

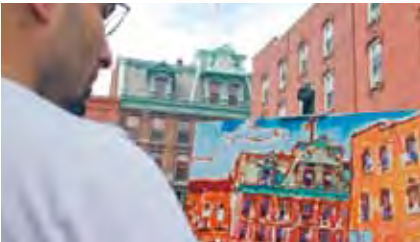


# Holyoke Innovation District Annual Report



“Holyoke’s best days lie ahead”.

Governor Deval Patrick





## The Innovation District

On November 16, 2012, Governor Deval Patrick, joined by leaders from all sectors of the Massachusetts' economy, cut the ribbon on the Massachusetts Green High Performance Computing Center (MGHPCC) and introduced a new era for Holyoke. He declared, "Holyoke's best days lie ahead," and he challenged the attendees at the event to leverage the computing center to make something happen for Holyoke and the region.

Since that date in November of 2012, The Holyoke Innovation District has had the singular mission of encouraging and facilitating new and innovative economic development in Holyoke and the region. Led by leaders from local, regional and state agencies, the Holyoke Innovation District is serving as a platform for innovation - and the excitement is evident.

Holyoke, by our own research, is the only high poverty, small city in the country that is hosting a major research university, let alone five, independent of a campus setting for the purposes of high performance computing. The positive economic development results we experience in Holyoke will be a guidepost for the country as we continue to demonstrate how a community and city leverage large-scale capital investments to achieve a "democratization of innovation"- convening all parts of the community in an innovation-based economic development strategy. Without MGHPCC and the commitment of the Patrick Administration the outcomes delineated in this report would not have been imaginable.

# Innovation

in·no·va·tion, / inə' vāSHən

The act of introducing something new or something newly introduced.



## Economic Development Success

### The Holyoke Innovation District (HID) serves as a platform for innovation in economic and community development in Holyoke and the Pioneer Valley.

Since the opening of the MGHPCC, many projects and relationships have formed that individually capture the spirit of innovation and collectively are shifting the culture of collaboration in Holyoke's community. The obvious strengths of the HID are big data, IT, computer science, manufacturing, and clean energy. The less obvious but equally as important strengths are the creative economy, urban agriculture, urban design, and the non-profit and education sectors. In each of these areas, we are seeing a spirit of innovation and entrepreneurship that is being encouraged by the HID partners. More importantly, we are seeing an ecosystem develop where individuals and organizations in each of these areas are exchanging ideas and collaborating for better outcomes. The Innovation District is exciting the imagination of the entire region: as a test bed for clean energy, with fresh approaches to urban community-university partnerships, sponsoring new ways to stimulate private and public sector entrepreneurship and leading rather than retreating on our expectations for the revitalization of public education.

The designation of an "Innovation District" in the immediate area surrounding the MGHPCC is significant in itself. Local economic development entities have received increased interest from IT and advanced manufacturing sectors because of the designation and the dedication of the professionals who are supporting its growth. Businesses and non-profits already located in the Innovation District are actively participating as innovators in the District, complementing and strengthening the momentum of the area.

**MGHPCC Direct Impact** The MGHPCC has become a nucleus of a burgeoning innovation economy in Holyoke. The doors of the MGHPCC have been open to the community since its construction and the opportunities for learning that were offered during construction have continued. Since the doors officially opened, MGHPCC has hosted over 1,500 people attending 53 events and has led 19 facility tours. In most instances these are community related, thus fulfilling the intent to have MGHPCC become a vital hub for community and economic development.

## Notable Milestones





Girls Inc. of Holyoke, a MGHPCC community partner, highlighted new strategic STEM initiatives and programming for girls at its February 28th "Thanks for Giving" Reception.



November 16, 2012 - Governor Patrick tours the completed Massachusetts Green High Performance Computing Center (MGHPCC) in Holyoke.



Students from MIT explore the MGHPCC and test-drive installation possibilities.

**HID Life Sciences** Mass Life Sciences Center awarded more than \$8 million in grants for life-sciences-related capital projects in Holyoke including \$3.8 million to support the creation of a Center for Life Sciences at Holyoke Community College (HCC), and \$4.54 million that will allow the (MGHPCC) in Holyoke to expand its capacity for life sciences-related research and data analysis, as well as partner with private companies in this field.

**HID Big Data** HID representatives brought together ISO-NE and MGHPCC to explore areas of mutual interest. Possible collaborations include:

- Designing experiments that can help ISO-NE make the transition from present grid monitoring/management which occurs on a time-scale of minutes to a time-scale of fractions of a second (no ISO in the nation is currently operating at this new scale).
- Assistance with characterizing solar production and transmission through an experiment designed to create a proxy reporting regimen.
- Introducing ISO-NE expertise as a peer/mentoring support to participating MGHPCC research universities.

