New Income-Restricted Housing

Municipal officials and staff can utilize three state programs — M.G.L. Chapter 40B, M.G.L. Chapter 40R and Compact Neighborhoods — to locally initiate income-restricted housing development projects in areas they self-identify for such development. Municipalities could use more information on how to plan and produce under these three programs.

PARTNERS: PVPC, DHCD, Municipal officials and boards, CPTC
CROSS-CUTTING STRATEGIES:

PLAN

Regionally for New Senior Housing

Although each city and town in the region might prefer to provide senior housing for its residents within its borders, this may not be financially possible. Federal funding for senior housing is very competitive and state resources have been very limited. In recognition of limited resources new senior housing should be planned to serve a number of communities in a sub-regional area.

PARTNERS: Municipal officials, Councils on Aging, PVPC
CROSS-CUTTING STRATEGIES:

ENCOURAGE

“Over 55” Senior Housing to Have Universal Design, Adaptable or Accessible Features

Municipalities that allow “over 55” developments as a residential use may want to consider creating incentives or mandating that all or a high percentage of units in these developments include universal design, accessible, and/or other adaptable features.

PARTNERS: Municipalities, PVPC
CROSS-CUTTING STRATEGIES:

FORM

A Shared Housing Office

It may not be feasible for smaller communities to have their own staff with expertise in affordable housing, but a model for shared staff by using inter-governmental agreements may be a viable means of building local capacity of the smaller communities in the region. This strategy may work for some of the sub-regional areas within the larger region.

PARTNERS: Municipalities, PVPC
OUR PLAN

ENCOURAGE
Zoning that Allows for Multifamily Housing

Zoning that allows multifamily attached dwellings, either townhouse-style condominiums or apartments, can increase the supply of housing affordable to a wider range of households. Municipalities can amend local zoning to allow multifamily housing by-right or by special permit. Municipalities also need more technical assistance on how to plan for multifamily housing.

PARTNERS: Municipalities, PVPC, DHCD

CROSS-CUTTING STRATEGIES:

APPOINT
A Local Housing Committee

A municipally-appointed committee for housing is a first step in addressing local housing concerns. This committee studies community needs, recommends appropriate actions, and advocates for action.

PARTNERS: Municipalities

FORM
A Municipal Affordable Housing Trust (MAHT)

The formation of a MAHT under M.G.L. c. 44 sec. 55C, allows local governments greater flexibility in managing funds and engaging in real estate transactions for affordable housing purposes. A MAHT can receive CPA funds as well as funds from other sources such as private and public donations and use them to implement affordable housing projects or programs.

PARTNERS: Municipalities, MHP

DEVELOP
A Local Housing Plan

Develop a local housing plan, drawing on findings of the Regional Housing Plan, to lay out specific approaches for meeting local and regional needs and/or as a guide for spending CPA housing funds.

PARTNERS: Municipalities, PVPC

CROSS-CUTTING STRATEGIES:

STRENGTHEN
Code Enforcement Activities

Municipal enforcement of building codes, health and safety codes and other local regulations is essential to address issues of overcrowding, tenant safety and neighborhood stability. Local code enforcement could be strengthened by licensing and inspection programs, regionalization of inspection services for smaller municipalities, and/or coordinated technical assistance on legalities and other issues from DHCD, DPH, DOR, and AGO.

PARTNERS: Municipalities, PVPC, DHCD, DPH, DOR, and AGO
SUPPORT
Efforts of Local Housing Authorities to Share Ideas, Programs, and Staff

The executive directors of the local housing authorities (LHA’s) in all four counties of western Massachusetts meet regularly to share ideas and best practices about operations and needs. The LHA’S should be encouraged to examine the potential for combined operations for programs, maintenance, and staffing.

PARTNERS:
Municipal officials, LHA’s, PVPC

ENSURE
Compliance with Existing Accessibility Requirements

Local building inspectors can have a tremendous effect on making sure existing accessibility requirements are being met when new housing units are created or when housing is modified. Code enforcement staff as well as landlords may need training in laws and practices related to accessibility.

PARTNERS:
Municipal staff, MA Executive Office of Public Safety and Security (EOPSS), Landlords, LHA's and housing providers

DISTRIBUTE
Funding for Housing Rehabilitation & Modification Loan Programs at the Regional Level

DHCD should consider making CDBG funds available to income eligible owners and investors with income eligible tenants by distributing funding at the regional level instead of making individual communities compete for limited funds, which leaves homeowners or tenants in the unfunded communities without potential assistance.

PARTNERS:
DHCD

FUND
Maintenance and Capital Repairs in Order to Bring Empty but Inhabitable Housing Units Back Online

The DHCD formula funding program has improved predictability for capital improvement planning and funding for housing authorities. However, local housing authorities still need additional funding to make a dent in the backlog of deferred maintenance and capital improvements at housing authority properties that are keeping many units offline.

PARTNERS:
DHCD, HUD

DEVELOP
A More Robust Program for Mobility Counseling for Housing Choice Voucher Holders

Landlords who illegally refuse to accept housing choice vouchers or rent based on a person's language prevents residents from fully maximizing their location options under the Section 8 and Massachusetts Rental Voucher Program (MRVP). Residents should receive counseling on their tenancy rights under state and federal law.

PARTNERS:
HUD, DHCD, LHA commissioners

CROSS-CUTTING STRATEGIES:

Selected DHCD (MA) & HUD (U.S.) Strategies

Regional Housing Plan
OUR PLAN

CREATE

Smaller Fair Market Rent Areas that More Accurately Reflect Local Market Conditions

The Springfield MSA Fair Market Rent (FMR) area includes all 43 communities in the region and, for this reason, does not reflect the asking rents within our strong and weak housing market areas in the region. This hinders the ‘choice’ that the housing vouchers were designed to promote. Two or more FMR areas would better serve the goals of the Section 8 program.

PARTNERS: HUD

SET ASIDE

Funding for Smaller-Scale Income-Restricted Affordable Developments

The suburban, exurban and rural communities would be more likely to produce affordable housing if DHCD and HUD made funding specifically available for smaller projects. In the past, larger developments have had an advantage when competing for state funding.

PARTNERS: DHCD, HUD

CROSS-CUTTING STRATEGIES:

FUND AND COORDINATE

Rapid Rehousing and Prevention Programs

Our region has developed effective and efficient rapid rehousing programs over the past several years, and we must continue to ensure that homelessness funding is directed toward these programs.

PARTNERS: DHCD, Western Mass Network to End Homelessness Municipal, Foundation & Faith-Based Communities, PVPC, CoCs

SUPPORT AND FINANCE

The Western Massachusetts Network to End Homelessness

The Western Massachusetts Network to End Homelessness has played a key role in coordinating housing and services; supporting prevention, diversion and rapid re-housing efforts; and collecting data on the homeless population for the region. The original funding for this Network is no longer available, but the need for this collaborative approach remains critical.

PARTNERS: DHCD, Municipal, Foundation & Faith-Based Communities

FUND

Programs That Aim to Attract Middle-to-Upper-Income Households to Targeted Areas

Almost all public funds made available from DHCD or HUD for neighborhood revitalization requires income-restricted housing as a condition of receipt of these funds. In many instances, this may be good practice, but in our cities it serves as one more barrier to attracting an economically diverse population to urban neighborhoods and to increasing home-ownership rates.

PARTNERS: DHCD/HUD

CROSS-CUTTING STRATEGIES:
Our Plan
Regional Housing Plan

The establishment of an on-going group to continue the work begun with this Regional Housing Plan and to assist in the implementation phase to advance plan goals and improve communication and coordination across the region.

Partners:
RHC, PVPC

Cross-cutting strategies:
$  

SELECTED PIONEER VALLEY PLANNING COMMISSION STRATEGIES

Enhance
Available Technical Assistance

PVPC will coordinate or offer more technical assistance in the form of workshops, trainings, publications and direct assistance on a wide range of housing issues, from context sensitive design to housing development on public land that can assist municipalities in carrying out their housing agenda.

Partners:
PVPC, State/DHCD

Cross-cutting strategies:

Leverage
Major Public and Private Investments to Create Market-Rate Housing Opportunities

Municipal officials can work to leverage market-rate housing and other neighborhood improvements from major public and private investment such as investments in commuter rail and high speed rail, upgrades to our medical centers, and funding for brownfield redevelopments.

Partners:
Develop Springfield, Mass Development, PVPC, elected officials of cities and towns

Cross-cutting strategies:
$  

Research
And Implement as Appropriate – Various Tax, Incentive, and Financing Strategies to Revitalize Housing Markets

Research various tax mechanisms such as the Land Value Tax, Neighborhood Improvement Zone and Tax Increment Financing in order to determine which would be an appropriate option for Massachusetts to revitalize its more urbanized areas.

Partners:
PVPC, Plan for Progress, Pioneer Institute, CHAPA, Lincoln Land Institute

Cross-cutting strategies:
$  

Discuss
Development Obstacles and Opportunities of Larger-Scale Housing Projects and Work Toward Solutions

Hold annual, semi-annual, or quarterly meetings during which developers, builders, real estate professionals and municipal officials discuss development challenges and opportunities.

Partners:
PVPC, RHC, PFP

Cross-cutting strategies:
$  

Continue
The Regional Housing Committee

The establishment of an on-going group to continue the work begun with this Regional Housing Plan and to assist in the implementation phase to advance plan goals and improve communication and coordination across the region.
Other Selected Strategies

**REVISE**

**Lead Paint Abatement Program Requirements and Conduct Outreach on Existing Program Requirements**

Landlords who illegally refuse to rent to a family with children based on the presence or perceived presence of lead paint in the home is a leading form of housing discrimination in the region. Education should be required for landlords and housing providers about abatement requirements under Massachusetts law. As there has been no significant revision of state lead paint regulations since 1993, it might be useful to reevaluate certain aspects of these regulations in light of recent studies and the experience of neighboring states.

**PARTNERS:**
HAPHousing, MFHC, DPH, DHCD, HUD

**SUPPORT**

**Advocacy, Monitoring, Reporting and Enforcement of Fair Housing Laws**

Strong enforcement of fair housing laws is a deterrent to abuse and legal violations. Increased funding to the Mass Fair Housing Center and Massachusetts Commission Against Discrimination would enhance existing efforts.

**PARTNERS:**
MCAD, DHCD, MFHC, HUD

**SUPPORT**

**Mortgage/Down Payment Assistance Programs for First-Time Homebuyers**

Continue financial support for programs that assist first time homebuyers with mortgage assistance and below market mortgage products. Educate CPA communities about use of CPA funds for down payment or closing cost assistance programs.

**PARTNERS:**
MassHousing, MHP, PVPC

**STRENGTHEN**

**Education to Landlords, Tenants, Banking and Lending Institutions, and General Public about Fair Housing Laws**

The lack of knowledge of fair housing laws can often lead to illegal discrimination. Property owners and managers need to be informed of fair housing laws and know that enforcement mechanisms are in place. Renters and homebuyers should also be aware of their fair housing rights and responsibilities.

**PARTNERS:**
MCAD, DHCD, HAPHousing, MFHC, HUD
Cold Spring Common Development in Belchertown has 14 units in seven buildings for a residential density of approximately 4 units an acre.

Source: ©Margot P. Cheel / Damianosphotography.com
Connecticut River with the Mount Holyoke Range in the background

Photo: Chris Curtis
Environment Plan

Protecting greenways and blueways.
Growing vibrant communities in the watershed.

A clean and healthy environment is vital for everyone’s quality of life. This includes the natural diversity of biological species and communities, and the ability of ecosystems to be resilient. The human impact on our environment often creates an imbalance in nature disrupting ecological integrity, and human enjoyment of our landscape. The Pioneer Valley Environment Plan strives to correct the imbalances created by humans to restore and or protect ecological integrity, and identify strategies for enhancing community character and quality of life.

“My community is sustainable when we improve the environment for all.”
Marcos Marrero,
Holyoke, MA

Note: This is the executive summary of our plan. To obtain or view a copy of the full plan, visit pvpc.org.
OUR GOALS

- Eliminate or reduce bacteria, pathogen, and nitrogen loading from combined sewer overflows (CSOs).
- Eliminate toxins (including PCBs and pesticides) within the river to reduce human and wildlife exposure.
- Reduce nutrient loading and other nonpoint sources of pollution.
- Promote smart growth, land protection, and environmental conservation to support river health.
- Prevent habitat loss and restore degraded habitat.
- Promote improved flow and fish passage to ensure clean, free-flowing, and plentiful rivers for future generations.
- Prevent erosion and sedimentation induced by human activity.
- Promote greater public access for Connecticut River recreation and increased use of existing recreational facilities.

Core Environmental Values

- Swimmable and Fishable Rivers
- Clean Drinking Water
- Healthy Fisheries and Wildlife
- Vibrant Human-Riverfront Connections
- Sustainable Land Use and Agriculture
Historic keystone arch bridge over Westfield River, a designated National Wild and Scenic River.

Photo: Chris Curtis
The Connecticut River is a natural and scenic resource of great regional and interstate importance, and is a key element in the bi-state area’s quality of life and economic prosperity. The water quality in some sections of the Connecticut River in Massachusetts and Connecticut is not currently meeting fishable and swimmable standards due to water pollution discharges which include combined sewer overflows and urban stormwater runoff. The high cost of river clean-up is creating financial hardships for many river communities. In addition, there are other sections which are suffering from impaired water quality due to stream bank erosion and non-point source pollution. Significant federal, state and local resources have been spent on river improvements however, limitations on access to the river and public information about river recreation are hampering the public’s opportunity to enjoy these improvements. The Environment Plan evaluates water quality from the perspective of quality of life and how it affects recreational use, habitat integrity and resiliency, and greenways.
Combined Sewer Overflows (CSOs) are the primary reason the Connecticut River continues to fail to meet federal fishable-swimmable water quality standards for bacteria. CSOs are a major financial burden in older urban communities, particularly Springfield, Chicopee and Holyoke, MA and Hartford, CT. 50% of the CSO volume, or 99 CSOs, have been eliminated to date with assistance in over $20 million in federal funding through the Connecticut River Cleanup Committee, and over $200 million total spent. There are still 64 remaining CSOs in Springfield, Chicopee and Holyoke with $446 million estimated cost for the remaining CSO remediation. Stormwater is a major problem and represents about 25% of the bacteria loading to the Connecticut River.
In Massachusetts, from South Hadley to Springfield, average bacteria concentrations at locations downstream of CSOs during wet weather events indicate impaired water quality during wet-weather events in excess of Primary (swimmable) and/or Secondary (boating) Recreational Contact Standards. In 2006, the cities of Chicopee, Holyoke, and Springfield, together with the Pioneer Valley Planning Commission, published a study on bacteria levels in the Connecticut River in MA during dry and wet weather. Water quality during dry weather generally met Class B standards (swimmable, fishable). During wet weather, the single upstream sample site, near Northampton, met standards, but downstream all of the combined sewer overflows (CSOs), water quality was significantly impaired. The report determined that during rain storms, 50% of the bacteria in the river in that area came from CSOs, 25% came from stormwater, and 25% came from upstream sources.

Efforts to clean up the Connecticut River have been coordinated on a regional basis, under an intergovernmental compact which formed the Connecticut River Clean-up Committee in 1993. The Connecticut River Clean-up Committee, under the direction of the Pioneer Valley Planning Commission, has secured over $20 million in federal funding support and matching funds to help address this regional problem.
Nitrogen loading from the Connecticut River to the Long Island Sound continues to be a source of impairment. Nonpoint source pollution is the greatest source of nitrogen pollution (64.7%), of that, 15.5% derives from agricultural sources and 10.6% from urban sources. Best Management Practices (BMP) implementation or agricultural and other non-urban BMPs may be the most cost effective approach for improving water quality. Stormwater continues to be major contributor of NPS pollution as evidenced by water quality data collected on dry versus wet days.
A statewide fish consumption advisory for mercury exists. In 2008, the U.S. EPA issued a TMDL for mercury load reduction to meet federal and state water quality standards. The mercury TMDL coupled with the results of the Connecticut River Fish Tissue Study in 2000 (US EPA) have resulted in expanded fish advisories for the Connecticut River for additional toxins including PCBs, DDT, and dioxin. At risk populations are children under 12, women who are pregnant or may become pregnant, women of child-bearing age, or breast-feeding women and should pay extra attention to the advisories.

Exposure to toxins cause impacts to fish, wildlife, and humans.

The natural flow regime of the Connecticut River watershed is highly altered. The natural flow regime of the Connecticut River and its tributaries has been highly altered. This altered flow regime is a primary threat to floodplain forests, estuarine communities, migratory and resident fish, and aquatic invertebrates. The fragmentation by dams and poorly designed culverts is one of the primary threats to aquatic species in the United States. In the Connecticut River basin in MA and CT, there are 1,422 dams (224 regulated by the Massachusetts Office of Dam Safety), which translates to densities of one dam per 6.6 km of river. Impacts on aquatic species involve loss of access to quality habitat for one or more life stages of a species, including limiting the ability of anadromous fish species to reach preferred freshwater spawning habitats from the sea, and preventing brook trout populations from reaching thermal refuges.

In addition to dams, culverts can create alterations in the natural hydrology of a river, create impediments for wildlife passage, and create blockages during extreme storm events that lead to localized flooding. There are 2,885 culverts in the region and 673 bridge stream crossings. The top 5% deemed most vulnerable to extreme weather and heavy rainfall are shown in red in the following. Fragmentation of dams and poorly designed culverts is a primary threat to aquatic species.
There are 2,885 culvert crossings of roads in the region. This map shows the culverts that are most critical to maintaining stream flow and related ecological functions that support fish, animal, and plant life.

Source: University of Massachusetts River and Stream Continuity Project, 2012
OUR FINDINGS

Just over 15% of the Pioneer Valley is protected open space and/or parks. In Environmental Justice Areas, only 5.8% of the land area is protected open space and parks.

There are 235,908 acres in the Pioneer Valley suitable for open space protection that are currently unprotected.

PVPC mapped a one mile accessibility buffer around the protected open space and parks and identified ‘unserved’ areas as those areas that are not within a one mile walking distance of protected open space or a park. This data layer was overlayed with “Land Suitable for Protected Open Space.” The Pioneer Valley Regional Land Use Plan Valley Vision identifies Priority Protection Areas for the region as Land Suitable for Open Space Protection. MassGIS natural resource datalayers used to map this layer include: watersheds for public water supplies reservoirs and Zone II aquifer recharge areas, 100-year flood plains, wetlands and 100’ buffer zones, steep slopes over 15%, and active farmland. Existing developed land and permanently protected land were then extracted from the natural resource datalayer. The remaining land is identified as “land suitable for open space protection” totaling 235,908 acres in the Pioneer Valley. The overlapping ‘unserved’ and ‘suitable for protected open space’ are identified as Parks and Open Space Priority Protection Areas to target funding and resources in the coming years.
Parks and Open Space
Priority Protection Areas

- Green: Land Suitable For Protected Open Space
- Beige: Unserved Area
There is a lack of protected open space and parks within Environmental Justice areas.

The region has a wealth of protected open spaces and parks, (as shown in the map below), however, only 5.8% of this parkland is located within the Environmental Justice areas.
The Connecticut River has been cleaned up considerably over the past two decades and is now far more attractive for recreation. In many areas, however, the river has been fenced by highways, railroads and incompatible commercial development, which has reduced opportunities for public access. Some areas of the river are heavily used for recreation, while other areas are neglected. Communities need to reconnect with the river, and find ways to bring people back to the river. To reverse the longstanding cycle of riverfront neglect and abandonment, and to bring urban riverfront areas to life, it is critical to invest in riverfronts. Priority projects for achieving this goal include:

- Complete design and construction of proposed Connecticut Riverwalk and Bikeway sections in Agawam, West Springfield, and Chicopee;
- Complete construction of the Holyoke Canalwalk;
- Link the Connecticut Riverwalk in Springfield to Forest Park and Agawam;
- Create new hiking trails along Connecticut River Byway;
- Establish a new trailhead for the New England National Scenic Trail Access in Hadley, MA;
- Create a Ferry Road Canoe/Kayak access in North Hadley, MA; and,
- Create trail linkages along the Jacob’s Ladder Trail and Route 112 Scenic Byways;
The Environment Plan includes strategies to improve water quality in our rivers, support sustainable land use and farmland, protect drinking water supplies, create vibrant human-riverfront connections, protect fisheries and wildlife, and build a regional trail network.

**Protect & Promote Swimmable & Fishable Rivers**

**MAINTAIN**
Connecticut River website
www.ConnecticutRiver.us

Maintain website broadly used by the public for information about recreational access to the Connecticut River, water quality for swimming and boating, fish consumption advisories, and other recreational news and information.

**PLAN**
Bi-state CT River Corridor Management

Develop a bi-state “report card” on indicators of CT River watershed health, including pollution (nitrogen, bacteria), percent of lead which is impervious, number of CSOs, acres of land protected, miles of bike paths, and host annual event to release report card.

**CONTINUE**
Connecticut River Bacteria Monitoring Program

Seek funding for continued water quality monitoring and collaboration with local watershed organizations to monitor water quality at sites in Franklin County, MA, VT and NH.
**CONTINUE**

**Remediation of Combined Sewer Overflows**

Seek bi-state collaboration to secure federal funding for CSO remediation including establishment of bi-state legislative coalition to direct funding to CT River; seek funds from Environmental Bond Bill for CT River in MA; and create Green Infrastructure Small Grants funding program.

**DEVELOP**

**A Pilot for Zero Net Energy Wastewater Treatment Plant on Connecticut River**

Identify a Connecticut River community to serve as pilot study for implementing Zero Net Energy Wastewater Treatment Plant. Consider Integrated Resource Management of water, wastewater, and energy as part of pilot study.

**ADOPT**

**Stormwater Utilities**

Assist communities to adopt stormwater utilities. A local Stormwater Utility can generate revenue for stormwater infrastructure operation and maintenance.

**IMPLEMENT**

**Local Stormwater and Erosion Control Standards**

Implement or amend local stormwater bylaw/ordinances to comply with NPDES MS4 Permit requirements including Stormwater Pollution Prevention Plans, best management practices for on-site control and treatment of stormwater, and post-construction operation and maintenance requirements and enforcement.

**IMPLEMENT**

**Green Infrastructure Zoning Incentives**

Create zoning incentives for green roofs, permeable parking lots, on-site stormwater recharge and other green infrastructure.
Support Sustainable Land Use & Agriculture

EXPAND
The Compact for Pioneer Valley Conservation

Continue land conservation, stewardship and wetland permitting assistance offered through the Compact. Seek funding to capitalize a Revolving Loan Fund for land conservation bridge funds.

IMPLEMENT
Priority Protection Areas / Critical Lands Acquisition Program

Build on Hampden County Farmland Mapping Project and protect prioritized farmland and other Priority Protection Areas from willing sellers through fee acquisition, transfer of development rights, APR/CR, and zoning mechanisms mentioned herein.

IMPROVE
Access to Parks and Open Space in Environmental Justice Areas

Expand healthy recreational opportunities by creating and/or expanding opportunities for access to open space and parks in EJ Areas.

ADOPT
The Community Preservation Act (CPA)

Assist additional Pioneer Valley communities in adopting the CPA. The CPA provides dedicated funding for historic preservation, low and moderate income housing, and open space protection including recreational development.

