

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



Pioneer Valley Planning Commission

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

Prepared by

Pioneer Valley Planning Commission
60 Congress Street - Floor 1
Springfield, MA 01104-3419

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Pioneer Valley Planning Commission Staff

| | |
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| Christopher Curtis | Chief Planner and Project Manager/ Section Manager, Land Use & Environment |
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| Gary Roux | Principal Planner/Transportation Section Manager |
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| Jeff Lacy | MA Land Use Reform Initiative |
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| Patricia Marcus | Land Use/Sustainable Dev. Consultant |
| Mike Michon | Mill 180, Easthampton |
| Sarah Page | HAP, Inc. |
| John Pearsall | Town Planner, Town of Wilbraham |
| Shawn Rairigh | City Planner, West Springfield |
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| | |
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| Jonathan Edwards | Smart Power |
| Gregory Freeman | City of Westfield, Engineering Department |
| David Gaby | Western Mass. Coalition on Occupational Safety and Health |
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| Scott Jackson | University of Massachusetts Amherst, Director, Natural Resources and Environmental Conservation Extension Program |
| Ann-Renee Larouche | Hampshire Council of Governments |
| Chris Mason | City of Northampton, Energy and Sustainability Officer |
| Arlene Miller | Massachusetts Department of Environmental Protection |
| Heather Miller | City of Westfield, Assistant Civil Engineer |
| Steven Miller | Mass DOT, Highway Division, Supervisor, Environmental Management Systems and Sustainability |
| Nancy Nysten | Center for EcoTechnology |
| Joshua Shanley | City of Northampton, Emergency Management |
| Peter Vickery, Esq. | Sierra Club, Massachusetts Chapter |

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Pioneer Valley Regional Housing Advisory Committee

| | |
|-------------------------|--|
| Whitney (Holovach) Abel | Education and Outreach Coordinator, Massachusetts Fair Housing Center |
| Douglas Albertson | Town Planner, Belchertown |
| Stuart Beckley | Town Manager, Ware |
| Meris Bergquist | Executive Director, Massachusetts Fair Housing Center |
| Brad Campbell | Executive Director, Home Builders & Remodelers Assoc. of Western MA |
| Marilyn Contreas | Senior Program and Policy Analyst, Mass DHCD |
| Michele Crochetiere | Director of Supportive Housing (former) , YWCA Western Mass |
| Carl Dietz | Director of Community Development, Chicopee |
| Christopher Dunphy | Principal Planner/Manager of Community Development, PVPC |
| John Fisher | Fair Housing Programs, HAP Housing |
| Paul Lischetti | Housing Director, Hilltown Community Development Corporation |
| Matthew Mainville | Executive Director, Holyoke Housing Authority |
| William Malloy | Legal Counsel, Concerned Citizens for Springfield |
| James Mazik | Deputy Director & Manager of Community Development, PVPC |
| Geraldine McCafferty | Housing Director, Springfield |
| Karen Mendrala | Senior Planner (former), Holyoke |
| David Modzelewski | Homeless Housing Coordinator, Mental Health Association, Inc |
| Sarah Page | Associate Executive Director, HAP Housing |
| William Reyelt | Principal Planner, Smart Growth Programs, Mass DHCD |
| Amaad Rivera | former Director of Housing Policy, Mass. Commission Against Discrimination |
| Charles Rucks | Executive Director, Springfield Neighborhood Housing Services Inc. |
| Lynne Wallace | Chair, Western Mass. Network to End Homelessness and Vice-President of Dietz & Company |

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| Jessica Collins | Partners for a Healthier Community |
| Janet Denney | Springfield Food Policy Council; Department of Elder Affairs |
| Michael DiChiara | United Way Pioneer Valley |
| Michael Docter | Wintermoon Organic Farm |
| Phil Dromey | City of Springfield Planning Department |
| Hector Figarella | Holyoke Food and Fitness Policy Council |
| Zaida Govan | MLK Jr. Family Services |
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| Marcos Marrero | Director of Planning and Economic Development-City of Holyoke |
| Christina Maxwell | Food Bank of Western Massachusetts |
| Laura Porter | Holyoke Food and Fitness Policy Council |
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| Synthia Scott-Mitchell | Concerned Citizens' of Mason Square Farmers' Market; Springfield Food Policy Council |
| Risa Silverman | Office of Public Health Practice and Outreach UMass-Amherst |
| Sam Stegeman | PVGrows |
| Pete Westover | Conservation Works LLC |

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| Karen Mendrala | City of Holyoke |
| Ben Fish | MassDEP WERO |
| Eva Tor | MassDEP WERO |
| Sean Calnan | MassDevelopment |
| Maureen Belliveau | Westfield BID |
| Giovanna Di Chiro | Nuestras Raices |
| Tom Taaffe | Pioneer Valley Asthma Coalition |
| Karen Cullen | Town of Ware |

Civic Engagement Collaborators

| | |
|--------------------|--|
| Joseph Krupczynski | Professor of Architecture at the University of Massachusetts, Amherst |
| Dorrie Brooks | Research Assistant, University of Massachusetts, Amherst |
| Samantha Okolita | Research Assistant, University of Massachusetts, Amherst |
| Sophat Sam | Student / Session Facilitator, University of Massachusetts, Amherst |
| Sam Johnson | Student / Session Facilitator, University of Massachusetts, Amherst |
| Maxwell Ciardullo | Student / Session Facilitator, University of Massachusetts, Amherst |
| Sherry Ng | Student / Session Facilitator, University of Massachusetts, Amherst |
| Rebecca Tran | Student / Session Facilitator, University of Massachusetts, Amherst |
| Abbey Drane | Student / Session Facilitator, University of Massachusetts, Amherst |
| Katrina Spade | Student / Session Facilitator, University of Massachusetts, Amherst |
| Jose Cotto | Student / Session Facilitator, University of Massachusetts, Amherst |
| Mallory Ottariano | Student / Session Facilitator, University of Massachusetts, Amherst |
| Francis Goyes | Student / Session Facilitator, University of Massachusetts, Amherst |
| Artem Grushetskiy | Student / Session Facilitator, University of Massachusetts, Amherst |
| Shuxin Wu | Student / Session Facilitator, University of Massachusetts, Amherst |
| Michael Coyne | Student / Session Facilitator, University of Massachusetts, Amherst |
| Javier Robles | Student / Session Facilitator, Hampshire College |
| James Ayres | Executive Director, United Way Hampshire County |
| Sonja Larson | Director of Campaign & Community Investment, United Way Hampshire County |
| Dora Robinson | President & CEO, United Way Pioneer Valley |
| Linda Valentini | Executive Assistant to the President, United Way Pioneer Valley |
| Catherine Lavallee | UWPV Intern, United Way Pioneer Valley |

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| | |
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| Kim Lutz | The Nature Conservancy |
| Paul Catanzaro | UMASS Amherst |
| Carrie Banks | MA DER, Westfield River Wild and Scenic Advisory Committee |
| Wendy Sweetser | The Trustees of Reservations |
| Paul Jahnige | MassDCR |
| Catherine Skiba | MassDEP |
| Christine Duerring | MassDEP |

OUR NEXT FUTURE:

An Action Plan for Building a Smart,
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The Connecticut River and Mount Holyoke Range from the top of Mount Sugarloaf. Photo: Chris Curtis

01

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.

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

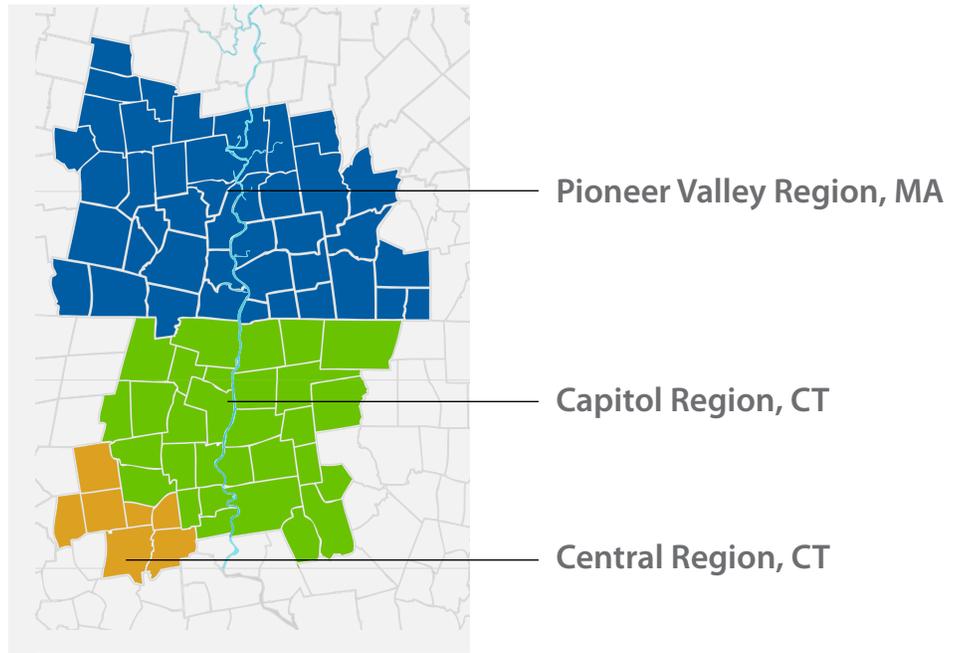
"My community is sustainable when we work together for the same purpose."

*Eneida Garcia
Florence, MA*



Our Mission for the Sustainable Knowledge Corridor:

To preserve, create and maintain a sustainable, economically competitive, and equitable bi-state region.



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:

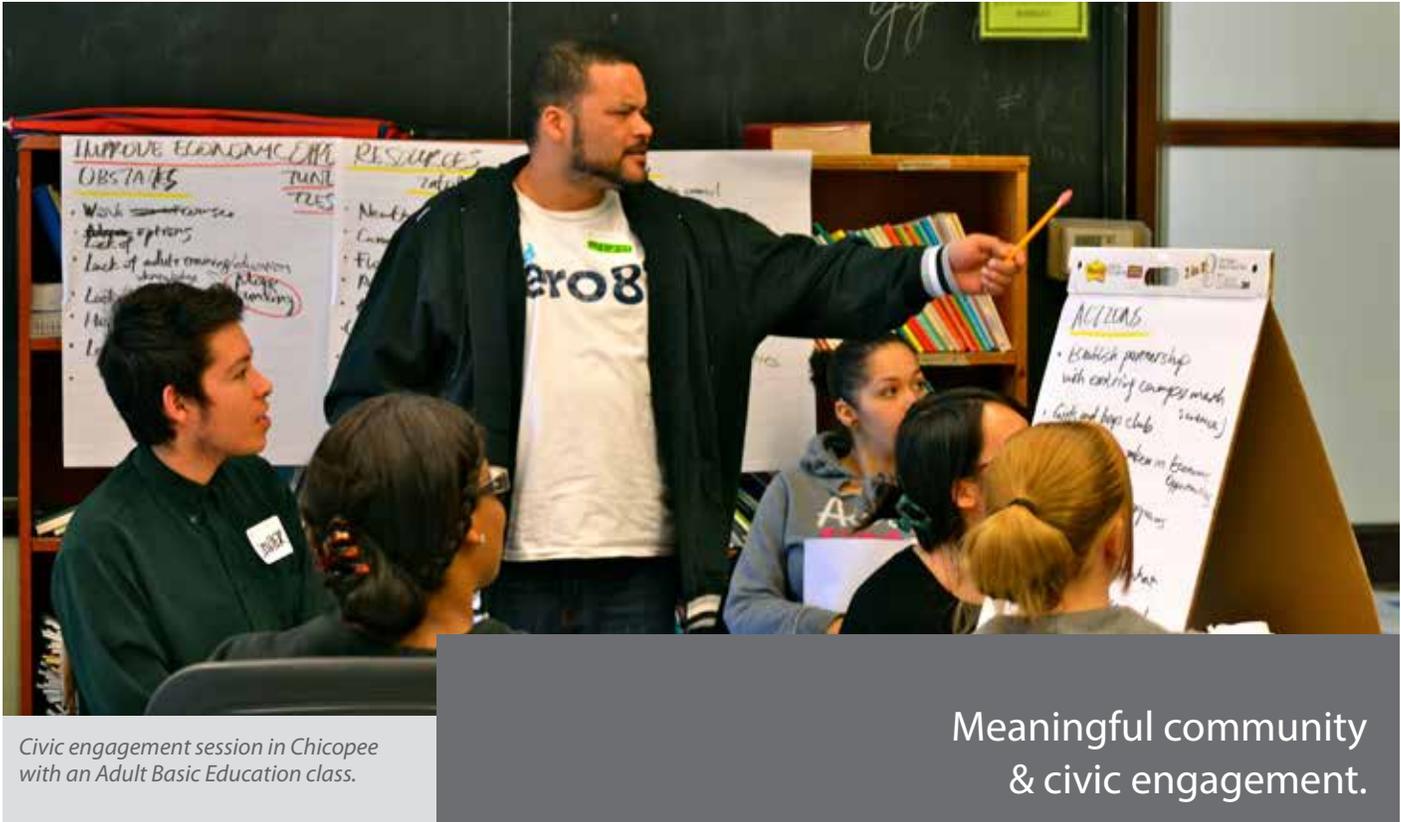
- Holyoke: Depot Square Redevelopment and Revitalization
- Springfield: Court Square
- Chicopee: Connecticut Riverwalk

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.

Sustainability:

Sustainable communities are urban, suburban or rural communities that have more housing and transportation choices, are closer to jobs, shops or schools, are more energy independent and help protect clean air and water. These are the types of communities that we are working toward as we carry out the activities of the Sustainable Knowledge Corridor project.



Civic engagement session in Chicopee with an Adult Basic Education class.

Meaningful community & civic engagement.

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 through out 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.



Civic engagement session at the Springfield YCMA

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).



What makes your community sustainable?

DID YOU KNOW: Not surprisingly, given our current economic situation, the rate of hunger is rising in the region, with low-income families and communities of color most affected. Since income is directly linked to the ability to purchase sufficient food, the root causes of poverty must be addressed in order for food security to be achieved. Increasing the availability of grocery stores and farmers markets can alleviate some of the transportation and access issues that typically prevent communities from accessing affordable, nutritious food.

FOOD SECURITY

Food security means that every resident has enough nutritious, culturally appropriate food to eat every day to meet their health and nutrition needs. It is a basic human right. In addition, food security means identifying, developing, and implementing a plan to nurture and create a sustainable regional food system. Both of these definitions are intricately connected.

Why is this topic important? Planning towards food security is critical to the overall sustainability of the region. Without reliable, healthy food, our residents live lives that are less rewarding and productive. Limited food access and food insecurity are inextricably linked to poverty and injustice. Community members who are struggling to feed themselves and their families can rarely find the resources or energy to address other needs, children who are hungry have difficulty learning, and communities without access to healthy food suffer from elevated levels of obesity and ill health.

New England's Sustainable Knowledge Corridor
www.sustainableknowledgecorridor.org



What makes your community sustainable?

ENVIRONMENT

DID YOU KNOW: A clean and healthy environment is vital for everyone's quality of life, yet the quality of the environment can vary between different areas and communities. People who are socially and economically disadvantaged often live in environments that have greater levels of environmental degradation and have less access to green space. These conditions can affect people's health and well being and can add to the burden of social and economic deprivation. Tackling environmental inequalities and ensuring that all people have access to a good quality environment in the future is critical to sustainable development.

A healthy planet can be defined as one in which the ecosystems involved in maintaining the relationships between land, water, air, light, and energy are complete, connected and stable. 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. A sustainable 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.

Why is this topic important? We all depend on the Earth's environment to provide clean air, drinkable water, healthy food and a stable climate. However, these environmental systems are impacted by the choices we make as we develop our built environment. Balancing environmental impacts while meeting the needs of society in an economically efficient way is an on-going challenge, but it is one we have to face in order to sustain our lives and our future.

New England's Sustainable Knowledge Corridor
www.sustainableknowledgecorridor.org

Discussion Briefs

Four examples of the discussion briefs used during engagement sessions.

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

Stills from the "Sustainable Voices" video portraits

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

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.

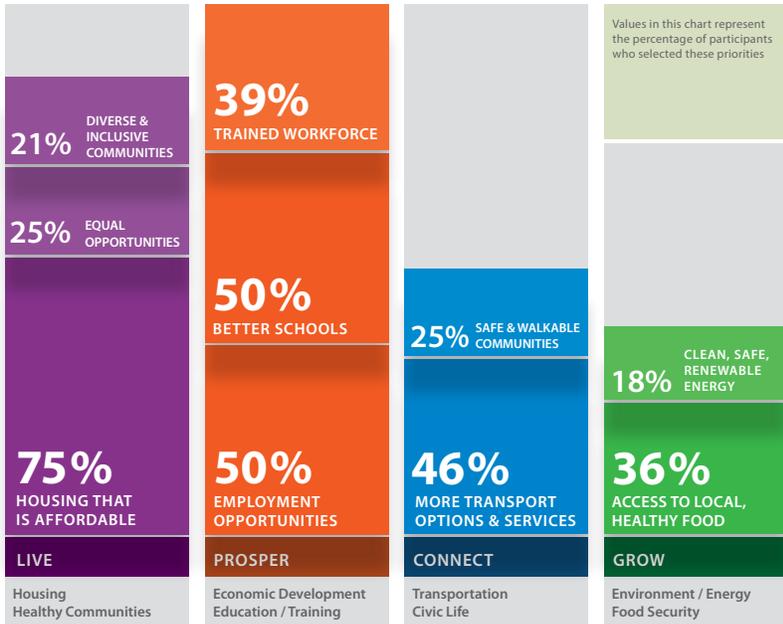
Results of engagement sessions in the first year that were distributed to participants.

OUR COMMUNITIES ARE SUSTAINABLE WHEN....

ENGAGEMENT SESSIONS' RESULTS

SUSTAINABLE KNOWLEDGE CORRIDOR COMMUNITY PRIORITIES

The Sustainable Knowledge Corridor is an exciting project to encourage healthy and sustainable communities. This summary presents the results of a series of community dialogues focused on housing, education, transportation, employment, health, and the environment. This participatory effort aims to create a sustainable future for Hampshire and Hampden counties and throughout the bi-state region.



OBSERVATIONS + CONNECTIONS

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

LIVE: While "Diverse & Inclusive Communities" was not always selected as a top priority, many participants mentioned that diversity in communities is often dependent on access to affordable housing.

PROSPER: Nearly everyone saw the issues in this category as connected, explaining that better schools lead to a more trained workforce, which will hopefully mean more people can access good jobs.

CONNECT: Many people noted how poor bus service was keeping people from accessing jobs and healthy foods. Solving transportation issues are 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.



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.



"My family and I regularly boat and swim in the Connecticut River. We recognize the river and its tributaries for the tremendous assets they are – for recreation, tourism, business, health, and more. Better managing stormwater flows through green infrastructure will not only help make these resources cleaner, but make our streets and communities more attractive too."

Kathleen Anderson, President, Holyoke Chamber of Commerce

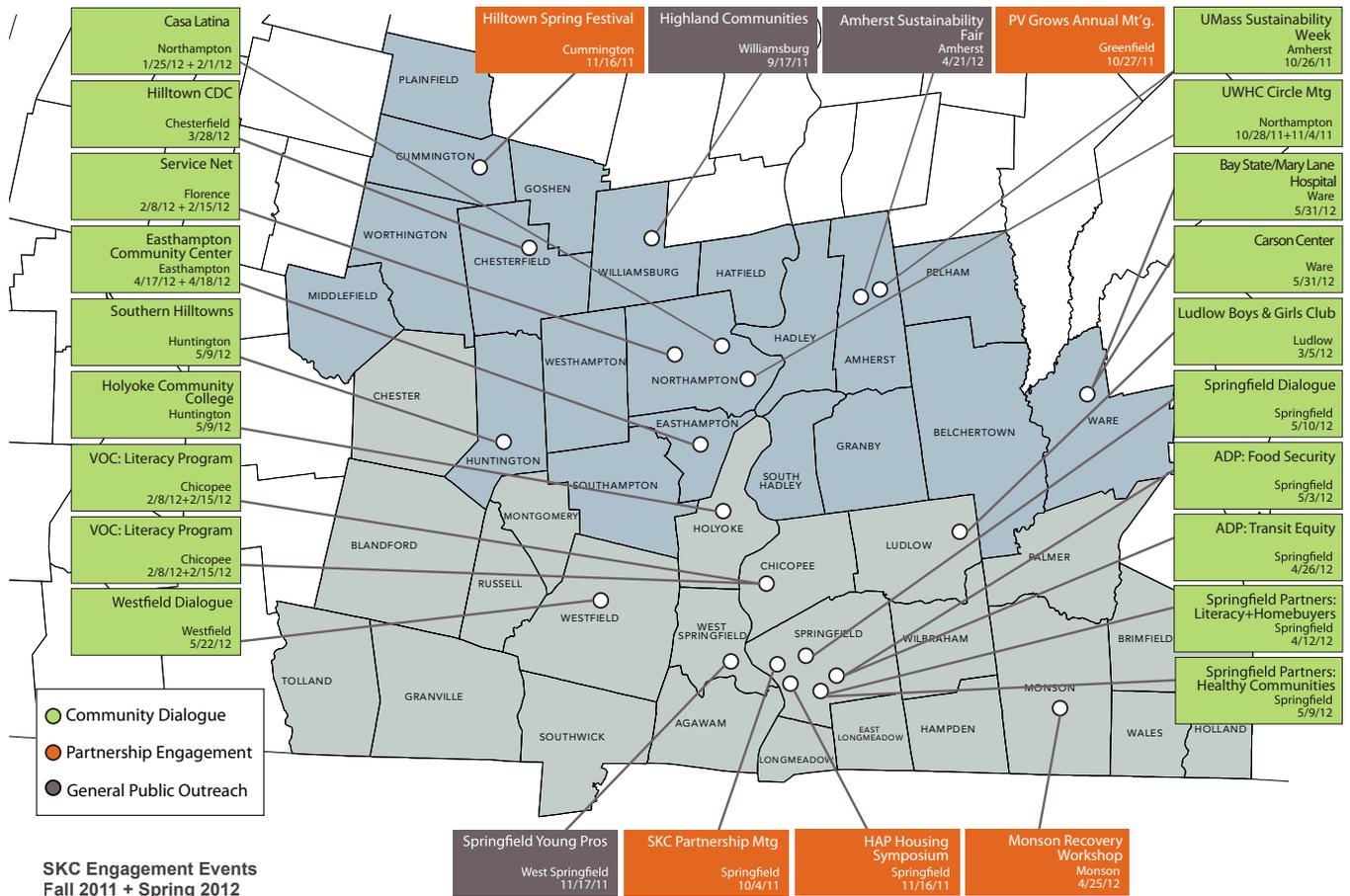
"We don't have the ability to predict the future resources for our transportation system; however we do have the means to create them. This is where a Sustainable Transportation Plan is important to ensure that we strive to create a continuous revenue stream to maintain and enhance mobility through the Region in a cost effective manner. This will provide the framework for enhancing the Region's goals making best uses of our existing resources."

Jim Czach,
Senior Project Manager, West Springfield
and Chair of the Joint Transportation
Committee



Advisory Groups

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.



Regional Community Events *Community partners involvement in Hampshire and Hampden Counties.*

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.

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.

Our climate is already changing, and severe weather events are increasingly affecting the lives of Pioneer Valley residents.

Photo: Chris Curtis



02

Climate Action & Clean Energy Plan

Moving toward a carbon neutral future.
Adapting to create resilient communities.

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



“Climate change is the challenge of our time, and we in Massachusetts are rising to that challenge.”

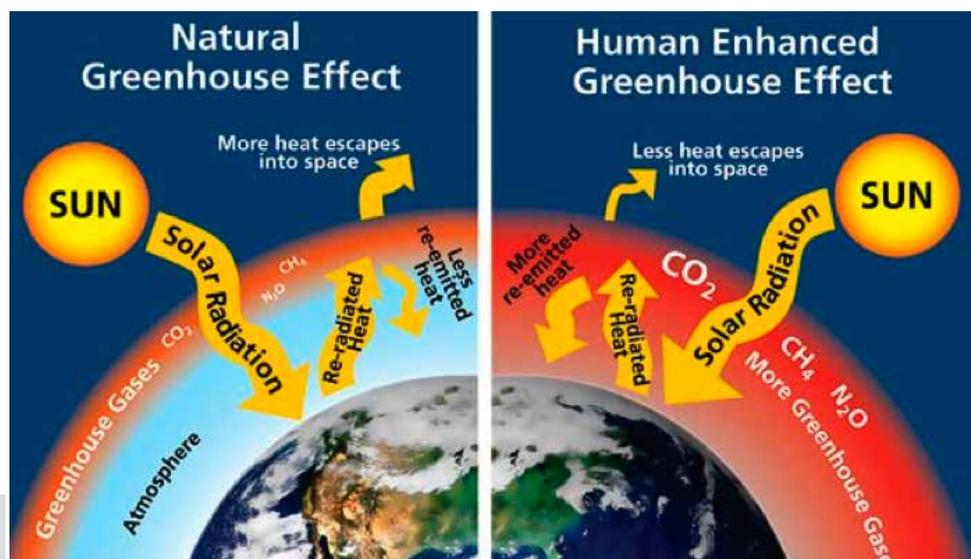
Massachusetts Governor
Deval Patrick / July 2, 2008

Our climate is already changing.

Scientific evidence is overwhelming that our climate is changing. According to the 2010 Massachusetts Climate Adaptation Report, “climate change is already having demonstrable effects 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.



Source: US National Park Service



In August, 2011 Tropical Storm Irene caused severe flood damages to Shelburne Falls and other areas in the region.

Source: H. Knox www.city-data.com

Warming and severe weather trends have been documented.

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.

On June 1, 2011, a tornado did substantial damage to Springfield and 17 other communities from Westfield to Charlton.

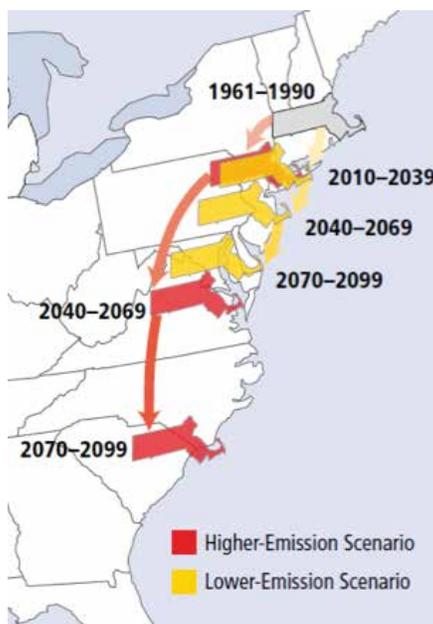


“Although Massachusetts would not likely be the place in the world to suffer most from a changing climate, the potential negative impacts here are many and serious”.

Rising to the Challenge / MassINC / 2012

Further climate change impacts are expected.

How Our Climate Will Change



At current rates of greenhouse gas accumulation and temperature increases, the climate of Massachusetts will become similar to those of present-day New Jersey or Virginia by 2040-2069, depending on future GHG emissions. By the end of the century, Massachusetts' climate will feel like Virginia or South Carolina.

Source:
Northeast Climate Impact Assessment 2006

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.



We need to think globally.

The Great Barrier Reef in Australia is threatened by global warming.

