City of Providence, RI

Economic Development Cluster Strategy

Final Draft

Place. Ideas. Investment.

FOURTH economy

Executive Summary

In order to identify the industry clusters (market opportunities) on which the City of Providence should focus, the Fourth Economy team conducted a series of quantitative and qualitative activities. These included:

- Analyzing the industry clusters of firms located in the City
- Analyzing the occupations/ employment clusters of City residents
- Reviewing the national and global trends in these clusters
- Discussing the clusters with City and statewide stakeholders
- Further analyzing the clusters to identify sub-clusters based on stakeholder input
- Developing recommended actions for each cluster

This process allows us to develop recommended actions for clusters that can provide economic and employment opportunities. The results of this process are grouped into three categories:

- **Opportunity Clusters**: clusters that employ more than 10% of City residents and demonstrate an opportunity for growth because they are traded industries. They include:
    - Advanced Manufacturing
    - Information Technology and Media
- **Emerging Sub-clusters**: clusters that are currently smaller but due to wage levels, economic trends, unique local assets, and other factors show promise for contributing the City economy. They include:
    - Life Science and Research and Development
    - Design
    - Food System
    - Social Enterprise
    - Education Technology
- **Base Clusters**: clusters that represent more than 10% of the City's employment base and largely comprised of larger place-based entities (i.e. local industries). They include:
    - Tourism and Arts
    - Healthcare and Social Assistance
    - Educational Services

As you read this study, you will recognize several themes in the types of actions recommended to support each cluster. This is because nearly every cluster needs similar basic elements to thrive:

- supportive and consistent city services;
- access to a network of partners;
- clear communications to attract investment;
- and a strong pipeline of talent.

And though many of the recommendations in this strategy call on private and non-profit partners to support action, this is ultimately a cluster strategy for the City of Providence, whose role is sometimes limited in the dynamic environment that is an industry cluster. The following highlighted themes represent many of the recommendations included in this overall cluster strategy.

Partner to Deliver Support Services

The City of Providence, like most American cities of their size, has limited staff and resources focused on economic development. But that doesn't mean that resources don't exist. The City should be an expert in what organizations are providing what services to industry, and should have strong contacts at all of those organizations in order to act as a liaison to businesses looking for assistance. Polaris (the Manufacturing Extension Partnership), Governor's Workforce Board Industry Partners and other industry organizations, small business support organizations (e.g. Small Business Development Center, Center for Women's Enterprise), Social Enterprise Greenhouse, Rhode Island Foundation and most importantly Commerce RI - all of these and more should be the City's closest partners in helping Providence's clusters grow.

Market Providence's Strong and Unique Clusters

Economic development marketing to attract businesses, talent, and investment is a core function that requires ongoing refinement. Providence's current economic development website provides little information on the City's core advantages, industry strengths, and industry partner organizations. An economic development-marketing message should:

- Be informed by industry organizations, as they are best positioned to articulate the unique strengths and assets of their industry
  and will ultimately be critical partners in delivering the message.
- Highlight both traditional strengths and emerging sub-clusters. The intersection of design and manufacturing, food, edtech, and social enterprise are all unique areas of strength that can differentiate Providence and also be strengthened by the attraction of new firms, talent, and investment.

- Be coordinated with state marketing efforts. One immediate opportunity is the pending State sponsored tourism campaign, so that Providence's unique strengths can be highlighted for both visitors and businesses.
- Highlight unique general attributes, such as proximity to markets, logistics infrastructure, and quality of life assets such as outdoor recreation amenities and healthcare facilities.

Lay the Groundwork for Collaboration & Innovation Spaces
Several clusters have identified a need for spaces to incubate new businesses, collaborate with partners, and perform research and innovation. Specifically, a need was identified for a center for design and manufacturing, wet lab / incubator for life science companies, live / work space for tech companies, and an incubator for edtech start-ups. These do not necessarily need to be different spaces, though they could be. The City can help lay the groundwork for the development of such space(s) by creating business plans and convening industry organizations and developers to further develop the concept.

Be a Real Jobs Partner
Access to workforce talent may be the number one concern for all of Providence's industry clusters. The State's Real Jobs RI program is supporting industry-led workforce strategies for many of Providence's clusters which will be decided by the end of calendar year 2015. The City should be a visible and active partner in the emerging Real Jobs Partnerships; help ensure that public schools are also engaged; and use that platform to address workforce issues of public concern, such as the below-average wages of Latino workers.

Encourage Place-Making for Economic Development
While the Real Jobs Partnerships will focus more on traditional workforce development, the City should maintain a focus on place-making given the critical role of "community" in attracting and retaining talent. Partnering with the State and developers to ensure the right mix of housing; partnering with higher education and the CVB to increase the connection of visitors and students to Providence; and partnering with the State to promote and invest in cultural assets are all important in strengthening Providence's clusters.

Foster Emerging Clusters
Providence has several emerging industry clusters that can be a national differentiator, including design, social enterprise, food, and edtech. Within this study, there are specific recommendations regarding their unique needs. In general though, the City of Providence can play an important role in convening these clusters and/or being a part of their cluster organizations as they are growing.

Similarly, supporting them if they chose to pursue the State's new Industry Cluster Program grants would be a simple way to further support their development.

Financing
The City has limited resources to support cluster development, which creates an imperitive to leverage funds wherever possible and ensure they are directed to quality job creating opportunities. The Providence Economic Development Partnership and use of Tax Stabilization are the primary tools available under their control. These programs can fit with several new programs that are currently being implemented by the state and will allow for greater impact on City businesses.

The City Economy

History and Context

As one of America's oldest cities, Providence has a deep history in the regional, national and global economies. As of 2014, the City is home to over 179,000 residents who live in a variety of neighborhoods scattered amongst the seven hills that make up the City boundaries. The City was a global industrial powerhouse by the 1830s with textiles, metals, machinery and jewelry, silverware factories all engaged in the design and manufacture of products for domestic and export use. Like most industrial communities the City has been in transition from the 1920s and into the first decade and a half of the 21st Century. Today the Providence economy still sees contributions from jewelry, silverware, metals and machinery manufacturing but also enjoys the benefits of the education, healthcare, and finance clusters.

As the City continues to rebound from the great recession the City Council and a group of stakeholders formed an Economic Development Task Force as an opportunity to enhance the focus and programs that can support continued economic growth. The Task Force recommended that an Economic Development Cluster strategy be executed in order to identify prime areas of investment and opportunity in the City. The City Council hired Fourth Economy Consulting to conduct the economic cluster strategy and make recommendations. A Providence Cluster Strategy Steering Committee was formed and is providing input into the work being conducted.

This report is a preliminary draft of the findings and recommended actions. Following a review with the Steering Committee and additional follow up a final report is expected by November 2015.

Characteristics

In this section we review some of the key characteristics of the Providence economy.

About Providence's Residents

Table 1: Characteristics of Residents

Comparison Characteristics (based on 2013 data unless otherwise indicated)	City of Providence, RI	Providence County, RI	Providence-Warwick, RI-MA Metro Area	Rhode Island	New England	U.S.
Economic Characteristics						
Percent of Population with High School Diploma (or Equivalency)	22.9%	28.2%	28.2%	27.2%	27.7%	28.1%
Percent of Population with Associate's Degree or Higher	33.7%	33.9%	37.7%	39.7%	44.3%	36.6%
Labor Force Participation Rate	64.6%	65.3%	66.3%	66.2%	67.5%	64.3%
Unemployment Rate (2015)	10.6%	6.3%	5.8%	5.8%	4.7%	5.3%
Median Household Income (as a percentage of U.S.)	71%	93%	106%	106%	120%	100%
Per Capita Income (as a percentage of U.S.)	77%	93%	106%	108%	123%	100%
Poverty Rate	29.0%	17.1%	13.2%	13.6%	11.2%	15.4%
Social Characteristics						
Population	178,056	627,469	1,604,291	1,051,695	14,513,709	311,536,594
Population Growth Rate 2000-2013	2.6%	0.9%	1.3%	0.3%	4.2%	10.7%
Spanish Speaking at Home	36.0%	16.9%	8.7%	11.0%	7.5%	12.9%
Moved to Place Less Than 1 Year Ago from Another State or Abroad	8.2%	3.9%	3.2%	3.8%	3.1%	2.9%

Source: U.S. Census Bureau, 2000 Census & 2009-2013 5-Year American Community Survey

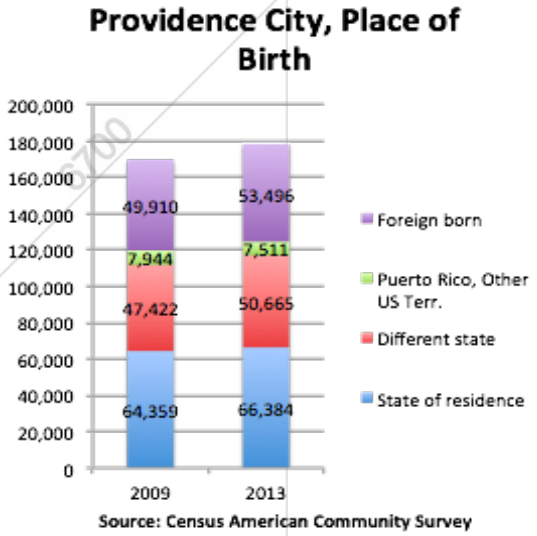
The City of Providence continues to struggle with lower educational attainment, higher unemployment, and lower median income than the region and the country.

There are also a number of transformational factors, which may have positive or negative impacts depending on how they are managed, but these factors position the future growth of the city.

- Providence has a higher rate of in-migration and residential turnover, as more than eight percent of the population (or over 14,000 people) moved in from another state or abroad from 2012 - 2013. However, the overall slow population growth (2.6% compared to 10.7% for the U.S.) indicates that the City is not able to hold onto these residents for very long.

- Thirty-seven percent of city residents were born in Rhode Island, which is only slightly more than the 34% from Puerto Rico or Abroad. Two-thirds of all of the foreign-born residents of Providence are from Latin America and 36% of its population that speak Spanish at home. This places Providence at the forefront of one of the major demographic shifts in the U.S. with the continued growth of the Hispanic population and a shift from the traditional population centers in the West and South.

Figure 1: Location of Birth



Source: Census American Community Survey

What Industries Employ City Residents?[1]

First we examine the industries that employ resident workers comparing the city, county, state, New England the U.S. These are the industries that employ residents regardless of where the jobs are located (i.e. the jobs themselves may be located outside of the city).

- A higher percentage of City residents work in Manufacturing, Education & Health Care, and the Arts/Hospitality industries compared to the surrounding area and the U.S.
- The City has a relatively similar proportion of residents employed in the Professional, Scientific, and Management industry compared to the surrounding area and the U.S; this industry is generally associated with higher wages.
- A smaller than expected proportion of city residents are employed in retail trade.

[1] Throughout this report we use City data where available and County level data when the City data is less current/ unavailable.

Table 2: Employment by Industry

Resident Employment by Industry, 2013

As a percentage of the employed population 16 years and over

Industry	City of Providence, RI	Providence-Warwick, RI-MA Metro Area	Rhode Island	New England	United States
Agriculture, forestry, fishing and hunting, and mining	0.2%	0.4%	0.4%	0.7%	1.9%
Construction	3.8%	5.6%	5.0%	5.8%	6.2%
Manufacturing	12.6%	11.3%	11.2%	10.3%	10.5%
Wholesale trade	2.1%	2.9%	2.3%	2.5%	2.8%
Retail trade	10.4%	12.6%	12.0%	11.4%	11.6%
Transportation and warehousing, and utilities	2.6%	3.7%	3.6%	3.7%	4.9%
Information	1.6%	1.7%	1.7%	2.2%	2.2%
Finance and insurance, and real estate and rental and leasing	4.5%	6.8%	7.0%	7.6%	6.7%
Professional, scientific, and management, and administrative and waste management	10.5%	9.4%	9.7%	11.5%	10.8%
Educational services, and health care and social assistance	31.6%	26.9%	27.4%	27.1%	23.2%
Arts, entertainment, and recreation, and accommodation and food services	13.1%	9.8%	10.6%	8.6%	9.3%
Other services, except public administration	4.9%	4.6%	4.6%	4.5%	5.0%
Public administration	2.2%	4.4%	4.4%	4.1%	5.0%

Source: U.S. Census Bureau, 2009-2013 5-Year American Community Survey

New England consists of Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont

- Significant losses have occurred in Construction, and Finance, Insurance and Real Estate, which were more severe than the declines in the U.S. for these industries.
- Large gains in Education, Healthcare and Social Assistance that exceeded the gain in the U.S. for these industries.

Table 3: County of Providence Employment by Cluster

	2013 County Jobs Held by Residents	5-year change (value)	5-year change - Prov (%)	5 Year Change - US
Agriculture, forestry, fishing and hunting, and mining	148	-84	-38%	12.6%
Construction	2,955	**-1,108**	-29%	-6.0%
Manufacturing	9,857	-817	-8%	3.2%
Wholesale Trade	1,677	96	7%	-3.9%

Retail Trade	8,132	518	7%	3.7%
Transportation and warehousing, and utilities	2,020	107	6%	0.6%
Information	1,227	-125	-9%	-4.0%
Finance and insurance, and real estate	3,509	**-1,317**	-28%	-1.0%
Professional, scientific, and management, and administrative and waste management services	**8,221**	321	4%	7.4%
Educational services, and health care and social assistance	**24,797**	3,142	15%	4.7%
Arts, entertainment, and recreation, and accommodation and food services	**10,307**	957	10%	8.9%
Other services, except public administration	3,852	338	10%	3.1%
Public administration	1,736	137	9%	0.9%

What Jobs Exist in the City/Who is Working in the City?

The data below demonstrates that there has been an increase in high-wage jobs in the City of Providence. While this is positive, the data also shows that commuters - those not living in the city - are more likely to have these higher-wage jobs. Overall in fact, the number of people working and living in the City has decreased, with more commuters working in the City.

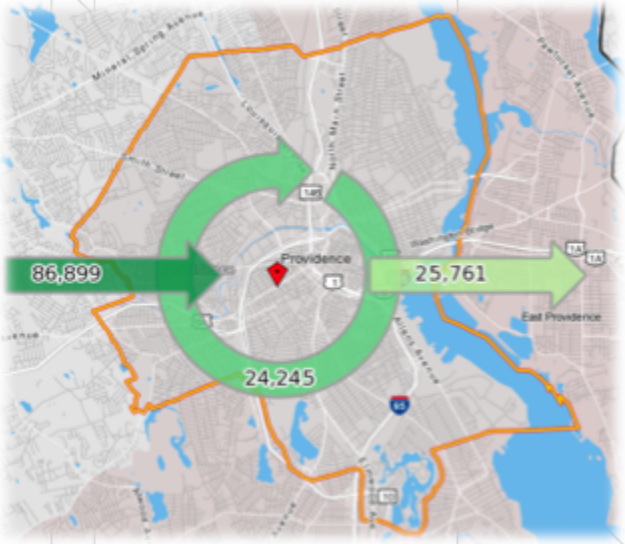
In addition to these points, data is showing the share of low- and mid-wage jobs has decreased, and across the board, median wages for City residents are below the U.S. in nearly every industry. These facts seem to indicate that city residents are not being matched to the increase of jobs, and generally continue to struggle with income availability and upward mobility.

The City of Providence is an employment center for Rhode Island:[2]

- 78 percent (86,899) of people working in the City commuted in
- 21 percent (24,245) of people working in the City were City residents
- Half of working City residents were employed outside of the City

[2] U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (Beginning of Quarter Employment, 2nd Quarter of 2002-2011).

Figure 2: Commuting Patterns



U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (Beginning of Quarter Employment, 2nd Quarter of 2002-2011).

Top 3 sources of City of Providence-based workers:

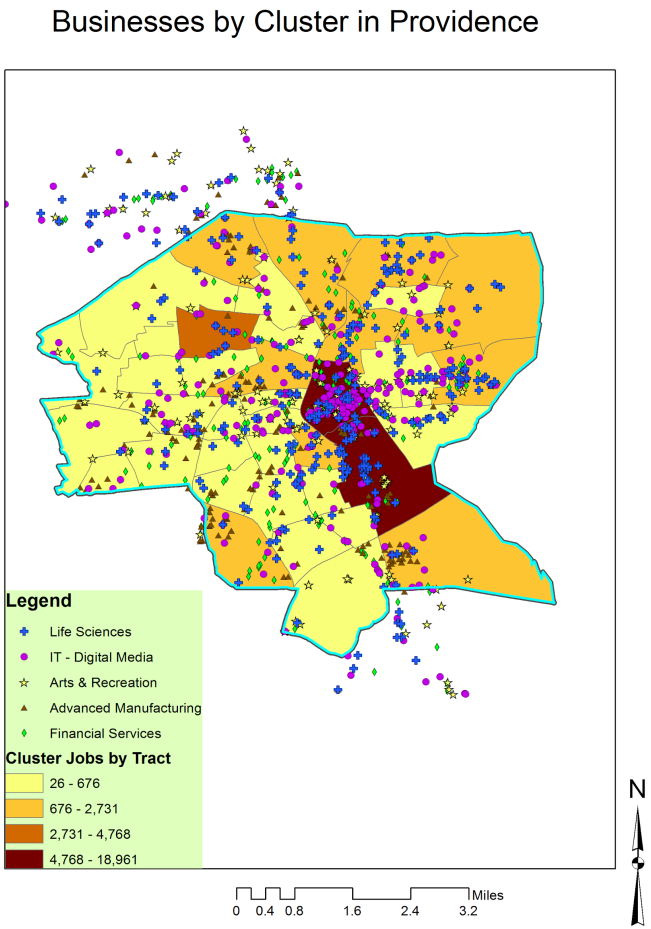
- Providence County, RI (60 percent)
- Kent County, RI (13 percent)
- Bristol County, MA (7 percent)

Top 3 employment destinations for City residents:

- Providence County, RI (80 percent)
- Kent County, RI (11 percent)
- Washington County, RI (3 percent)

The map below displays the location of businesses within Providence. Though as in any city, jobs are clustered largely in Downtown, this map shows that most industries also have a significant presence outside of Downtown. Therefore, opportunities exist to strengthen industry clusters throughout the city and to bolster neighborhood-based businesses through the impact of these industries.

Figure 3: Business by Cluster in Providence



As mentioned above, half of city residents are employed outside of the city. Table 4 shows the industries where residents must commute outside the city for work because there are not enough jobs in that industry in the city. For example, there are only 5,059 jobs in manufacturing in the city versus 9,857 residents working in that industry. It should be noted however that in some industries it might not be possible or desirable for the city to expand employment within the city (e.g. agriculture).

Table 4: Outbound City Commuters

Industries in which Residents Must Commute	2011 Jobs of City Residents	2011 Jobs in the City
Agriculture, forestry, fishing and hunting, and mining	148	10
Transportation, warehousing, and utilities	2,020	1,846
Arts, entertainment, and recreation, and accommodation and food services	10,307	9,898
Construction	2,955	2,010
Retail trade	8,132	7,103
Manufacturing	9,857	5,059

Table 5 includes the industries that have more jobs than there are city residents employed in those industries. These are the industries that rely on workers to commute in from outside the city.

Table 5: Inbound City Commuters

Industries which rely on Commuters	2011 Jobs of City Residents	2011 Jobs in the City
Educational services, and health care and social assistance	24,797	43,916
Professional, scientific, and management, and administrative and waste	8,221	16,012

management services		
Public administration	1,736	7,209
Finance and insurance, and real estate	3,509	6,743
Information	1,227	3,876
Other services, except public administration	3,852	5,029
Wholesale trade	1,677	2,433

The industries employing more city residents than commuters tend to be lower-wage industries; whereas the industries employing more commuters tend to be higher-wage. This is further demonstrated by Figure 4, which shows that:

- Providence has seen an increase in higher wage jobs, but more of those jobs are being held by workers that live outside the city; and
- Regardless of where they live, there are fewer low- and mid-wage jobs for the workers and residents of Providence.

Figure 4: Wage Trends

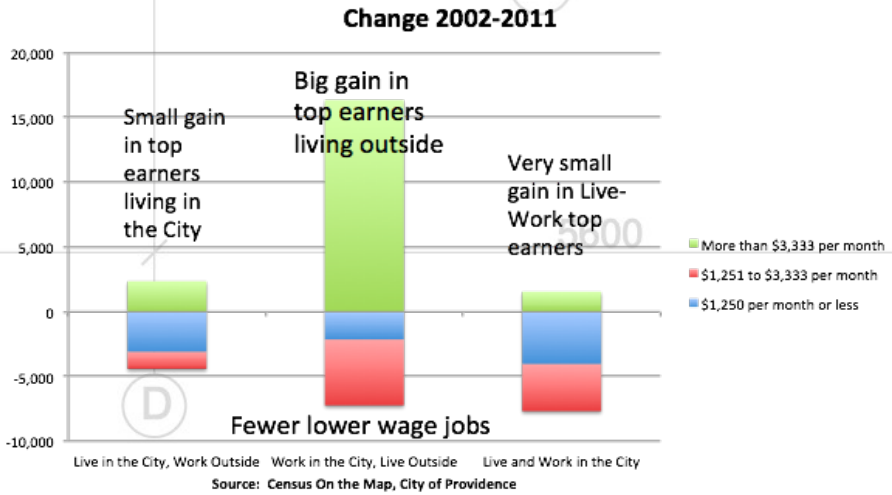


Table 6: Jobs by Wage Category

Workers Earning	2002 Jobs	2002 Share	2011 Jobs	2011 Share
$1,250 per month or less	35,751	28%	26,449	21%
$1,251 to $3,333 per month	56,703	45%	46,662	37%
More than $3,333 per month	33,908	27%	54,137	43%
Total	126,362	100%	127,248	100%

Table 7 shows that the average earnings gap between Providence and the U.S. is $(7,614). In all industries except Construction, Providence's median earnings are below that of the U.S.