USE
CPA funds to leverage state and federal funds for land conservation projects

Use CPA funds as match for state and federal land acquisition funding and/or Conservation Restrictions, and Agricultural Preservation Restrictions.
**ESTABLISH**

Local Conservation Funds

Establish local Conservation Funds to accept donations, town meeting appropriations, and other funding sources for land conservation and stewardship projects.

**CREATE AND MAINTAIN**

Active Agricultural Commissions

Active Agricultural Commissions can sponsor Right-to-Farm Bylaws, inventory and identify local agricultural properties, create marketing programs and materials, and host community events.

**ADOPT**

Right to Farm Bylaws

Assist communities to adopt Right to Farm bylaws which encourage the pursuit of agriculture, promotes ag-based economic opportunities, and helps protect farmland by reducing conflict with abutters.

**ADOPT**

Environmental Protection Bylaws

Seek to implement environmental protection bylaws, including river protection, Green Development Performance Standards, Low Impact Development, and Floodplain Regulations, including addressing climate change impacts.

**CREATE**

Transfer of Development Rights Zoning (TDR)

Implement TDR Bylaws that allow development rights to be purchased in designated Sending Areas and transferred to Receiving Areas for use in more compact residential or commercial development projects.
OUR PLAN

ADOPT
Scenic Upland Protection Zoning

Scenic upland protection zoning can regulate alterations to the land which may negatively affect the scenic and environmental quality of these areas.

PARTNERS: Planning Boards, Commissions, Conservation Commissions, Open Space Committees
CROSS-CUTTING STRATEGIES:

COMPLETE
Supply and Demand Forecasts for Public Water Supplies

In conjunction with Hazard Mitigation Plans development and updates, complete 5-year supply and demand projections for public water supplies

PARTNERS: PVPC

IMPLEMENT
Bi-State Approach to Water Supply Protection in Westfield and Farmington River Watersheds

Promote contiguous land protection in southwest Hampden County, MA to Hartford, CT through Forest Legacy Designation for the area, and water supply protection overlay zoning.

PARTNERS: PVPC; CRCOG
CROSS-CUTTING STRATEGIES:

COMPLETE
Vulnerability Assessments and Protect Critical Infrastructure

Inventory, update and conduct vulnerability assessments of critical infrastructure to flooding and other weather impacts, including energy generation, electrical transmission and distribution, communication networks, drinking and wastewater facilities, roads and highways, railways, dams and flood dikes and healthcare facilities. Take needed steps to improve resilience.

PARTNERS: Municipalities
CROSS-CUTTING STRATEGIES:

CREATE
Storm-proofed infrastructure

Increase resilience of water/ wastewater infrastructure, streets and roads, flood dikes, sewer and water lines, to severe storm events and flooding. Take action to harden and raise the level of infrastructure, as funds become available.

PARTNERS: Municipalities
CROSS-CUTTING STRATEGIES:
OUR PLAN

CREATE
Emergency Intermunicipal Water Connections

Identify options for creating emergency water supply inter-connections with neighboring communities, and seek formal agreements to purchase water in emergencies. Physical, piped emergency connections, and agreements to purchase water, should be put into place in advance of emergencies.

PARTNERS:
Municipalities

CROSS-CUTTING STRATEGIES:

UPGRADE
Stream Crossings, Bridges and Culverts

Pro-actively replace underperforming culverts and bridges with structures designed to meet the MA Stream Crossing Standards to accommodate floods and promote wildlife passage. Identify and prioritize culverts for replacement. Prepare for disaster replacement by designing generic plans for different types of stream crossings to implement in emergency repairs. Integrate replacements into road and utility infrastructure projects to off-set costs and access funding opportunities.

PARTNERS:
Public Work Departments, Conservation Commissions

CROSS-CUTTING STRATEGIES:

SUPPORT
Removal of Poor Condition Dams in Stressed Basins

Work with municipalities to design dam removal projects at poor condition dams in stressed basins to improve river continuity and flow.

PARTNERS:
PVPC, MA DER, Municipalities

CROSS-CUTTING STRATEGIES:

UPDATE
Flood Maps

Work with FEMA to raise priority for update of flood insurance maps in the region, using LiDAR elevation surveys and climate models, and identify at-risk facilities, and flood zones in need of protective zoning.

PARTNERS:
PVPC, Municipalities

CROSS-CUTTING STRATEGIES:

IMPROVE
Flood Zoning

Adopt improved zoning to prevent new development in flood zones, increase flood resilience of buildings, and provide protection of basement and first floor levels.

PARTNERS:
Municipalities

CROSS-CUTTING STRATEGIES:
OUR PLAN

IMPLEMENT
Northeast Regional Mercury Total Maximum Daily Load (TMDL)

In order to reduce mercury deposition in rivers and levels in fish, implement the Northeast Regional Mercury Total Maximum Daily Load (TMDL) for successful control of in-state and regional reductions in mercury sources.

PARTNERS: MA DEP
CROSS-CUTTING STRATEGIES:

CONDUCT
Fishing Survey and Fish Consumption Advisory Outreach

Conduct a study to determine level of subsistence fishing on CT River; Conduct outreach to these communities about fish consumption advisories to protect public health.

PARTNERS: PVPC
CROSS-CUTTING STRATEGIES:

CONDUCT
Bi-State Trail Linkages Study

Conduct a bi-state trail linkages study to identify opportunities for linking trails, such as the Connecticut Riverwalk and Farmington Canal Heritage Trail, between Massachusetts and Connecticut.

PARTNERS: PVPC
CROSS-CUTTING STRATEGIES:

CREATE
Greenway System of Trails and Parks

Design and construct missing trail links between states and regions focusing on Priority Protection Areas and protect missing links in the regional greenway system.

PARTNERS: PVPC, Municipalities
CROSS-CUTTING STRATEGIES:

EXPAND
Connecticut River Paddlers Trail

Expand the Connecticut River Paddlers Trail southward from Vermont and New Hampshire into Massachusetts and Connecticut.

PARTNERS: VT River Conservancy, AMC, TPL
CROSS-CUTTING STRATEGIES:
OUR PLAN

SUPPORT
Pioneer Valley Regional Trails Coalition

Participate in the development and implementation of a Pioneer Valley Regional Trails Coalition to increase local/regional capacity for developing and stewarding regional trail networks.

PARTNERS:
PVPC

CROSS-CUTTING STRATEGIES:

IMPLEMENT
Zoning for Bike and Pedestrian Amenities to Support an Intermodal Pedestrian and Bicycle Network

Help communities adopt zoning bylaws to require sidewalks, bike path connectors, bike parking and amenities in new developments, and internal pedestrian linkages in large projects.

PARTNERS:
Planning Boards, Public Works Departments, PVPC, MDOT

CROSS-CUTTING STRATEGIES:

CONTINUE
To Enhance www.ConnecticutRiver.us To Support Recreational Use of the River

Connect ‘Live Well Springfield’ and Pioneer Valley Asthma Coalition’s initiatives with the website to promote use of riverwalk and river access sites in Springfield; promote river user groups such as PV Rows; encourage linkage with the CT River Blueways web atlas (under development) and ConnecticutRiver.us.

PARTNERS:
PVPC

CROSS-CUTTING STRATEGIES:

SEEK
Funding for New England National Scenic Trail Access

Advance design and construction of a new trailhead, including improved trailhead signage, interpretive information and safe, attractive parking for the New England National Scenic Trail (NENST) near its crossing of the Connecticut River Byway.

PARTNERS:
PVPC

CROSS-CUTTING STRATEGIES:

SUPPORT
Connecticut Riverwalk and Bikeway Build-Out

Work with Chicopee, Agawam, West Springfield and Holyoke to complete the design and build-out of Connecticut Riverwalk segments

PARTNERS:
PVPC, municipalities

CROSS-CUTTING STRATEGIES:
OUR PLAN

DESIGN AND CONSTRUCT
Connecticut River Byway Trail System

Seek funding too design and construct four trails and river access areas along Connecticut River Byway:
- Red Rocks River Trail along the riverbank in North Hadley, MA,
- Porter Phelps Huntington House to Mount Warner Trail in Hadley;
- Connecticut River to Mount Holyoke Range Trail in South Hadley;
- Connecticut River Car-top Boat Access at Ferry Road in North Hadley, MA.

CREATE
Connecticut River Greenway Park and Trail, Northampton, MA

Support the City of Northampton’s efforts to develop river access for CT River Greenway riverfront park and multi-use trail along CT River from Norwottuck Rail Trail on Damon Road to Elm Court, Hatfield.

CREATE
Linkages to Chicopee River Delta Park

Promote linkage with the Connecticut Riverwalk at the Chicopee River delta, and connection to the Chicopee Riverwalk in downtown Chicopee.

LINK
The Connecticut Riverwalk to Forest Park and Agawam

In Springfield, increase use of the Connecticut Riverwalk for mobility and exercise, by linking it to Forest Park and Agawam.

CROSS CUTTING STRATEGIES ICONS: The following icons are used in reference to issues and strategies related to other element plans of this report.
Canoeing lessons at Pioneer Valley Riverfront Club, Connecticut River, Springfield MA  Photo: Chris Curtis
Green Infrastructure Plan

Promoting clean water.
Greening our streets and neighborhoods.

This Green Infrastructure Plan is meant to assist communities in the region as they continue the journey toward a more environmentally sustainable stormwater management program. The plan identifies the three existing infrastructures (stormwater, combined sewers, and roads) where green infrastructure might best be integrated; describes useful criteria for mapping potential green infrastructure facility locations; explores important opportunities and challenges; and proposes workable strategies for local and regional actions that will help to address polluted stormwater flows and meet forthcoming stormwater permit requirements.

“My community is sustainable when we recognize the Connecticut River and its tributaries for the tremendous assets they are – for recreation, tourism, business, health, and more…”

Kathleen Anderson, Holyoke, MA

Note: This is the executive summary of our plan. To obtain or view a copy of the full plan, visit pvpc.org.
The goal of the Green Infrastructure Plan is to promote and support the use of green infrastructure as a cost-effective and sustainable practice for stormwater management in current and future projects wherever possible. This includes:

- Road reconstruction and new road development projects;
- Combined sewer separation projects; and
- New development and redevelopment projects.

Green Infrastructure: keeps rain close to where it falls, using structures to improve on-site infiltration, such as rain gardens and permeable pavements. These facilities can be used in combination with gray infrastructure to promote cleaner, slower, and smaller storm flows to nearby rivers and streams.
Examples of Existing Green Infrastructure Facilities in the Pioneer Valley

A handful of green infrastructure projects are leading the way for the region, providing both inspiration and instructive lessons. Clockwise from top left: Newly planted green roof at the Jones Ferry River Access Center, Holyoke; rain garden/bioretention area, Northampton Senior Center; porous paved parking lot, grass pavers, and rain garden at New England Environmental Inc. in Amherst; and porous asphalt parking lot at Columbia Greenway Rail Trail in Westfield.

Northampton photo courtesy of Doug McDonald; NEE, Inc. photo courtesy of Kuhn Riddle Architects; and Westfield photo courtesy of Joseph Giffune.
OUR FINDINGS

While there have been vast improvements in water quality since passage of the federal Clean Water Act 40 years ago, there are many Pioneer Valley streams, rivers, and lakes that do not meet fishable, swimmable standards:

- 76 waters in the Pioneer Valley are “impaired” for a variety of pollutants, including phosphorus, total suspended solids, and pathogens;
- The lower Connecticut River in Massachusetts is impaired for bacteria (E-coli) and total suspended solids largely from combined sewer overflows and stormwater;
- Throughout the region many lakes and ponds are choked by plants due to excessive nutrients delivered by stormwater flow;
- Stormwater from the Pioneer Valley also contributes to the estimated three million pounds of nitrogen flowing into the Connecticut River to Long Island Sound annually.

Green Infrastructure

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Green infrastructure entails the use of natural or engineered facilities that capture rainfall near to where it falls. These can include green roofs, rain gardens, as well as cisterns, which “harvest” rainwater for reuse. Green infrastructure also includes non structural approaches such as better site design, and policies and incentives that promote better development practices.

Stormwater flows pollute our waterways.
Key factors are driving the need for green infrastructure.

There are two major regulatory drivers under the Clean Water Act that require improved control of stormwater pollution and clean-up of overflows from combined sewer systems.

**Forthcoming new U.S. Environmental Protection Agency (EPA) Municipal Separate Storm Sewer System (MS4) stormwater permits**
- 22 Pioneer Valley communities with “urbanized areas” are currently regulated to control the amount of stormwater discharged from the MS4s to rivers, streams, lakes, ponds, and wetlands and a forthcoming new EPA permit will expand stormwater management requirements.

**Federal Administrative Orders for combined sewers** - Our 3 urban core cities - Chicopee, Holyoke, and Springfield – are all under federal Administrative Orders to clean up CSOs (Combined Sewer Overflows) polluting the Connecticut River. City officials are in the process of finalizing long term control plans that set timelines and goals for abating combined sewer overflows. In the meantime, however, they have worked to clean up 50 percent of our CSO problem. A total of 99 of the 163 CSO outfalls in the Pioneer Valley region have been eliminated to date, but 64 CSOs remain.

The cost of sewer separation is another major factor driving us toward green infrastructure. Chicopee, Holyoke, and Springfield still face more than an estimated $446 million in costs to eliminate or abate flows coming from the 64 remaining CSO outfalls. Implementation of green infrastructure strategies could provide an important way to reduce costs in meeting CSO requirements. Cities like Philadelphia, New York City, and Portland, Oregon, have led the way. Portland, for example, significantly reduced inflow to its combined system with green streets facilities retaining and infiltrating 8 billion gallons annually or 40 percent of the city’s runoff. In one area where the city implemented a program called “Tabor to the River,” such green infrastructure improvements helped to avoid $86 million in sewer separation costs.

**Investments are needed in existing infrastructure.**

Needed investments in the region for existing infrastructures—roads, combined sewer systems, and stormwater management systems—tally in the hundreds of millions of dollars. These investments are essential to fixing serious deficiencies within these systems, as well as to achieving regulatory compliance. Integration of green infrastructure within these projects can reduce the environmental impacts of these existing systems and provide important cost savings in many cases.
Green infrastructure does not need to be built as a stand-alone project, it can be readily integrated into the design of many new projects. This can include incorporating green street design into roadway reconstruction projects or integrating on-site stormwater retention into a combined sewer overflow abatement project.
OUR FINDINGS

Example of green infrastructure integrated into North Street Reconstruction, Pittsfield, MA

Green infrastructure can be a cost effective solution.

The use of green infrastructure in stormwater management promises several important benefits that produce cost savings, including:

- reduced costs for combined sewer separation projects
- decreased demand for expanded “gray” infrastructure stormwater facilities
- reduced polluted stormwater flows into nearby rivers and streams
- mitigation of flooding
- reduced energy use and costs

Compared to gray infrastructure work, which is underground and invisible, green infrastructure is typically above ground, and aesthetically pleasing. As a result, green infrastructure projects provide a far more visible result of public investments.
As part of our place-based planning process, our plan took a look at 22 Pioneer Valley communities that have municipal separate stormwater systems (MS4). These communities will be subject to new federal stormwater permitting requirements, and consequently have the greatest need for green infrastructure. The tools and ideas within the plan, however, can also be deployed for use in other communities to resolve stormwater management issues, including flooding, erosion, and/or improved protection of an important water resource.

**Mapping to support decision making for green infrastructure**

To support decision making about where to locate green infrastructure, we produced working maps that show eight key criteria. These criteria are mapped for the 22 MS4 communities on a set of two maps.

Working map #1 shows four criteria for consideration in decision making about green infrastructure:

- EPA stormwater permitted area
- roads eligible for federal aid
- areas served by combined sewers (if any)
- soils and their capacity to absorb stormwater.

Working map #2 shows four additional criteria:

- impervious surfaces
- drainage watersheds
- environmental justice areas
- rivers, streams, and lakes with existing water pollution problems.
OUR FINDINGS

Green Infrastructure Plan

Working Map #1 for Westfield

Legend
- EPA Permitted Area
- Roads eligible for federal aid
- Combined Sewer Overflow Drainage Basin
- Combined Sewer (Springfield, Holyoke)

Hydrologic Soil Group
- Group A: Low runoff potential when thoroughly wet. Water is transmitted freely through the soil.
- Group B: Moderately low runoff potential when thoroughly wet. Water transmission through the soil is somewhat impeded.
- Group C: Moderately high runoff potential when thoroughly wet. Water transmission is somewhat impeded.
- Group D: High runoff potential when thoroughly wet. Water movement through the soil is accelerated or very restricted.

Green Infrastructure Plan

Working Map #2 for Westfield

Legend
- Impervious Surface
- Drainage Subbasins/Watersheds
- Environmental Justice Area

SMAP TMDL Status: Lakes and Streams
- 1: Abandon some uses, other uses not assessed
- 2: No uses assessed
- 3: TMDL is completed
- 4: Improvement not caused by a pollutant
- 5: Waters requiring a TMDL

Environmental Justice Area - Based on 4 criteria from the 2000 Census block groups, including where population is 25 percent or more minority; where median household income is less than 65% of the state/median household income; where 75% or less of households have proficiency with the English language; and/or households living in poverty, where 25 percent or more of the population is foreign-born.
Mapping shows existing and potential green infrastructure locations

Our planning process included working with municipal officials to map existing and potential locations for green infrastructure. Seven communities responded to our invitation to join us for this mapping effort, including Chicopee, Holyoke, Springfield, Westfield, Huntington, Northampton and South Hadley.

The City of Chicopee, for example, noted that they have already completed two green infrastructure projects, including installing stormwater infiltrators as part of a road reconstruction project, and building a rainwater harvesting system as part of the design of a CSO facility. They also identified 13 other locations where green infrastructure could be incorporated as part of other upcoming projects across the City. The Chicopee green infrastructure map, illustrating existing and potential green infrastructure locations, is shown to the right.

Other tools

Other green infrastructure tools of interest within this plan include:

- Matrix of known existing green infrastructure locations in the region with in-depth descriptions for several of these projects.
- A checklist for reviewing local municipal regulations and the degree to which they allow/facilitate green infrastructure development.
- A listing of existing design resources and identification of which green infrastructure practices are addressed within the documents.
Chicopee, MA - Green Infrastructure Locations

- **Existing Green Infrastructure Locations**
  1. Rainwater Harvesting, Jones Ferry Combined Sewer Treatment Facility
  2. Stormwater Infiltrators, Upper Granite Road

- **Potential Green Infrastructure Locations**
  3. River Mills Redevelopment
  4. Biofiltration, Infiltration, and Rainwater Harvesting, Elder Adult Community Center
  5. Tree Filter Boxes, Exchange Street
  6. Call Street Area
  7. Sheridan Street Area
  8. Downtown Canal Walk
  9. Navy Housing Redevelopment
  10. Zoo Park
  11. Rivers Park
  12. Nash Field
  13. Chicopee Municipal Golf Course
  14. Sarah Jane Sherman Park
  15. Wastewater Treatment Plant

-Roads Eligible for Federal Aid
-Environmental/Justice Areas

*Potential locations identified by site assessments, soil maps, and conversations with city officials.*
Answering the question of how to pay for green infrastructure is critical to advancing this plan. Options for sustainable financing of green infrastructure include:

- **Integration in public projects** - Green infrastructure can be included as cost effective components of roadway reconstruction and repair, combined sewer overflow abatement, and other stormwater projects associated with parks, public housing, civic buildings, and bike and pedestrian projects.

- **Stormwater Utilities or Fees** - Dedicated municipal funds can be created to pay for stormwater management derived from fees based on amounts of impervious surface.

- **Private development projects** - Communities can establish stormwater permit or connection fees and/or regulatory incentives for including green infrastructure components in new projects.

- **Betterments and Management Districts** - Assessments can provide for the cost of public improvements by municipalities.

- **Sponsorships** - Local businesses may provide donations or sponsorships for green infrastructure projects in public locations.
OUR FINDINGS

Green Infrastructure Plan

Sustainable financing: the example of Lenaxa, Kansas.

The City of Lenaxa, Kansas, established three financing mechanisms to help cover the various costs associated with stormwater management.

To help cover the **capital costs** of upgrading and repairing the existing stormwater system, voters approved in 2000 a 1/8th cent sales tax that would sunset within 5 years. The sales tax generated $7.2 million dollars and voters were apparently so pleased with the stormwater upgrades that they approved an extension for another 5 years.

To cover the **long term operation and maintenance** of the stormwater system, the City Council in 2000 approved a stormwater utility that collects approximately $66 annually from residential properties and a fee from commercial and non residential properties that is based amount of stormwater runoff generated by the property. The fee is collected as a special assessment on the Johnson County property tax bill.

To cover the costs for **increasing services and capacity** in the stormwater system, the City in 2004 implemented a one time fee “capital” development charge that developers pay when they apply for a permit. The idea is that “growth pays for growth.”

*Sources: [http://www.lenexa.com/raintorecreation/about_us.html](http://www.lenexa.com/raintorecreation/about_us.html) and December 6, 2012 presentation by Jennifer Cotting, Environmental Finance Center, University of Maryland.*
Near-term implementation strategies:
There are 14 green infrastructure strategies for near-term implementation that capitalize on important opportunities and respond to immediate needs within the region. (For the full slate of strategies recommended for the region, see Chapter 5 of the full Green Infrastructure Plan.) These near-term strategies are designed to expand understanding of green infrastructure through existing and new projects, promote change in current approaches, and provide useful tools for moving forward. The intent is to help accelerate movement toward the use of green infrastructure so that municipalities and the region can more quickly begin to realize the benefits of these practices, including: reduced polluted stormwater flows, less flooding in developed areas, and lower costs for major combined sewer separation projects, among others.

**Finance & Fund Green Infrastructure**

**SEEK**

**Funds for Pilot/Demonstration Projects that Transform “Gray” Streets Into “Green” Streets**

Seek funds to support and promote pilot projects that demonstrate the potential for cost savings in avoiding costly gray infrastructure projects, and showing effectiveness, benefits, and lessons learned.

**PARTNERS:** Municipalities and MassDOT with help from PVPC

**CROSS-CUTTING STRATEGIES:**

**EXPLORE**

**A New State Green Infrastructure Grant Program**

Explore use of State Revolving Loan Funds (SRF) to establish a new green infrastructure grant program, in accordance with EPA’s Green Project Reserve Program, that targets projects in Combined Sewer Overflow (CSO) and Municipal Separate Storm Sewer System (MS4) areas. The State of Illinois has such a program for green infrastructure.

**PARTNERS:** Mass DEP, EPA, PVPC, other stakeholders

**CROSS-CUTTING STRATEGIES:**

**PROMOTE**

**Changes to the Clean Water State Revolving Fund (SRF) to Support Green Infrastructure**

Include points for green infrastructure stormwater management strategies in ranking SRF projects, including the preponderance of projects financed through the use of the program’s “recycled” funds.

**PARTNERS:** MassDEP, EPA, PVPC, other stakeholders

**CROSS-CUTTING STRATEGIES:**
CONDUCT
Green Infrastructure Workshops for Municipal Officials, Design Professionals, and Others

Provide workshops to help expand understanding about green infrastructure stormwater management approaches and engagement with green infrastructure planning. Collaborate with EPA on a series of workshops aimed at addressing common barriers to green infrastructure. Projects from within the region should be featured to help build peer to peer relationships on learning from existing projects.

PROMOTE
Citizen-Built Rain Gardens

Support local efforts to build rain gardens. This work can include:
- Collaborating with EPA and city partners to conduct a rain garden workshop in Springfield Technical High School that results in a constructed facility;
- Facilitating rain garden trainings in other parts of the region for other young people to develop these skills.

