1. ACTIONABLE STRATEGIES

1.1 Introduction and Background

The construction of the Massachusetts Green High-Performance Computing Center (www.mghpcc.org) has commenced with site remediation largely completed and demolition well underway. MGHPCC represents a unique collaboration of world-class universities, and public and private partners that will provide unparalleled computing power for University of Massachusetts, M.I.T., Boston University, Harvard University, and Northeastern University. It is a major investment in downtown Holyoke and attracted $5M of investment from Cisco and EMC.

At the request of the Patrick Administration, a collaborative regional partnership to leverage economic growth from the creation of MGHPCC is underway in the form of the Holyoke Innovation District Task Force (www.innovateholyoke.com). The ultimate goals of this initiative extend well-beyond the MGHPCC facility. In fact, this initiative can be viewed as an example of the state's Gateway City economic strategy to boost economic opportunities in economically distressed, formerly industrial cities in the Commonwealth outside of the core Boston metropolitan area. The hypothesis is that this leading-edge facility can become a catalytic economic development project for the City of Holyoke and broader region leading to additional industry opportunities and ultimately job opportunities and economic growth.

While there is general consensus that larger economic impacts are possible, it is not certain and key questions need to be answered such as:

a) who "*they*" are – the industries that are most likely to take advantage of the assets in Holyoke and the Pioneer Valley (e.g., MGHPCC, low-cost renewable energy, access to academic institutions);

b) where are "*they*" likely to locate – examining the spatial economic opportunities within the Innovation District, the entire City of Holyoke, and the Pioneer Valley; and

c) what related investments, policies, and strategies are needed to achieve the economic potential in Holyoke and the Pioneer Valley?

Key outcomes of this innovation-based economic development strategy are to:

- Identify the economic development opportunities that can be achieved by leveraging the benefits of the MGHPCC and numerous other local and regional assets and new initiatives; and
- Develop an action-oriented economic development strategy for the City of Holyoke and the Pioneer Valley region to achieve the economic potential of these initiatives and opportunities.

1.1.1 Goals and Objectives of the Innovation-Based Economic Development Strategy

This document presents a draft innovation-based economic development strategy to enhance job opportunities and long-term economic viability for Holyoke's Innovation District and the entire Pioneer Valley region. The Innovation District is defined as the Center City area of Holyoke (consistent with the Urban Renewal Plan) and the Pioneer Valley consists of Hampden, Hampshire, and Franklin counties in Massachusetts (with labor market and transportation linkages into Connecticut). The strategy emphasizes mechanisms to maximize the potential for the MGHPCC to be a catalyst for economic development. More complete background information, including the baseline data analysis and SWOT

analysis (strengths, weaknesses, opportunities and threats) can be found online at: http://www.innovateholyoke.com/# and http://www.innovateholyoke.com/meetings-and-events/.

To guide this initiative, the Innovation District Task Force developed a statement of intent:

We intend to identify and activate assets for jobs, enterprises, entrepreneurs, and investment by:

- *Testing* ideas and assumptions every step of the way with the people who make the real decisions about jobs and investment;
- Making honest, data-driven decisions about *the most meaningful opportunities* for our community;
- Producing and continuously updating an *Innovation District Strategy* with our expectations for growth and redevelopment, drawing on our strengths and heritage, and linking to enterprises and jobs of the future; and
- Leveraging the full extent of Pioneer Valley regional assets and connectivity with state and federal resources, and doing our part in transforming the reputation and future of our region.

As developed with the Innovation District Task Force, the innovation-based strategy is focused on achieving three core economic development goals:

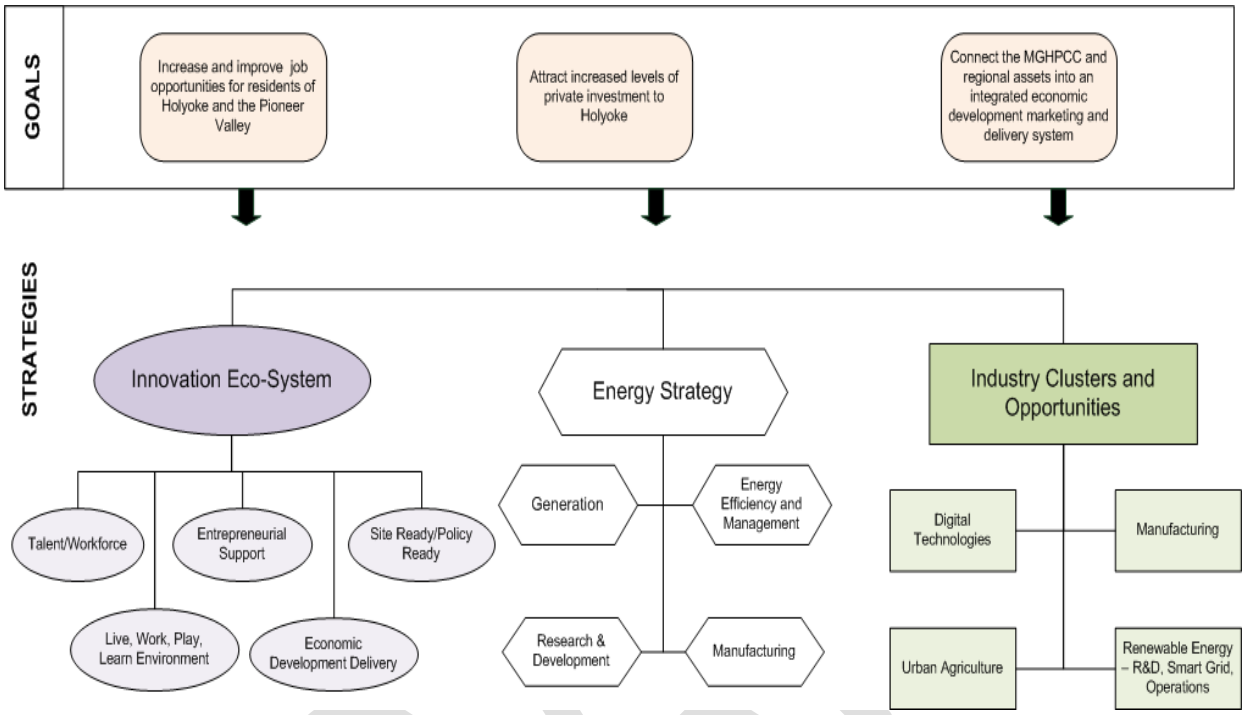
1. Increase and improve job opportunities for the residents of Holyoke and the Pioneer Valley
2. Attract increased levels of private investment to Holyoke
3. Successfully connect the MGHPCC and regional economic assets into a compelling and integrated economic development marketing and delivery system

These goals will be achieved by:

1. Identifying and targeting a portfolio of industry clusters for business start-up, expansion, retention, and attraction opportunities.
2. Leveraging the presence of the MGHPCC and the five university Research Consortium to promote Holyoke and the Pioneer Valley for research & development and market-based opportunities.
3. Maintaining Holyoke's low-cost, renewable energy-based competitive advantage by expanding renewable energy generation and R&D-based innovations.
4. Becoming a global leader in renewable energy production, energy efficiency, and R&D initiatives to enhance the management and operations of energy resources.
5. Providing a desirable walkable urban environment for live, work, play, and learning opportunities that supports economic growth.
6. Leveraging and connecting the region's educational assets to create a world-class, business-focused talent delivery system that connects residents with jobs and with lifelong learning to provide "career ladders" for residents.
7. Marketing regional transportation and fiber optic assets to attract businesses and support economic growth.
8. Developing compelling marketing information and an integrated local/regional/state economic development delivery system.
9. Leveraging the diversity of the community to create an exciting and supportive environment in which to start and grow a business.

The figure below depicts the overall strategy development process with three broad categories of strategy development: a) innovation eco-system; b) energy strategy; and c) industry cluster opportunities.

Framework for Innovation-Based Economic Development Strategy for Holyoke and the Pioneer Valley



Based on significant local, regional, and state-level stakeholder input, third-party research, the SWOT analysis and best practices in economic development strategic planning, eight detailed strategies were developed and prioritized for implementation. The eight strategies include four economic development eco-system strategies and four industry cluster strategies:

Economic development eco-system strategies: 1) entrepreneurial eco-system and innovation lab; 2) talent delivery and workforce; 3) site ready/policy ready strategy; and 4) economic development delivery system.

Industry cluster strategies: 1) digital technology and IT companies; 2) clean energy innovation and development; 3) manufacturing industry; and 4) urban agriculture.