**HID IT Training** CISCO Academy began operating at Holyoke Community College (HCC). The Academy prepares students to complete the CISCO Network Certification Exam (CCNA) by offering three required modules. Dean Technical High School will offer a class to students in 2014 that prepares students to enroll in the college level certification program. An additional certification program for incumbent workers will be offered at MGHPCC in spring 2014.

**HID Education** The MGHPCC participated in several education and outreach efforts in the City of Holyoke. Notable events hosted at, and co-sponsored by, the MGHPCC include:

- Coaches Connect, a full-day workshop at the MGHPCC, for parents, educators, leaders of youth groups, college students--anyone who is interested in coaching

- a First LEGO League team now or in the future, or using First LEGO League with youth.
- App Inventor Boot Camp, for high school, middle school and college educators who plan to integrate App Inventor into their curricula. This 3.5 day workshop explored MIT App Inventor, which lets one develop applications for Android phones using a web browser and either a connected phone or emulator.
- Meeting of the Western Massachusetts Chapter of the Computer Science Teachers Association.
- Girls Connect! Robotics Day, bringing together girls from across western Massachusetts for a day of team building and programming LEGO robots. Half of the teams were from the City of Holyoke.

In addition to the CAITE events, MGHPCC was directly involved in several local workforce development events, which promote STEM education and workforce development:

- The Pioneer Valley STEMnet meeting drew 45 educators from Pioneer Valley high schools and colleges to tour and learn about the MGHPCC facility.
- A Holyoke Community College IT class of 24 toured the facility to see first-hand many of the concepts that they are learning about in class.
- The MGHPCC participated in a day-long tour of innovative Holyoke businesses, put together by the City's Office of Planning and Economic Development for the Holyoke High School Business Club.
- The MGHPCC sponsored a group trip for Girls Inc. and Dean Technical School participants to Cisco Girls Day in Boxborough, MA.
- IT Lead Jim Culbert attended CONNECTIONS After School Program Career Day the Peck School in Holyoke, talking with students about career opportunities in IT.

**2.5.13 Holyoke's Urban Renewal Plan, the largest urban renewal plan in the State, is approved and begins implementation with the Holyoke Redevelopment Authority receiving its first property assets.**



**2.28.13 Governor Patrick announces the award of over \$8 million in Life Science funding for HCC and MGHPCC.**



Universal Quality Machine, a growing Holyoke based manufacturer.



## Economic Development Success

**Clean Energy** The location and construction of the MGHPC has been a hand in glove relationship with Holyoke Gas & Electric (HG&E) from its beginning. HG&E is a state-wide leader in renewable, green energy and their innovative work continues to leverage and push beyond the work completed at MGHPC. HG&E is a vertical, fully integrated municipal electric utility. Over 65% of Holyoke's power is from renewable resources and over 90% of its energy portfolio is from carbon-free sources. Furthermore, the location of both ISO-New England and MGHPC in Holyoke provides the City with key assets needed to become New England's hub for clean energy innovation and deployment.

**HID** **HG&E/ UMass Big Data Analytics Grant** UMass Amherst and Dr. Prashant Shenoy's big data analytics project was awarded \$200,000 from the Massachusetts Department of Energy Resources (DOER). As part of this project, HG&E will be providing data collected from its solar facilities and the advanced metering network for UMass Amherst's analysis regarding short-term prediction of solar facility output and thermostat setting optimization.

**HID** **HG&E Metering Advanced Network** HG&E is completing installation of a \$1.2 Million network that will communicate with smart meters and provide a broader population with interval data from smart meters. The system will include a platform for outage detection and will support HG&E efforts to better manage energy delivery, reliability, conservation and other initiatives.

**HID** **Clean Energy Test Bed** Partnerships continue to be explored in regards to supporting Holyoke as a "Clean Energy Test Bed". One example is HG&E's meeting with Dr. Daniel Farb, principal from Leviathan Energy (an Israeli Clean Tech company), who is interested in exploring hydro, wind and solar technology development opportunities with HG&E.

**HID** **Energy Efficiency Research Grant** David Irwin, assistant professor of Electrical and Computer Engineering, has received a five-year, \$461,434 grant from the National Science Foundation to fund research on energy efficiency in houses and buildings. Irwin will be completing data studies in part with HG&E because of HG&E's deployment of smart meters in the homes of customers. "The purpose is to figure out ways of using the vast amount of smart meter data utilities are collecting," Irwin says.