DESIGN AND INSTALL
Interpretive Signage at Key Existing Green Infrastructure Facilities in the Region

Highlight existing green infrastructure projects in the region to promote awareness and build greater understanding and appreciation for these types of facilities. This could begin at the Jones Ferry River Access Center where there is a green roof that is largely invisible to the many people who use the Center throughout the rowing season. This is an especially good location because the rowers who use the facility will immediately get the connection between the green roof and water quality in the Connecticut River.

ASSESS
Existing Local Policies and Regulations that Impact Green Infrastructure and Make Recommendations for Improvements

Use the PVPC Green Infrastructure Checklist to review to what extent local policies and regulations make green infrastructure practices allowable in communities.

PARTNERS:
PVPC, Municipalities, EPA

CROSS-CUTTING STRATEGIES:

Build Understanding & Promote Engagement

PARTNERS:
PVPC, Municipalities, EPA

CROSS-CUTTING STRATEGIES:

Develop Policies & Resources

PARTNERS:
PVPC with interested municipalities

CROSS-CUTTING STRATEGIES:
OUR PLAN

DEVELOP
A Model Green Infrastructure Policy

Develop a model policy that includes various components that can be used by municipalities to promote green infrastructure. These components can include:

- Incentives for green infrastructure in private development to be included in stormwater, zoning, and subdivision regulations.
- A “Green Streets Policy” to ensure that green infrastructure is included in all new road and road reconstruction projects.
- Committing new municipal buildings to achieve certain stormwater criteria, perhaps those laid out in the LEED (Leadership in Energy and Environmental Design Green Building Certification) program or the Sustainable Sites Initiative developed by the American Society of Landscape Architects.

PROVIDE
Technical Assistance to Develop Policies and Regulations that Promote Green Infrastructure

Work with municipalities to develop policies and regulations that include provisions to promote green streets, green civic buildings, as well as stormwater, zoning, and subdivision regulations that incentivize green infrastructure in private development.

IDENTIFY
Funding to Develop a Green Infrastructure Stormwater Manual for the Region

Identify funding that would enable PVPC, an engineering firm, and a roundtable of municipal partners to work on the development of a green infrastructure stormwater manual for the region, drawing from existing manuals and additional research.

COORDINATE
With MassDOT’s Impaired Waters Program to reduce peak flow in CSO communities

Provide information to MassDOT’s Impaired Waters Program about locations where runoff from MassDOT roads such as I-91 contributes to combined sewer over-flows and where municipalities have great interest in managing stormwater for peak flows. Conduct a follow-up meeting to talk about where these local interests may combine with MassDOT interests in managing flow to impaired waters.
OUR PLAN

PROMOTE

Federal Highway Funding for Projects that Incorporate Green Infrastructure

Ensure that new project scoring criteria used by the Metropolitan Planning Organization in evaluating Transportation Improvement Program (TIP) projects include points for managing stormwater through green infrastructure.

PARTNERS:
PVPC and CRCOG with MassDOT, CTDOT, and Metropolitan Planning Organizations

CROSS-CUTTING STRATEGIES:

INCORPORATE

Green Infrastructure Practices Into the Design of Publicly Funded Projects Across the Region

Support local officials in their efforts to implement green infrastructure practices in publicly funded projects. These can include: the Connecticut Riverwalk Project and the Older Adult Community Center in Chicopee.

PARTNERS:
Interested municipalities with support from PVPC

CROSS-CUTTING STRATEGIES:

SEEK

To Advance Green Infrastructure Practices Within MassWorks Funded Projects

Work with MassWorks grant administrators, possibly in tandem with other interested regional planning agencies, to explore revisions in ranking criteria that would promote projects that incorporate green infrastructure.

PARTNERS:
PVPC with MassWorks administrators and perhaps other RPAs

CROSS-CUTTING STRATEGIES:

CROSS CUTTING STRATEGIES ICONS: The following icons are used in reference to issues and strategies related to other element plans of this report.
Proposed street improvements in Westfield, MA from Re-thinking Downtown Westfield project, 2009.
Sustainable Transportation Plan

Improving Mobility and Promoting Alternative Modes of Transportation.

Sustainable transportation consists of the efficient use of existing resources to increase mobility while positively impacting economic development, quality of life, and the preservation of the natural environment. This document identifies the existing sustainable transportation initiatives in the region and develops strategies to improve the sustainability of the regional transportation system in the Pioneer Valley. The purpose of the plan is to identify how sustainability can be incorporated into the transportation planning process in order to meet existing needs without compromising the assets of future generations.

“My community is sustainable when we strive to create a continuous revenue stream to maintain and enhance mobility through the Region in a cost effective manner.”

Jim Czach, West Springfield, MA

Note: This is the executive summary of our plan. To obtain or view a copy of the full plan, visit pvpc.org.
OUR GOALS

**Safety:** To provide and maintain a transportation system that is safe for all users and their property.

**Intermodal:** To provide access between travel modes for people and goods while maintaining quality and affordability of service.

**Multimodal:** To provide a complete choice of adequate travel options that are accessible to all residents, visitors and businesses.

**Sustainability:** To incorporate the concepts of Sustainable Development in the regional transportation planning process and transportation improvements.
Interstate 91 at the Connecticut River Oxbow, Northampton, MA
Ridership is the number of trips provided in a given period (as distinguished from individual “riders,” who typically make multiple trips during the same period). Capital and service improvements implemented by the Pioneer Valley Transit Authority (PVTA) from 1970-1990 resulted in a ridership peak of nearly 13 million in 1985. However, state-imposed budget reductions in 2002 necessitated deep service cuts, eliminating nearly one-fifth of bus service, including many Sunday trips, resulting in a significant decrease in ridership. This trend has reversed over the last few years and nearly 11 million rides were provided in 2012.
With over 80 miles of existing bicycle and pedestrian facilities in the Pioneer Valley Region, the popularity of multiple use trails in the Pioneer Valley has brought new challenges and opportunities to those that use and manage these facilities. In-line skates, push scooters, and baby joggers have been added to the mix with bicyclists and pedestrians on trails. While recreation use dominates trail activity many people also use the facilities for non-recreational trips such as commuting to work, school or shopping. Many of these trips replaced travel that would otherwise have been made with a motor vehicle. These facilities promote the benefits of walking and bicycling while minimizing conflicts with motorized traffic. Many facilities provide economic benefits as well through increased tourism in the Pioneer Valley.
The 43 communities of the Pioneer Valley Region are diverse in incomes and ethnicity. The Pioneer Valley Metropolitan Planning Organization (MPO) is required to certify to the Federal Highway Administration and the Federal Transit Administration that their planning process addresses the major transportation issues facing the region. The MPO also makes a special effort to seek out and consider the needs of individuals or neighborhoods with Limited English Proficiency. A three-step process was developed to assess the benefits and burdens of transportation system investments for low-income populations and minority populations. These steps are:

1. Identification of transportation investments programmed through the Transportation Improvement Program (TIP) and Regional Transportation Plan (RTP).
2. Scoring and prioritization of programmed TIP projects.
3. Analysis of programmed TIP project locations in relation to census block groups (defined as by the percentage of low-income and/or minority residents that exceed the regional average) to determine the relative distributional equity of programmed transportation investments.
Mass DOT’s New Green DOT Plan

“The Plan focuses upon sustainability practices under the direct control of MassDOT, concentrating on system operations and transportation project development. These strategies may also offer opportunities to address our long term fiscal challenges through energy and maintenance cost savings. At the same time, many of these sustainability goals require investments that may be challenging to make given the current situation related to transportation funding. The Divisions and their partners will implement the sustainable activities identified in this plan with sensitivity to how minority, low-income, and limited-English proficient populations are impacted, both in relation to benefits and burdens.”

GreenDOT Implementation Plan

Massachusetts has set ambitious sustainability initiatives.

MassDOT launched its GreenDOT initiative on June 2, 2010. GreenDOT was developed to assure a coordinated approach to sustainability and to integrate sustainability into the responsibilities and decision-making of all MassDOT employees. The following three mutually-reinforcing goals form the foundation of GreenDOT:

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

The initiative is a comprehensive response to a range of state and MassDOT laws, policies and initiatives including: the Global Warming Solutions Act, the Green Communities Act, the Healthy Transportation Compact, Leading by Example, YouMoveMassachusetts, and Complete Streets. The Global Warming Solutions Act requires Massachusetts to reduce economy-wide GHG emissions: 10% -25% below 1990 levels by 2020 and an 80% reduction below 1990 levels by 2050. The transportation sector is the largest GHG emitter, producing 31% of 1990 emissions and projected to produce 38% of 2020 emissions. GreenDOT also incorporates a statewide mode shift goal to triple the percentage of trips made by bicycling, transit and walking.
OUR FINDINGS

“This (Springfield Union Station Project) will make transportation easier, more convenient, and more efficient for travelers in the region. This will be a hub, a place where passengers can catch a bus or hop a train whether it’s Amtrak or a bus operated by the Pioneer Valley Transit Authority. Improving this facility will encourage more people to try public transit. That’s a big win for everybody. Through public transit we reduce highway congestion, improve air quality, and give people options.”

Raymond H. LaHood, U.S. Secretary of Transportation, 2012

The Pioneer Valley has actively incorporated sustainability planning practices to improve the regional quality of life. These projects improve the livability of neighborhoods, provide alternate modes of transportation, and reduce environmental impacts. These projects typically enhance access for pedestrian, bicycle and transit use. Increased access to these alternative modes reduces individual’s reliance on automobiles and can improve the local environment by using a cleaner and healthier mode of transportation.

Regional performance measures consistent with the Moving Ahead for Progress in the 21st Century Act (MAP-21) will be incorporated into the transportation planning process. These measures will assist in tracking the progress made towards attaining regional goals such as Sustainability as a result of investments in the transportation system.

The PVTA has actively pursued planning and construction efforts of intermodal and transportation centers within the region to improve connectivity and increase rider experience. These transportation centers enhance sustainability by improving transit access, increasing livability and promoting healthy transportation options.
The Union Station Regional Intermodal Transportation Center will revitalize the long-vacant Springfield landmark into a comprehensive multimodal facility with business, entertainment, cultural and retail operations. The Union Station Project will consolidate the different transportation terminals of Springfield into one location. The multimodal center will include the Springfield Hub for PVTA routes, Intercity Buses, and Amtrak. The downtown Springfield location has convenient access to the Interstate Highway System, ample parking at local garages, as well as convenient pedestrian access. When complete, the project will provide a 24-bay bus terminal (with 4 additional bus bays on an adjacent site) and a 146-space parking garage. A pedestrian tunnel linking the station with train boarding platforms will also be restored.

PVTA and the City of Westfield are collaborating on the development of the Westfield Transportation Center to be located on Elm Street between Church and Arnold Streets in downtown Westfield. The facility will include bus berths for local and intercity buses, bicycle facilities, and vehicular parking. The project, included as part of the city’s Elm Street Urban Renewal Plan, will help anchor new urban and commercial redevelopment in the vicinity and support additional transit ridership related to both the downtown and Westfield State University.

“Communities benefit when decisions about transportation and land use are made at the same time. Deciding to build houses, schools, grocery stores, employment centers, and transit stations close to one another—while providing a well-connected street network and facilities for walking or biking—provides more transportation choices and convenient access to daily activities. It also ensures community resources and services are used efficiently.”

FHWA Livability Fact Sheet
Intelligent transportation systems.

An intelligent transportation system enables systems to operate more efficiently, saving resources and energy, and improving rider experience. These systems use high tech solutions to allow the system to communicate information instantaneously. This information improves the ability of transit operators to react to daily challenges and allows more in depth data on route usage. All PVTA buses are equipped with equipment to perform automatic audio and visual stop announcements, automatically count passengers, and locate the position of the vehicle. Passenger experience will improve, as bus arrival and departure times will be more easily attainable for customer service agents.

Similarly, MassDOT has installed closed circuit television cameras and variable message signs along the entire length of Interstate 91 and portions of Interstate 291. This equipment provides real-time travel information that can be disseminated to increase safety, improve travel efficiency, and reduce congestion.

Promote bike travel.

The Pioneer Valley region possesses high quality bike lanes and bike trails that connect people to neighborhoods, shopping, recreational areas, major places of employment, and schools. These trails and lanes allow users to travel safely and quickly to accomplish daily activities. The extensive network of bike lanes and the areas they serve makes the bicycle a viable transportation option. PVTA’s bikes on bus program “Rack and Roll” has dramatically improved access for bicyclists to transit and given thousands of people another choice in their mode of travel. Bicycle racks have been provided on all fixed route buses since 2010.
As demand continues to grow for transportation options for intercity travel, passenger rail has gained support in both popularity and funding to become a viable alternative mode of travel in the Pioneer Valley in the near future. Expanded passenger rail service results in increased ridership, a potential travel time savings, a reduction in emissions, the potential for reduced highway maintenance costs, and improved highway safety.

The Vermonter service runs one train/day in each direction between Washington D.C. and St. Albans, Vermont via Amherst and Springfield, MA. Recently, improvements to the region’s Connecticut River line were funded allowing the Vermonter to be rerouted to better serve the region’s urbanized area with stops in Greenfield, Northampton and Holyoke, MA. The project will upgrade the existing railroad ties and track along the line, improve the safety of at-grade crossings, and build a bicycle and pedestrian tunnel under the active rail line to connect the Norwottuck Rail Trail to the Manhan Rail Trail in Northampton, MA. Construction on this line is underway and service is anticipated to return to the line in 2014.
The New Haven-Hartford-Springfield Rail project represents a broad partnership between the State of Connecticut, Amtrak and the Federal Railroad Administration (FRA), as well as the states of Massachusetts and Vermont. The goal is ambitious – to provide those living, working or traveling between New Haven, CT, Hartford, CT and Springfield, MA with high speed rail service equal to the nation’s best rail passenger service. Since 1999, the Pioneer Valley Region and Connecticut have been working toward the implementation of passenger rail service between the three cities.

Intercity Rail service is expected to have a significant impact on the 13 railroad station areas serving the 17 communities along the rail corridor. The service will connect the third, fourth and fifth largest metropolitan areas in New England and provide a connection to both Amtrak and Metro North Service into the New York Region. The project will also result in a coordinated connection to Bradley International Airport in Windsor Locks, CT providing another option for air travelers to access the airport. When the project is complete, service will expand from the existing six trips daily between New Haven and Springfield, to 25 trips per day.

In its 2005 Transportation Appropriations Bill, Congress designated the Boston, MA – Springfield, MA to New Haven, CT as well as the Springfield, MA to Albany, NY corridors as part of the Northern New England High Speed Rail Corridor. Congress further provided funds to study the feasibility of High Speed Rail Service in the Boston – Springfield - New Haven Corridor. MassDOT is advancing a study of the corridor to explore opportunities for passenger rail service and provide a scalable, incremental plan for the implementation of new or expanded services.
A number of locations in the region have the potential to support TOD.

Transit Oriented Development (TOD) promotes a balance of jobs and housing, and encourages the use of bus and other transit opportunities, while reducing single occupant vehicle trips and discouraging suburban sprawl. TOD is a land development strategy that seeks to concentrate more homes, jobs and shopping within a 5-10 minute walking distance (usually \( \frac{1}{4} \) to \( \frac{1}{2} \) mile) of a well-used transit station or bus stop. TOD attempts to limit sprawl, improve air quality, and provide access to goods, services and jobs in close proximity to residential areas.

A critical component of the Sustainable Knowledge Corridor project was the development of a methodology to analyze the level and type of development transit can support and identify key areas to begin TOD demonstration projects. A matrix analysis was conducted for thirty sites found to have the potential to support TOD. A quantitative methodology was then developed to rank each of the sites based on their transportation merit and prioritize the locations best suited for further analysis. This analysis will be used to assist in the identification of transportation improvement projects that could assist in the implementation of TOD.
The strategies included in this element plan are based on those recommended in the 2012 Pioneer Valley Regional Transportation Plan (RTP). The RTP focuses on the attainment of a safe and dependable transportation system. A total of five emphasis areas were identified to assist in the development of the regional transportation strategies required to assist in the achievement of the RTP vision and goals. These emphasis areas are not intended to be a replacement for the regional transportation goals. Instead they were established with the recognition that many of the transportation improvement strategies included as part of the RTP Update can meet multiple regional transportation goals. The five emphasis areas are:

- Safety and Security
- The Movement of People
- The Movement of Goods
- The Movement of Information
- Sustainability

At the same time, we need strategies to prepare for, and adapt to, our already changing climate. For more details about any of the strategies listed in this plan, please see the 52 total strategies in the full Transportation Plan.

### Safety & Security

**PROMOTE**

**The Safe Routes to School Program**

Promote the Safe Routes to Schools Program and assist in identifying potential candidate locations for inclusion in the program.

**PARTNERS:** MassDOT, PVPC

**PROVIDE**

**Accommodations for Pedestrians, Transit Users, and Bicyclists in Roadway, Bridge Design and the Maintenance of Existing Facilities**

Identify and prioritize transportation improvement projects that promote the safety of bicyclists, pedestrians, and transit riders to assist in developing a balanced transportation system.

**PARTNERS:** MassDOT, Municipalities

**CROSS-CUTTING STRATEGIES:**

- $ $

### Movement of People

**DEVELOP**

**A Comprehensive Commuter Rail Network**

Work with officials from the Commonwealth of Massachusetts, the State of Connecticut, local communities, and other interested parties to advance the development of a viable Commuter Rail network.

**PARTNERS:** MassDOT

**CROSS-CUTTING STRATEGIES:**

- $ $
- $ $
- $ $
- $ $
OUR PLAN

Sustainable Transportation Plan

IDENTIFY

Identify areas where bicycle lanes could be included as part of ongoing transportation improvement projects.

PROMOTE

The Implementation of Bicycle Lanes Where Practical

Identify areas where bicycle lanes could be included as part of ongoing transportation improvement projects.

CREATE

Green Streets Policies

Work with DPWs and Mass DOT to adopt Green Streets policies to promote on-site stormwater runoff and installation of tree box filters, rain gardens, sheet flow runoff and permeable pavements in road construction or re-construction projects.

REPLACE

Under-sized Culverts and Stream Crossings

Promote replacement of under-sized culverts and stream crossings to accommodate increased storm flows and wildlife passage, through changes in MassDOT and FEMA policies.

REDUCE

Combined Sewer Overflow (CSO) Impacts

Work with MassDOT to reduce combined sewer overflow (CSO) impacts from highway runoff, including I-91, through MassDOT’s GreenDOT initiative.
OUR PLAN

INVEST
In the Repair and Maintenance of Existing Transportation Infrastructure.

Utilize pavement management to identify roads in need of repair before they reach critical conditions. Maintaining a state of good repair results in more cost effective projects that enhance the safety and efficiency of all modes.

PARTNERS: MassDOT, DPW
CROSS-CUTTING STRATEGIES: $  

DEVELOP
Transportation Facilities to Support and Promote Smart Growth in and Around Existing City and Town Centers

Transportation hubs and multimodal centers that provide services such as showers, lockers, bike shelters, and information centers attract residents and customers. They can also assist in increasing the viability of high density development initiatives for town centers.

PARTNERS: PVTA, Municipalities
CROSS-CUTTING STRATEGIES: 

WORK
With Major Employers to Develop Incentives to Decrease Single Occupant Vehicle Use

Continue to work with MassRides to reduce the percentage of single occupant vehicles that commute to work. Incorporate strategies as appropriate into ongoing transportation planning studies.

PARTNERS: Municipalities
CROSS-CUTTING STRATEGIES: $  

DEVELOP
Incentives to Encourage Businesses to Utilize a Mix of Freight Transportation Alternatives

The movement of goods in the Pioneer Valley is dominated by trucking, which has 98 percent of the market. Identify measures to encourage a wider mix of freight transportation uses.

PARTNERS: Local Government
CROSS-CUTTING STRATEGIES: $  

IDENTIFY AND MITIGATE
Vertical Clearance Issues at Underpasses

Low clearance underpasses restrict the efficient movement of freight in the Pioneer Valley region. Identify locations with vertical clearance issues and advance transportation improvements that enhance freight movement.

PARTNERS: MASSDOT
REFINE AND IMPROVE

The Regional Project Prioritization System as Necessary

Work with MassDOT and the Pioneer Valley MPO to identify enhancements to the regional project prioritization system. Specifically, develop a separate prioritization system for transit and freight improvement projects.

ENCOURAGE

Telecommuting and Video Conferencing

Develop initiatives to encourage major employers to offer options for tele-commuting. Promote video conferencing to reduce the rise in vehicle miles traveled in the region.

CROSS CUTTING STRATEGIES ICONS: The following icons are used in reference to issues and strategies related to other element plans of this report.
Holyoke computing center on Appleton St.
(new construction on existing brownfield site)

Photo: Chris Curtis
Brownfields Plan

Cleaning up our industrial legacy. Building stronger neighborhoods and communities.

The purpose of the Pioneer Valley Regional Brownfields Plan is to facilitate assessment, cleanup, and redevelopment of contaminated and blighted properties in our region. EPA defines a brownfield site as real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Thus, brownfields are sites with known or perceived contamination. The Pioneer Valley Regional Brownfields Plan identifies 20 neighborhood scale Areas of Brownfield Interest (ABI) where brownfields are pervasive, and resources to address them are most needed. The plan provides an analysis of the disproportionate number of brownfields within low income and minority block groups and offers a series of strategies for each ABI relative to site-specific environmental assessment, cleanup and/or redevelopment planning.

Note: This is the executive summary of our plan. To obtain or view a copy of the full plan, visit pvpc.org.

“My community is sustainable when we work together to revision and willingly re-invest in abandoned, contaminated but historically significant properties—to once again productively contribute to the current needs of our cities”

Lee Pouliot
Chicopee, MA
OUR GOALS

To identify Areas of Brownfield Interest, the pervasiveness of brownfields was determined by the number of Massachusetts Department of Environmental Protection reported open or closed 21E sites at the clustered Census Designated Places and/or Block Group scale. A scoring model was developed that assigns points based on land use history, proximity to 21E sites, density of 21E sites, inclusion in an environmental justice mapped area, and proximity to brownfield assisted sites. Neighborhood-sized areas with a score of 16 points or more were considered ABIs. The 20 ABIs identified in this plan include:

- Amherst Center
- Belchertown Center
- Chicopee Center and Chicopee Falls
- Willimansett, Chicopee
- Downtown Easthampton
- Downtown Holyoke
- Downtown Northampton
- Downtown Springfield
- East Springfield
- Forest Park, Springfield
- Hill-McKnight and Six Corners, Springfield
- Indian Orchard, Springfield
- North End, Springfield
- South End, Springfield
- Ludlow Center
- Downtown Ware
- Downtown Westfield
- Merrick and Riverdale, West Springfield
- Monson Center
- Palmer Villages

Brownfields site, Easthampton
Photo: Chris Curtis

The thriving Eastworks mixed-use development, including housing, commercial and light industrial use on a former Brownfield site
Photo: Chris Curtis
Open Square in Holyoke is an example of a successful re-use of a historic former mill complex for mixed use.

Photo: Chris Curtis
The effect of brownfields at the neighborhood scale is well documented. As city residents and businesses with access to capital migrated to outer suburbs in the decades after 1960, many working class neighborhoods were left with a legacy of contaminated and vacant facilities, deteriorating infrastructure, and abandoned homes. The remaining residents of these blighted communities, often poor and/or minorities, were left to bear the burden of this wholesale disinvestment and its physical remnants. Environmental health risks are the most acute problem faced, but in neighborhoods with concentrations of brownfields, there are more insidious challenges to everyday quality of life, employment accessibility, and housing supply and affordability.

