

mass | economics

**Growing Urban Economies: Strategies for Innovation,
Entrepreneurship, and Cluster Development**

Connecticut Commission on Economic Competitiveness

Teresa Lynch, Mass Economics | 10.14.16



1. Economic Performance of CT Cities

2. Understanding Innovation Economy and Strategic Interventions

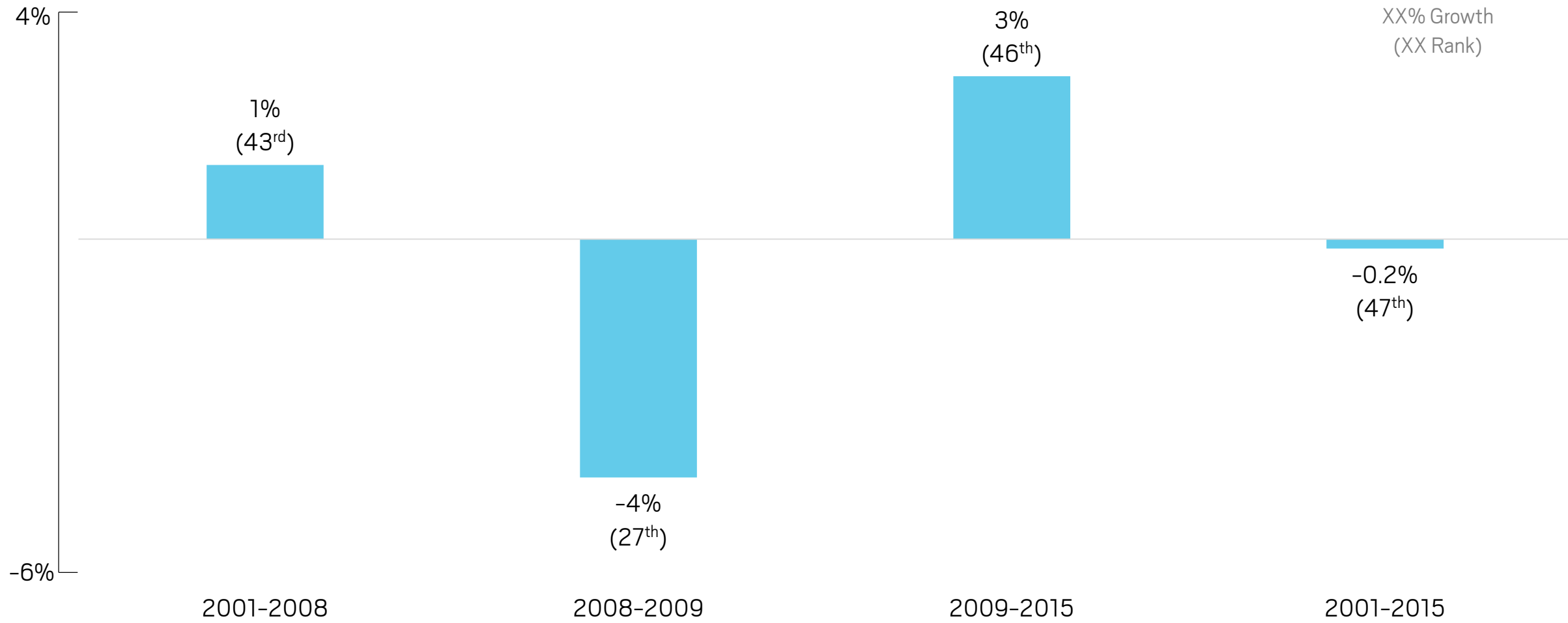
3. Strategies for Urban Entrepreneurship