Table 7: Earnings Gap

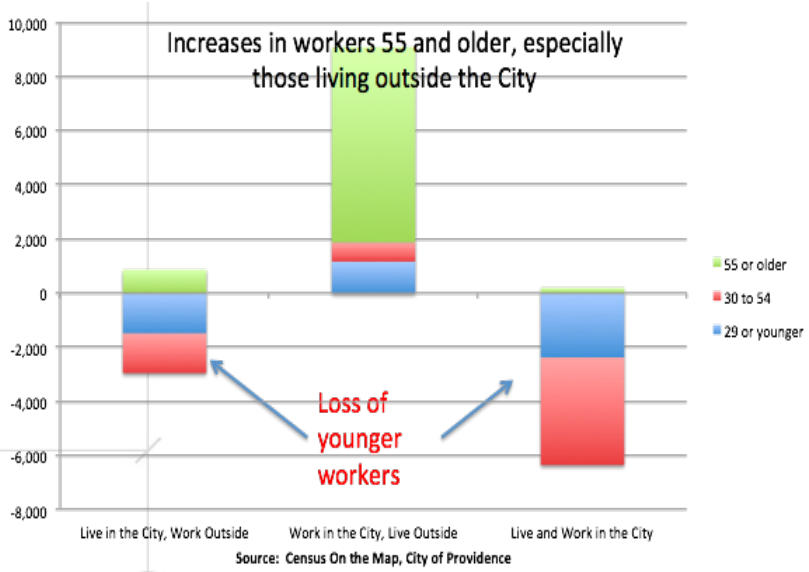
2013 Median Earnings (Dollars) - Estimate	United States	Providence City	Difference: Providence - US
Civilian employed population 16 years and over	33,419	25,805	($7,614)
Agriculture, forestry, fishing and hunting, and mining	31,057	13,750	($17,307)
Construction	34,413	35,870	$1,457
Manufacturing	42,204	27,254	($14,950)
Wholesale trade	41,429	32,858	($8,571)
Retail trade	21,745	19,267	($2,478)
Transportation and warehousing, and utilities	43,627	30,099	($13,528)
Information	46,808	40,383	($6,425)

Finance and insurance, and real estate and rental and leasing	44,196	42,054	($2,142)
Professional, scientific, and management, and administrative and waste management services	41,297	27,455	($13,842)
Educational services, and health care and social assistance:	34,567	27,440	($7,127)
Arts, entertainment, recreation, accommodation, food services	15,473	15,345	($128)
Other services, except public administration	22,361	21,091	($1,270)
Public administration	51,337	51,302	($35)

Source: American Community Survey. S2403: Industry By Sex And Median Earnings In The Past 12 Months (In 2013 Inflation-Adjusted Dollars) For The Civilian Employed Population 16 Years And Over.

Finally, the biggest positive change in people both working and living in the city has been among those who are 55 or older. The City is losing its core (30-54) and future workforce (16-29) as more of these groups are choosing to live elsewhere. From 2002 to 2011 there are 6,000 fewer workers age 16-54 that live and work in the City, and 3,000 fewer workers age 16-54 that live in the City but work outside the City. As the 55 and older workforce begins to retire, the City will face an even greater gap in residents who work in the city.

Figure 5: Change in the Workforce Age



Industry Clusters

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    - Tourism and Arts
    - Healthcare and Social Assistance
    - Educational Services

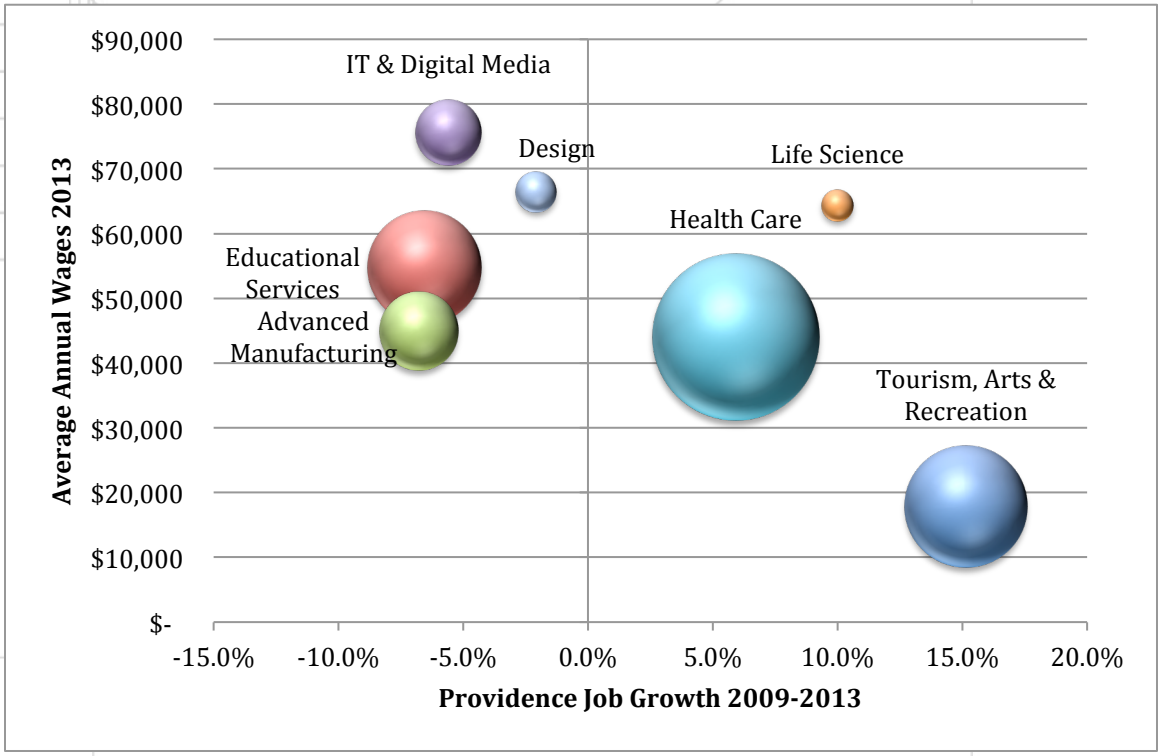
The following sections provide information on how these market opportunities compare overall and then details on our analysis and recommended actions.

About the Approach

Wages and Job Growth

Fourth Economy began by analyzing basic wage and job growth data to inform categorization and recommendations. The figure below presents the job creation from 2009-2013 and the average wages for 2013 for each of these market opportunities[3], as well as the relative scale of employment.[4] The data supporting this chart is presented in the table below.

Figure 6: Providence Clusters



[3] Food System, Social Enterprise and Education Technology are subsectors that do not have a standard industry definition and are therefore unable to measure at this time.

[4] Fourth Economy Analysis of County Business Patterns data.

Table 8: Wages and Firms by Cluster

	Providence County					U.S. Job Growth 2009-13
Cluster	2013 Avg Wage	2013 Firms	2009 Jobs	2013 Jobs	Job Growth 2009-13	
Tourism, Arts & Recreation	$ 17,810	1,818	25,794	29,701	15%	8%
Life Science	$ 64,417	93	1,761	1,937	10%	1%
Health Care	$ 43,981	2,281	53,143	56,290	6%	10%
Design	$ 66,472	595	3,229	3,162	-2%	6%
IT & Digital Media	$ 75,641	810	8,980	8,478	-6%	4%
Advanced Mnfg.	$ 44,933	585	13,177	12,283	-7%	4%
Educational Services	$ 54,810	297	27,914	26,089	-7%	0%

Shift-Share Analysis

Then Fourth Economy conducted a shift-share analysis to identify whether industry or local factors were positive (contributed to job gains) or negative (contributed to job losses).

Expected Growth is based on the trend for that industry cluster in the U.S. and reflects how many jobs gained or lost can be attributed to overall industry conditions.

Local Conditions estimate the local competitive effect but does not identify specific local conditions that contribute to job gain or loss, only whether local conditions were positive or negative and how many jobs gained or lost can be attributed to local conditions. The local conditions that impact growth could be taxes, business climate, innovation, productivity, a gazelle firm, access to resources or

infrastructure. These conditions can be a result of state-level policy that affects local conditions, as well as city policies. The analysis estimates the influence of local conditions but it does not tell us which local conditions are positive or negative. More detail on local conditions is highlighted in our industry cluster analysis and reflected in the recommendations, which are informed by stakeholder input.

Industry Analysis

For each market opportunity, we identified the specific growth driving subsectors. Even within clusters that are experiencing some decline there may be firms and subsectors that are growing and which reflect a strategic opportunity for the region.

Talent Pipeline

Firms that are expanding are only one source of job opportunities. The economy must maintain some balance between the workforce supply and demand, and part of that demand is the need to replace workers that are retiring. The share and number of workers aged 55 and older were estimated for each Market Opportunity. This provides a sense of how much turnover can be expected in the workforce over the next five to ten years. The local talent pipeline is represented by the number of degrees per year. Comparing the older workforce to the number of degrees per year provides an indicator of the ability of the local economy to replace retiring workers and/or support expansion.

Market Conditions

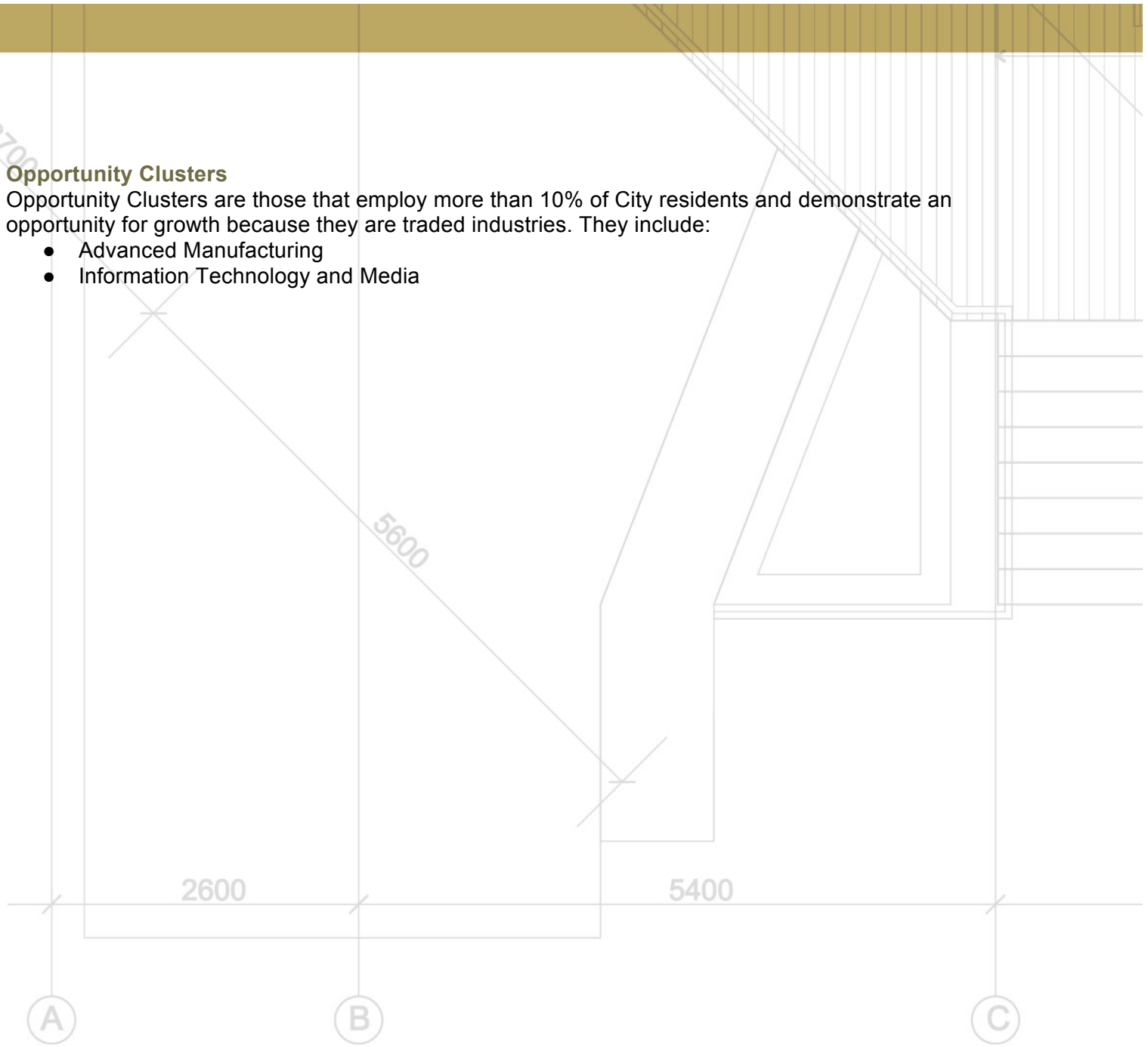
Finally, we explored the factors that will affect the future growth of these opportunities, which help to identify the local conditions that are helping, or hindering growth.

The analysis identified four clusters as potential growth drivers based either on a current strategic advantage or a growth opportunity. Each market opportunity is reviewed in depth in the sections that follow.

Opportunity Clusters

Opportunity Clusters are those that employ more than 10% of City residents and demonstrate an opportunity for growth because they are traded industries. They include:

- Advanced Manufacturing
- Information Technology and Media



Advanced Manufacturing

About

The advanced manufacturing cluster is a cluster that is being impacted by a transforming global marketplace.

Defining Advanced Manufacturing: "a family of activities that (a) depend on the use and coordination of information, automation, computation, software, sensing, and networking, and/or (b) make use of cutting edge materials and emerging capabilities enabled by the physical and biological sciences, for example nanotechnology, chemistry, and biology. This involves both new ways to manufacture existing products, and especially the manufacture of new products emerging from new advanced technologies."[5]

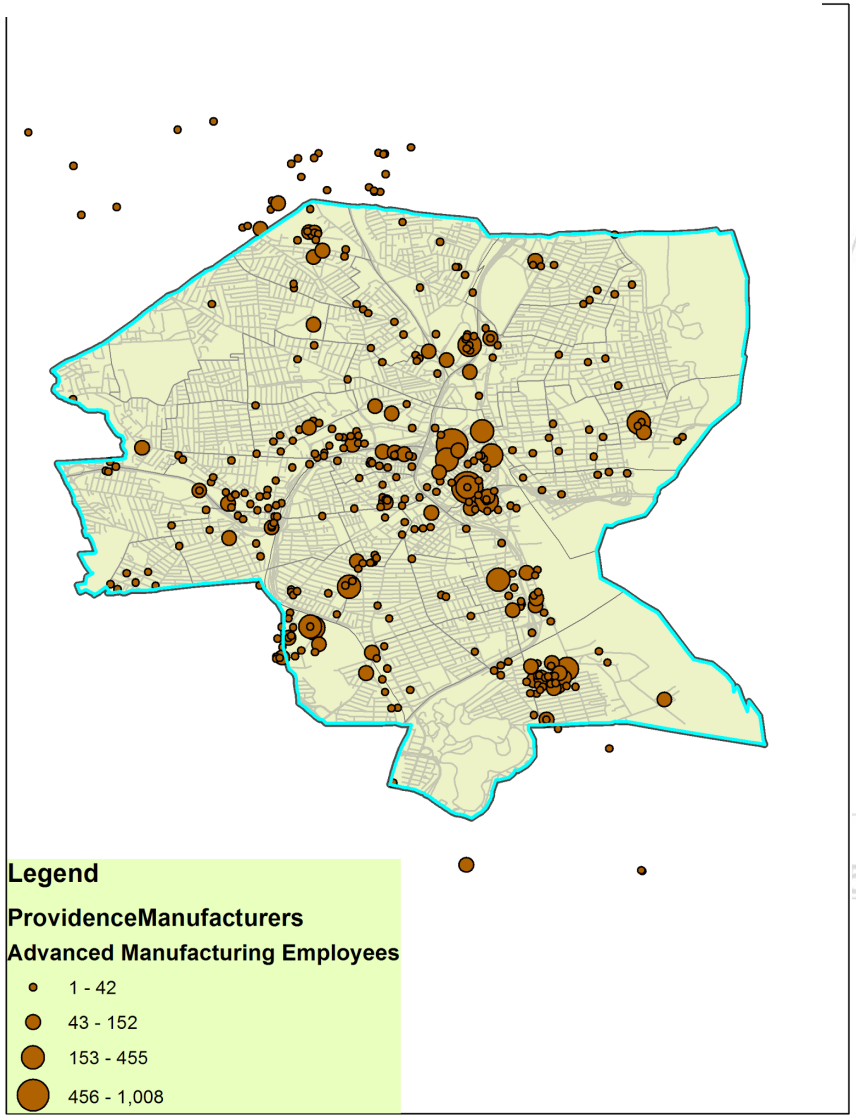
The manufacturing cluster employs 12.6% of the City of Providence labor force which places it third largest of any of the clusters reviewed.

Job Growth
2013 County Firms: 585 (3% of the County)
2013 County Jobs: 12,283 (5% of the County)
Job Growth 2009-2013: -7%

5 President's Council of Advisors on Science and Technology (PCAST) *Report to the President on Ensuring American leadership in Advanced Manufacturing*

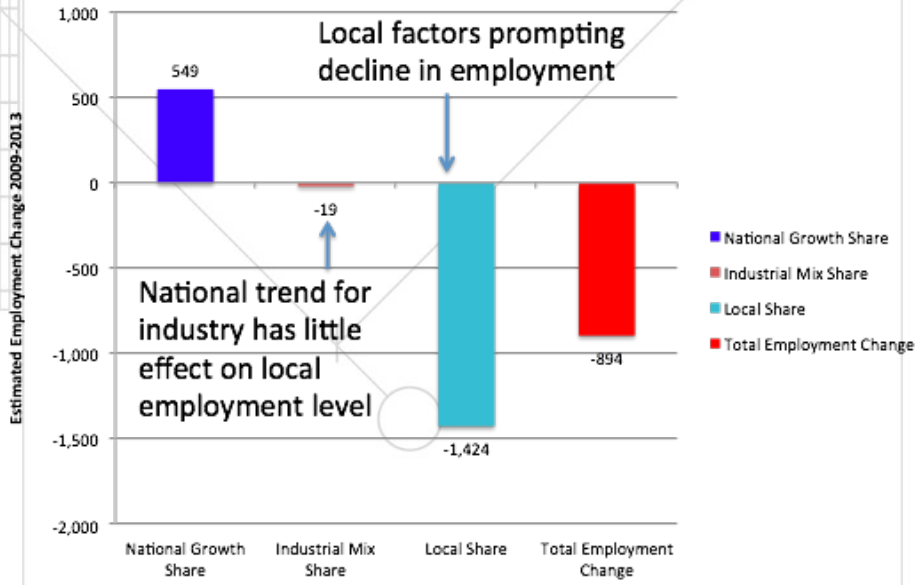
These manufacturing jobs are dispersed across the city, but clustered along core arteries.

Figure 7: Manufacturing Employment in Providence



Shift-Share
Local actual job loss: -894
Expected job loss: -19
Local Conditions impact: -1,424 job loss

Figure 8: Manufacturing Cluster Shift Share Analysis



Industry Analysis

Growth in the manufacturing cluster is being driven by a handful of sub-clusters as shown on the chart below.

Table 9: Manufacturing Firms and Jobs

NAICS	Industry	2013 County Firms	2013 County Jobs	County Job Change 09-13 (#)	County Job Change 09-13 (%)
326	Plastics and Rubber Products Manufacturing	42	1,322	145	12%
3321	Forging and Stamping	16	398	104	35%
3327	**Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing**	**46**	**776**	**95**	**14%**
3259	Chemical Product and Preparation Manufacturing	11	660	87	15%
3328	**Coating, Engraving, Heat Treating, and Allied Activities**	**55**	**1,048**	**37**	**4%**
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	21	891	31	4%
3332	Industrial Machinery Manufacturing	15	217	27	14%
4231	Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers	51	474	24	5%
3339	General Purpose Machinery Manufacturing	10	142	15	12%
3323	**Architectural and Structural Metals Manufacturing**	**21**	**355**	**4**	**1%**

Note: Industries in Bold are expected to grow between 2012-2022 according to the BLS

Table 10: Declining Manufacturing Industries

NAICS	Industry	2013 Firms	2013 Jobs	Job Change 09-13 (#)	Job Change 09-13 (%)
313	Textile Mills	35	1,403	(13)	-1%
3272	Glass and Glass Product Manufacturing	12	137	(295)	-68%
332999	All Other Miscellaneous Fabricated Metal Product Manufacturing	19	357	(98)	-22%
3335	Metalworking Machinery Manufacturing	42	336	(23)	-6%
3399	Other Miscellaneous Manufacturing	189	3,767	(1,034)	-22%

Talent Pipeline

Compared to the other clusters reviewed the manufacturing cluster demonstrated the oldest workforce with 21% (2,571) of the workers age 55 and older. As a guideline it can be expected that many of these workers will retire in the next decade and as a result Providence manufacturers will need to find replacement workers as well as manage the knowledge transfer that occurs when these workers leave the facilities.