A disproportionate number of poor and minority people live in neighborhoods with brownfields.

### Pioneer Valley Areas of Brownfield Interest (ABI) Population, Race, Ethnicity and Age

<table>
<thead>
<tr>
<th>Demographic Indicators</th>
<th>All ABIs</th>
<th>PV Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Population</td>
<td>247,841</td>
<td>621,570</td>
</tr>
<tr>
<td>% White or Caucasian</td>
<td>68.9%</td>
<td>79.6%</td>
</tr>
<tr>
<td>% People of Color</td>
<td>31.1%</td>
<td>20.4%</td>
</tr>
<tr>
<td>% Latino or Hispanic</td>
<td>26.1%</td>
<td>16.8%</td>
</tr>
<tr>
<td>% under Age 18</td>
<td>24.2%</td>
<td>21.9%</td>
</tr>
<tr>
<td>% Age 65 or above</td>
<td>10.8%</td>
<td>13.8%</td>
</tr>
</tbody>
</table>

Source: 2010 US Census

### Pioneer Valley ABI Economic Indicators

<table>
<thead>
<tr>
<th>Demographic Indicators</th>
<th>All ABIs</th>
<th>PV Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of households under $10,000 in income</td>
<td>15.8%</td>
<td>9.0%</td>
</tr>
<tr>
<td>% of households under $30,000 in income</td>
<td>46.0%</td>
<td>22.7%</td>
</tr>
<tr>
<td>% of households in rental housing</td>
<td>57.4%</td>
<td>34.0%</td>
</tr>
</tbody>
</table>
Public health indicators such as lead paint and air pollution are concentrated disproportionately in older industrial neighborhoods.

Public health indicators show links between disease and brownfields-related environmental factors such as lead paint and air pollution, which are concentrated disproportionately in older industrial neighborhoods like the ABIs. Aging housing stock accounts for much of the lead hazard. About 55% of housing units in the Pioneer Valley were built prior to 1960 – this measure exceeds 90% in former mill worker neighborhoods like the West End of downtown Chicopee. With less than 10% of the state’s population, the Pioneer Valley contains 18% of the state’s high-risk municipalities for childhood lead poisoning. In places like the West End of Chicopee, the prevalence of abandoned brownfields keeps property values low and deters investments, such as lead paint abatement, by landlords and property owners due to concerns that the cost of abatement activities will not be recouped in resale value and/or rental income. Overall, the ABIs – nearly all of which are old mill neighborhoods – are home to relatively high percentages of minority residents, raising the issue of environmental justice.

Air quality is a concern due to the region’s major highways (I-90 and I-91), power plants and remaining mills. With the region’s transit-accessible downtowns burdened by brownfields and largely replaced as employment centers, car dependence will continue to impact air quality. In Hampden County, which contains more than three-quarters of the Pioneer Valley’s population, hospitalizations for asthma are 53% higher than the state rate, with especially high rates for Hispanics (91% higher than the state rate), who are about 5 times more likely to need hospitalization than non-Hispanic whites.
OUR FINDINGS

Brownfields are sites with ‘known’ or ‘perceived’ contamination. Known contamination can be tracked through the Massachusetts Department of Environmental Protection’s (MassDEP) 21E Database. This is also referred to as the Voluntary Control Program or VCP. The 21E database tracks sites with reportable quantities of petroleum or hazardous material contamination in what is called the 21E Database. 21E is in reference to the Massachusetts General Laws Chapter 21E which is the Oil and Hazardous Material Release Prevention Response Act. This database does not include sites perceived to be contaminated based on past land use or a generally blighted condition. It is only for sites with actual releases, at levels considered reportable under MGL 21E.

For the purposes of this plan, we utilized the Tier Classified 21E sites that were mapped as a GIS datalayer. Therefore, the mapped datalayer represent only a subset of the total reported Chapter 21E sites. Chapter 21E sites that have not yet been Tier Classified, or are not required to be Tier Classified, are not mapped, and thus were not used as part of the metrics calculated for determining the Areas of Brownfield Interest (ABIs). For example, there are 855 tier-classified sites in the Pioneer Valley region in DEP’s 21E database, out of a total of 4,089 21E sites (in the Pioneer Valley region).

### Brownfields are clustered in areas of brownfield interest (ABIs).

Brownfields are sites with ‘known’ or ‘perceived’ contamination. Known contamination can be tracked through the Massachusetts Department of Environmental Protection’s (MassDEP) 21E Database. This is also referred to as the Voluntary Control Program or VCP. The 21E database tracks sites with reportable quantities of petroleum or hazardous material contamination in what is called the 21E Database. 21E is in reference to the Massachusetts General Laws Chapter 21E which is the Oil and Hazardous Material Release Prevention Response Act. This database does not include sites perceived to be contaminated based on past land use or a generally blighted condition. It is only for sites with actual releases, at levels considered reportable under MGL 21E.

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### Tier Classified Oil and Hazardous Material Reported Releases, MassDEP 21E Sites (Mapped by MassDEP)

<table>
<thead>
<tr>
<th></th>
<th># Sites in ABIs</th>
<th># Sites in PVPC Region</th>
<th>ABI %</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEP tier-classified 21E sites</td>
<td>524</td>
<td>855</td>
<td>61.2%</td>
</tr>
<tr>
<td>Open tier-classified 21E sites</td>
<td>248</td>
<td>230</td>
<td>64.3%</td>
</tr>
</tbody>
</table>

Source: MassDEP, GIS mapped sites

### Impacts of ABIs on Region

<table>
<thead>
<tr>
<th></th>
<th>Total in ABIs</th>
<th>Total in PVPC Region</th>
<th>ABI %</th>
</tr>
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<tbody>
<tr>
<td>Population (source: Census 2010)</td>
<td>247,841</td>
<td>621,570</td>
<td>34.6%</td>
</tr>
<tr>
<td>21E Sites (source: MassDEP mapped sites GIS layer)</td>
<td>524</td>
<td>855</td>
<td>61.2%</td>
</tr>
<tr>
<td>Total Land Area (acres) (source: MassGIS)</td>
<td>62,720</td>
<td>754,560</td>
<td>8.3%</td>
</tr>
<tr>
<td>Industrial Land Area (acres) (source: MassGIS)</td>
<td>4,896</td>
<td>9,910</td>
<td>49.4%</td>
</tr>
</tbody>
</table>
Brownfields erode downtowns and drive sprawl.

Brownfields also have pernicious indirect environmental effects. They occupy a sizable proportion of commercial- and industrial-zoned land in most regional downtowns. Over several decades, in part because of obstacles to cleanup and redevelopment related to liability, the area’s retail sector and surviving large commercial and industrial employers have gradually relocated from downtowns to greenfield sites in former agricultural parts of the Valley. These new employment centers have attracted commuters and residential development to outlying areas. Between 1970 and 2000, the Valley’s population grew less than 5%, while developed land increased 49%. This migration has caused habitat loss and has created a car-based culture, wasting energy, adding to carbon emissions, and contributing to documented air pollution.

Chicopee West End Brownfield Strategy

The City of Chicopee’s Downtown West End was the focus of an EPA funded Area Wide Brownfield Planning Grant to reinvigorate and spark reinvestment in the West End by mitigating local environmental conditions at brownfields and re-branding the area as an attractive, green neighborhood where people can live, work, learn and play. Through realistic strategies and market-driven initiatives, it particularly aims to assess, clean up and return key West End Brownfields to productive use over the next three to five years. It provides an overall market assessment that identifies potential demand for industrial/commercial space and rental housing units, potential niche market commercial users and appropriate target segments for mill building residences. It further addresses limitations in the neighborhood’s infrastructure and recommends public improvements that will facilitate private property redevelopment in the West End.
For each Area of Brownfields Interest, (ABI), this plan identifies key brownfields and site-specific actions to address current conditions at the site. These actions ranged from initiating or completing assessment to determine the extent of contamination and a remediation plan, initiating or completing cleanup to ready a site for redevelopment, and/or redevelopment planning to determine the highest and best use of the site relative to community plans and visions for the neighborhood.

**Assessment, Cleanup & Redevelopment Strategies**

**CONDUCT**

**Petroleum and Hazardous Material Site Assessments Under PVPC’s EPA Brownfield Site Assessment Grant**

PVPC received $400,000 in site assessment funds from EPA in 2012. Municipalities will be solicited to apply for site assessments under this program by March 2013.

**PARTNERS:** PVPC

**CROSS-CUTTING STRATEGIES:**

$155

**CONTINUE**

**Operation of PVPC’s Brownfield Revolving Loan Fund (RLF)**

Applications for brownfield cleanup assistance through the RLF are accepted on a rolling basis, with roughly $1.7 million available as of November 2012. Loans are available to eligible private parties, while eligible municipalities, redevelopment authorities and nonprofits can receive assistance through loans, subgrants, or a combination of the two.

**PARTNERS:** PVPC

**CROSS-CUTTING STRATEGIES:**

$156

**CONTINUE**

**Quarterly Meetings of the Regional Brownfield Advisory Committee**

Facilitate regional coordination of technical assistance for brownfield assessments, cleanup and redevelopment.

**PARTNERS:** PVPC

**CROSS-CUTTING STRATEGIES:**

$157

**SUPPORT**

**Transit Oriented Development**

Advance Transit Oriented Development (TOD) in urban centers to support redevelopment

**PARTNERS:** PVPC, Municipalities

**CROSS-CUTTING STRATEGIES:**

$158
**OUR PLAN**

**Amherst Center & North Amherst**

**COMPLETE**

Site Clean-up at Amherst Sites

Conduct site clean-ups at the following Amherst ABI sites:
- Pelham Road at Fort River Crossing/ former Manufactured Coal Gasification plant

**PARTNERS:** Amherst Planning Department

**CROSS-CUTTING STRATEGIES:**


**BEGIN**

Phase I Site Assessments at Amherst Sites

Begin Phase 1 site assessments at the following Amherst sites:
- College Street at Fort hill auto and other auto sites on College Street;
- WMECO site on College Street;
- Main Street – Depot Site;
- North Amherst – various automotive sites;
- Several South Amherst farms.

**PARTNERS:** Amherst Planning Department

**CROSS-CUTTING STRATEGIES:**


**COMPLETE**

Site Cleanup at Belchertown Sites

Conduct site clean-ups at the following Belchertown ABI sites:
- Belchertown State School – asbestos removal

**PARTNERS:** Belchertown Planning Department

**CROSS-CUTTING STRATEGIES:**


**DEVELOP**

Brownfield Inventory in Belchertown

Conduct inventory of potential brownfield sites in Belchertown for Phase I Site Assessments

**PARTNERS:** Belchertown Planning Department

**CROSS-CUTTING STRATEGIES:**


**START**

Site Redevelopment in Chicopee

Advance hazardous building material abatement and demolition of remaining Uniroyal structures. Apply for Cleanup Grants after site assessments, as needed. Advance assessment and cleanup at Delta Park and former Hampton Steam Plant properties.

**PARTNERS:** Chicopee Office of Community Department; Planning Department

**CROSS-CUTTING STRATEGIES:**


**Amherst Center & North Amherst**

**Belchertown Center**

**Chicopee Center & Chicopee Falls**

**Brownfield Plan**
OUR PLAN

ADVANCE
Site Redevelopment in Chicopee

- Advance Phase I redevelopment at Facemate including Senior Center Construction and private mixed use redevelopment.
- Initiate Uniroyal Phase II redevelopment as appropriate;
- Advance redevelopment at Cabotville and Lyman Mills including needed infrastructure improvements.
- Advance site acquisition, assessment, and any required cleanup to develop proposed canal walk fronting mills;
- Develop and implement a marketing plan for Downtown and West End.
- Advance discussions about access to the delta properties including the train viaduct crossing;
- Support infill projects throughout neighborhoods.

PARTNERS:
Chicopee Office of Community Department; Planning Department

CROSS-CUTTING STRATEGIES:

CONDUCT
Site Assessment in Chicopee

Continue working with Michelin N.A. to complete environmental assessment and required cleanup.
Prioritize Downtown West End brownfields for assessment under EPA Community-Wide Assessment Grant.

PARTNERS:
Chicopee Office of Community Department; Planning Department

CROSS-CUTTING STRATEGIES:

DEVELOP
Brownfield Inventory in Willimansett

Develop brownfield inventory for Willimansett neighborhood and Chicopee Street.

PARTNERS:
Chicopee Office of Community Development; Planning Department

CROSS-CUTTING STRATEGIES:

CONDUCT
Site Assessment and Clean-up Planning in Willimansett

Conduct Phase I site assessments on inventories sites. Perform Phase II assessments and cleanup planning as needed.

PARTNERS:
Chicopee Office of Community Development; Planning Department

CROSS-CUTTING STRATEGIES:
### OUR PLAN

#### Undertake

**Redevelopment Planning in Willimansett**
- Complete Redevelopment planning for RAO sites.
- Apply for EPA Area-wide Planning Grant for prioritized sites.

**Partners:**
- Chicopee Office of Community Development; Planning Department

#### Undertake

**Redevelopment Planning in Easthampton**
- Complete redevelopment planning for 154-158 Everett Street in Easthampton.

**Partners:**
- Easthampton Planning Department

#### Complete

**Site Clean-up in Easthampton**
- Complete the building hazardous material cleanup at 1 Ferry Street, Hampton Mills

**Partners:**
- Site Owner; Easthampton Planning Department

#### Conduct

**Site Assessment in Easthampton**
- Complete a Phase II site assessment at Easthampton Wastewater Treatment Plant and undertake cleanup as needed.

**Partners:**
- Easthampton Planning Department

#### Undertake

**Redevelopment Planning in Holyoke**
- Close out 84 Sargeant Street and make ready for redevelopment, which may include demolition.
- Assess vacant lots for potential community garden construction in partnership with Nuestras Raices.

**Partners:**
- Holyoke Planning Department; Nuestras Raices
Complete site clean-up at the following Holyoke sites.

- Initiate cleanup at 37 Appleton Street.
- Hazardous material removal at train station.
- Removal of fire damaged material from 277 Main Street.
- Complete remediation at 191 Appleton Street.
- Perform cleanup at Former Mountain Road Firing Range.

Site Clean-up in Holyoke

CONDUCT
Site Assessment in Holyoke

- Site assessment and cleanup at 216 Appleton Street, which may include partial demolition.
- Complete Phase II site assessment at 689 Main Street, and site cleanup.

Site Assessment in Holyoke

CONDUCT
Site Assessment in Northampton

Conduct site assessments at the following Northampton sites.

- Roundhouse Parking Lot - continued site assessment, cleanup and redevelopment planning.
- Hampton Avenue Parking Lot – continued site assessment, cleanup and redevelopment planning.
- Hampton Avenue Parking Lot – continued site assessment, cleanup and redevelopment planning.
- 459 Pleasant Street – Continued site assessment, cleanup and redevelopment planning.
- King Street (former Honda Auto Dealership) – site assessment, cleanup and redevelopment planning.

Downtown Northampton

Downtown Springfield

UNDEARTAKE
Union Station Site Clean-up

- Complete site cleanup, including partial demolition (baggage warehouse).
- Site cleanup at adjacent vacant lot (former Hotel Charles);
- Complete Phase I construction of bus terminal and parking garage.
- Restore pedestrian tunnel linking the station with train boarding platforms and Lyman Street.
- Advance Phase II construction including addition of more office and retail space in the terminal building.

UNDEARTAKE
Union Station Site Clean-up

- Complete site cleanup, including partial demolition (baggage warehouse).
- Site cleanup at adjacent vacant lot (former Hotel Charles);
- Complete Phase I construction of bus terminal and parking garage.
- Restore pedestrian tunnel linking the station with train boarding platforms and Lyman Street.
- Advance Phase II construction including addition of more office and retail space in the terminal building.
OUR PLAN

PROMOTE

1600 Main Street Redevelopment

Support City of Springfield efforts to seek a private developer for 1600 Main Street site.

PARTNERS:
Springfield Planning Department

CROSS-CUTTING STRATEGIES:
$

REDEVELOP

Memorial Industrial Park II

Support Springfield Redevelopment Authority’s efforts to redevelop 650,000 sq. ft. of industrial, commercial, general office space, or combination of these uses (new Memorial Industrial Park II)

PARTNERS:
Springfield Redevelopment Authority; Springfield Planning Department

CROSS-CUTTING STRATEGIES:
$

SUPPORT

1003 St James Street Site Assessment

Support private property owner on-going site assessment at 1003 St James Street

PARTNERS:
Springfield Planning Department

CROSS-CUTTING STRATEGIES:
$

COMPLETE

Phase I Site Assessment in East Springfield

Complete Phase 1 site assessments at the following East Springfield sites.
• ES Hobson Street (near 59)
• NS Rear Bay Street
• 632-636 Page Blvd
• NS and ES Page Blvd and Roosevelt Ave
• NS Boston and Albany Railroad

PARTNERS:
Springfield Planning Department

CROSS-CUTTING STRATEGIES:
$

COMPLETE

Phase I Site Assessment in Forest Park

Complete Phase 1 site assessments at the following Forest Park Springfield sites.
• SS Belmont Ave (near 30-34)
• SS Locust Street (206-212)
• WS Longhill Street (18-20)
• 121 Oakland Street & WS Lansing Place
• WS Randall Place (near 56-68)

PARTNERS:
Springfield Planning Department

CROSS-CUTTING STRATEGIES:
$
### Hill, McKnight & Six Corners, Springfield

#### COMPLETE

**Phase II Site Assessment, and Clean-up as Needed**

Complete Phase II site assessments at the following Hill, McKnight, and Six Corners, Springfield sites.
- 846 Bay Street
- 155 Hickory Street
- Walnut Street sites

**PARTNERS:** Springfield Planning Department

**CROSS-CUTTING STRATEGIES:**

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### Indian Orchard, Springfield

#### COMPLETE

**Phase I Site Assessment in Indian Orchard**

Complete Phase I site assessments at the following Indian Orchard, Springfield sites.
- 241 Main Street
- NS Cardinal Street (near 139)
- NS Corthell (near 184)
- 284 Rear Main Street
- WS Moxon Street
- NS Worcester Street (near 950)
- Support site assessment and cleanup on privately owned portion of site.

**PARTNERS:** Springfield Planning Department

**CROSS-CUTTING STRATEGIES:**

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### North End, Springfield

#### COMPLETE

**Phase II Site Assessment and Clean-up in North End, Springfield**

Complete Phase II site assessments and clean-up at the following North End, Springfield sites.
- Chandler Street (29, 30, 61)
- WS Main Street (2580-2582)
- 2505-2495 Main Street

**PARTNERS:** Springfield Planning Department

**CROSS-CUTTING STRATEGIES:**

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#### CONDUCT

**Site Redevelopment Planning in North End, Springfield**

Promote site redevelopment on Dwight Street properties; Identify redevelopment options for:
- ES Main Street (2353-2365)
- ES Main Street (2931-2947)

**PARTNERS:** Springfield Planning Department

**CROSS-CUTTING STRATEGIES:**

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**OUR PLAN**

## South End, Springfield

**UNDETake**

**Redevelopment Planning in South End, Springfield**
- Support implementation of the South End Urban Renewal Plan to promote private investment throughout the neighborhood.
- Identify redevelopment options for the Gemini Site;
- Support Springfield Redevelopment Authority’s efforts to seek Gemini site developer.

**COMPLETE**

**Site Assessment in South End, Springfield**
- Prioritize site assessment and cleanup at inventoried sites.

**UNDERTAKE**

**Site Clean-up in Ludlow**
- Ludlow Mills – newly designated Brownfield Support Team (BST) site; continued site clean-up and removal of hazardous building materials

**COMPLETE**

**Site Assessment and Clean-up in Ware**
- Monroe Street MCP site – Phase II site assessment and clean-up
## Downtown Westfield

### CONDUCT
**Site Clean-up in Westfield**

Perform cleanup at proposed intermodal site (Elm, Arnold and Church Streets) and prepare for mixed use redevelopment.

**PARTNERS:** Westfield Planning Department  
**CROSS-CUTTING STRATEGIES:**

### COMPLETE
**Redevelopment Planning in Westfield**

Advance redevelopment at School Street site (former City Cleaners);  
Advance redevelopment of 41 Jefferson Street (former machine shop);  
Advance redevelopment of Columbia site on Cycle Street.

**PARTNERS:** Westfield Planning Department  
**CROSS-CUTTING STRATEGIES:**

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## Merrick & Riverdale West Springfield

### ASSESS
**Trade Center on Union Street**

Complete phase I and II site assessments; cleanup as needed.

**PARTNERS:** West Springfield Planning Department  
**CROSS-CUTTING STRATEGIES:**

### ASSESS
**Nondo Tire, Route 5 (north)**

Complete phase I site assessment; Phase II site assessment and cleanup as necessary; redevelopment planning (planned terminus for proposed CT Riverwalk and Bikeway).

**PARTNERS:** West Springfield Planning Department  
**CROSS-CUTTING STRATEGIES:**

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## Monson Center

### COMPLETE
**Site Clean-up in Monson**

Complete Site Cleanup at 2&3 South Main Street.

**PARTNERS:** Monson Planning Department  
**CROSS-CUTTING STRATEGIES:**
CONDUCT
Site Assessment in Monson

Complete site assessments at the following Monson sites.
• Omega Processing – Phase II site assessment and cleanup as needed
• Hillside School, 29 Thompson Street – Phase I and II site assessments, cleanup, and redevelopment planning

ESTABLISH
Site Assessments in Palmer

Complete a Phase I and II site assessments; cleanup as needed

CROSS CUTTING STRATEGIES ICONS: The following icons are used in reference to issues and strategies related to other element plans of this report.
Hadley Farmlands and Mount Holyoke Range
Photo: Chris Curtis
Valley Vision 4: Land Use Plan

Growing smarter to reduce sprawl. Revitalizing our community centers.

The purpose of Valley Vision 4, the Land Use Plan Update for the Pioneer Valley, is to create a more sustainable Pioneer Valley region by managing growth and development to reduce sprawl, support and strengthen our urban and town centers, reduce vehicle miles traveled and the resulting air emissions, promote availability of affordable housing for all; reduce water pollution; and protect farmland, open space and natural resources.

“My community is sustainable when residents support local businesses, preserve farms and forests, and contribute their time and expertise to community projects.”

Doug Albertson
Belchertown MA

Note: This is the executive summary of our plan. To obtain or view a copy of the full plan, visit pvpc.org.
OUR GOALS

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. The goals of the plan include:

- 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.
Village Hill in Northampton is a successful planned mixed use development, including housing, commercial and light industrial use on a former Brownfields site.

Photo: Chris Curtis
The Pioneer Valley region continues to experience a development trend that is relatively unique: suburban sprawl without population growth. 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.

**The Pioneer Valley’s Population is Stable**

*Suburban and rural communities in the Pioneer Valley region have experienced the greatest percentage of growth over the past decade, urban core communities have not grown.*
Between 2000 and 2010, the population of the Pioneer Valley region grew by only about 2.2%, similar to the 1% growth rate during the prior decade. Meanwhile, the region’s housing growth was 4.2% - with the highest percent growth focused in suburban communities like Belchertown, East Longmeadow and Hadley.