4. Beyond Traded Cluster Strategies

5. Urban vs Regional Strategies

Economic Performance of CT Cities

Connecticut Employment Growth and Rank Against Other States

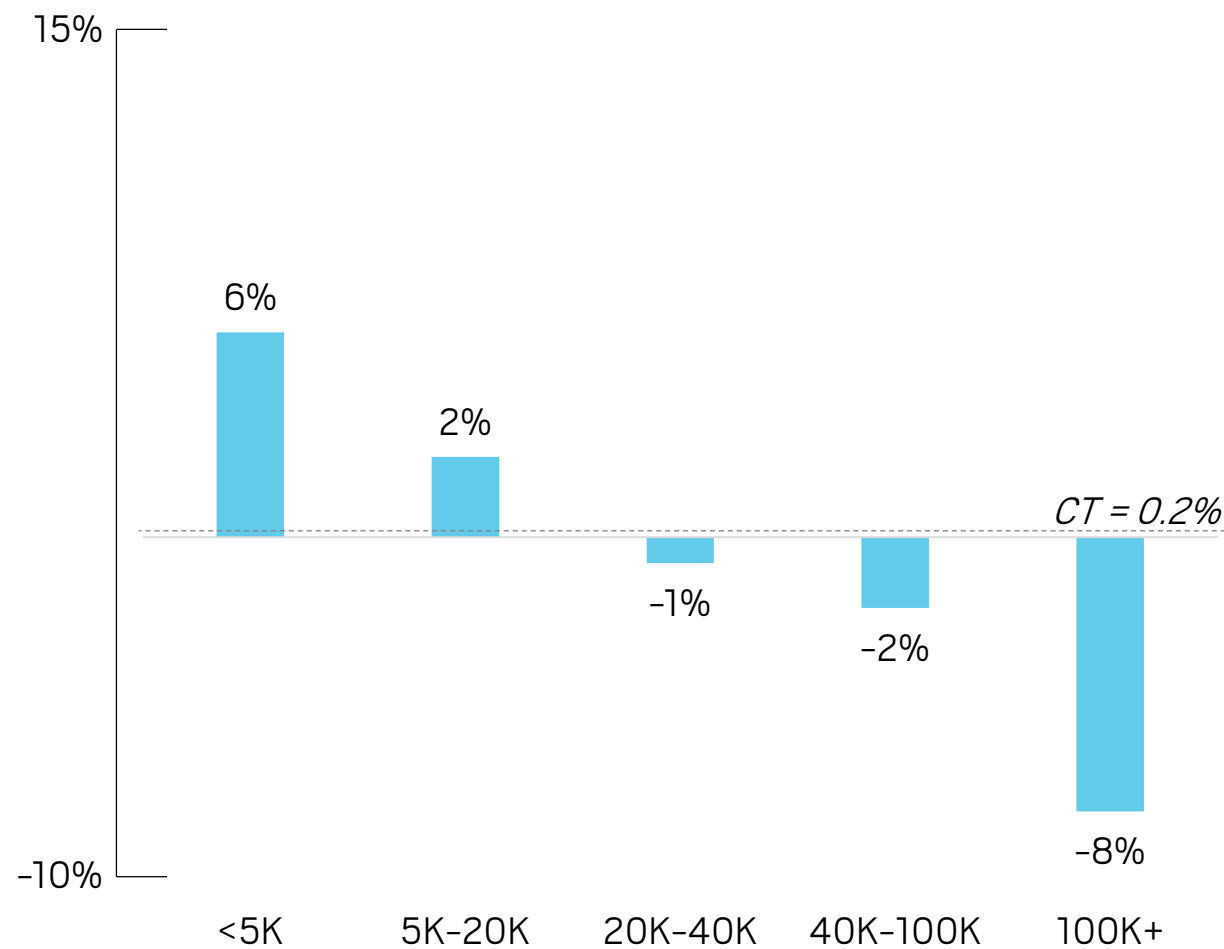


XX% Growth
(XX Rank)

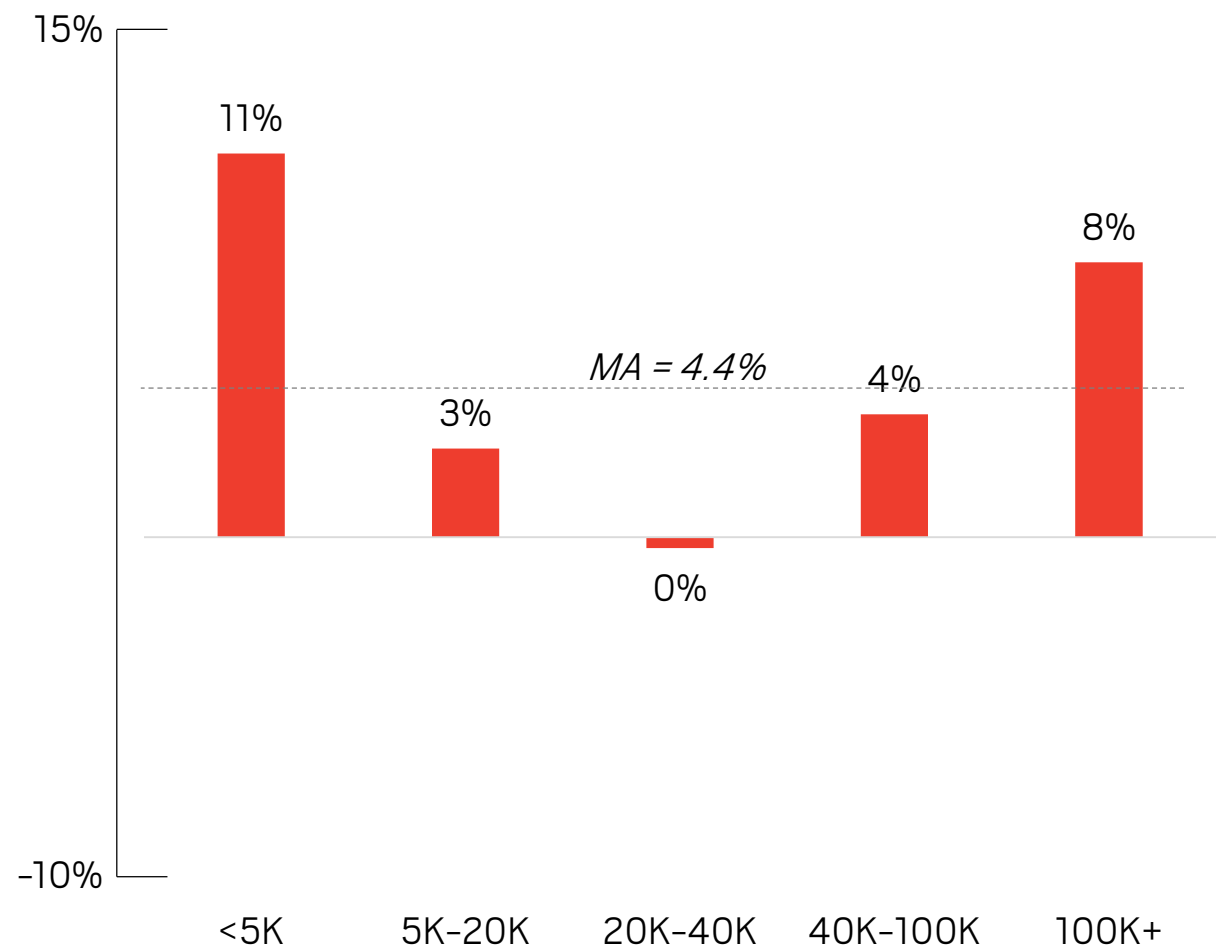
Source: QCEW, 2001-2015; Mass Economics analysis