A review of the manufacturing-related graduation information shows that local universities produce approximately 763 manufacturing degrees per year so an ample pipeline of educated talent exists if the proper connections are made to support recruitment.

Market Opportunities & Challenges

As the majority of the manufacturers in the City are very small, less than 20 employees, the changes that are happening in the cluster will have a more profound impact. The manufacturing cluster continues to struggle with rapidly changing external forces, including:[6]

- The role of information technology
- Emphasis on modeling and simulation in the manufacturing process
- Rapid innovation in global supply chain management
- Responsiveness to customer needs and external environment
- Supporting sustainable manufacturing
- Investment in cyber and related physical infrastructure

Many of these external factors are contributing to a decrease in the labor force. According to BLS projections, manufacturing employment numbers are expected to decrease by 550,000 between 2012 and 2022.[7] Only 19 of the 77 industries within the Manufacturing cluster are expected to experience rising employment.

However, for communities able to quickly adapt to these trends, there are opportunities to grow their local manufacturing economy and take advantage of trends in reshoring. The reshoring trend continues to provide opportunities for regions and communities that are able to define a unique value proposition and have the ready workforce. "Sixty thousand manufacturing jobs were added in the U.S. in 2014, versus 12,000 in 2003, either through so-called reshoring, in which American companies bring jobs back to the U.S., or foreign direct investment, in which foreign companies move production to the U.S., according to a study from the Reshoring Initiative. In contrast, as many as 50,000 jobs were "offshored" last year, a decline from about 150,000 in 2003."[8] While Providence cannot necessarily support the attraction of a large manufacturing enterprise, it can focus on being a location where 'small' manufacturing happens. This can be especially true of manufacturers that require ongoing product development and customization.

In New England, GDP and employment figures reflect that advanced manufacturing has been resilient and in many cases can be seen to have rebounded back to pre-recession levels, though traditional

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[6] http://www.wilsoncenter.org/sites/default/files/Emerging_Global_Trends_in_Advanced_Manufacturing.pdf

[7] BLS: http://www.bls.gov/careeroutlook/2014/article/manufacturing.htm

[8] http://www.marketwatch.com/story/us-flips-the-script-on-jobs-reshoring-finally-outpaced-offshoring-in-2014-2015-05-01

manufacturing continues to suffer.[9] A significant way in which companies are trying to remain resilient and adapt to changing dynamics is through increasing their research and development. According to a KPMG manufacturing survey,[10] 50%+ of manufacturers plan to double R&D spending for product development over next 2 years.

A Unique Impact

One of the significant benefits of a healthy manufacturing cluster is that the products created attract capital from other domestic and international regions through their export. The chart below illustrates a steady increase, $1.2 B in six years, in the value of regionally manufactured products.

Table 11: Export Values

Providence-Warwick, RI-MA Exports ($ USD)			
NAICS Code	**Description**	**2008 (Full Year)**	**2014 (Full Year)**
331	Primary Metal Manufacturing	1,985,356,764	2,285,900,123
339	Miscellaneous Manufacturing	630,503,428	684,166,792
333	Machinery Manufacturing	321,754,951	540,205,302
325	Chemical Manufacturing	206,194,375	515,097,709
334	Computer and Electronic Product Manufacturing	433,719,439	486,034,901
RES	All Others (Residual)	1,804,497,178	2,083,735,651
ALL	All Products	5,382,026,135	6,595,140,478

9 New England report- http://newenglandcouncil.com/assets/Advanced-to-Advantageous_FINAL-Report_04-08-2015.pdf

10 KPMG manufacturing survey 2014

Manufacturing Cluster Actions

While the overall manufacturing cluster has demonstrated job loss, there are several factors mentioned above that point to opportunities within advanced manufacturing. In order to support these opportunities the following actions are recommended.

Partner to Provide Attraction and Growth Services to Manufacturers

Though the City itself cannot provide many services to manufacturers, it can be a strong partner, connecting businesses and existing resources. For manufacturers, one resource in particular to promote is Polaris, the state and federally funded, Rhode Island Manufacturing Extension Partnership program. The City should develop a referral program with Polaris that allows them to introduce any companies in the city that are looking for working capital for expansion and/or retooling. An MOU should be developed to guide the parameters of the relationship.

The City could also partner with Commerce RI to develop a service package for small manufacturers interested in reshoring or expanding, which highlights possible site locations, resources for their supply chain, financing programs, and other resources that they can access. The State has several new programs that could be of use to expanding or relocating manufacturers, include the First Wave Closing Fund, Anchor Institution Tax Credit, Small Business Lending Program, and Qualified Jobs Incentive.

Develop the Center for Design and Manufacturing

The City economic development department should work with Commerce RI to support the analysis of where a potential Center for Design and Manufacturing should be located. This could include engaging in conversations with the national nonprofit TechShop about a Providence location. The level of maker activity and small manufacturers in the area provides a base for the creation of a physical center.

Utilize Real Jobs to Up-skill Latino Employees

With the aging workforce and the lower wage rates for Latinos in this cluster there is a need to focus on replacement workforce and the upskilling of the existing labor force. Workforce Solutions should focus on working with Providence-based manufacturers to serve their training and hiring needs. The newly created Real Jobs RI program can provide a new resource for City based employers and job seekers to access training funds to serve these needs.

Information Technology and Media Cluster

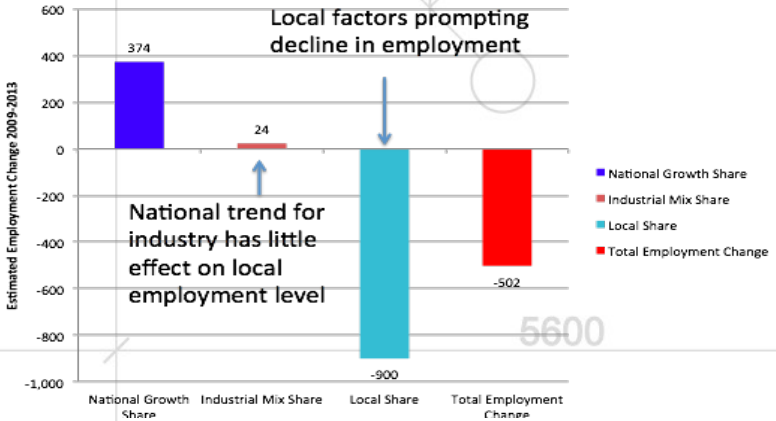
About

The information technology/ media cluster involves the design, development, support, and management of hardware, software multimedia, and systems integration services. This cluster typically provides above average wages and supports other industries within a region.

Job Growth
2013 County Firms: 810 (5% of County)
2013 County Jobs: 8,478 (3% of County)
Job Growth 2009-2013: -6%

Shift-Share
Local actual job loss: -502
Expected job growth: +24
Local Conditions impact: -900 job loss

Figure 9: Information Tech/ Media Shift Share Analysis



Industry Analysis

The following data is provided for the information technology and media cluster.

Table 12: Growing Subsectors in the Information Technology and Media Cluster

NAICS	Industry	2013 County Firms	2013 County Jobs	County Job Change 09-13 (#)	County Job Change 09-13 (%)
5415	Computer Systems Design and Related Services	426	2,626	414	19%
51913	Internet Publishing and Broadcasting and Web Search Portals	28	78	52	200%

Table 13: Declining Subsectors in the Information Technology and Media Cluster

NAICS	Industry	2013 Firms	2013 Jobs	Job Change 09-13 (#)	Job Change 09-13 (%)
511	Publishing Industries (except Internet)	91	1,113	(280)	-20%
515	Broadcasting (except Internet)	25	608	(48)	-7%
517	Telecommunications	65	1,096	(380)	-26%
518	Data Processing, Hosting and Related Services	47	2,407	(238)	-9%
5418	Advertising, Public Relations, and Related Services	128	550	(22)	-4%

The Information Technology cluster is especially challenging to define based on industry-level data, both because IT companies often defy traditional NAICS classifications and because IT employees actually work in nearly every industry. A 2015 report by industry organization, CompTIA provides some additional insight into the IT industry, albeit at the state level. Still, we believe that this data helps to

demonstrate that the actual impact of the IT industry is much broader than can be seen through the county-level industry data shown above. According to CompTIA, 21,800 Rhode Islanders are employed in IT occupations, or 4.9% of the private cluster workforce. Leading occupations include Software Developers, Network and Computer Systems Administrators, Computer Systems Analysts, and Computer Support Specialists, all of which grew between 2013 - 2014. The highest growth was in Software Developers of Applications, which grew by over 4%. As indicated above, the top IT employers are not always IT companies. The Engineering Services industry employed 2,700 IT professionals in 2014, and the Measuring and Control Instruments Manufacturing industry employed 2,550.[11]

Talent Pipeline

The information technology and media cluster demonstrates an average number of workers age 55 and older with 13% (1,144) of the labor force possibly retiring in the next 10 years. A strong pipeline of talent graduating with related degrees from the local universities exists with an average of 776 degrees.

Market Opportunities & Challenges

The Internet of Things refers to the connectivity between physical objects and people and also between objects. According to information technology research and advisory firm, Gartner, 'IoT' product and services suppliers will gain $300 billion in incremental revenue in 2020 (mostly in services).[12] Of particular note for Providence, Gartner also foresees that manufacturing, healthcare, and insurance are amongst the industries that stand to profit the most from the 'IoT'.

Another growth market that aligns with Providence's strengths is data processing and hosting services, which represents 28% of the city's IT & Digital Media cluster. This cluster is listed in the declining industries section due to a loss of 238 jobs during the time period examined but national trends indicate that this should rebound. IT spending and outsourcing from non-industry firms is anticipated to boost the subsector over next 5 years. It's projected to grow 6.2% annually to $116 billion over next 5 years.[13]

Providence based stakeholders indicated that they are hearing about IT firms opening Boston office's due to the difficulty in finding local talent. While this information could not be verified it does point out at least an opinion that could limit the cluster's potential in the city.

[11] https://www.comptia.org/resources/2015-cyberstates
[12] http://www.gartner.com/newsroom/id/2684616
[13] http://www.ibisworld.com/industry/default.aspx?indid=1281

Students (especially girls) are not coming out of the K-12 system interested in or prepared for careers in the information technology cluster due to a lack of programs that integrate computers into the classroom and/or teach coding/software development skills, and a lack of teacher training on how to do so. This lack of strong computer skills has an immediate impact on driving parents currently working in the industry out of the city and a long-term impact on the city/state's ability to grow the information technology cluster.

Information Technology and Media Cluster Actions

The IT industry cluster is one that should be considered both in terms of the direct IT firms but also in terms of IT occupations which support many of Providence's businesses.

Support Real Jobs Efforts to Increase K-12 IT Programming

Many industries within IT are projected to continue growing, yet Providence IT employers struggle to find enough employees to fill open positions. Creating a pipeline of IT workers begins at the K-12 level, especially by providing experiential opportunities for all students to imagine themselves in IT careers. The City and especially its educational institutions should work to ensure that students have access to IT-related training and programs within the schools. Providence Career and Technical Academy is making some inroads but there should be a broader IT experience available for the City's students. Emerging efforts as part of Real Jobs RI and the Tech Collectives industry partnership provide a vehicle for more engaged conversations between the K-12 education system and the City's businesses. Specific strategies that are identified should be supported.

Create the Live/Work Environment Necessary to Attract IT Companies, Talent

Retaining and attracting any traded cluster is a competitive effort, but this is especially true of IT talent and firms who can easily by pulled by the draw of Boston. Providing the culture and physical space that is attractive to young IT firms is an important part of a competitive strategy. IT firms often enjoy locating in proximity to one another, as doing so can support collaboration and opportunity identification. They also tend to be freelancers and operate in non-traditional work environments more so than other firms. Therefore, creating flexible spaces that accommodate a live/work lifestyle should also be part of that strategy.

Providence has a few spaces that are available for this type of activity, including Hatch and Davol Square. An immediate step would be for the City to identify existing incubators and coworking spaces on its website and in economic development marketing materials. In addition, the existing capacity for

small ‘tech friendly’ office space seems to be limited and diffuse. Two options exist for growing the scale of available space. First, the Rising Sun Mills complex currently has over 80,000 square feet of space available. As in many cities this space could support an organized effort to attract tech firms either through business plan competitions or other processes that can offer flexible, low cost rent in a ‘community’ environment. The second opportunity is what will occur on the I-195 land. Plans so far call for the creation of a high-tech focused development. Making sure that there is a talent pipeline to fill the jobs that will be created will be critical to the success of that development. Either way, a feasibility study should first be conducted to determine the exact type of space that is in highest demand. For instance, stakeholders have suggested that small office spaces that are co-located and share services are in higher demand than open co-working space.

The location of a workspace should also be decided upon by evaluating surrounding housing stock and amenities to ensure that they would support the workforce. If necessary, the City should work with industry representatives, local business owners, and developers to design programs and funding opportunities to create the type of live/work environment that can help Providence retain and attract IT firms.

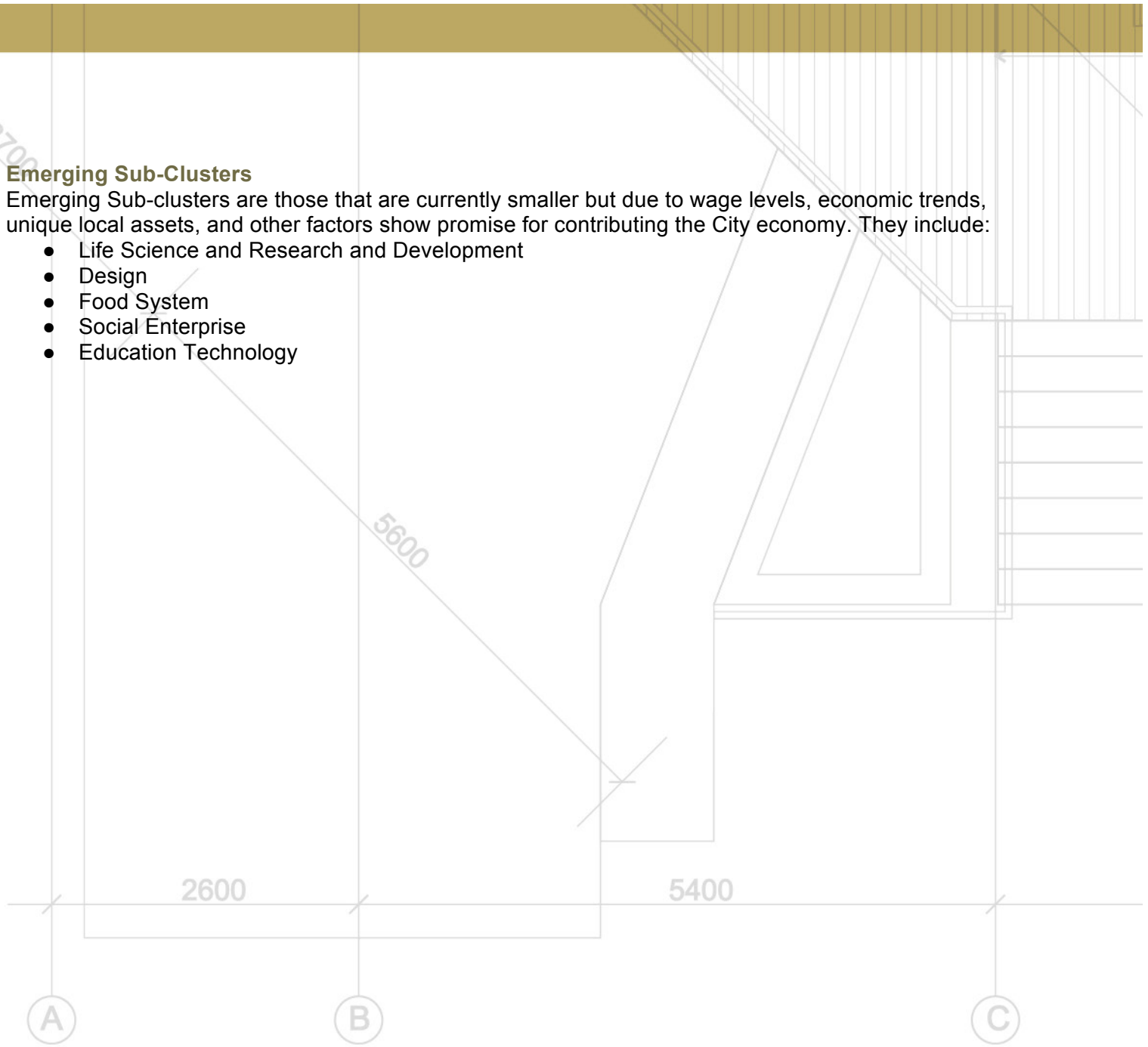
Case Study: City-Supported Incubators

- The City of Nashville has provided support and is collaborating with the Nashville Entrepreneur Center as they look to grow startups in the community.
- The Austin Technology Incubator is a line item in the city’s budget and is required to present during annual budget negotiations. This allows for both awareness and transparency in their actions.
- Denver is supporting at least three incubators through their annual budgeting process.

Emerging Sub-Clusters

Emerging Sub-clusters are those that are currently smaller but due to wage levels, economic trends, unique local assets, and other factors show promise for contributing the City economy. They include:

- Life Science and Research and Development
- Design
- Food System
- Social Enterprise
- Education Technology



Life Science and Research and Development

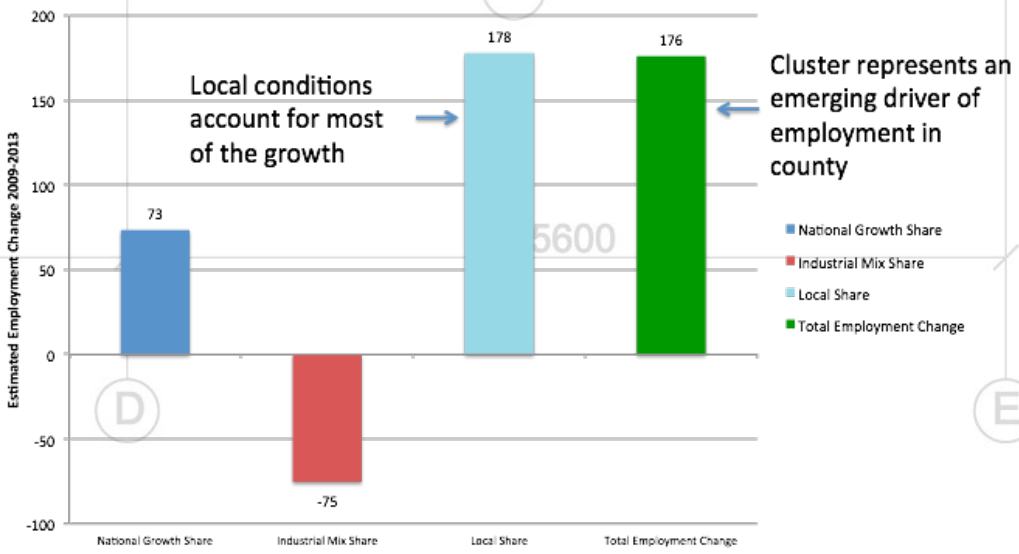
About

Job Growth
2013 County Firms: 93 (1% of County)
2013 County Jobs: 1,937 (1% of County)
Job Growth 2009-2013: 10%

Life Science Research and Development is one of the smaller clusters with only 93 firms and less than 2,000 employees, but it has been growing from 2009 to 2013. Most of that growth exceeds the expected growth based on industry trends, indicating that local conditions may be supportive of Life Science R&D activities.

Shift-Share
Local actual job loss: +176
Expected job loss: -75
Local Conditions impact: +178 job gain

Figure 10: Life Science and Research and Development Shift Share Analysis



Industry Analysis

- The Life Science and Research and Development cluster is smaller than the other clusters profiled with only 1,937 jobs
- Growth in R&D and pharmaceutical manufacturing has offset the job loss in medical equipment. Employment in Medical Equipment and Supplies Manufacturing fell by 116 to 1,076 jobs in 2013, a decline of 10 percent.
- Research and Development in the Physical, Engineering, and Life Sciences experienced the most significant growth with 186 net new jobs from 2009 to 2013, a growth of 64 percent.
- Pharmaceutical and medicine manufacturing also added 106 jobs for a 38 percent growth from 2009 to 2013.