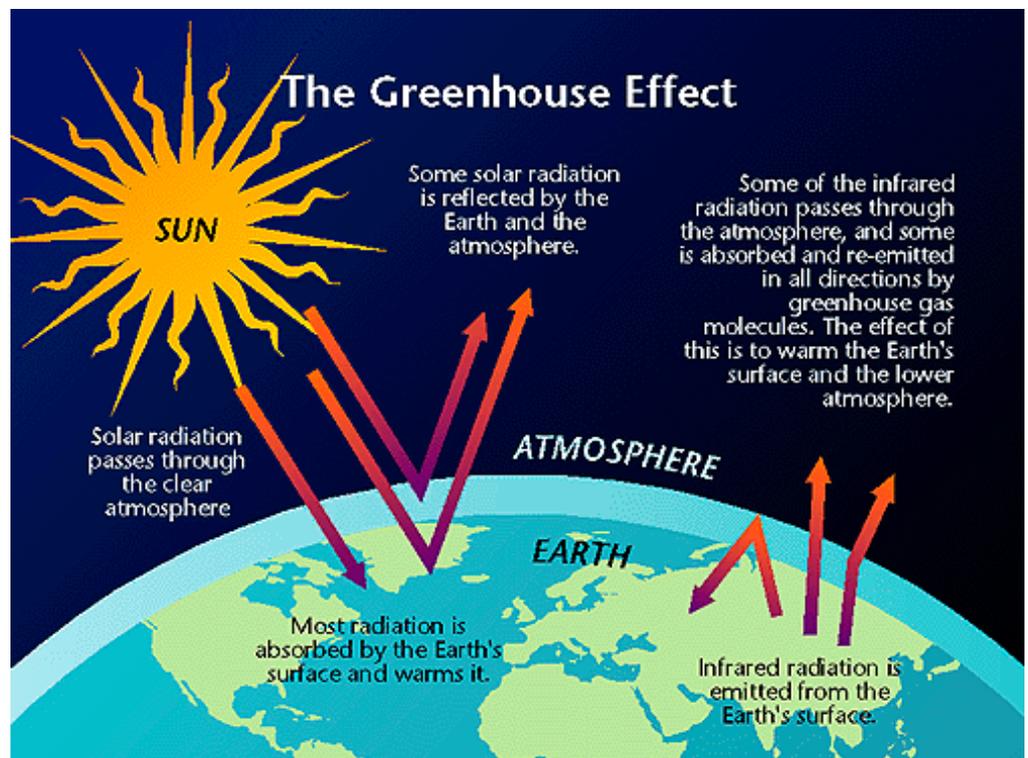
In considering local and regional actions to address climate change, it is important to understand not only the potential impacts to our region, but to our world. This is a classic case where communities and individuals must “think globally and act locally.” Among the many parts of our Earth that are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

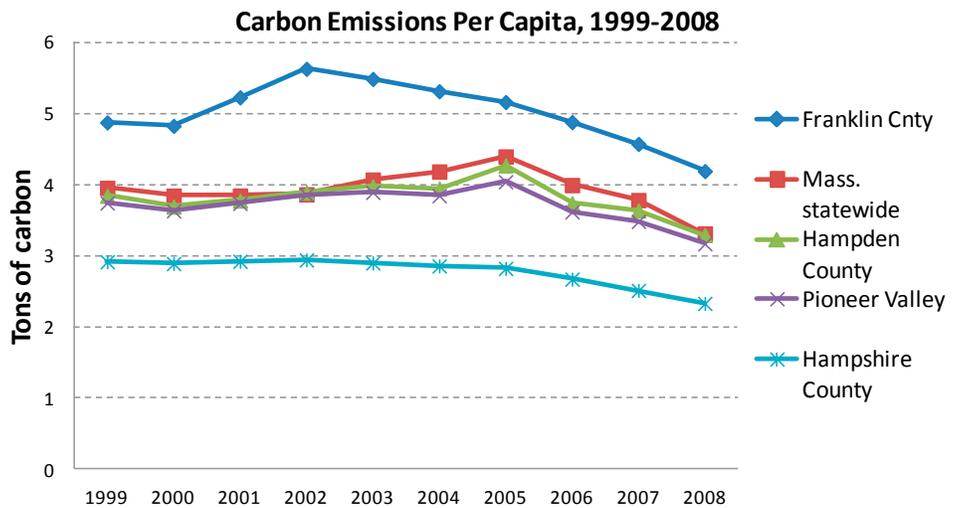
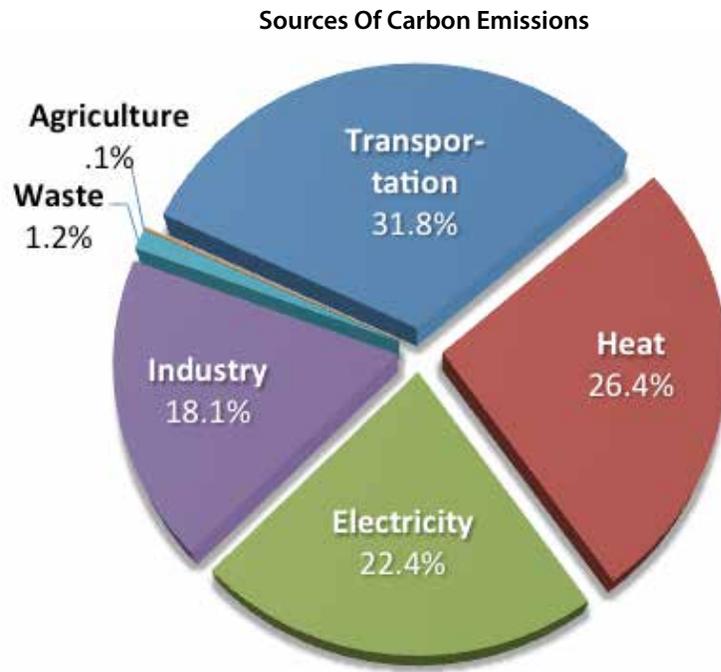
- **Energy Independence:** transitioning to clean energy sources, to achieve independence from the high economic, environmental, and political costs of fossil fuels.
- **Savings on Individual Energy Bills:** investment in building energy efficiency or renewable energy sources will result in significant 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.

Transportation leads our region's GHG emissions inventory.

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.

| Carbon Emissions by Sector | |
|----------------------------|---------------------|
| Sector | MTCO ₂ e |
| Transportation | 2,922,382 |
| Heat for buildings | 2,428,076 |
| Electricity consumption | 2,064,432 |
| Industry | 1,663,689 |
| Waste | 110,547 |
| Agriculture | 12,806 |
| TOTAL | 9,201,933 |

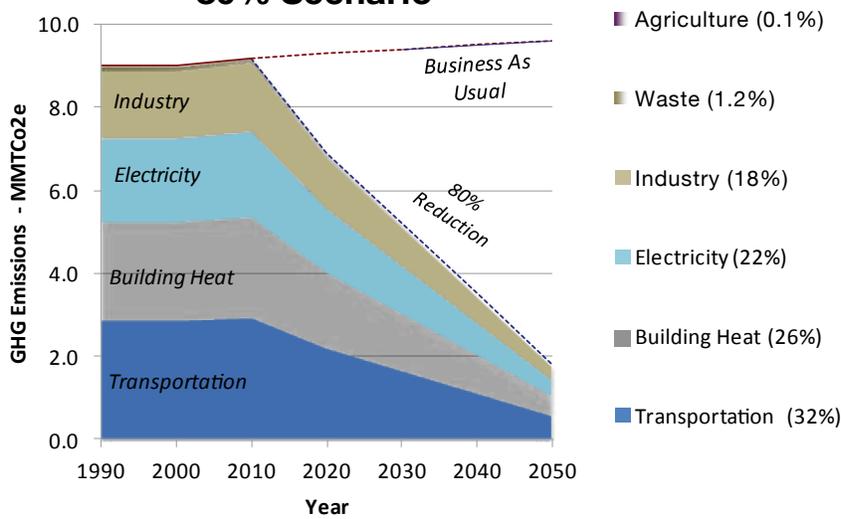
MTCO₂e = million metric tons of carbon dioxide equivalent



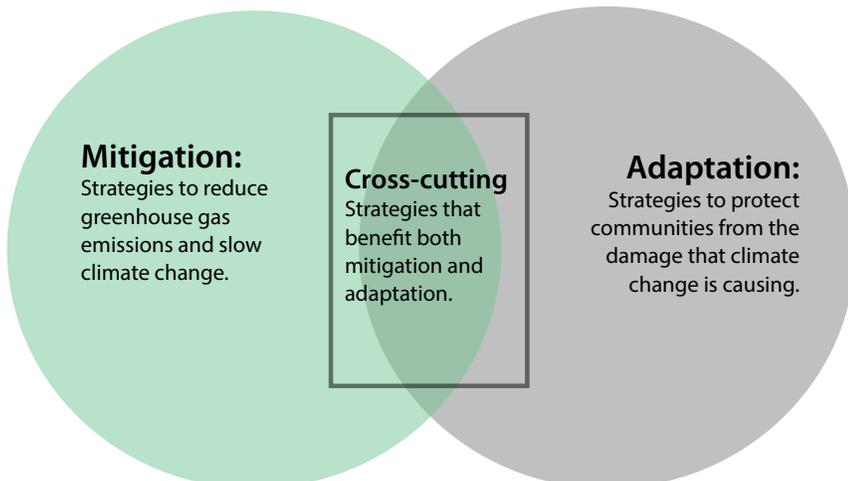
We have work to do.

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

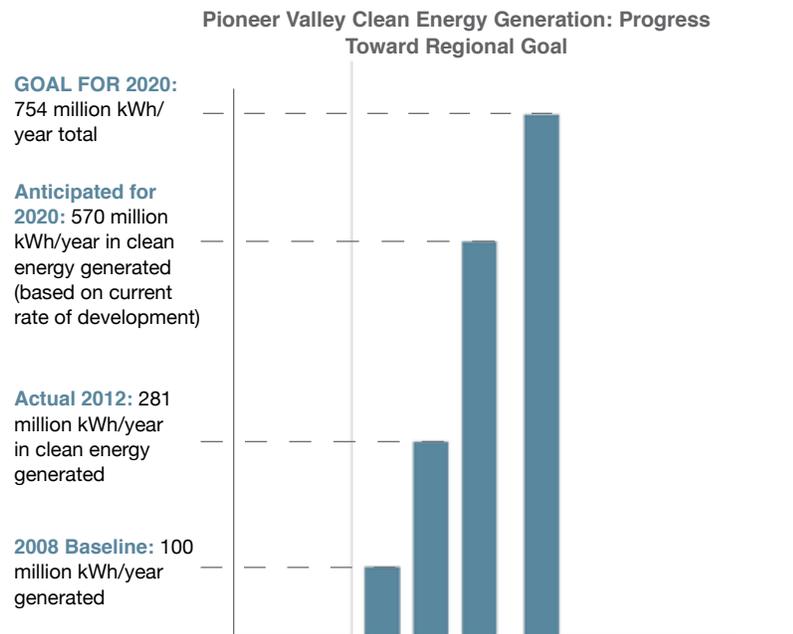


We must work on two tracks: mitigation and adaptation.



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.

OUR FINDINGS



We are making progress
toward clean energy goals.

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.



Solar energy is gaining ground.

Solar panels at solar farm in Holyoke.

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.

Top Municipalities for Total Solar Photovoltaic Capacity

| City/Town | PV Capacity | Statewide Rank |
|-------------|-------------|----------------|
| Boston | 5,6471 | 1 |
| Holyoke | 4,527 | 2 |
| Pittsfield | 4,326 | 3 |
| Springfield | 2,959 | 4 |
| Dartmouth | 2,808 | 5 |

Source: Mass. DOER



A key east-west Massachusetts highway corridor, Route 2, was washed out during Tropical Storm Irene.

We have significant vulnerabilities to climate change.

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 adaptation to climate change is necessary to maintain transportation facilities in safe and usable operating conditions.

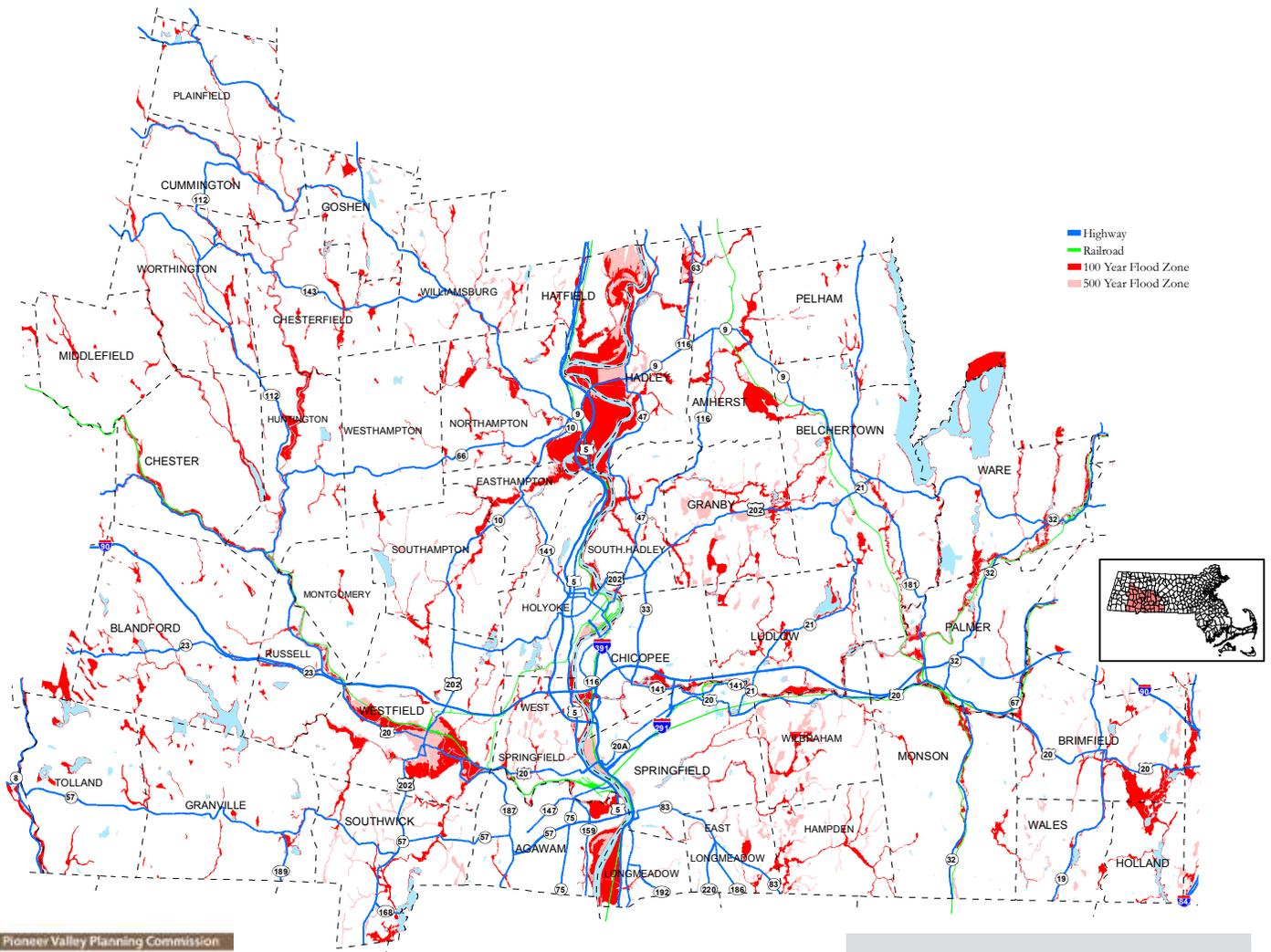
A primary threat to the region's transportation infrastructure is from flooding. Major roadways and railroad lines within and immediately adjacent to the 100-year and 500-year flood zones are considered to be at greatest risk.

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

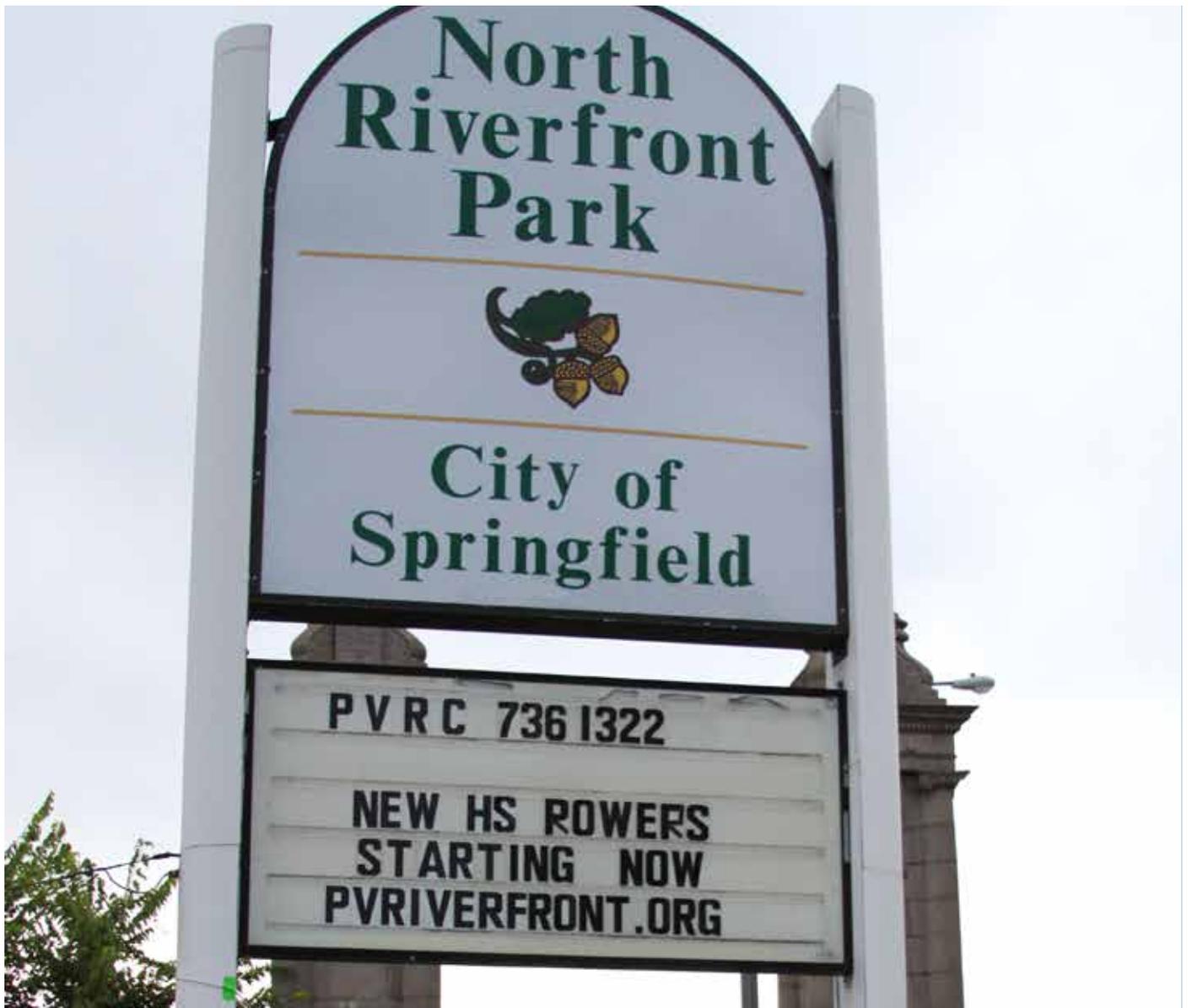


Key regional transportation routes, including interstate 91, Route 20, 5, and 9 and the region's north south rail corridor are vulnerable to flood impacts.

There are other key areas of vulnerability.

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



Mitigation Strategies

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.

REVIEW

Zoning for GHG Reduction Practices

1

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

2

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

3

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

4

Reduce and track greenhouse gas emissions to meet regional targets

PARTNERS:

PVPC

CROSS-CUTTING STRATEGIES:



CREATE

Sustainable Transportation Project Criteria

5

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 TODs

6

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

PARTNERS:
MassDOT, MPO
CROSS-CUTTING STRATEGIES:



REDUCE

Methane Emissions from Landfill Waste

7

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 land fills, which is the largest generator of methane.

PARTNERS:
Municipalities
CROSS-CUTTING STRATEGIES:



SUPPORT

Green Communities Designation

8

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

Livability Program

9

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

SUPPORT

Fuel Efficient Vehicles and LED Traffic Signals and Lights

10

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

PARTNERS:
Municipalities
CROSS-CUTTING STRATEGIES:



FORMALIZE

Emergency Intermunicipal Water Connections

12

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

PARTNERS:
Municipalities
CROSS-CUTTING STRATEGIES:



UPDATE

Flood Maps and Zoning

13

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

14

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

15

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

16

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

CROSS-CUTTING STRATEGIES:



UPGRADE

Stream Crossings, Bridges and Culverts

17

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

PARTNERS:

Municipalities, MDOT

CROSS-CUTTING STRATEGIES:



CONDUCT

Dam Inspection and Removal or Repair

18

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

PARTNERS:

Municipalities, Mass Office of Dam Safety

CROSS-CUTTING STRATEGIES:



RE-LOCATE

Powerlines Underground

19

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

PARTNERS:

Utilities

CROSS-CUTTING STRATEGIES:



PLAN

For Municipal Hazard Mitigation

20

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.

PARTNERS:

Municipalities, MEMA, FEMA

CROSS-CUTTING STRATEGIES:



UPGRADE

Aging Water/Wastewater Infrastructure

21

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

22

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

23

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:



Energy Conservation & Clean Energy

ACHIEVE

Greater Energy Efficiency

24

- 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

25

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

26

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

27

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

28

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

29

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.



TRANSPORTATION



ENVIRONMENT



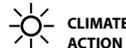
GREEN INFRASTRUCTURE



LAND USE



ECONOMIC DEVELOPMENT



CLIMATE ACTION



HOUSING



FOOD SECURITY



BROWNFIELDS



Healthy food event at Nuestras Raices 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.

03

“My community is sustainable when we have access and knowledge to have a safe food supply.”

*Michele Klemaszewski
Chester, MA*



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.



Cows at a dairy farm in Cummington
Photo: Chris Curtis



The Holyoke Farmers Market, one of 45 seasonal farmers markets in the Pioneer Valley.

Photo: S. Okolita



Hunger is a widespread and persistent problem.

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

| | Hampden County | Hampshire County | Franklin County ¹ | Region | Mass. statewide |
|--------------------------------|----------------|------------------|------------------------------|---------------|-----------------|
| Food insecurity rate | 14.3% | 10.2% | 11.5% | 12.0% | 11.2% |
| Food insecure population | 66,880 | 15,780 | 8,240 | 90,900 | 727,530 |
| Child food insecurity rate | 24.3% | 16.3% | 20.2% | 20.3% | 18.1% |
| Child food insecure population | 27,530 | 4,470 | 2,910 | 34,910 | 262,650 |

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.

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 counties 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 downturn 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.



The Food Bank of Western Massachusetts provides community training about SNAP eligibility to improve consumer use of this and other nutrition assistance benefits.

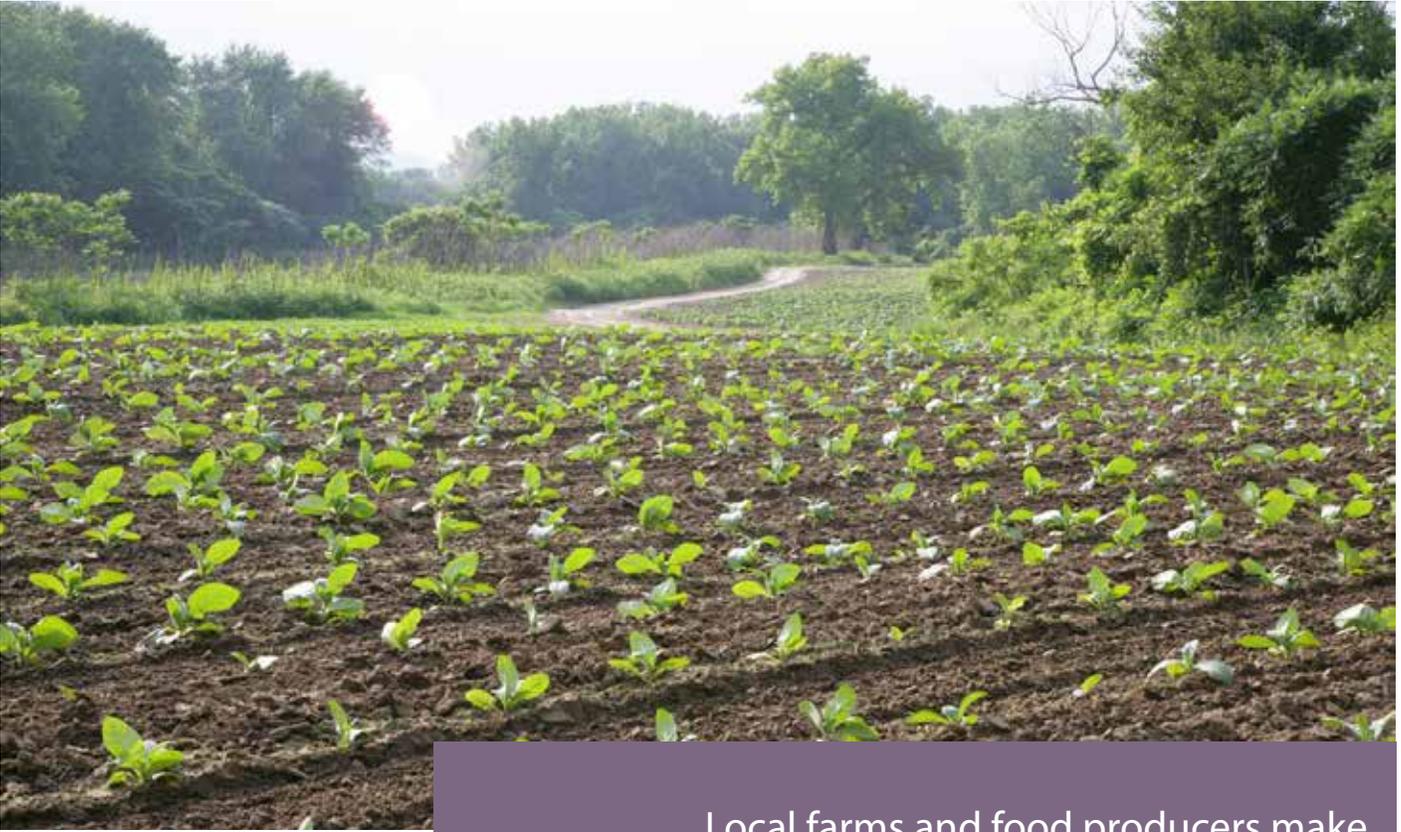


Photo: Chris Curtis

Local farms and food producers make significant contributions to the regional economy.

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.





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.



John Waite, executive director of the Franklin County Community Development Corporation, displays frozen vegetables packaged at the Western Massachusetts Food Processing Center in Greenfield. Other products made there include pickles, hot sauce, jams and salsa.

Photos: Cori Urban, Masslive 2012.

For details on how the region can expand food production, processing, and distribution systems, see CISA's 2012 Report, "Scaling up Local Food."



Farms are integral to the economy and culture in the region.

The soils of the region are considered among the most fertile in North America and provide nearly ideal conditions for a variety of agricultural production.

Photo: Chris Curtis

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."

Pioneer Valley Agricultural Product Sales 2007

| Product(s) | Amount |
|------------------|---------------------|
| Vegetables | \$16,185,000 |
| Dairy | \$8,955,000 |
| Fruits | \$3,597,000 |
| Meats | \$2,640,000 |
| Grains and beans | \$779,000 |
| TOTAL: | \$32,156,000 |



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.



It's a farmers' market on wheels! Enterprise Farm in Whately bought a 1995 Chevy Bluebird RV that was once used by a military traveling band. The bus brings organic produce to urban areas without access to fresh food; it is outfitted with a SNAP machine to accept food assistance benefit cards.

Purchases of local food for schools and other Institutions benefits local producers and brings fresh food to children.

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.

No One Goes Hungry: Hunger Relief Strategies

SEEK

Inter-organizational Collaboration

30

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,
PV Grows, PVPC
CROSS-CUTTING STRATEGIES:



SUPPORT

Emergency Food Systems Programs

31

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

32

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

33

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

34

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

35

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

36

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, PVRTA

CROSS-CUTTING STRATEGIES:



PROVIDE

Training and Technical Assistance

37

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

38

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:



PROVIDE**Zoning and Regulatory Assistance**

39

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**

40

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**

41

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**

42

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**

43

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:



We Grow Our Own Food: Local Food Economy Strategies

ASPIRE

To Produce 50% of Food Consumed in the Region

44

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.

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

CROSS-CUTTING STRATEGIES:



SHARE

Information About Food Production

45

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.

PARTNERS:
CISA, Food Bank of W. MA., PVPC

CROSS-CUTTING STRATEGIES:



PROMOTE

Local Food Businesses

46

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.

PARTNERS:
PVPC, municipalities

CROSS-CUTTING STRATEGIES:



Protect

Prime Agricultural Lands

47

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:
Land owners, MA Dept of Agriculture, PVPC, municipalities

CROSS-CUTTING STRATEGIES:



OUR PLAN

CONNECT

Farmers With Land Owners

48

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

49

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

50

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

51

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

52

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

PARTNERS:
Farmers, DAR, CISA

CROSS-CUTTING STRATEGIES:



INVEST

Financial Resources in Local Food Businesses

53

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:
\$

INCREASE

Large-scale Composting Opportunities

54

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:
\$  

CREATE

More Residential Composting

55

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:
 

CONNECT

Farmers and Institutional Meal Providers

56

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:
\$ 

SCALE UP

Local Food Production

57

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

58

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:



CREATE

More Jobs Throughout the Local Food System

59

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.



TRANSPORTATION



ENVIRONMENT

GREEN
INFRASTRUCTURE

LAND USE

ECONOMIC
DEVELOPMENTCLIMATE
ACTION

HOUSING



FOOD SECURITY



BROWNFIELDS



Fresh Produce at a Farmer's Market



Cold Spring Common Development in Belchertown
Photo: Dietz & Co. Architects



04

Regional Housing Plan

Expanding housing choice for all.
Creating communities of opportunity.

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.

"My community is sustainable when economic development investments are leveraged to revitalize neighborhoods and address the region's housing needs."

*Charles Rucks
Springfield MA*



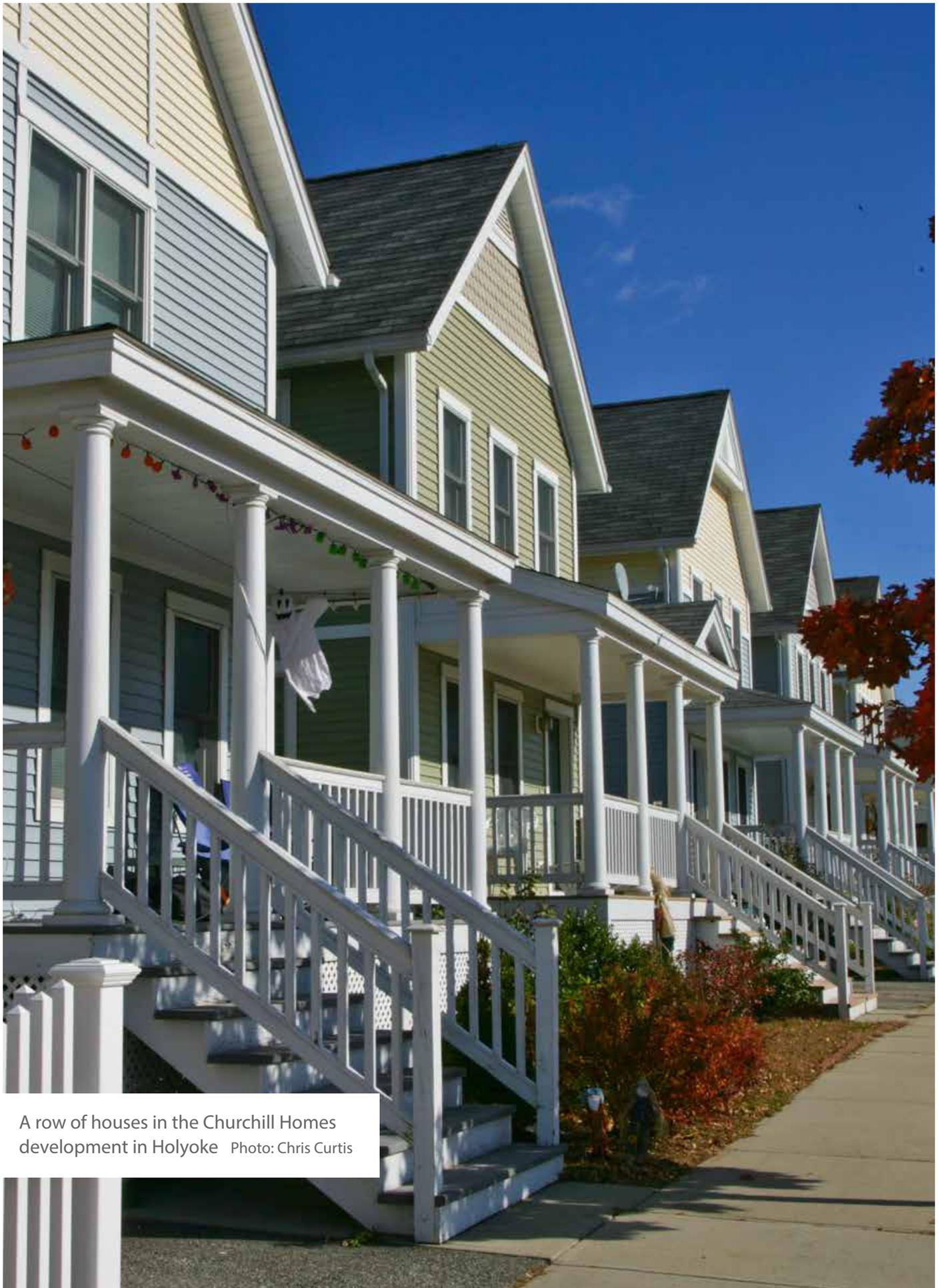
Note: This is the executive summary of our plan. To obtain or view a copy of the full plan, visit pvpc.org.