Economic Performance of CT Cities

Employment Growth by CT Town
Employment Base, 2001-2015



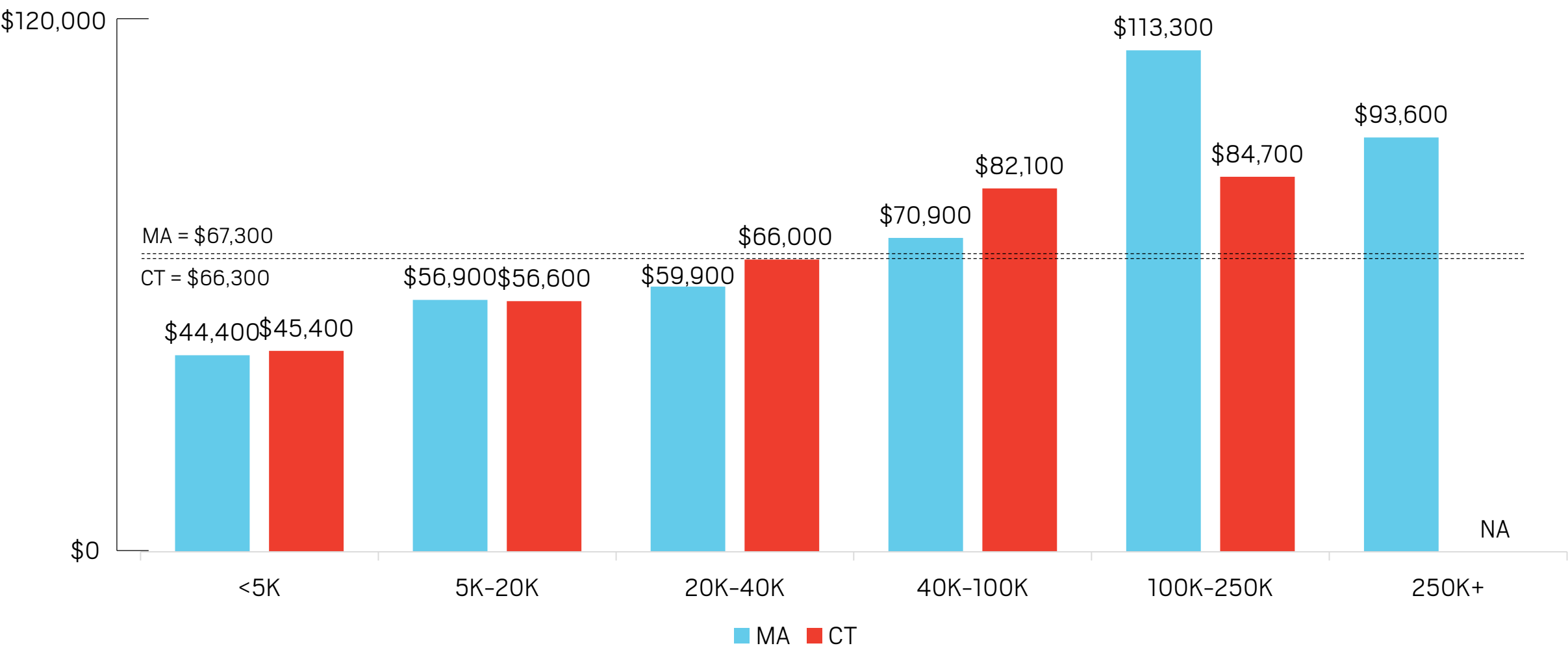
Employment Growth by MA Town
Employment Base, 2001-2015



Sources: Connecticut Department of Labor; Massachusetts Executive Office of Labor and Workforce Development; Mass Economics analysis

Economic Performance of CT Cities

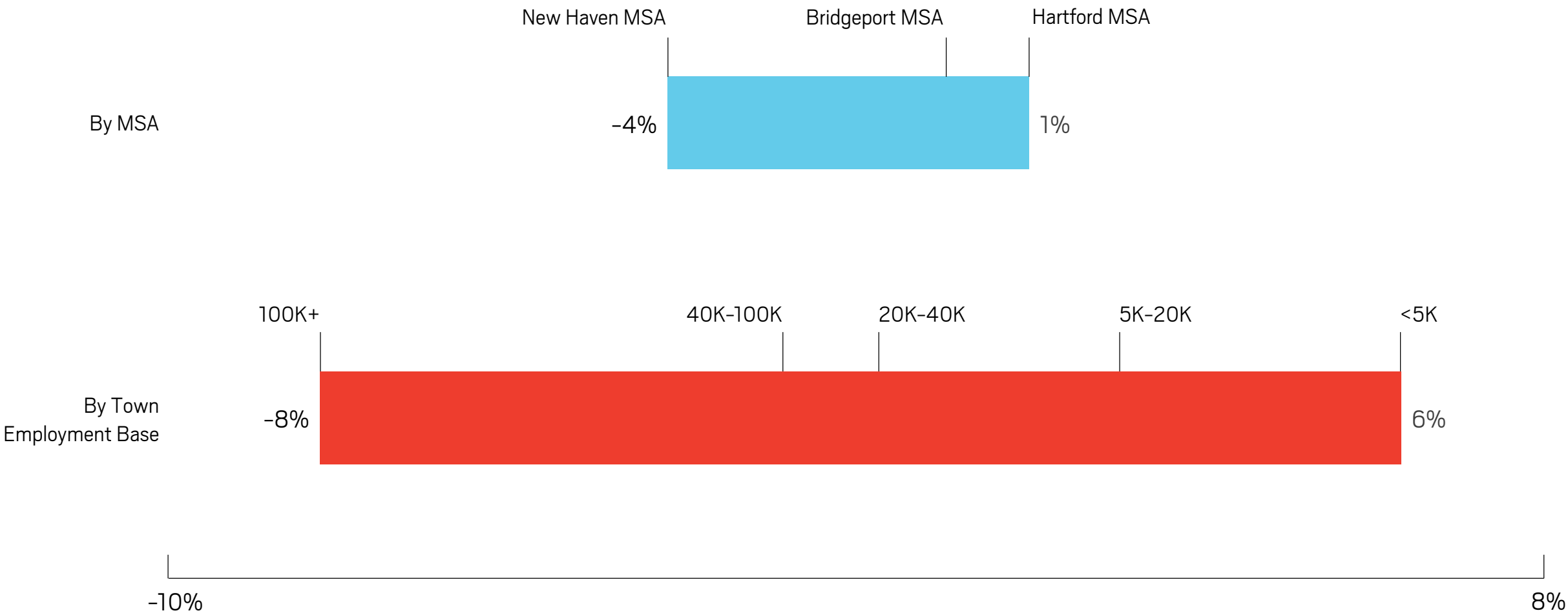
Average Wage by Town Employment Base, 2015



Sources: Connecticut Department of Labor; Massachusetts Executive Office of Labor and Workforce Development; Mass Economics analysis

Economic Performance of CT Cities

Employment Growth for MSAs and Towns by Employment Base, 2001-2015



Sources: Connecticut Department of Labor; Mass Economics analysis



1. Economic Performance of CT Cities

2. Understanding Innovation Economy and Strategic Interventions

3. Strategies for Urban Entrepreneurship

4. Beyond Traded Cluster Strategies

5. Urban vs Regional Strategies

Understanding Innovation Economy and Strategic Interventions

Defining Innovation

Moving from innovation to market requires multiple stages from ideation/research and discovery (**I**) to prototype development (**P**) to commercialization (**C**) and finally, scaling (**S**). Once scaled, the product/service delivery falls within routine operations and management (**R**)

Assigning Categories to Tasks

18,000 tasks were coded based on description of activities

Each task was assigned a (**I**), (**P**), (**C**), (**S**), or (**R**) based on the nature of the work and function of the work involved, as well as whether there is value associated with innovative activities.

In the event where a task was relevant to more than one stage, the “higher” stage was used

Innovation-Value Matrix

Application-Specific Value

Broader Market Value

Innovative Activity

Designing and planning the layout of equipment in a chemical plant

Developing a model that accurately predicts future stock prices

Routine Activity

Conducting quality assurance as part of product manufacturing

.....