The overall regional migration pattern is a shift from city to suburb, offset by influx of new foreign immigrants to urban core. 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%. Other outlying communities that experienced significant growth are Montgomery at 28%, Goshen at 14%, Tolland at 13%, East Longmeadow at 11%, Plainfield at 10%, both Hadley and Westhampton at 9%, and Amherst at 8%. Amherst, with a total increase of nearly 3,000 residents, had the largest population increase in the region.

**Sprawl impacts suburban communities**

Belchertown and East Longmeadow had the highest growth in housing units, adding a combined 1,532 units, or 15% of the entire region’s new housing units from 2000 to 2010. The greatest percentage increases in housing growth in the region have occurred in suburban and rural communities.
One encouraging trend is that after several decades of substantial losses of farmland where the Pioneer Valley region lost over half of its farmland acreage, farmland has now stabilized past decade. Hampden County has held steady between 36 and 37,000 acres of farmland, while Hampshire County has held steady at around 52,000 acres.

We are still very auto-oriented in the Pioneer Valley region. Ninety percent of region’s commuters drive to work. In another indicator of increased driving, the number of registered vehicles per person has steadily increased, with the largest increases in rural areas.

So it’s not surprising to see that traffic volumes on Interstate 91 are up over 50% measured at Longmeadow & Northampton, over the past 30 years. We have seen similar increases shown on more rural highways like Route 112 in Huntington. Overall, we continue to drive more & further - and this in turn has impacts on air quality & climate change.
A key goal of Valley Vision 4 is to identify themes and policies that are shared with the region’s principal comprehensive transportation planning document, the 2012 Regional Transportation Plan. In summary, the two plans display a relatively high degree of consistency and share many policy goals. Notable among these are support for transit oriented development, a bike and pedestrian network, environmental protection measures, mitigating stormwater runoff impacts; and focusing growth in areas with adequate infrastructure to support it.

**Shared Goals of Regional Land Use and Transportation Plans**
- Promote transit oriented development
- Support zoning to encourage mixed use development
- Develop a bicycle and pedestrian network
- Promote smart growth in and around existing centers
- Manage stormwater runoff from roadways using Best Management Practices
- Promote creation of green streets
- Advance equity in land use and transportation planning
- Maximize energy efficiency and renewable energy opportunities

We are integrating land use and transportation planning.

Planning for development around transit stations in the region is essential as 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, the 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.

Planning is needed for Transit Oriented Development (TOD).
PVPC has identified 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.

Holyoke has been chosen for a more detailed analysis geared towards the implementation of TOD in the future. A series of recommendations will be developed based on the results of the analysis to assist in fostering economic development, and advance projects that address congestion and pedestrian needs.
The Knowledge Corridor Regional TOD Real Estate Market Analysis assessed the level and type of development that may be supported near the 10 new or improved passenger rail stations and 11 CTfastrak bus rapid transit stations in the Knowledge Corridor.

The TOD market analysis identified 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 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.
A comparison was undertaken of the goals and strategies 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*. This analysis showed a strong compatibility with shared goals and strategies in the two plans. 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.

**Shared Goals and Strategies of Pioneer Valley Region and Capitol Region (CRCOG) Land Use Plans**

- Guide growth to compact centers
- Encourage preservation of farmland and open space
- Protect, restore and enhance key environmental assets
- Support zoning to encourage mixed use and infill development
- Control commercial strip development
- Develop an intermodal bicycle and pedestrian network and amenities
- Encourage cluster development of subdivisions
- Identify, remediate and redevelop Brownfields sites

**Advances are needed in equity and environmental justice.**

The Springfield Metropolitan Area is identified as #1 in the country for Hispanic-White segregation, and #22 for Black-White segregation, according to The University of Michigan report *New Racial Segregation Measures for Large Metropolitan Areas: Analysis of the 1990-2010 Decennial Censuses*. 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. Environmental justice (EJ) areas are concentrations of poverty and minorities. The urban core communities of Holyoke (27%) Springfield (21.8%) have the largest proportion of families below the federal poverty thresholds, followed by exurban and rural communities of Hatfield (16.6%), Cummington and Ware (both 12.8%). The University of Michigan report *New Racial Segregation Measures for Large Metropolitan Areas: Analysis of the 1990-2010 Decennial Censuses*. 
Downtown Northampton.

Photo: Chris Curtis
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. 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 suffer from higher rates of illnesses linked to air pollution exposure, as these groups tend to live closer proximity to air pollution emitters.

Analysis of industrial land uses and environmental justice neighborhoods found that 6.4% of environmental justice census block groups contain land that is classified industrial versus 1.8% for the region as a whole.
Zoning restricts fair housing opportunities.

Fair housing opportunities are another key environmental justice issue in the Pioneer Valley. 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, while 11 allow multifamily housing by special permit in one or more zoning districts in the community. Nineteen communities prohibit multifamily housing. (See Housing Plan for more information).
Valley Vision 4 includes maps of key priority areas for regional smart growth, including:

- Priority Development Areas
- Priority Protection Areas

The maps are intended to help communities to better guide regional growth and development, to encourage compact forms of mixed use growth in and around existing town and city centers, to protect environmentally sensitive areas and natural assets, and to encourage development of renewable energy sources.

These maps were created using a process of GIS data layer overlap analysis, which employed over 23 separate data layers to evaluate natural constraints to development, availability of public infrastructure, existing local zoning, and other important factors. The maps were created with feedback and input from each member municipality.

Maps identify Priority Protection and Development Areas.

The Valley Vision Toolbox was developed to help educate member communities about smart growth principles and strategies, and to assist them in implementing them at the local level. The Toolbox includes fact sheets, case studies and model bylaws for each Valley Vision smart growth strategy. 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 are appropriate for them.
Valley Vision Update
Priority Development Areas
Prepared by the Pioneer Valley Planning Commission, 2011

Our Findings

Land Use Plan
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 section 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.

For more details about any of the strategies listed in this plan, please see the Valley Vision Toolkit prepared by the Pioneer Valley Planning Commission.

### TOD & Compact Development

#### ENCOURAGE

**Transit Oriented Developments (TODs)**

TOD zones are within walking distance of major transit lines in urbanized areas, and allow for higher density and mixed-use.

**PARTNERS:** Planning Boards

**CROSS-CUTTING STRATEGIES:**

- 🚗
- ₪
- 🏘️

#### PROMOTE

**Compact Mixed Use Village Centers**

Mixed Use Districts promote a diversity of housing and commercial uses in pedestrian-friendly, compact layout.

**PARTNERS:** Planning Boards

**CROSS-CUTTING STRATEGIES:**

- 🌞
- ₪
- 🏘️

#### DEVELOP

**Incentives for Cluster Development**

Cluster Development replicates the traditional New England land use pattern by clustering homes on smaller lots surrounded by protected open space.

**PARTNERS:** Planning Boards

**CROSS-CUTTING STRATEGIES:**

- 🌞
- ₪
- 🏘️
OUR PLAN

Downtown Community Revitalization

SUPPORT

Adaptive Reuse and Infill Development

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.

PARTNERS: Planning Boards, Chief Elected Officials, Economic Development officials

CROSS-CUTTING STRATEGIES:

CREATE

Business Improvement Districts (BIDs)

A BID is a defined area within which businesses pay an additional tax or fee to fund projects within the district, such as cleaning streets, making capital improvements, marketing, or streetscape enhancements.

PARTNERS: Downtown Businesses, Municipalities

CROSS-CUTTING STRATEGIES:

CREATE

Tax Increment Financing Districts (TIFs) and District Improvement Financing (DIF)

TIF is a method to use future gains in taxes to finance the debt to subsidize current improvements in the district, such as infrastructure and other community improvement projects. DIF is an economic tool that promotes redevelopment by channeling funds into targeted redevelopment districts.

PARTNERS: Municipalities

CROSS-CUTTING STRATEGIES:

REDEVELOP

Brownfields

A Brownfield Inventory can assist a municipality in prioritizing sites for redevelopment by identifying its assets and liabilities for redevelopment potential.

PARTNERS: Municipalities

CROSS-CUTTING STRATEGIES:

ADOPT

Accessory Apartment Zoning

Accessory dwelling units provide supplementary housing that can be integrated into existing single family homes.

PARTNERS: Planning Boards, Housing Authorities, Housing Partnerships, Chief Elected Officials

CROSS-CUTTING STRATEGIES:
**CREATE**

**Inclusionary Zoning**

Zoning can require developers to make a fixed percentage of their housing affordable to low- or moderate-income households, while offering incentives such as density bonuses to developers.

**PARTNERS:** Planning Boards, Housing Authorities

**CROSS-CUTTING STRATEGIES:**

**SUPPORT**

**Smart Growth Zoning Districts (Chapter 40R)**

Communities can adopt Smart Growth zoning overlay districts, under MGL Chapter 40R, to zone for higher density residential use with design standards to preserve existing character in the district.

**PARTNERS:** Planning Boards, Housing Authorities

**CROSS-CUTTING STRATEGIES:**

**PRESERVE**

**Farmlands with 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.

**PARTNERS:** Planning Boards, Agricultural Commissions

**CROSS-CUTTING STRATEGIES:**

**SUPPORT**

**River Protection Overlay Districts**

Communities can adopt local River Protection Overlay Districts to restrict inappropriate uses along river corridors.

**PARTNERS:** Planning Boards, Open Space Committees, CPA Committees, Conservation Commissions

**CROSS-CUTTING STRATEGIES:**

**ADOPT**

**The Community Preservation Act (CPA)**

Communities can adopt, through a ballot referendum, the Massachusetts Community Preservation Act which enables them to establish a local Community Preservation Fund dedicated to historic preservation, low and moderate income housing, and open space.

**PARTNERS:** Open Space Committees, Historic Commissions, Housing Committees

**CROSS-CUTTING STRATEGIES:**

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**Open Space & Resource Protection**

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Scenic upland protection zoning bylaws can regulate alterations to ridgeline and hillside land which may have significant effects on these natural resources.

Communities can establish land preservation funds to help protect critical lands such as water supply areas, farmlands, recreation areas.

Zoning bylaws can require sidewalks, bike path connectors, bike parking and bike amenities in all new developments.

Off-road bike and walking paths should be designed to link the region's urban centers, shopping and employment areas, in a connected network.

LID bylaws can establish standards for shared driveways, permeable pavers, and bioretention to reduce impervious cover and improve water quality.
### OUR PLAN

#### ADOPT

**Stormwater and Erosion Control Standards**

A storm water management bylaw/ordinance can require all new development to impact the prevent post-development stormwater increases.

**PARTNERS:** Planning Boards

**CROSS-CUTTING STRATEGIES:**

#### CREATE

**Green Infrastructure Zoning Incentives**

Communities can create zoning incentives for green roofs, permeable parking lots, on-site stormwater recharge and other green infrastructure.

**PARTNERS:** Planning Boards

**CROSS-CUTTING STRATEGIES:**

#### ESTABLISH

**De-Facto Urban Growth Boundaries**

Communities can establish zoning incentives to promote compact development in areas within the Urban Growth Boundary (UGB) with disincentives for development outside the UGB.

**PARTNERS:** Planning Boards, Public Works Departments

**CROSS-CUTTING STRATEGIES:**

#### CREATE

**Stormwater Utilities**

Stormwater utilities can be adopted by municipalities, with fees assessed based on amounts of impervious surfaces. Revenues can be used to fund stormwater improvement projects.

**PARTNERS:** Municipalities

**CROSS-CUTTING STRATEGIES:**

#### ADOPT

**Commercial Development Performance Standards**

These “good neighbor” standards can promote improvements in access and traffic impacts, pedestrian amenities, parking, landscaping, screening, architectural design, stormwater runoff, water quality, and lighting.

**PARTNERS:** Planning Boards, Public Works Departments

**CROSS-CUTTING STRATEGIES:**

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**Improve Infrastructure in Urban Areas & Limit Infrastructure Expansions**

**Growth Management**
Massachusetts has one of the most out-dated state zoning enabling acts in the United States. Zoning reform legislation is crucial to address approval not required development, impact fees, and many other issues.

Communities can promote better planned development by overhauling antiquated zoning regulations, and using the smart growth tools in this plan.

Communities can collaborate to address regional issues through crafting and approving regional intergovernmental compacts.

Use PVPC’s Planning Board Assistance program to provide “part-time town planner” services to smaller or rural communities, on a fee for services basis.

Undertake conformance reviews, develop and adopt land use regulations for reducing greenhouse gas emissions.
OUR PLAN

Environmental Justice

**PROMOTE**
Improved Transportation-Land Use Connections

Adopt complete streets policies including bike lanes; sidewalks; traffic calming devices; pedestrian crosswalks and features; bus shelters; bike racks; trees; sidewalk pavers; interconnected streets.

PARTNERS: Municipalities
CROSS-CUTTING STRATEGIES:

**ENCOURAGE**
Sustainable Design with Green Building Codes

Green Building Codes can be used to encourage the development of renewable energy and energy-efficient buildings.

PARTNERS: Municipalities, businesses, public utilities
CROSS-CUTTING STRATEGIES:

**CONDUCT**
Brownfields Assessment & Remediation

Prioritize brownfield assessment and remediation plans in Environmental Justice (EJ) Neighborhoods.

PARTNERS: PVPC, state agencies, municipalities
CROSS-CUTTING STRATEGIES:

**IDENTIFY**
Zoning Barriers to Equitable Development

Undertake municipal zoning analyses to ascertain compliance with relevant state and federal regulations.

PARTNERS: Planning boards
CROSS-CUTTING STRATEGIES:

**ENCOURAGE**
Zoning for Urban Infill Development and Job Creation

Infill development in urban areas of poverty helps promote general economic revitalization, increases affordable housing choices and attracts more living wage jobs.

PARTNERS: Planning boards, economic development agencies, community based organizations
CROSS-CUTTING STRATEGIES:
ENCOURAGE
A Mix of Market-rate and Affordable Housing

Identify and adopt incentives for developing a mix of market rate and affordable housing in urban centers, such as Massachusetts Housing Development Incentive Program (HDIP) that utilize tax incentives and density bonuses.

PARTNERS:
Local legislative bodies, elected officials, municipal housing agencies
CROSS-CUTTING STRATEGIES:

CREATE
Regional Funding for TODs and TOD Investment Funds

TOD investment funds can be used for TOD planning, site acquisition and clearance, and project development costs. Fund sources typically include federal transportation funds and general obligation bonds.

PARTNERS:
Municipalities, PVPC, investment experts
CROSS-CUTTING STRATEGIES:

PROTECT
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.

PARTNERS:
PVPC, Planning Boards, Water Departments, CRCOG
CROSS-CUTTING STRATEGIES:

SUPPORT
Bi-state 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.

PARTNERS:
PVPC, CRCOG, Municipalities
CROSS-CUTTING STRATEGIES:

ADOPT
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.

PARTNERS:
Planning Boards, PVPC
CROSS-CUTTING STRATEGIES:
OUR PLAN

**PROMOTE**

**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.

**PARTNERS:** PVPC, MDOT, MPO

**CROSS-CUTTING STRATEGIES:**

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**ENCOURAGE**

**Livability Programs**

Livability programs use transportation funding streams to support pedestrian, streetscape, mixed-use infill, transit-oriented development and transit improvement projects. Funding sources include federal STP or CMAQ funding, and toll revenues.

**PARTNERS:** PVPC, MDOT, MPO

**CROSS-CUTTING STRATEGIES:**

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CROSS CUTTING STRATEGIES ICONS: The following icons are used in reference to issues and strategies related to other element plans of this report.

- **TRANSPORTATION**
- **LAND USE**
- **HOUSING**
- **ENVIRONMENT**
- **ECONOMIC DEVELOPMENT**
- **FOOD SECURITY**
- **GREEN INFRASTRUCTURE**
- **CLIMATE ACTION**
- **BROWNFIELDS**
Maple lined country road in Cummington.

Photo: Chris Curtis
Catalytic Projects

Catalytic projects are intended to jump start actions in support of this plan’s goals, including revitalizing urban centers, promoting transit oriented development, restoring the vitality of the Connecticut River and its waterfront and providing bicycle-pedestrian alternatives for commuting within the region.

The implementation of this plan will be undertaken in many ways, including:

- Local technical assistance provided to member communities by PVPC
- Collaborative or supportive projects undertaken by municipalities, regional collaborations, state and federal agencies, and other stakeholder groups;
- Catalytic projects in key locations.

This section describes three catalytic projects that have been completed as part of the HUD-funded Sustainable Communities grant for the Knowledge Corridor region, including:

- Holyoke – design of a new rail platform, and preparation of plans to revitalize Depot Square;
- Springfield – plans and architectural design for revitalization of the historic Court Square building;
- Chicopee – design of the Connecticut Riverwalk and Bikeway, a greenway, bicycle and pedestrian path along the Connecticut River.

Note: This is the executive summary of our plan. To obtain or view a copy of the full plan, visit pvpc.org.

“My community is sustainable when everyone’s quality of life is healthy, safe, secure, and equal.”

Beatrice Dewberry
Springfield, MA
The ‘Depot Square’ Redevelopment project area consists of Depot Square bordered by Appleton Street to Lyman and Race Street, to Main and Bowers Street. Within the project area there are 14 parcels of vacant land and 8 vacant buildings. The project area is adjacent to many new and important developments. It is adjacent to the $9 million Canalwalk project of which $5 million has been secured through a federal earmark. It is adjacent to the new Massachusetts Green High Performance Computing Center, where MIT, Boston University, Harvard, UMASS, Northeastern University, Cisco and EMC have partnered to build a world-class research facility. Each of the colleges are investing $10 million and the State will be investing $25 million. Although the ‘Depot Square’ holds a superior location in the downtown it is fraught with abandonment and blight which has resulted in a lack of development interest from the private sector. The Silvio Conte building is the anchor of this ‘Depot Square’ and it is a blighted, bank-owned vacant building.

The City is working on many initiatives surrounding this area that work to leverage this project. These activities include the Urban Renewal Plan that is being completed for the entire Center City; the Innovation District Task Force Market Study that is being complete and will examine how to leverage the GHPPC for the City and Region; the Canalwalk that is being completed and will create a 2.1 mile pedestrian path along the historic canals and which is a part of the Connecticut River Greenway; and the Transportation Connections Project that is working to create pedestrian improvements to connect the Holyoke Transportation Center with the future passenger rail. All of these projects are working together to create a synergy of redevelopment activities in public investment that will support private redevelopment investment projects to create a more sustainable Holyoke.
This redevelopment project will achieve the following goals:

- To foster the redevelopment and revitalization of the Depot Square area in Holyoke.
- To complete groundwork upon which efforts to create a livable community with housing, civic spaces, open space, commercial services, and jobs located within close walking proximity;
- To connect two major downtown Holyoke projects—the new multi-modal transportation center and the future passenger rail station—through the infusion of private investment into the long Depot Square separating these two areas.

Major Outcomes/Products:

- Development of Requests for Proposals and selection of project consultants.
- Design and engineering plans for a rail station platform and canopy.
- Redevelopment scenarios and conceptual drawings of H.H. Richardson train station by UMASS Architectural and Design students.
- Depot Square historic architecture survey by consultant.
The proposed Court Square Center project contemplates the renovation and substantial rehabilitation of the roughly 120,000 square foot historic Court Square building. The Court Square project in Springfield, MA is a rare opportunity to have a significant and lasting impact on Court Square, one of the most historic and significant civic spaces in Western Massachusetts. The impact of the successful redevelopment of Court Square will be felt throughout downtown Springfield and the region and set the stage for further redevelopment of historic buildings and new construction. The Springfield Redevelopment Authority currently owns the project property and is working with city development partners National Development Council on finalizing a project program. The project is envisioned as a mixed use concept, focused entirely on the redevelopment of the historic 13-31 Elm Street property. The property has been vacant for approximately 20 years and is on Springfield’s main green in the heart of downtown, is only blocks from the Knowledge Corridor high speed rail station, and is in the Court Square District, which is listed on the National Register of Historic Places.
This redevelopment project will achieve the following goals:

- The redevelopment and preservation of historic and significant buildings at the heart of Springfield’s urban center, Court Square
- The creation of mixed use, office, educational, and residential on upper stories and active ground floor commercial uses units to provide more activity and 24 hour/7 days a week vitality to the area
- Take advantage of and enhance pedestrian and transportation connections as the property is in the heart of downtown and adjacent to the public Court Square Park
- In keeping with Springfield’s reputation as a “Green City”, incorporate planning for energy efficiency and sustainability in the redevelopment of the site, including, when feasible the use of such items as renewable energy sources, rooftop gardens/outdoor space, and district heating and cooling systems.
- Seek to reduce reliance on the automobile by creating a development where opportunities to live within walking or cycling distance to employment, educational opportunities and high speed rail.
- Re-establish Court Square Park as an vital community space, making public spaces, walkways, and brick public areas more interesting and inviting.

The Court Square Center project will be financed through a combination of Recovery Zone Economic Development Bonds, Tax-Exempt Bonds, New Markets Tax Credits, Federal Historic Rehabilitation Tax Credits, HUD Section 108 Loan Guarantee Debt, as well as through a grant contribution from the City of Springfield. The THUD grant will be used to fund additional preliminary design activities including engineering, environmental testing, and geotechnical engineering. THUD grant monies will enable the design team to move to 20 percent architectural drawings, which is a necessary precondition for receiving commitments of Federal Historic Tax Credit equity, New Markets Tax Credit equity, and other financing commitments to the project.

**Major Outcomes/Products:**

- Complete civil engineering drawings.
- Complete architectural drawings.
- Complete environmental investigation and testing.
- Undertake analysis of historical rehabilitation needs.
- Undertake geotechnical evaluation.
- Complete cost verification.
Chicopee: Connecticut Riverwalk

The Connecticut Riverwalk project in Chicopee will add a 3-mile link to a regional bike and pedestrian path along the Connecticut Riverfront. The Riverwalk will provide opportunities for residents to get healthy exercise (i.e. biking, walking, rollerblading), to commute to destinations (jobs, shopping) without using cars, and to enjoy access to a beautiful section of the Connecticut River. The path will include a paved biking path and an unpaved walking path, all to be located on city-owned flood control land. The Riverwalk will connect the region's three urban core communities: downtown Chicopee, Springfield and Holyoke and other suburbs. The overall Connecticut Riverwalk will run over 20 miles, and 5.4 miles of the Riverwalk have already been constructed.
This redevelopment project will achieve the following goals:

- To create a riverfront walking and bicycle path along the Connecticut River in Chicopee, which will provide residents with an alternative transportation option to commute to downtown Chicopee, and a venue for recreation and exercise.
- Provide opportunities recreation and exercise for urban residents, particularly in under-served low-income riverfront neighborhoods;
- Reducing auto traffic and emissions by offering opportunities to walk and bike to work;
- Stimulating riverfront revitalization and attracting restaurants, shops, housing and recreational enterprises;
- Serving as the foundation for a Connecticut River greenbelt linking new riverfront parks and recreational facilities and natural areas.

Major Activities:

- Prepare Request for Proposals for project engineering consultant.
- Review project proposals and select project engineering consultant.
- Prepare and submit for review 25% engineering and design plans.
- Hold a design public hearing.
- Complete environmental analysis and permitting.
- Complete right of way plans.
- Complete bridge design plans.
- Prepare and submit 75% and 100% engineering and design plans.
- Prepare and submit for review a final PS&E (Plans, Specs & Estimate) submittal.