Table 14: Growing Clusters for Life Sciences

NAICS	Industry	2013 County Firms	2013 County Jobs	County Job Change 09-13 (#)	County Job Change 09-13 (%)
54171	Research and Development in the Physical, Engineering, and Life Sciences	53	478	186	64%
3254	Pharmaceutical and Medicine Manufacturing	5	383	106	38%

Table 15: Declining Clusters for Life Sciences

NAICS	Industry	2013 Firms	2013 Jobs	Job Change 09-13 (#)	Job Change 09-13 (%)
3391	Medical Equipment and Supplies Manufacturing	35	1,076	(116)	-10%

Talent Pipeline

The Life Science and Research and Development cluster has 489 workers (or 25% of the workforce) who are projected to retire in the next 10 years. While the number of related degrees granted by local universities is still larger with 599 per year - this ratio is the lowest of the industry clusters reviewed. This means that there is a greater risk of not being able to fill the jobs vacated by retiring workers.

Market Opportunities and Challenges

U.S. Life Science market growth through 2019 is projected to range from 2% to more than 9% across a range of Life Science clusters.[14]

Brand name pharmaceuticals:
- Annual growth: 2.0%
- Revenue by 2019: $180.7 B

Generic pharmaceuticals:
- Annual growth: 4.8%
- Revenue by 2019: $53.9 B

Biotechnology:
- Annual growth: 9.1%
- Revenue by 2019: $152.4 B

Medical devices:
- Annual growth: 7.1%
- Revenue by 2019: $52.9 B

Medical instruments and supplies:
- Annual growth: 3.6%
- Revenue by 2019: $114.9 B

New developments in Life Sciences are shifting the industry from volume to value based care. More and more the products and services offered by Life Sciences are being customized or tailored to the user. This shift to value based care has implications for Life Sciences businesses, including the need for greater emphasis on evidence for the value of a product (clinical, economic, safety impacts), and the need to revisit data generation in clinical trials to reflect evidence of expected value output.

[14] Deloitte: http://deloitte.wsj.com/cfo/files/2015/01/us_2015-life-sciences-outlook.pdf

Another significant trend is that the productivity of R&D has been declining, forcing firms to increase efficiency, reduce costs, and maximize commercial value of investments. There are also a number of technologies that are disrupting Life Sciences and Health Care, but which are also creating new opportunities. Digital Technology and Artificial Intelligence are being increasingly applied to data used in the development and delivery of new Life Science products and services. Additive Manufacturing has created new possibilities for customizing products in near real-time and presents a convergence with Advanced Manufacturing that could bring new entrants to the market.[15]

The Providence bioscience community was largely helped by seed funding from Slater Technology Fund. Without seed funding, many of the ideas being incubated inside of the universities will not realize steps towards commercialization. With cuts in funding for Slater and limits in other funding opportunities, the number of new companies starting has slowed. As the life science industry is a 'slow growth' industry (it takes at least a decade of research and trials to get a product out to market), a continual feeding of the pipeline is helpful to continually grow this cluster.

That said, there is a healthy and close-knit community of life science companies connected to the area universities and hospitals, which is a great asset for the city of Providence to harness and support. This community has expressed the desire to have more ways to work with each other and find efficiencies in business operations to seed their research. They've also expressed challenges in becoming businesses themselves (many founders are scientists first and foremost), understanding the city, state, regional regulations for their industry and assistance in marketing the cluster to increase future funding potential.

Life Science Cluster Actions

Create an Incubator / Wet Lab Business Plan

While a small component in Providence's economy, the life sciences and related research and development cluster continues to hold promise for sustained growth. With the majority of the life science research conducted in the City, there is a potential to capture more of the downstream economic benefit through startup activities and attraction of research partners looking to be close to groups like Lifespan and Brown University.

[15] Deloitte outlook on Health Care, Deloitte outlook on life sciences

Specifically the City should work with the State, I-195 commission, Lifespan, and Brown University to develop a business plan for a life science incubator, including a much discussed wet lab facility. Past discussions recognized the limited financing tools available, but the new state-level economic development programs provide several new tools to advance the planning of a life science incubator and wet lab facility.

Any plans should consider the use of fast track permitting and tax stabilization for capital equipment in order to bolster the success of the facility. Current market estimates indicate that a wet lab facility will cost approximately $500 sq/ft and a base facility will require at least 8,000 sq/ft or a minimum of $4 million for construction. These estimates are based on hypothetical uses and further analysis is required.

Partner with Industry Org to Connect Businesses to City Services and Market Strengths

The City of Providence should also consider alignment with the BioScience Leaders, Tech Collective, and/or MedMates to help connect city and state resources and assistance to the companies in this cluster. A liaison for the cluster to help navigate regulatory requirements and agencies, as well as business start-up needs, would be helpful. One new state resource that may be of particular interest to companies in this cluster is the Innovation Voucher Program, which connects small businesses with Rhode Island institutions of higher education and other providers to address their R&D needs. Partnering with a private non-profit entity to create this support may be the most feasible in the immediate future.

The City should also consider how marketing efforts around this cluster would also help support general awareness of the companies in Providence. Helping the region understand the innovation happening in the city will help the companies further market themselves with colleagues throughout New England, and in turn, maximize city efforts. Again, a partnership with an industry organization would be critical to ensure the right information and messaging for economic development marketing. This type of collaboration helps leverage limited resources.

Design Cluster

About

Job Growth

In recent years, the design cluster has been surfacing as an important economic driver of businesses and jobs in Rhode Island. Studies have also shown there is a large concentration of design throughout the city and state. Providence hosts the 3rd most industrial designers per capita than any other city, and a study of the creative industries in RI between 2007 and 2012 found design businesses had the largest change within all the creative industries being analyzed – a positive one, adding 500 new businesses during that time period.

Despite this growth, design has been largely under the radar by the nature of the work. Design is present in every other industry cluster. For example, industrial designers work in bioscience, healthcare, information technology, manufacturing, defense and marine trades. Architects, landscape architects and interior designers work in construction and hospitality, though depending on niche may also work in healthcare and marine trades. Graphic designers work in every cluster. For this, oftentimes jobs are not accounted for within a 'design' category.

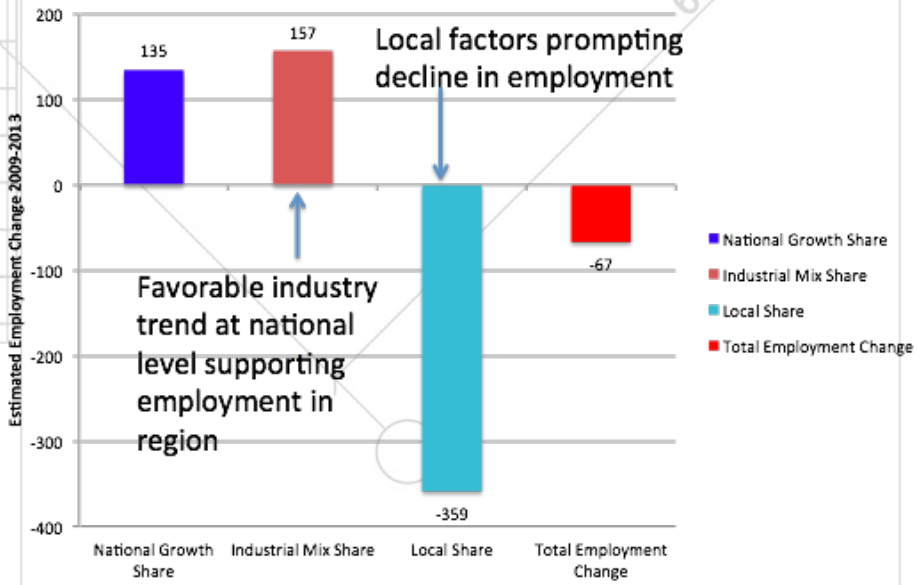
Furthermore, design represents some of the fastest growing jobs across the nation. A 2014 study of online job matching service TheLadders, found the fastest growing jobs include user experience design, iOS and Android development, and business intelligence - jobs that didn't exist before 2007. These positions can be largely drawn from the design category.

2013 County Firms: 595 (3% of County)
2013 County Jobs: 3,162 (1% of County)
Job Growth 2009-2013: -1%

In Providence, design has experienced a small contraction, losing one percent or 67 jobs between 2009 and 2013. If design in Providence County had grown at the national trend for these industries, it would have added 157 jobs. However local conditions did not support these trends, resulting in job loss in Providence County. Engineering services did grow locally, adding 31 jobs between 2009 and 2013.

Shift-Share
Local actual job loss: -67
Expected job growth: +157
Local Conditions impact: -359 job loss

Table 16: Design Cluster Shift Share Analysis



Industry Analysis

Table 17: Growing Design Cluster Subsectors

NAICS	Industry	2013 County Firms	2013 County Jobs	County Job Change 09-13 (#)	County Job Change 09-13 (%)
541330	Engineering services	108	1,339	31	2%

Table 18: Declining Design Cluster Subsectors

NAICS	Industry	2013 Firms	2013 Jobs	Job Change 09-13 (#)	Job Change 09-13 (%)
5413	Architectural, Engineering, and Related Services	222	1,889	(39)	-2%
5414	Specialized Design Services	96	215	(20)	-9%
5416	Management, Scientific, and Technical Consulting Services	277	1,058	(8)	-1%

Talent Pipeline

Workers 55 & older: (15%) 482
Degrees per year: 500

Only 15 percent of the workers in Design are 55 or older. With an estimated retirement of 48 per year and 500 new degrees granted each year, there is a significant talent pipeline for growing this cluster locally.

Market Opportunities & Challenges

The simple presence of the design industry in Providence is in and of itself a market opportunity for other industries. The most immediate market opportunity lies at the intersection of design and manufacturing and design and technology.

The integration of design into product development and manufacturing is allowing manufacturers to adapt to the rapidly changing market. Manufacturing is undergoing a period of rapid transition. Product launch cycles are getting shorter, design is becoming more collaborative, and global competition demands higher quality at lower costs.[16] New technologies are driving this demand, coupled with a greater emphasis on the role and value of design.

Advances in software and technology have increased the speed with which we can analyze, design and produce 3D CAD models, as well as manufacture on-demand parts. These advances include more sophisticated modeling software, enhanced and embedded sensors for analysis, and new tools for production such as 3D Printing and Additive Manufacturing. These technology advances require a greater pool of skilled STEM (science, technology, engineering and mathematics) candidates, with a more flexible skill set to accelerate future growth in manufacturing.[17]

Providence has a budding "maker" community that can support these growing changes in the manufacturing industry. With at least three makerspaces in the City, one of which is at the Rhode Island School of Design, the City has a potential infrastructure to gain advantage on this trend. These are places where design and new technologies intersect. They have a mix of equipment including 3D printing and CNC machines and can easily and quickly produce prototypes of product designs. Along with the large amount of industrial design talent locally, these spaces offer a place for experiment and access.

The digital revolution is hitting manufacturing in the U.S. in large and significant ways as well, bringing an emphasis on utilizing automation and data to improve systems and innovation. Digital connectivity

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[16] Philip Hewitt, "What Is Automated Design and Manufacturing?" Quality Digest. July 2, 2015. Available from http://www.qualitydigest.com/inside/quality-insider-article/070215-what-automated-design-and-manufacturing.html#.

[17] Deloitte, Manufacturing Institute, "The skills gap in U.S. manufacturing 2015 and beyond," page 14. Available from http://www.themanufacturinginstitute.org/~/media/827DBC76533942679A15EF7067A704CD.ashx

among designers, managers, workers, consumers, and physical industrial assets will unlock enormous value and change the manufacturing landscape forever.[18]

User experience design is growing more rapidly than other design disciplines and making in-roads into a variety of industries such as financial services that did not have internal design capabilities. This type of design is most often applied in web development and cloud/app development. Though it is also adopted as human-centered design in fields like healthcare and medicine.

In Providence, this skill set is in high demand for IT companies embarking on new cloud applications, graphic design firms growing at a rapid pace offering these skills, and in the medical devices field Providence has a foothold in.

Additionally, design and design thinking has become more relevant in a global society and is creating a distinction between "transactional" designers and "strategic" designers. Transactional designers could be described as being focused on delivering an end product: a logo, a brochure, a model for product development, an interior design, etc. Strategic designers have these skills as well, but can also deliver a higher level design thinking process to their customer, no matter the industry that customer is in.

With this, Design presents an opportunity for all industries to integrate strategic design skills to improve bottom line performance. The Design Value Index (DVI) is a market capitalization-weighted index comprised of design-driven companies; the DVI showed 10-year returns of a remarkable 219% over that of the Standard & Poor's 500 index from 2004-2014.[19]

The 2014 Design Value Index shows us for a second year that corporations that put an emphasis on design as a strategic asset perform significantly better than those that do not. As corporate design capabilities mature, executives are able to direct this power towards their companies' most challenging problems. This, in turn, allows design-driven companies to grow faster, and often with higher margins, due to the exceptional customer experiences they are uniquely positioned to create.[20]

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[18] McKinsey & Company, "Digital Manufacturing: The revolution will be virtualized", http://www.mckinsey.com/insights/operations/digital_manufacturing_the_revolution_will_be_virtualized

[19] Jeneanne Rae, "Good Design Drives Shareholder Value," Design Management Institute, May 2015. Available from http://www.dmi.org/?page=DesignDrivesValue

Nonetheless, with designers being recruited by a wider array of industries and firms of different sizes, there is a growing talent war for designers of all levels of experience.[21] Increasing number of companies are adding C-level executives for Design, showing the growing importance being placed on design as a driver of value for customers.[22]

Case Study: Targeted Attraction of Google

In 2006, Google, Inc. was recruited to Pittsburgh via a partnership between the state Department of Community and Economic Development and Carnegie Mellon University after realizing that Google was hiring a large number of CMU grads. Google established a satellite office with two employees at the Collaborative Innovation Center on CMU's campus and soon found fertile ground to expand. In short order they partnered with a real estate developer who was ready to provide them with the urban campus they were looking for, now called Bakery Square. In 2015 Google continues a steady expansion and is now leasing over 200,000 feet of office space in the fast-growing Bakery Square development. Providence could work with RISD to seek to create design-related satellite offices for companies.

Design Cluster Actions

Create a Grant / Incubator Program

The City of Providence has a strong foundation in design assets, including a built in network of universities graduating design talent each year. As design continues to be a driver in all industries as well as company growth and innovation, Providence should consider programs that will work to attract recent graduates to stay in the city and also help burgeoning design entities grow in the city.

To this end, the City should invest in a grant incubator program for design businesses that would couple financial support with mentoring and intensive business growth support. In recent years, Providence has been the location of innovative design start-ups that are disrupting traditional industries and gaining national and international traction. These include Airbnb, an online accommodations platform founded by a RISD-graduate; Casper, an online company disrupting the mattress industry, co-founded in Providence; and Greycork, the next generation DIY modern furniture company, founded and currently located in Providence. A design program sponsored by the City sends a direct message to founders that Providence wants these companies to stay and succeed here. It also sends a message to the larger investment community that the City is

[21] ibid

[22] Michelle Stuhl, "What Is Behind The Rise Of The Chief Design Officer?" Forbes. November 11, 2014. Available from http://www.forbes.com/sites/groupthink/2014/11/11/what-is-behind-the-rise-of-the-chief-design-officer/.

a progressive player in this industry. Other communities, such as the Pittsburgh example described here, have successfully used an approach to recruiting companies based on core capacity.

Market Providence as a Design Hub

In addition, marketing of the City as a 'design hub' in larger markets is critical to the design cluster. Design is largely an export business. Most all of Providence's design firms have clients outside of Rhode Island, with some working exclusively outside of the state. Their challenge is the competition they face with both acquiring clients and recruiting talent to the Providence. When up against larger, more popular markets such as Boston and New York, design firms often face a steep challenge being from a smaller, secondary market such as Providence. They are often questioned why they are based in this city and not a larger metropolitan.

Similarly, in order to continue to grow, these businesses need to hire talent. And oftentimes finding that talent locally is very difficult. Recruiting new employees to move to Providence or to stay if they have attended a local school is essential. A positioning strategy, executed at the very least regionally, that talks of Providence as a design hub along with the great and diverse quality of life resources that City affords, would be beneficial to the design cluster.

Partner to Advance Talent Development

The pipeline of design talent and more specifically the strategic design talent that is showing the most growth nationally in jobs has become an interest of groups like DESIGNxRI, a Providence-based nonprofit working to raise awareness about the design talent in the state. DESIGNxRI recently received a Real Jobs RI grant to create an implementation strategy for advancing design skills and addressing the talent pipeline. The City of Providence should look to the work of this organization and consider ways in which to partner to fully advance skills training for the cluster and specifically, target the students graduating from Providence colleges and universities. A collaboration to help place students in design firms, offer additional skills needed for employment, and/or help them incubate their innovations would be valuable.

Finally, the City should consider how it continues to tap into the local design and innovation talent in the delivery of city government and projects. Showing by example how design is integral to the overall strategy and systems of the City will help advance understanding of this industry - something needed for all designers and design businesses to continue to succeed.

Food Processing, Packaging and Sales Cluster

The food processing, packaging and sales cluster is an emerging cluster that can be unique to Providence. There is a concentration and growth in the entire regional food-related supply chain from farms to food processing to food sales and more. The state as a whole and the City in particular has opportunities to realize additional economic benefit from this cluster as national trends towards locally sourced products and global food security trends drive local opportunities.

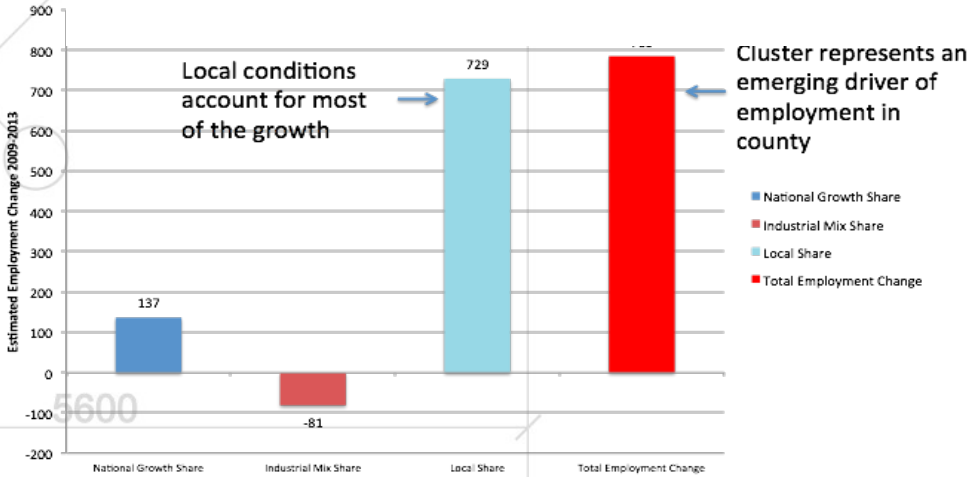
About

Job Growth
2013 County Firms: 220 (1.3% of the County)
2013 County Jobs: 4,061 (1.5% of the County)
Job Growth 2009-2013: 24%

Shift-Share
Local actual job growth/ loss: 785 jobs
Expected job growth/ loss: -81
Local Conditions impact: 729 jobs

Based on national industry trends this cluster should have lost 81 jobs in Providence County between 2009 and 2013. However, local conditions accounted for strong job increases, so much so that the cluster added 785 jobs in that period.

Figure 11: Food Cluster Shift Share Analysis



Industry Analysis

Table 19: Food Cluster Growing Subsectors

NAICS	Industry	2013 County Firms	2013 County Jobs	County Job Change 09-13 (#)	County Job Change 09-13 (%)
111	Crop production	25	103	5	5%
112	Animal production	8	47	1	2%
311	Food manufacturing	111	2,359	170	8%
4244	Food Sales	71	1,533	607	66%
42491	Farm supplies merchant wholesalers	5	19	2	12%

Source: Data from BLS, QCEW.

All of the industries within the cluster experienced employment growth during this period. Within Food Sales (NAICS 4244), United Natural Foods Inc. has experienced strong growth in recent years. However there are several industries that are not represented in this cluster that could provide further opportunities to strengthen and deepen the cluster.

Table 20: Food subsectors without data

NAICS	Title	Notes
1141	Fishing	-
1151	Support activities for crop production	-
1152	Support activities for animal production	*
312	Beverage and tobacco product manufacturing	*
333241	Food Product Machinery Manufacturing	-

3253	Pesticide, fertilizer, and other agricultural chemical manufacturing	-
33311	Agricultural implement manufacturing	-
333294	Food product machinery manufacturing	-
42382	Farm and garden machinery and equipment merchant wholesalers	*

*Note: * indicates that establishments exist in the industry in Providence County but employment is not disclosed and cannot be estimated.*

Talent Pipeline

The cluster has 24% of its workforce 55 and older, for an estimated 956 employees. The region graduates 1,590 students with degrees in related fields, which should ensure that the cluster has sufficient talent to replace retiring workers and continue its growth.