1.2 Holyoke as Test Bed and Laboratory for Entrepreneurial Eco-system

1.2.1 Mission / Objective

A core element of creating an innovation-based economic development strategy for Holyoke and the Pioneer Valley is to provide an optimum environment for entrepreneurship, start-up businesses, and innovative research, solutions, and product development. To become a leading center of innovation-based economic development, we recommend that the Holyoke Innovation District become a laboratory for innovation and entrepreneurship. The laboratory concept would includes holistic business environment and amenity improvements as well as specific entrepreneurial support activities and packaged resources focused on the identified target industry clusters of: a) clean energy innovation; b) digital technologies and IT; c) manufacturing; and d) urban agriculture. The assets at and in proximity of the MGHPCC can thus be a demonstration market and policy lab to provide access to an integrated set of entrepreneurial resources and providers for the region.

1.2.2 Opportunity Lead

Innovation District Task Force / TBD

1.2.3 Collaborative Partners

Regional businesses and entrepreneurs
City of Holyoke
Holyoke Works
Massachusetts Office of Small Business and Entrepreneurship
Greater Holyoke Chamber of Commerce
Western Massachusetts Enterprise Fund, Inc.
Western Massachusetts Regional Small Business Development Center (SBDC)
MGHPCC and University Consortium
CareerPoint
MassDevelopment – Emerging Technology Fund
Kittredge Center for Business and Workforce Development at HCC
Community colleges, four-year colleges, and universities with: centers of excellence, schools, departments, grants,
and projects dedicated to supply chain analysis and development, entrepreneurship, small business development and diversification, internships, and internship and community volunteerism programs.

1.2.4 Situation Assessment

A key part of the innovation-based economic development strategy is improving opportunities for business start-ups, entrepreneurs, and small business growth. Recent, private sector-led initiatives such as Valley Venture Mentors are starting to provide a more active entrepreneurial environment for the region, including hands-on business plan mentoring, networking, access to angel investors, and participation in regional and statewide entrepreneurship competitions. A de facto small business model is comprised of the SBDC Network, MOBD, and a variety of local, regional and state organizations.

The Innovation District provides an opportunity to focus resources, raise awareness, build on existing market-based projects (e.g., Open Square), provide lower-cost space with expedited permitting, and tie into regional resources such as the colleges and research institutes. And Holyoke's revitalizing urban environment with walkable connections is attractive to a mix of creative workers. Rather than creating new organizations or programs, the focus should be on optimizing and integrating existing assets with

the Innovation District providing a mix of low-cost, flexible use spaces for office, R&D, and product development.

The Holyoke Innovation District, starting with the MGHPCC, could thus be a policy and customer service incubator with on-site collaborative investment in an office which uses the Innovation District as its research lab. One of the noted challenges by multiple stakeholders is not a lack of effort but rather: a) an attractive environment for business start-up and innovation with desired amenities; and b) lack of "one-stop-shopping" to access existing resources and programs. For success, an entrepreneurial strategy must also include significant private sector, business-led involvement along with creative leaders from the higher education and arts communities.

While other strategies point to the importance of regional capacity, entrepreneurial eco-system development is best addressed and piloted in one place, where the attention of the Commonwealth, region, and City of Holyoke is already focused. Because there is no consensus model for entrepreneurial resource deployment in the Pioneer Valley, it may be best developed for one of its most distressed urban markets.

One example opportunity is to develop a tracking and assistance system to follow business engagement in the MGHPCC Project or projects to follow as there could be new designs, products and technologies from firms that Holyoke can help nurture as a new business location.

1.2.5 Metrics

New businesses operating in or established in the Innovation District

Private investment value of start-up businesses in Holyoke served by entrepreneurial innovation lab

Outstanding case studies and testimonials, relevant to target industry clusters and their supply chains, and participation in a renewable energy/clean tech ecosystem

Small Business Innovation Research (SBIR) awards for the region

1.2.6 Milestones

Local, regional, statewide commitment to laboratory concept with a key milestone being to work with stakeholders to define the activities for the innovation and entrepreneurship lab.

City of Holyoke calls for inventory of all entrepreneurship and business development assets available to the Innovation District.

Determination of seed funding and sustainable funding model to develop and operate the Innovative Entrepreneurship Lab. Potentially including state/federal grant with local matching dollars.

Transform list-oriented approach to entrepreneurial and business development resources, to a consultative clearing house that is linked to labor market information (LMI) and the regional portal for economic development.

1.2.7 Action Plan Narrative (Action Steps)

The goal is to encourage business innovation by optimizing existing resources and focusing on innovative companies in targeted industries (digital tech/IT, clean energy, manufacturing, urban agriculture). The Innovation District and the lab thus becomes a new entrepreneurial asset with a small dedicated staff

connecting to a virtual network of existing regional programs, and leveraging the low-cost space in the Innovation District. There are two primary initiatives to focus on for a successful innovation and entrepreneurship lab in Holyoke that can serve the entire region: 1) Innovation and Entrepreneurship Lab; and 2) Innovation Eco-System Amenities.

Innovation Entrepreneurship Lab

Locate at an Innovation District site (i.e., physical location with staff but not an incubator/real estate site). City of Holyoke and Innovation District Task Force calls for resources – existing assets include Enterprise Center in Springfield, Valley Venture Mentors, etc. Collaborative Partners, with significant business/entrepreneur participation, convene as an entrepreneurial team to develop a business plan, and define the key products and services that need to be provided and budgeted for the lab (see below for draft list of roles). This team will: a) set a clear strategic direction for innovation program and policy priorities; b) execute an integrated set of program activities; and b) develop new activities designed to spur entrepreneurship and innovation similar to MassChallenge or the proposed Maker College.

Potential Roles for an Innovation Entrepreneurship Lab:

1. Ombudsman on breakthroughs, products, design and construction associated with MGHPCC of market and business impact
2. Re-staging and applying existing small business and entrepreneurial tools and resources to the Innovation District
3. CRM for emerging businesses in District/Interventions/Success Stories
4. Tracking and communication of best practices, efficiencies to the regional and state level to the benefit of other communities
5. Scanning and testing of new or emerging techniques and resources such as Economic Gardening
6. Ensuring supply chain analysis and intervention takes place in the District relative to the needs of target industry clusters
7. A center for applied learning and internships for the great higher education brands of the Pioneer Valley
8. An HG&E center for a green/renewable certification for resident companies of all scales in the District
9. A virtual node for sharing and best practices across the Pioneer Valley
10. A destination and resource in Five Colleges volunteerism in the District
11. A flexible classroom

Innovation Eco-System Amenities

Just as important to specific entrepreneurial support activities is creating an environment in the Innovation District that is attractive to small, technology-led, start-up businesses. Connected to the Urban Renewal Plan and Site Ready strategy, particular attention should be focused on creating or improving:

- Diversity of space – adding more low-cost, but modern, well-designed options for young companies with high priority focused on rehabbing existing buildings in proximity to the MGHPCC and train station sites.

- Flexible workspace – adding at least one co-work, no-lease flexible shared use workspace to attract more self-employed and other entrepreneurs to the Innovation District (example in Boston: http://workbarboston.com/).
- Food/drink options with wireless– more options for coffee, breakfast, lunch after work drinks with accessible, high-speed wireless (Slice Café in Open Square may be the only example of this in the Innovation District).
- Basic beautification – simple improvements in the arts/innovation district for sidewalks, streetscape, fencing, and other infrastructure maintenance.

1.2.8 Barriers to Success

- The relative lack of access to angel investment and venture capital funding in the Pioneer Valley is symptomatic of lower rates of new business formation, innovative start-ups and entrepreneurial risk taking. This issue is even more pronounced in Holyoke – linking business formation and access to capital is a critical element for a successful Entrepreneurial Lab.
- Defining the entrepreneurship lab with an ambitious but realistic set of services of value to innovative start-up companies
- Developing an entrepreneurship lab with the "right" mix of private, public and non-profit participation and funding
- Contractual, bid, and site sensitivities of future projects
- Incubator and localized business development assistance "turf" issues
- Flexibility of municipal and state policies
- Slow recovery from recession/limited access to capital and lines of credit

1.3 Outstanding Talent Delivery and Educational Assets

1.3.1 Mission / Objective

A deep, skilled workforce is the most important factor for economic development and the region should work together to elevate an integrated/seamless workforce delivery system as the top priority for the Pioneer Valley's reputation and competitiveness. Leverage the region's global higher education brands as a critical part of its talent asset base and regional reputation, including active participation from senior leaders at each organization. Engage all sectors of education and expand into full education, training and talent supply chain over time. Ensure that the Regional Employment Boards (REBs) of Hampden and Hampshire/Franklin counties are powerful, utilized resources to implement a "demand driven" talent agenda to meet the needs of existing and new business.