Products/Outcomes:

- Completed engineering and design plans for Connecticut Riverwalk in Chicopee
Bikers enjoy the Connecticut Riverwalk in Springfield
Photo: Chris Curtis
CHECKLIST

Checklist of Sustainability Strategies

What can your community or organization do to help implement this plan, and promote sustainability, smart growth and resiliency in the Pioneer Valley? How do we turn this plan into an effective set of actions? Everyone has a role to play in this process: community officials, legislators, state and federal agencies, non-profits, businesses and individuals.

This section provides a summary checklist of all recommended strategies from the 8 chapters of this action plan. The checklist is organized by chapter, with strategies listed in checklist format targeted for each of the following groups:

- Municipalities
- Legislative Agenda
- State and Federal Agencies
- Regional Strategies

Most strategies will require multiple partners to be effectively implemented. We encourage you to review the strategies, and to contact PVPC for more information about how you can become involved.

Note: This is the executive summary of our plan. To obtain or view a copy of the full plan, visit pvpc.org.

“My community is sustainable when public transportation is affordable and accessible to everyday people”

Molly Bialecki
Easthampton, MA
### Climate Action Checklist for Municipalities

<table>
<thead>
<tr>
<th>Task</th>
<th>Partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prepare municipal water supply systems for severe droughts, including repairing leaks, and installing water efficient fixtures</td>
<td>PARTNERS: Municipal water departments</td>
</tr>
<tr>
<td>Protect and upgrade aging water and wastewater infrastructure from flood damages, and provide emergency backup equipment.</td>
<td>PARTNERS: Municipal water and sewer departments, DPWs</td>
</tr>
<tr>
<td>Support municipal purchase of fuel efficient vehicle fleets and LED traffic and street lights.</td>
<td>PARTNERS: Municipalities, DPWs, PVPC</td>
</tr>
<tr>
<td>Reduce and track greenhouse gas emissions to meet regional targets.</td>
<td>PARTNERS: Municipalities, PVPC</td>
</tr>
<tr>
<td>Adopt new TOD zoning districts along high-speed rail lines and bus routes and near existing centers.</td>
<td>PARTNERS: PVPC, Planning Boards</td>
</tr>
<tr>
<td>Generate more clean energy, greener power to reduce the carbon intensity of our electricity supply, by investing in solar, wind, and hydro projects.</td>
<td>PARTNERS: Municipalities, ESCOs, PVPC</td>
</tr>
<tr>
<td>Adopt solar and wind zoning bylaws to streamline permitting for renewable energy sources and promote passive solar access.</td>
<td>PARTNERS: Planning Boards, PVPC</td>
</tr>
<tr>
<td>Develop “Solarize” Neighborhood Programs to assist homeowners in purchasing photovoltaic solar systems, by reducing costs through bulk purchasing, tax incentives and rebates.</td>
<td>PARTNERS: Municipalities, PVPC</td>
</tr>
<tr>
<td>Retrofit municipal buildings for energy efficiency. A municipality can partner, using an Energy Service Company (ESCO) where appropriate.</td>
<td>PARTNERS: Municipalities, ESCOs, PVPC</td>
</tr>
<tr>
<td>Formalize Emergency Intermunicipal Water Connection agreements with neighboring communities, in advance of emergencies.</td>
<td>PARTNERS: Municipalities, PVPC</td>
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<tr>
<td>Sustainable Action Checklist</td>
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<tr>
<td><strong>Storm-proof infrastructure, including energy generation, electrical transmission and distribution, drinking and wastewater facilities, roads and highways, dams and flood dikes.</strong></td>
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<tr>
<td><strong>Assist vulnerable populations with response to severe weather events. Seek funding for a network of severe weather notification procedures and new cooling shelters.</strong></td>
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<tr>
<td><strong>Investigate costs and feasibility of re-locating powerlines underground.</strong></td>
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<tr>
<td><strong>Establish a public warning system for extreme weather events, to send emergency alerts to residents by email, text message or telephone.</strong></td>
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<tr>
<td><strong>Undertake conformance reviews of existing municipal zoning and provide a technical assistance program to help communities adopt zoning for GHG reduction.</strong></td>
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<tr>
<td><strong>Encourage all of the region’s municipalities to seek designation under the state Green Communities Act.</strong></td>
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<tr>
<td><strong>Install methane recovery systems to reduce the release of methane into the atmosphere from landfills.</strong></td>
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<thead>
<tr>
<th>Climate Action Legislative Agenda</th>
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<tbody>
<tr>
<td><strong>Support changes in the State Revolving Fund (SRF) Program to address climate vulnerabilities, and promote green infrastructure.</strong></td>
</tr>
<tr>
<td><strong>Adopt state legislation to enable local programs for clean energy financing (or PACE - Property Assessed Clean Energy) programs to set up a revolving loan fund that can pay for energy efficiency retrofits or renewable energy systems.</strong></td>
</tr>
<tr>
<td><strong>Create a regional Livability program using transportation funding streams that support projects, such as pedestrian, streetscape, mixed-use infill, transit-oriented development and transit improvement projects.</strong></td>
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<table>
<thead>
<tr>
<th>PARTNERS:</th>
<th>Municipalities</th>
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<tbody>
<tr>
<td>PARTNERS:</td>
<td>Municipalities, PVPC</td>
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<tr>
<td>PARTNERS:</td>
<td>Utilities</td>
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<td>PARTNERS:</td>
<td>Municipalities, PVPC</td>
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<td>Municipalities, PVPC</td>
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<td>Municipalities, PVPC</td>
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<thead>
<tr>
<th>PARTNERS:</th>
<th>State Legislature, DEP, Municipalities</th>
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<tbody>
<tr>
<td>PARTNERS:</td>
<td>Legislators, Municipalities, PVPC</td>
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<tr>
<td>PARTNERS:</td>
<td>Legislators, PVPC, MassDOT, MPO</td>
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### Climate Action Checklist for State and Federal Agencies

<table>
<thead>
<tr>
<th>Task</th>
<th>Partners</th>
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</thead>
<tbody>
<tr>
<td>Inspect and remove poor condition dams.</td>
<td>Municipalities, state Office of Dam Safety</td>
</tr>
<tr>
<td>Adopt sustainable project review criteria for all transportation projects.</td>
<td>MDOT, PVPC</td>
</tr>
<tr>
<td>Provide regional funding to support development of Transit Oriented Development districts (TODs).</td>
<td>MDOT, PVPC</td>
</tr>
<tr>
<td>Pro-actively replace underperforming culverts and bridges with larger structures designed to accommodate floods and promote wildlife passage.</td>
<td>Municipalities, MDOT</td>
</tr>
<tr>
<td>Update FEMA flood insurance maps, and improve community flood zoning regulations.</td>
<td>FEMA, municipalities</td>
</tr>
<tr>
<td>Provide regional funding to support development of Transit Oriented Development districts (TODs).</td>
<td>MassDOT</td>
</tr>
<tr>
<td>Include climate adaptation strategies, inventories of vulnerable infrastructure and updated flood mapping in all Hazard Mitigation Plans. Seek funding for improved preparedness, including funding for dam inspection, maintenance and removal.</td>
<td>Municipalities, MEMA, FEMA</td>
</tr>
</tbody>
</table>

### Climate Action Checklist of Regional Action

Seek approval from all 43 Pioneer Valley communities for municipal policy statements and an intergovernmental compact on climate change, committing communities to specific actions to help regional GHG reduction targets. | Municipalities, PVPC |
### Food Security Checklist

**Food Security Checklist for Municipalities**

<table>
<thead>
<tr>
<th>Action</th>
<th>Partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>If you don’t already have one, consider forming a food policy council</td>
<td>Municipalities, Local Food Policy Councils (Holyoke and Springfield are resources), GrowFood Northampton, MA Food Policy Council</td>
</tr>
<tr>
<td>to institutionalize consideration of food security and related issues in your community.</td>
<td></td>
</tr>
<tr>
<td>Continue to educate consumers about proper nutrition and food safety through community outreach, education and advocacy focusing on healthy, local and culturally appropriate foods.</td>
<td>Hunger relief and food advocacy community organizations, local food policy councils, municipalities, Mass in Motion, MA DPH, CDC, PVPC</td>
</tr>
<tr>
<td>Address food access issues by creating “feedability guides” that connect consumers with healthy food retail locations.</td>
<td>Local food policy councils, municipalities, Hunger relief and community-based food advocacy organizations, Mass in Motion, CDC, PVPC</td>
</tr>
<tr>
<td>Support, expand, and replicate initiatives that increase the number of neighborhood retail outlets selling healthy food, such as the healthy bodega/corner store initiative of Mass in Motion in Holyoke and Springfield.</td>
<td>Local food policy councils, MA DPH, Corner stores/ Bodegas, CDC, PVPC, community-based food advocacy organizations</td>
</tr>
<tr>
<td>Work to bring full-line grocery stores with a full-line of fresh produce and meats and seafood to neighborhoods that do not have one.</td>
<td>Community-based organizations, local food policy councils, municipalities, economic development organizations, area grocery stores</td>
</tr>
<tr>
<td>Checklist Item</td>
<td>Partners</td>
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<tr>
<td>------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Assess how local zoning and other regulations may help or hinder residents’ access to healthy food, (Regulatory analysis examples available for the cities of Holyoke and Springfield from PVPC-email <a href="mailto:cratte@pvpc.org">cratte@pvpc.org</a>) and develop and implement solutions to address identified problems.</td>
<td>PVPC, municipalities, local planning officials, MA DPH</td>
</tr>
<tr>
<td>Support, and implement as appropriate, retail and other policies and practices that promote healthy food, such as in-store display requirements and requiring provision of healthy food at public meetings.</td>
<td>Municipalities, local planning officials, PVPC, local food policy councils and community-based food advocacy organizations, area grocery stores</td>
</tr>
<tr>
<td>Support, incentivize, and facilitate purchase of local food for institutions such as schools, senior centers etc.</td>
<td>School boards and school districts, MA farm to school initiative, CISA</td>
</tr>
<tr>
<td>Work to de-stigmatize poverty in general and the use of hunger assistance benefits specifically, by educating the public about inequity and social justice and the public health benefits of a healthy population, especially growing children.</td>
<td>Hunger relief organizations, CISA, Economic justice organizations, PVPC, MA DPH, CDC, public officials</td>
</tr>
<tr>
<td>Support local policies and regulations that address food insecurity and promote local agriculture such as “right to farm” bylaws, local agriculture commissions and municipal laws to regulate location of restaurants with respect to schools.</td>
<td>PVPC, municipalities, MA DAR</td>
</tr>
<tr>
<td>Support urban agriculture including livestock ordinances, GIS mapping of available parcels, and foster partnerships among property owners, businesses, residents and community based organizations to develop and expand community gardens and commercial urban agriculture initiatives.</td>
<td>Municipalities, PVPC, MA DAR, New Entry Sustainable Farmers</td>
</tr>
<tr>
<td>Support on-site vegetable gardens at schools, day care facilities, adult care facilities, jails, prisons, and other similar entities.</td>
<td>School districts, Care facility operators</td>
</tr>
<tr>
<td>Support development of on-farm clean, safe, sustainable energy sources and systems and help improve the efficiency of existing systems.</td>
<td>MA Farm Energy program, MA CEC, PVPC, municipalities</td>
</tr>
<tr>
<td>Develop new and expand existing large-scale food waste composting initiatives; support and establish waste source separation programs and hauling routes. Strengthen the composting market with greater incentives i.e. landfill tipping fees) to divert organic waste and work to develop consumer demand for finished compost products.</td>
<td>DEP, CET, PVPC, municipalities, Farmers, food businesses and institutional meal providers, restaurants</td>
</tr>
</tbody>
</table>
### Sustainable Action Checklist

<table>
<thead>
<tr>
<th>Action</th>
<th>Partners</th>
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<tbody>
<tr>
<td>Expand residential scale composting. Encourage sales of in-home and</td>
<td>PARTNERS: DEP, municipalities</td>
</tr>
<tr>
<td>outdoor bins and distribute easy to understand information about</td>
<td></td>
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<tr>
<td>how to compost at home.</td>
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<tr>
<td>Facilitate implementation of Scaling Up Local Food</td>
<td>PARTNERS: CISA, MA DAR, MA Workforce Alliance, PVGrows, Common Capital</td>
</tr>
<tr>
<td>(<a href="http://www.buylocalfood.org/resources-for-farmers/ag-infrastructure">www.buylocalfood.org/resources-for-farmers/ag-infrastructure</a>)</td>
<td></td>
</tr>
<tr>
<td>developed by Community Involved in Sustaining Agriculture (CISA) in</td>
<td></td>
</tr>
<tr>
<td>2012.</td>
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<tr>
<td>Provide technical assistance and business development support to</td>
<td>PARTNERS: CISA, financial institutions, Common Capital, Slow Money,</td>
</tr>
<tr>
<td>local farms and food businesses including compliance with food</td>
<td>PVGrows, EDA</td>
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<tr>
<td>safety requirements.</td>
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#### Food Security Legislative Agenda

<table>
<thead>
<tr>
<th>Agenda Item</th>
<th>Partners</th>
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<tbody>
<tr>
<td>Fully fund Supplemental Nutrition Assistance Program (SNAP) benefits.</td>
<td>PARTNERS: local, state and federally elected officials; local, state and</td>
</tr>
<tr>
<td></td>
<td>federal agency staff, advocates</td>
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<tr>
<td>Create and adopt legislation to incentivize and facilitate purchase of</td>
<td>PARTNERS: local, state and federally elected officials; local, state and</td>
</tr>
<tr>
<td>local food for institutional uses, such as in schools, rehabilitation</td>
<td>federal agency staff, advocates</td>
</tr>
<tr>
<td>centers for the elderly and sick and in hospitals and senior centers.</td>
<td></td>
</tr>
<tr>
<td>Amend local, state and federal regulations as necessary to promote food</td>
<td>PARTNERS: local, state and federally elected officials; local, state and</td>
</tr>
<tr>
<td>security, i.e. facilitate community gardens, urban agriculture, right to</td>
<td>federal agency staff, advocates</td>
</tr>
<tr>
<td>farm, farmland protection, etc.</td>
<td></td>
</tr>
<tr>
<td>Maintain and expand as necessary such successful initiatives as the</td>
<td>PARTNERS: local, state and federally elected officials; local, state and</td>
</tr>
<tr>
<td>Massachusetts Agricultural Preservation Restrictions (APR), Community</td>
<td>federal agency staff, advocates</td>
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<tr>
<td>Preservation Act (CPA), and Transfer of Development Rights (TDR) to</td>
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<tr>
<td>protect and maintain agricultural land.</td>
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</tr>
<tr>
<td>Continue to fund the Massachusetts Clean Energy Center and the Massachusetts Farm Energy initiative to facilitate generation of clean, safe, sustainable energy on farms.</td>
<td>PARTNERS: local, state and federally elected officials; local, state and</td>
</tr>
<tr>
<td></td>
<td>federal agency staff, advocates</td>
</tr>
<tr>
<td>Assure that food safety regulations do not disproportionately negatively affect local farms.</td>
<td>PARTNERS: local, state and federally elected officials; local, state and</td>
</tr>
</tbody>
</table>
### Food Security Checklist for State and Federal Agencies

<table>
<thead>
<tr>
<th>Checklist Item</th>
<th>Lead Group(s):</th>
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<tbody>
<tr>
<td>Facilitate wider acceptance of Supplemental Nutrition Assistance Program (SNAP) benefits, Women Infant and Children (WIC) coupons and other state and federal assistance benefits at farmer’s markets and Community Supported Agriculture (CSA) farms to assist more people in accessing healthy food and to assist farmers to sell their produce to a larger market.</td>
<td>relief-hunger organizations, state agencies, farmers markets</td>
</tr>
<tr>
<td>Collaborate with organizations across New England and within the Pioneer Valley to work toward the goal of producing 50% of the food consumed in the region.</td>
<td>CISA, PVPC, Food producers and distributors, MA Food policy council</td>
</tr>
<tr>
<td>Create an on-line electronic platform for food-related data to enable food organizations to share existing data and describe future needs. This service could also provide training and education about food data collection and use as well as technical assistance for farm business operators, food distributors and retailers.</td>
<td>CISA, Food Bank of W MA, PVPC</td>
</tr>
<tr>
<td>Maintain and expand as necessary such successful initiatives as the Massachusetts Agricultural Preservation Restrictions (APR), Community Preservation Act (CPA), and Transfer of Development Rights (TDR) to protect and maintain agricultural land.</td>
<td>Land owners, MA DAR, PVPC, municipalities</td>
</tr>
<tr>
<td>Support development of on-farm clean, safe, sustainable energy sources and systems and help improve the efficiency of existing systems.</td>
<td>MA Farm Energy program, MA CEC, PVPC, municipalities</td>
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### Food Security Checklist Regional Strategies

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<thead>
<tr>
<th>Checklist Item</th>
<th>Lead Group(s):</th>
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<tbody>
<tr>
<td>Continue and expand ongoing communication and collaboration among and between relief-hunger organizations, such as the Food Bank of Western Massachusetts with Buy Local Food and Farmer Support agencies, such as Community Involved in Sustaining Agriculture (CISA).</td>
<td>Food Bank of W MA, CISA, PVGrows, PVPC, Local food policy councils</td>
</tr>
<tr>
<td>Provide free or reduced fare bus passes to low income riders for trips to garden plots, farmer’s markets and other community food sources.</td>
<td>Hunger relief organizations, PVPC, Community Foundations, Leadership Pioneer Valley</td>
</tr>
<tr>
<td>Expand the number of low income Community Supported Agriculture (CSA) models to increase access to fresh food in low income areas by improving access for seniors, increasing the use of SNAP for CSA membership payment and similar efforts.</td>
<td>Hunger relief organizations, CISA</td>
</tr>
<tr>
<td>CHECKLIST</td>
<td>Sustainable Action Checklist</td>
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<tr>
<td>Work to assure that all people eligible for SNAP, WIC and other similar benefit programs are enrolled in the programs.</td>
<td>PARTNERS: Hunger relief organizations, social service agencies, MA DTA,</td>
</tr>
<tr>
<td>Work to de-stigmatize poverty in general and the use of hunger assistance benefits specifically, by educating the public about inequity and social justice and the public health benefits of a healthy population, especially growing children.</td>
<td>PARTNERS: Hunger relief organizations, CISA, Economic justice organizations, PVPC, MA DPH, CDC, public officials</td>
</tr>
<tr>
<td>Collaborate with organizations across New England and within the Pioneer Valley to work toward the goal of producing 50% of the food consumed in the region.</td>
<td>PARTNERS: CISA, PVPC, Food producers and distributors, MA Food policy council</td>
</tr>
<tr>
<td>Create an on-line electronic platform for food-related data to enable food organizations to share existing data and describe future needs. This service could also provide training and education about food data collection and use as well as technical assistance for farm business operators, food distributors and retailers.</td>
<td>PARTNERS: CISA, Food Bank of WM, PVPC</td>
</tr>
<tr>
<td>Maintain and expand as necessary such successful initiatives as the Massachusetts Agricultural Preservation Restrictions (APR), Community Preservation Act (CPA), and Transfer of Development Rights (TDR) to protect and maintain agricultural land.</td>
<td>PARTNERS: Land owners, MA DAR, PVPC, municipalities</td>
</tr>
<tr>
<td>Connect land owners with farmers to facilitate agricultural production. Actively participate in the Hampden county pilot project collaboration with the New Entry Sustainable Farming Project and its partners.</td>
<td>PARTNERS: New Entry Sustainable Farmers, MA DAR, PVPC, municipalities, Farmers, Landowners</td>
</tr>
<tr>
<td>Support on-site vegetable gardens at schools, day care facilities, adult care, rehab, and other similar entities.</td>
<td>PARTNERS: School districts, Care facility operators</td>
</tr>
<tr>
<td>Support development of on-farm clean, safe, sustainable energy sources and systems and help improve the efficiency of existing systems.</td>
<td>PARTNERS: MA Farm Energy program, MA CEC, PVPC, municipalities, USDA</td>
</tr>
<tr>
<td>Facilitate and expand year-round food production capacity in the region, including hydroponic greenhouses.</td>
<td>PARTNERS: Farmers, MA DAR, CISA, USDA</td>
</tr>
<tr>
<td>Provide flexible capital for innovative local farm and food businesses, particularly those to improve food system infrastructure.</td>
<td>PARTNERS: Common Capital, Slow Money, Financial Institutions, PVGrows, EDA, USDA</td>
</tr>
<tr>
<td>Checklist Item</td>
<td>Partners</td>
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<tr>
<td>Develop new and expand existing large-scale food waste composting initiatives; support and establish waste source separation programs and hauling routes. Strengthen the composting market with greater incentives i.e. landfill tipping fees to divert organic waste and work to develop consumer demand for finished compost products.</td>
<td>DEP, CET, PVPC, municipalities, Farmers, food businesses and institutional meal providers, restaurants</td>
</tr>
<tr>
<td>Help develop and expand the capacity of farmers to sell produce directly to institutional meal providers, such as colleges, universities, schools, hospitals, day-care, senior meals programs and nursing homes.</td>
<td>MA Farm to School, CISA, MA DAR, AFT</td>
</tr>
<tr>
<td>Facilitate implementation of Scaling Up Local Food (<a href="http://www.buylocalfood.org/resources-for-farmers/ag-infrastructure">www.buylocalfood.org/resources-for-farmers/ag-infrastructure</a>) developed by Community Involved in Sustaining Agriculture (CISA) in 2012.</td>
<td>CISA, MA DAR, MA Workforce Alliance, PVGrows, Common Capital</td>
</tr>
<tr>
<td>Provide technical assistance and business development support to local farms and food businesses including compliance with food safety requirements.</td>
<td>CISA, financial institutions, Common Capital, Slow Money, PVGrows, EDA</td>
</tr>
<tr>
<td>Work to fill gaps in all sectors of the local food system with local jobs, especially in food production and waste/compost sectors. Provide education and training to increase the skills and capacities of food system workers through formal programs, such as the Greenfield Community College Farm and Food Systems degree (insert link <a href="http://web.gcc.mass.edu/farmandfoodsystems/">http://web.gcc.mass.edu/farmandfoodsystems/</a>).</td>
<td>Community college academic and training programs, REBs, MA Workforce Alliance, CISA</td>
</tr>
<tr>
<td>Action</td>
<td>Partners</td>
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</tr>
<tr>
<td>Appoint a local housing committee to study community needs, recommend appropriate actions, advocate for action.</td>
<td>Board of Selectmen / City Council</td>
</tr>
<tr>
<td>Develop a local housing plan, drawing on findings of the Regional Housing Plan, to lay out specific approaches for meeting local and regional needs and/or as a guide for spending Community Preservation Act housing funds.</td>
<td>Housing Committee, Planning Board, Housing Authority</td>
</tr>
<tr>
<td>Form a Shared Housing Office (SHO) with one or more of your neighboring municipalities to strengthen capacity to plan for, implement, and manage programs and strategies to increase and preserve income-restricted affordable housing.</td>
<td>Board of Selectmen / City Council and Housing Committee</td>
</tr>
<tr>
<td>Form a Municipal Affordable Housing Trust (MAHT) to streamline future housing programs and development activities.</td>
<td>Board of Selectmen / City Council and Housing Committee</td>
</tr>
<tr>
<td>Consider adoption of the Community Preservation Act as a local funding mechanism for the acquisition, creation, preservation and support of income-restricted affordable housing.</td>
<td>Local CPA adoption committee</td>
</tr>
<tr>
<td>Encourage zoning that allows for multifamily housing, two-family housing, and/or accessory dwelling units to increase the supply of housing affordable to a wider range of households.</td>
<td>Planning Board / Zoning Board of Appeals, Housing Committee</td>
</tr>
<tr>
<td>Use M.G.L. Chapter 40B, M.G.L. Chapter 40R, and the state's Compact Neighborhoods Program to create new income-restricted affordable housing.</td>
<td>Planning Board / Zoning Board of Appeals, Housing Committee</td>
</tr>
<tr>
<td>Mandate or encourage developers of market-rate projects to set aside a modest percentage of units for low- and moderate income households through a locally adopted land use regulation, which is often called “inclusionary zoning.”</td>
<td>Planning Board / Zoning Board of Appeals, Housing Committee</td>
</tr>
<tr>
<td>Leverage major public and private investments to create income-restricted affordable and market-rate housing opportunities.</td>
<td>Board of Selectmen / City Council, Planning Board</td>
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<td>Task</td>
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</tr>
<tr>
<td>Evaluate the effectiveness of the Massachusetts' Housing Development Incentive Program (HDIP) and make programmatic recommendations to DHCD as needed.</td>
<td>PARTNERS: City Councils, planning and development staff</td>
</tr>
<tr>
<td>Participate in annual, semi-annual, or quarterly meetings during which developers, builders, real estate professionals and municipal officials discuss residential development challenges and opportunities.</td>
<td>PARTNERS: Boards or Selectmen / City Council, Planning Board, municipal planning, development, financial and legal staff</td>
</tr>
<tr>
<td>Encourage local employers to invest in workforce housing solutions such as providing on-site homebuyer education classes, down payment assistance, loan guarantees, and in some cases, rental assistance or new housing development.</td>
<td>PARTNERS: Boards or Selectmen / City Council, Housing Committee</td>
</tr>
<tr>
<td>Address vacant, abandoned or foreclosed properties by initiating a Municipal Receivership Program or by establishing procedures to take action on tax delinquent properties.</td>
<td>PARTNERS: Boards or Selectmen / City Council, municipal financial and legal staff</td>
</tr>
<tr>
<td>Advocate for housing rehabilitation and modification loan program funding to be distributed at the regional level for all non-entitlement communities.</td>
<td>PARTNERS: Boards or Selectmen / City Council, Housing Committee</td>
</tr>
<tr>
<td>Maintain quality housing by adopting a rental license and inspection system program such as one currently being implemented in Amherst.</td>
<td>PARTNERS: Boards or Selectmen / City Council</td>
</tr>
<tr>
<td>Advocate for updates to lead paint abatement program requirements.</td>
<td>PARTNERS: Boards or Selectmen / City Council, Housing Committee</td>
</tr>
<tr>
<td>Maintain an updated list of possible public parcels that could be used for income-restricted affordable housing and consider issuing a Request for Proposal (RFP) for one or more of these parcels.</td>
<td>PARTNERS: Housing Committee, Boards or Selectmen / City Council, Planning Board</td>
</tr>
<tr>
<td>Preserve the supply of income restricted housing by maintaining an awareness of housing developments with soon-to-be expiring affordability restrictions. Delegate monitoring responsibility to a municipal staff member, an outside agency, or to a shared municipal housing office.</td>
<td>PARTNERS: Housing Committee, Boards or Selectmen / City Council</td>
</tr>
<tr>
<td>Work to end homelessness in the region by participating in the Western Massachusetts Network to End Homelessness.</td>
<td>PARTNERS: Housing Committee, Boards or Selectmen / City Council</td>
</tr>
<tr>
<td><strong>Encourage your local housing authority to examine the potential for combined operations for programs, maintenance, and staffing with other local housing authorities in the region.</strong></td>
<td><strong>PARTNERS:</strong> Housing Committee, Boards or Selectmen / City Council</td>
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<tr>
<td><strong>Participate in a regional fair housing coalition of key stakeholders to help shape a regional conversation on housing choice and equal opportunity.</strong></td>
<td><strong>PARTNERS:</strong> Housing Committee, Boards or Selectmen / City Council, Planning Board</td>
</tr>
<tr>
<td><strong>Plan regionally for senior housing by participating in sub-regional meetings to discuss senior housing needs and locations for future housing.</strong></td>
<td><strong>PARTNERS:</strong> Housing Committee, Boards or Selectmen / City Council, Council on Aging, Planning Board</td>
</tr>
<tr>
<td><strong>Encourage the creation of elderly and/or special needs housing by providing density bonuses or other zoning incentives to developers that include units with universal design, accessible, and/or adaptable features.</strong></td>
<td><strong>PARTNERS:</strong> Housing Committee, Council on Aging, Planning Board</td>
</tr>
<tr>
<td><strong>Institute a requirement, by local ordinance, that all new multi-family developments are to provide a minimum percentage of accessible rental units.</strong></td>
<td><strong>PARTNERS:</strong> Housing Committee, Council on Aging, Planning Board</td>
</tr>
<tr>
<td><strong>Monitor housing developments to ensure that they are compliant with state and federal accessibility requirements. Conduct collaborative reviews of the various accessibility and building codes to achieve a coordinated, comprehensive understanding existing accessibility requirements.</strong></td>
<td><strong>PARTNERS:</strong> Building Department, Housing Committee, Boards or Selectmen / City Council, Planning Board, Council on Aging</td>
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</table>