OUR GOALS

- **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



Weak housing market in our central cities challenges revitalization.



286 Main St/11 Spring St, Holyoke. This vacant building includes 15 units and has been on the market for over a decade at \$600,000.
Source: City of Holyoke

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.



Silvio O. Conte corner - 345 Dwight Street, Holyoke. Located across from the future passenger rail platform in Depot Square, this vacant building originally had retail on the first floor with hotel/boarding rooms above.
Source: City of Holyoke

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.

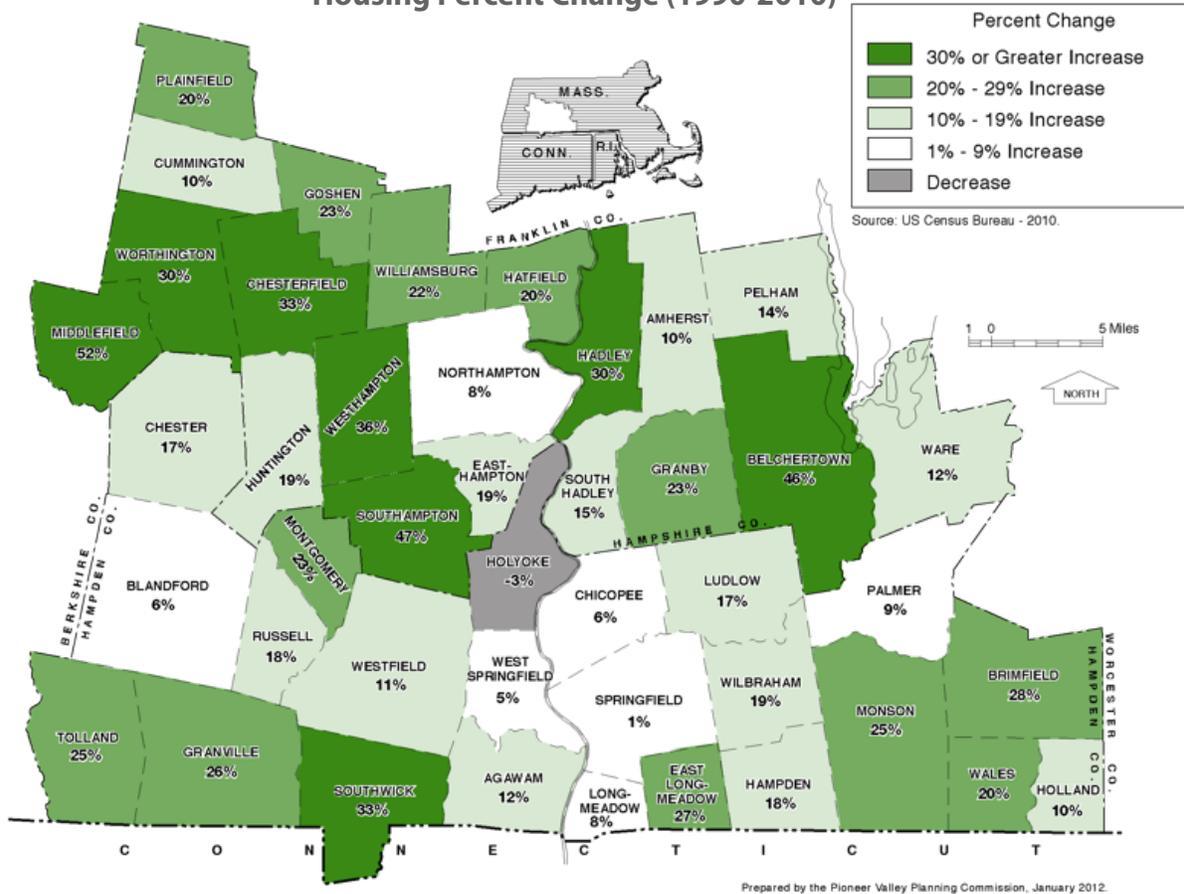


A variety of household types live in our region.

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.

Housing Percent Change (1990-2010)



Most housing unit production occurred outside of the region's major cities and urbanized areas.

Most housing unit production occurred outside of the region's more urbanized areas.

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.



Municipal zoning restricts housing choice and mobility in the region.

Laurel Road Condominiums in Haydenville is an example of a “higher” density residential development in a rural community. Source: PVPC

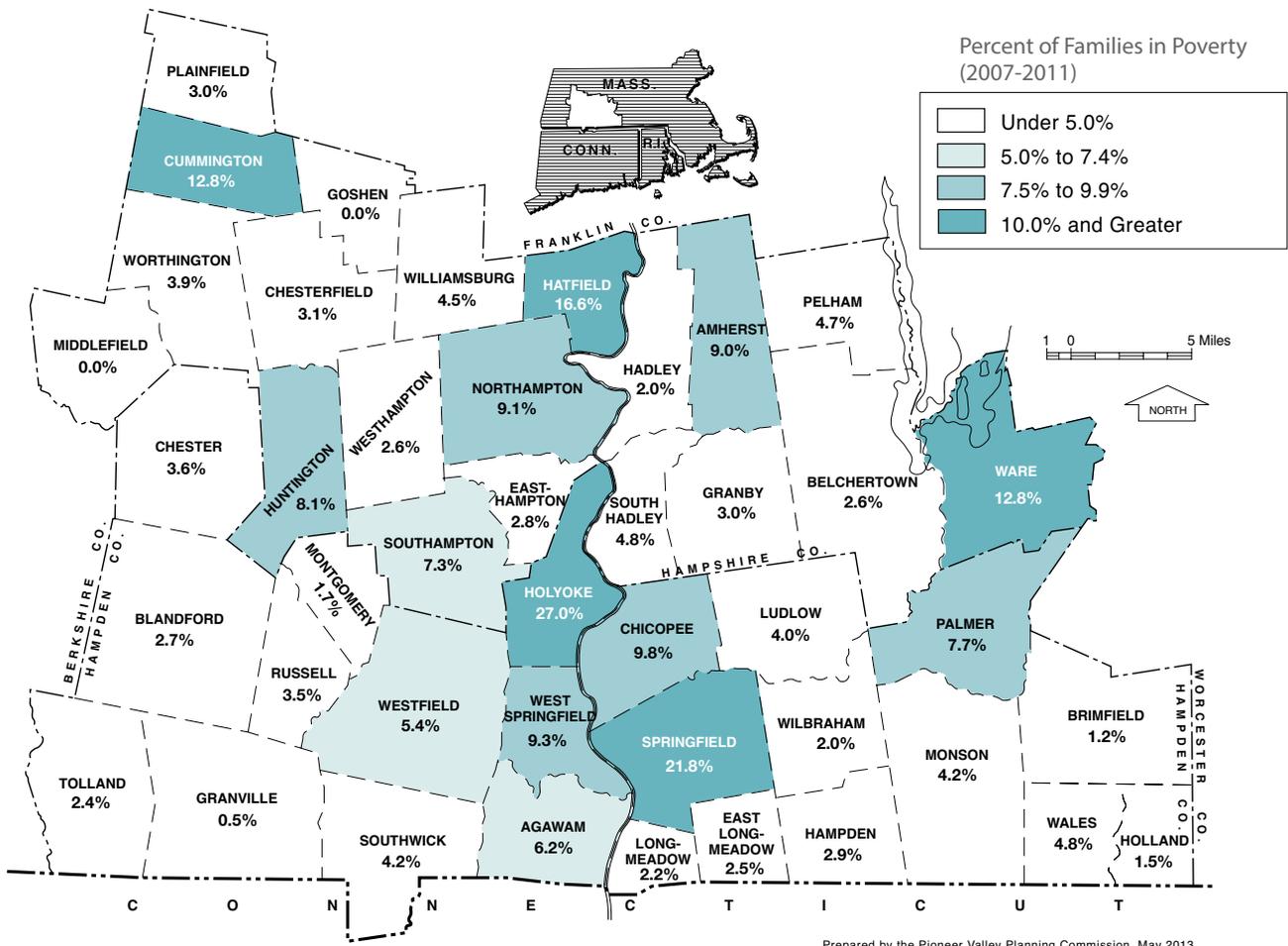
Communities are legitimately concerned about maintaining community character, protecting natural resources and keeping up with demand for municipal services. However, housing choice and mobility in our region is limited by the fact that:

- 19 of our communities do not allow for multi-family housing,
- 12 of our sewered communities require minimum lot sizes greater than $\frac{1}{4}$ 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)



Prepared by the Pioneer Valley Planning Commission, May 2013.

A high percentage of families in poverty is one indicator of an economically distressed area.

Source: U.S. Census Bureau, American Community Survey 2007-11 5-Year Estimates

Note: This data is derived from a survey of a sample of the population and there are margins of error associated with it. Margins of error can be found on the U.S. Census Bureau's website.

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.



The former Church Street School in Ware was redeveloped into a barrier free senior housing project with 29 units. All are single-story apartments and are accessible by elevator.
 Source: HAPHousing, Inc.

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.



Home with barrier free entry at Tree House Development in Easthampton.
 Source: PVPC

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.

Housing costs exceed ability to pay for many households.

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 to 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.



No community in the region is immune from homelessness.

Paradise Pond in Northampton is a 12-unit apartment development, four units of which are reserved for people who have been homeless or have a disabled family member.

Source: PVPC

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.



*This historic home in Springfield's Old Hill neighborhood was ready to be torn down. **HAPHousing**, 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: **HAPHousing***

Older homes can be costly to update, maintain, and adapt.

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 our 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.

RESOURCES

Resources for Housing Discrimination:
Massachusetts Commission Against Discrimination (617) 994-6000
Lead Paint Removal:
Department of Public Health Childhood Lead Poisoning Prevention Program
 (617) 624-5757; Toll Free: (800) 532-9971
Face-to-Face Mediation:
 For the program in your area call: Attorney General's
 Consumer Hotline 617-727-8400; www.mass.gov/ago
Housing Consumer Education Center:
 (800) 224-5124/www.masshousinginfo.org
To Obtain Legal Assistance:
 Massachusetts Bar Association Lawyer Referral Program
 (617) 634-0400; Toll Free in MA: (800) 392-6184

Resources for Taking Action Against Discrimination:
John Fisher, HAP Housing Fair Housing Counselor, 413.233.1609
Massachusetts Fair Housing Center, 413.539.9796
Massachusetts Commission Against Discrimination
 Springfield Office 413.739.2145
HUD Online: www.hud.gov/complaints/housediscrim.cfm
 Hotline: 800.669.9777 - Toll-free: 800.827.5005
 Hearing impaired, call TTY 800.927.9275
 E-mail: theo_webmanager@hud.gov

Resources for Keeping Your Home:
Springfield No One Leaves / Nadir Se Mude
<http://www.springfieldnooneleaves.org/>
CHAPA http://www.chapa.org/housing-policy/foreclosure_browse
Homeownership Preservation Foundation
<http://www.995hope.org/understanding-foreclosure/>
Massachusetts Consumer Affairs Foreclosure Resources:
<http://www.mass.gov/ocabr/consumer/housing/foreclosure-resources/>
The Homeowner's HOPE™ Hotline is available 24 hours a day, 7 days a week,
 365 days a year, in English and 170 other languages: 888-995-HOPE

Rental Help:
HUD
<http://www.hud.gov/local/index.cfm?state=ma&topic=renting>
 Homeownership: <http://www.hud.gov/local/index.cfm?state=ma&topic=homeownership>
 Avoid Foreclosure: <http://www.hud.gov/local/ma/homeownership/foreclosure.cfm>
Mass.gov
<http://www.mass.gov/hed/economic/eohed/dhcd/how-to-obtain-housing-assistance.html>
MassHousing <https://www.masshousing.com>
Massachusetts Housing Consumer Education Centers
<http://www.masshousinginfo.org/>
Mass Legal Help <http://www.masslegalhelp.org/housing>
MassResource.org
<http://www.massresources.org/foreclosure-prevention-links.html>

EXPAND HOUSING OPPORTUNITIES

RESOURCE GUIDE



Resource guides created after community dialogues. These guide help people take action to expand housing opportunities in their region.

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 challenges of affordable housing development in a “higher opportunity” community: Butternut Farm in Amherst.

*A renovated farm house is part of the Butternut Farm housing project development in Amherst.
Source: HAPHousing*

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.

Selected Municipal Strategies

ENCOURAGE

Employer Assisted Housing Programs

60

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

61

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

62

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

63

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

64

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

65

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

66

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)

67

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

68

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

69

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

70

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

71

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

CROSS-CUTTING STRATEGIES:



DISTRIBUTE

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

72

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

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

FUND

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

73

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

74

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:



OUR PLAN

CREATE

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

75

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

76

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

78

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

79

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

80

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:

\$

Selected Pioneer Valley Planning Commission Strategies

ENHANCE

Available Technical Assistance

81

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

82

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

83

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

84

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

85

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:



Other Selected Strategies

REVISE

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

86

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

87

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

88

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

89

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

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



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

05

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.

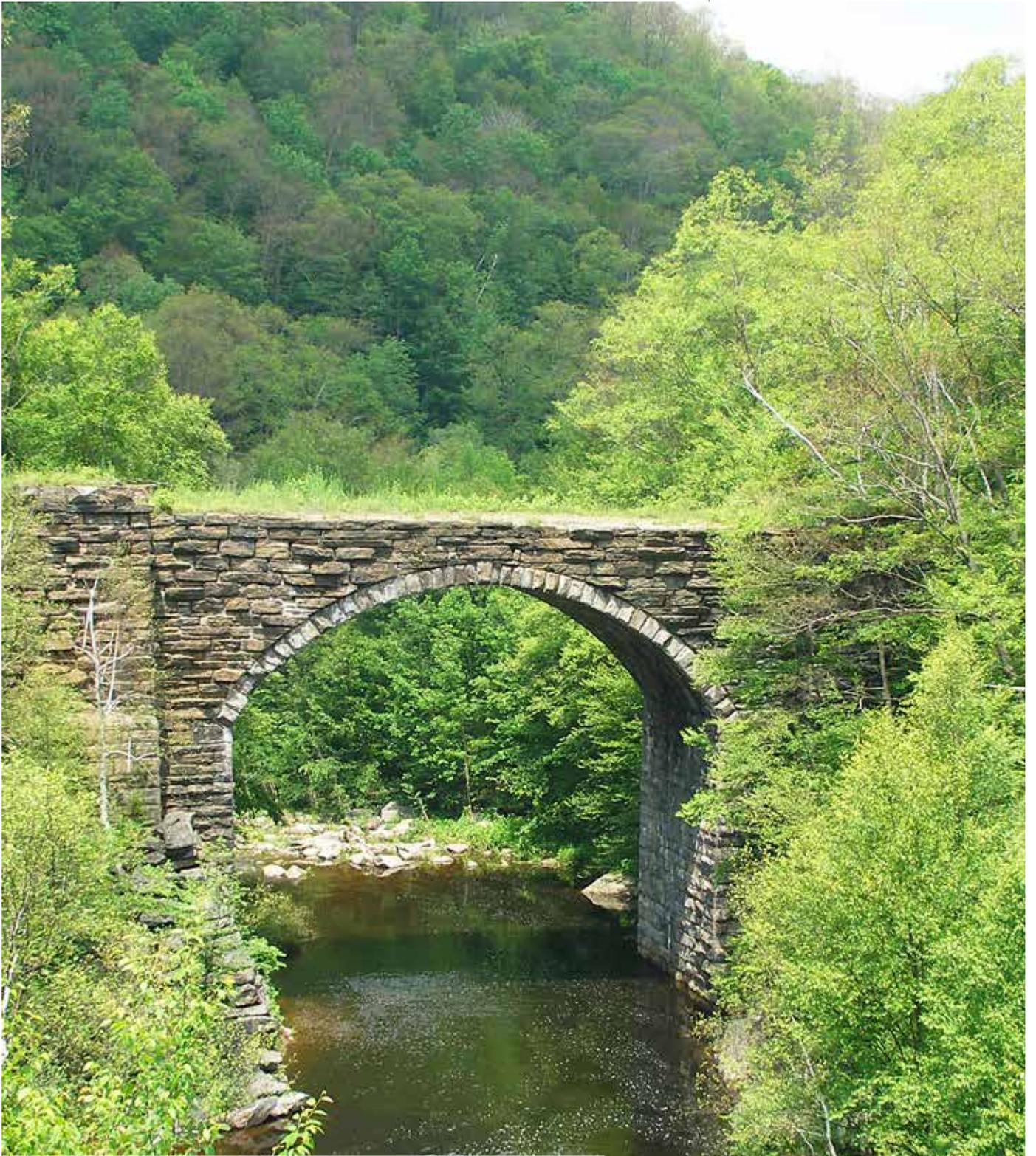


Westfield River in winter.

Photo: Chris Curtis

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.

Photo: Chris Curtis

Water quality in the Connecticut River is improving.

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.

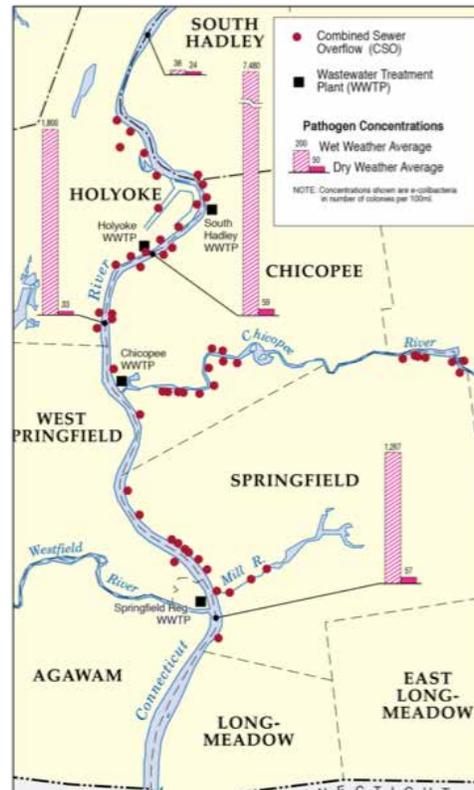


Combined sewer overflows continue to be a problem.

Inner city areas such as the canals of Holyoke suffer from a lower quality of water

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.

OUR FINDINGS



Connecticut River Combined Sewer Overflow Locations and Bacteria Levels - show huge increases in bacteria after rainstorms.

Bacteria levels are elevated during wet weather.

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.

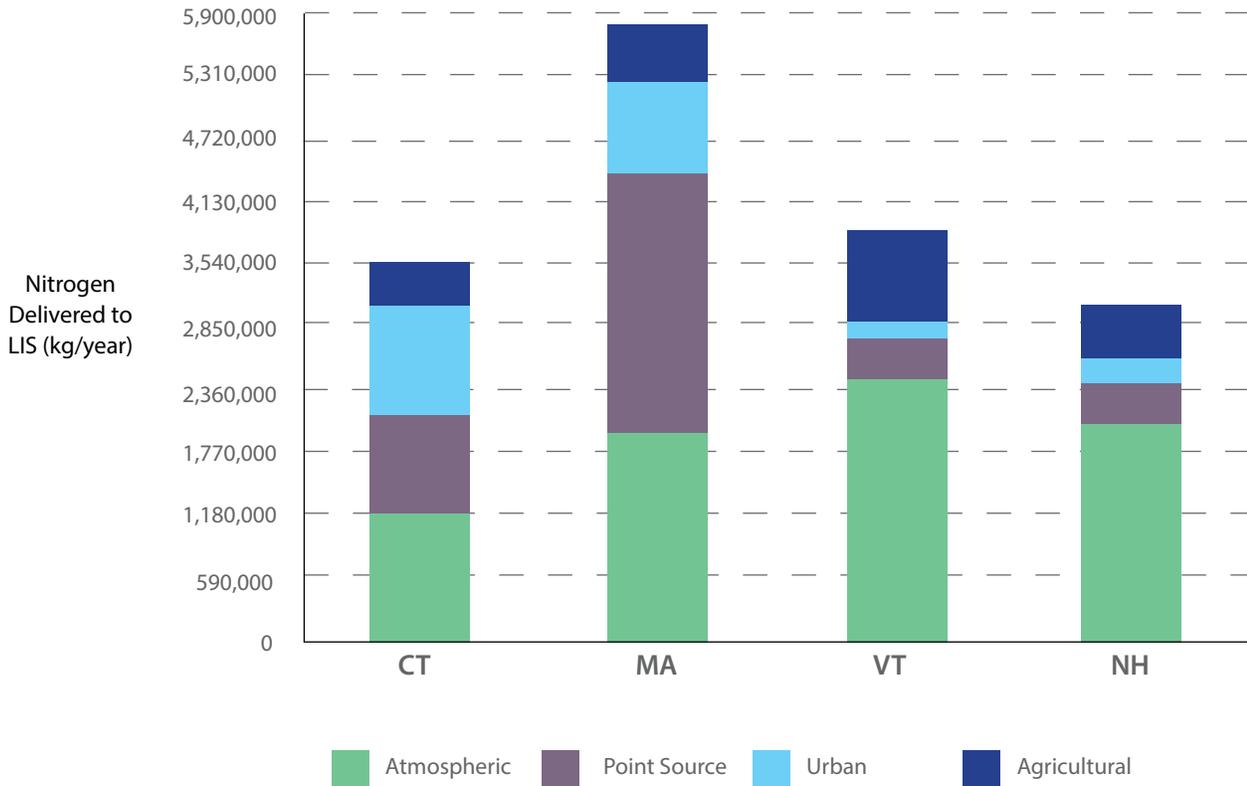


Quabbin Brook.

Photo: Chris Curtis

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.

Predicted Nitrogen Load Delivered to Long Island Sound from Connecticut River Watershed States



Nitrogen loading from the Connecticut River to the Long Island Sound continues to be a source of impairment.

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.

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

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.

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.

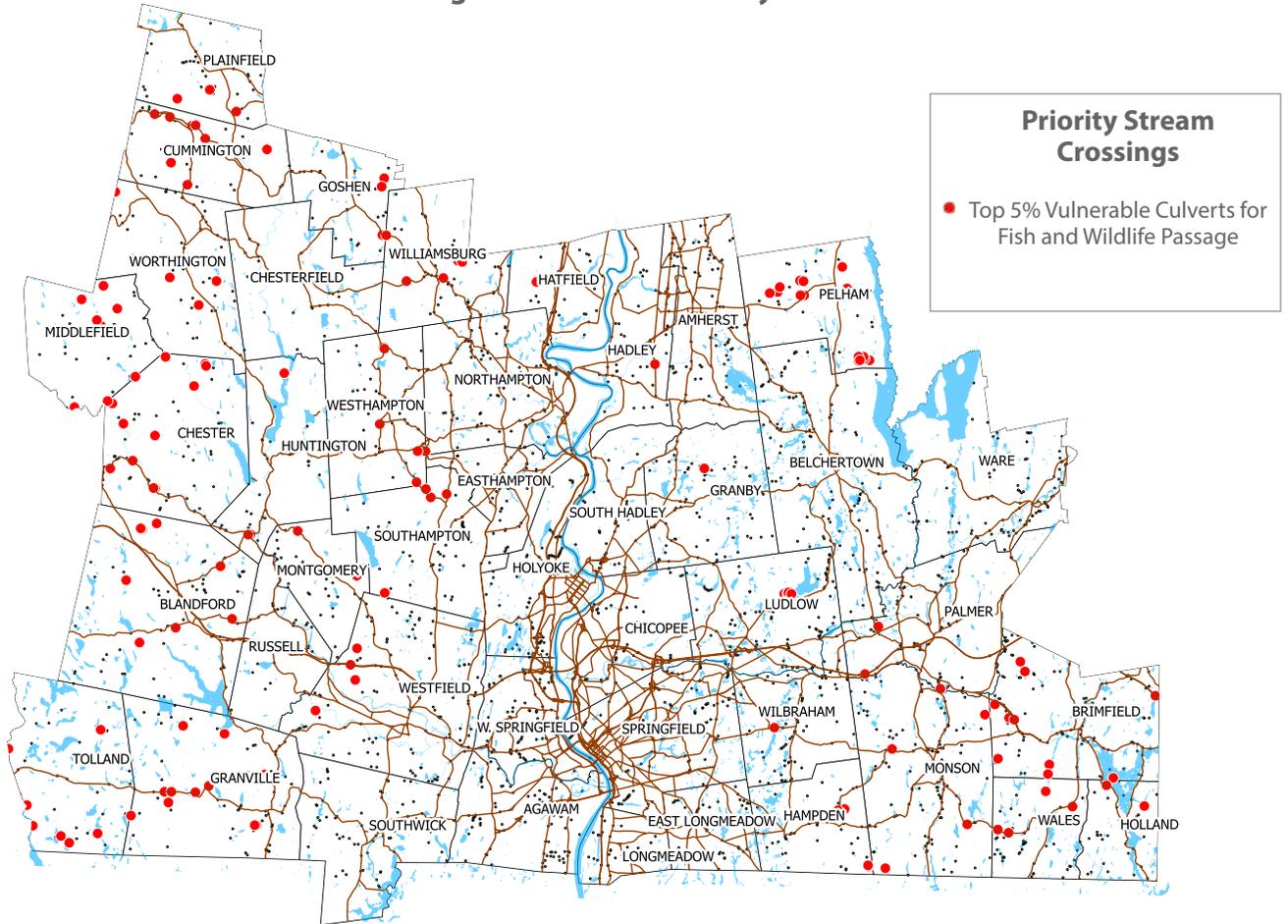
In addition to dams, culverts can create alterations in the natural hydrology of a river, create impediments for wildlife passage, and create blockages during extreme storm events that lead to localized flooding. There are 2,885 culverts in the region and 673 bridge stream crossings. The top 5% deemed 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.



Westfield River in Autumn

Photo: Chris Curtis

Critical Culverts for Fish and Wildlife Passage in the Pioneer Valley



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

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

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.

Mapping the parks and open space priority protection areas.

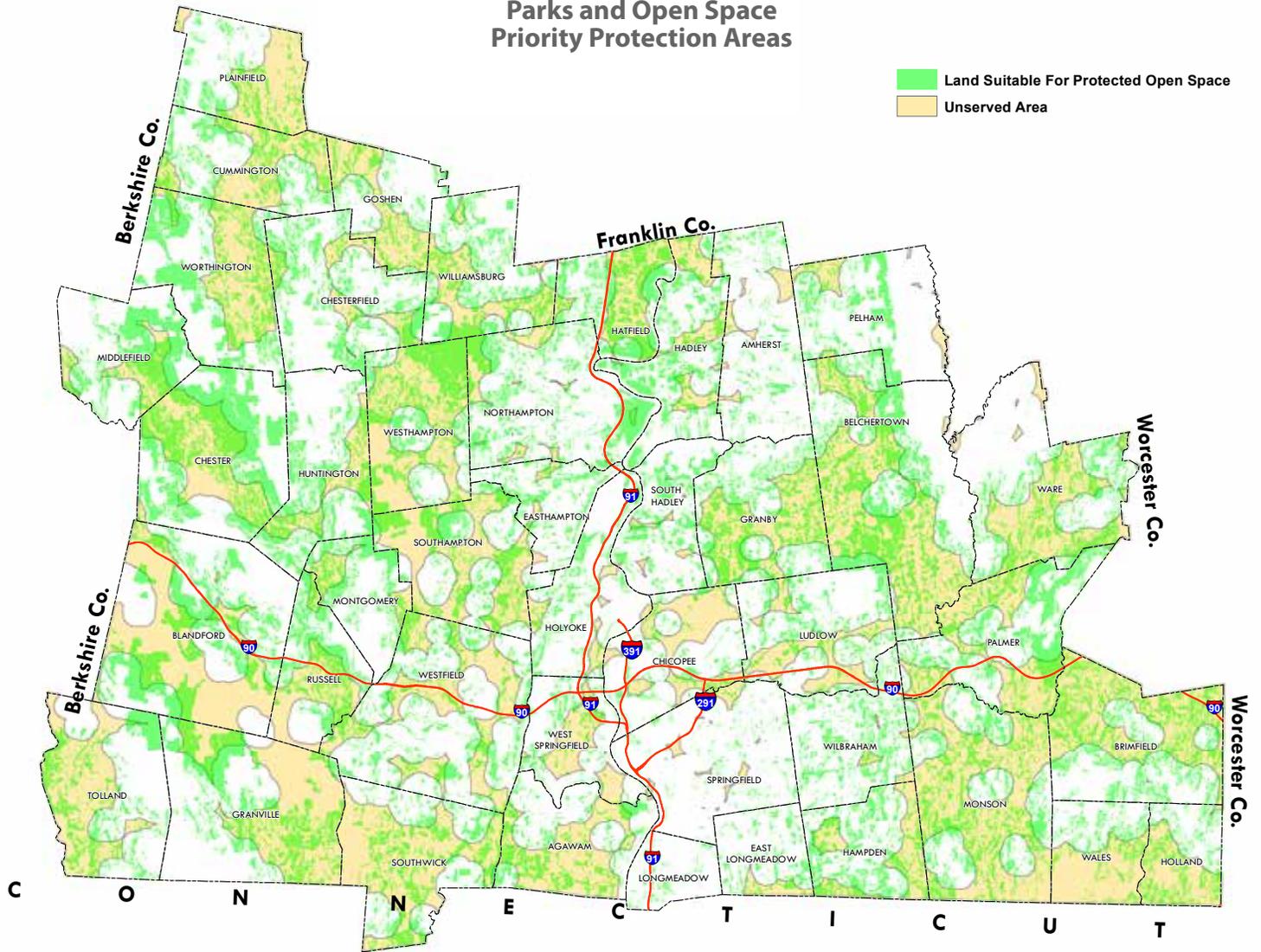
PVPC mapped a one mile accessibility buffer around the protected open space and parks and identified 'unserved' areas as those areas that are not within a one mile walking distance of protected open space or a park. This data layer was overlaid with "Land Suitable for Protected Open Space." The Pioneer 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.