Understanding Innovation Economy and Strategic Interventions

Ideation

The products of ideation are both material and abstract – examples include original systems designs as well as principles, theories, and new data collection tools

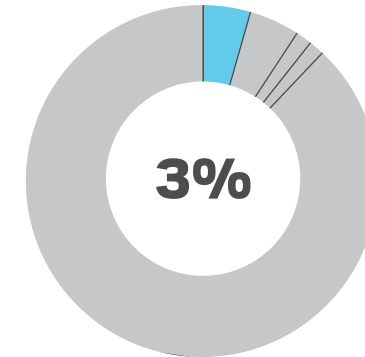
Ideating might mean articulating a hypothesis or conceiving a research methodology

Sample Activities

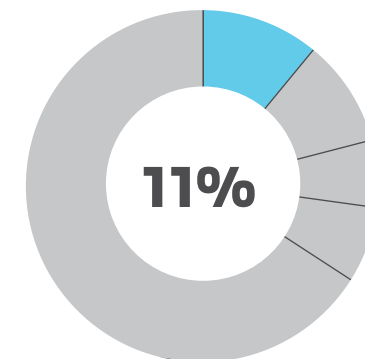
Research, study, investigate, develop

Sample Occupations

Physicists; statisticians; biochemists; curators; professors



**% Tasks Categorized
as Ideation**



**% Occupations Categorized
as Ideation**

Understanding Innovation Economy and Strategic Interventions

Prototyping

Prototypes are built on the use-specific application of preexisting data or knowledge, and will either give rise to routine tasks, generate value through derived goods and services, or both

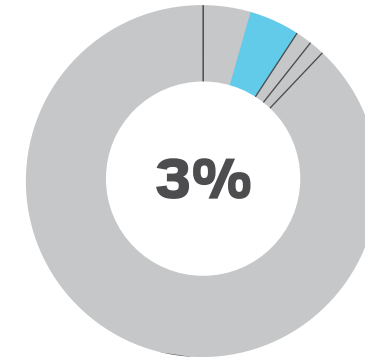
Prototypes make be physical goods, plans, algorithms, models, processes or methods as well as programs or policies

Sample Activities

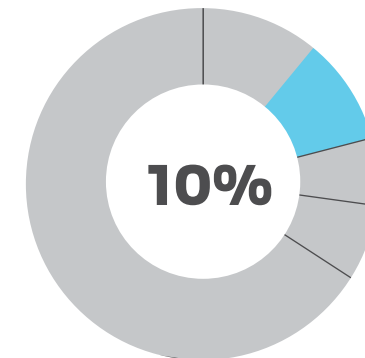
Design; validate; create; interpret

Sample Occupations

Commercial designers; software developers; fashion designers; film and video editors



**% Tasks Categorized
as Prototyping**



**% Occupations Categorized
as Prototyping**

Understanding Innovation Economy and Strategic Interventions

Commercialization

Commercialization encompasses the actions necessary to formally bring to market an innovative process, product, or service

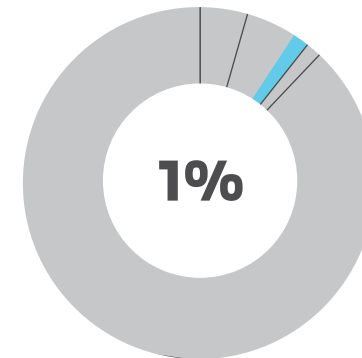
Commercialization may seek to establish patent protections or partnerships, and often includes research on capital sources and potential markets, analyses of existing market competition, and the development of business plans

Sample Activities

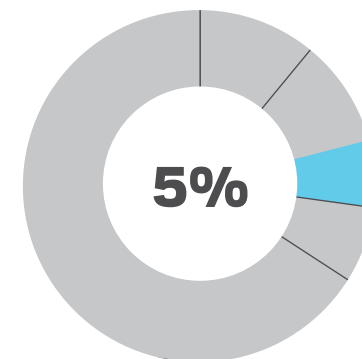
Consult; prepare; evaluate; estimate

Sample Occupations

Marketing managers; cost estimators; logisticians; lawyers



**% Tasks Categorized
as Commercialization**



**% Occupations Categorized
as Commercialization**

Understanding Innovation Economy and Strategic Interventions

Product Scaling

Scaling processes apply developed products, programs, plans, and knowledge in a way that is consistent with broadly established uses but novel in the context of a firm's current growth objectives and overall lifespan

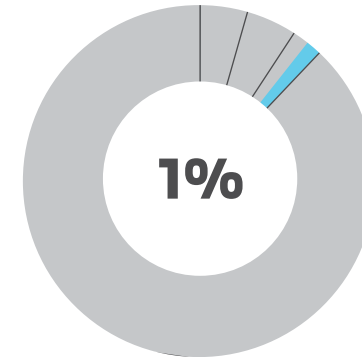
Tasks involved in scaling capture recruitment activities, initiatives to promote firm growth, and general firm-employee negotiations

Sample Activities

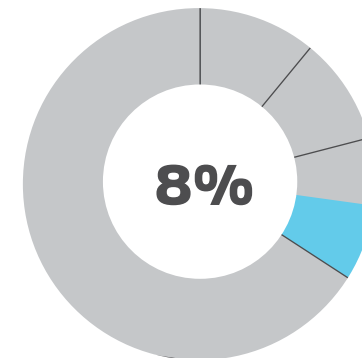
Promote; negotiate; educate

Sample Occupations

Public relations managers; wholesale buyers; product promoters; chief executives



**% Tasks Categorized
as Scaling**



**% Occupations Categorized
as Scaling**

Understanding Innovation Economy and Strategic Interventions

Routine Operations / Management

Routine operations and management consists of the set of daily operations that allow firms, institutions, or individuals to deliver their specific products or services

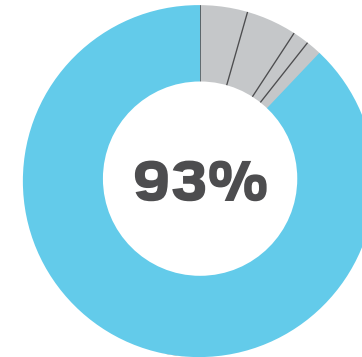
Routine operations and management may involve the improvement or customization of products and services in ways that have no direct market value but may indirectly allow individuals and firms to gain useful and transferrable experience