### Housing Legislative Agenda

<table>
<thead>
<tr>
<th><strong>Provide targeted state funding to regional planning agencies (RPAs) for housing planning activities to enhance their ability to provide technical assistance to their member communities. DHCD’s District Local Technical Assistance Fund (DLTA) program is one current example.</strong></th>
<th><strong>PARTNERS:</strong> State legislators, DHCD, EOHED</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Adopt new state legislation that would require area lenders to ensure their first-time buyers of rental property take a landlord workshop.</strong></td>
<td><strong>PARTNERS:</strong> State legislators</td>
</tr>
<tr>
<td><strong>Enact state legislation that requires lenders to ensure their first-time home buyers take a homeownership or financial literacy course.</strong></td>
<td><strong>PARTNERS:</strong> State legislators</td>
</tr>
<tr>
<td><strong>Adopt state Bill H. 311: “An Act to Promote Transformative Development in Gateway Cities” to adjust and expand existing economic development programs such as the Massachusetts’ Housing Development Incentive Program (HDIP) in order to achieve transformative redevelopment in our Gateway Cities.</strong></td>
<td><strong>PARTNERS:</strong> State legislators</td>
</tr>
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### Checklist

<table>
<thead>
<tr>
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<tr>
<td>Provide funding for new public housing units outside of the central cities.</td>
<td>State legislators, Congress, DHCD, HUD, LHA commissioners</td>
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<tr>
<td>Establish funding programs that support homeownership or rental opportunities for middle-income households in targeted distressed areas as opposed to funding projects that primarily benefit low-to-moderate income households, a practice which serves as one more barrier to attracting an economically diverse population to urban neighborhoods.</td>
<td>State legislators, DHCD, HUD</td>
</tr>
<tr>
<td>Establish a funding set-aside for small-scale income-restricted affordable housing projects to assist our rural and small towns with creating income-restricted affordable housing units.</td>
<td>State legislators, Congress, DHCD, HUD</td>
</tr>
<tr>
<td>Provide and raise funds for rapid rehousing and prevention activities, and direct these funds toward agencies that are part of a coordinated housing crisis response network that uses the funds in accordance with community-developed standards.</td>
<td>State legislators, DHCD, Municipal, Foundation &amp; Faith-Based Communities</td>
</tr>
<tr>
<td>Support the creation and maintenance of a regional housing database, which will improve information sharing about available income-restricted affordable housing units.</td>
<td>State legislators, DHCD, PVPC, Western Mass Network to End Homelessness</td>
</tr>
<tr>
<td>Provide funding support for the Western Massachusetts Network to End Homelessness.</td>
<td>DHCD, Municipal, Foundation &amp; Faith-Based Communities</td>
</tr>
<tr>
<td>Continue funding of the HUD 202 program (supportive housing for the elderly program), which is currently slated for elimination.</td>
<td>Congress</td>
</tr>
</tbody>
</table>

### Housing Checklist for State and Federal Agencies

<table>
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<tr>
<td>Provide targeted funding to regional planning agencies (RPAs) for housing planning activities to enhance their ability to provide technical assistance to their member communities. DHCD’s District Local Technical Assistance Fund (DLTA) program is one current example.</td>
<td>State legislators, DHCD, EOHED, DOR</td>
</tr>
<tr>
<td>Hold regional workshops and trainings on affordable and fair housing topics</td>
<td>DHCD, PVPC, Mass. Fair Housing Center</td>
</tr>
<tr>
<td>Establish a stronger state fair housing strategy to respond to patterns, practices and policies that have had a broad, long-term impact statewide.</td>
<td>DHCD, MCAD, RHC, MFHC, HAPHousing</td>
</tr>
<tr>
<td>Provide ongoing training for municipalities, elected officials and key stakeholders on common/egregious fair housing violations, such as landlords refusing to rent to housing choice voucher holders or families with children.</td>
<td>MCAD, DHCD, HAPHousing, MFHC, HUD</td>
</tr>
<tr>
<td>CHECKLIST</td>
<td>Sustainable Action Checklist</td>
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<tr>
<td><strong>Increase funding for the Massachusetts Commission Against Discrimination to enforce fair housing violations.</strong></td>
<td>PARTNERS: HUD</td>
</tr>
<tr>
<td><strong>Develop a process for monitoring and feedback mechanisms for Analysis of Impediments, (A.I's) by the state and federal government.</strong></td>
<td>PARTNERS: HUD, DHCD, MCAD</td>
</tr>
<tr>
<td><strong>Provide technical assistance on and create incentives for developing regionalized Analysis of Impediments, (A.I's).</strong></td>
<td>PARTNERS: HUD</td>
</tr>
<tr>
<td><strong>Establish funding programs that support homeownership or rental opportunities for middle-income households in targeted distressed areas as opposed to funding projects that primarily benefit low-to-moderate income households, a practice which serves as one more barrier to attracting an economically diverse population to urban neighborhoods.</strong></td>
<td>PARTNERS: DHCD, HUD</td>
</tr>
<tr>
<td><strong>Consider making available funding programs such as the model established by HUD’s Neighborhood Stabilization Program (NSP) to address the cost of owning tax delinquent properties and/or attracting middle income residents to distressed areas.</strong></td>
<td>PARTNERS: AGO, HUD</td>
</tr>
<tr>
<td><strong>Continue state and federal financial resources to address issues surrounding abandoned properties.</strong></td>
<td>PARTNERS: DHCD, AGO, HUD</td>
</tr>
<tr>
<td><strong>Create a dedicated source of funds for demolition of extremely deteriorated and blighted properties to assist central cities in meeting demolition needs.</strong></td>
<td>PARTNERS: DHCD, HUD</td>
</tr>
<tr>
<td><strong>Coordinated technical assistance— in the form of memos, policy briefs, workshops, and direct assistance— on legalities and other issues associated with managing tax delinquent properties and other municipally owned buildings that are not in public use, for establishing a municipal receivership program, and for building demolition and blight removal.</strong></td>
<td>PARTNERS: DHCD, DPH, DOR, AGO</td>
</tr>
<tr>
<td><strong>Distribute funding for housing rehabilitation and modification loan programs at the regional level for all non-entitlement communities.</strong></td>
<td>PARTNERS: DHCD, HUD</td>
</tr>
<tr>
<td><strong>Provide adequate funding for the state Get the Lead Out program to insure that it reaches everyone who is eligible under the program's regulations.</strong></td>
<td>PARTNERS: MassHousing, DHCD, DPH</td>
</tr>
<tr>
<td><strong>Provide outreach and education on USEPA’s Renovation, Repair and Painting (RRP) ruling and enforce violations (DPS).</strong></td>
<td>PARTNERS: DPS, MCAD, HAPHousing, MFHC, Trade Associations</td>
</tr>
<tr>
<td><strong>Review present lead paint safety standards and procedures in light of current research and neighboring states' experience implementing deleading regulations.</strong></td>
<td>PARTNERS: DPH, State Legislators</td>
</tr>
<tr>
<td><strong>Augment locally-funded code enforcement in areas that warrant additional enforcement.</strong></td>
<td>PARTNERS: DPS, DHCD, DPH, AGO</td>
</tr>
<tr>
<td><strong>Coordinated technical assistance on legalities and other issues associated with municipal code enforcement.</strong></td>
<td>PARTNERS: DHCD, DPH, DOR, AGO, DOR</td>
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Sustainable Action Checklist
<table>
<thead>
<tr>
<th>Task</th>
<th>Partners</th>
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</thead>
<tbody>
<tr>
<td>Continued financial resources to local non-profits such as Massachusetts Fair Housing Council (MFHC) and HAPHousing to administer foreclosure prevention programs.</td>
<td>DHCD, OCABR (Division of Banks), HUD</td>
</tr>
<tr>
<td>Continue homebuyer counseling programs and programs that assist in relocating residents who have experienced foreclosure.</td>
<td>HUD, DHCD</td>
</tr>
<tr>
<td>Ensure city/town halls and area social service providers have the most up-to-date list of available resources for people who have experienced foreclosure.</td>
<td>DHCD</td>
</tr>
<tr>
<td>Continue support for programs that assist first time homebuyers with mortgage assistance and below market mortgage products.</td>
<td>MassHousing, MHP, DHCD, HUD</td>
</tr>
<tr>
<td>Funding for new public housing units outside of the central cities.</td>
<td>DHCD, HUD, LHA commissioners</td>
</tr>
<tr>
<td>Continued funding for capital improvements and maintenance for public housing units that are aging, deteriorating and/or empty, but inhabitable units.</td>
<td>DHCD, HUD, LHA commissioners</td>
</tr>
<tr>
<td>Fund mobility counseling programs for housing choice voucher holders that could be run by our local Local Housing Authority (LHA), Mass Fair Housing Center, and HAPHousing.</td>
<td>DHCD, HUD, LHA commissioners</td>
</tr>
<tr>
<td>Establish smaller Fair Market Rent Areas (FMR's) that more accurately reflect the local market conditions of the Pioneer Valley region.</td>
<td>HUD</td>
</tr>
<tr>
<td>Provide technical assistance and financial resources to facilitate the use of surplus Housing Authority property.</td>
<td>DHCD, HUD</td>
</tr>
<tr>
<td>Review effectiveness of targeted tenant support services to identify gaps and opportunities.</td>
<td>DHCD, HUD</td>
</tr>
<tr>
<td>Continue efforts to enhance the delivery of local housing authority programs and services.</td>
<td>DHCD, LHA commissioners</td>
</tr>
<tr>
<td>Establish a set-aside for small-scale affordable housing projects to assist our rural and small towns with creating income-restricted affordable housing units.</td>
<td>DHCD, HUD</td>
</tr>
<tr>
<td>Continue public funding for agencies like Citizen Planner Training Collaborative (CPTC) and Mass Housing Partnership (MHP) who currently offer technical assistance for municipalities on Chapter 40B and on developing income-restricted affordable housing on public lands.</td>
<td>DHCD</td>
</tr>
<tr>
<td>Provide technical assistance to build capacity at the local level to monitor and enforce income-restricted resale restrictions on affordable homeownership units, including creation and maintenance of a “ready buyers list”.</td>
<td>DHCD</td>
</tr>
<tr>
<td>Sustainable Action</td>
<td>PARTNERS</td>
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</tr>
<tr>
<td>Maintain and increase funding for the preservation of income-restricted housing.</td>
<td>DHCD, HUD</td>
</tr>
<tr>
<td>Use existing affordable housing resources to create permanent supportive housing through strategic partnerships that provide wrap-around supportive services to tenants in these units.</td>
<td>Local housing authorities, DHCD</td>
</tr>
<tr>
<td>Provide and raise funds for rapid rehousing and prevention activities, and direct these funds toward agencies that are part of a coordinated housing crisis response network that uses the funds in accordance with community-developed standards.</td>
<td>DHCD, Municipal, Foundation &amp; Faith-Based Communities</td>
</tr>
<tr>
<td>Financially support the creation and maintenance of a regional housing database, which will improve information sharing about available income-restricted affordable housing units.</td>
<td>DHCD, PVPC, Western Mass Network to End Homelessness</td>
</tr>
<tr>
<td>Provide funding support for the Western Massachusetts Network to End Homelessness</td>
<td>DHCD, Municipal, Foundation &amp; Faith-Based Communities</td>
</tr>
<tr>
<td>Participate in sub-regional meetings to discuss senior housing needs and locations for future housing.</td>
<td>Elected municipal officials, Councils on Aging, DHCD, EOEA</td>
</tr>
<tr>
<td>Fund research to identify new assisted living financing models for moderate and low-income seniors and consider funding a pilot project based on one or more of the new financing models.</td>
<td>DHCD, EOEA</td>
</tr>
<tr>
<td>Provide technical assistance in the form of trainings and information on accessibility laws and best practices to building departments, landlords and housing providers to ensure compliance with existing accessibility requirements.</td>
<td>DPS, DHCD</td>
</tr>
<tr>
<td>Provide technical assistance and educational/outreach assistance on context-sensitive compact or higher density development, particularly examples for rural communities.</td>
<td>DHCD, PVPC</td>
</tr>
<tr>
<td>Direct discretionary state funding to municipalities with areas designated for higher residential density or more compact development.</td>
<td>EOHED, DOT</td>
</tr>
<tr>
<td>Require communities to provide evidence of the need for local environmental regulations that exceed state regulatory standards.</td>
<td>DEP, EOHED, EOEAA</td>
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### Environment Checklist for Municipalities

<table>
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<tr>
<th>Item</th>
<th>Partners</th>
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<tbody>
<tr>
<td>Adopt Stormwater Utilities</td>
<td>Municipal DPWs, Planning Boards, CEOs</td>
</tr>
<tr>
<td>Implement local stormwater and erosion control standards</td>
<td>Municipal DPWs, Planning Boards</td>
</tr>
<tr>
<td>Implement green infrastructure zoning incentives</td>
<td>Municipal DPWs, Planning Boards</td>
</tr>
<tr>
<td>Continue and expand Compact for Pioneer Valley Conservation</td>
<td>PVPC, Conservation Commissions, Open Space Committees</td>
</tr>
<tr>
<td>Implement Priority Protection Areas / Critical Lands Acquisition program</td>
<td>PVPC, Agricultural Commissions, Open Space Committees</td>
</tr>
<tr>
<td>Improve access to parks and open space in Environmental Justice areas</td>
<td>PVPC, Municipalities</td>
</tr>
<tr>
<td>Adopt the Community Preservation Act (CPA)</td>
<td>Conservation Commissions, Open Space Committees, Planning Boards, Historic Commissions</td>
</tr>
<tr>
<td>Use CPA funds to leverage state and federal funds for land conservation projects</td>
<td>PVPC, Municipalities</td>
</tr>
<tr>
<td>Establish local conservation funds</td>
<td>Conservation Commissions</td>
</tr>
<tr>
<td>Create and maintain active agricultural commissions</td>
<td>Planning Boards, Conservation Commissions, Open Space Committees</td>
</tr>
<tr>
<td>Checklist Item</td>
<td>Partners</td>
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<tr>
<td>Adopt Right to Farm bylaws</td>
<td>PARTNERS: Agricultural Commissions, Planning Boards, Conservation Commissions, Open Space Committees</td>
</tr>
<tr>
<td>Adopt river protection standards and bylaws</td>
<td>PARTNERS: Planning Boards, Conservation Commissions</td>
</tr>
<tr>
<td>Create Transfer of Development Rights zoning (TDR)</td>
<td>PARTNERS: Planning Boards, Agricultural Commissions, Conservation Commissions, Open Space Committees</td>
</tr>
<tr>
<td>Adopt scenic upland protection zoning</td>
<td>PARTNERS: Planning Boards, Commissions, Conservation Commissions, Open Space Committees</td>
</tr>
<tr>
<td>Inventory, update, assess vulnerability and protect critical infrastructure</td>
<td>PARTNERS: Municipalities</td>
</tr>
<tr>
<td>Storm-proof infrastructure</td>
<td>PARTNERS: Municipalities</td>
</tr>
<tr>
<td>Create emergency inter-municipal water connections</td>
<td>PARTNERS: Municipalities</td>
</tr>
<tr>
<td>Upgrade stream crossings, bridges and culverts</td>
<td>PARTNERS: Public Work Departments, Conservation Commissions</td>
</tr>
<tr>
<td>Improve flood zoning</td>
<td>PARTNERS: Municipal Planning Boards</td>
</tr>
<tr>
<td>Implement zoning for bike and pedestrian amenities to support an intermodal pedestrian and bicycle network</td>
<td>PARTNERS: Planning Boards, Public Works Departments, PVPC, MDOT</td>
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## Environment Legislative Agenda

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</tr>
</thead>
<tbody>
<tr>
<td>Support Removal of Poor Condition Dams in Stressed Basins</td>
<td>PVPC, MA DER, Municipalities</td>
</tr>
</tbody>
</table>

## Environment Checklist for State and Federal Agencies

<table>
<thead>
<tr>
<th>Task</th>
<th>Partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Update FEMA flood maps</td>
<td>FEMA</td>
</tr>
<tr>
<td>Implement Northeast Regional Mercury Total Maximum Daily Load (TMDL)</td>
<td>MassDEP</td>
</tr>
</tbody>
</table>

## Environment Checklist of Regional Strategies

<table>
<thead>
<tr>
<th>Task</th>
<th>Partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implement Bi-state CT River Corridor Management Plan</td>
<td>PVPC; CRCOG; FRCOG</td>
</tr>
<tr>
<td>Continue Connecticut River Bacteria Monitoring Program</td>
<td>PVPC; Connecticut River Watershed Council</td>
</tr>
<tr>
<td>Continue to address Combined Sewer Overflows</td>
<td>PVPC; CRCOG</td>
</tr>
<tr>
<td>Complete supply and demand forecasts for public water supplies</td>
<td>PVPC</td>
</tr>
<tr>
<td>Implement bi-state approach to water supply protection in Westfield and Farmington River Watersheds</td>
<td>PVPC; CRCOG</td>
</tr>
<tr>
<td>Conduct subsistence fishing survey and fish consumption advisory outreach</td>
<td>PVPC</td>
</tr>
<tr>
<td>Conduct bi-state trail linkages study</td>
<td>PVPC</td>
</tr>
<tr>
<td>Expand Greenway system of trails and parks</td>
<td>PVPC</td>
</tr>
<tr>
<td>Sustainable Action</td>
<td>PARTNERS:</td>
</tr>
<tr>
<td>--------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Support design and implementation of Connecticut River Paddlers Trail</td>
<td>VT River Conservancy, AMC, TPL</td>
</tr>
<tr>
<td>Support Pioneer Valley Regional Trails Coalition and Connecticut River Paddlers Trail</td>
<td>PVPC</td>
</tr>
</tbody>
</table>
# Green Infrastructure Checklist