1.3.2 Opportunity Leads

Western Mass EDC
Holyoke Community College

1.3.3 Collaborative Partners

All Centers of Higher Education in the Pioneer Valley
Five Colleges, Inc.
Pioneer Valley Planning Commission (PVPC)
All School Districts in the Pioneer Valley [Year 2]
REBs of Hampden County and Hampshire/Franklin Counties

1.3.4 Situation Assessment

The Pioneer Valley is home to some of the most recognizable, innovative brands in higher education. Many draw faculty, students, and staff from global markets; and their boards include business leaders, philanthropists, policy makers, and champions of research and community development. Despite their important roles on the New England, national and global stages, their assets (land and buildings, faculty, programs, IP, and other infrastructure) reside and/or are managed from the Pioneer Valley. The Plan for Progress by PVPC highlights the importance of higher education to economic development in the region and includes workforce and education as key strategic components of enhancing economic opportunities.

In other regions, senior leaders from higher education are playing an intimate and integral role AS A TEAM in building relationships that lead to capital investment, industry expansion, new business location, and diversification into new markets and products. Senior leaders desire a shared platform for learning and intervention relative to the economic vitality of the region. Other regions call on these types of teams at the right time and under the right conditions to engage in industry location decisions when the case for talent matters most for new jobs. These leaders have met in recent months to discuss the opportunity and require: a) a simple approach to staying abreast of regional issues and successes; b) a clear pathway to leverage their organization's discrete/unique assets; c) an understanding of the best use of their on-demand roles in meeting with decision makers such as peer-CEOs in relocating or expanding businesses, site locators, and real estate and HR executives. As an example of leveraging unique assets, The Five Colleges have already taken steps to set high expectations and return on investment for student and faculty engagement in the communities, schools and economies of the Pioneer Valley.

The REBs of Hampden and Hampshire/Franklin counties provide centers of excellence in workforce strategy and labor market information and, therefore, serve as a resource to organizations in the talent

supply network and decision makers in the retention, expansion and location process. Companies in target industry clusters, such as digital technologies, tend to seek strong regional commitments to talent supply. They may require rapid response training when making a location or expansion decision and they want to see faithful commitments to improvements in pre-K – 12 in the long term, especially in science, technology, engineering and math (STEM) course work.

Pre-K -12 performance in Holyoke and some of the Pioneer Valley's cities and towns lags Massachusetts and the nation due to a combination of educational and socioeconomic factors. Without tangible commitments to region wide reform and leaps in its most distressed communities, other elements of the Holyoke Innovation District Task Force's strategy will not meet their full potential. This is particularly relevant because business expansion and site location decision makers tend to focus on regional pre-K – 12 performance data and test scores and therefore, great regions address long-term pre-K-12 reform and performance as if they were a single district. Regional initiatives to improve attainment and STEM indicators, and access to college with clear signs of improvement can thus become signals of a business-friendly market. Massachusetts already has significant educational achievement and test sore data resources available at the school and district levels, meaning that the Pioneer Valley should be the best source for providing aggregate (regional) data.

Holyoke Community College and Springfield Technical Community College have recently entered into the Training & Workforce Options (TWO) relationship for a collaboration called "Two Community Colleges Working For You." This will require region wide support as they seek to engage in skills upgrades for the incumbent workforce (current workers) of the Pioneer Valley, and point curriculum towards the most promising degrees, certifications, and licensures related to target industry clusters and net new jobs targets. This collaborative recognizes the need for career pathways support in pre-K – 12, specifically alignments and seamless articulation with Dean Tech and Holyoke High School. Participation in the pre-K – 16 movement, especially measurable improvements in producing credentialing and certifications focused on the most promising career pathways and industries, is a signal of a motivated, "demand driven" region. The following items are becoming credible performance indicators/marketing values for regions: STEM initiatives, seamless articulation programs for post-secondary education and training, industry certifications, and satisfied regional businesses that have employed locally trained workers. Career pathway models are maturing at the national level in industries that matter most to the region, including manufacturing.

1.3.5 Metrics

Regional web site portal for economic development recognized and utilized as the source for data and relevant information on talent and workforce performance by locating and expanding enterprises

Talent and Educational Assets Senior Leadership Team with documented record of impact and influence on economic develpoment

Region recognized as national best practice in "demand driven" results in certifications, licensure and career paths with metrics related to skills upgrades for currently employed workers, career pathways from high schools and employer satisfaction with workforce quality. Region wide support of TWO collaborative distinguishes the Holyoke Community College and Springfield Technical Community College and results in leaps in skills upgrades for currently employed (incumbent) workers, career pathways alignment in high schools, and employer satisfaction with workforce quality.

Educational attainment for region – drop-out rates, high school graduation, bachelor's degree or higher

1.3.6 Milestones

Launch Senior Leadership Team for Talent and Education Assets for the Pioneer Valley with a clear, simple mission. Develop protocol for Talent and Education Asset Team learning and on-demand engagement including peer-to-peer communications with site location/expansion decision makers [Year 1]

Develop and position comprehensive messages about team formation and role – Target industries, policy makers, site locators, and trade media [Year 1]

Elevate talent and education assets and their performance in regional portal. Bi-annual de-briefs, including the following agenda items: impact on location, growth, and site decisions; impact of marketing and editorial positioning. [Year 2]

Map the portfolio of investments and projects from higher education to region and local communities; and treat as one diversified, measurable, marketable coalition project. These items include: site, district, and regional education reform; education policy; STEM; community development grants and partnerships; and entrepreneurship [Year 2]

Career pathways and certification/AA/AS data performance metrics tracked with focus on Springfield Technical Community College (STCC) and Holyoke Community College (HCC) [Baseline Year 3]

1.3.7 Action Plan Narrative (Action Steps)

1. The Western Mass EDC will support the formation of a senior leadership team for talent and education assets and leverage their power immediately in marketing and relationships with peer CEOs. The senior leadership team will include all institutes of higher education in the Pioneer Valley and will be customized to support specific opportunities. Leaders from each institution of higher education should sign a compact that formalizes their participation in the region's economic development initiatives and signifies their commitment to this initiative.
2. The EDC will also support the Pioneer Valley's web site portal strategy to deliver regional messages and data on talent and education, elevate the brand power of higher education and become the trusted source for data on education and talent. EDC to provide the REBs with a standard workforce/education data "template" to provide information for specific industry opportunities.
3. Support school district and HCC/STCC TWO commitments (described above) to national leadership in college access, certifications and credentialing, especially in support of career pathways for industry clusters in manufacturing, digital technology/IT, and clean tech. Document strides in these education/training areas that serve target industry clusters with a goal for region-wide support of the TWO collaborative that distinguishes the Holyoke Community College and Springfield Technical Community College for the entire workforce (students, current employees, unemployed, etc).
4. Integrate technology and global solutions of MGHPCC in K-12 STEM agenda. For example, ensure Race to the Top (RTT) and STEM curricula resources are directed at Holyoke Innovation District students. This should include "hands-on" learning experiences facilitated by the MGHPCC to help motivate students such as applying and communicating the research initiatives supported by the MGHPCC to local students to demonstrate how the Holyoke facility is contributing to solving complex global issues in health, science, energy, etc.
5. Inventory projects, centers of excellence, schools, departments, degrees, and volunteerism resident in higher education in the Pioneer Valley and dedicated to pre-k – 12 performance and excellence;

and stage and claim credit for methodical, structured, long-term reform and investment in regional pre-K – 12 improvement that reflects both educational programs and the need for creative approaches to improve student motivation.

1.3.8 Barriers to Success

- National and international perspective versus local focus of colleges and universities
- Project administration resources to support Senior Leadership Team
- Lack of regional metrics at launch
- Effectively prioritizing the limited time of senior leaders for greatest impact
- Focusing too much on the difficult, long-term systemic reforms required for pre- K – 12 excellence without appreciating the full, near-term impact of the team to deliver an integrated/seamless system of existing resources

1.4 Site Ready/Policy Ready for Holyoke Innovation District Redevelopment

1.4.1 Mission / Objective

Create more sites ready and attractive for development and redevelopment in Holyoke's Innovation District through a combination of identifying priority sites, selectively clearing and remediating abandoned sites, and providing the permitting and incentives to facilitate re-use of sites of buildings. The ultimate objective, consistent with the Urban Renewal Plan, is to remove the real and perceived barriers to business expansion and location at sites and buildings with targeted uses focused on the Innovation District areas primed for development.