Sample Activities

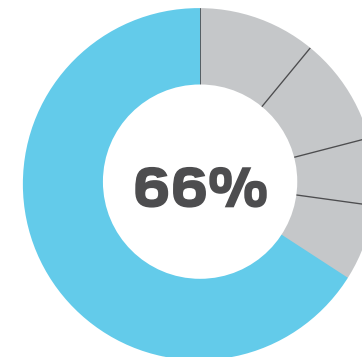
Administer; operate; schedule; maintain

Sample Occupations

Pilots; tax preparers; middle school teachers; dentists



**% Tasks Categorized as
Routine Operations + Mgmt.**



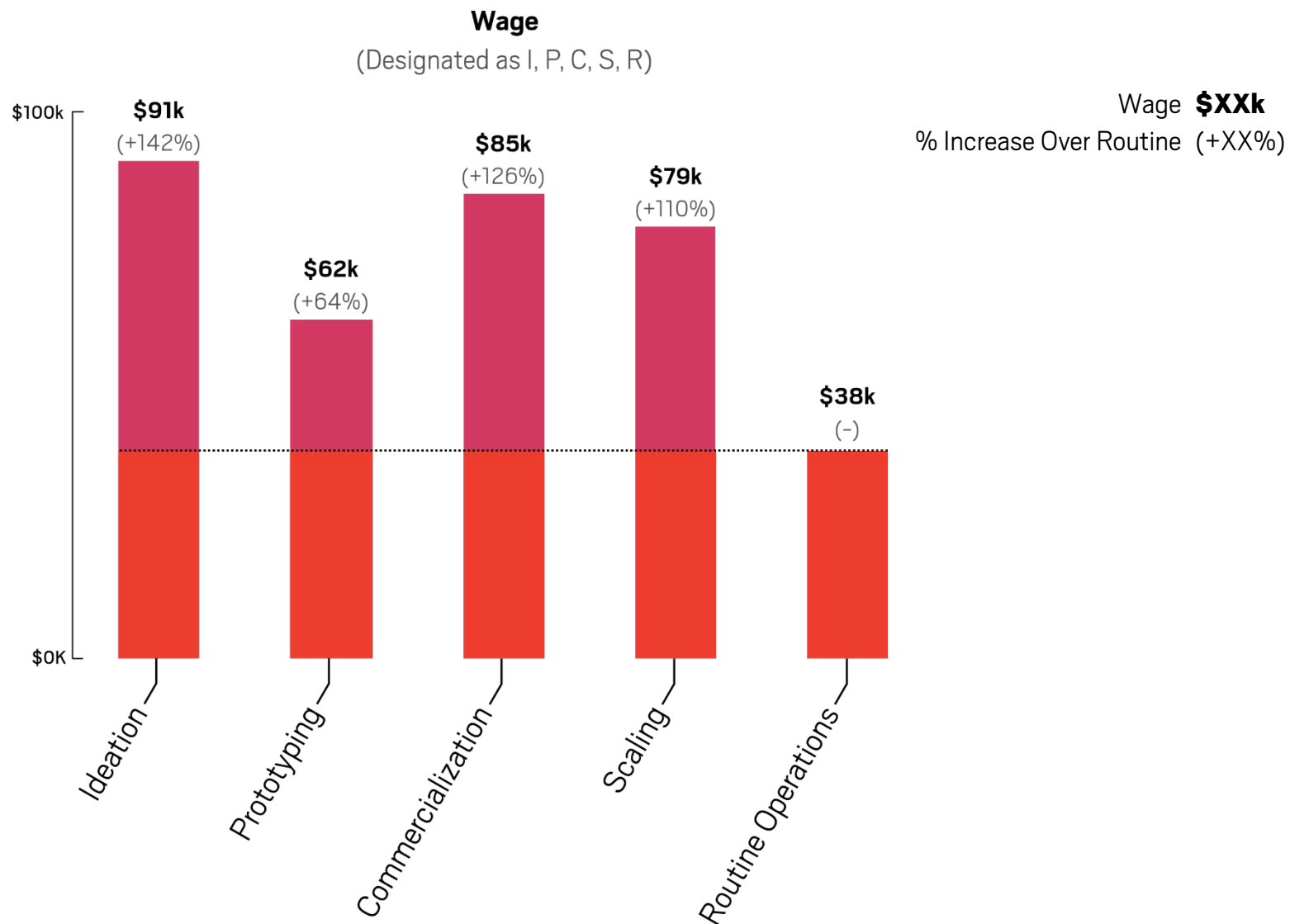
**% Occupations Categorized
as Routine Operations + Mgmt.**

Understanding Innovation Economy and Strategic Interventions

Summary: US Employment by Stage of Innovation, 2014

Stage of Innovation	Percent of		
	Percent of Tasks	Occupational Categories	Percent of Jobs
Ideation	3%	11%	3%
Prototype	3%	10%	10%
Commercialization	1%	5%	5%
Scaling	1%	8%	9%
Routine Operations	93%	66%	74%

Understanding Innovation Economy and Strategic Interventions



Understanding Innovation Economy and Strategic Interventions

Top 5 MSAs by Stage of Innovation

Ideation	Prototyping	Commercialization	Scaling
Boston-Cambridge-Newton	San Jose-Sunnyvale-Santa Clara	San Jose-Sunnyvale-Santa Clara	San Francisco-Oakland-Hayward
San Francisco-Oakland-Hayward	Seattle-Tacoma-Bellevue	San Francisco-Oakland-Hayward	San Jose-Sunnyvale-Santa Clara
San Diego-Carlsbad	Detroit-Warren-Dearborn	Seattle-Tacoma-Bellevue	Boston-Cambridge-Newton
Richmond, VA	Austin-Round Rock	Boston-Cambridge-Newton	Denver-Aurora-Lakewood
New York-Newark-Jersey City	Boston-Cambridge-Newton	San Diego-Carlsbad	Atlanta-Sandy Springs-Roswell

 denotes multiple entries for a region

Understanding Innovation Economy and Strategic Interventions

	Boston MSA	Boston + Cambridge
Ideation —	96,700	57%
Prototype —	283,300	34%
Commercialization —	133,200	32%
Scaling —	211,200	32%
Routine Operations —	1,639,000	27%
Total Jobs —	2,363,800	29%
Area (sq mi) —	3,487	1.5%

Understanding Innovation Economy and Strategic Interventions

KENDALL

Stage	Jobs	LQ
Ideation	9,100	7.1
Prototype	8,800	1.4
Commercialization	6,800	2.5
Scaling	7,500	1.6
Routine Operations	26,000	0.6
Total	58,200	--