Workers 55 & older: (24%) 956

Degrees per year: 1,590

Market Opportunities & Challenges

According to the 2012 Census of Agriculture, Rhode Island is the state with the largest percentage of beginning farmers measured by “Years on Any Farm,” at 28%. In addition to new farmers, the total number of farms in Rhode Island is increasing over all, and this growth is occurring the fastest in small farms of 9 acres or less. The 2015 update to “The Economic Impact of Rhode Island Plant-Based Industries and Agriculture” estimates annual sales at $238.9 million, supporting 2,563 jobs in RI. Rhode Island is ranked #9 in the 2014 "Locavore Index," and 4 of the top 5 states ranked are in New England. While this index incorporates several indicators of a thriving local food system, Rhode Island received the highest score (tied with HI) among all 50 states with regard to farm to school programs.

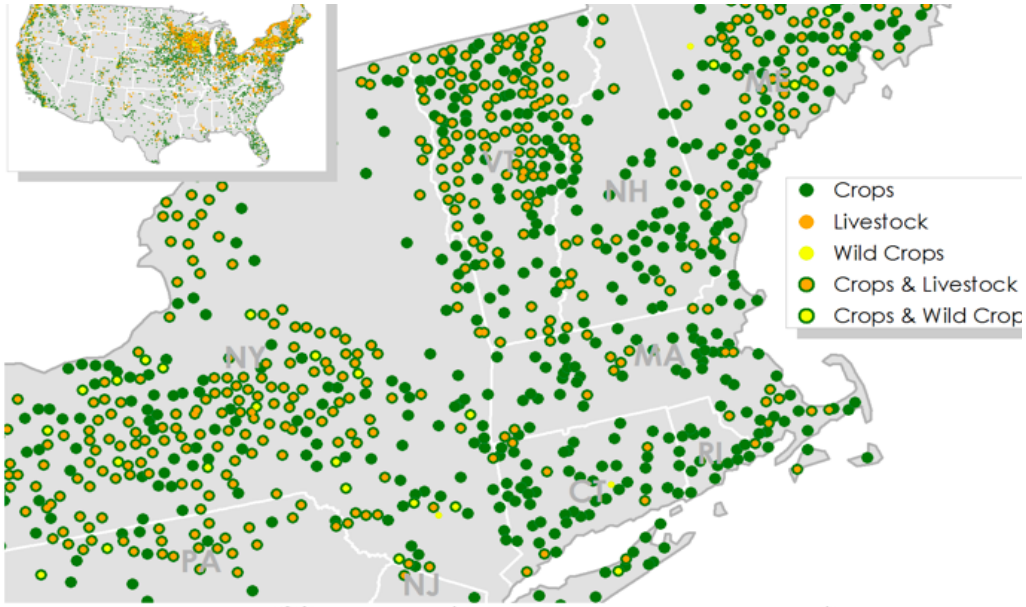
Rhode Island’s popularity as a food destination and growing reputation for high-quality local foods co-occur with a national local food movement. Nationally, from 2006-2014, farmers markets grew by 180%, regional food hubs grew by 280%, and farm-to-school programs grew by 430%. This interest is

translating to consumer purchasing as well. The US Grocery Shopper Trends Survey (2015) reports that "benefitting the local economy" was the most important retailer attribute sought by consumers aside from personal benefits like convenience and selection. Echoing the sentiment that finding natural foods in grocery stores is now the norm, 80% of survey respondents reported buying local products in the grocery store at least occasionally.

Although self-reported consumer preferences focus on local foods, organic production and consumption are both growing faster than ever before. The U.S. has seen an 11% increase in sales of organic products in from 2013 to 2014, and in 2014 there were $35.9 billion in organic food sales. This figure is expected to surpass $45 billion in 2015.

In addition the investment market is taking note of food innovation, with U.S.-based, VC-backed food tech companies pulling in over $750M in equity funding in the first half of 2015.[23]

Figure 12: USDA Certified Organic Producers in the Northeastern US, 2014



While organic farms make up only 0.7% of total farms in the US, roughly 2% (26) of Rhode Island's farms were certified organic in 2012. While 2% may not seem like a lot, this figure is more than twice the national average, and RI would have only 8 or 9 organic farms at the average rate. New England has the second-highest concentration of USDA certified organic operations among U.S. regions. This concentration is shown in Figure 9.[24]

[23] https://www.cbinsights.com/blog/food-tech-startup-funding-high/

[24] Sources for all maps: 2014 List of certified USDA organic operations, National Organic Program (State and Zip Code Tabulation Area Shapefiles from 2014 TIGER/Line, US Census Bureau Geography Division)

Food handling & reaching consumers

Those agricultural products that are not sold directly consumers go through several steps before reaching store shelves in their final forms. “Handling” refers to processing or preparing foods, also includes aggregating, storing, or distributing food products.

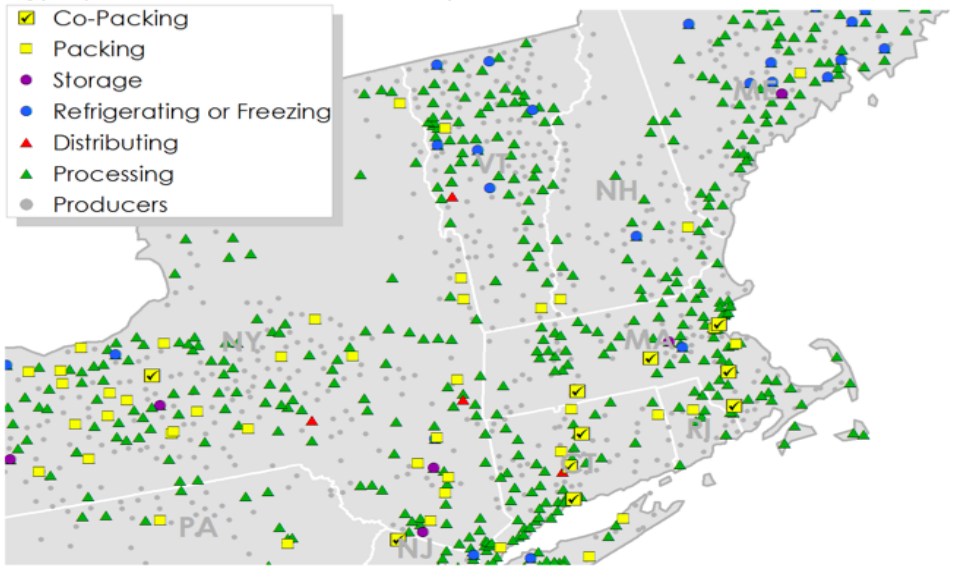
While organic foods are no different in terms of the steps needed to bring products to consumers, producers may be faced with extra costs or challenges because USDA organic certification requires organic practices at every link in the commodity chain. By sharing the costs associated with investments in assets like packaging machinery, producers are able to grow their businesses faster and with less risk. This is also true for organic producers who form producer co-ops to market their foods to restaurants, and even more true for organic producers who share the costs associated with certifications by using certified organic food hubs, shared kitchens, or co-packing operations to expand their markets and scale their operations to the increased demand for local products.

Examples of the growth of co-packing in response to growing demand for local, organic, or artisanal foods include:

- 65% of food-related businesses that have turned to co-packing report that it has increased their businesses’ flexibility, and 62% report that it cut costs for them.
- Natural food producers are sharing best practices for choosing co-packing partners.
- Support for food entrepreneurs in neighboring states includes co-packing at Western Massachusetts Food Packaging Center and Neighbor Made in NH.
- Brooklyn-based artisanal food businesses cite co-packing as a missing link as high local costs drive their operations out of state.
- While 4.5% of all U.S. farms reported value-added sales in 2012, 15.7% of organic farms reported value-added sales, suggesting a greater need for co-packing among organic producers than among non-organic producers.

The map below illustrates the different forms that certified organic handling operations can take. In the states closest to Rhode Island, like the rest of the U.S., handling operations are found everywhere organic producers are found, but their sizes and core functions vary greatly.

Figure 13: USDA Certified Organic Handling Operations in Northeastern US, 2014



Rhode Island is currently home to three specialized co-packing facilities, two of which are certified organic (Hauser Chocolatier and Warwick Ice Cream). The nearest co-packing resources outside of the state are clustered in MA and CT.

Very few value-added products are listed by USDA certified organic operations in Rhode Island, but we know that organic farmers in the US produce more value-added products (15.6%) than the U.S. average (4.5%). Therefore, a certified co-packing facility could be an opportunity to access a yet untapped resource in Rhode Island's organic producers.

Farm Fresh is working with other NE states so that by the year 2060 we are growing 50% of what we consume. Farm Fresh Rhode Island provides a searchable database of the 3,001 farms in Rhode Island and neighboring states, with 893 producing or selling at least some organic products. Because Farm Fresh Rhode Island is already used by consumers, restaurants, and institutions to identify locally sourced agricultural products, there is an opportunity to approximate the number of these farms that may wish to use a co-packing facility.

Table 21: Potential users for organic and conventional co-packing facilities

Type of farm	Avg share producing value-added	Number of farms	Total potential co-packing users
Conventional	4.5%	3,001 – 893 = 2108	95
Organic	15.6%	893	139
		Sum	237

Organic tomato sauce is just one example of a value-added agricultural product that could strengthen and build on existing momentum in the local food system. None of Rhode Island's certified organic handlers record tomato sauce (the second-highest U.S. processed organic export in 2012 at $12.0 million). At the same time, Rhode Island is experiencing growth in both small farms and new farmers tending them. The cost-saving advantages of shared equipment for small producers, the economic benefits of value-added agricultural products, and the rapid growth in demand for organic products all make co-packing is a uniquely well-suited tool for strengthening Rhode Island's existing food-based assets.

Food Cluster Actions

Develop a Special Economic Zone

The City should identify a location to promote the development and growth of food manufacturing, processing, and sales businesses based on the location of existing businesses, available real estate, and proximity to key assets, such as ProvPort.

Once an appropriate location is identified, the City should work with industry organizations, local businesses, and developers to develop a suite of improved services, incentives, and programs to support food-based businesses. Issues to be addressed include zoning issues faced by food manufacturing businesses, the ability of the state to provide organic certification, and specialized workforce training programs. State programs, such as the Qualified Jobs Tax Incentive, First Wave Closing Fund, and Small Business Lending Program should be marketed as part of this zone.

Develop an Organic Co-Packing Facility

Furthermore, based on the analysis that has been performed for this cluster strategy, there are several indications that Rhode Island could pursue and create a co-packing facility focused on natural and organic foods. This facility would play to the food production strengths in the community, attract city workers and provide a new domestic and international export product. There are some key tasks that will need to be undertaken in order to fully confirm this opportunity including:

- Work to conduct a feasibility study of the co-packing opportunity by researching successful facilities in west coast and even Midwest locations.
- Conduct a charrette with key Rhode Island stakeholders to explore what this opportunity could look like.
- Determine an approach for engaging with existing facilities about the possibility of locating in Providence.
- Identify the roles of the City versus other city and regional food-related stakeholders

While there is still a good amount of work that will need to be done here, our research has highlighted that there is enough opportunity to advance the research further.

Farm Fresh is based in Pawtucket and has been doing a feasibility study for food and ag campus to co-locate food related businesses. Their Market Mobile program allows farmers to list products online for restaurants and small grocery stores to order. Farmers bring their produce into the Farm Fresh warehouse and Farm Fresh delivers it. This program generates $2M, almost all of which goes directly to farmers. That is just one program but its growing and part of their 50x60 vision, which aims to grow 50% of the region's food by 2060. Providence should work with Farm Fresh to ensure that the City's efforts are aligned with theirs.

Further Develop Food Cluster

These recommendations would benefit from the existence of a strong industry partner with which the City can collaborate. In order to further strengthen the presence of food as a cluster, stakeholders, led perhaps by Farm Fresh, should consider applying for one of the new Commerce RI Industry Cluster Program grants. These grants are designed to enable collaboration among businesses and other institutions to advance innovation and increase cluster profitability, and to overcome identified cluster gaps and constraints. The City should support the cluster where appropriate in pursuing these grants.

Education Technology Cluster

About

Unlike the other clusters analyzed, there is no easy way to measure the firms and employees in this cluster as it is comprised of a mix of the education, information technology and manufacturing clusters. Based on LinkedIn data, the education technology cluster in New York City is expected to employ 8,000 people in 2015.[25] Adjusting for population size, the various clusters comprising education technology could thus support 598 jobs in Providence County. Though currently private employment in this sector is likely less than 100, what has been demonstrated during the development of this plan is a significant interest by the edtech ecosystem in coming together to support some strategic activity.

In its most conspicuous form, education technology means incorporating technology into classrooms, but this cluster also includes innovations in administration as well as education outside of the K-12 environment. Examples of education technology in its various forms include:

- Online learning environments such as Pluralsight, which offers "tech and creative training" and packages tailored toward individuals, businesses, or schools.[26]
- Hardware and applications for use in classrooms including long-standing Smart Boards and newer resources like Plickers, a polling tool that requires only one smartphone per class.[27]
- Integration of "blended learning,", which combines traditional face-to-face classroom learning and education technology (also called "mixed mode") to support existing curricula.
- Administrative tools such as Allovue, which produces "education resource planning software" for individuals making funding decisions for school districts.[28]

Industry Analysis

Illustrating the variety of firms growing in this cluster, education technology firms centered around professional development received $220 million in education technology investments in 2014 -- the largest share of investment outside of more traditional K-12 and higher education "eLearning"-focused firms.[29]

[25] http://www.nycedc.com/resource/edutechnyc2020
[26] http://www.pluralsight.com/
[27] https://www.plickers.com/
[28] http://allovue.com/#we-are-allovue
[29] https://www.edsurge.com/news/2014-12-23-2014-us-edtech-funding-hits-1-36b

Estimates at the size of the market as a whole vary as a reflection of this variety. By one account, the global Ed Tech and Smart Classroom market is expected to grow from $43.27 billion in 2015 to $93.76 billion to 2020 at a CAGR of 16.72%.[30] Another report, Edutech.NYC.2020, estimated the market size to be $83 billion as early as 2008.[31]

Estimates of total investment in all education technology firms in 2014 ranges from $1.36 billion to $2.34 billion depending on varying definitions of the cluster.[32] By all accounts, this level of investment is higher than ever before.

Market Opportunities & Challenges

Gaining support can be a challenge in fast-changing clusters where success may be difficult to measure, and this has generally been the case locally with regard to education technology. However, the Highlander Institute, FuseRI, and EdTechRI have all been instrumental in building momentum, with philanthropic support including the Bill and Melinda Gates Foundation.

Most recently, local and state partners have taken initial steps toward taking part in the third cohort of Gates' product efficacy test beds -- networks for piloting and evaluating new coursewares to meet the need for data-driven decision-making among schools.

This latest development reflects conditions in the public cluster that may prove favorable for growth in education technology. Pressure to improve school proficiency scores, coupled with the need to meet budget restrictions, mean that public schools nationwide are looking to technology for its cost-cutting efficiency and the wealth of information and innovation it brings to classrooms. Further, curricula are increasingly expected to reflect the need to prepare students for an increasingly knowledge-based economy.

At the federal level, support for this cluster takes the shape of a designated Office of Educational Technology within the US Department of Education. This office not only encourages schools to develop information technology infrastructure through its Future Ready Pledge, but also provides a handbook for entrepreneurs who wish to enter the market.[33]

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[30] http://www.researchandmarkets.com/research/ccqcgz/education
[31] http://www.nycedc.com/resource/edutechnyc2020
[32] http://www.geekwire.com/2015/can-count-2-billion-education-technology-investment-hits-new-record/
[33] http://tech.ed.gov/

Parents of school-aged children also represent a dependable consumer base for new education technology products in the private cluster. In July 2015, 72% of parents said they planned on buying technology for the upcoming school year, with 40% saying they would be doing so to meet classroom requirements, spending $390 per student on average.[34]

In terms of specific products, several market opportunities are expected to emerge or expand in the near future. In the K-12 classroom, tools that help measure progress will help educators identify student needs, and platforms that incorporate a variety learning methods will ensure those needs are met,[35] including educational games. Schools are also likely to seek out tools that help manage data and information technology.[36] Meanwhile, online enrollment is growing 14 times the rate of higher education enrollment as a whole.[37]

On the production side, edSurge suggests that education technology firms that successfully secure funding in early stages may subsequently find scaling to be their biggest challenge[38] and may hold unrealistic expectations about later being acquired by a larger tech company,[39] but also points out that such acquisitions have become more common in the past two years. Others view the number of small firms favorably, suggesting that it indicates an opportunity for industry growth "similar to digital advertising 15 years ago."[40]

34 http://rubiconproject.com/wp-content/uploads/2015/07/Back-to-School-Consumer-Pulse-Full-Results-for-posting-FINAL.pdf
35 http://riccentre.ca/2015/09/demystifying-the-edtech-industry-top-5-market-opportunities-for-edtech-startups/
36 http://blogs.edweek.org/edweek/marketplacek12/2015/02/ed-tech_opportunities_seen_in_digital_content_data_it_management.html
37 https://medium.com/emerge-edtech-insights/infographic-future-opportunities-in-edtech-4aff312acdb7
38 https://www.edsurge.com/news/2014-12-23-2014-us-edtech-funding-hits-1-36b
39 https://www.edsurge.com/news/2015-08-05-why-edtech-exits-will-defy-historical-trends
40 http://www.theedtechfund.com/about/

Educational Technology Cluster Actions

Leverage Increase in EdTech in Providence Schools with Public Investment in Local Firms

Schools are already increasingly turning to technology to both improve proficiency scores and control expenditures. Providence schools are also adopting this practice, which is closely related to public investments in local schools because of public pressure to see results for those investments. For example, a recent $10 million bond used to renovate three middle schools included Stuart Middle School, where the new Principal has already begun utilizing education technology in the form of online math courses and extended library hours when students can bring in their computers.[41]

As another example, one of the priorities Interim Superintendent Chris Maher Priority has already outlined is summer learning loss. Students who are most at risk for summer learning loss are those from low-income families, which may not be able to enroll in enrichment activities. It is easy to see how education technology will likely become a part of Maher's strategy to engage such students remotely during the months they are not in school.

In this way, public investment, school performance, and education technology are already intertwined. A next step for Providence could be to ensure that additional support systems are in place to encourage entrepreneurs to develop the tools already being used in schools like Stuart.

Take Advantage of Recent Philanthropic Attention

Meanwhile, the product efficacy test beds supported by the Bill and Melinda Gates Foundation essentially aim to better inform public school procurement in the wake of new technology. Therefore, the opportunity exists to capture local economic benefits if Providence-based education technology firms are well positioned to be strong candidates for those procurement decisions as the new program launches. In other words, if schools are learning about which education technology tools are best, Providence-based firms should be among those producing the tools, and Providence should build on this existing momentum before the opportunity passes.

In turn, local firms would be first in line to learn factors for success from the foundation, which operates at the national level. Exposure to the widely respected and rigorous program would bolster their abilities to develop quality products and expand their markets, thereby continuing the momentum of any public and philanthropic investment to date.

[41] http://www.providencejournal.com/article/20150902/NEWS/150909795

Develop Coworking or Accelerator Space

Convene a group of partners such as the Highlander Institute, TechCollective, DESIGNxRI, Social Enterprise Greenhouse and Beta Spring to discuss the potential of forming a coworking space and/or accelerator for education technology. This conversation should happen in the context of other coworking and accelerator recommendations within this strategy.

Case Study: Hardware Accelerator

There are only three hardware accelerators in the country and none of them are focused on education technology. The Pittsburgh, PA-based AlphaLab accelerator receives applications from 200 startups from around the country each funding cycle. Providence could be the first to host an educational technology accelerator.

Cluster Development

In order to further strengthen the presence of edtech as a cluster, edtech stakeholders, led by the Highlander Institute, should consider applying for one of the new Commerce RI Industry Cluster Program grants. These grants are designed to enable collaboration among businesses and other institutions to advance innovation and increase cluster profitability, and to overcome identified cluster gaps and constraints. The City should support the cluster where appropriate in pursuing these grants. A recent edtech cluster meeting identified the following ideas to support the cluster:

- Procurement - City Council approval is required for all Providence School Department contracts over $5,000. This low threshold coupled with the mismatch in school and City Council's calendars is a barrier to action and innovation in Providence schools. The standard seems to be a $25,000 threshold.
- Seek to have sustained critical engagement of key city officials in the cluster and a culture of “yes, let’s try.”
- Offer free or low-cost space for new tech companies/ Co-housing and incubator space.
- Offer free wireless downtown.
- Market the opportunity to design and manufacture EdTech gear for schools and students.
- Support innovators by improving rapid cycle testing - 1) Data sharing agreement between higher education and the Providence School Department; 2) Improved partnership with PI's who understand short cycle research (ie no AB testing, double blind or IRB approval); 3) increase flexibility in teacher responsibilities so they can feasibly be involved in short cycle testing; 4) devices

Social Enterprise Cluster

About

Social enterprise is not a sub-cluster of any one particular cluster, rather of many, or really, any cluster. Social enterprise is defined by the Social Enterprise Alliance as an organization that "marries the social mission of a non-profit or government program with the market-driven approaches of a business." Social enterprises range from non-profits using revenue-generating models to achieve their mission, such as how Goodwill Industries provides employment and job training, while generating 86% of their budget from retail sales and earned revenue, to for-profit addressing a social or environmental need through business, such as the classic example of the green household product company, Seventh Generation.