**HID** **STEM Teacher Development Program** The Hampden County Clean Energy Workforce Capacity Building Program (Educating for Clean Energy - ECE) is a teacher professional development and curriculum development initiative centered around key components of the clean energy industry. The program provides teaching, learning, mentorship and partnership opportunities with companies in the clean energy industry for 40 educators from Holyoke and Springfield, MA. HG&E is providing real-time and historical data from its solar facilities to help teachers use real information in their curriculums.

**HID** **Holyoke Community College Clean Energy Curriculum Partnership** HG&E gave a tour of its communications tower and hydro facility, and discussed renewable energy development with a clean energy class at Holyoke Community College (HCC). HG&E also continues to give tours of the solar facilities to students in a solar-focused class at HCC.

**Physical Redevelopment** The investment of the MGHPC in downtown Holyoke has encouraged and spurred direct investment into the immediate area surrounding the MGHPC. In some cases, it has moved projects along that have been stagnating for years. The following projects are either a result of the MGHPC or they are complementary development projects that will create the conditions in Holyoke for a physical campus for an innovation economy in its downtown.

## Notable Milestones





216 Appleton (across the canal). City received \$247,000 for cleanup of asbestos and hazardous materials from EPA 9/2013.



Future Holyoke passenger rail platform. The platform construction is set to begin in 2014.

**HID Urban Renewal Plan for downtown Holyoke** The Holyoke Urban Renewal Plan was approved by City Council 15-0 on December 4, 2012, and approved by DHCD on February 5, 2013. Since then the Holyoke Redevelopment Authority (HRA) has been granted \$100,000 in funding. HRA has approved the transfer of eight city-owned parcels and five Holyoke Economic Development Industrial Commission (HEDIC) parcels. Office of Planning and Economic Development continues working on several fronts related to the Plan, including the Canalwalk (bids were opened on December 17th for construction in the Spring), the rail platform, and brownfields cleanup of downtown properties.

**HID Lyman Terrace** Lyman Terrace planning project has garnered the support of the community and has united state and local public partners in action, clearing the path for the successful search for a private development partner. The RFP committee has evaluated the five proposals and selected the top three scored applicants which have been interviewed by the committee and the Holyoke Housing Authority Board with public presentation to the community, who have been able to influence the scores in the final round. A Master Developer Agreement is expected to be signed by early 2014.

**HID 216 Appleton Brownfield Remediation** The City of Holyoke was awarded \$247,000, plus technical assistance, to clean up asbestos and other hazardous materials at the former Hart Wool Combing Factory, located at 216 Appleton Street thanks to funding provided by the US Environmental Protection Agency (EPA), through the Pioneer Valley Planning Commission (PVPC).

**HID Passenger Rail Platform** The City has achieved 100% design of the platform and has begun the process for acquiring the necessary parcels for the project. Procurement of a contractor is projected for first quarter of 2014 for construction to begin in the second quarter.

**HID Mass Development Market Feasibility Study** Mass Development initiated a \$75,000 study of market feasibility of four sites in Holyoke with consultant Kathleen McCabe. The study is examining market options for four properties that have been identified by the City of Holyoke.

**HID CODE Program** The City of Holyoke has launched the Change of Occupancy Determination Evaluation (CODE) Services Program, an initiative to assist property owners in the Downtown who want to rehabilitate their spaces for artistic, performance and other creative economy uses. The City is currently working with two building owners on an analysis of which building, fire and other applicable codes would be required for their intended change in use, along with an estimate of the related costs. The CODE program is made possible by a \$20,000 grant from Mass Cultural Council. The grant is also funding a study of business needs faced by the creative economy industries in Holyoke. The study design was facilitated by Michael Kane of Mt. Auburn Associates and performed by the Office of Planning and Economic Development.

**HID Rapid Response** The HID operationalized a "rapid response" model for working with companies and investors who are considering moving their business to Holyoke or the Pioneer Valley. The Rapid Response model is focused on those businesses that are unique to the HID such as big data, IT and clean energy. The HID partners hosted three collective meetings with potential new businesses in the HID, one of which has moved its operations to Holyoke.

**7.26.13** The Holyoke Chamber of Commerce Foundation submits a grant proposal to the Federal Reserve Bank of Boston's Working Cities Challenge grant program. The project, called "SPARK" is a collaboration to fund a social venture accelerator program in Holyoke.



**9.4.13** Receipt of \$70,000 Adams Arts Grant from the Mass Cultural Council for Main ARtery, a business development program for the creative industries in Holyoke.