MAP LEGEND

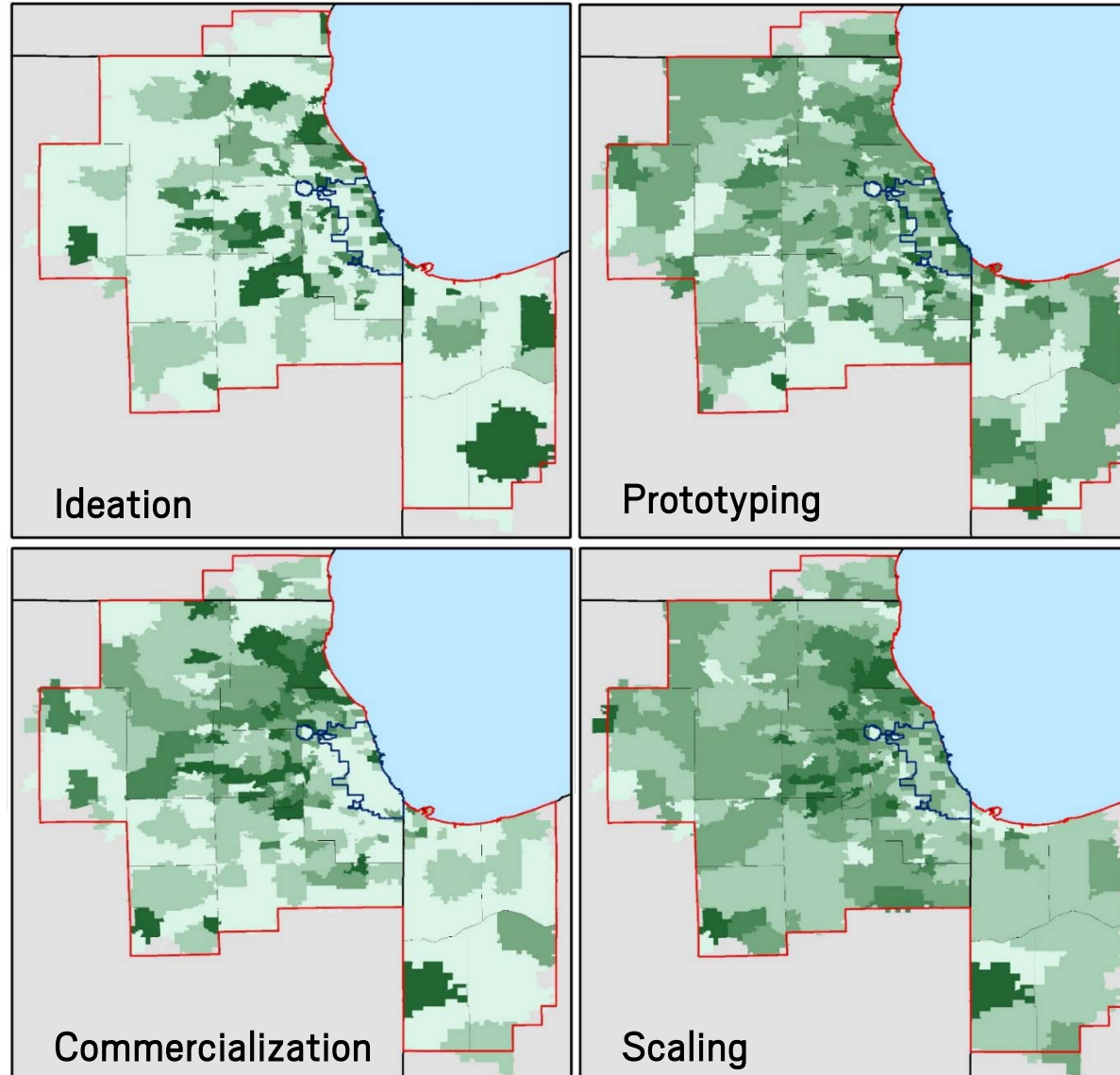
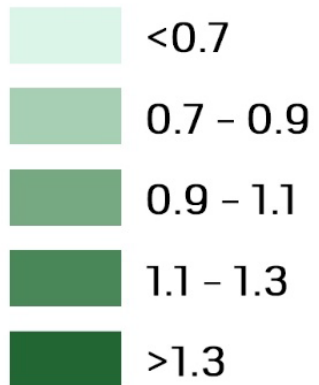
- ID anchors
- ▲ Other ID assets
- 3 largest employers (private)

Understanding Innovation Economy and Strategic Interventions

Spatial mismatch between innovation assets is a common problem



Stage of Innovation
LQ, 2014



Understanding Innovation Economy and Strategic Interventions

Actual > Predicted
Actual < Predicted

LQ Delta (Actual - Predicted)

	I	P	C	S	R
Boston-Cambridge-Newton, MA-NH MSA	Actual > Predicted	Actual < Predicted	Actual > Predicted	Actual > Predicted	Actual < Predicted
San Francisco-Oakland-Hayward, CA MSA	Actual > Predicted	Actual > Predicted	Actual > Predicted	Actual > Predicted	Actual < Predicted
San Diego-Carlsbad, CA MSA	Actual < Predicted	Actual > Predicted	Actual > Predicted	Actual > Predicted	Actual < Predicted
New York-Newark-Jersey City, NY-NJ-PA MSA	Actual < Predicted	Actual < Predicted	Actual < Predicted	Actual > Predicted	Actual > Predicted
Richmond, VA MSA	Actual > Predicted	Actual > Predicted	Actual > Predicted	Actual < Predicted	Actual < Predicted
San Jose-Sunnyvale-Santa Clara, CA MSA	Actual < Predicted	Actual > Predicted	Actual > Predicted	Actual > Predicted	Actual < Predicted
Oklahoma City, OK MSA	Actual > Predicted	Actual > Predicted	Actual > Predicted	Actual > Predicted	Actual < Predicted
Sacramento-Roseville-Arden Arcade, CA MSA	Actual > Predicted	Actual > Predicted	Actual > Predicted	Actual > Predicted	Actual < Predicted
Baltimore-Columbia-Towson, MD MSA	Actual > Predicted	Actual < Predicted	Actual > Predicted	Actual > Predicted	Actual < Predicted
Raleigh, NC MSA	Actual > Predicted	Actual > Predicted	Actual < Predicted	Actual > Predicted	Actual < Predicted
Seattle-Tacoma-Bellevue, WA MSA	Actual > Predicted	Actual > Predicted	Actual > Predicted	Actual > Predicted	Actual < Predicted
Austin-Round Rock, TX MSA	Actual > Predicted	Actual > Predicted	Actual < Predicted	Actual < Predicted	Actual < Predicted