Because social enterprise defies traditional definition, we cannot use traditional data sources to provide information about employment, firms, etc. However, a network of "industry" organizations, investors, business school programs, incubators/accelerators, and other support organizations have emerged in the past several years around social enterprise. In 2012, a number of them joined together to create the Great Social Enterprise Census. Results suggested that social businesses employ more than 10 million people and generate annual revenues of $500 billion.

Figure 14: Social Enterprise Greenhouse Impact

Market Opportunities & Challenges

Providence is fortunate to be an early adopter and recognized hub for social enterprise. The Social Enterprise Greenhouse (SEG) is a Providence-based organization that is supporting the growth of the social enterprise cluster. SEG plays a key role in retaining and attracting talent and businesses; they have supported 160 companies, many of which have come out of local universities or come to Providence from neighboring states. SEG's work is also supporting other emerging sub-clusters; their next initiative will be to launch a food enterprise accelerator. SEG also serves as the intermediary for a host of other local, regional, and national organizations who are working to support social enterprise. The existence of this robust social enterprise network in Providence is in and of itself a market opportunity upon which the City can build.

Social Enterprise Cluster Actions

Market Social Enterprise Assets

As part of its economic development marketing (discussed further below), the City should market its unique strength in social enterprise. Entrepreneurs across the country are increasingly interested in starting social enterprises and often willing to relocate in order to have access to the resources provided by organizations such as the Social Enterprise Greenhouse. SEG has already done a lot to put Providence on the map by hosting the annual SEEED Summit, which has doubled in attendance over the past five years to attract over 600 social enterprise leaders from across the country. The City should leverage this asset by marketing its strength in social enterprise as part of its overall economic development marketing efforts.

Develop a Matching Loan Program with PEDP

SEG is an adept fundraiser and lender, also providing pro bono technical assistance to help ensure positive returns on their investment. As the Providence Economic Development Program (PEDP) looks to expand and strengthen its lending, a partnership with the Social Enterprise Greenhouse would open its lending to a new and promising market while also providing a strong partner organization. The PEDP could match loans made through the SEG Loan Fund and/or develop a matching loan program for the SEG's new food accelerator. SEG would need to comply with all reporting requirements for the PEDP lending.

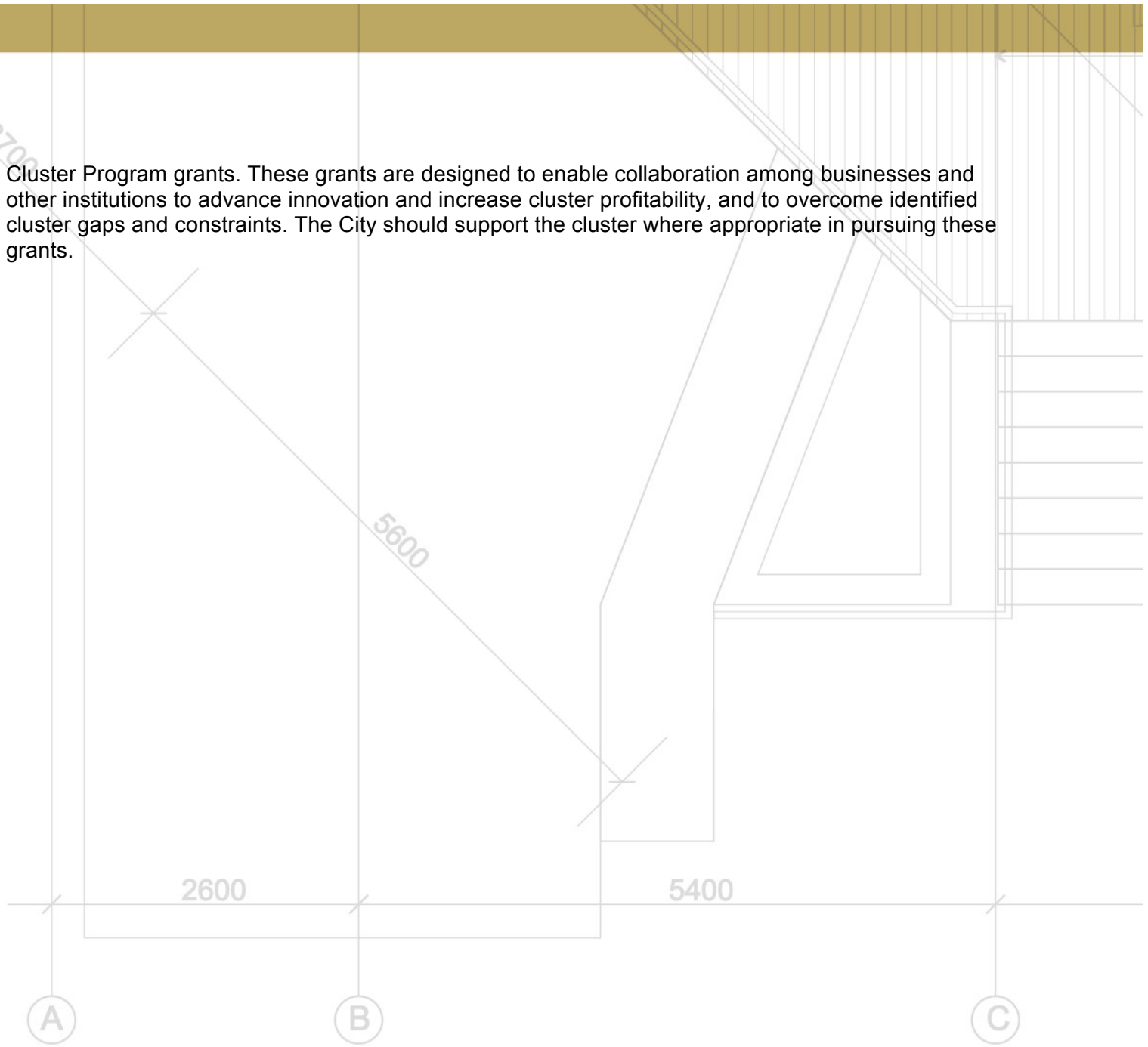
Case Study: UpPrize Social Enterprise Challenge

UpPrize was created through a unique partnership between BNY Mellon, the BNY Mellon Foundation of Southwestern Pennsylvania, and The Forbes Funds, a non-profit technical assistance agency. UpPrize is the world's first impact investing fund coupled with a research-based social innovation challenge. The goal is to support purpose-driven innovation by investing in companies working on a set of key social challenges. All entrepreneurs, from start-ups to well-established firms were invited to submit their existing products or product ideas to any of the three UpPrize challenge areas - Independence, Coordination, and Access. Over 100 applications were received. There were three rounds of competition. Selected finalists then received grants and personalized support in preparation for their final pitches. Advisers evaluated UpPrize submissions with regard to two equally weighted aspects: potential for financial success and potential for positive social impact. $1 million in grants, investments, and support were awarded to three winners, and eight finalists.

Further Develop Social Enterprise Cluster

In order to further strengthen the presence of social enterprise as a cluster, social enterprise stakeholders, led by the SEG, should consider applying for one of the new Commerce RI Industry

Cluster Program grants. These grants are designed to enable collaboration among businesses and other institutions to advance innovation and increase cluster profitability, and to overcome identified cluster gaps and constraints. The City should support the cluster where appropriate in pursuing these grants.



Base Clusters

Base Clusters are those that represent more than 10% of the City's employment base and largely comprised of larger place-based entities (i.e. local industries). They include:

- Healthcare and Social Assistance
- Tourism and Arts
- Educational Services

Health Care and Social Assistance Cluster

About

Job Growth

Health Care and Social Assistance is a significant driver of the Providence economy and provides more than 56,000 jobs and grew 9% from 2009 to 2013. More than 3,100 jobs were added during that period, but based on the growth of the U.S. economy and these industries in the U.S., it should have added approximately 4,500 jobs in that period. The Health Care and Social Assistance cluster includes hospitals, nursing and residential care, ambulatory care services, and social assistance.

2013 County Firms: 2,281 (13% of County)
2013 County Jobs: 56,290 (21% of County)
Job Growth 2009-2013: +6%

Shift-Share

Local actual job growth: +3,147
Expected job growth: +2,335
Local Conditions impact: -1,404 job loss

Industry Analysis

While this cluster grew overall, not every industry within the cluster experienced that same levels of growth. The chart below examines the specific industries and identifies four that contributed the most to the growth of Health Care and Social Assistance.

Figure 15: Health Care and Social Assistance Shift-Share Analysis

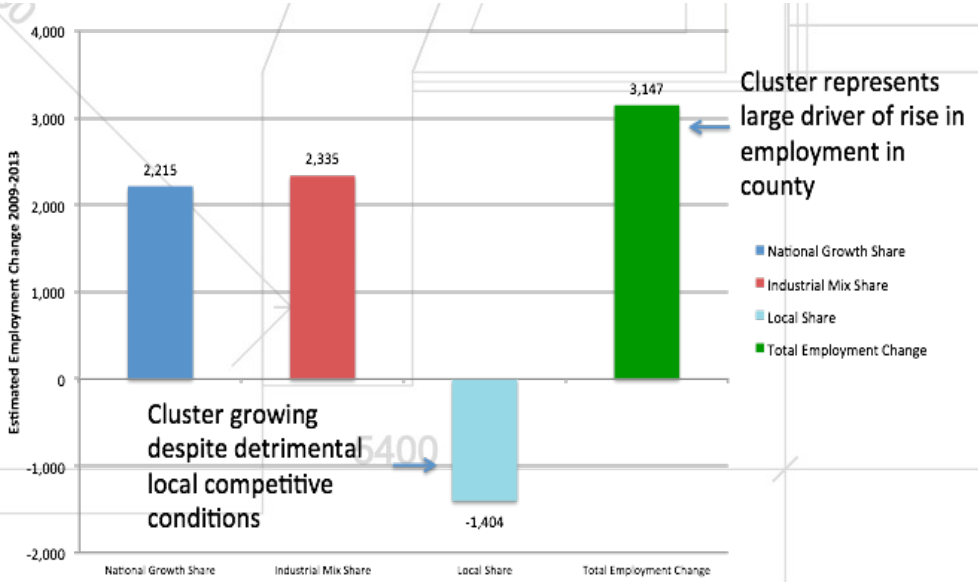


Table 22: Health Care and Social Services Cluster: Growing Clusters

NAICS	Industry	2013 County Firms	2013 County Jobs	County Job Change 09-13 (#)	County Job Change 09-13 (%)
624	Social Assistance[42]	891	8,112	1,268	19%
621	Ambulatory Health Care Services[43]	1,134	16,154	1,020	7%
622	Hospitals	22	21,141	678	3%
623	Nursing and Residential Care Facilities	234	10,883	181	2%

Note: There were no industries in decline for Health Care and Social Assistance.

Talent Pipeline

With more than 3,200 degrees per year and annual job growth of 338 (1,689 / 5 years) and an estimated annual replacement need of 1,361 (13,614 / 10 years), there appears to be a sufficient pipeline of talent to maintain current growth levels.

Workers 55 & older: (24%) 13,614
Degrees per year: 3,212

Market Opportunities & Challenges

The healthcare industry is expected to continue to grow, with overall employment for Ambulatory Care, Hospitals, and Nursing Homes projected to grow by 2.65% annually over the next ten years.[44] However, the way in which it grows will evolve and change in response to the Affordable Care Act and new market dynamics. Trends in cutting costs (due to rising expenses and declining reimbursements), focusing on preventative care (and therefore decreasing patient volumes), decentralizing through

[42] Social Assistance includes establishments providing Individual and Family Services, Community Food and Housing, and Emergency and Other Relief Services, Vocational Rehabilitation Services, and Child Day Care Services.

[43] Ambulatory Health Care Services includes establishments such as Doctors, Dentists, outpatient treatment centers and medical and diagnostic laboratories.

[44] 1.The Center for Health Workforce Studies - http://www.healthit.gov/sites/default/files/chws_bls_report_2012.pdf

community-based care, and increasing the use of health technology are changing the healthcare economy and mean that communities across the country can not continue to rely on healthcare employers as the consistent stronghold of their economies. Furthermore, the regulatory environment is only expected to become more complex.

However, these changes can offer new opportunities. The US healthcare information technology market has been projected to grow at a compound annual growth rate of 7.2 percent and reach $22.6 billion by 2017 from $15.9 billion in 2012[45]. This is a market opportunity that Providence can pursue given its strengths in Information Technology. Providence is also well positioned relative to the trend towards community health centers, of which the city already has 10; as well as being well positioned for the increasing emphasis on the role of nurse practitioners and physician assistants in preventative care, especially given the new combined University of Rhode Island and Rhode Island College Schools of Nursing being built in the former South Street Power Station. These occupations are projected to grow by around 3% annually over the next ten years.[46]

Healthcare and Social Assistance Cluster Actions

Economic development stakeholders must recognize that the healthcare system has a multifaceted role in supporting economic stability and growth. Each of these roles requires the awareness of needs and collaboration between city and healthcare officials. The following roles of the healthcare system are offered for consideration.

Promote Workforce Development Opportunities

The City of Providence should look to further engage its residents in training and skill development to support their availability for the continuing number of job openings at the region's healthcare facilities. Programs like Stepping Up, a nonprofit, health industry partnership should be promoted to residents as it provides training to both entry level and trained health professionals on how to advance in the healthcare cluster.

Plan for a Balanced Real Estate Approach

In addition to their own real estate assets, the healthcare system also is a major leaser of real estate in Providence. As the healthcare system continues to evolve the city should actively support discussions regarding existing and future real estate needs. Models of shared ownership and partnerships between private and public entities should be encouraged to create a balance of supply and demand of real

[45] http://bphc.hrsa.gov/about/healthcenterfactsheet.pdf
[46] 1.BLS -http://www.bls.gov/news.release/pdf/ecopro.pdf

estate, while maintaining adequate tax revenue through direct payments and PILOTs. The I-195 discussions should also include an understanding of these needs for both health system operations as well as housing for their workforce that wants to be proximal to their workplace.

Market as Quality of Place Asset

The emphasis in economic development circles on the quality of life of an area continues to expand and is a real consideration as private entities look to invest in a location. Quality healthcare is an attribute that is evaluated early in a decision process. Providence is fortunate to have world-class facilities and healthcare access. This can be a marketing message as the City and its economic development partners discuss investments with prospects.

Tourism, Arts and Recreation Cluster

About

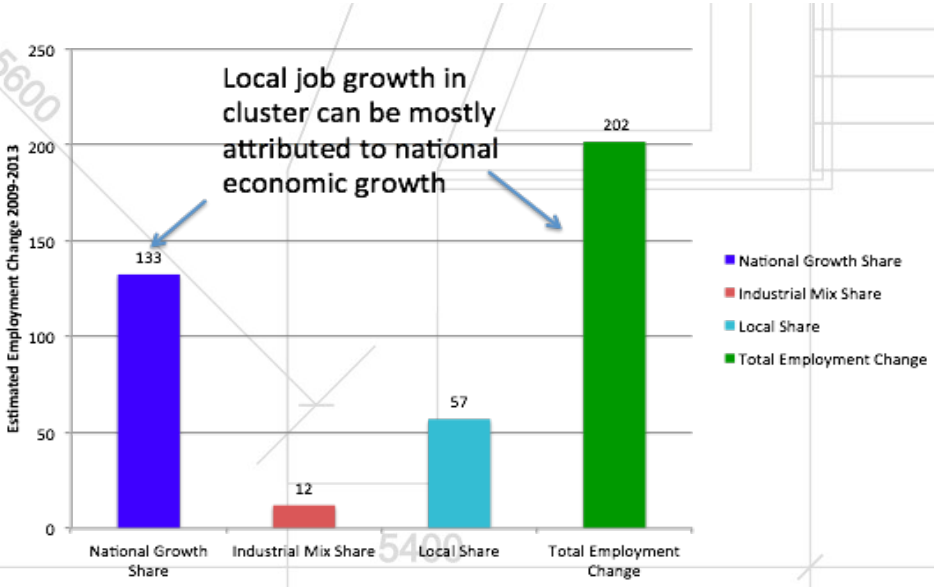
Job Growth

This cluster represents both Arts, Entertainment and Recreation industries, as well as Accommodation and Food Services. Together, they provide nearly 30,000 jobs in Providence County, and the cluster has grown at 15%, adding nearly 4,000 jobs since 2009. The boom in restaurants in Providence has largely driven growth in this cluster.

2013 County Firms: 1,818 (11.7% of County)
2013 County Jobs: 29,701 (11.6% of County)
Job Growth 2009 - 2013: 15%

Local actual job growth: +202
Expected job growth: +12
Local Conditions impact: +57 job growth

Figure 16: Tourism, Arts and Recreation Shift Share Analysis



Industry Analysis

Table 23: Tourism, Arts and Recreation Growing Subsectors

NAICS	Industry	2013 County Firms	2013 County Jobs	County Job Change 09-13 (#)	County Job Change 09-13 (%)
7225	Restaurants and Other Eating Places	1,254	19,464	2,504	15%
71394	Fitness and Recreational Sports Centers	83	1,568	495	46%
7113	Promoters of Performing Arts, Sports, and Similar Events	23	1,192	448	60%

Table 24: Tourism, Arts and Recreation Declining Subsectors

NAICS	Industry	2013 Firms	2013 Jobs	Job Change 09-13 (#)	Job Change 09-13 (%)
7211	Traveler Accommodation	29	1,218	(121)	-9%
7111	Performing Arts Companies	13	446	(56)	-11%

Talent Pipeline

Tourism, Arts and Recreation has added about 40 jobs per year and will need to replace an estimated 45 jobs per year as older workers retire for a total growth and replacement demand of 85 jobs per year. With more than 2,000 degrees awarded each year in related fields, there is a greater supply of potential talent than there is demand for employees.

Workers 55 & older: (13%) 452
Degrees per year: 2,025

Market Opportunities & Challenges

The Tourism industry continues to grow both nationally and in Providence. International visitors staying at least one night in the U.S. will reach record 77.6 million in 2015 (3.6% increase from 2014) and is expected to continue to grow to 96.4 million annual visitors by 2020.[47] In Rhode Island, tourism spending is highest in Providence amongst all counties, with spending amounting to $1.7 billion in 2013, or 29% of total tourism spending in the state.[48] One quarter of all tourism spending in Providence goes towards food, followed closely by retail and entertainment.

Providence has been receiving national accolades as a tourist destination, and especially as a "foodie" city. These accolades certainly represent an opportunity for Providence to capture; however, even without those, the city of Providence has a unique opportunity to showcase its art, cultural assets, and food scene to two captive audiences: convention attendees and students, but perhaps more so their parents. According to a recent study, 1.3 million attend over 500 events annually at the Convention Center, Dunkin' Donuts Center, and Veterans Memorial Auditorium.[49] In 2012, nearly 90,000 undergraduate and graduate students were enrolled in the Providence MSA. These visitors represent an opportunity to increase tourism, arts, and entertainment spending in Providence.

Tourism, Arts and Recreation Cluster Actions

Partner with the State to Promote Tourism

The City of Providence should align with the state's proposed new Tourism promotion efforts. Rhode Island is showing a renewed vigor in promoting its tourism industry. A new statewide branding initiative is being funded for $5 million to promote tourism and business attraction.[50] As the core City in the State Providence stands much to gain from being a key component and advocate for showcasing the City's arts, cultural and recreational assets.

Share Information between Higher Education and the CVB

Through the engagement 'team' described in the Educational Services section below, work with the colleges and universities to better engage in cross promotional activities. The CVB is recruiting world-

[47] US Dept. of Commerce: http://www.commerce.gov/news/press-releases/2015/06/us-commerce-secretary-penny-pritzker-releases-2015-spring-travel

[48] HIS consulting- http://www.discovernewport.org/documents/industry-resources/ri-tsa-2013-with-regional-data.pdf

[49] http://www.providencejournal.com/article/20150410/NEWS/150419880

[50] Providence Business News. http://pbn.com/RI-ramping-up-search-for-marketing-consultant-to-develop-state-tourism-brand,107042?category_id=143&sub_type=stories,packages

class business and other conferences that often relate to areas of expertise at the colleges and universities. Engaging one another to support recruitment and delivery of these events could help elevate the impact. Similarly the college and universities draw ten's of thousands of visitors to explore their campuses and little is done to showcase Providence. The Providence Warwick CVB has developed a web directory of restaurants and cultural venues that could be adapted to market to college and university students and their parents.

Invest in Cultural Assets

Parks and public spaces, museums and cultural centers, galleries and creative businesses – these are the assets that Providence promotes, and hopefully we further promote through partnership with the State tourism campaign. However, these assets require ongoing maintenance and investment to ensure that they are the world-class quality expected from the Creative Capital. Yet funding to support these assets is often the first to be cut and existing loan programs are often not available to cultural organizations. The City should explore the development of a new financing mechanism to support temporary operating expenses, facility maintenance and development, and new program development.