1.4.2 Opportunity Lead

City of Holyoke (Office of Planning and Development)

1.4.3 Collaborative Partners

City of Holyoke – Mayor, City Council, HEDIC, Holyoke Redevelopment Authority (HRA)
MassDevelopment
Holyoke Gas & Electric
Executive Office of Housing and Economic Development
Massachusetts Department of Environmental Protection
U.S. Environmental Protection Agency
U.S. Economic Development Administration

1.4.4 Situation Assessment

An Innovation District has been established in downtown Holyoke (covering the four census tracts) as a focus area for investment and revitalization. Long-standing assets and comparative advantages in downtown Holyoke include low cost land prices, low-cost renewable energy, historic mill buildings, canal system for power and cooling, and freight rail-served sites. These existing assets are being complemented by new infrastructure assets, and specific initiatives and centers of activity:

- The MGHPCC at the old Mastex site, slated for construction completion in 2012
- First phase of the CanalWalk completed; next phase scheduled to start in summer 2012
- Holyoke Transportation Center and Picknelly Adult and Family Education Center completed in 2010
- Plans for revitalized train service in the Connecticut River corridor with a train station in Holyoke
- Victory Theater with a re-opening planned for late 2012
- High-bandwidth fiber optic network connections in downtown Holyoke
- Holyoke Innovation District designated as one of the state's Growth District Communities in 2010

At the same time, the Innovation District is burdened with significant urban blight and a number of abandoned buildings and sites. Countless interviews with economic development officials and site selection experts confirm that the real costs of redeveloping abandoned sites and the perceived obstacles of developing on blighted properties with unknown environmental issues present a major hurdle to redevelopment. Other identified issues include assembling land and gaining clear title to properties, as well as a cumbersome business permitting process that currently requires multiple signatures from multiple City departments. Thus, realizing a vision of an Innovation District in Holyoke will require an even stronger portfolio of comparative advantages so that existing and new businesses will "choose"

downtown Holyoke for their investment decisions. Achieving that competitive advantage will require a mix of physical improvements and site clearing as well as permitting and incentives policies.

1.4.5 Metrics

Number of sites cleared and pre-permitted (with at least one site on MassEcon's list of ready-to-go sites)

Non-local resources obtained to assemble, clear and prepare sites

New private investment in the Innovation District

Square feet of new development by use in the Innovation District

Metrics related to new policies in place to spur development—i.e. reduction in number of signoffs or days required to permit a project, number of sites/acres declared 43d Priority Development Sites, % or years of tax relief granted in TIF policy, etc.

1.4.6 Milestones

TBD

1.4.7 Action Plan Narrative (Action Steps)

1. Consistent with the findings of the Urban Renewal Plan, designate areas of the Innovation District for focused business-oriented land use: a) Arts/Innovation Overlay District for flexible live/work space, mixed use, and transit-oriented development; and b) Industrial Overlay District to preserve existing and enhance future industrial (manufacturing and distribution) uses focused on rail-served sites near the river. [see map that corresponds to this strategy]
2. Consistent with the region's HUD Sustainable Planning Grant activities, designate a Transit-Oriented Development zone within a ¼ mile walk of the redeveloped train station. Properties and sites within this zone should be scrutinized for their viability in contributing to the desired mixed-use medium-density, pedestrian-oriented live-work-play character. Strategies should be prepared for the viable redevelopment of all sites and properties. These strategies can include assembling adjacent parcels to form larger tracts, more amenable to successful redevelopment; the selective razing of properties whose structural deficiencies, overall condition or physical character leave them antithetical to overall goals of this district; fostering public-private partnership with specific redevelopment goals and incentives.
3. Develop independent recommendations on priority sites to proactively clear and permit, working with the City Council to agree on a short list (3-5 sites) to facilitate HRA ownership, clearing, remediation, and permitting. Evaluation criteria to determine these sites should include: a) demonstrated private sector interest; b) strategic location near other existing activities; and c) cost and obstacles for redevelopment. For the arts/innovation area, priority should be on sites within 1-2 blocks of the MGHPCC or the new train station and will likely include rehabbing existing buildings. In addition, the City should determine what district-wide improvements or additions need to be made –i.e. streetscape, sidewalk, paving improvements, etc. Unlike the industrial district, the overall ambience and character of the arts district and the TOD district (which overlap in part) are critical to the overall success of both individual redevelopment efforts and the broader district-wide efforts. For the industrial areas, priority should be on rail-served sites with adequate size for modern industrial/freight use with near-term development opportunities near existing activity to fill-in sites (rather than trying to develop a site isolated within a larger vacant area).

4. Highlight, promote and formalize Holyoke's accelerated permitting process that averages 30-60 days for permits and conducts regular permitting meetings with multiple City department heads to address permitting issues at a single meeting.
5. Work with private developers, and local, regional, state and federal agencies to obtain resources to improve sites through a mix of clearing, remediation and connecting infrastructure with the goal of developing a portfolio of pre-permitted, "shovel-ready" sites. HRA to proactively seek funding for demolition/clearing of prioritized brownfield sites (as it is harder to fund demolition, easier to fund clean-up and infrastructure).
6. Complete the City's recent effort to streamline and simplify the business permitting process by use of electronic (rather than paper) forms through the use of the MUNIS computer system. Review the business permitting process in other cities (Springfield, Westfield, Northampton) to ensure that the process and cost are competitive within the region.
7. Extend the existing City's Tax Increment Financing (TIF) policy and Special Tax Assessment (STA) from 5 years up to 20 years in the Innovation District (not citywide) to promote redevelopment opportunities downtown. Link job creation and private investment requirements to the Innovation District TIF and STA policy (e.g., 50 or more new jobs to be eligible for full 20 year TIF/STA).
8. As the HRA gains access to funds through property deals and sales, develop a low-interest loan program for commercial (office, R&D, arts, etc.) businesses in the Arts/Innovation Overlay District similar to HEDIC's existing low-interest loan program that is currently limited to only manufacturing companies.

1.4.8 Barriers to Success

The primary barriers to success for this strategy include:

- Obtaining resources to purchase, demolish, and clean-up sites.
- Achieving City Council approval for prioritized sites and public purchase.
- Neighborhood concerns regarding the potential to expand industrial uses (noise, trucks).
- Political agreement on extending TIF policy in Innovation District of Holyoke.

1.5 Enhanced Economic Development Delivery System

1.5.1 Mission / Objective

Optimize a top-notch customer-focused economic development delivery system for Holyoke and the Pioneer Valley. Collaborate with other participant-owners such as cities in the region to ensure clear pathways for customer service and project management for employers who desire to locate, remain, and grow in the region. Enhance the best existing platform for regional economic development (Western Mass EDC) including marketing, local-regional-state project delivery, communications and data that best represents the assets and aspirations of the Pioneer Valley. Use the Holyoke Innovation District as a demonstration project to set expectations and build trust for management of: state-to-region-to-local marketing; information and learning for economic development and community-building professionals; and seamless lead, incentive, and project management.

1.5.2 Opportunity Lead

Western Mass EDC

1.5.3 Collaborative Partners

- Massachusetts Office of Business Development (MOBD)
- All Economic Development Partners/Economic Development Professionals in the Pioneer Valley
- Massachusetts Technology Collaborative
- Regional Employment Boards of Hampden and Hampshire/Franklin counties, and other civic leadership agencies under the EDC "umbrella"
- Community colleges, four-year colleges, universities, and pre-k/12 operating under EDC coordinated, Senior Leadership Talent and Education Assets Team
- Resident, satisfied customer/employers in Target Industry Clusters

1.5.4 Situation Assessment

When viewed as a U.S. Region, the Pioneer Valley stands out as a relatively compact market with a dynamic workforce and world-class educational institutions. Although companies and site selection professionals tend to focus on regional markets (especially for talent and transportation), the Pioneer Valley's assets are often marketed and managed on a municipal basis rather than as part of a regional market. Its regional economic development organization, the Western Mass EDC, has a leading-edge governance model that builds collaboration and efficiencies among key members of the civic community. Many domestic regions aspire to have such a coalition all in one place. Cities like Holyoke are especially adept at tapping into, winning, and executing to state and federal grants and projects. Holyoke is respected, statewide, for the tenacity and customer commitment in the business of economic development. The MOBD's presence in Western Massachusetts is respected and trusted as the state's lead on customer service for economic development with the tools and programs to provide incentives to help companies expand or locate in the Commonwealth. New state legislation sets the expectation for stronger, more collaborative regional organizations.