Understanding Innovation Economy and Strategic Interventions

		LQ Delta (Actual - Predicted)				
		I	P	C	S	R
	X					
	X					
	X					
	X					
	X					
	X					
Detroit-Warren-Dearborn, MI MSA						
	X					
	X					
	X					

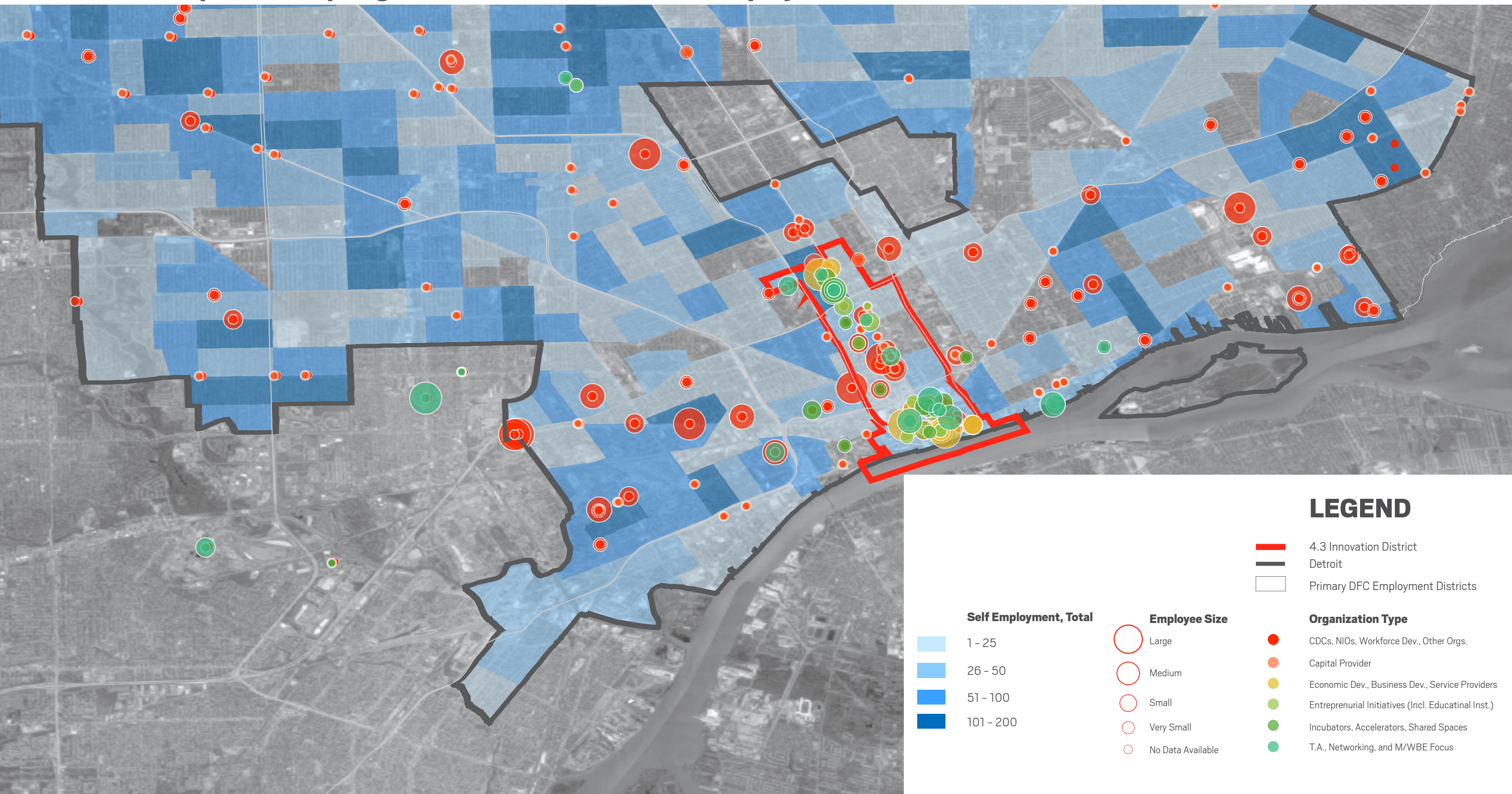
- 
1. Economic Performance of CT Cities
 2. Understanding Innovation Economy and Strategic Interventions
 - 3. Strategies for Urban Entrepreneurship**
 4. Beyond Traded Cluster Strategies
 5. Urban vs Regional Strategies

URBAN BUSINESS DEVELOPMENT

PROJECT	Boston Small Business Strategy	NEI Neighborhood Strategy
LOCATION	Boston, MA	Detroit, MI
CLIENT	City of Boston	New Economy Initiative
PARTNERS	Next Street	--
YEAR	2015	2014
DESCRIPTION	Comprehensive small business strategy for the City of Boston. Primary goals: to make the small business economy thrive, to enhance neighborhood vibrancy, and to drive inclusion and equity	Neighborhood business and entrepreneurship strategy for Detroit foundation. Primary goals: to strengthen neighborhood businesses and entrepreneurs as well as to support and increase business ownership by people of color

NEI NEIGHBORHOOD STRATEGY - DETROIT, MI

Entrepreneurship Organizations in Detroit + Self Employment



NEI NEIGHBORHOOD STRATEGY - DETROIT, MI

KEY FINDINGS

Majority of organizations focused on entrepreneurship and small business development located in Detroit's Innovation Corridor, not in the neighborhoods

Neighborhood business support organizations much more likely to be very small, provide only one service offering

Key issues for neighborhood-based entrepreneurs: lack of capital, tools, strong places, and fragmented ecosystem

RECOMMENDATIONS

Capital readiness. Offer micro-credit and micro-loan programs, financial and business education

Capital transparency. Promote capital awareness, convene capital providers to strengthen referrals