Skinner State Park, South Hadley

Photo: Chris Curtis

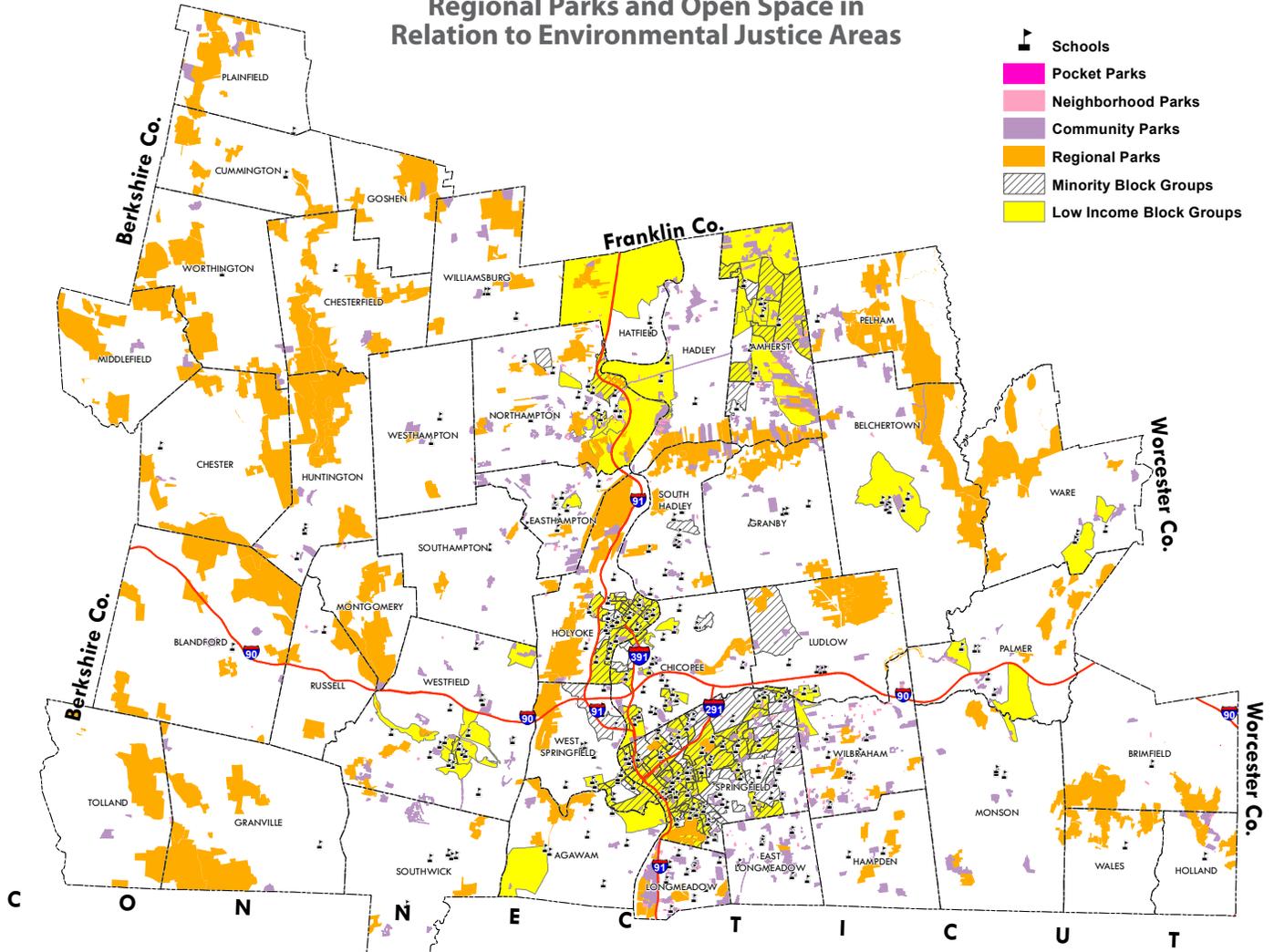
Parks and Open Space Priority Protection Areas



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.

Regional Parks and Open Space in Relation to Environmental Justice Areas





The Connecticut Riverwalk, Springfield
Photo: Chris Curtis

Vibrant human-riverfront connections are needed.

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

90

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.

PARTNERS:
PVPC

CROSS-CUTTING STRATEGIES:



PLAN

Bi-state CT River Corridor Management

91

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

PARTNERS:
PVPC; CRCOG; FRCOG

CROSS-CUTTING STRATEGIES:



CONTINUE

Connecticut River Bacteria Monitoring Program

92

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.

PARTNERS:
PVPC; Connecticut River Watershed Council

CROSS-CUTTING STRATEGIES:



CONTINUE

Remediation of Combined Sewer Overflows

93

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.

PARTNERS:
PVPC; CRCOG

CROSS-CUTTING STRATEGIES:



DEVELOP

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

94

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.

PARTNERS:
PVPC, Municipalities

CROSS-CUTTING STRATEGIES:



ADOPT

Stormwater Utilities

95

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

PARTNERS:
Public Works Departments, Planning Boards, CEO

CROSS-CUTTING STRATEGIES:



IMPLEMENT

Local Stormwater and Erosion Control Standards

96

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.

PARTNERS:
Planning Boards

CROSS-CUTTING STRATEGIES:



IMPLEMENT

Green Infrastructure Zoning Incentives

97

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

PARTNERS:
Planning Boards

CROSS-CUTTING STRATEGIES:



Support Sustainable Land Use & Agriculture

EXPAND

The Compact for Pioneer Valley Conservation

98

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.

PARTNERS:
PVPC, Conservation Commissions,
Open Space Committees

CROSS-CUTTING STRATEGIES:



IMPLEMENT

Priority Protection Areas / Critical Lands Acquisition Program

99

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.

PARTNERS:
PVPC, Agricultural Commissions,
Open Space Committees

CROSS-CUTTING STRATEGIES:



IMPROVE

Access to Parks and Open Space in Environmental Justice Areas

100

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

PARTNERS:
PVPC, Municipalities

CROSS-CUTTING STRATEGIES:



ADOPT

The Community Preservation Act (CPA)

101

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.

PARTNERS:
Conservation Commissions, Open
Space Committees, Planning Boards,
Historic Commissions

CROSS-CUTTING STRATEGIES:



USE

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

102

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

PARTNERS:
Municipalities, PVPC

CROSS-CUTTING STRATEGIES:



ESTABLISH

Local Conservation Funds

103

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

PARTNERS:
Conservation Commissions
CROSS-CUTTING STRATEGIES:



CREATE AND MAINTAIN

Active Agricultural Commissions

104

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

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



ADOPT

Right to Farm Bylaws

105

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.

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



ADOPT

Environmental Protection Bylaws

106

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

PARTNERS:
Planning Boards, Conservation Commissions
CROSS-CUTTING STRATEGIES:



CREATE

Transfer of Development Rights Zoning (TDR)

107

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.

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



ADOPT

Scenic Upland Protection Zoning

108

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:



Protect Clean Drinking Water Supplies

COMPLETE

Supply and Demand Forecasts for Public Water Supplies

109

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

110

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

111

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

112

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:



CREATE

Emergency Intermunicipal Water Connections

113

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

114

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

115

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

116

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

117

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:



Protect & Promote Healthy Fisheries and Wildlife

IMPLEMENT

Northeast Regional Mercury Total Maximum Daily Load (TMDL)

118

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

119

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:



Create Vibrant Human-Riverfront Connections

CONDUCT

Bi-State Trail Linkages Study

120

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

121

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

122

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:



SUPPORT

Pioneer Valley Regional Trails Coalition

123

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

124

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

125

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

126

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

127

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:



Build a Regional Trail Network

DESIGN AND CONSTRUCT

Connecticut River Byway Trail System

128

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.

PARTNERS:
PVPC; MA DCR

CROSS-CUTTING STRATEGIES:



CREATE

Connecticut River Greenway Park and Trail, Northampton, MA

129

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.

PARTNERS:
City of Northampton

CROSS-CUTTING STRATEGIES:



CREATE

Linkages to Chicopee River Delta Park

130

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

PARTNERS:
City of Chicopee; PVPC

LINK

The Connecticut Riverwalk to Forest Park and Agawam

131

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

PARTNERS:
PVPC, 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.



TRANSPORTATION



ENVIRONMENT



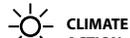
GREEN INFRASTRUCTURE



LAND USE



ECONOMIC DEVELOPMENT



CLIMATE ACTION



HOUSING



FOOD SECURITY



BROWNFIELDS



Canoeing lessons at Pioneer Valley Riverfront Club, Connecticut River, Springfield MA Photo: Chris Curtis



Lake Warner, Hadley
Photo: Chris Curtis

06

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*

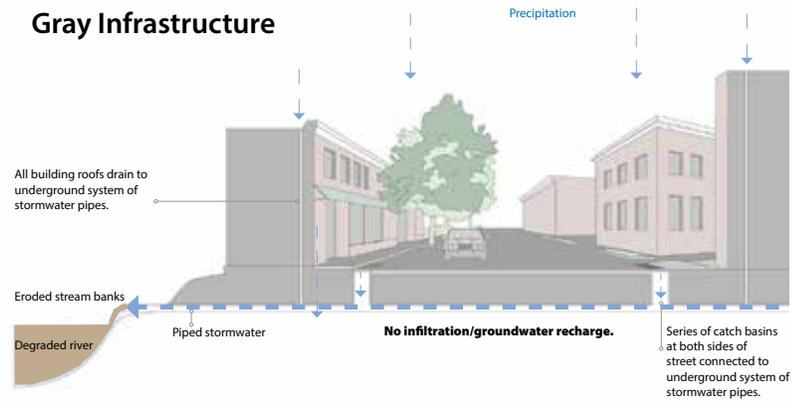


Note: This is the executive summary of our plan. To obtain or view a copy of the full plan, visit pvpc.org.

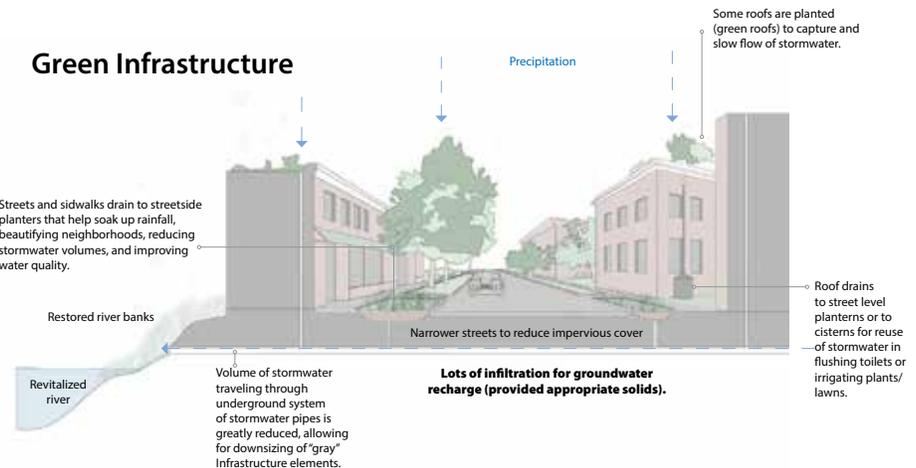
OUR GOALS

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



Traditional stormwater collection is built to convey rainfall from roofs, parking lots, and streets into catchbasins and underground tanks, and then travels in pipes to outlet at the nearest river.



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.



*The Connecticut River in Hadley.
Photo: Chris Curtis*

Stormwater flows pollute our waterways.

Green Infrastructure 'grēn 'in-frə-strək-char | n | defined

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.

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.

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.



The Connecticut River in Hadley
Photo: Chris Curtis

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.

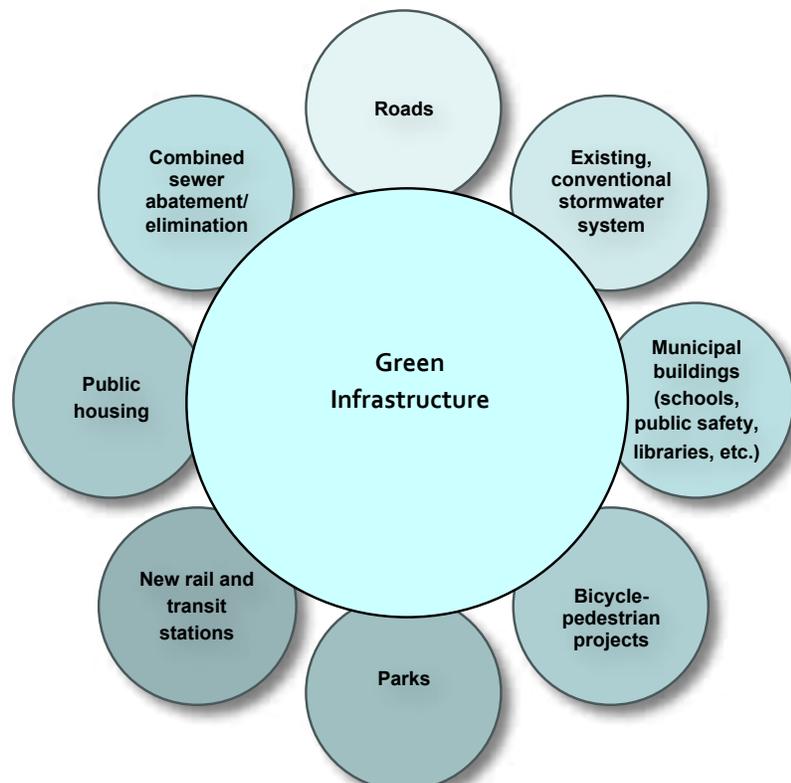


Green roof installation in Holyoke.

Photo: Chris Curtis

Green infrastructure can integrate with other projects.

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.



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



Before: Street drains to catch basins and storm drains



After: Street drains through curb cuts to bioretention planters.

Photos courtesy of Vanasse Hangen Brustlin, Inc.

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.

Tools are of value in promoting green infrastructure.

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.

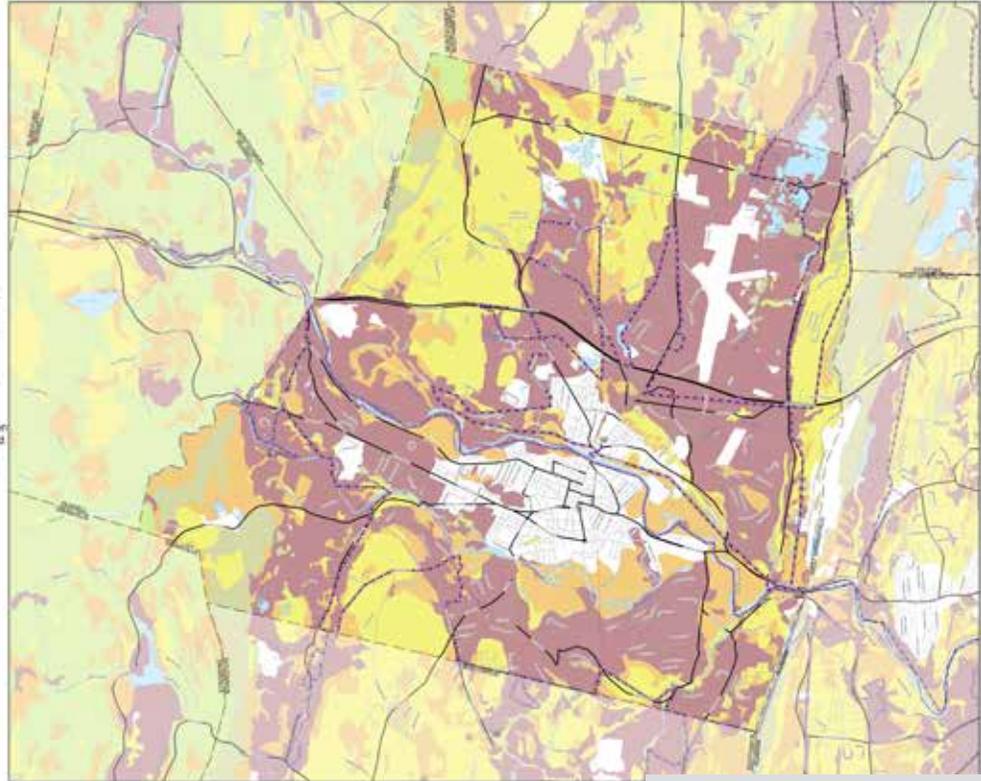
Working map #2 shows four additional criteria:

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

WESTFIELD, MA
Green Infrastructure Planning
Work Map 1 of 2

Legend

-  EPA Permitted Area
-  Roads eligible for federal aid
-  Combined Sewer Overflow Drainage Basin (Chicopee)
-  Combined Sewer (Springfield, Holyoke)
- Hydrologic Soils Group**
-  Unknown
-  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 unimpeded.
-  Group C: Moderately high runoff potential when thoroughly wet. Water transmission is somewhat restricted.
-  Group C/D: Moderately high runoff potential when drained and high runoff potential when undrained.
-  Group D: High runoff potential when thoroughly wet. Water movement through the soil is restricted or very restricted.

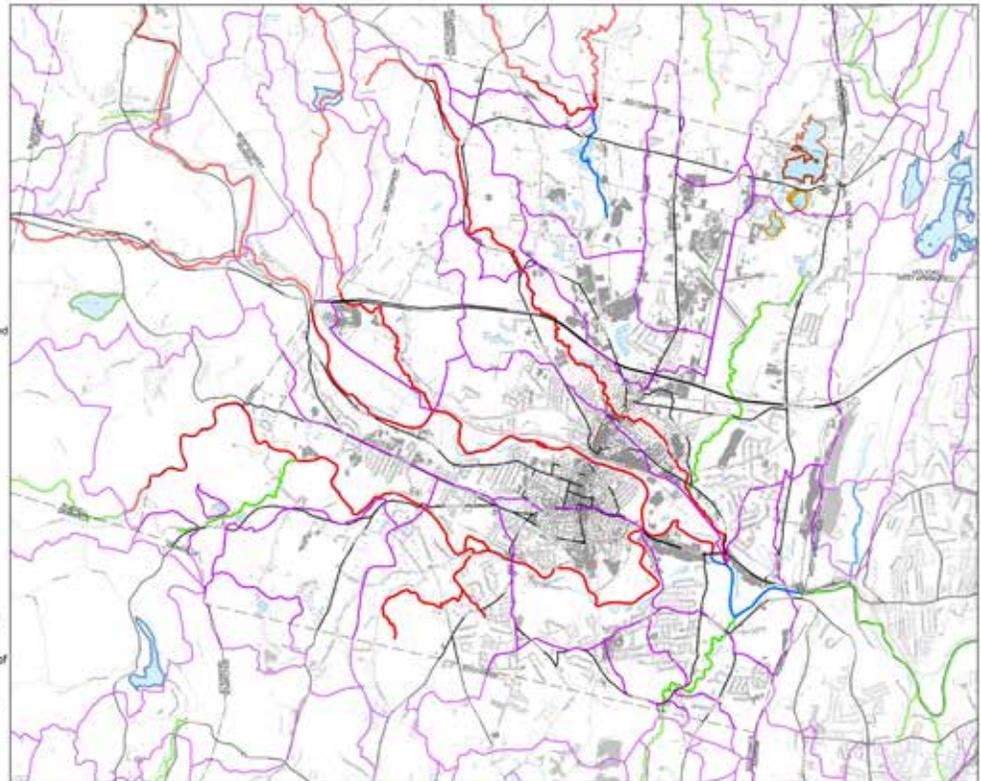


Working Map #1 for Westfield

WESTFIELD, MA
Green Infrastructure Planning
Work Map 2 of 2

Legend

-  Impervious Surface
-  Drainage Subbasins/Watersheds
-  Environmental Justice Area
- 2010 TMDL Status - Lakes and Streams**
-  2 - Attaining some uses; other uses not assessed
-  3 - No uses assessed
-  4A - TMDL is completed
-  4C - Impairment 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 statewide median household income; where 75% or less of households have proficiency with the English language, indicating linguistic isolation; where 25 percent or more of the population is foreign-born.



Working Map #2 for Westfield



Bioretention/rain garden facilities capture stormwater from parking lots and drives at Community Field in Holyoke.

Photos courtesy of Vanasse Hangen Brustlin, Inc.

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 Granby Road

★ Potential Green Infrastructure Locations

- 3 River Mills Redevelopment
- 4 Biofiltration, Infiltration, and Rainwater Harvesting, Older 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 Saot 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





Rain garden at Valley Bike and Ski Werks,
Hadley, MA
Photo: Berkshire Design Group, Inc.

Sustainable financing options are needed.

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.



Rain gardens, porous pavers and asphalt are featured in this parking lot at New England Environmental, Amherst.

Photo: Chris Curtis

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.lenaxa.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

132

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

133

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

134

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

135

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.

PARTNERS:
PVPC, Municipalities, EPA

CROSS-CUTTING STRATEGIES:



Build Understanding & Promote Engagement

PROMOTE

Citizen-Built Rain Gardens

136

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.

PARTNERS:
PVPC in collaboration with EPA and coordinating with citizen groups and municipalities

CROSS-CUTTING STRATEGIES:



DESIGN AND INSTALL

Interpretive Signage at Key Existing Green Infrastructure Facilities in the Region

137

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.

PARTNERS:
PVPC with willing landowners

CROSS-CUTTING STRATEGIES:



ASSESS

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

138

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

PARTNERS:
PVPC with interested municipalities

CROSS-CUTTING STRATEGIES:



Develop Policies & Resources

DEVELOP

A Model Green Infrastructure Policy

139

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.

CROSS-CUTTING STRATEGIES:



PROVIDE

Technical Assistance to Develop Policies and Regulations that Promote Green Infrastructure

140

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.

PARTNERS:

PVPC with interested municipalities

CROSS-CUTTING STRATEGIES:



IDENTIFY

Funding to Develop a Green Infrastructure Stormwater Manual for the Region

141

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.

PARTNERS:

PVPC with guidance from interested municipalities

CROSS-CUTTING STRATEGIES:



Support Decision Making

COORDINATE

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

142

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.

PARTNERS:

Planning Boards, Conservation Commissions

CROSS-CUTTING STRATEGIES:



PROMOTE

Federal Highway Funding for Projects that Incorporate Green Infrastructure

143

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

144

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

145

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.



07

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.

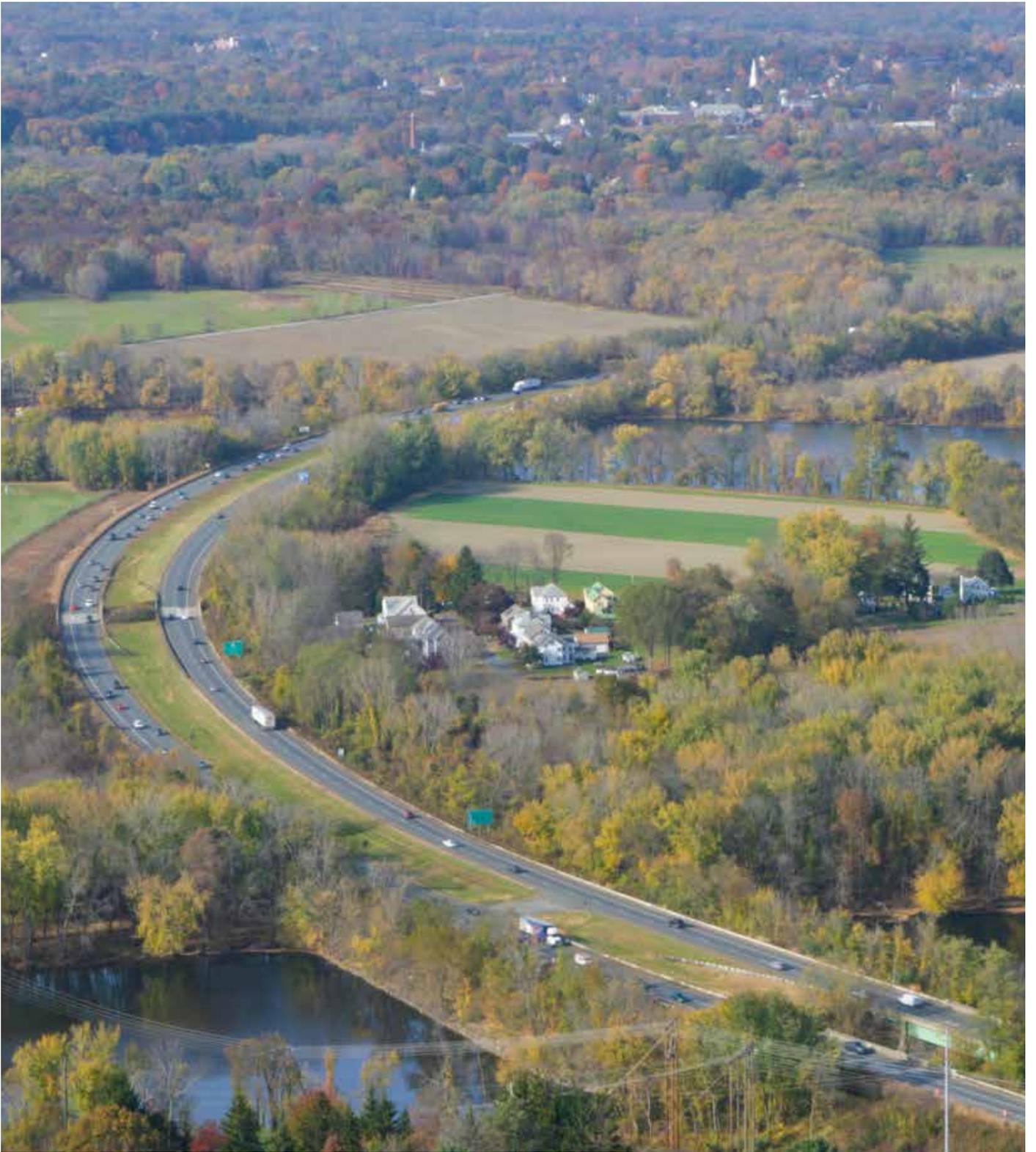
Intermodal: To provide access between travel modes for people and goods while maintaining quality and affordability of service.

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.



Holyoke transit center in Holyoke, MA
Photo: Chris Curtis



Interstate 91 at the Connecticut River Oxbow, Northampton, MA

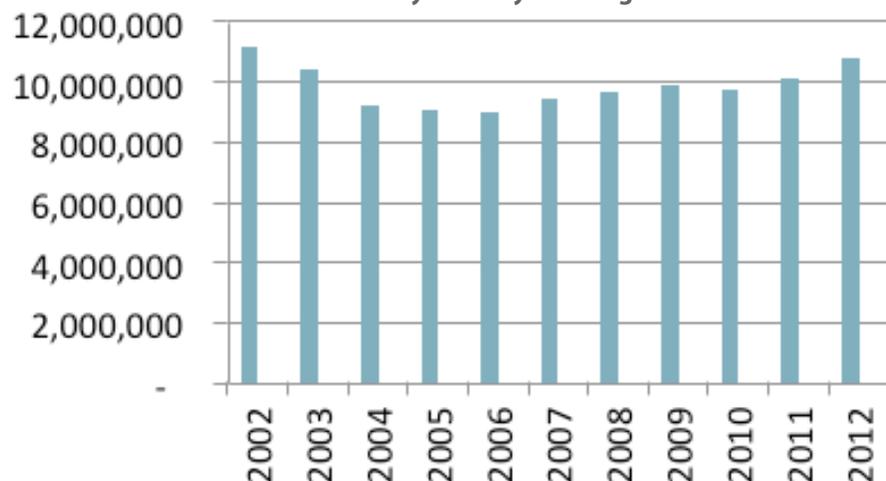




Bus ridership is increasing.

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.

PVTA Bus Route Ridership
Fiscal years July 1 through June 30





We have an expanding network of off-road trails.

Blkeway in Springfield, MA

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.



Bus stop in Amherst MA.

We strive to promote an equitable transportation system.

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."

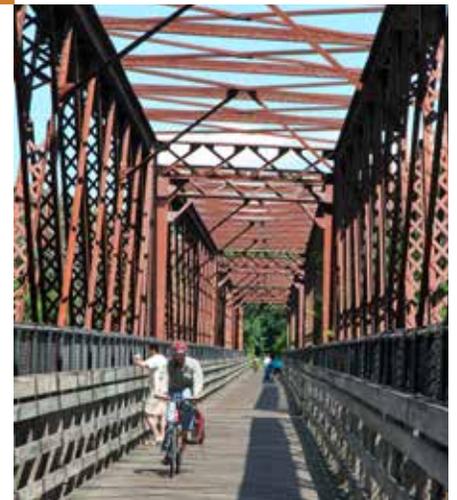
GreenDOT Implementation Plan

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.



The Norwottuck Rail trail is a key east-west bicycle and pedestrian linkage in the region



Proposed Union Station project,
Springfield, MA

Source: Springfield Redevelopment
Authority

We are advancing many
sustainable transportation projects.