Regional reputations are formed over time and based on comprehensive region-level profiles of: education; talent; satisfied customers in target industry clusters; access to markets and amenities (transportation and data corridors/infrastructure); top-notch customer service; ready-sites; and sound business/regulatory practices. Where regions desire to form strong positions in target industry clusters or sub-clusters, they are obliged to draw from the portfolio of local assets and successes to tell their story. Professionals involved in the statewide delivery system believe Holyoke should be provided with encouragement and resources to connect their assets and successes to the Pioneer Valley's portfolio, and

vice versa. Professionals are eager to ensure the delivery system is "best in class", including marketing strategies, alignment of assets to a high performance regional portfolio, portal, demand-driven data, and the overall quality of communications products. They believe the Pioneer Valley is in a unique position to take the next important steps in teamwork and marketing, especially relative to target industry clusters. The multi-state Knowledge Corridor, from Southern Vermont through the Hartford, Connecticut metro market will reset the scale and visibility of the Pioneer Valley over time.

Some of the greatest global brands in higher education and research reside in the Pioneer Valley; however, the global strategies of these institutions do not connect with the regional capacity and marketing "firepower" seen in progressive, technology-focused markets such as the Research Triangle Park (RTP) in North Carolina, the Central Florida region, and California. They are ready to collaborate, but on regional not local terms.

In a recent roundtable, key elements of the economic development delivery system were identified as: 1) marketing/communications/reputation management; 2) customer service; 3) informed advocate for infrastructure investment and priorities such as transportation; 4) high quality regional data and analyses; 5) project management and client relationship management (CRM); and 5) learning/ training for economic development partners.

References to "standards based" marketing and portal development concern region-wide consensus and commitment to a shared, quality level of execution. This includes, web, editorial, and traditional collateral materials; and requires an appropriate balance of local values and regional alignment.

1.5.5 Metrics

For target industry cluster strategy, region-wide commitment to 1,700 net new jobs [year 5]

Region-wide commitment to 10,000 net new jobs through in the region as a shared objective required to ensure leaps in economic performance and access to gainful employment. [year 10]

Top performing region in Commonwealth for project leads, job growth, and retention proportional to the size of the region's workforce

Pioneer Valley emerges as a primary North American center of excellence for clean tech business portfolios and regional scorecards for market competitiveness. Entrepreneurship Lab in Holyoke Innovation District becomes a primary resource. [Year 2]

Regional economic development portal updated and linked to municipal partners with agreed upon market data and industry clusters [Year 2]

Ten EDC-coordinated, team-led, industry cluster-based visits from key decision makers/site locators [by Year 4]

1.5.6 Milestones

Re-imagined Economic Development Partners to consider/include: Target Industry Cluster-Portal Standards and Successes; Management and Review of Portfolio (see below); Use of Holyoke as a Replicable Demonstration Site for High-value Allocation of Resources and Labor; Intelligence Center for Case Studies and Project De-briefs; and Leveraging Precious Resources to Conduct and Access Training,

Education, and Best Practices for Economic Development Professionals. This team could review and adopt marketing strategies, cluster strategies, etc; as well as, reviewing results. [Year 1 – Urgent]

Target Industry Cluster and Partner-driven, **Standards-based Portal aligned with local assets**, municipalities, and professional teams. [Year 1 – Urgent]

MOBD-aligned Consensus on **Measurement of Retained Jobs and Jobs from Diversification**/Expansion [Year 2]

Senior Leadership Talent and Education Asset Team Launched, and Operational [Year 1] [see Talent Strategy]

Strategy for Protocol and Marketing for Interstate **Knowledge Corridor** [Year 3]

1.5.7 Action Plan Narrative (Action Steps)

1. Holyoke Innovation District Task Force calls for regional collaboration and channels to share industry cluster targets, assets and other values at the regional and state level for seamless integration. For example, form municipal teams (starting with Holyoke) to respond to company requests for assistance comprised of local economic development officials, Western Mass EDC, MOBD, the REB, relevant senior higher education leadership, etc.
2. A re-imagined Economic Development Partners collaborative forms a substantive agenda for learning, marketing, and competing as a team. Western Mass EDC is lead for marketing the region with close support and collaboration with municipal partners. Team anticipates the changes associated with new legislation on region-level coordination by enhancing existing delivery system that is already in place.
3. Two, industry-cluster focused regional team projects launched to optimize regional collaboration. Industry cluster teams should work with statewide initiatives to increase supply chain opportunities with locally-based companies. One existing resource to tap into is the Massachusetts Business-to-Business Network (www.buymass.org).
4. High-quality (standards based) regional economic development portal (web site) raises the bar on marketing communications for Holyoke and all partners. Web site to include relevant data for region and communities, available site info across the region, and links to municipal economic development partners. Work with the Office of Performance Management out of MOBD for consistency on data-based metrics for economic development in Massachusetts (jobs created/retained, private investment, etc).
5. The Senior Leadership Talent and Education Assets Team is apprised of the improved data on targets and assets over time.
6. A two-year calendar for all aspects of marketing and partners' agenda launched and maintained.
7. A conference on leadership for clean tech and green portfolios established – consensus on editorial, academic, and marketing strategy.

1.5.8 Barriers to Success

- Can there be a true consensus between EDC, MOBD and municipalities that a regional solution is desirable and will be actively supported?
- Independence of municipalities
- Project resources to support calendars, logistics, and portal management and web standards
- Strength of Economic Development Partners in the Pioneer Valley
- Consensus Regional Team Metrics

1.6 Digital Technologies/IT Industry Cluster

1.6.1 Mission / Objective

Building from the existing businesses in the digital technology/IT cluster in the Pioneer Valley, and the emerging technology infrastructure (computing and data centers, fiber optic network) establish a sustainable industry cluster organization and grow a digital technologies/IT industry cluster in the Pioneer Valley region. Economic growth in this cluster is expected primarily from endogenous growth of existing businesses and start-ups with updated and significantly enhanced marketing that reflects the region's emerging assets to also lead to strategic business attraction opportunities. A sustained, private sector-led industry cluster team should address barriers to growth and to encourage supply chain opportunities between emerging/smaller companies and larger, established IT end-users.

1.6.2 Opportunity Lead

Western Mass EDC to help revitalize and re-imagine an industry cluster team of IT-related companies, entrepreneurs, major IT users, and colleges/universities – this industry-led organization (once formed) should lead this initiative

1.6.3 Collaborative Partners

Private sector digital tech/IT firms in the Pioneer Valley
Massachusetts Technology Collaborative
Regional Employment Boards of Hampden and Hampshire/Franklin counties
Community colleges, four-year colleges, and universities
K-12 school system for post-secondary career pathways

1.6.4 Situation Assessment

Western Mass EDC has identified digital technologies as an emerging industry cluster in the region and Info USA data of existing establishments in this industry cluster demonstrates a large number of small to medium sized firms (many less than 20 employees) throughout the Pioneer Valley. For example, there are approximately 200 establishments in the computer systems design and data processing/hosting services industry with about 1,100 employees, meaning an average firm size of less than six employees per establishment. At the same time, significant new IT-related infrastructure is being implemented in the region:

- The fiber optic network (broadband) is expanding in a significant way along the I-91 corridor with deployment of fiber connections to many previously under-served areas. This is led by the Massachusetts Broadband Institute.
- State-of-the-art computing and data centers: 1) the Massachusetts Green High Performance Computing Center (MGHPCC) in Holyoke, to be completed in 2012; 2) the Springfield Data Center for state government back-up data storage currently under construction; and 3) a proposed Greenfield Interconnection Facility currently being studied by FRCOG to be a point of presence (POP) and possibly more ambitious, market-based, secure data center.

Despite the existing businesses, emerging infrastructure assets, and prevalence of colleges and universities in the region, challenges remain in growing this industry cluster. The most prominent challenges are related to workforce and talent. One perceived issue is that there are relatively few, well-regarded computer science/engineering programs in the region, with UMass being the primary exception. This is a nuanced issue as extending the region to UConn increases computer science graduates and at the same time, interest in computer science as a major is down nationally – by over 50%

at UMass over the past decade. Consequently, the production of graduates in these fields is not as large as regional IT businesses would like. Second, compared to the larger IT markets in the Boston and New York metro areas, the smaller scale digital tech/IT industry cluster, fewer jobs, and relatively lower wages lead a smaller pool of talented workers. The size and quality of the workforce is typically one of the most important factors for IT company location decisions.

Other challenges include:

- Lack of entrepreneurial networks, meetings, and places to display technology and communicate innovative work of existing businesses.
- Coordination of existing businesses and area colleges (including community colleges) in terms of providing input on curriculum, internship opportunities, and job fairs to link small to medium companies to graduates.
- Internal and external marketing – internal to link area's biggest IT users (Mass Mutual, Big Y, etc.) to region's existing IT businesses to provide services locally; external to raise awareness of region's assets to larger IT-related firms (IBM, EMC, Cisco, Microsoft, etc.).
- Lack of medium and large scale IT firms in the region results in insufficient critical mass with which to attract and hold both employees and employers.