Holyoke Urban Bike Shop or HUBS, is a bike maker space and fitness program of the Holyoke YMCA.



## Economic Development Success

**Advanced Manufacturing** A sustained organizational commitment, commencing in 2006, has resulted in the Pioneer Valley being recognized at the state and national levels for leadership in advanced manufacturing cluster development with special emphasis on achieving a robust talent pipeline for prospective and incumbent worker training. A succession of investments at the Regional Employment Board of Hampden County has positioned industry leaders at the epicenter of the Patrick Administration’s Massachusetts Advanced Manufacturing Collaborative. Holyoke continues to be a focus of investment in the growth of advanced manufacturing jobs and a sustained strategy of the Holyoke Innovation District.

**PMPT** Precision Manufacturing Training Program (PMPT) Funded in part by a \$750K grant from EOHEd, PMPT enrolled 91 participants, 52 of them from Springfield and Holyoke. Of the 91 participants, 40 have secured employment.

**PMCI** Precision Manufacturing Courses for Incumbent Workers Program The Precision Manufacturing Courses for Incumbent Workers Program offered free classes to area incumbent workers. All classes were held at Holyoke’s Dean Tech High School in the evening hours. In 2013, the program graduated 125 workers from 34 area companies.

The Regional Employment Board of Hampden County has been awarded an additional \$400,000 by EOHEd to continue both training programs into 2014. Both programs are considered a model for workforce development in the Commonwealth.



## Creative Economy & Entrepreneur Ecosystem

One of the most exciting aspects of the growth of the HID has been the new support that the existing creative and start-up economy has received in Holyoke. The partners in the HID have leveraged their own resources to grow exchange networks within this sector, creating new and exciting partnerships that include local residents in Holyoke and business owners from across the region. In this regard, Holyoke is leading the region in its formalized and direct support of the local creative economy.

**FAS** Fire Arts Studio Amherst native, metal sculpture artist/ Hampshire College alum Kamil Peters leased a 16,000 sq. ft. studio at 400 Dwight Street. Kamil is forming a cooperative with 7 other artists and makers who will collectively complete contracts and teach area teens how to create and sell their own works. Students will (and do) use blow torches! Says Kamil, “Holyoke just gets it”.

**CNH** Creative Next Holyoke EOHEd’s Creative Next initiative, led by Helena Fruscio, conducted four one-on-one technical assistance workshops with 27 local creative economy companies in partnership with the Western Mass EDC and the Creative Economy Coordinator of Holyoke, leveraging local and statewide business support organizations including Valley Venture Mentors, Mass Growth Capital, Common Capital, and Mass Small Development Centers.

**VVM** Valley Venture Mentors (VVM) VVM was awarded \$10,000 by MassTech to fund an entrepreneurial ecosystem marketing campaign with a spotlight on what a robust entrepreneurial support system could produce in impact for the region. The campaign will be released in early 2014.

**SPARK** SPARK is a social venture accelerator program for local residents to pursue innovative projects and small business ideas. The intended outcome of the project

## Notable Milestones



**10.28.13** Holyoke participates in Governor Patrick’s Innovating for Growth Symposium. One of only four invited cities, participants discussed expanding participation in the innovation economy and entrepreneurship in the Commonwealth’s Gateway Cities at Worcester Polytechnic Institute.



Gateway City Arts offered students the opportunity to create murals that replicate the stained glass windows of City Hall.



Angie Gregory and Jessica Montagna of Simple Diaper and Linen, one of Holyoke's new green businesses located in the HID.

is to increase the number of Latino owned businesses in Holyoke, specifically located in the Arts and Innovation District, from 9% to 25%. SPARK is a multi-stakeholder proposal of over \$800,000 submitted to the Federal Reserve Bank of Boston. The proposal represents hundreds of collective hours on the part of the community partners who collaborated to produce it.

**IF** **The Main ARTery** Recently funded by a \$70,000 grant from the Mass Cultural Council's Adams Arts Program, the Main ARTery is a program that offers business development assistance and train the trainer resources to individuals in the local creative economy. The Main ARTery will have a physical retail component in the Innovation District and will connect the multiple maker spaces in the HID through shared programming.

**Gateway City Arts (GCA)** Gateway City Arts (GCA) is a membership based arts maker space located in the Innovation District. GCA offers classes for both kids and adults, rents space for product fabrication, hosts arts events and trains local youth to work in the architectural restoration field. GCA credits its location in Holyoke in part to MGHPC's location in Holyoke. GCA has successfully established ongoing weekly art classes for teens and adults, dance classes in Tango and Swing. GCA offers cubicle style personal working spaces which are 80% rented. GCA has a growing membership based "maker space" which offers a woodworking shop and a ceramic studio with six wheels.