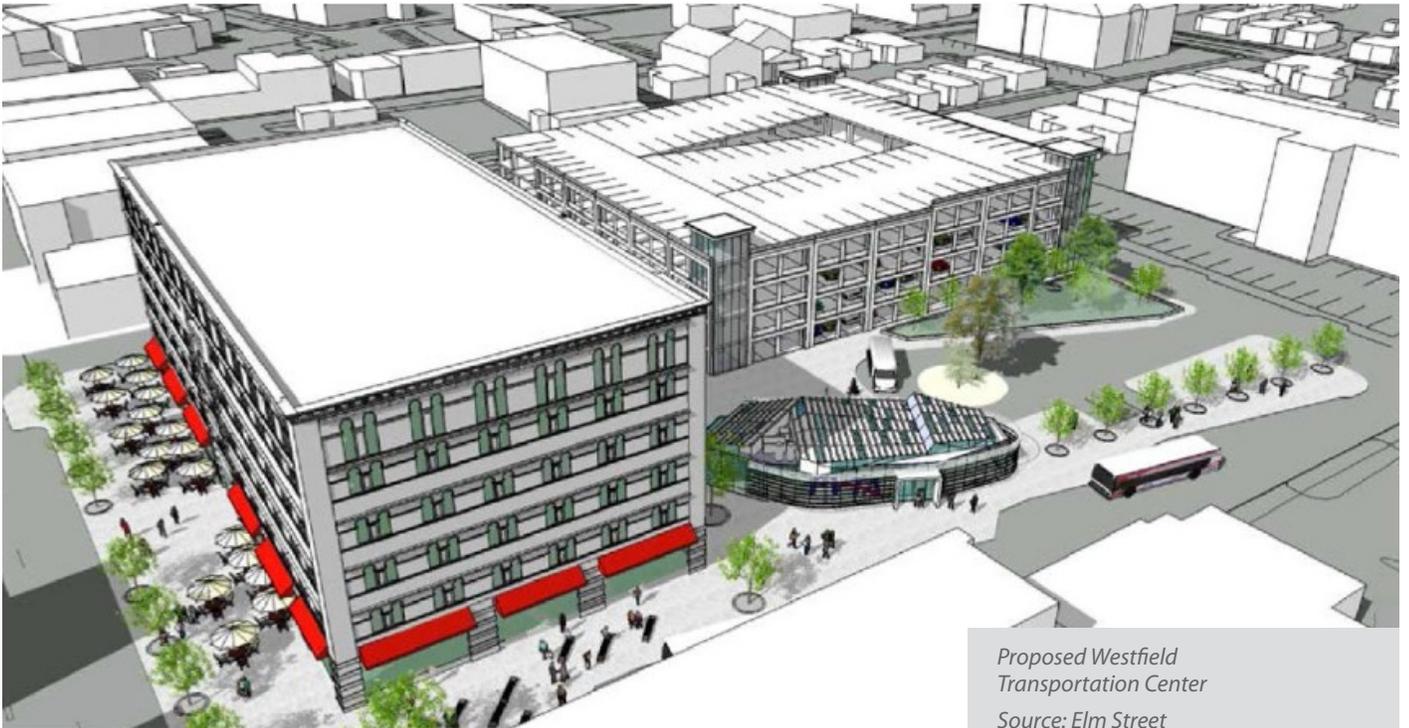
“This (Springfield Union Station Project) will make transportation easier, more convenient, and more efficient for travelers in the region. This will be a hub, a place where passengers can catch a bus or hop a train whether it’s Amtrak or a bus operated by the Pioneer Valley Transit Authority. Improving 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.



Proposed Westfield
Transportation Center
Source: Elm Street
Urban Renewal Plan, Westfield

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.

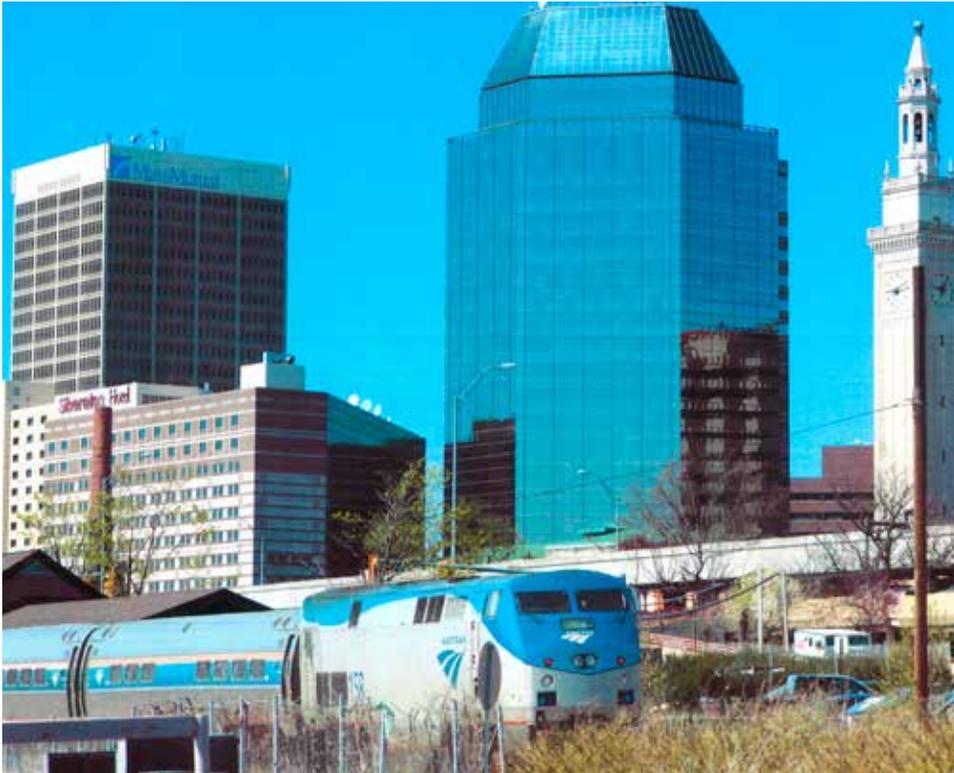
An intelligent transportation system enables systems to operate more efficiently, saving resources and energy, and improving rider experience. These systems use high tech solutions to allow the system to communicate information instantaneously. This information improves the ability of transit operators 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.





Existing Amtrak Passenger Rail Service in downtown Springfield, MA.

Source: PVPC

The future is bright for passenger rail.

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.



Rendering of proposed Holyoke Amtrak train station at Depot Square.

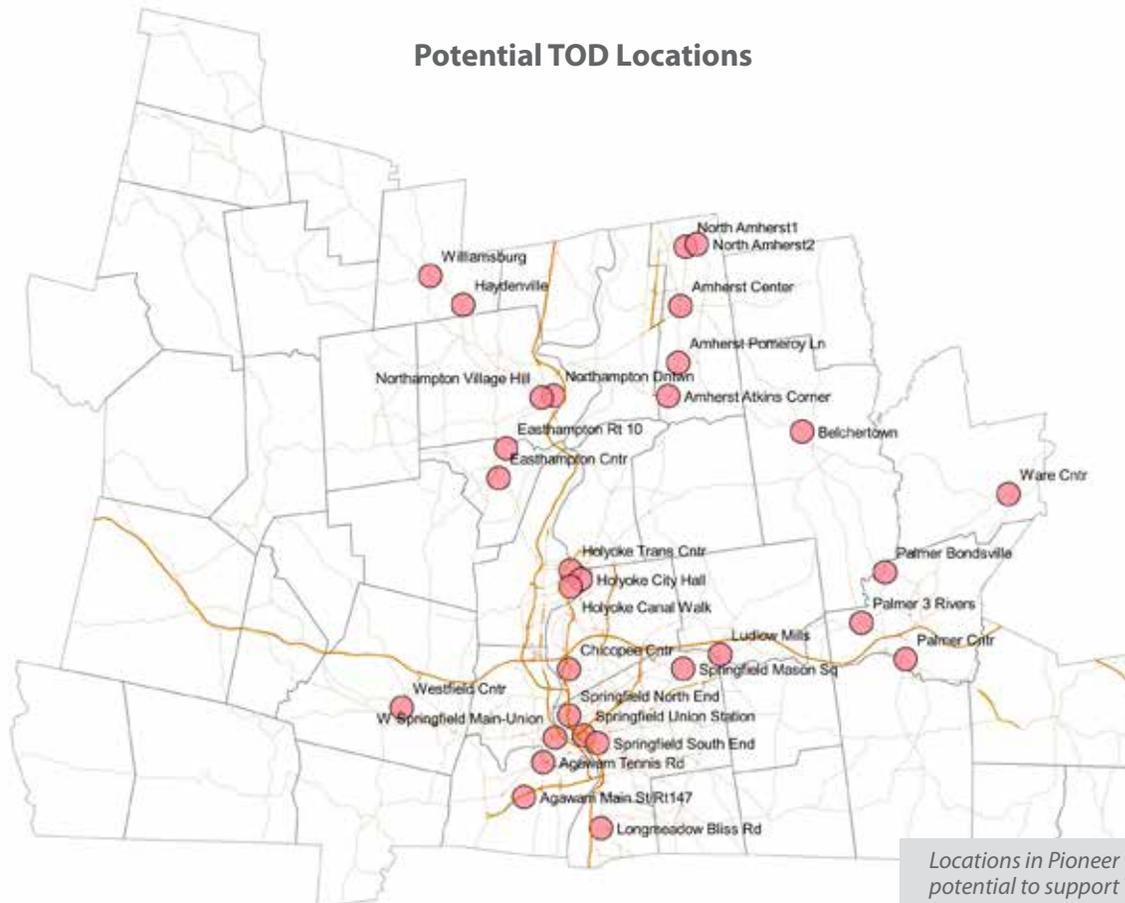
“Expanding passenger rail is directly connected to economic recovery, and the revitalization of Union Station is a powerful step in revitalizing downtown Springfield”

Massachusetts Governor
Deval Patrick, 2012

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.

OUR PLAN

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

140

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

141

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

142

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:
\$  

MAINTAIN

Equity in Providing Transportation Services and Access Throughout the Region

143

Incorporate an assessment of transportation equity as part of transportation planning studies as appropriate. Work with local communities to identify neighborhood groups and local organizations to include in ongoing public participation activities.

PARTNERS:
 PVPC, PVTA, MassDOT, FHWA, FTA, local communities
CROSS-CUTTING STRATEGIES:
 

PROMOTE

The Implementation of Bicycle Lanes Where Practical

144

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

PARTNERS:
 MassDOT, Municipalities
CROSS-CUTTING STRATEGIES:
  

CREATE

Green Streets Policies

145

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.

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

REPLACE

Under-sized Culverts and Stream Crossings

146

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

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

REDUCE

Combined Sewer Overflow (CSO) Impacts

147

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

PARTNERS:
 PVPC, MassDOT
CROSS-CUTTING STRATEGIES:


Sustainability Strategies

INVEST

In the Repair and Maintenance of Existing Transportation Infrastructure.

148

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

149

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

150

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:



Movement of Goods

DEVELOP

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

151

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

152

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

153

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.

PARTNERS:
MassDOT, PVPC

CROSS-CUTTING STRATEGIES:



Movement of Information

ENCOURAGE

Telecommuting and Video Conferencing

154

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.

PARTNERS:
Major Employers

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.



TRANSPORTATION



ENVIRONMENT



GREEN INFRASTRUCTURE



LAND USE



ECONOMIC DEVELOPMENT



CLIMATE ACTION



HOUSING



FOOD SECURITY



BROWNFIELDS



Holyoke computing center on Appleton St.
(new construction on existing brownfield site)
Photo: Chris Curtis

08

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 re-vision 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



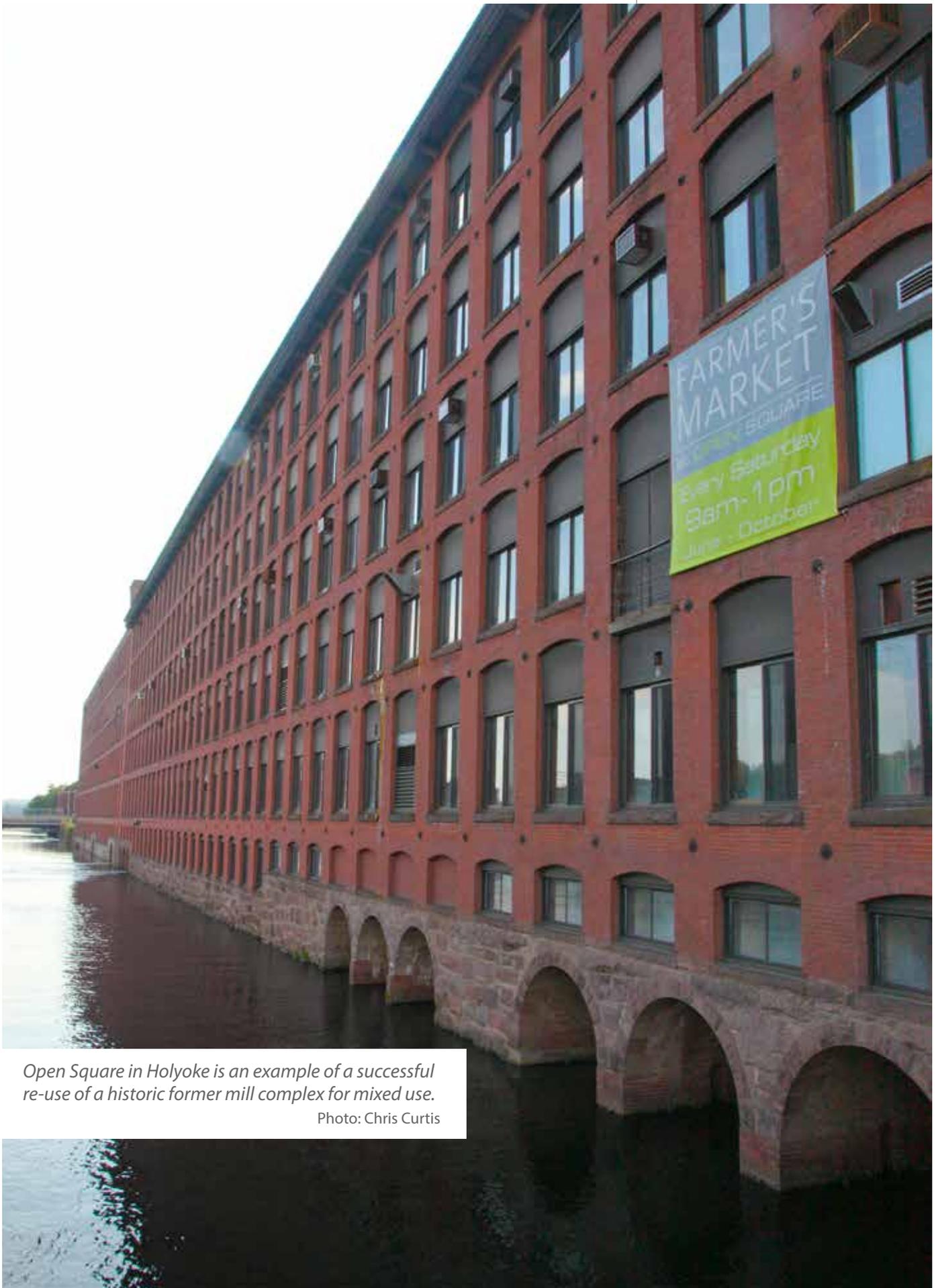
Brownfields site, Easthampton

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

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

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.

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

| Demographic Indicators | All ABIs | PV Region |
|-------------------------------|----------|-----------|
| Total Population | 247,841 | 621,570 |
| % White or Caucasian | 68.9% | 79.6% |
| % People of Color | 31.1% | 20.4% |
| % Latino or Hispanic | 26.1% | 16.8% |
| % under Age 18 | 24.2% | 21.9% |
| % Age 65 or above | 10.8% | 13.8% |
| <i>Source: 2010 US Census</i> | | |

Pioneer Valley ABI Economic Indicators

| Demographic Indicators | All ABIs | PV Region |
|--|----------|-----------|
| % of households under \$10,000 in income | 15.8% | 9.0% |
| % of households under \$30,000 in income | 46.0% | 22.7% |
| % of households in rental housing | 57.4% | 34.0% |

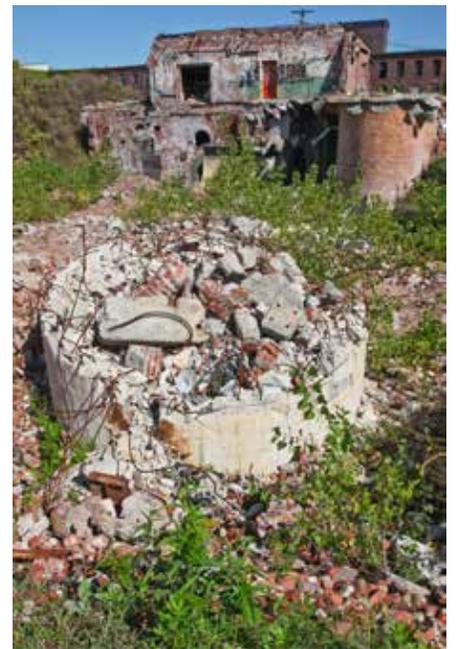


Former Uniroyal Brownfield Site, Chicopee
Photo: Chris Curtis

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 .



Brownfield Site, Holyoke
Photo: Chris Curtis

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

| | # Sites in ABIs | # Sites in PVPC Region | ABI % |
|--------------------------------|-----------------|------------------------|-------|
| DEP tier-classified 21E sites | 524 | 855 | 61.2% |
| Open tier-classified 21E sites | 1,48 | 230 | 64.3% |

Source: MassDEP, GIS mapped sites

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.

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).

Impacts of ABIs on Region

| | Total in ABIs | Total in PVPC Region | ABI % |
|--|---------------|----------------------|-------|
| Population (source: Census 2010) | 247,841 | 621,570 | 34.6% |
| 21E Sites (source: MassDEP mapped sites GIS layer) | 524 | 855 | 61.2% |
| Total Land Area (acres) (source: MassGIS) | 62,720 | 754,560 | 8.3% |
| Industrial Land Area (acres) (source: MassGIS) | 4,896 | 9,910 | 49.4% |

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

155

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:



CONTINUE

Operation of PVPC's Brownfield Revolving Loan Fund (RLF)

156

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:



CONTINUE

Quarterly Meetings of the Regional Brownfield Advisory Committee

157

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

PARTNERS:
PVPC

CROSS-CUTTING STRATEGIES:



SUPPORT

Transit Oriented Development

158

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

PARTNERS:
PVPC, Municipalities

CROSS-CUTTING STRATEGIES:



COMPLETE

Site Clean-up at Amherst Sites

159

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:



Amherst Center & North Amherst

BEGIN

Phase I Site Assessments at Amherst Sites

160

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:



Belchertown Center

COMPLETE

Site Cleanup at Belchertown Sites

161

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

162

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

PARTNERS:
Belchertown Planning Department
 CROSS-CUTTING STRATEGIES:



Chicopee Center & Chicopee Falls

START

Site Redevelopment in Chicopee

163

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:



ADVANCE

Site Redevelopment in Chicopee

164

- 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

165

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:



Willimansett
Chicopee

DEVELOP

Brownfield Inventory in Willimansett

166

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

167

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:



UNDERTAKE

Redevelopment Planning in Willimansett

168

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

PARTNERS: **Chicopee Office of Community Development; Planning Department**
CROSS-CUTTING STRATEGIES:



UNDERTAKE

Redevelopment Planning in Easthampton

169

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

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



Downtown Easthampton

COMPLETE

Site Clean-up in Easthampton

170

Complete the building hazardous material cleanup at 1 Ferry Street, Hampton Mills

PARTNERS: **Site Owner; Easthampton Planning Department**
CROSS-CUTTING STRATEGIES:



CONDUCT

Site Assessment in Easthampton

171

Complete a Phase II site assessment at Easthampton Wastewater Treatment Plant and undertake cleanup as needed.

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



UNDERTAKE

Redevelopment Planning in Holyoke

172

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**
CROSS-CUTTING STRATEGIES:



Downtown Holyoke

COMPLETE**Site Clean-up in Holyoke**

173

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.

PARTNERS:

Holyoke Planning Department

CROSS-CUTTING STRATEGIES:

**CONDUCT****Site Assessment in Holyoke**

174

- 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.

PARTNERS:

Holyoke Planning Department

CROSS-CUTTING STRATEGIES:



Downtown Northampton

CONDUCT**Site Assessment in Northampton**

175

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.

PARTNERS:

Northampton Planning Department

CROSS-CUTTING STRATEGIES:



Downtown Springfield

UNDERTAKE**Union Station Site Clean-up**

176

- 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.

PARTNERS:

Springfield Planning Department

CROSS-CUTTING STRATEGIES:



PROMOTE

1600 Main Street Redevelopment

177

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

178

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

179

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

180

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

181

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:



East Springfield

Forest Park Springfield

Hill, McKnight & Six Corners, Springfield

COMPLETE

Phase II Site Assessment, and Clean-up as Needed

182

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:



Indian Orchard, Springfield

COMPLETE

Phase I Site Assessment in Indian Orchard

183

Complete Phase 1 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:



North End, Springfield

COMPLETE

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

184

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:



CONDUCT

Site Redevelopment Planning in North End, Springfield

185

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:



COMPLETE

Phase I Site Assessment in North End, Springfield

186

Complete Phase 1 site assessments at the following North End, Springfield sites.

- 14 Grosvenor Street
- 11 Grosvenor Street and 1061 Dwight Street
- Rear End Napier Street
- NS 40 Napier Street
- 12 Sheldon Street
- NS Carew Street (136)
- Rear 2702-2708 Main Street

PARTNERS:
Springfield Planning Department

CROSS-CUTTING STRATEGIES:



UNDERTAKE

Redevelopment Planning in South End, Springfield

187

- 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.

PARTNERS:
Springfield Redevelopment Authority; Springfield Planning Department

CROSS-CUTTING STRATEGIES:



South End, Springfield

COMPLETE

Site Assessment in South End, Springfield

188

Prioritize site assessment and cleanup at inventoried sites.

PARTNERS:
Springfield Planning Department

CROSS-CUTTING STRATEGIES:



CONDUCT

Site Clean-up in Ludlow

189

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

PARTNERS:
Westmass Area Redevelopment Corporation; MassDEP BST

CROSS-CUTTING STRATEGIES:



Ludlow Center

COMPLETE

Site Assessment and Clean-up in Ware

190

Monroe Street MCP site – Phase II site assessment and clean-up

PARTNERS:
Ware Planning Department

CROSS-CUTTING STRATEGIES:



Downtown Ware

Downtown Westfield

CONDUCT

Site Clean-up in Westfield

191

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

192

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:



Merrick & Riverdale West Springfield

ASSESS

Trade Center on Union Street

193

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

PARTNERS:
West Springfield Planning Department
CROSS-CUTTING STRATEGIES:



ASSESS

Nondo Tire, Route 5 (north)

194

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:



Monson Center

COMPLETE

Site Clean-up in Monson

195

Complete Site Cleanup at 2&3 South Main Street

PARTNERS:
Monson Planning Department
CROSS-CUTTING STRATEGIES:



CONDUCT

Site Assessment in Monson

196

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

PARTNERS:

Monson Planning Department

CROSS-CUTTING STRATEGIES:



ESTABLISH

Site Assessments in Palmer

197

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

PARTNERS:

Palmer Planning Department

CROSS-CUTTING STRATEGIES:



Palmer Villages

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



TRANSPORTATION



ENVIRONMENT



GREEN INFRASTRUCTURE



LAND USE



ECONOMIC DEVELOPMENT



CLIMATE ACTION



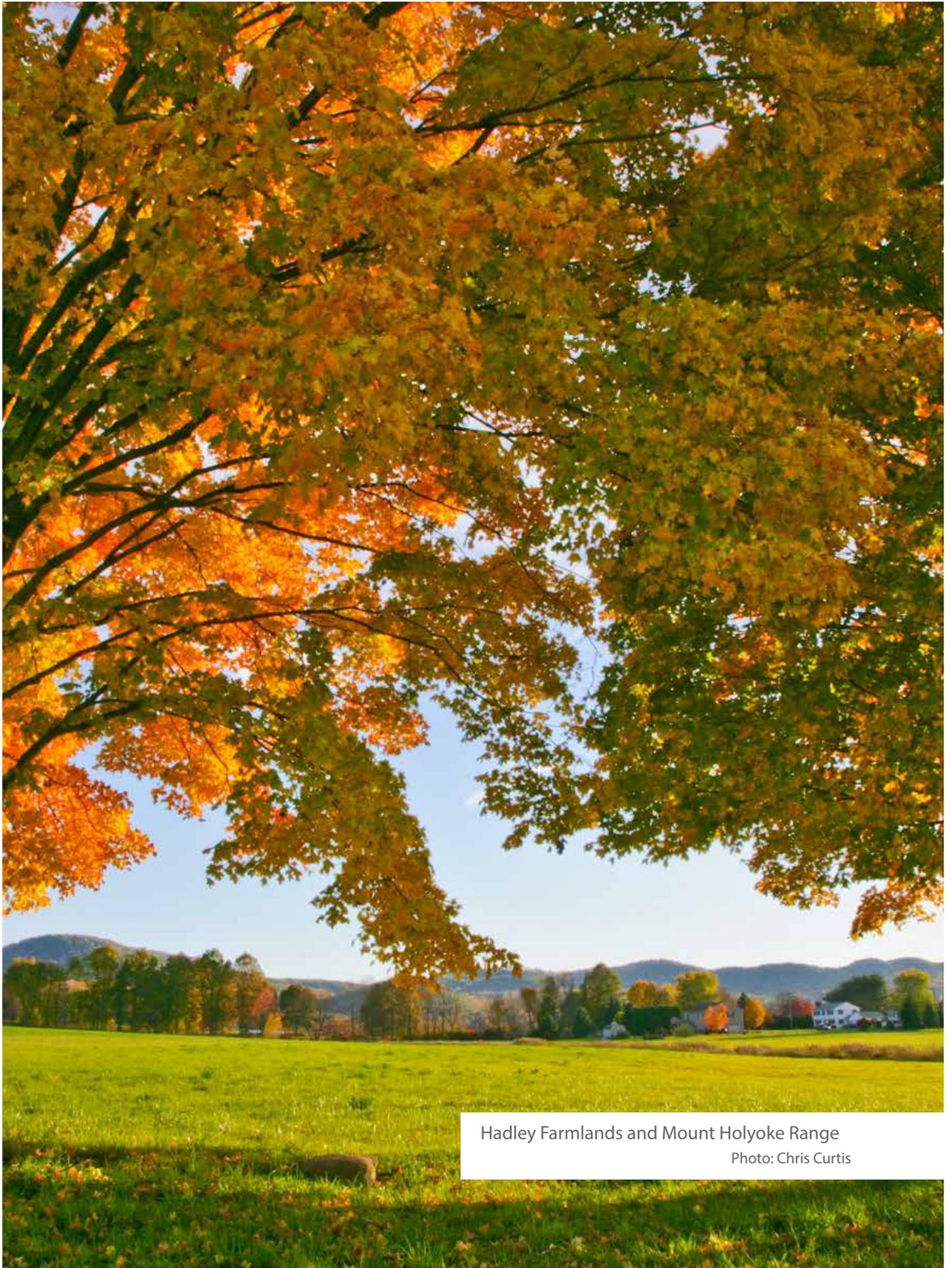
HOUSING



FOOD SECURITY



BROWNFIELDS



Hadley Farmlands and Mount Holyoke Range
Photo: Chris Curtis

09

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*

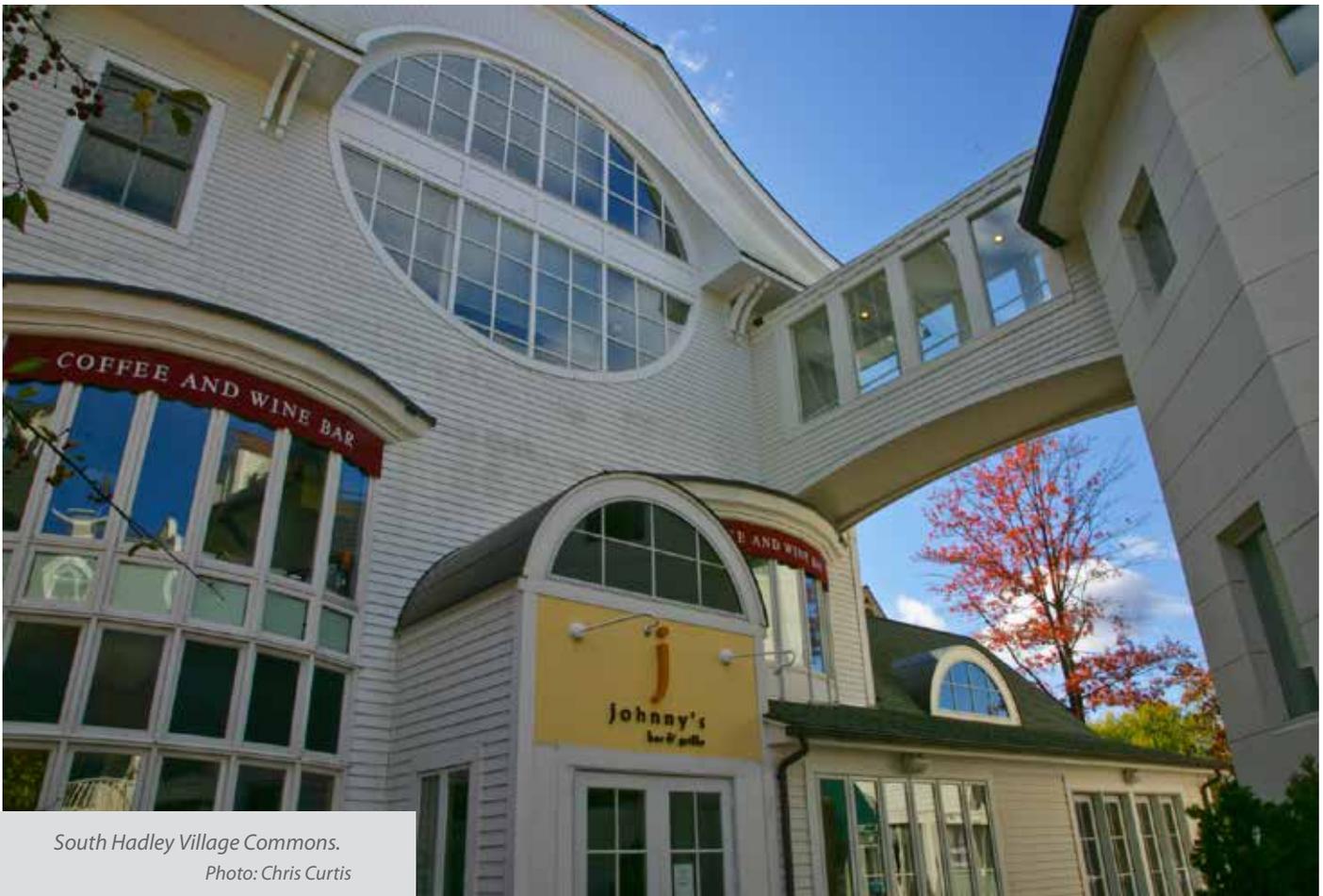


Note: This is the executive summary of our plan. To obtain or view a copy of the full plan, visit pvpc.org.