1.6.5 Metrics

Number of digital tech/IT businesses and employees

New business start-ups in digital tech/IT

Number of computer science/engineering graduates produced by the region

Businesses using data storage services at Greenfield Interconnection Facility

Number of collaborations between regional businesses and University Consortium academic partners of MGHPCC

1.6.6 Milestones

TBD

1.6.7 Action Plan Narrative (Action Steps)

1. Western Mass EDC to complete an inventory of existing companies in this industry cluster – large and small, established and start-up. Track the aggregate performance of this industry cluster with year over year fact sheets on number of businesses, employees, computer science/engineering graduates similar to the REB's reporting of the precision machining industry.
2. Establish two levels of convening of this industry cluster: a) group of 15-25 IT-related firms/individuals committed to the implementation of the strategy for this industry cluster; and b) regularly scheduled (at least quarterly) networking opportunities for all identified industry cluster stakeholders.
3. REB and industry cluster organization to schedule annual (or more frequent) opportunities for this industry cluster to provide input to the area's colleges on training needs, curriculum, and internship opportunities.
4. Explore free courseware and related commercial vendor offers to update and improve the IT programs and online materials for the area's community and four-year colleges. Link the region's existing, proven computer science program at UMass to other colleges (linked by the enhanced

fiber network and POP connectivity in Springfield and Greenfield) to produce more job-ready graduates.

5. EDC to work with industry cluster for internal and external marketing initiatives:
    a. Internal – Provide the connections and venues for the region's IT firms to meet with and sell services to key decision makers at existing large IT users (Bay State, Mass Mutual, Big Y, etc.). Idea for "speed dating" similar to recent event with Raytheon and region's supplier firms.
    b. External – MGHPCC and fiber optic improvements provide an opportunity to strengthen and refine the region's marketing message and advantages for this industry cluster. Opportunity to brand a regional "innovation web" parallel to Holyoke's Innovation District.
6. Industry cluster organization to work with MGHPCC to facilitate potential business and research linkages with the University Consortium of academic partners.
7. Over time, work with UMass on policies and incentives to encourage start-ups and spin-offs. Coordinate this with the entrepreneurial innovation eco-system strategy.
8. Establish a physical location (place) where companies can display their technologies and wares, hold job fairs, college competitions, and digital tech/IT conferences. Ideas include the MGHPCC (which is designing space that could host such events), near UMass given computer programs or other locations in the Holyoke Innovation District.
9. Run a business plan competition for area students in which the winning team gets reduced cost space, power, and broadband access at a regional location such as the Innovation District or Springfield Business Incubator.

1.6.8 Barriers to Success

The primary barriers to success for this strategy relate to efforts to form and sustain an active industry cluster organization:

- Resources to fund the initiatives (convening, curriculum revisions at colleges, establishing physical locations for displaying and conferences) such as NSF awards in support of industry-academic partnerships.
- Establishing and maintaining a private sector-led industry cluster team to implement strategies to remove barriers for growth. Attempts have been made in the past to do this but they were not sustained. Need to provide compelling reasons and value for IT businesses to work together to boost the overall environment for success in this industry cluster.
- Integrating and embracing newer start-up IT-related businesses with more established firms and area colleges to work together on a unified vision for enhancing opportunities in this industry cluster.
- Establishing a compelling story of the existing companies and IT-advantages of this region, including how to package and portray the MGHPCC and other assets (tie-in to economic development delivery).

1.7 Clean Energy Innovation and Development

1.7.1 Mission / Objective

There are two related objectives for this strategy: 1) maintain Holyoke's low-cost, renewable energy-based competitive advantage by expanding Holyoke's portfolio of cost-effective renewable energy generation capacity; and 2) become a global leader in clean energy research and applications, energy efficiency and management through innovative technology-based testing and development of products. A longer-term objective is to convert clean energy research and large scale applications to manufacturing of clean energy products.

1.7.2 Opportunity Lead

Holyoke Gas & Electric (HG&E)

1.7.3 Collaborative Partners

MGHPCC and University Consortium
ISO New England
Massachusetts Clean Energy Center
Existing energy sector private businesses (R&D, manufacturing)
Economic Development Organizations – Holyoke, Western Mass EDC, and MOBD
State-level partners (EOHED and Energy and Environmental Affairs)
Municipal electric utilities in the region

1.7.4 Situation Assessment

Holyoke possesses a unique energy asset with its utility – Holyoke Gas & Electric (HG&E). As compared to other communities in Massachusetts and most of the northeast, Holyoke has some of the lowest electricity costs with an excellent record of reliability, primarily due to hydroelectric power generated by the Hadley Falls dam and the Holyoke canal system. According to HG&E's annual report, hydroelectric power generates 276,185 MWh per year providing 73% of its electricity demand from its own renewable hydropower.[1] This renewable energy asset was a major draw for the MGHPCC and can be an important factor in any business location decision. HG&E's uniqueness as a municipal utility extends beyond that asset: 1) they are committed to expanding their portfolio of low-cost, clean energy resources in Holyoke and beyond; 2) they own significant fiber optic network infrastructure for telecommunications, internet, and other functions; and 3) they are committed to innovation and working with leading providers of energy-related products and applications.

The region's clean energy and innovation strengths also include:

- Development, construction, and plans to build renewable energy projects – this includes multiple projects in Springfield, Holyoke, and Greenfield;
- Major natural gas utilities under development in Ludlow (280 megawatts) and Westfield (400 MW);
- Other municipal utilities (e.g., Chicopee, Westfield, South Hadley) that can take advantage of vertical integration of clean, cost-competitive solutions as they develop;
- Planned expansion of HG&E fiber network to the "curb" throughout Holyoke.

[1] http://www.hged.com/2008_Annual_Report_FINAL_WEB.pdf

- Numerous communities in the Pioneer Valley committed to the state's Green Communities Act with significant progress towards improved energy efficiency of public buildings and infrastructure;
- Innovative LEED designed and constructed buildings such as the Regional Transit Center in Greenfield and the Springfield Data Center (both under construction), and the MGHPCC in Holyoke; and
- Regional and statewide companies, universities and research institutes focused on research and development of advanced hydro power, wind power, and other energy-related equipment.

Challenges in this area include: a) the low-cost renewable energy advantage is currently a Holyoke benefit, not shared by other communities in the region; b) other parts of the country (e.g., North Carolina, Texas) have even lower electricity rates; c) there are relatively limited opportunities for renewable energy manufacturing, especially when competing with other even lower-cost areas; d) energy and environmental policies that still result in long permitting processes and timelines to construct renewable energy projects; and e) NIMBY opposition to constructing new projects.

1.7.5 Metrics

Megawatts of new and total renewable energy produced in Holyoke and the region

Average electricity and natural gas rates (compared to MA average)

Number of businesses and number of jobs for clean/innovative energy in Holyoke and the region

Dollar value of Federal and state energy-related research and project grants for regional initiatives (e.g., Massachusetts Clean Energy Center grants)

1.7.6 Milestones

Additional clean energy generation:
Solar – 5 MW in 2011, additional 5 MW in 2012
Hydro – 5 MW of improvements in 2013
Wind – Mt. Tom project (5-9 MW) in 2014

1.7.7 Action Plan Narrative (Action Steps)

1. HG&E to implement and communicate their plans to expand their portfolio of low-cost, clean (low emissions) energy capacity. Current and near-term projects are progressing and aided by renewable energy incentives such as Renewable Energy Credits and Clean Renewable Energy Bonds (zero interest):
    a. Solar projects of up to 5 MW recently under contract and beginning construction – potential to add another 5 to 15 MW of solar generation through partnerships and power purchase agreements (PPAs) to "lock in" low-cost rates for the next 20 years.
    b. Mt. Tom Wind project – applying for state permits this fall and hoping to be under construction in the fall of 2012 for a 5 to 9 MW wind facility. Also have potential partnership with wind projects in New England to buy the off-take.
    c. Hydro power additional capacity potential through improved efficiencies in the canal system (approximately 10 MW) and Hadley Falls 1 and 2 units as well as potential future project at Hadley 3 station for up to 15 MW of new power (relatively high capital costs per kwH).

   d. Though not renewable energy, HG&E has opportunities to purchase low-cost, lower-emitting natural gas from Ludlow plant (100 MW available for purchase).