Educational Services Cluster

About

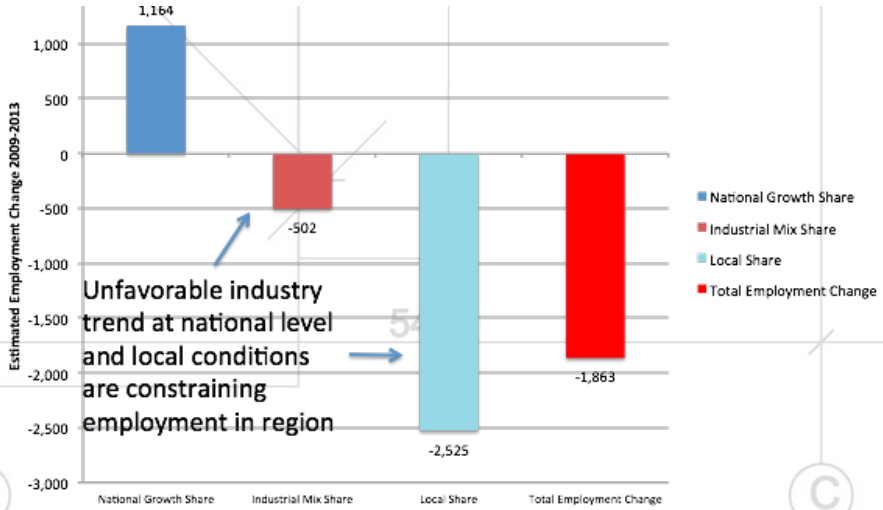
Job Growth
2013 County Firms: 297 (2% of County)
2013 County Jobs: 26,089 (10% of County)
Growth 2009-2013: -7% (1% for County)

Employment in educational services fell by 1,863 jobs between 2009 and 2013, but it remains the second largest employment cluster with more than 26,000 employees. Based on national trends, the County would have experienced a loss of only 592 jobs but local factors contributed to an even larger loss of employment. The job loss would have been even greater but for the growth of private elementary and secondary schools, which added more than 400 jobs during that period.

Shift-Share

Local actual job loss: -1,863
Expected job loss: -592
Local Conditions impact: - 2,525 job loss

Figure 17: Educational Cluster Shift Share Analysis



Industry Analysis

Table 25: Educational Cluster Growing Subsectors

NAICS	Industry	2013 County Firms	2013 County Jobs	County Job Change 09-13 (#)	County Job Change 09-13 (%)
6115	Technical and trade schools	18	221	40	22%

Table 26: Educational Cluster Declining Subsectors

NAICS	Industry	2013 County Firms	2013 County Jobs	County Job Change 09-13 (#)	County Job Change 09-13 (%)
6113	Colleges and universities	17	9,446	-1,202	-11%
6111	Elementary and secondary schools	87	14,832	-519	-3%
6116	Other schools and instruction	118	576	-74	-11%
6114	Business, computer and management training	31	208	-70	-25%
6112	Junior colleges	3	606	-29	-5%
6117	Educational support services	24	172	-9	-5%

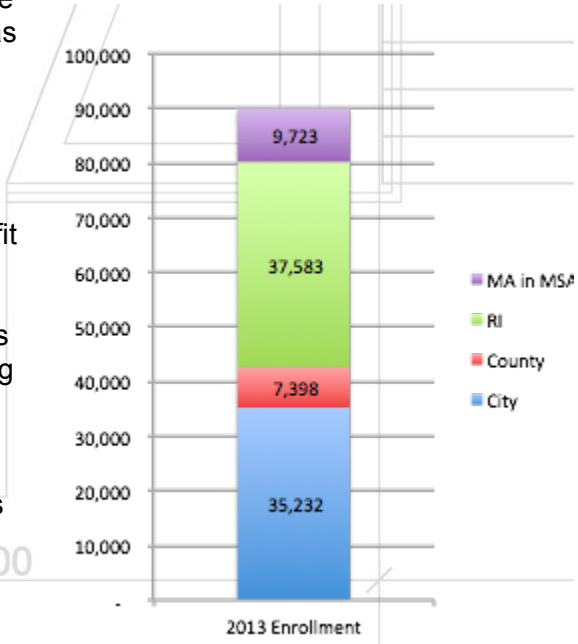
Talent Pipeline
Workers 55 & older: (29%) 7,518
Degrees per year: 1,116

The Educational Services cluster has a significant share of older workers with 29 percent, or 7,518 workers 55 or older. With an estimated retirement of 752 workers per year and more than 1,100 degrees in related fields, there should be a sufficient talent pipeline to replace these workers.

Market Opportunities & Challenges

Educational Services is important to Providence as an employer, and the City of Providence is the anchor of the education cluster in the state. The City of Providence contains 1/3 of the education jobs in R.I.. However, as can be seen in the industry data above, employment in educational services is decreasing. Given national and state market conditions and trends, some of this loss may be out of the control of city policy. Both K-12 and higher education institutions rely heavily on state funding, and even private institutions are facing budget challenges; President Farish of Roger Williams University recently stated that the majority of non-profit private schools are likely not to meet their enrollment and revenue targets.[51] The uncertain nature of higher education with trends such as online learning and the shift towards adjunct (versus tenured) professors mean that educational services may not be able to be relied on as strong drivers of employment.

Figure 18: Enrollment by Residency Origin



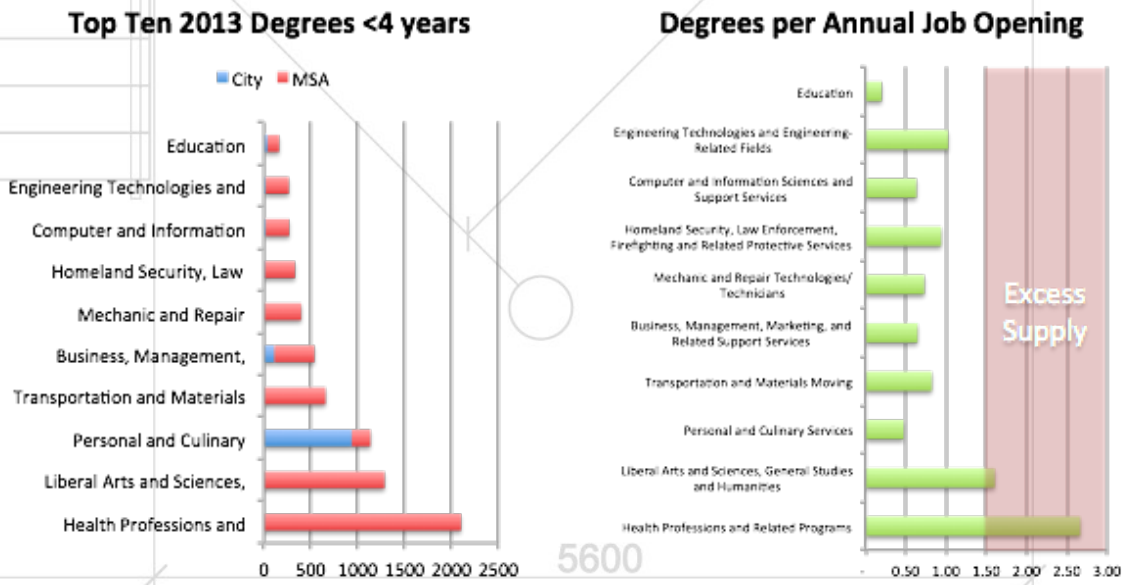
However, colleges and universities provide opportunities for greater economic impact beyond employment. Students are the future residents and talent base of Providence. Providence is home to more than 4 in 10 higher education students enrolled in the state of Rhode Island, so the City serves as the primary magnet of talent. Nearly 90,000 undergraduate and graduate students were enrolled in 2013 in the

[51] http://www.universitybusiness.com/article/higher-ed-thought-leaders-forecast-2015-trends

Providence MSA and 22,000 degrees were awarded, an increase of more than 3,500 degrees since 2002. Providence colleges and universities serve primarily a regional market, with 39% of the students from R.I. and 26% of the students from M.A.

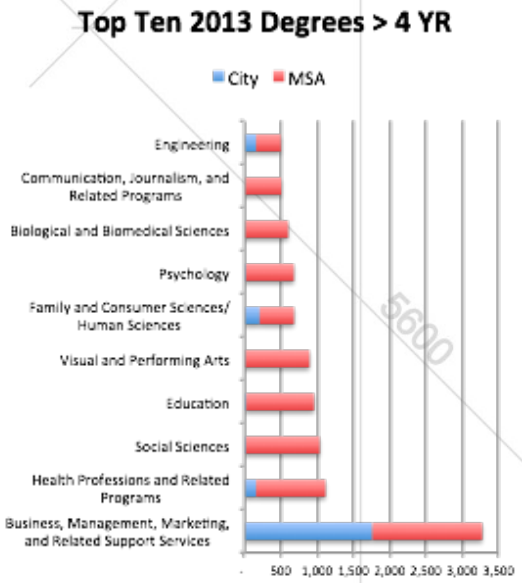
These 90,000 students represent the future residents and talent base of Providence. Therefore, monitoring trends in enrollments and degree alignment provides important information. Enrollment grew by 12% in Providence schools, compared to 24% overall for the U.S. Furthermore, the supply of new graduates with less than 4 year degrees is not keeping pace with annual job openings except in liberal arts and health.

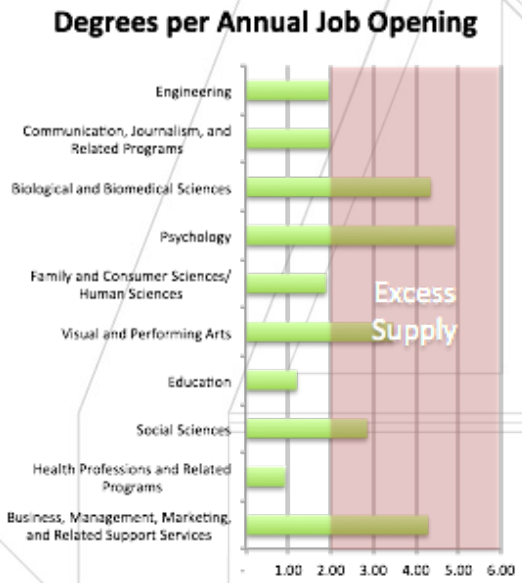
Figure 19: Degrees Granted and Job Opening Analysis



However, the supply of new BA + graduates generally meets or exceeds the existing demand, except in education and health.

Figure 20: Degrees Awarded and Supply





Educational Services Cluster Actions

Collaborate to Retain Students

The opportunity to retain students to live and work in Providence is one of the greatest economic opportunities presented by the Educational Services cluster. The City, and to some extent regional college and universities, can better engage with one another for shared benefit. On the city side this would require the designation of a liaison or team that is focused on identifying and advancing opportunities for collaboration. This team should be empowered by the Mayor to make appropriate recommendations on how to improve the City for students including place-making, safety, community events and industries.

Case Study: Campus Philly

Campus Philly (Philadelphia, PA) is a nonprofit organization that fuels economic growth by encouraging college students to study, explore, live and work in the Greater Philadelphia tri-state region. The group coordinates events, internship programs and multicampus activities. In 2014 the program engaged over 5,000 college students in the community.

Beyond the team described above there are immediate ways for the City to welcome students and at the appropriate times their parents. One simple way is for the City to host a welcome fair that brings together city businesses and service providers early in the semester and allows them to showcase the opportunities in the City. The campuses of Mary Washington (Fredericksburg, VA) and Lehigh University (Bethlehem, PA) do this with their City partners. Similar to the general fair the City should consider a job fair that brings together private and public employers that are looking to grow their talent base.

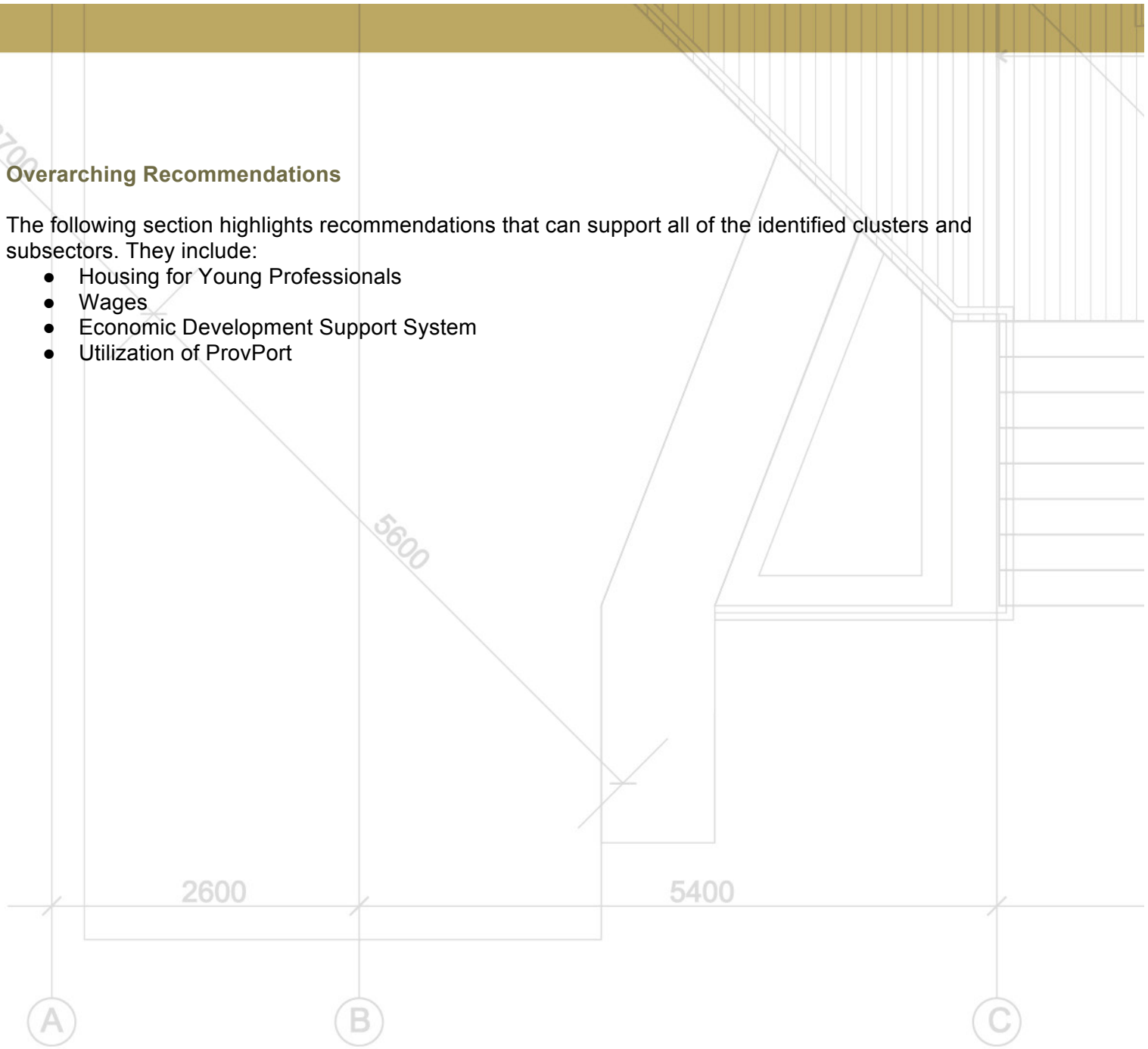
Collaborate to Support Industry

The City should work with the Greater Providence Chambers Innovation Partnership to identify specific opportunities for multi-institutional collaboration. Opportunities exist around the food cluster, information technology cluster and health that could be further explored and capacity leveraged for greater success. One area to explore at start is the possible lack of capacity in certain degree areas that are the City's future job growth drivers. The City should also work with the colleges and universities and Commerce RI to identify the best opportunities to deploy the new Innovation Vouchers.

Overarching Recommendations

The following section highlights recommendations that can support all of the identified clusters and subsectors. They include:

- Housing for Young Professionals
- Wages
- Economic Development Support System
- Utilization of ProvPort



Housing for Young Professionals

The quantity and variety of housing stock in Providence is insufficient to meet the needs of current residents or to attract a sizable workforce at a rage of incomes. Wages in Providence are low and stagnant and housing costs are unaffordable to the majority of residents, including Millennials and older generations. The for-sale vacancy rate in Providence is very low as is the rental vacancy rate in the city's urban core.

Why are 30-54 and 16-29 year olds moving out of the city?

Price Income Mismatch

Providence's low-income residents, which includes Millennials and older generations, are suffering from unaffordable housing costs and the city is not experiencing significant gains in top-income earners. County wages are low and stagnant and the largest gain in top income earners was among those commuting into the city. In 2013, median household income in Providence was $37,632. The term household encompasses people living alone, as part of family and with roommates. Within those categories of households there is a wide range of median incomes; the median income for non-family households (single and roommates) was $26,298 and for married-couple families (husband and wife with or without children) it was $69,121[52],[53]. This impacts households' decisions about location, quality of housing and living arrangements.

In 2015 a household needed to earn at least $40,399 to afford a $122,750 home, the median price single-family home in Providence excluding East Side[54]. In order to afford a median price home ($460,000) on the East Side of Providence a household would need to earn $141,482[55]. The "2015 Housing Factbook" reports that the average 2-bedroom rent in Providence excluding the East Side was $1,067 and on the East Side it was $1,333. For these rents to be affordable and income of $42,680 and $53,320, respectively, would be required[56]. There is great variation in house values by neighborhood in

[52] ACS defines a
- Household as "all people who occupy a housing unit" including "family members and all the unrelated people"…"a person living alone or a group of unrelated people sharing a housing unit…is counted as a household."
- Household, nonfamily – a "householder living alone (a one-person household) or where the householder shares the home exclusively with people to who he/she is not related"
- Married-couple family – "indicates that the household, family or subfamily is maintained by a husband and wide" "the married couple may or may not have children living with them"

http://www.census.gov/cps/about/cpsdef.html

[53] U.S. Census Bureau, American Community Survey 2009-2013, S1901: Income In The Past 12 Months

[54] 2015 Housing Fact Book, HousingWorks RI

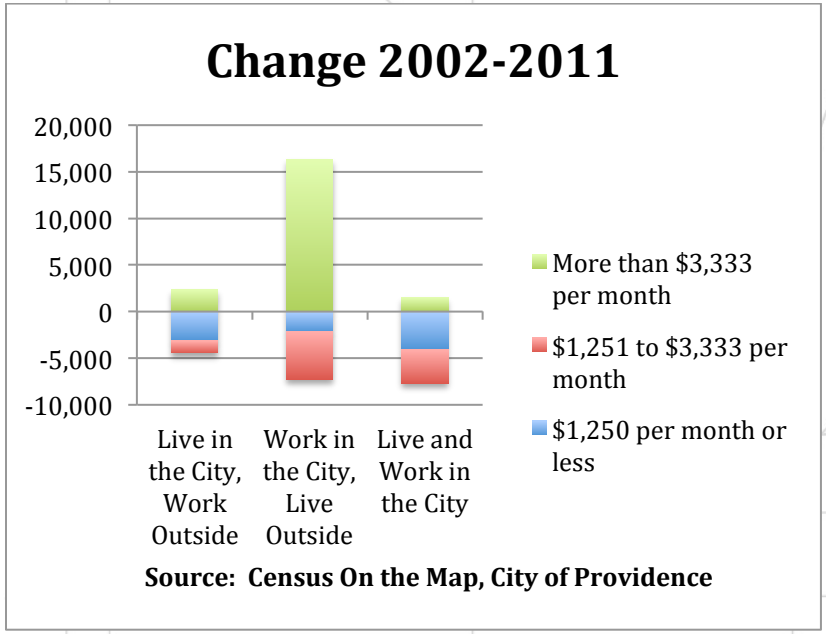
[55] Ibid

[56] Ibid

Providence. According to Zillow's Home Value Index (ZHVI) the median value ranges from a high of $472,900 in College Hill to a low of $90,500 in Lower South Providence[57].