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.



South Hadley Village Commons.
Photo: Chris Curtis



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

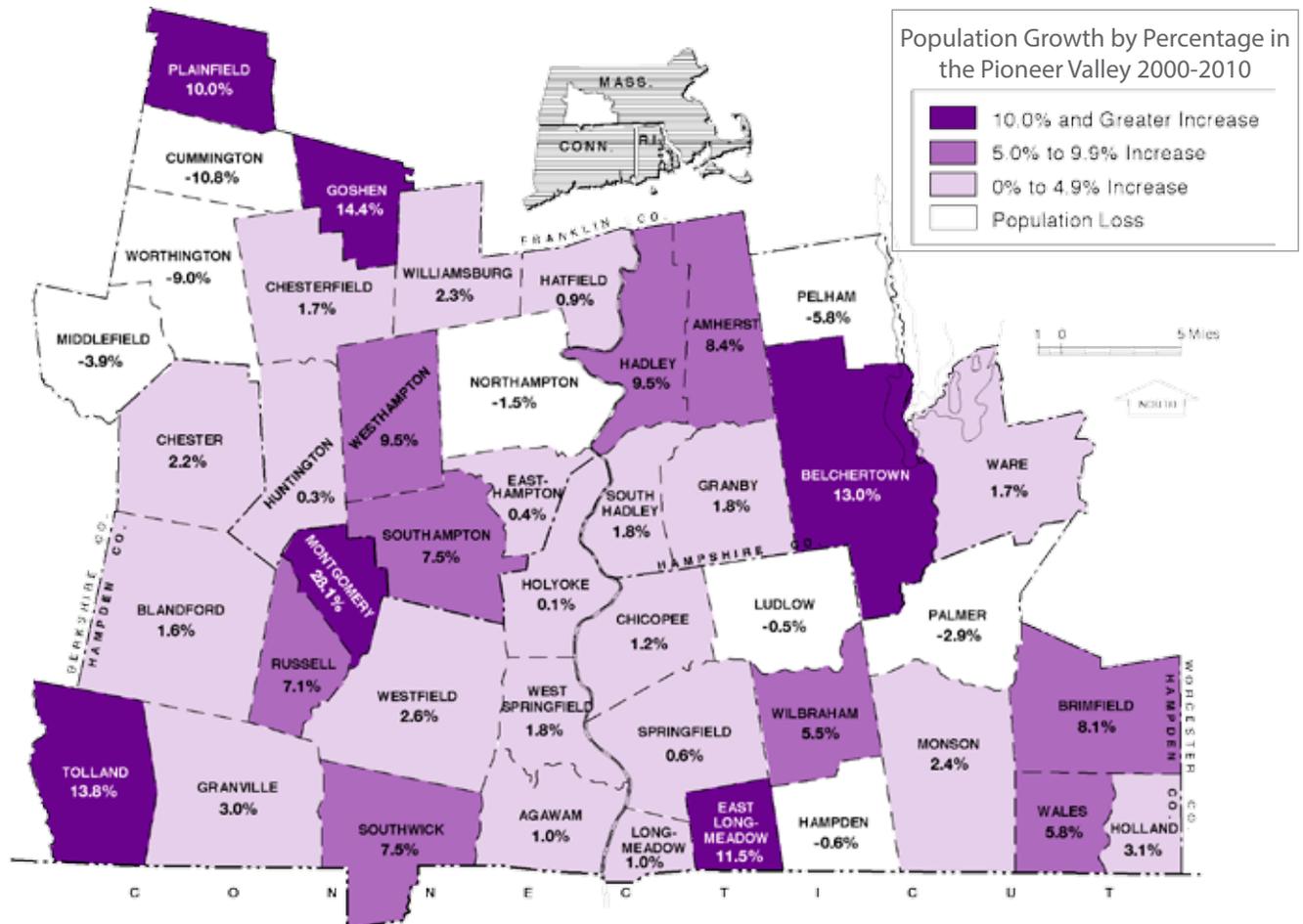
Our region is experiencing sprawl without population growth

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.

Prepared by the Pioneer Valley Planning Commission, July 2011.

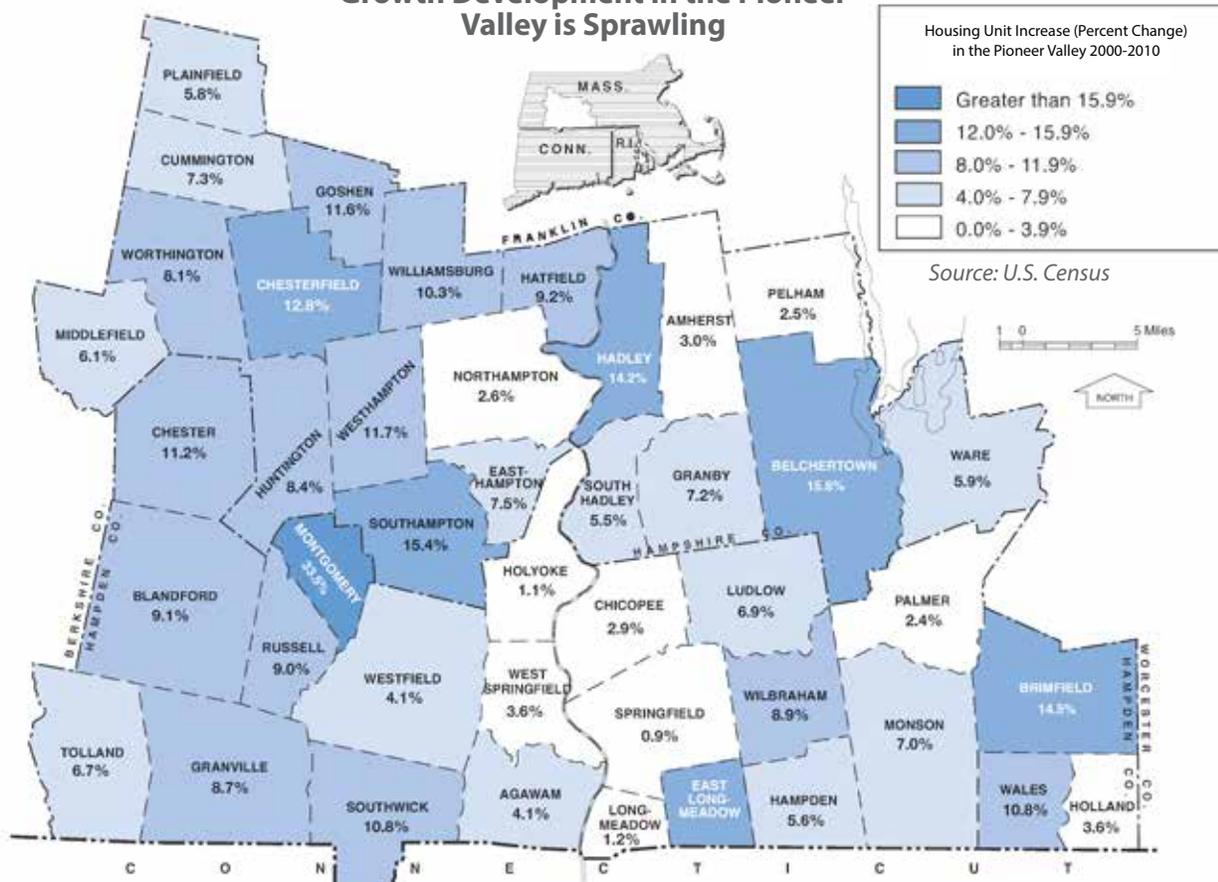
Sprawl impacts suburban communities

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.

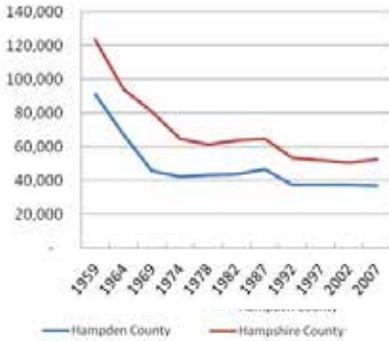
Belchertown and East Longmeadow had the highest growth in housing units, adding a combined 1,532 units, or 15% of the entire region's new housing units from 2000 to 2010. The greatest percentage increases in housing growth in the region have occurred in suburban and rural communities.

Growth Development in the Pioneer Valley is Sprawling



OUR FINDINGS

Pioneer Valley Farmland Trends



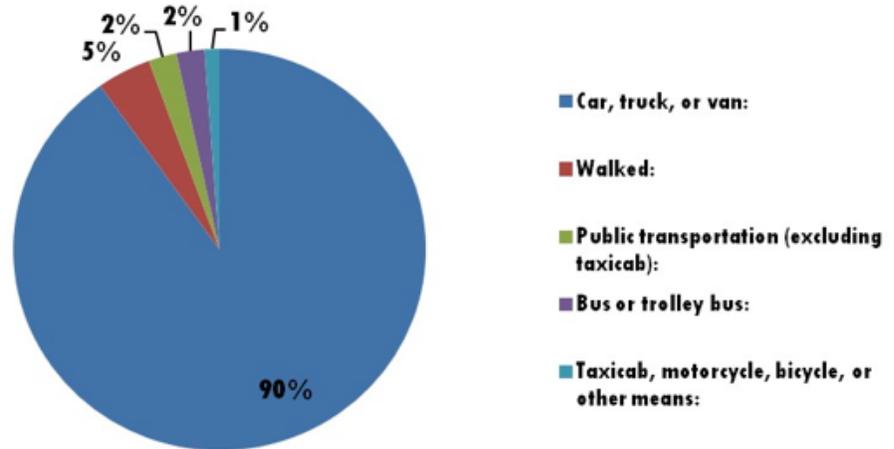
The region's farmland acreage has stabilized over the past decade, after several decades of steep declines.

Farmland is stabilizing.

One encouraging trend is that after several decades of substantial losses of farmland where the Pioneer Valley region lost over half of its farm 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.

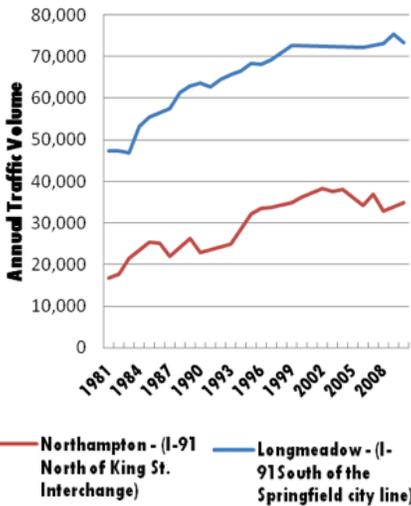
Sprawl increases traffic volumes and driving distances.

Travel Mode to Work in the Pioneer Valley



An overwhelming majority of the region's residents (90%) travel to work by car or truck.

I-91 Traffic Volumes



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

Traffic volumes have doubled on I-91 at Northampton since 1981.

We are integrating land use and transportation planning.

A key goal of Valley Vision 4 is to identify themes and policies that are shared with the region's 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



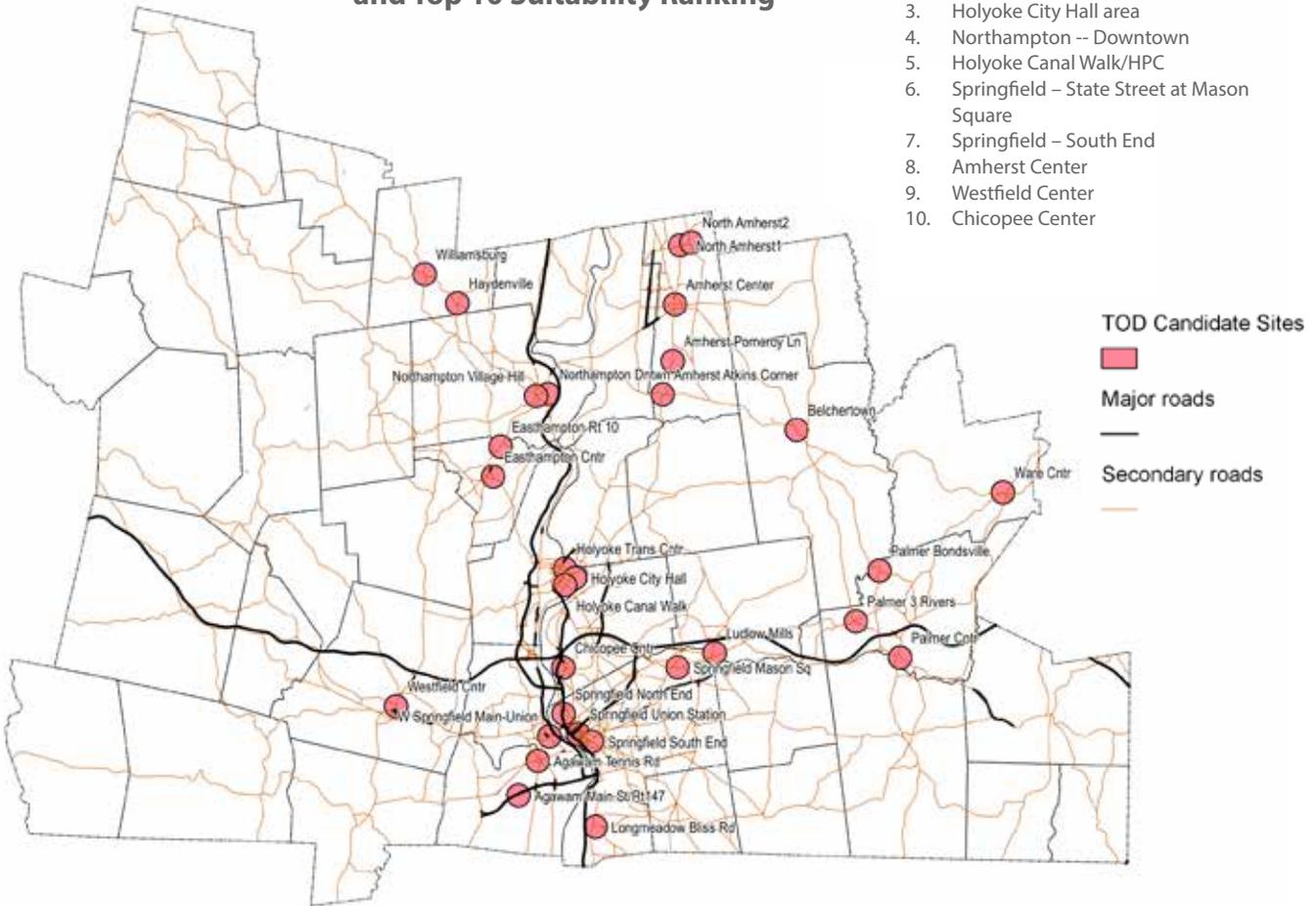
Downtown Northampton integrates multiple transportation modes: rail, transit, bikeways, enhanced sidewalks, and streets.
Photo: Chris Curtis

Planning is needed for Transit Oriented Development (TOD).

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

Candidate TOD Sites in Pioneer Valley and Top 10 Suitability Ranking

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



Suitability analysis identifies TOD sites.

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.

Bi-state Rail Stations with Potential for TOD



TOD market analysis targets investments.

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.

Bi-state land use plans are compatible.

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 CROG 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.



Farmland lines the Connecticut River along much of its valley.

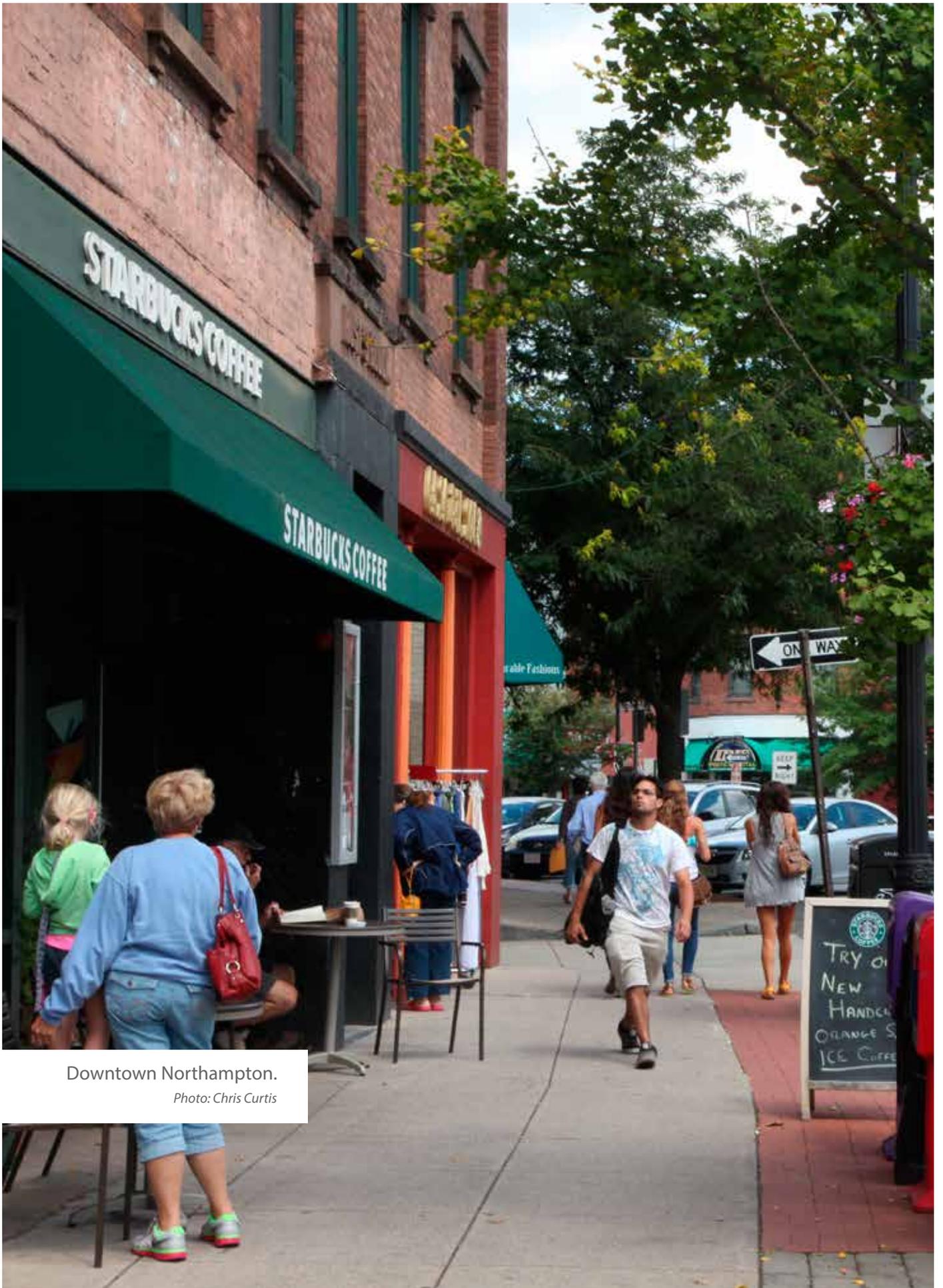
Photo: Chris Curtis

Shared Goals and Strategies of Pioneer Valley Region and Capitol Region (CROG) 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.

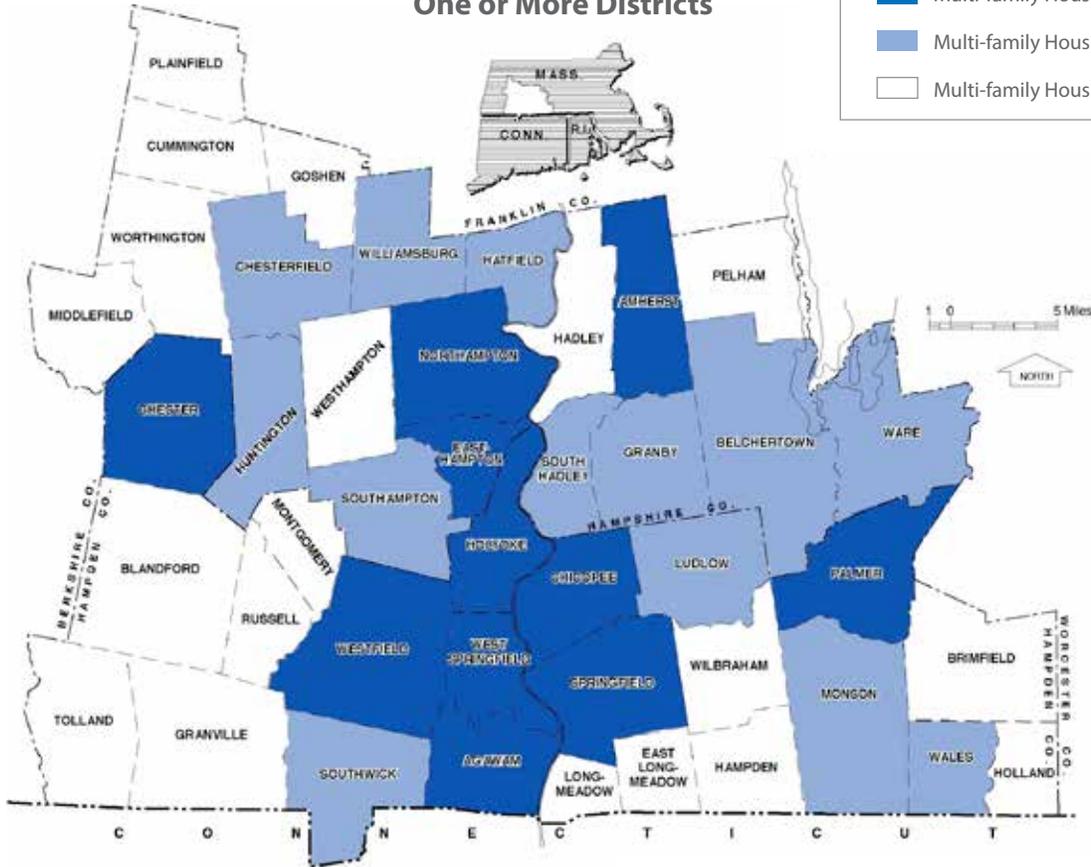
The Springfield Metropolitan Area is identified as #1 in the country for Hispanic-White segregation, and #22 for Black-White segregation, according to The University of Michigan report *New Racial Segregation Measures for Large Metropolitan Areas: Analysis of the 1990-2010 Decennial Censuses*. Appropriate 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

Pioneer Valley Municipalities that Allow Multi-family Housing in One or More Districts



Multi-family Housing Allowed

- Multi-family Housing Allowed By Right
- Multi-family Housing Allowed By Special Permit
- Multi-family Housing Prohibited

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).

Multi-family family housing typically refers to the provision of three or more dwelling units in one building.

The most affordable market-based housing tends to be multi-family housing such as rental apartments and condominiums, while single family homes tend to be less affordable.

*Note:
This analysis does not highlight communities with exclusive multi family zoning districts because these districts are essentially built out and would not be able to accommodate additional multifamily housing developments.*

Maps identify Priority Protection and Development Areas.

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.

Priority Areas for Development

This map (next page, top) illustrates categories of lands which are together designated as suitable for smart growth development, which includes:

- Areas Suitable for Transit-Oriented Development (TOD) zoning districts
- Existing or Proposed Chapter 40R Smart Growth Zoning Districts
- Existing Chapter 43D Priority Development Sites (PDS)
- Areas Suitable for Smart Growth Development
- Community-identified Priority Development Sites

Priority Areas for Protection

This map (next page, bottom) illustrates important land for protection, which includes:

- Active farmlands
- Public water supply watersheds
- Floodplains
- 100-foot buffers around rivers, streams and wetlands
- Outstanding resource watersheds
- Steep slopes

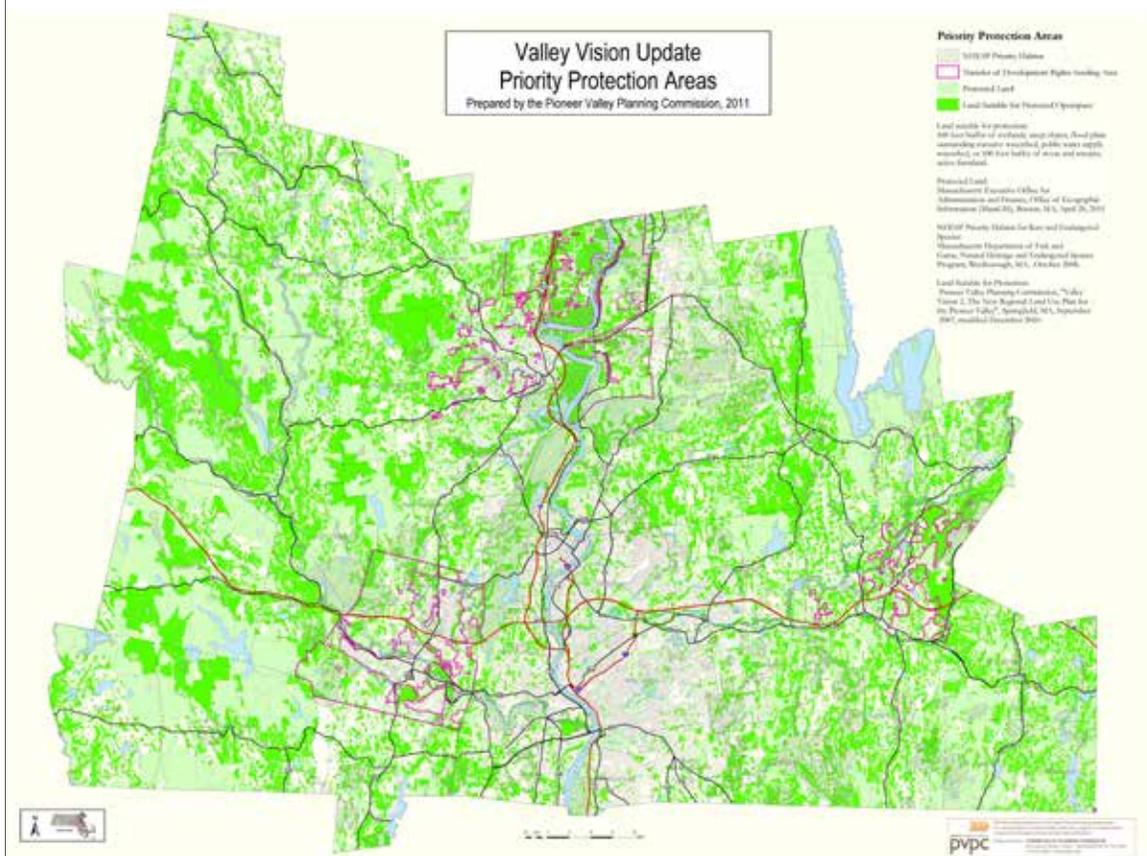
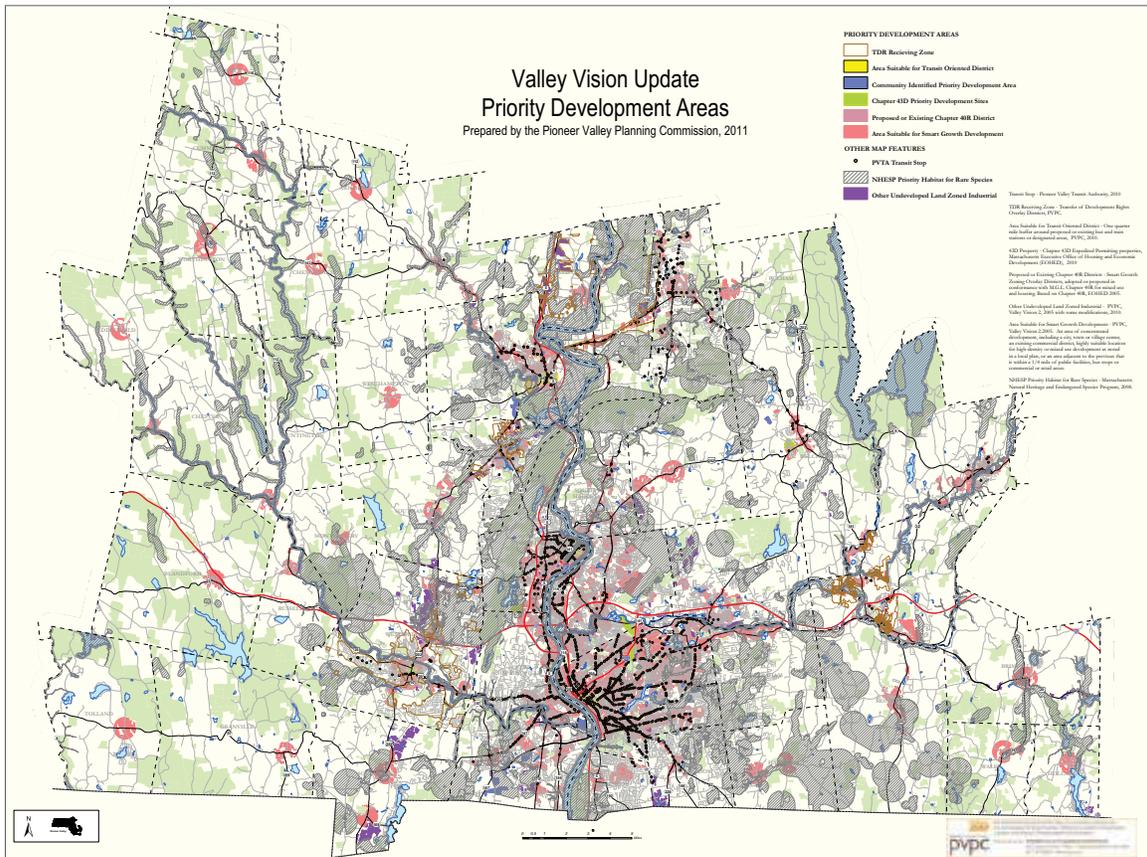


Hadley Farmland

Photo: Chris Curtis

The Smart Growth Toolbox is updated.