2. HG&E to work with Holyoke and Western Mass EDC marketing and business promotion efforts to carefully document not only the current cost advantages but also the commitment and plans to maintain this advantage. Western Mass EDC to work with MOBD to identify and target businesses with a "green portfolio" who would value the combination of clean energy and non-energy assets of the region.
3. HG&E, UMass, MGHPCC, MTC and others to plan and host a major clean energy innovation workshop for fall 2011. Workshop objectives will include: a) identifying and promoting energy innovation research and opportunities in Holyoke and western Massachusetts; b) exploring connections between MGHPCC, Cisco, the energy sector (HG&E, ISO NE, etc) and the academic research sector; c) identifying potential Federal research grant opportunities (DOE, NSF, etc); and d) learning and connecting existing private, public and non-profit energy leaders. Expected outcomes include defining research proposals and finding Massachusetts energy companies to use Holyoke and HG&E as a test bed for new products, including potential smart grid applications that leverage HG&E's fiber optic network.
4. Given HG&E's assets, innovation and emerging private sector collaborations, Holyoke should become a test bed for innovative energy testing and product development. Goals of this strategy are to provide a world-class reliable and technologically advanced energy and telecommunication system with direct partnerships with the academic community (Research Consortium), private business activity in Holyoke (operating "on the ground"), and longer-term potential for R&D and manufacturing business location in Holyoke. Some specific initiatives to consider and pursue include:
   a. Work with Free Flow Power (MA-based company) to test their hydrokinetic products.
   b. Work with Flo Design (Wilbraham-based company) to test and develop their products and prototypes at Mt. Wind and hydro initiatives.
   c. Energy storage R&D applications at solar, wind and hydro facilities.
   d. Smart grid energy use monitoring with potential partnering with a consumer-based IT company such as Cisco or IBM.
   e. Electric vehicle charging stations and energy distribution/monitoring.

1.7.8 Barriers to Success

- Renewable energy financial incentives are not permanent.
- Winning Federal research grants with significant hands-on testing in Holyoke and the region.
- Renewable energy technologies (hydrokinetic, solar, wind) can be difficult to produce in large scale quantities and are difficult to site and obtain permits.
- Most renewable energy solutions are intermittent and will require coupling with other energy sources (oil, gas, etc) to meet needs.

1.8 Manufacturing Industry in Holyoke

1.8.1 Mission / Objective

Building from the existing businesses and assets in the manufacturing cluster in the Pioneer Valley, and the competitive advantages in downtown Holyoke (low-cost energy and buildings, available workforce, transportation access), retain and grow manufacturing opportunities in Holyoke. Economic growth in this cluster is expected from a balanced mix of endogenous growth of existing businesses and start-ups along with strategic business attraction opportunities. The mission is to leverage the region's existing strength and progress in this industry cluster, ensure that Holyoke can realize its share of opportunities, and further enhance the region's value-added manufacturing activities for a full-range of suppliers as well as sub-assembly, assembly, and final products.

1.8.2 Opportunity Lead

City of Holyoke – Office of Planning and Development

1.8.3 Collaborative Partners

Western Mass EDC
Regional Employment Boards of Hampden and Hampshire/Franklin counties
Massachusetts Technology Collaborative
HG&E
Existing private businesses (manufacturing, railroads, distribution centers)
Community colleges, vocational technical high schools, four-year colleges, and universities

1.8.4 Situation Assessment

Western Mass EDC has identified precision manufacturing as an industry cluster in the region and state sponsored collaboration and investment between the Hampden County REB and MTC has demonstrated the importance of customized training and coordinated industry activity to enhance the regional growth profile of manufacturing. And despite its losses over the past few decades, Holyoke continues to employ a relatively large number of workers in manufacturing (compared to US and MA averages). According to Info USA data, Holyoke is host to 87 manufacturing companies which together employ almost 2,300 workers and generate over $600 million in revenue. Firms are primarily small to medium-scale establishments with an average employment of 26 and revenue of $7 million. The industry cluster in Holyoke is composed of multiple printing, precision equipment, paper goods, machine shops, and other manufacturing products and components. And Holyoke possesses unique advantages that are desirable for manufacturing:

- Low-cost energy for industrial users based on HG&E hydroelectric power.
- Low-cost property values, and large, flat sites appropriately zoned for manufacturing.
- High-speed, high-bandwidth fiber optic network (broadband) is available in Holyoke.
- Numerous rail-served sites in the downtown area (especially along the river) with private railroads eager to grow their market of rail customers and partner with economic development to attract new business.
- Industrial and commercial sites proximate to Interstate highways.
- Available workforce with a mix of low to high-skilled employees locally and within the region.

Manufacturing is currently on the rise nationally and in the Commonwealth and the use of advanced, high-productivity manufacturing techniques is making it possible for firms to profitably operate in Massachusetts despite lower labor costs in foreign markets. Workforce is a key issue being addressed by

the REB with the region's precision manufacturing cluster as labor force attrition is leaving many firms searching for qualified, skilled and experienced manufacturing workers. While over 60 percent of manufacturing jobs in Massachusetts do not require more than a high school degree, manufacturers require well-trained workers who have a set of skills specific to machine operation and allied occupations.

Also, as discussed in the Site Ready strategy, there are significant constraints currently in terms of the condition of abandoned sites and the ability to market much of the area targeted for industrial uses.

1.8.5 Metrics

Growth of existing manufacturing firms in Holyoke (sales revenue, employees, square feet of use) – establish five-year growth targets of 20% increase

New businesses and employees attracted to targeted industrial use sites

Number of Holyoke residents employed by new industrial businesses

1.8.6 Milestones

TBD

1.8.7 Action Plan Narrative (Action Steps)

1. Retain and Grow Existing Manufacturing Businesses. Integrate Holyoke's efforts to work with the local industrial base with the REB's precision manufacturing industry cluster initiative. This should include completing a full inventory of existing firms and outreach to understand the pipeline of workforce needs of Holyoke's businesses. Connected to the site ready strategy, work with existing businesses to proactively determine site and space needs to maintain competitiveness and allow for expansion. Sites for manufacturing expansion (and attraction) should include the areas targeted for industrial use in the Innovation District as well as industrial parks and properties near the Interstate 90/91 interchange. Connect existing businesses to existing technology assistance programs, such as the Massachusetts Manufacturing Extension Partnership, to streamline processes, become more profitable and connect to domestic and global customers.
2. Attract New Manufacturing Businesses. Based on Holyoke's competitive advantages, and linked to progress with the site ready strategy, proactively market and promote the manufacturing sector for a range of industrial targets. In addition to existing strengths noted above, local stakeholders have noted opportunities for industries that would benefit from a combination of low energy costs, available workforce and strong transportation access such as food transloading, packaging, warehousing; plastics; general warehousing/distribution; freezer warehouses; bio-fuel manufacturers/distillers (gasification); and breweries.
    a. Holyoke should work closely with the REB and Western Mass EDC on marketing materials and relevant data to provide professional, regionally integrated information.
3. Talent and Workforce Training. Consistent with the REB's industry cluster initiatives, strengthen and manage the relationship between manufacturing companies and the local area educational institutes including Holyoke Community College, Dean Vocational Tech School, public high schools, and the UMass engineering and science departments. The objective is work together to increase the number of trained workers who can fill job openings at existing and new companies.
4. Create an Advanced Manufacturing Technology Center in Holyoke. Similar to the center located in Fall River and run through UMass-Dartmouth, establish a focal point for accelerating the use

and development of innovative technology-based manufacturing processes for the Pioneer Valley. A sub-committee, including input from the Massachusetts Advanced Manufacturing Initiative, will need to determine the options to create this kind of center through a private, public-private, public-academic, or other arrangement. This center should include evaluating options for stimulating product development in the region as well as a full-range of productivity and market diversification efforts, similar to Northern Ohio's Manufacturing Advocacy and Growth Network (MAGNET - http://www.magnetwork.org/).

5. Support the start-up and operation of Maker College, an initiative to accelerate the technical training, seed funding and product development of innovative physical product (manufacturing) companies.
6. Organize/facilitate public capital (e.g., New Market Tax Credits for manufacturing; Massachusetts Growth Capital Corp.) for business expansion and re-location. Track dollars invested and host networking/learning workshops to connect businesses with potential funding sources.

1.8.8 Barriers to Success

- Cleared, pre-permitted, available, shovel-ready sites
- Successfully integrating Holyoke-specific manufacturing opportunities and leaders with the region's existing manufacturing cluster initiative and supply chain for a successful alliance.
- Creating a sustained business-academic/public partnership to address the skilled workforce needs of businesses.
- With successful implementation over time of the site ready strategy, overcoming perceptions of Holyoke's downtown area with site selectors and private sector, and enhancing other amenities attractive business (safety and security, restaurants, streetscape and lighting, etc.).