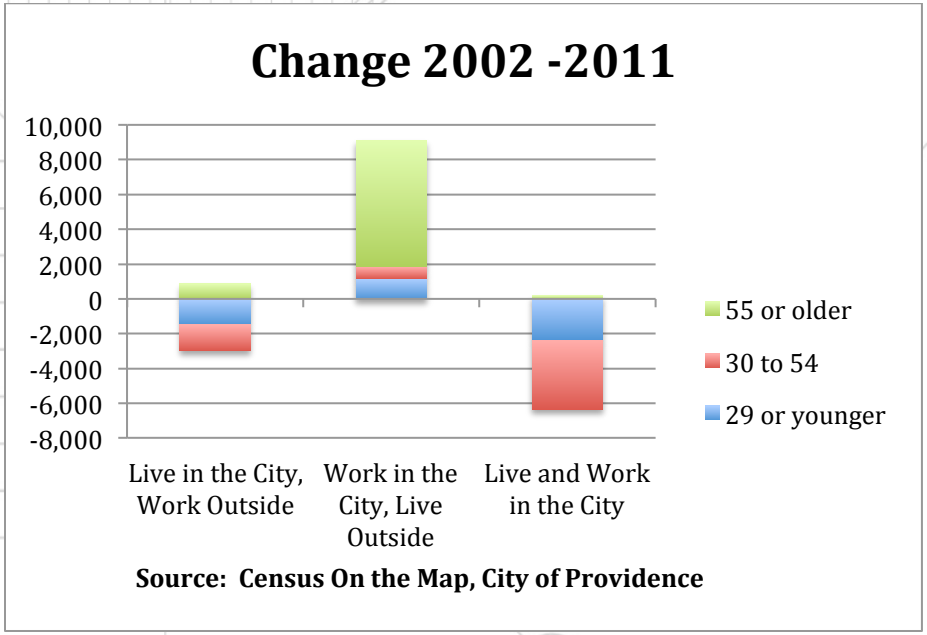
These housing costs are barely within reach of a relatively slowly growing group of top income earners. The data shows that from 2002 - 2011, the only increases of people living in the city came from the 55 or older age group. Meanwhile, the number of people below the age of 54 living in the city declined by roughly 9,000. During this same period of time there was a gain of almost 4,000 city residents earning more than $3,333 per month compared to an increase of over 16,000 commuters earning similar wages; starting annual income in this range is about $40,000.

Figure 21: Change in Population Living/Working in the City by Income



[57] Providence Home Prices & Value, Zillow, http://www.zillow.com/providence-ri/home-values/ Accessed on Oct. 16,2015.

Figure 22: Change in Population Living/Working in the City by Age



Millennials Needs/Demand

Millennials represent a large segment of the population in Providence; statewide their median income is $14,509 and they are living alone or with roommates more than their peers have in the past. Millennials, those ages 18-34, represent 24% of the population in Rhode Island[58] and nearly 40% of Providence's population[59]. Students attending institutions of higher education in Providence could account for approximately 43% of the city's Millennial population. The Institute of Education Sciences' National Center for Education Statistics reports that in fall of 2013 just over 30,000 full-time and almost 5,000 part-time undergraduate and graduate students were enrolled in institutions of higher education in RI[60]. People in this age group are forming fewer households than their peers did in the past; "nearly

[58] 2015 Housing Fact Book, p. 5, HousingWorks RI.
[59] Miller, G. Wayne. "Providence Millennials veer from their parents' path, at work and at home." http://www.providencejournal.com/article/20141115/SPECIAL-REPORTS/311159993 Accessed on Oct. 16, 2015
[60] https://nces.ed.gov/ipeds/datacenter/reportdraw.aspx

half of today's Millennials live alone of in non-family households.[61]" The median income for non-family households in Providence, in 2013, was $26,298. Statewide 59% of renter households age 18-24 are housing cost burdened, even factoring out people in that age range who are in college and not in the labor force[62].

General Demand

The housing value market in Providence, excluding the East Side, is slowly improving and very tight. From 2014-2015 single-family home prices in greater Providence rose 14.4% and the number of sales dropped slightly from 115 to 109, while prices on the east side fell 3.8% and the number of sales rose slightly from 52 to 57[63]. Zillow estimates the median home value in Providence to be $156,000, this is a 4.3% increase from August 2014 and it forecasts a 3.1% increase in value in the coming year[64]. The homeownership market in Providence is tight; in 2014 less than 1% the housing inventory in the city was vacant for sale[65]. There is more room in citywide rental market where the vacancy rate was around 7%. The current median age of housing inventory in the Providence-Warwick area is 74 days[66], but anecdotally homes on the east side of Providence are barely making it to market that is homes are sold before being listed or are in contract by or before a scheduled open house.

Housing Actions

Partner with Developers to Take Advantage of New State-Sponsored Programs

The City should work proactively with local developers to see where it can be supportive in their pursuits to access the various new initiatives being launched by the state. By doing so the City can leverage their resources and support these companies. The programs include:

Rebuild Rhode Island

- Provides capital to qualified real estate projects that demonstrate a "financing gap" - provides:
  - Up to 20% of eligible project costs; 30% if certain criteria are met; $15M/project cap
  - Usable, tradable and redeemable (90% of value)
  - Sales tax exemption on building materials may apply
  - Credits payable in 5 years following completion (certificate of occupancy)

[61] 2015 Housing Fact Book, p. 6, HousingWorks RI.
[62] Majority of young, renter households in Rhode Island burdened by housing costs http://www.housingworksri.org/news-events/majority-young-renter-households-rhode-island-burdened-housing-costs
[63] RILiving.com, Single Family Home Sales Comparisons 2nd Quarter April – June 2015, http://www.statewidemls.com/RealtorResources/SalesStats/Documents/2ndQ-Single2015.pdf Accessed on Oct. 16, 2015.
[64] Providence Home Prices & Value, Zillow, http://www.zillow.com/providence-ri/home-values/ Accessed on Oct. 16,2015.
[65] U.S. Census Bureau, American Community Survey 2014, DP04 Selected Housing Characteristics
[66] Realtor.com Real Estate Trends http://www.realtor.com/welcome/realestatetrends/Providence_RI

Tax Increment Financing

- The State has recently enacted a statewide TIF that:
  - Provides capital to eligible projects by rebating new state tax revenue generated.
  - Projects must demonstrate need through a “financing gap”
  - Reimbursements may not exceed 30% of total project costs (exemption for public infrastructure/utilities) or 75% of incremental revenue generated

Wages

Based on feedback from community stakeholders we analyzed employment mix and wage levels between Latino and non-Latino workers. What was found is a disparity in the wage rates as shown on the charts below.

Figure 23: Employment & Wages of Non Latino and Latino Workers

Employment by Industry

	Not Hispanic or Latino	Hispanic or Latino	Share
Mining, etc	130	9	7%
Utilities	1,083	31	3%
Manufacturing	**20,234**	**4,681**	**23%**
Wholesale Trade	10,908	1,014	9%
Administrative , Support, Waste Management and Remediation Services	**19,951**	**6,565**	**33%**
Accommodation and Food Services	**26,333**	**4,195**	**16%**

Earnings by Industry

	Not Hispanic or Latino	Hispanic or Latino	Share
Mining, etc	$5,548	$3,088	56%
Utilities	$7,146	$6,588	92%
Manufacturing	**$3,947**	**$2,482**	**63%**
Wholesale Trade	$5,277	$2,970	56%
Administrative , Support, Waste Management and Remediation Services	**$3,102**	**$1,763**	**57%**
Accommodation and Food Services	**$1,536**	**$1,428**	**93%**

Source: Census Quarterly Workforce Indicators, Providence County, 2014Q2
In bold are industries where Hispanic or Latino workers are more than 14% of the employment.
In red are industries where Hispanic or Latino wages are the lowest.
In green are industries where Hispanic or Latino wages are the highest.

- Overall Wages are low and Hispanics earn an average 57¢ for every $1 versus non Hispanics
- Non Hispanic wages have grown by only 0.2% vs. 0.3% for Hispanics & Latinos
- Nationally quarterly earnings also grew by an average of 0.2% from 2009Q4 to 2014Q2
- The County added 9,827 Non Hispanic workers and 4,531 Hispanic workers from 2009Q4 to 2014Q2
- Regional GDP would be $5.2B more if there were no income gap[67]

[67] Income gap: The National Equity Atlas is produced by PolicyLink and the USC Program for Environmental and Regional Equity. See http://nationalequityatlas.org/data-summaries/Providence-New_Bedford-Fall_River%2C_RI-MA_Metro_Area

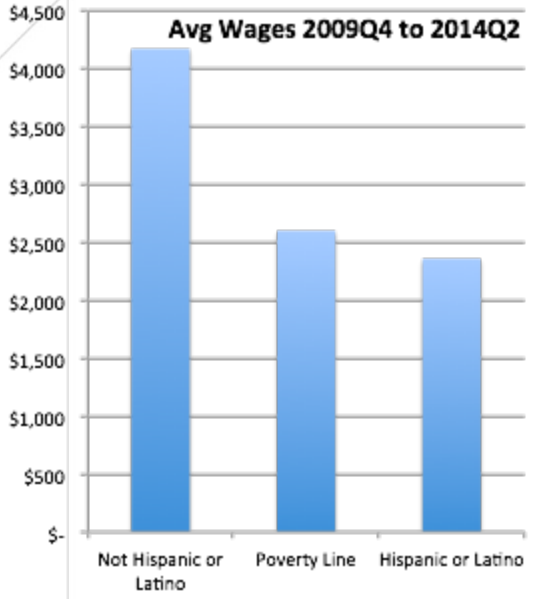
Wage Actions

Investigate Further and Partner to Address

What we do not know based on the available data is the cause of these wage differences in the same industry categories. Two possible causes could be that Latino workers are newer to their positions and therefore at lower salary levels. The other possibility is that they are more frequently employed in low skilled positions. Either way this trend is something to be considered and calls for a better understanding and engagement by the workforce training system. Workforce Solutions should partner with industry organizations and Real Jobs RI to explore this issue and develop new programs and partnerships to increase the wages of Latino workers.

One area to consider is the ability for Providence residents to progress from entry level retail and front line service positions into higher skilled positions that pay more. Opportunities to create training pipelines from retail jobs to information technology and other sectors should be mapped out through discussions with the appropriate training and trade organizations.

Figure 24: Wage Levels



Economic Development Support System

The feedback that was heard most from industry stakeholders in the development of this plan was that the most important thing for Providence to do would be to focus on the provision of basic economic development services. Most cities of similar size to Providence have dedicated economic development staff, and perhaps more importantly, a dedicated economic development corporation, working in tandem to provide a variety of incentive/financing, marketing, permitting/planning liaison, and business growth/attraction services. While Commerce RI provides those services for the state, and Providence is likely a large benefactor, that does not replace the need to have dedicated staff who is aware of the programs, organizations, and other resources unique to Providence and devoted to connecting Providence businesses with those resources. Recognizing that, Providence recently hired a new dedicated Director of Economic Development. A particular focus should be placed upon ensuring that basic economic development services are strong and effective. Where appropriate, this work should take place in partnership with Commerce RI.

The Economic Development Office should also collaborate with other City offices e.g. Planning, Community Development, and Art, Culture, and Tourism to continue to focus on place-making to spur development in neighborhoods and in central business district. This can include a concerted effort to identify ways to support public space maintenance that involves public private partnerships.

Economic Development Support Actions

Expand the Utility of Existing Services

Basic improvements can be made simply by expanding the use of existing services or increasing their accessibility. This is part of the role of the City's new Chief Innovation Officer, with whom the new Director of Economic Development can work. Two recommendations in particular are:

- Utilize 311 Services for Business - allow for calls to be tracked and recorded when business concerns are raised. This will allow for proactive identification of issues that may be common across business types and locations.
- Ensure that Latino business owners have equal access to planning and economic development services by offering all materials in Spanish and ensuring access to translation services if city staff does not speak Spanish. Some materials are currently available in Spanish.

Market Providence's Strong and Unique Industries

Economic development marketing to attract businesses, talent, and investment is a core function that requires ongoing refinement. Providence's current economic development website provides little information on the City's core advantages, industry strengths, and industry partner organizations. An economic development marketing message should:

- Be informed by industry organizations, as they are best positioned to articulate the unique strengths and assets of their industry and will ultimately be critical partners in delivering the message.
- Highlight both traditional strengths and emerging sub-clusters. The intersection of design and manufacturing, food, edtech, and social enterprise are all unique areas of strength that can differentiate Providence and also be strengthened by the attraction of new firms, talent, and investment.
- Be coordinated with state marketing efforts. One immediate opportunity is the pending tourism campaign, so that Providence's unique strengths can be highlighted for both visitors and businesses.
- Highlight unique general attributes, such as proximity to markets, logistics infrastructure, and quality of life assets such as outdoor recreation amenities and healthcare facilities.

Restructure Financing Tools to Support Economic Development

- Utilize CDBG funds in a way that supports economic growth in the neighborhoods, e.g. business creation purposes
- Continue the efforts already begun to make the TSA process predictable for all applicants
- Support use of Providence Economic Development Partnership (PEDP) fund to support identified clusters and where appropriate partner with other organizations that can provide services beyond the financing. This includes assistance with underwriting and technical assistance to the businesses after the loan is received. New guidelines and marketing materials should be produced in order to promote the PEDP program with potential applicants and partners.
- The PEDP can also work with the State's new Small Business Lending program ($5.5 million in FY2016). The new program provides businesses with fewer than 200 employees access to capital. No more than $750,000 will be loaned to any one company and there is a 10% set-aside for micro-loans between $2,000 to $25,000. The proceeds can be used for collateral support, credit enhancements, leveraging of other finance sources and technical assistance.

Leverage Strength of Immigrant Population to Support Small Business Development

Because immigrant entrepreneurs more likely to take risks and start small businesses than their U.S.-born counterparts, Providence has a local economic strength in its large and growing foreign-born and second generation population. 14.4% of business owners in RI are immigrants, bringing in $360 million in net business income in 2010.[68] Furthermore, from 2000 - 2013, Providence saw an overall decline in the number of Main Street business owners, but an increase of 500 immigrant Main Street business owners.[69]

Some resources currently available to immigrant entrepreneurs include Spanish-language materials from the City of Providence Department of Economic Development, the Welcoming Providence program at Dorcas International (though this program has recently decreased in capacity), and services provided by the Rhode Island Family Literacy Program and the Small Business Development Center. Commerce RI has also recently released LatinoCommerceRI as a web resource for Latino business owners.

One step to build on these existing strengths could be to further develop and encourage partnerships between these organizations, for example:

- Building on existing ESL curricula, such as Family Literacy Program, to meet needs identified by SBDC clients or other immigrant small business owners
- Cross-promoting and/or referring clients between existing programs, such as SBDC and Dorcas International
- Partner with Commerce RI to promote the LatinoCommerceRI directory of small business resources for distribution at partner organizations and at cultural centers

A strong convener would best support each of these actions, and Providence's participation as a Welcoming city hints that there may already be individuals and organizations willing to take on that role. As the network of immigrant entrepreneur supports takes shape as a system, longer-term goals could include:

- Incorporate economic development into strategic planning goals and consider adopting "immigration as economic development" language in addition to advocating for welcoming and tolerance

[68] From http://www.immigrationpolicy.org/just-facts/rhode-island-immigrant-entrepreneurs-and-welcoming-initiatives-ocean-state

[69] http://www.as-coa.org/sites/default/files/ImmigrantBusinessReport.pdf

- Facilitate participation among immigrant communities in planning processes and other local government and economic development projects

Additionally, one area where two of Providence's strengths come together is Latino business owners and restaurants. In order to further capitalize on those strengths, a program could be developed to support Latino restaurants. Similar to any Main Street business support program, efforts could focus on matching grants for façade improvements, coordinated promotion, and business development classes, but focused on the restaurant industry and provided in Spanish. Focusing these efforts on Olneyville Latino restaurants could create a physical destination. Existing strong Latino restaurants in the neighborhood could be partners in championing the program. The RI Latino Arts organization also currently has a directory of Latino restaurants and Latino Dollars for Scholars hosts an annual Latino Foods & Wines Festival – making both of them possible partners in such a program.

Better Utilization of ProvPort

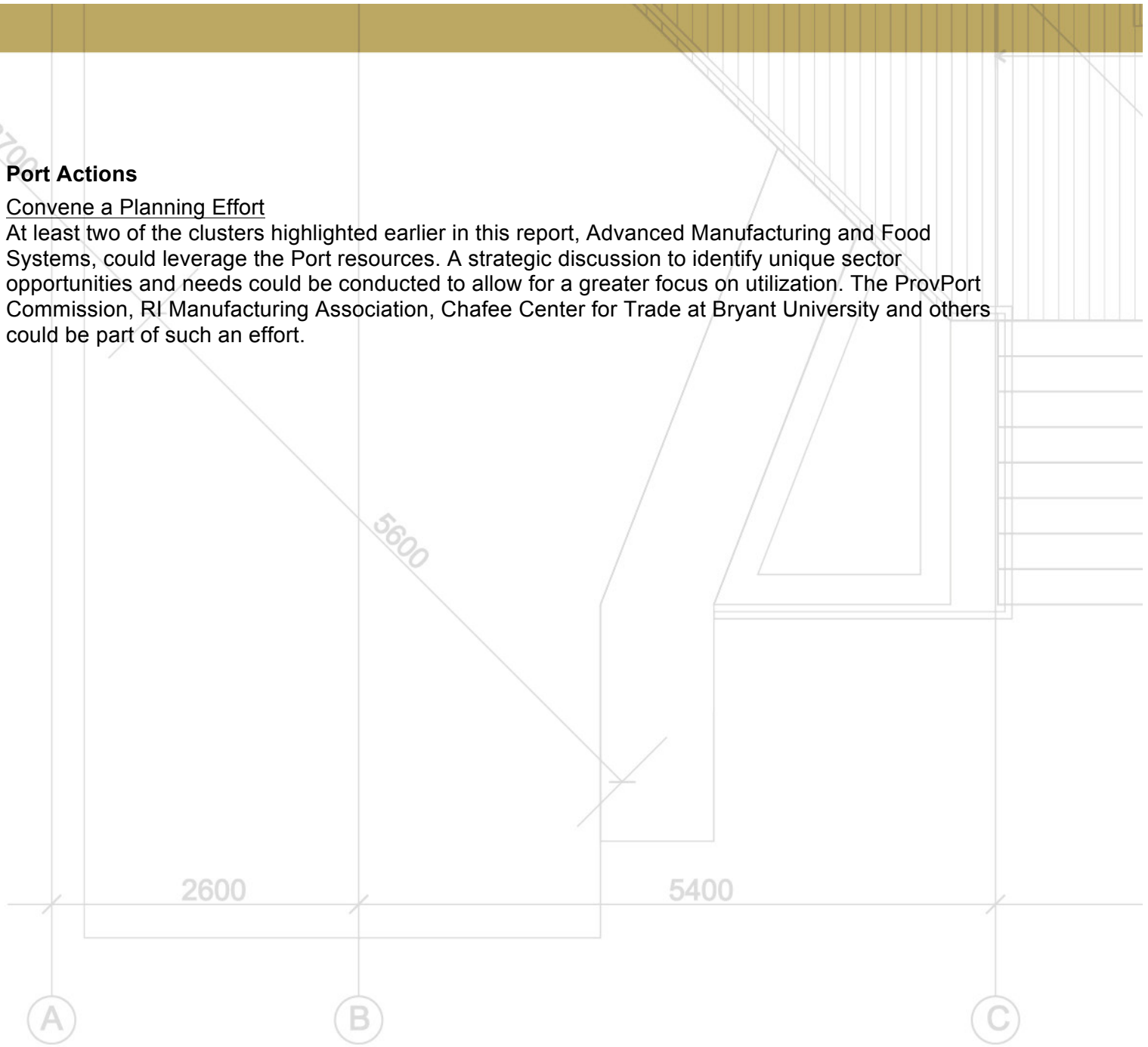
ProvPort is a deep-water multimodal facility for international trade and domestic distribution that encompasses over 105 acres along the Providence waterfront. The facility offers in excess of 1 mile of linear berthing capable of working 6 vessels at any one time, and handles 100 commercial vessels and 2 million tons* of cargo annually, including: coal, salt, scrap, aluminum oxide, cobble stones, autos, calcium, lumber, copper, LPG, caustic, cement, project cargo, heavy equipment, glass, windmill components, petroleum products, limestone, and aggregates.

Since it was created in 1994, ProvPort's non-profit, public-private partnership has made $21.9 million in capital improvements at the port. It also contributes $2,000 per month to the Neighborhood Improvement Fund, and has generated $11 million in state and local tax revenue since 1994. Through terminal services, ProvPort has generated approximately $164 million for the city of Providence and $211 million for the state of Rhode Island, and its eight tenants are responsible for more than 5,000 jobs at the port. The indirect economic impact of the port during that time period is approximately $2.8 billion, with $1 billion occurring within the City of Providence. ProvPort tenants have made $28 million in capital improvements, and are planning $33- $55 million in additional capital expenses between 2015 and 2020. Current plans include expanding to lot 288, a 9.3-acre parcel ProvPort retains operating rights until 2036, when the port returns to the City of Providence.

Port Actions

Convene a Planning Effort

At least two of the clusters highlighted earlier in this report, Advanced Manufacturing and Food Systems, could leverage the Port resources. A strategic discussion to identify unique sector opportunities and needs could be conducted to allow for a greater focus on utilization. The ProvPort Commission, RI Manufacturing Association, Chafee Center for Trade at Bryant University and others could be part of such an effort.



Concluding Thoughts

The preceding report in many ways combines analysis and recommendations that would appear in both a traditional cluster strategy as well as an economic development plan. As our work progressed it became apparent that based on identified needs we should allow our efforts to include both areas of focus. We believe this has allowed for a more holistic set of recommendations and information that the City of Providence and their partners can utilize for economic opportunity.