**IF** **Gateway City Arts Apprenticeship Program** Gateway City Arts made a commitment when it was awarded a Tax Increment Financing package to run an apprenticeship program that would teach the guild arts to local residents. The Apprenticeship Program was launched in 2013 with the Holyoke Boys & Girls Club, running every Monday for several months. Six kids worked on prototypes for a stained glass

window mural that led to a further collaboration with Career Point and Reader to Reader, Gateway City Arts and Vitek Kruta Restoration. The partnership resulted in the creation of a 9x28 ft mural, created during a 4 week long summer program with thirteen 13-17 year old participants. The mural is located behind City Hall and covers a blighted parking lot. The goal of the program was to create awareness about the need to restore the historic stained glass windows at the Holyoke City Hall. The program included design, history, painting, hands on execution of ideas, discipline, teamwork, and expression through writing.

Today, Gateway City Arts, Career Point, Reader to Reader and the newly established Holyoke Preservation Trust, which is the non-profit arm of the Holyoke Restoration Guild, are working together on establishing a 2 year program for career development in arts and preservation. This collaboration has lots of potential that will result in training, job creation, historic preservation, professional art career in applied arts and learning literacy, self promotion and PR.

**UMass Amherst Engagement** The HID Kitchen Cabinet hosted Chancellor Subbaswamy at its July meeting. This is significant because the meeting allowed the City officials to engage with the Chancellor on a cohesive strategy for economic development and share how the Innovation District can impact engagement with UMass Amherst. The meeting opened a dialogue between UMass Amherst and the Holyoke Public Schools. Michael Malone, Vice Chancellor for Research and Engagement, has joined the Kitchen Cabinet which further strengthens the relationship between the HID and UMass Amherst.

**Holyoke Innovation District (HID)- the brand** The HID has been branded with a logo, a web site and is engaged in social media. This has invited virtual participation from across the US and most notably from NYC and Boston. The greatest engagement has been from Holyoke and Western Mass residents who are anxious to participate in Holyoke's new framework for an innovation economy.



**10.29.13** Dignitaries and team members came together at the Massachusetts Green High Performance Computing Center facility to mark MGHPC's LEED® Platinum Certification from U.S. Green Building Council.



**11.22.13** Holyoke Public Library opens after a \$35 million renovation and technology upgrade.



## MassTech- A Community Partner

One of the most notable features about HID's local-regional-state model is that it has proven to be ever adaptive to emerging opportunities. Much of this day-to-day agility can be attributed to an unwavering commitment from the Innovation Institute at MassTech, beginning in 2009. The Institute sustains HID with a deep bench of talent, the timely application of financial resources which helps convert ideas into action, and a ready willingness to expand HID's reach across the Commonwealth through MassTech's extensive network of private and public sector leaders. This approach has created a unique collaboration, extending across 13 organizations and counting.

## What's on the Horizon – Ambitions for 2014 . . .

-  Stated ambition for Holyoke to be the first city in Massachusetts to be "carbon neutral" and for Holyoke to be a regional center for clean energy innovation.
-  Establish the Holyoke Arts and Innovation Center as a hybrid space offering business development services for social ventures, start-up entrepreneurs, and creative makers.
-  Formalize HID as a hub for urban design through partnerships with UMass Amherst, Conway School of Design, Nuestras Raices, Food Forest Farm, Design Venturers, New England Sustainable Energy Association (NESEA), and Permaculture Feast.
-  Begin and complete construction of key Downtown infrastructure improvements, such as the passenger rail platform that will serve Holyoke, Phase II of the Canalwalk and the connecting streetscapes.
-  Upgrade HG&E's fiber optic network to 10 Gbps (Gigabit per second) capacity and work with the Holyoke Public Schools (HPS) to provide 10 Gbps capability to the HPS network. This will allow multiple HPS locations to run at the full 10Gbps access rate simultaneously, which is essential to the district's ability to provide the recommended bandwidth for the mandated implementation of the PARCC assessment.
-  Begin design on the Comcast Community Access Station which will ultimately offer media services to the public.
-  Establish the HID Partners Program, allowing stakeholders to convey to the HID KC what they need to grow and succeed and to engage in the larger efforts of the HID in new collaborations and partnerships.
-  Expand the brand of the HID to promote the opportunities to a wider regional and national audience.