1.9 Urban Agriculture Industry Cluster

1.9.1 Mission / Objective

Building from existing entities and initiatives in the region, establish and grow a viable integrated urban agriculture industry in Holyoke. Economic growth in this cluster is expected primarily from endogenous growth of start-up and spin-off businesses as well as from the benefits of coordinated operations, marketing, outreach, and the expansion of related businesses – i.e. bottling, shipping, etc. The objective is to create a sustained industry of critical mass and supply chain connections to provide job opportunities to Holyoke residents, productive re-use of land, and access to healthy food for Holyoke's residents.

1.9.2 Opportunity Lead

TBD – for now City of Holyoke Planning Department

1.9.3 Collaborative Partners

Massachusetts Technology Collaborative
MGHPCC
UMass Extension – Agriculture and Landscape Program
Non-profits – i.e. Neustras Raices, Holyoke Food & Fitness Policy Council, etc.
Latino Chamber of Commerce
Bodegas, Grocery Stores, Restaurants
New England Farm Workers Council
School Districts and Hospitals
Massachusetts Department of Agriculture
Communities Involved in Sustaining Agriculture (CISA)
PV Grows

1.9.4 Situation Assessment

According to the American Planning Association, urban agriculture "…is typically defined as the production of fruits and vegetables, the raising of animals, and cultivation of fish for local sale and consumption. A more holistic systems definition acknowledges the connection between urban agriculture and the larger food system, as well as its influence and dependence on a variety of economic, environmental, and social resources."[2] There is a small, but emerging cluster of businesses and organizations in the Pioneer Valley engaged in some aspect of urban agriculture. These include farms, community gardens, individual home gardens, farmers markets, restaurants, etc. Many are private, for-profit enterprises, but others include non-profits and social service organizations, as well as schools and job-training services. Key regional assets include the Pioneer Valley Growers Association and the Western Massachusetts Food Processing Center, a membership-based organization in Greenfield MA promoting economic development through entrepreneurship in local agriculture.[3] A holistic regional system of urban agriculture includes seven distinct components:

1. Farming & Management – the growing and raising of food, including rural and urban agriculture.
2. Processing – the process of altering raw foodstuffs to create a different, more refined product. Examples include preserving, cooking, preparation, meat processing, grain milling, and other value-added operations.

[2] Hodgson, Kimberly, Marcia Caton Campbell & Martin Bailkey. Urban Agriculture: Growing Healthy, Sustainable Places. (Washington, DC: American Planning Association, 2011), page12.
[3] For more information, see http://www.pvga.net/ and http://www.fccdc.org/fpcabout.html.

3. Transportation & Storage – the distribution and storage of both raw and processed food products.
4. Selling & Buying – the retailing, wholesaling, and purchasing of food products. This takes place from the farm gate, to grocery stores, to farmers' markets, to restaurants.
5. Eating & Celebrating – the act of consumption and enjoyment of food. This can include food-related events, and eating in both public and private realms.
6. Waste Recovery – the diversion, management, and utilization of organic waste (for example, as an energy source or as fertilizer using recycled nutrients).
7. Education.[4]

The myriad of benefits that can accrue from integrated programs for urban agriculture include:

- Vacant land can be put back into productive use
- People living in "food deserts" gain access to healthy nutrition
- People can attain viable skills and training
- People participate in the local and regional economy
- People gain a greater understanding of the role of food and nutrition
- People gain an enhanced sense of community and pride of place

The Pioneer Valley already includes a large number of individuals, groups and businesses involved in some aspect of urban agriculture or community agriculture. These produce a wide variety of products and range from individuals who study apiary as a hobby to small farmers passionately committed to a regional "locavore" lifestyle. In addition, the region includes nearly 300,000 Hispanic residents, many of whom come initially from Puerto Rico and have a strong agricultural heritage and knowledge base. They also have underutilized skills and business potential for food-related ventures, including catering, processing, and restaurants. They are also a ready market for speciality ethnic products, many of which can be raised in the area quite successfully. In combination, all of these existing regional assets can help Holyoke successfully develop and integrate an urban agriculture strategy.

The notion of centering an industry opportunity in Holyoke presents both opportunities and challenges. Unemployment in Holyoke is relatively high and many of those unemployed lack the education and/or training for higher-wage, white-collar jobs. But, many of the jobs in urban agriculture lend themselves to on-the-job training and less formal education or training. In addition, significant parts of Holyoke conform to the accepted definitions of "food deserts" given the lack of grocery stores especially in the downtown area. So, there is an opportunity to: a) increase the access for residents to healthy and nutritious food at a reasonable price; and b) expand entrepreneurial and job-based experiences for local residents.

Major portions of downtown Holyoke are under-utilized with vacant lots; properties that are partially vacant; and buildings that are standing but are partially or completely vacant. In addition, downtown includes former industrial buildings that can be easily reused to facilitate specific aspects of an integrated agriculture cluster – bottling, packaging, brewing, etc. An engineering analysis of the MGHPCC estimates that a heat recovery system could generate enough waste heat to support up to 14.7 acres of urban greenhouse space and approximately 140 jobs. While it may be difficult to find that amount of ground-level space, this provides a unique opportunity for sizable year-round gardening in Holyoke, benefiting from low-cost energy.

[4] De la Salle, Janine & Mark Holland. Agricultural Urbanism. (Vancouver, BC: HBLanarc, Ltd., 2010), pages 36-37.

Finally, downtown Holyoke is extremely well located, with easy access to both highway and rail infrastructure, which present the opportunity to tap into super-regional markets throughout New England and New York.

Despite the existing businesses and infrastructure assets, challenges remain. There is little identity for the Pioneer Valley as a locus of urban agriculture, and no formal structure addressing all seven elements described above. In growing this industry cluster, the most prominent challenges will probably relate to the creation of a viable business plan and the integration of participants across all seven elements. Unlike other industries, urban agriculture, almost by definition, is comprised of many small, unrelated participants.

Nonetheless, such regional strategies are being pursued in other parts of the county including the neighboring state of Vermont; lessons and best-practices can be gleaned by building on these experiences and reaching out to these other groups.

1.9.5 Metrics

Number of establishments and employees formally involved in urban agriculture industry

Number of new stores and restaurants selling fruits, vegetables, certified "organic" products, and local produce

Jobs created and filled by existing residents of the region who were previously unemployed or under-employed

Graduates of training and/or academic programs focused on urban agriculture

Square feet of land under production and annual production of food (tons and dollar value)

Construction of a commercial greenhouse by July 1, 2014

1.9.6 Milestones

TBD

1.9.7 Action Plan Narrative (Action Steps)

1. Complete an inventory of existing formal and informal participants in this industry cluster – large and small, established and start-up. Based on the Urban Renewal Plan, identify potential sites in Innovation District for seasonal urban gardening on vacant parcels and/or urban greenhouse. This action step should be coordinated with the site ready strategy and could provide a mix of interim and permanent uses.
2. Determine where there are gaps or holes in the seven-part organization of a proposed regional industry cluster. Work with the Massachusetts Department of Agriculture, the Food Processing Center and the UMass Agriculture Program to identify partners, resource needs, technological issues, etc. In particular, intermediaries are critical for the success of this as an industry cluster with coordinated or pooled efforts to sell to consumers (individual and large scale like hospitals, restaurants, retailers) and at farmers markets and CSAs (community supported agriculture).
3. Work with MGHPCC and Massachusetts Technology Collaborative to complete a business plan for an urban greenhouse project in Holyoke.

a. Evaluate opportunities for a "vertical farm" similar to the concept profiled in a recent article about a designed multi-story urban greenhouse in the Netherlands[5] that combines crops with an on-site grocery store. This would be a first-of-its-kind building in the U.S., benefit from university researchers and directly benefit from the MGHPCC and Holyoke's assets.

4. Assess the viability of the workforce and resources to support the proposed regional industrial cluster, and propose specific action items for enhancing this viability. In particular, assess the need for business start-up, product commercialization courses provided in Spanish to local residents.
5. Establish institutional framework for overseeing the implementation of specific action items to help ensure the growth and stability of this regional industry cluster.

1.9.8 Barriers to Success

The primary challenges to the success of this industry cluster include the fragmented nature of both the producers and the consumers of goods, and the generally weak linkages between them; producers are often unaware of potential markets and interested consumers may not be aware of local resources. The challenge will be to establish a loose framework of buyers and sellers, including multiple necessary intermediaries that can operate as a viable, on-going regional cluster. In addition, agriculture, by definition, is to some degree, a seasonal operation, particularly in terms of supply, if not demand. To establish a viable year-round regional enterprise, intermediaries such as bottlers, brewers, storage facilities and so forth will need to be established, and the potential for year-round production through the use of greenhouses and other facilities will need to be explored.

[5] http://www.plantlab.nl/4.0/index.php/2011/05/plantlab-in-sustainable-communities-magazine/