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.



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 effects 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)

198

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

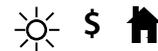
Compact Mixed Use Village Centers

199

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

200

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:



SUPPORT

Adaptive Reuse and Infill Development

201

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)

202

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)

203

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

204

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

205

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:



Downtown Community Revitalization

Improve Housing Opportunities & Neighborhood Quality

CREATE

Inclusionary Zoning

206

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)

207

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:



Open Space & Resource Protection

PRESERVE

Farmlands with Transfer of Development Rights Zoning

208

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

209

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)

210

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:



ESTABLISH

Scenic Upland Protection Zoning

211

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

PARTNERS:
Planning Boards, Conservation Commissions
 CROSS-CUTTING STRATEGIES:



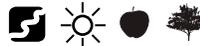
CREATE

Critical Lands Acquisition Programs and Funds

212

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

PARTNERS:
Open Space Committees, Conservation Committees
 CROSS-CUTTING STRATEGIES:



CREATE

Zoning for Bike and Pedestrian Amenities

213

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

PARTNERS:
Planning Boards, Public Works Departments, PVPC, MDOT
 CROSS-CUTTING STRATEGIES:



Build an Intermodal Pedestrian & Bicycle Network

SUPPORT

Bikeway Planning and Design

214

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

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



ADOPT

Low Impact Development (LID) Standards

215

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

PARTNERS:
Planning Boards, Conservation Commissions
 CROSS-CUTTING STRATEGIES:



Environmental Protection & Sustainable Development

ADOPT**Stormwater and Erosion Control Standards**

216

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**

217

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:



Improve Infrastructure in Urban Areas & Limit Infrastructure Expansions

ESTABLISH**De-Facto Urban Growth Boundaries**

218

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**

219

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:



Growth Management

ADOPT**Commercial Development Performance Standards**

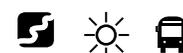
220

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:



PROMOTE

State Zoning Reform Legislation

221

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.

PARTNERS:
State Legislature, Municipal Planning Boards

CROSS-CUTTING STRATEGIES:



DEVELOP

Comprehensive Municipal Zoning Overhauls and Updates

222

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

PARTNERS:
Planning Boards

CROSS-CUTTING STRATEGIES:



PROMOTE

Regional Solutions to Growth Problems

223

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

PARTNERS:
Chief Elected Officials

CROSS-CUTTING STRATEGIES:



ADOPT

PVPC's Planning Board Assistance Program

224

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.

PARTNERS:
Planning Boards

CROSS-CUTTING STRATEGIES:



CREATE

Zoning for Climate Change Best Practices

225

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

PARTNERS:
Planning Boards

CROSS-CUTTING STRATEGIES:



Sustainability & Climate Action

PROMOTE**Improved Transportation-Land Use Connections**

226

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**

227

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:



Environmental Justice

CONDUCT**Brownfields Assessment & Remediation**

228

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**

229

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**

230

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

231

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

232

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

233

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, CROG
CROSS-CUTTING STRATEGIES:



SUPPORT

Bi-state Farmland Preservation

234

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, CROG, Municipalities
CROSS-CUTTING STRATEGIES:



ADOPT

TOD Zoning for Commuter Rail Corridor

235

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:



Bi-State Strategies

PROMOTE**Sustainable Transportation Project Criteria**

236

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:

**ENCOURAGE****Livability Programs**

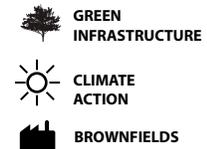
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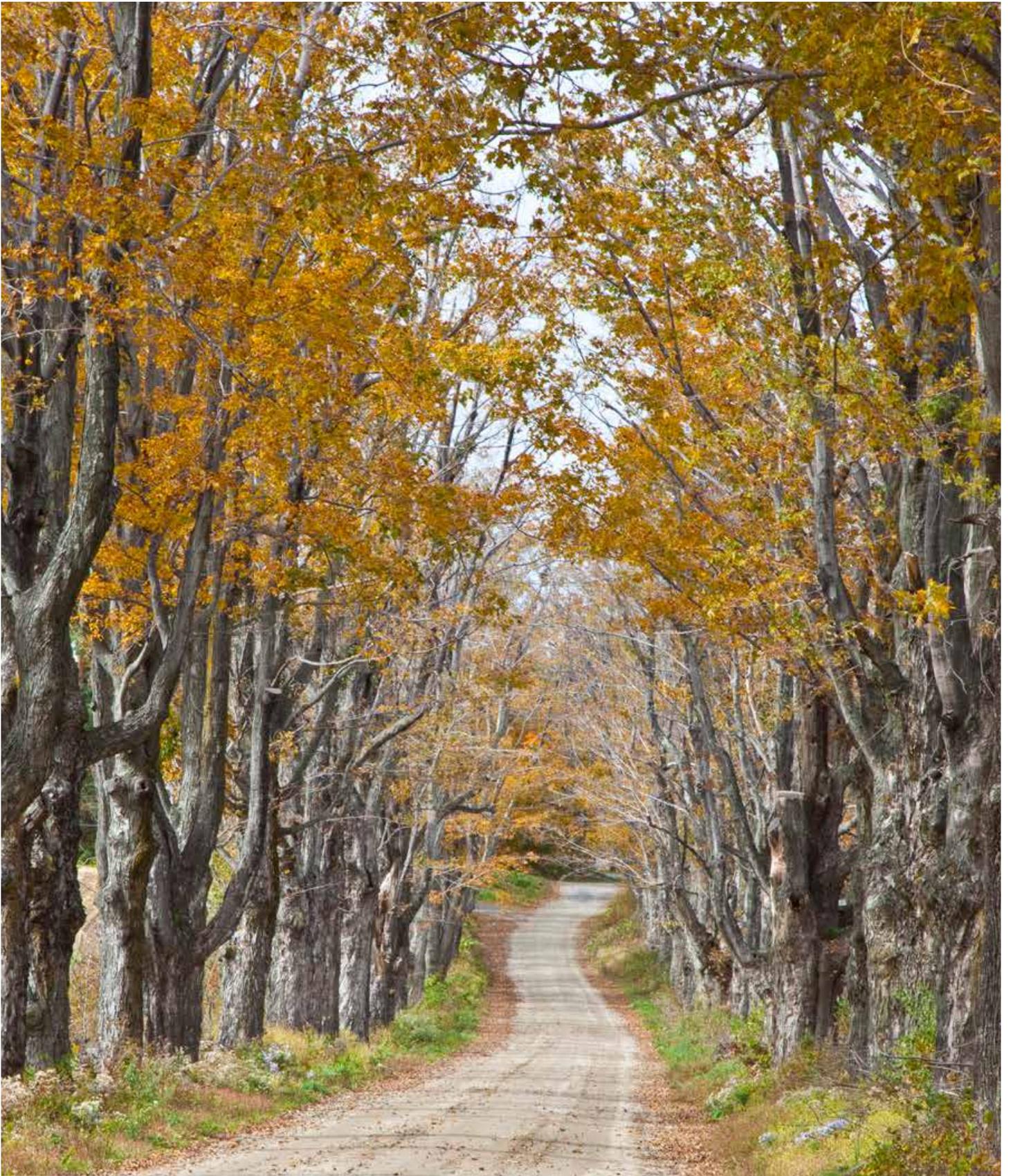
Livability programs use transportation funding streams to support pedestrian, streetscape, mixed-use infill, transit-oriented development and transit improvement projects. Funding sources include federal STP or CMAQ funding, and toll revenues.

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



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

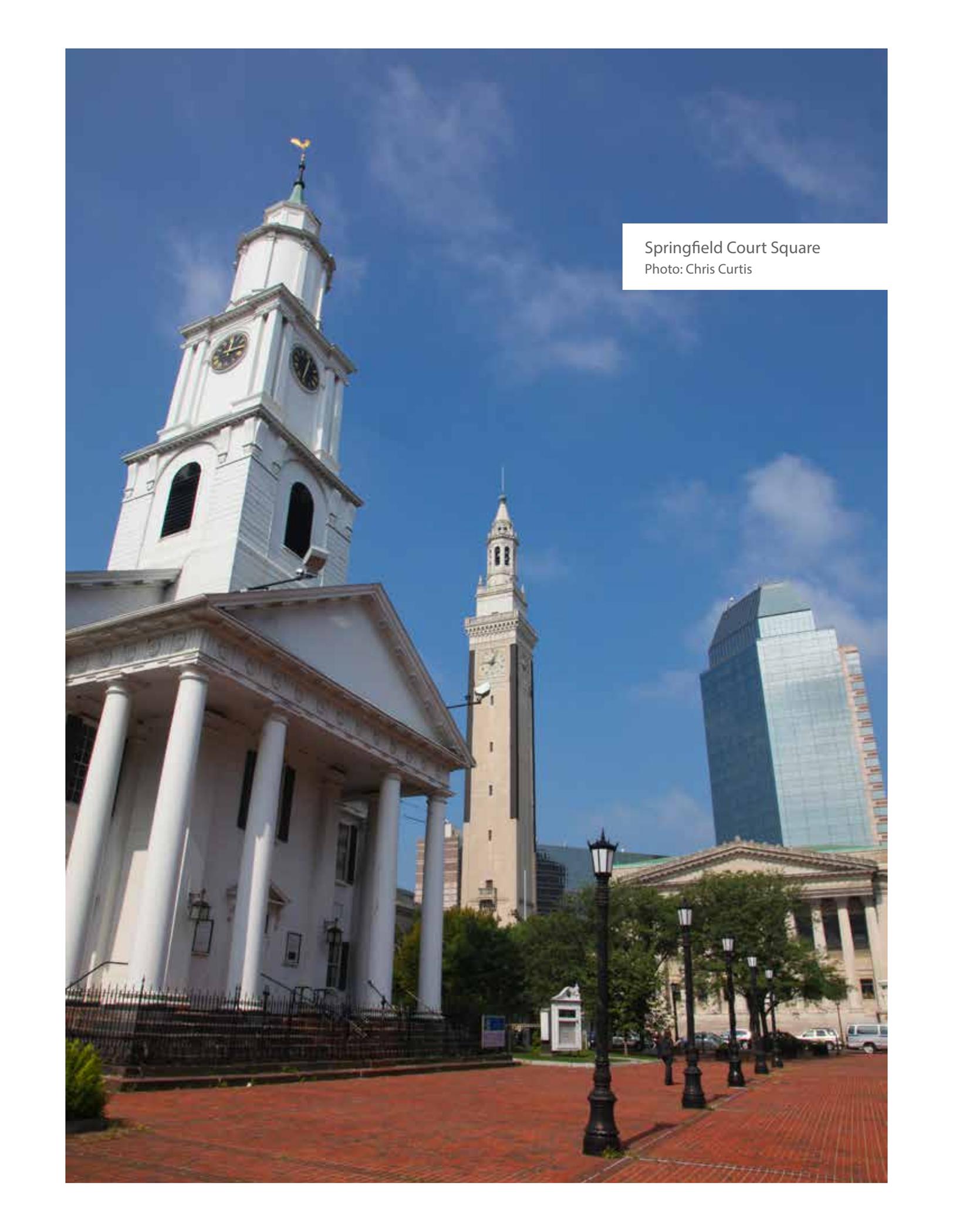




Maple lined country road in Cummington.

Photo: Chris Curtis



A photograph of Springfield Court Square in Springfield, Massachusetts. The foreground is a red brick plaza with several black lampposts. On the left is the white, neoclassical Springfield Church with a prominent steeple. In the center is the tall, tan clock tower of the Springfield Courthouse. To the right is a modern glass skyscraper. The sky is blue with light clouds.

Springfield Court Square
Photo: Chris Curtis

10

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.

cat·a·lyst /'katl-ist/
 an agent that provokes or speeds significant change or action

Merriam Webster Dictionary

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

Beatrice Dewberry
 Springfield, MA





Rendering of new train station for Depot Square, Holyoke

Holyoke: Depot Square Redevelopment and Revitalization

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.

Depot Square public engagement event.



Springfield: Court Square

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.



Photo: Chris Curtis

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



11

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.

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

*Molly Bialecki
Easthampton, MA*



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

Climate Action Checklist

Climate Action Checklist for Municipalities

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| <input type="checkbox"/> | Prepare municipal water supply systems for severe droughts, including repairing leaks, and installing water efficient fixtures | PARTNERS: Municipal water departments |
| <input type="checkbox"/> | Protect and upgrade aging water and wastewater infrastructure from flood damages, and provide emergency backup equipment. | PARTNERS: Municipal water and sewer departments, DPWs |
| <input type="checkbox"/> | Support municipal purchase of fuel efficient vehicle fleets and LED traffic and street lights. | PARTNERS: Municipalities, DPWs, PVPC |
| <input type="checkbox"/> | Reduce and track greenhouse gas emissions to meet regional targets. | PARTNERS: Municipalities, PVPC |
| <input type="checkbox"/> | Adopt new TOD zoning districts along high-speed rail lines and bus routes and near existing centers. | PARTNERS: PVPC, Planning Boards |
| <input type="checkbox"/> | Generate more clean energy, greener power to reduce the carbon intensity of our electricity supply, by investing in solar, wind, and hydro projects. | PARTNERS: Municipalities, ESCOs, PVPC |
| <input type="checkbox"/> | Adopt solar and wind zoning bylaws to streamline permitting for renewable energy sources and promote passive solar access. | PARTNERS: Planning Boards, PVPC |
| <input type="checkbox"/> | Develop "Solarize" Neighborhood Programs to assist homeowners in purchasing photovoltaic solar systems, by reducing costs through bulk purchasing, tax incentives and rebates. | PARTNERS: Municipalities, PVPC |
| <input type="checkbox"/> | Retrofit municipal buildings for energy efficiency. A municipality can partner, using an Energy Service Company (ESCO) where appropriate. | PARTNERS: Municipalities, ESCOs, PVPC |
| <input type="checkbox"/> | Formalize Emergency Intermunicipal Water Connection agreements with neighboring communities, in advance of emergencies. | PARTNERS: Municipalities, PVPC |

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| Storm-proof infrastructure, including energy generation, electrical transmission and distribution, drinking and wastewater facilities, roads and highways, dams and flood dikes. | PARTNERS: Municipalities | <input type="checkbox"/> |
| Assist vulnerable populations with response to severe weather events. Seek funding for a network of severe weather notification procedures and new cooling shelters. | PARTNERS: Municipalities, PVPC | <input type="checkbox"/> |
| Investigate costs and feasibility of re-locating powerlines underground. | PARTNERS: Utilities | <input type="checkbox"/> |
| Establish a public warning system for extreme weather events, to send emergency alerts to residents by email, text message or telephone. | PARTNERS: Municipalities, PVPC | <input type="checkbox"/> |
| Undertake conformance reviews of existing municipal zoning and provide a technical assistance program to help communities adopt zoning for GHG reduction. | PARTNERS: Municipalities, PVPC | <input type="checkbox"/> |
| Encourage all of the region's municipalities to seek designation under the state Green Communities Act. | PARTNERS: Municipalities, PVPC | <input type="checkbox"/> |
| Install methane recovery systems to reduce the release of methane into the atmosphere from landfills. | PARTNERS: Municipalities, PVPC | <input type="checkbox"/> |

Climate Action Legislative Agenda

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| Support changes in the State Revolving Fund (SRF) Program to address climate vulnerabilities, and promote green infrastructure. | PARTNERS: State Legislature, DEP, Municipalities | <input type="checkbox"/> |
| 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. | PARTNERS: Legislators, Municipalities, PVPC | <input type="checkbox"/> |
| 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. | PARTNERS: Legislators, PVPC, MassDOT, MPO | <input type="checkbox"/> |

Climate Action Checklist for State and Federal Agencies

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| <input type="checkbox"/> | Inspect and remove poor condition dams. | PARTNERS: Municipalities, state Office of Dam Safety |
| <input type="checkbox"/> | Adopt sustainable project review criteria for all transportation projects. | PARTNERS: MDOT, PVPC |
| <input type="checkbox"/> | Provide regional funding to support development of Transit Oriented Development districts (TODs). | PARTNERS: MDOT, PVPC |
| <input type="checkbox"/> | Pro-actively replace underperforming culverts and bridges with larger structures designed to accommodate floods and promote wildlife passage. | PARTNERS: Municipalities, MDOT |
| <input type="checkbox"/> | Update FEMA flood insurance maps, and improve community flood zoning regulations. | PARTNERS: FEMA, municipalities |
| <input type="checkbox"/> | Provide regional funding to support development of Transit Oriented Development districts (TODs). | PARTNERS: MassDOT |
| <input type="checkbox"/> | 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. | PARTNERS: Municipalities, MEMA, FEMA |

Climate Action Checklist of Regional Action

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| <input type="checkbox"/> | 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: Municipalities, PVPC |
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Food Security Checklist

Food Security Checklist for Municipalities

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| <p>If you don't already have one, consider forming a food policy council to institutionalize consideration of food security and related issues in your community.</p> | <p>PARTNERS: Municipalities, Local Food Policy Councils (Holyoke and Springfield are resources), GrowFood Northampton, MA Food Policy Council</p> | <input type="checkbox"/> |
| <p>Continue to educate consumers about proper nutrition and food safety through community outreach, education and advocacy focusing on healthy, local and culturally appropriate foods.</p> | <p>PARTNERS: Hunger relief and food advocacy community organizations, local food policy councils, municipalities, Mass in Motion, MA DPH, CDC, PVPC</p> | <input type="checkbox"/> |
| <p>Address food access issues by creating "feedability guides" that connect consumers with healthy food retail locations.</p> | <p>PARTNERS: Local food policy councils, municipalities, Hunger relief and community-based food advocacy organizations, Mass in Motion, CDC, PVPC</p> | <input type="checkbox"/> |
| <p>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.</p> | <p>PARTNERS: Local food policy councils, MA DPH, Corner stores/Bodegas, CDC, PVPC, community-based food advocacy organizations</p> | <input type="checkbox"/> |
| <p>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.</p> | <p>PARTNERS: Community-based organizations, local food policy councils, municipalities, economic development organizations, area grocery stores</p> | <input type="checkbox"/> |

CHECKLIST

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| <input type="checkbox"/> | 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 cratte@pvpc.org) and develop and implement solutions to address identified problems. | PARTNERS: PVPC, municipalities, local planning officials, MA DPH |
| <input type="checkbox"/> | 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. | PARTNERS: Municipalities, local planning officials, PVPC, local food policy councils and community-based food advocacy organizations, area grocery stores |
| <input type="checkbox"/> | Support, incentivize, and facilitate purchase of local food for institutions such as schools, senior centers etc. | PARTNERS: School boards and school districts, MA farm to school initiative, CISA |
| <input type="checkbox"/> | 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. | PARTNERS: Hunger relief organizations, CISA, Economic justice organizations, PVPC, MA DPH, CDC, public officials |
| <input type="checkbox"/> | 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. | PARTNERS: PVPC, municipalities, MA DAR |
| <input type="checkbox"/> | 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. | PARTNERS: Municipalities, PVPC, MA DAR, New Entry Sustainable Farmers |
| <input type="checkbox"/> | Support on-site vegetable gardens at schools, day care facilities, adult care facilities, jails, prisons, and other similar entities. | PARTNERS: School districts, Care facility operators |
| <input type="checkbox"/> | Support development of on-farm clean, safe, sustainable energy sources and systems and help improve the efficiency of existing systems. | PARTNERS: MA Farm Energy program, MA CEC, PVPC, municipalities |
| <input type="checkbox"/> | 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. | PARTNERS: DEP, CET, PVPC, municipalities, Farmers, food businesses and institutional meal providers, restaurants |

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

Food Security Legislative Agenda

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| Fully fund Supplemental Nutrition Assistance Program (SNAP) benefits. | PARTNERS: local, state and federally elected officials; local, state and federal agency staff, advocates | <input type="checkbox"/> |
| Create and adopt legislation to incentivize and facilitate purchase of local food for institutional uses, such as in schools, rehabilitation centers for the elderly and sick and in hospitals and senior centers. | PARTNERS: local, state and federally elected officials; local, state and federal agency staff, advocates | <input type="checkbox"/> |
| Amend local, state and federal regulations as necessary to promote food security, i.e. facilitate community gardens, urban agriculture, right to farm, farmland protection, etc. | PARTNERS: local, state and federally elected officials; local, state and federal agency staff, advocates | <input type="checkbox"/> |
| 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. | PARTNERS: local, state and federally elected officials; local, state and federal agency staff, advocates | <input type="checkbox"/> |
| Continue to fund the Massachusetts Clean Energy Center and the Massachusetts Farm Energy initiative to facilitate generation of clean, safe, sustainable energy on farms. | PARTNERS: local, state and federally elected officials; local, state and federal agency staff, advocates | <input type="checkbox"/> |
| Assure that food safety regulations do not disproportionately negatively affect local farms. | PARTNERS: local, state and federally elected officials; local, state and federal agency staff, advocates | <input type="checkbox"/> |

CHECKLIST

Food Security Checklist for State and Federal Agencies

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| <input type="checkbox"/> | 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. | Lead Group(s): relief-hunger organizations, state agencies, farmers markets |
| <input type="checkbox"/> | 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. | Lead Group(s): CISA, PVPC, Food producers and distributors, MA Food policy council |
| <input type="checkbox"/> | 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. | Lead Group(s): CISA, Food Bank of W MA, PVPC |
| <input type="checkbox"/> | 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. | Lead Group(s): Land owners, MA DAR, PVPC, municipalities |
| <input type="checkbox"/> | Support development of on-farm clean, safe, sustainable energy sources and systems and help improve the efficiency of existing systems. | Lead Group(s): MA Farm Energy program, MA CEC, PVPC, municipalities |

Food Security Checklist Regional Strategies

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| <input type="checkbox"/> | 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). | Lead Group(s): Food Bank of W MA, CISA, PVGrows, PVPC, Local food policy councils |
| <input type="checkbox"/> | Provide free or reduced fare bus passes to low income riders for trips to garden plots, farmer's markets and other community food sources. | Lead Group(s): Hunger relief organizations, PVPC, Community Foundations, Leadership Pioneer Valley |
| <input type="checkbox"/> | 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. | Lead Group(s): Hunger relief organizations, CISA |

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| <p>Work to assure that all people eligible for SNAP, WIC and other similar benefit programs are enrolled in the programs.</p> | <p>PARTNERS: Hunger relief organizations, social service agencies, MA DTA,</p> | <input type="checkbox"/> |
| <p>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.</p> | <p>PARTNERS: Hunger relief organizations, CISA, Economic justice organizations, PVPC, MA DPH, CDC, public officials</p> | <input type="checkbox"/> |
| <p>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.</p> | <p>PARTNERS: CISA, PVPC, Food producers and distributors, MA Food policy council</p> | <input type="checkbox"/> |
| <p>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.</p> | <p>PARTNERS: CISA, Food Bank of W MA, PVPC</p> | <input type="checkbox"/> |
| <p>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.</p> | <p>PARTNERS: Land owners, MA DAR, PVPC, municipalities</p> | <input type="checkbox"/> |
| <p>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.</p> | <p>PARTNERS: New Entry Sustainable Farmers, MA DAR, PVPC, municipalities, Farmers, Landowners</p> | <input type="checkbox"/> |
| <p>Support on-site vegetable gardens at schools, day care facilities, adult care, rehab, and other similar entities.</p> | <p>PARTNERS: School districts, Care facility operators</p> | <input type="checkbox"/> |
| <p>Support development of on-farm clean, safe, sustainable energy sources and systems and help improve the efficiency of existing systems.</p> | <p>PARTNERS: MA Farm Energy program, MA CEC, PVPC, municipalities, USDA</p> | <input type="checkbox"/> |
| <p>Facilitate and expand year-round food production capacity in the region, including hydroponic greenhouses.</p> | <p>PARTNERS: Farmers, MA DAR, CISA, USDA</p> | <input type="checkbox"/> |
| <p>Provide flexible capital for innovative local farm and food businesses, particularly those to improve food system infrastructure.</p> | <p>PARTNERS: Common Capital, Slow Money, Financial Institutions, PVGrows, EDA, USDA</p> | <input type="checkbox"/> |

CHECKLIST

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| <input type="checkbox"/> | 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. | PARTNERS: DEP, CET, PVPC, municipalities, Farmers, food businesses and institutional meal providers, restaurants |
| <input type="checkbox"/> | 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, MA DAR, AFT |
| <input type="checkbox"/> | Facilitate implementation of Scaling Up Local Food (www.buylocalfood.org/resources-for-farmers/ag-infrastructure) developed by Community Involved in Sustaining Agriculture (CISA) in 2012. | PARTNERS: CISA, MA DAR, MA Workforce Alliance, PVGrows, Common Capital |
| <input type="checkbox"/> | Provide technical assistance and business development support to local farms and food businesses including compliance with food safety requirements. | PARTNERS: CISA, financial institutions, Common Capital, Slow Money, PVGrows, EDA |
| <input type="checkbox"/> | 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 http://web.gcc.mass.edu/farmandfoodsystems/). | PARTNERS: Community college academic and training programs, REBs, MA Workforce Alliance, CISA |

Housing Checklist

Housing Checklist for Municipalities

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| Appoint a local housing committee to study community needs, recommend appropriate actions, advocate for action. | PARTNERS: Board of Selectmen / City Council | <input type="checkbox"/> |
| 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. | PARTNERS: Housing Committee, Planning Board, Housing Authority | <input type="checkbox"/> |
| 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. | PARTNERS: Board of Selectmen / City Council and Housing Committee | <input type="checkbox"/> |
| Form a Municipal Affordable Housing Trust (MAHT) to streamline future housing programs and development activities. | PARTNERS: Board of Selectmen / City Council and Housing Committee | <input type="checkbox"/> |
| Consider adoption of the Community Preservation Act as a local funding mechanism for the acquisition, creation, preservation and support of income-restricted affordable housing. | PARTNERS: Local CPA adoption committee | <input type="checkbox"/> |
| 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. | PARTNERS: Planning Board / Zoning Board of Appeals, Housing Committee | <input type="checkbox"/> |
| 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. | PARTNERS: Planning Board / Zoning Board of Appeals, Housing Committee | <input type="checkbox"/> |
| 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." | PARTNERS: Planning Board / Zoning Board of Appeals, Housing Committee | <input type="checkbox"/> |
| Leverage major public and private investments to create income-restricted affordable and market-rate housing opportunities. | PARTNERS: Board of Selectmen / City Council, Planning Board | <input type="checkbox"/> |

CHECKLIST

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| <input type="checkbox"/> | Evaluate the effectiveness of the Massachusetts' Housing Development Incentive Program (HDIP) and make programmatic recommendations to DHCD as needed. | PARTNERS: City Councils, planning and development staff |
| <input type="checkbox"/> | Participate in annual, semi-annual, or quarterly meetings during which developers, builders, real estate professionals and municipal officials discuss residential development challenges and opportunities. | PARTNERS: Boards or Selectmen / City Council, Planning Board, municipal planning, development, financial and legal staff |
| <input type="checkbox"/> | 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. | PARTNERS: Boards or Selectmen / City Council, Housing Committee |
| <input type="checkbox"/> | Address vacant, abandoned or foreclosed properties by initiating a Municipal Receivership Program or by establishing procedures to take action on tax delinquent properties. | PARTNERS: Boards or Selectmen / City Council, municipal financial and legal staff |
| <input type="checkbox"/> | Advocate for housing rehabilitation and modification loan program funding to be distributed at the regional level for all non-entitlement communities. | PARTNERS: Boards or Selectmen / City Council, Housing Committee |
| <input type="checkbox"/> | Maintain quality housing by adopting a rental license and inspection system program such as one currently being implemented in Amherst. | PARTNERS: Boards or Selectmen / City Council |
| <input type="checkbox"/> | Advocate for updates to lead paint abatement program requirements. | PARTNERS: Boards or Selectmen / City Council, Housing Committee |
| <input type="checkbox"/> | 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. | PARTNERS: Housing Committee, Boards or Selectmen / City Council, Planning Board |
| <input type="checkbox"/> | 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. | PARTNERS: Housing Committee, Boards or Selectmen / City Council |
| <input type="checkbox"/> | Work to end homelessness in the region by participating in the Western Massachusetts Network to End Homelessness. | PARTNERS: Housing Committee, Boards or Selectmen / City Council |

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| <p>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.</p> | <p>PARTNERS: Housing Committee, Boards or Selectmen / City Council</p> | <input type="checkbox"/> |
| <p>Participate in a regional fair housing coalition of key stakeholders to help shape a regional conversation on housing choice and equal opportunity.</p> | <p>PARTNERS: Housing Committee, Boards or Selectmen / City Council, Planning Board</p> | <input type="checkbox"/> |
| <p>Plan regionally for senior housing by participating in sub-regional meetings to discuss senior housing needs and locations for future housing.</p> | <p>PARTNERS: Housing Committee, Boards or Selectmen / City Council, Council on Aging, Planning Board</p> | <input type="checkbox"/> |
| <p>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.</p> | <p>PARTNERS: Housing Committee, Council on Aging, Planning Board</p> | <input type="checkbox"/> |
| <p>Institute a requirement, by local ordinance, that all new multi-family developments are to provide a minimum percentage of accessible rental units.</p> | <p>PARTNERS: Housing Committee, Council on Aging, Planning Board</p> | <input type="checkbox"/> |
| <p>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.</p> | <p>PARTNERS: Building Department, Housing Committee, Boards or Selectmen / City Council, Planning Board, Council on Aging</p> | <input type="checkbox"/> |