## Green Infrastructure Checklist for Municipalities

<table>
<thead>
<tr>
<th>Task</th>
<th>Partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hold regular municipal cross departmental roundtable discussions to encourage the integration of green infrastructure in all projects involving stormwater management</td>
<td>PARTNERS: Stormwater Managers and DPW Directors</td>
</tr>
<tr>
<td>Explore corporate sponsorship programs for green infrastructure</td>
<td>PARTNERS: Stormwater Managers and DPW Directors</td>
</tr>
<tr>
<td>Seek funds for pilot/demonstration projects that transform “gray” streets into ‘green’ streets</td>
<td>PARTNERS: Stormwater Managers and DPW Directors</td>
</tr>
<tr>
<td>Work with PVPC to design and install interpretive signage at key existing green infrastructure facilities in the region</td>
<td>PARTNERS: PVPC, Municipalities</td>
</tr>
<tr>
<td>Work with PVPC to assess existing local policies and regulations that impact green infrastructure and make recommendations for improvements</td>
<td>PARTNERS: PVPC, Municipalities</td>
</tr>
<tr>
<td>Amend Subdivision Regulations and road building practices to better reduce total impervious area to promote narrower roads and to manage stormwater runoff from roads</td>
<td>PARTNERS: DPW and Emergency Response Directors with Planning Board</td>
</tr>
<tr>
<td>Create a detailed municipal Green Infrastructure Opportunities Map illustrating prime locations for green infrastructure projects</td>
<td>PARTNERS: DPW Director with Stormwater Manager and other Project Managers throughout the Municipality</td>
</tr>
<tr>
<td>Adopt municipal tree bylaws/ordinances or other regulations that minimize removal of large trees and encourage planting of new trees</td>
<td>PARTNERS: Tree Wardens with help from PVPC</td>
</tr>
<tr>
<td>Adopt municipal stormwater regulations that promote green infrastructure on smaller sites less than one acre and redevelopment sites</td>
<td>PARTNERS: DPW Director, Stormwater Manager, and Planning Board with help from PVPC</td>
</tr>
<tr>
<td>Sustainable Action Checklist</td>
<td>Partners</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Establish reduced and more flexible off-street parking requirements to reflect actual parking demand. Amend municipal zoning and subdivision regulations that require excess pavement in driveways and parking lots</td>
<td>DPW Director, Stormwater Manager, and Planning Board with help from PVPC</td>
</tr>
<tr>
<td>Establish a structured decision making process for incorporating green infrastructure practices into all municipal projects</td>
<td>DPW Director, Stormwater Manager, and Planning Board with help from PVPC</td>
</tr>
<tr>
<td>Track the condition of stormwater infrastructure, possible locations for green infrastructure retrofits, and other valuable decision support information</td>
<td>DPW Director and Stormwater Manager</td>
</tr>
<tr>
<td>Adopt standards to guide maintenance and inspection activities. Develop adequate enforcement measures for green infrastructure maintenance</td>
<td>PVPC, Municipalities</td>
</tr>
<tr>
<td>Require green infrastructure installations to have a maintenance plan and budget. Require performance and maintenance bonds for new privately-owned green infrastructure</td>
<td>PVPC, Municipalities</td>
</tr>
<tr>
<td>Establish a regular inspection schedule for all green infrastructure</td>
<td>PVPC, Municipalities</td>
</tr>
<tr>
<td>Maintain a database of public and privately-owned green infrastructure</td>
<td>PVPC, Municipalities</td>
</tr>
<tr>
<td>Ensure that municipal employees have adequate training regarding maintenance and inspection techniques</td>
<td>PVPC, Municipalities</td>
</tr>
</tbody>
</table>

**Green Infrastructure Legislative Agenda**

<table>
<thead>
<tr>
<th>Green Infrastructure Legislative Agenda</th>
<th>Partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Promote Massachusetts Infrastructure Bank and Mass Works funding for projects that incorporate green infrastructure. Ensure that criteria developed for evaluating projects funded through this newly formed tool, give extra points for managing stormwater through green infrastructure</td>
<td>PVPC, State agencies</td>
</tr>
<tr>
<td>Support funding through Environmental Bond Bill for CSO abatement work that includes green infrastructure projects</td>
<td>PVPC, State Legislators</td>
</tr>
<tr>
<td>Promote changes to the Clean Water State Revolving Fund so that projects that include green infrastructure are more actively supported</td>
<td>PVPC, Mass DEP, State Legislators</td>
</tr>
</tbody>
</table>
## State and Federal Actions

<table>
<thead>
<tr>
<th>Action</th>
<th>Partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide Supplemental Environmental Project funding for green infrastructure projects</td>
<td>Mass DEP with EPA</td>
</tr>
<tr>
<td>Ensure that all funding of projects involving stormwater management prioritize use of green infrastructure strategies</td>
<td>Massachusetts Department of Housing and Community Development, U.S. Housing and Urban Development/ CDBG funding, EPA, MassDOT, FHWA</td>
</tr>
<tr>
<td>Promote citizen-built rain gardens and related projects</td>
<td>EPA with PVPC</td>
</tr>
<tr>
<td>Conduct a series of workshops for municipal officials, design professionals, and others in the development community. Train municipal staff tasked with facilities management (parks, schools grounds, and athletic fields) about green site management practices to reduce stormwater pollutants</td>
<td>Mass DEP, PVPC, EPA</td>
</tr>
<tr>
<td>Provide technical assistance to develop policies and regulations that promote green infrastructure</td>
<td>EPA with PVPC</td>
</tr>
<tr>
<td>Bring together impervious cover reduction requirements in proposed MS4 stormwater permit with impervious cover reductions that better target improved water quality</td>
<td>EPA with PVPC</td>
</tr>
<tr>
<td>Ensure that transportation project funding gives preference to projects that incorporate green infrastructure</td>
<td>MassDOT</td>
</tr>
<tr>
<td>Advance green infrastructure practices within MassWorks funded projects by developing criteria that give priority to such projects</td>
<td>MassWorks</td>
</tr>
<tr>
<td>Identify opportunities within state tax code to provide credits for green infrastructure</td>
<td>Mass Department of Revenue, PVPC, Municipalities</td>
</tr>
<tr>
<td>Overcome barriers to rainwater harvesting - Promote state plumbing code changes to include requirements specific to rainwater harvesting.</td>
<td>MassDEP</td>
</tr>
<tr>
<td>Coordinate with MassDOT’s Impaired Waters Program to reduce roadway runoff.</td>
<td>MassDOT, PVPC, Municipalities</td>
</tr>
<tr>
<td>Action</td>
<td>Partners</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>Couple “complete street” with “green street” projects - Promote dialogue on how municipal stormwater managers can collaborate with their colleagues tasked with improving the street experience for pedestrians and bicyclists to produce projects that result in “complete green streets.”</td>
<td>PVPC with interested municipalities</td>
</tr>
<tr>
<td>Incorporate green infrastructure practices into highway, road and other publicly funded projects across the region</td>
<td>PVPC</td>
</tr>
<tr>
<td>Develop a green infrastructure educational and funding tool kit which identifies incentives for green infrastructure</td>
<td>PVPC with interested municipalities</td>
</tr>
<tr>
<td>Design and install interpretive signage at key existing green infrastructure facilities in the region</td>
<td>PVPC with interested property owners</td>
</tr>
<tr>
<td>Establish annual green infrastructure awards program</td>
<td>PVPC</td>
</tr>
<tr>
<td>Work with existing education programs to further develop programming about green infrastructure</td>
<td>PVPC</td>
</tr>
<tr>
<td>Establish a regional agreement to promote a common goals and regulations for green infrastructure</td>
<td>PVPC with interested municipalities</td>
</tr>
<tr>
<td>Provide guidance for downspout disconnect compliance programs</td>
<td>PVPC, and interested partners in South Hadley, Holyoke, and Springfield</td>
</tr>
</tbody>
</table>
# Sustainable Transportation Checklist

## Transportation Checklist for Municipalities

<table>
<thead>
<tr>
<th>Item</th>
<th>Partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Promote the implementation of bicycle lanes where practical.</td>
<td>DPW</td>
</tr>
<tr>
<td>Promote transit oriented development.</td>
<td>Planning Boards</td>
</tr>
<tr>
<td>Encourage private connections to the regional bikeway network.</td>
<td>Planning Boards</td>
</tr>
<tr>
<td>Develop incentives to encourage businesses to utilize a mix of freight transportation alternatives.</td>
<td>Local Government</td>
</tr>
<tr>
<td>Encourage and promote telecommuting and video conferencing.</td>
<td>Major Employers</td>
</tr>
<tr>
<td>Properly mitigate the adverse impact of sprawl by promoting development through the use of permitting and zoning measures.</td>
<td>Planning Boards</td>
</tr>
<tr>
<td>Create incentives for downtown revitalization.</td>
<td>Planning Boards</td>
</tr>
<tr>
<td>Divert highway runoff to stormwater Best Management Practices, such as rain gardens and dry swales.</td>
<td>DPW</td>
</tr>
<tr>
<td>Expand use of permeable pavements on sidewalks, paths, car-parks, and minor roads.</td>
<td>DPW</td>
</tr>
<tr>
<td>Encourage use of materials such as pervious concrete, porous asphalt, paving stone, brick, tile, and gravel where appropriate.</td>
<td>DPW</td>
</tr>
<tr>
<td>Utilize narrower road widths for local roads where appropriate</td>
<td>DPW</td>
</tr>
<tr>
<td>Develop transportation facilities to support and promote smart growth in and around existing city and town centers.</td>
<td>Local Government</td>
</tr>
<tr>
<td>Invest in the repair and maintenance of existing transportation infrastructure.</td>
<td>DPW</td>
</tr>
<tr>
<td>Mitigate the impacts of roadway salt and chemical usage during snow season.</td>
<td>DPW</td>
</tr>
</tbody>
</table>
### Sustainable Action Checklist

<table>
<thead>
<tr>
<th>Action</th>
<th>Partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utilize energy efficient lighting and solar panels in new facilities.</td>
<td>PARTNERS: Planning Boards</td>
</tr>
<tr>
<td>Enforce idling reduction programs in major activity centers.</td>
<td>PARTNERS: Local Police</td>
</tr>
<tr>
<td>Develop ordinances and bylaws that encourage mixed use and</td>
<td>PARTNERS: Planning Boards</td>
</tr>
<tr>
<td>high density forms of development where appropriate.</td>
<td></td>
</tr>
<tr>
<td>Construct roads without curbing where practical to enable sheet</td>
<td>PARTNERS: DPW</td>
</tr>
<tr>
<td>flow.</td>
<td></td>
</tr>
<tr>
<td>Prohibit billboards along highways.</td>
<td>PARTNERS: Local Government</td>
</tr>
<tr>
<td>Adopt Green Streets policies.</td>
<td>PARTNERS: DPW, MassDOT</td>
</tr>
<tr>
<td>Provide accommodations for pedestrians, transit users, and bicyclists in roadway and bridge design and the maintenance of existing facilities.</td>
<td>PARTNERS: Planning Boards</td>
</tr>
</tbody>
</table>

### Transportation Legislative Agenda

<table>
<thead>
<tr>
<th>Action</th>
<th>Partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designate wild and scenic corridors along highways that abut rivers</td>
<td>PARTNERS:</td>
</tr>
<tr>
<td>and streams of historic and natural significance.</td>
<td></td>
</tr>
<tr>
<td>Encourage local fleets to use clean fuel alternatives.</td>
<td>PARTNERS:</td>
</tr>
</tbody>
</table>

### Transportation State and Federal Agencies

<table>
<thead>
<tr>
<th>Action</th>
<th>Partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fund Bikeway/Walkway projects</td>
<td>PARTNERS: FHWA/MassDOT</td>
</tr>
<tr>
<td>Develop a comprehensive Commuter Rail network.</td>
<td>PARTNERS: MassDOT</td>
</tr>
<tr>
<td>Identify and mitigate vertical clearance issues at underpasses.</td>
<td>PARTNERS: MassDOT</td>
</tr>
<tr>
<td>Include ITS equipment as part of transit and roadway improvement</td>
<td>PARTNERS: MassDOT</td>
</tr>
<tr>
<td>projects.</td>
<td></td>
</tr>
<tr>
<td>Support ITS projects to foster deployment of ITS technology.</td>
<td>PARTNERS: MassDOT</td>
</tr>
<tr>
<td>Implement real-time passenger and travel information systems.</td>
<td>PARTNERS: MassDOT</td>
</tr>
<tr>
<td>Task</td>
<td>Partners</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Divert highway runoff to stormwater Best Management Practices, such as rain gardens and dry swales.</td>
<td>PARTNERS: MassDOT</td>
</tr>
<tr>
<td>Restore or maintain connected habitats that allow for movement of fish, water, and wildlife.</td>
<td>PARTNERS: DCR</td>
</tr>
<tr>
<td>Expand use of permeable pavements on sidewalks, paths, car-parks, and minor roads.</td>
<td>PARTNERS: MassDOT</td>
</tr>
<tr>
<td>Encourage use of materials such as pervious concrete, porous asphalt, paving stone, brick, tile, and gravel where appropriate.</td>
<td>PARTNERS: MassDOT</td>
</tr>
<tr>
<td>Promote energy efficient travel modes.</td>
<td>PARTNERS: MassRides</td>
</tr>
<tr>
<td>Implement the Regional Hazard Mitigation Plan.</td>
<td>PARTNERS: MEMA</td>
</tr>
<tr>
<td>Invest in the repair and maintenance of existing transportation infrastructure.</td>
<td>PARTNERS: MassDOT</td>
</tr>
<tr>
<td>Work with major employers to develop incentives to decrease single occupant vehicle use.</td>
<td>PARTNERS: MassRides</td>
</tr>
<tr>
<td>Mitigate the impacts of roadway salt and chemical usage during snow season.</td>
<td>PARTNERS: MassDOT</td>
</tr>
<tr>
<td>Support urban forestry initiatives.</td>
<td>PARTNERS: DCR</td>
</tr>
<tr>
<td>Construct roads without curbing where practical to enable sheet flow.</td>
<td>PARTNERS: MassDOT</td>
</tr>
<tr>
<td>Screen lighting on highways.</td>
<td>PARTNERS: MassDOT</td>
</tr>
<tr>
<td>Replace under-sized culverts and stream crossings</td>
<td>PARTNERS: FEMA/MassDOT</td>
</tr>
<tr>
<td>Provide accommodations for pedestrians, transit users, and bicyclists in roadway and bridge design and the maintenance of existing facilities.</td>
<td>PARTNERS: MassDOT</td>
</tr>
<tr>
<td>Implement communications and ITS technologies to improve public transit safety, and security.</td>
<td>PARTNERS: MassDOT</td>
</tr>
<tr>
<td>Work with appropriate agencies to improve the transmittal of bike and pedestrian crashes to local police departments.</td>
<td>PARTNERS: MassDOT</td>
</tr>
<tr>
<td>Promote the Safe Routes to School program</td>
<td>PARTNERS: MassDOT</td>
</tr>
<tr>
<td>Sustainable Action</td>
<td>Lead Group(s)</td>
</tr>
<tr>
<td>--------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Develop appropriate educational resources to promote safety for drivers, bicyclists, transit users, and pedestrians.</td>
<td>MassDOT</td>
</tr>
<tr>
<td>Maintain equity in providing transportation services and access throughout the region.</td>
<td>FHWA/FTA/MassDOT</td>
</tr>
</tbody>
</table>

**Regional Actions**

<table>
<thead>
<tr>
<th>Action</th>
<th>Lead Group(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seek innovative methods to increase transit ridership, including express routes and flex vans.</td>
<td>PVTA</td>
</tr>
<tr>
<td>Monitor congested areas using the regional Congestion Management Process (CMP).</td>
<td>PVPC</td>
</tr>
<tr>
<td>Identify locations for park and ride lots and supporting express transit service.</td>
<td>PVPC/PVTA</td>
</tr>
<tr>
<td>Maintain equity in providing transportation services and access throughout the region.</td>
<td>PVPC/PVTA</td>
</tr>
<tr>
<td>Continue to refine and improve the regional project prioritization system as necessary.</td>
<td>MPO</td>
</tr>
<tr>
<td>Encourage use of materials such as pervious concrete, porous asphalt, paving stone, brick, tile, and gravel where appropriate.</td>
<td>PVPC</td>
</tr>
<tr>
<td>Implement the Regional Clean Energy Plan.</td>
<td>PVPC</td>
</tr>
<tr>
<td>Refer new projects to Valley Vision Toolbox resources.</td>
<td>PVPC</td>
</tr>
<tr>
<td>Identify hazardous locations due to drought under major roadways.</td>
<td>PVPC</td>
</tr>
<tr>
<td>Identify potential flooding locations along major highways and rerouting alternatives.</td>
<td>PVPC</td>
</tr>
<tr>
<td>Reduce combined sewer overflow (CSO) impacts</td>
<td>PVPC</td>
</tr>
<tr>
<td>Develop appropriate educational resources to promote safety for drivers, bicyclists, transit users, and pedestrians.</td>
<td>PVPC</td>
</tr>
<tr>
<td>Seek to develop a TOD Investment Fund</td>
<td>PVPC</td>
</tr>
</tbody>
</table>
Brownfields Checklist

Brownfield Checklist for Municipalities

- Conduct Site Assessments as recommended in Brownfields Plan. PARTNERS: Municipalities
- Complete Site Cleanups as recommended in the Brownfields Plan. PARTNERS: Municipalities
- Coordinate Site Redevelopment activities, as recommended in the Brownfields Plan. PARTNERS: Municipalities

Brownfield Checklist for State and Federal Agencies

- Continued funding for petroleum and hazardous material site assessments and cleanup PARTNERS: EPA, MassDevelopment

Brownfield Checklist for Regional Action

- Petroleum and hazardous material site assessments under PVPC's EPA Brownfield Site Assessment Grant PARTNERS: PVPC
- Continued operation of PVPC's Brownfield Revolving Loan Fund (RLF) PARTNERS: PVPC
- Continue quarterly meetings of the Regional Brownfield Advisory Committee PARTNERS: PVPC
- Advance Transit Oriented Development (TOD) in urban centers to support redevelopment PARTNERS: PVPC
## Land Use Checklist for Municipalities

<table>
<thead>
<tr>
<th>Action</th>
<th>Partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Encourage Transit Oriented Developments (TODs)</td>
<td>Planning Boards</td>
</tr>
<tr>
<td>Promote compact mixed use village centers</td>
<td>Planning Boards</td>
</tr>
<tr>
<td>Develop incentives for cluster development</td>
<td>Planning Boards</td>
</tr>
<tr>
<td>Support adaptive reuse and infill development</td>
<td>Planning Boards, Chief Elected Officials, Economic Development officials</td>
</tr>
<tr>
<td>Create Business Improvement Districts (BIDs)</td>
<td>Downtown businesses</td>
</tr>
<tr>
<td>Create Tax Incentive Programs (TIFs) and District Improvement Financing</td>
<td>Municipalities</td>
</tr>
<tr>
<td>Redevelop Brownfields</td>
<td>Municipalities</td>
</tr>
<tr>
<td>Adopt accessory apartment zoning</td>
<td>Planning Boards, Housing Authorities, Housing Partnerships, Chief Elected Officials</td>
</tr>
<tr>
<td>Create inclusionary zoning</td>
<td>Planning Boards, Housing Authorities</td>
</tr>
<tr>
<td>Adopt Smart Growth Zoning Districts (Chapter 40R)</td>
<td>Planning Boards, Housing Authorities</td>
</tr>
<tr>
<td>Preserve farmlands with Transfer of Development Rights zoning</td>
<td>Planning Boards, Agricultural Commissions</td>
</tr>
<tr>
<td>Adopt river protection overlay districts</td>
<td>Planning Boards, Open Space Committees, CPA Committees, Conservation Commissions</td>
</tr>
<tr>
<td>Task</td>
<td>Partners</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Adopt the Community Preservation Act (CPA)</td>
<td>Open Space Committees, CPA Committees, Conservation Commissions, Housing Committee, Historic Commissions</td>
</tr>
<tr>
<td>Establish scenic upland protection zoning</td>
<td>Planning Boards, Conservation Commissions</td>
</tr>
<tr>
<td>Create Critical Lands Acquisition Programs and funds</td>
<td>Open Space Committees, Conservation Commissions</td>
</tr>
<tr>
<td>Create zoning for bike and pedestrian amenities</td>
<td>Planning Boards, Public Works Departments, PVPC, MDOT</td>
</tr>
<tr>
<td>Adopt Low Impact Development (LID) standards</td>
<td>Planning Boards, Conservation Commissions</td>
</tr>
<tr>
<td>Adopt stormwater and erosion control standards</td>
<td>Planning Boards, Conservation Commissions</td>
</tr>
<tr>
<td>Create green infrastructure zoning incentives</td>
<td>Planning Boards</td>
</tr>
<tr>
<td>Establish de-facto Urban Growth Boundaries</td>
<td>Planning Boards, Public Works Departments</td>
</tr>
<tr>
<td>Create stormwater utilities</td>
<td>Municipalities</td>
</tr>
<tr>
<td>Adopt Commercial Development Performance Standards</td>
<td>Planning Boards, Public Works Departments</td>
</tr>
<tr>
<td>Develop comprehensive municipal zoning overhaul and update</td>
<td>Planning Boards</td>
</tr>
<tr>
<td>Adopt PVPC’s Planning Board Assistance Program</td>
<td>Planning Boards</td>
</tr>
<tr>
<td>Sustainable Action</td>
<td>Partners</td>
</tr>
<tr>
<td>--------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Create zoning for climate change best practices</td>
<td>Planning Boards</td>
</tr>
<tr>
<td>Promote improved transportation-land use connections</td>
<td>Municipalities</td>
</tr>
<tr>
<td>Encourage a mix of market-rate and affordable housing</td>
<td>Local legislative bodies, elected officials, municipal housing agencies</td>
</tr>
<tr>
<td>Identify zoning barriers to equitable development</td>
<td>Planning boards</td>
</tr>
<tr>
<td>Conduct Brownfields assessment and remediation</td>
<td>PVPC, state agencies, municipalities</td>
</tr>
<tr>
<td>Encourage zoning for infill development and job creation</td>
<td>Planning boards, economic development agencies, community based organizations</td>
</tr>
</tbody>
</table>

**Land Use Legislative Agenda**

<table>
<thead>
<tr>
<th>Legislative Agenda</th>
<th>Partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support state Zoning Reform legislation</td>
<td>State Legislature, Municipal Planning Boards</td>
</tr>
</tbody>
</table>
### Land Use Checklist for State and Federal Agencies

<table>
<thead>
<tr>
<th>Task</th>
<th>Lead Group(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support bikeway planning and design</td>
<td>Municipalities, PVPC, MDOT</td>
</tr>
<tr>
<td>Promote sustainable transportation project criteria</td>
<td>PVPC, MDOT, MPO</td>
</tr>
<tr>
<td>Encourage Livability programs</td>
<td>PVPC, MDOT, MPO</td>
</tr>
</tbody>
</table>

### Land Use Checklist of Regional Actions

<table>
<thead>
<tr>
<th>Task</th>
<th>Lead Group(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Promote regional solutions to growth problems</td>
<td>Chief Elected Officials</td>
</tr>
<tr>
<td>Create regional funding for TODs and TOD investment funds</td>
<td>Municipalities, PVPC, investment experts</td>
</tr>
<tr>
<td>Protect bi-state Watersheds for drinking water supplies</td>
<td>PVPC, Planning Boards, Water Departments, CRCOG</td>
</tr>
<tr>
<td>Support bi-state farmland preservation</td>
<td>PVPC, CRCOG, Municipalities</td>
</tr>
<tr>
<td>Adopt TOD zoning for the new commuter rail corridor</td>
<td>Planning Boards, PVPC</td>
</tr>
</tbody>
</table>