Housing Legislative Agenda

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| <p>Provide targeted state funding to regional planning agencies (RPA's) 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.</p> | <p>PARTNERS: State legislators, DHCD, EOHEd</p> | <input type="checkbox"/> |
| <p>Adopt new state legislation that would require area lenders to ensure their first-time buyers of rental property take a landlord workshop.</p> | <p>PARTNERS: State legislators</p> | <input type="checkbox"/> |
| <p>Enact state legislation that requires lenders to ensure their first-time home buyers take a homeownership or financial literacy course.</p> | <p>PARTNERS: State legislators</p> | <input type="checkbox"/> |
| <p>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.</p> | <p>PARTNERS: State legislators</p> | <input type="checkbox"/> |

CHECKLIST

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| <input type="checkbox"/> | Provide funding for new public housing units outside of the central cities. | PARTNERS: State legislators, Congress, DHCD, HUD, LHA commissioners |
| <input type="checkbox"/> | 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. | PARTNERS: State legislators, DHCD, HUD |
| <input type="checkbox"/> | 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. | PARTNERS: State legislators, Congress, DHCD, HUD |
| <input type="checkbox"/> | 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. | PARTNERS: State legislators, DHCD, Municipal, Foundation & Faith- Based Communities |
| <input type="checkbox"/> | Support the creation and maintenance of a regional housing database, which will improve information sharing about available income-restricted affordable housing units. | PARTNERS: State legislators, DHCD, PVPC, Western Mass Network to End Homelessness |
| <input type="checkbox"/> | Provide funding support for the Western Massachusetts Network to End Homelessness. | PARTNERS: DHCD, Municipal, Foundation & Faith- Based Communities |
| <input type="checkbox"/> | Continue funding of the HUD 202 program (supportive housing for the elderly program), which is currently slated for elimination. | PARTNERS: Congress |

Housing Checklist for State and Federal Agencies

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| <input type="checkbox"/> | Provide targeted funding to regional planning agencies (RPA's) 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. | PARTNERS: State legislators, DHCD, EOHEd, DOR |
| <input type="checkbox"/> | Hold regional workshops and trainings on affordable and fair housing topics | PARTNERS: DHCD, PVPC, Mass. Fair Housing Center |
| <input type="checkbox"/> | Establish a stronger state fair housing strategy to respond to patterns, practices and policies that have had a broad, long-term impact statewide. | PARTNERS: DHCD, MCAD, RHC, MFHC, HAPHousing |
| <input type="checkbox"/> | 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. | PARTNERS: MCAD, DHCD, HAPHousing, MFHC, HUD |

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| Increase funding for the Massachusetts Commission Against Discrimination to enforce fair housing violations. | PARTNERS: HUD | <input type="checkbox"/> |
| Develop a process for monitoring and feedback mechanisms for Analysis of Impediments, (A.I.'s) by the state and federal government. | PARTNERS: HUD, DHCD, MCAD | <input type="checkbox"/> |
| Provide technical assistance on and create incentives for developing regionalized Analysis of Impediments, (A.I.'s). | PARTNERS: HUD | <input type="checkbox"/> |
| 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. | PARTNERS: DHCD, HUD | <input type="checkbox"/> |
| 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. | PARTNERS: AGO, HUD | <input type="checkbox"/> |
| Continue state and federal financial resources to address issues surrounding abandoned properties. | PARTNERS: DHCD, AGO, HUD | <input type="checkbox"/> |
| Create a dedicated source of funds for demolition of extremely deteriorated and blighted properties to assist central cities in meeting demolition needs. | PARTNERS: DHCD, HUD | <input type="checkbox"/> |
| 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. | PARTNERS: DHCD, DPH, DOR, AGO | <input type="checkbox"/> |
| Distribute funding for housing rehabilitation and modification loan programs at the regional level for all non-entitlement communities. | PARTNERS: DHCD, HUD | <input type="checkbox"/> |
| 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. | PARTNERS: MassHousing, DHCD, DPH | <input type="checkbox"/> |
| Provide outreach and education on USEPA's Renovation, Repair and Painting (RRP) ruling and enforce violations (DPS). | PARTNERS: DPS, MCAD, HAPHousing, MFHC, Trade Associations | <input type="checkbox"/> |
| Review present lead paint safety standards and procedures in light of current research and neighboring states' experience implementing deleading regulations. | PARTNERS: DPH, State Legislators | <input type="checkbox"/> |
| Augment locally-funded code enforcement in areas that warrant additional enforcement. | PARTNERS: DPS, DHCD, DPH, AGO | <input type="checkbox"/> |
| Coordinated technical assistance on legalities and other issues associated with municipal code enforcement. | PARTNERS: DHCD, DPH, DOR, AGO, DOR | <input type="checkbox"/> |

CHECKLIST

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| <input type="checkbox"/> | Continued financial resources to local non-profits such as Massachusetts Fair Housing Council (MFHC) and HAPHousing to administer foreclosure prevention programs. | PARTNERS: DHCD, OCABR (Division of Banks), HUD |
| <input type="checkbox"/> | Continue homebuyer counseling programs and programs that assist in relocating residents who have experienced foreclosure. | PARTNERS: HUD, DHCD |
| <input type="checkbox"/> | 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. | PARTNERS: DHCD |
| <input type="checkbox"/> | Continue support for programs that assist first time homebuyers with mortgage assistance and below market mortgage products. | PARTNERS: MassHousing, MHP, DHCD, HUD |
| <input type="checkbox"/> | Funding for new public housing units outside of the central cities. | PARTNERS: DHCD, HUD, LHA commissioners |
| <input type="checkbox"/> | Continued funding for capital improvements and maintenance for public housing units that are aging, deteriorating and/or empty, but inhabitable units. | PARTNERS: DHCD, HUD, LHA commissioners |
| <input type="checkbox"/> | 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. | PARTNERS: DHCD, HUD, LHA commissioners |
| <input type="checkbox"/> | Establish smaller Fair Market Rent Areas (FMR's) that more accurately reflect the local market conditions of the Pioneer Valley region. | PARTNERS: HUD |
| <input type="checkbox"/> | Provide technical assistance and financial resources to facilitate the use of surplus Housing Authority property. | PARTNERS: DHCD, HUD |
| <input type="checkbox"/> | Review effectiveness of targeted tenant support services to identify gaps and opportunities. | PARTNERS: DHCD, HUD |
| <input type="checkbox"/> | Continue efforts to enhance the delivery of local housing authority programs and services. | PARTNERS: DHCD, LHA commissioners |
| <input type="checkbox"/> | Establish a set-aside for small-scale affordable housing projects to assist our rural and small towns with creating income-restricted affordable housing units. | PARTNERS: DHCD, HUD |
| <input type="checkbox"/> | 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. | PARTNERS: DHCD |
| <input type="checkbox"/> | 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". | PARTNERS: DHCD |

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| Maintain and increase funding for the preservation of income-restricted housing. | PARTNERS: DHCD, HUD | <input type="checkbox"/> |
| Use existing affordable housing resources to create permanent supportive housing through strategic partnerships that provide wrap-around supportive services to tenants in these units. | PARTNERS: Local housing authorities, DHCD | <input type="checkbox"/> |
| 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. | PARTNERS: DHCD, Municipal, Foundation & Faith-Based Communities | <input type="checkbox"/> |
| Financially support the creation and maintenance of a regional housing database, which will improve information sharing about available income-restricted affordable housing units. | PARTNERS: DHCD, PVPC, Western Mass Network to End Homelessness | <input type="checkbox"/> |
| Provide funding support for the Western Massachusetts Network to End Homelessness | PARTNERS: DHCD, Municipal, Foundation & Faith-Based Communities | <input type="checkbox"/> |
| Participate in sub-regional meetings to discuss senior housing needs and locations for future housing. | PARTNERS: Elected municipal officials, Councils on Aging, DHCD, EOEAA | <input type="checkbox"/> |
| 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. | PARTNERS: DHCD, EOEAA | <input type="checkbox"/> |
| 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. | PARTNERS: DPS, DHCD | <input type="checkbox"/> |
| Provide technical assistance and educational/outreach assistance on context-sensitive compact or higher density development, particularly examples for rural communities. | PARTNERS: DHCD, PVPC | <input type="checkbox"/> |
| Direct discretionary state funding to municipalities with areas designated for higher residential density or more compact development. | PARTNERS: EOHED, DOT | <input type="checkbox"/> |
| Require communities to provide evidence of the need for local environmental regulations that exceed state regulatory standards. | PARTNERS: DEP, EOHED, EOEAA | <input type="checkbox"/> |

Environment Checklist

Environment Checklist for Municipalities

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| <input type="checkbox"/> | Adopt Stormwater Utilities | PARTNERS: Municipal DPWs, Planning Boards, CEOs |
| <input type="checkbox"/> | Implement local stormwater and erosion control standards | PARTNERS: Municipal DPWs, Planning Boards |
| <input type="checkbox"/> | Implement green infrastructure zoning incentives | PARTNERS: Municipal DPWs, Planning Boards |
| <input type="checkbox"/> | Continue and expand Compact for Pioneer Valley Conservation | PARTNERS: PVPC, Conservation Commissions, Open Space Committees |
| <input type="checkbox"/> | Implement Priority Protection Areas / Critical Lands Acquisition program | PARTNERS: PVPC, Agricultural Commissions, Open Space Committees |
| <input type="checkbox"/> | Improve access to parks and open space in Environmental Justice areas | PARTNERS: PVPC, Municipalities |
| <input type="checkbox"/> | Adopt the Community Preservation Act (CPA) | PARTNERS: Conservation Commissions, Open Space Committees, Planning Boards, Historic Commissions |
| <input type="checkbox"/> | Use CPA funds to leverage state and federal funds for land conservation projects | PARTNERS: PVPC, Municipalities |
| <input type="checkbox"/> | Establish local conservation funds | PARTNERS: Conservation Commissions |
| <input type="checkbox"/> | Create and maintain active agricultural commissions | PARTNERS: Planning Boards, Conservation Commissions, Open Space Committees |

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| <p>Adopt Right to Farm bylaws</p> | <p>PARTNERS: Agricultural Commissions, Planning Boards, Conservation Commissions, Open Space Committees</p> | <input type="checkbox"/> |
| <p>Adopt river protection standards and bylaws</p> | <p>PARTNERS: Planning Boards, Conservation Commissions</p> | <input type="checkbox"/> |
| <p>Create Transfer of Development Rights zoning (TDR)</p> | <p>PARTNERS: Planning Boards, Agricultural Commissions, Conservation Commissions, Open Space Committees</p> | <input type="checkbox"/> |
| <p>Adopt scenic upland protection zoning</p> | <p>PARTNERS: Planning Boards, Commissions, Conservation Commissions, Open Space Committees</p> | <input type="checkbox"/> |
| <p>Inventory, update, assess vulnerability and protect critical infrastructure</p> | <p>PARTNERS: Municipalities</p> | <input type="checkbox"/> |
| <p>Storm-proof infrastructure</p> | <p>PARTNERS: Municipalities</p> | <input type="checkbox"/> |
| <p>Create emergency inter-municipal water connections</p> | <p>PARTNERS: Municipalities</p> | <input type="checkbox"/> |
| <p>Upgrade stream crossings, bridges and culverts</p> | <p>PARTNERS: Public Work Departments, Conservation Commissions</p> | <input type="checkbox"/> |
| <p>Improve flood zoning</p> | <p>PARTNERS: Municipal Planning Boards</p> | <input type="checkbox"/> |
| <p>Implement zoning for bike and pedestrian amenities to support an intermodal pedestrian and bicycle network</p> | <p>PARTNERS: Planning Boards, Public Works Departments, PVPC, MDOT</p> | <input type="checkbox"/> |

CHECKLIST

Environment Legislative Agenda

Support Removal of Poor Condition Dams in Stressed Basins

PARTNERS:
PVPC, MA DER,
Municipalities

Environment Checklist for State and Federal Agencies

Update FEMA flood maps

PARTNERS:
FEMA

Implement Northeast Regional Mercury Total Maximum Daily Load (TMDL)

PARTNERS:
MassDEP

Environment Checklist of Regional Strategies

Continue to build Connecticut River website
www.ConnecticutRiver.us

PARTNERS:
PVPC

Implement Bi-state CT River Corridor Management Plan

PARTNERS:
PVPC; CRCOG; FRCOG

Continue Connecticut River Bacteria Monitoring Program

PARTNERS:
PVPC; Connecticut
River Watershed
Council

Continue to address Combined Sewer Overflows

PARTNERS:
PVPC; CRCOG

Complete supply and demand forecasts for public water supplies

PARTNERS:
PVPC

Implement bi-state approach to water supply protection in
Westfield and Farmington River Watersheds

PARTNERS:
PVPC; CRCOG

Conduct subsistence fishing survey and fish consumption advisory
outreach

PARTNERS:
PVPC

Conduct bi-state trail linkages study

PARTNERS:
PVPC

Expand Greenway system of trails and parks

PARTNERS:
PVPC

CHECKLIST

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Support design and implementation of Connecticut River Paddlers Trail

PARTNERS:
VT River Conservancy,
AMC, TPL

Support Pioneer Valley Regional Trails Coalition and Connecticut River Paddlers Trail

PARTNERS:
PVPC

Green Infrastructure Checklist

Green Infrastructure Checklist for Municipalities

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| <input type="checkbox"/> | Hold regular municipal cross departmental roundtable discussions to encourage the integration of green infrastructure in all projects involving stormwater management | PARTNERS: Stormwater Managers and DPW Directors |
| <input type="checkbox"/> | Explore corporate sponsorship programs for green infrastructure | PARTNERS: Stormwater Managers and DPW Directors |
| <input type="checkbox"/> | Seek funds for pilot/demonstration projects that transform “gray” streets into “green” streets | PARTNERS: Stormwater Managers and DPW Directors |
| <input type="checkbox"/> | Work with PVPC to design and install interpretive signage at key existing green infrastructure facilities in the region | PARTNERS: PVPC, Municipalities |
| <input type="checkbox"/> | Work with PVPC to assess existing local policies and regulations that impact green infrastructure and make recommendations for improvements | PARTNERS: PVPC, Municipalities |
| <input type="checkbox"/> | Amend Subdivision Regulations and road building practices to better reduce total impervious area to promote narrower roads and to manage stormwater runoff from roads | PARTNERS: DPW and Emergency Response Directors with Planning Board |
| <input type="checkbox"/> | Create a detailed municipal Green Infrastructure Opportunities Map illustrating prime locations for green infrastructure projects | PARTNERS: DPW Director with Stormwater Manager and other Project Managers throughout the Municipality |
| <input type="checkbox"/> | Adopt municipal tree bylaws/ordinances or other regulations that minimize removal of large trees and encourage planting of new trees | PARTNERS: Tree Wardens with help from PVPC |
| <input type="checkbox"/> | Adopt municipal stormwater regulations that promote green infrastructure on smaller sites less than one acre and redevelopment sites | PARTNERS: DPW Director, Stormwater Manager, and Planning Board with help from PVPC |

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| 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 | PARTNERS: DPW Director, Stormwater Manager, and Planning Board with help from PVPC | <input type="checkbox"/> |
| Establish a structured decision making process for incorporating green infrastructure practices into all municipal projects | PARTNERS: DPW Director, Stormwater Manager, and Planning Board with help from PVPC | <input type="checkbox"/> |
| Track the condition of stormwater infrastructure, possible locations for green infrastructure retrofits, and other valuable decision support information | PARTNERS: DPW Director and Stormwater Manager | <input type="checkbox"/> |
| Adopt standards to guide maintenance and inspection activities. Develop adequate enforcement measures for green infrastructure maintenance | PARTNERS: PVPC, Municipalities | <input type="checkbox"/> |
| Require green infrastructure installations to have a maintenance plan and budget. Require performance and maintenance bonds for new privately-owned green infrastructure | PARTNERS: PVPC, Municipalities | <input type="checkbox"/> |
| Establish a regular inspection schedule for all green infrastructure | PARTNERS: PVPC, Municipalities | <input type="checkbox"/> |
| Maintain a database of public and privately-owned green infrastructure | PARTNERS: PVPC, Municipalities | <input type="checkbox"/> |
| Ensure that municipal employees have adequate training regarding maintenance and inspection techniques | PARTNERS: PVPC, Municipalities | <input type="checkbox"/> |

Green Infrastructure Legislative Agenda

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| 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 | PARTNERS: PVPC, State agencies | <input type="checkbox"/> |
| Support funding through Environmental Bond Bill for CSO abatement work that includes green infrastructure projects | PARTNERS: PVPC, State Legislators | <input type="checkbox"/> |
| Promote changes to the Clean Water State Revolving Fund so that projects that include green infrastructure are more actively supported | PARTNERS: PVPC, Mass DEP, State Legislators | <input type="checkbox"/> |

State and Federal Actions

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| <input type="checkbox"/> | Provide Supplemental Environmental Project funding for green infrastructure projects | PARTNERS: Mass DEP with EPA |
| <input type="checkbox"/> | Ensure that all funding of projects involving stormwater management prioritize use of green infrastructure strategies | PARTNERS: Massachusetts Department of Housing and Community Development, U.S. Housing and Urban Development/ CDBG funding, EPA, MassDOT, FHWA |
| <input type="checkbox"/> | Promote citizen-built rain gardens and related projects | PARTNERS: EPA with PVPC |
| <input type="checkbox"/> | 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 | PARTNERS: Mass DEP, PVPC, EPA |
| <input type="checkbox"/> | Provide technical assistance to develop policies and regulations that promote green infrastructure | PARTNERS: EPA with PVPC |
| <input type="checkbox"/> | Bring together impervious cover reduction requirements in proposed MS4 stormwater permit with impervious cover reductions that better target improved water quality | PARTNERS: EPA with PVPC |
| <input type="checkbox"/> | Ensure that transportation project funding gives preference to projects that incorporate green infrastructure | PARTNERS: MassDOT |
| <input type="checkbox"/> | Advance green infrastructure practices within MassWorks funded projects by developing criteria that give priority to such projects | PARTNERS: MassWorks |
| <input type="checkbox"/> | Identify opportunities within state tax code to provide credits for green infrastructure | PARTNERS: Mass Department of Revenue, PVPC, Municipalities |
| <input type="checkbox"/> | Overcome barriers to rainwater harvesting - Promote state plumbing code changes to include requirements specific to rainwater harvesting. | PARTNERS: MassDEP |
| <input type="checkbox"/> | Coordinate with MassDOT's Impaired Waters Program to reduce roadway runoff. | PARTNERS: MassDOT, PVPC, Municipalities |

Green Infrastructure Checklist of Regional Actions

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| 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.” | PARTNERS: PVPC with interested municipalities | <input type="checkbox"/> |
| Incorporate green infrastructure practices into highway, road and other publicly funded projects across the region | PARTNERS: PVPC | <input type="checkbox"/> |
| Develop a green infrastructure educational and funding tool kit which identifies incentives for green infrastructure | PARTNERS: PVPC with interested municipalities | <input type="checkbox"/> |
| Design and install interpretive signage at key existing green infrastructure facilities in the region | PARTNERS: PVPC with interested property owners | <input type="checkbox"/> |
| Establish annual green infrastructure awards program | PARTNERS: PVPC | <input type="checkbox"/> |
| Work with existing education programs to further develop programming about green infrastructure | PARTNERS: PVPC | <input type="checkbox"/> |
| Establish a regional agreement to promote a common goals and regulations for green infrastructure | PARTNERS: PVPC with interested municipalities | <input type="checkbox"/> |
| Provide guidance for downspout disconnect compliance programs | PARTNERS: PVPC, and interested partners in South Hadley, Holyoke, and Springfield | <input type="checkbox"/> |

Sustainable Transportation Checklist

Transportation Checklist for Municipalities

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

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

Transportation Legislative Agenda

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| Designate wild and scenic corridors along highways that abut rivers and streams of historic and natural significance. | PARTNERS: | <input type="checkbox"/> |
| Encourage local fleets to use clean fuel alternatives. | PARTNERS: | <input type="checkbox"/> |

Transportation State and Federal Agencies

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| Fund Bikeway/Walkway projects | PARTNERS: FHWA/MassDOT | <input type="checkbox"/> |
| Develop a comprehensive Commuter Rail network. | PARTNERS: MassDOT | <input type="checkbox"/> |
| Identify and mitigate vertical clearance issues at underpasses. | PARTNERS: MassDOT | <input type="checkbox"/> |
| Include ITS equipment as part of transit and roadway improvement projects. | PARTNERS: MassDOT | <input type="checkbox"/> |
| Support ITS projects to foster deployment of ITS technology. | PARTNERS: MassDOT | <input type="checkbox"/> |
| Implement real-time passenger and travel information systems. | PARTNERS: MassDOT | <input type="checkbox"/> |

CHECKLIST

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| <input type="checkbox"/> | Divert highway runoff to stormwater Best Management Practices, such as rain gardens and dry swales. | PARTNERS: MassDOT |
| <input type="checkbox"/> | Restore or maintain connected habitats that allow for movement of fish, water, and wildlife. | PARTNERS: DCR |
| <input type="checkbox"/> | Expand use of permeable pavements on sidewalks, paths, car-parks, and minor roads. | PARTNERS: MassDOT |
| <input type="checkbox"/> | Encourage use of materials such as pervious concrete, porous asphalt, paving stone, brick, tile, and gravel where appropriate. | PARTNERS: MassDOT |
| <input type="checkbox"/> | Promote energy efficient travel modes. | PARTNERS: MassRides |
| <input type="checkbox"/> | Implement the Regional Hazard Mitigation Plan. | PARTNERS: MEMA |
| <input type="checkbox"/> | Invest in the repair and maintenance of existing transportation infrastructure. | PARTNERS: MassDOT |
| <input type="checkbox"/> | Work with major employers to develop incentives to decrease single occupant vehicle use. | PARTNERS: MassRides |
| <input type="checkbox"/> | Mitigate the impacts of roadway salt and chemical usage during snow season. | PARTNERS: MassDOT |
| <input type="checkbox"/> | Support urban forestry initiatives. | PARTNERS: DCR |
| <input type="checkbox"/> | Construct roads without curbing where practical to enable sheet flow. | PARTNERS: MassDOT |
| <input type="checkbox"/> | Screen lighting on highways. | PARTNERS: MassDOT |
| <input type="checkbox"/> | Replace under-sized culverts and stream crossings | PARTNERS: FEMA/MassDOT |
| <input type="checkbox"/> | Provide accommodations for pedestrians, transit users, and bicyclists in roadway and bridge design and the maintenance of existing facilities. | PARTNERS: MassDOT |
| <input type="checkbox"/> | Implement communications and ITS technologies to improve public transit safety, and security. | PARTNERS: MassDOT |
| <input type="checkbox"/> | Work with appropriate agencies to improve the transmittal of bike and pedestrian crashes to local police departments. | PARTNERS: MassDOT |
| <input type="checkbox"/> | Promote the Safe Routes to School program | PARTNERS: MassDOT |

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| Develop appropriate educational resources to promote safety for drivers, bicyclists, transit users, and pedestrians. | Lead Group(s): MassDOT | <input type="checkbox"/> |
| Maintain equity in providing transportation services and access throughout the region. | Lead Group(s): FHWA/FTA/MassDOT | <input type="checkbox"/> |

Regional Actions

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

Brownfields Checklist

Brownfield Checklist for Municipalities

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| <input type="checkbox"/> | Conduct Site Assessments as recommended in Brownfields Plan. | PARTNERS: Municipalities |
| <input type="checkbox"/> | Complete Site Cleanups as recommended in the Brownfields Plan. | PARTNERS: Municipalities |
| <input type="checkbox"/> | Coordinate Site Redevelopment activities, as recommended in the Brownfields Plan. | PARTNERS: Municipalities |

Brownfield Checklist for State and Federal Agencies

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| <input type="checkbox"/> | Continued funding for petroleum and hazardous material site assessments and cleanup | PARTNERS: EPA, MassDevelopment |
|--------------------------|---|--------------------------------------|

Brownfield Checklist for Regional Action

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| <input type="checkbox"/> | Petroleum and hazardous material site assessments under PVPC's EPA Brownfield Site Assessment Grant | PARTNERS: PVPC |
| <input type="checkbox"/> | Continued operation of PVPC's Brownfield Revolving Loan Fund (RLF) | PARTNERS: PVPC |
| <input type="checkbox"/> | Continue quarterly meetings of the Regional Brownfield Advisory Committee | PARTNERS: PVPC |
| <input type="checkbox"/> | Advance Transit Oriented Development (TOD) in urban centers to support redevelopment | PARTNERS: PVPC |

Land Use Checklist

Land Use Checklist for Municipalities

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| Encourage Transit Oriented Developments (TODs) | PARTNERS: Planning Boards | <input type="checkbox"/> |
| Promote compact mixed use village centers | PARTNERS: Planning Boards | <input type="checkbox"/> |
| Develop incentives for cluster development | PARTNERS: Planning Boards | <input type="checkbox"/> |
| Support adaptive reuse and infill development | PARTNERS: Planning Boards, Chief Elected Officials, Economic Development officials | <input type="checkbox"/> |
| Create Business Improvement Districts (BIDs) | PARTNERS: Downtown businesses | <input type="checkbox"/> |
| Create Tax Incentive Programs (TIFs) and District Improvement Financing (DIFs) | PARTNERS: Municipalities | <input type="checkbox"/> |
| Redevelop Brownfields | PARTNERS: Municipalities | <input type="checkbox"/> |
| Adopt accessory apartment zoning | PARTNERS: Planning Boards, Housing Authorities, Housing Partnerships, Chief Elected Officials | <input type="checkbox"/> |
| Create inclusionary zoning | PARTNERS: Planning Boards, Housing Authorities | <input type="checkbox"/> |
| Adopt Smart Growth Zoning Districts (Chapter 40R) | PARTNERS: Planning Boards, Housing Authorities | <input type="checkbox"/> |
| Preserve farmlands with Transfer of Development Rights zoning | PARTNERS: Planning Boards, Agricultural Commissions | <input type="checkbox"/> |
| Adopt river protection overlay districts | PARTNERS: Planning Boards, Open Space Committees, CPA Committees, Conservation Commissions | <input type="checkbox"/> |

CHECKLIST

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| <input type="checkbox"/> | Adopt the Community Preservation Act (CPA) | PARTNERS: Open Space Committees, CPA Committees, Conservation Commissions, Housing Committees, Historic Commissions |
| <input type="checkbox"/> | Establish scenic upland protection zoning | PARTNERS: Planning Boards, Conservation Commissions |
| <input type="checkbox"/> | Create Critical Lands Acquisition Programs and funds | PARTNERS: Open Space Committees, Conservation Commissions |
| <input type="checkbox"/> | Create zoning for bike and pedestrian amenities | PARTNERS: Planning Boards, Public Works Departments, PVPC, MDOT |
| <input type="checkbox"/> | Adopt Low Impact Development (LID) standards | PARTNERS: Planning Boards, Conservation Commissions |
| <input type="checkbox"/> | Adopt stormwater and erosion control standards | PARTNERS: Planning Boards, Conservation Commissions |
| <input type="checkbox"/> | Create green infrastructure zoning incentives | PARTNERS: Planning Boards |
| <input type="checkbox"/> | Establish de-facto Urban Growth Boundaries | PARTNERS: Planning Boards, Public Works Departments |
| <input type="checkbox"/> | Create stormwater utilities | PARTNERS: Municipalities |
| <input type="checkbox"/> | Adopt Commercial Development Performance Standards | PARTNERS: Planning Boards, Public Works Departments |
| <input type="checkbox"/> | Develop comprehensive municipal zoning overhaul and update | PARTNERS: Planning Boards |
| <input type="checkbox"/> | Adopt PVPC's Planning Board Assistance Program | PARTNERS: Planning Boards |

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| Create zoning for climate change best practices | PARTNERS: Planning Boards | <input type="checkbox"/> |
| Promote improved transportation-land use connections | PARTNERS: Municipalities | <input type="checkbox"/> |
| Identify zoning barriers to equitable development | PARTNERS: Municipalities, businesses, public utilities | <input type="checkbox"/> |
| Conduct Brownfields assessment and remediation | PARTNERS: PVPC, state agencies, municipalities | <input type="checkbox"/> |
| Identify zoning barriers to equitable development | PARTNERS: Planning boards | <input type="checkbox"/> |
| Encourage zoning for infill development and job creation | PARTNERS: Planning boards, economic development agencies, community based organizations | <input type="checkbox"/> |
| Encourage a mix of market-rate and affordable housing | PARTNERS: Local legislative bodies, elected officials, municipal housing agencies | <input type="checkbox"/> |

Land Use Legislative Agenda

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|---|---|--------------------------|
| Support state Zoning Reform legislation | PARTNERS: State Legislature, Municipal Planning Boards | <input type="checkbox"/> |
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CHECKLIST

Land Use Checklist for State and Federal Agencies

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|--------------------------|---|--|
| <input type="checkbox"/> | Support bikeway planning and design | Lead Group(s): Municipalities , PVPC, MDOT |
| <input type="checkbox"/> | Promote sustainable transportation project criteria | Lead Group(s): PVPC, MDOT, MPO |
| <input type="checkbox"/> | Encourage Livability programs | Lead Group(s): PVPC, MDOT, MPO |

Land Use Checklist of Regional Actions

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|--------------------------|---|--|
| <input type="checkbox"/> | Promote regional solutions to growth problems | Lead Group(s): Chief Elected Officials |
| <input type="checkbox"/> | Create regional funding for TODs and TOD investment funds | Lead Group(s): Municipalities, PVPC, investment experts |
| <input type="checkbox"/> | Protect bi-state Watersheds for drinking water supplies | Lead Group(s): PVPC, Planning Boards, Water Departments, CROG |
| <input type="checkbox"/> | Support bi-state farmland preservation | Lead Group(s): PVPC, CROG, Municipalities |
| <input type="checkbox"/> | Adopt TOD zoning for the new commuter rail corridor | Lead Group(s): Planning Boards, PVPC |



Pioneer Valley Planning Commission
60 Congress Street - Floor 1
Springfield, MA 01104-3419

413-781-6045
PVPC.org