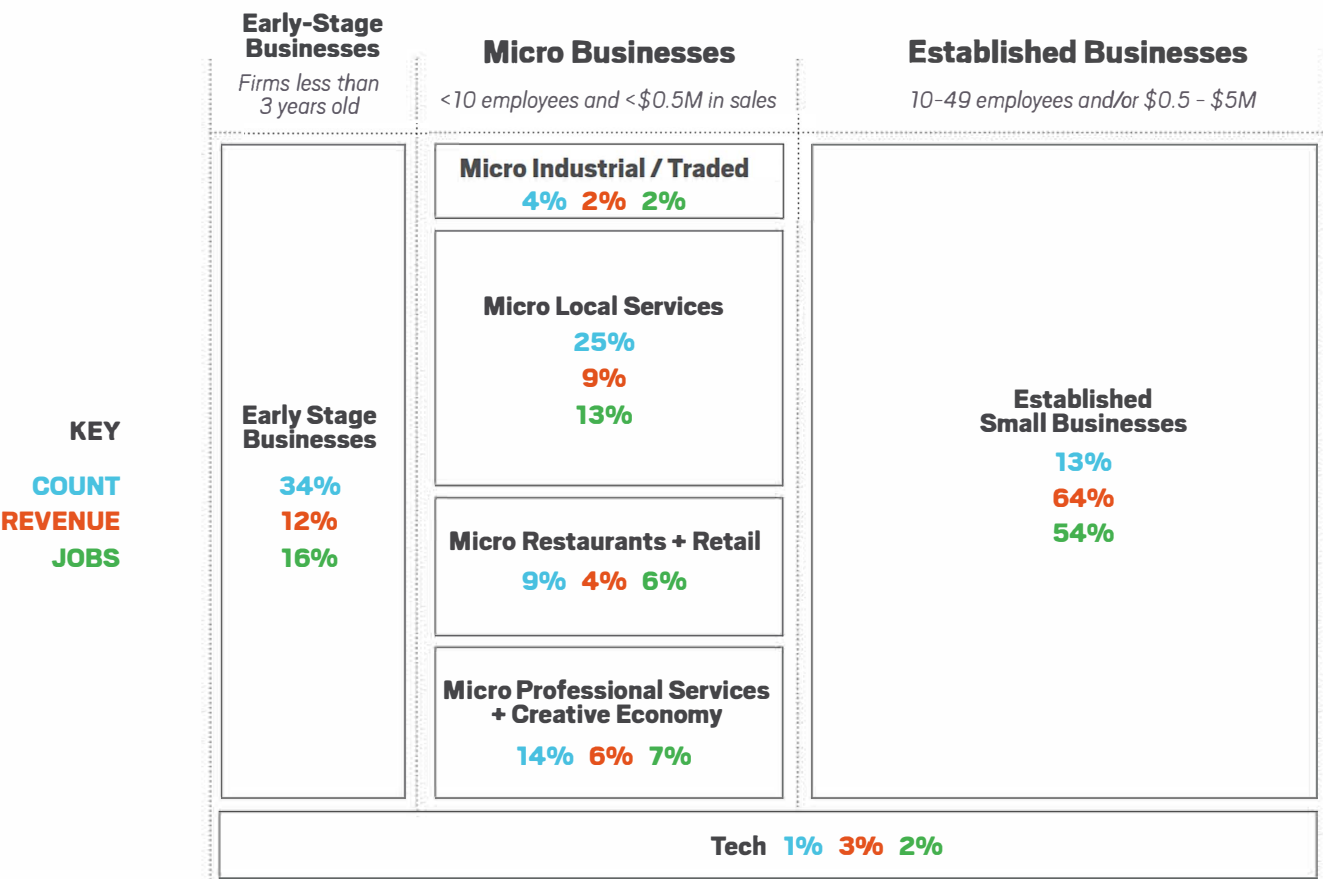
Place. Improve quality, security, safety of places by providing market analysis, strengthening neighborhood associations, advocating for public support of neighborhood businesses, investing in business spaces, increasing community organization capacity

Tools. Increase available peer-to-peer industry networks, mentors, technical assistance, back-office support, and B2B procurement opportunities

Ecosystem. Support resource navigation, build connections between service providers

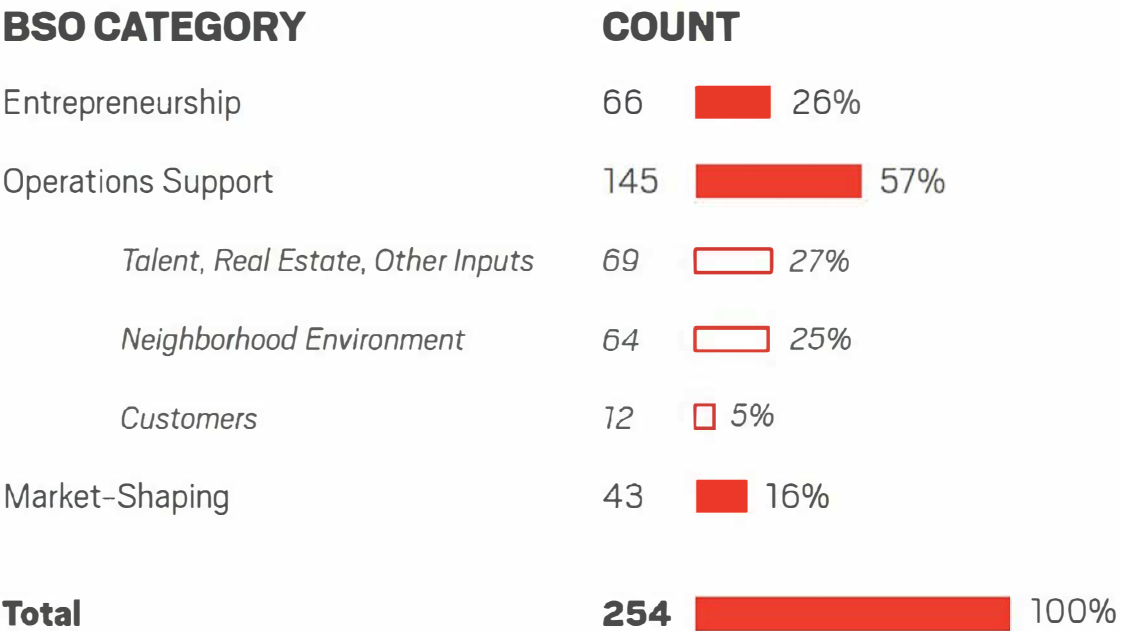
Strategies for Urban Entrepreneurship

Figure 3: Composition of Small Businesses by Segment



Sources: NETS, ZIP Code Business Patterns

Figure 5: Business Service Organizations by Primary Category and Type



SMALL BUSINESS STRATEGY - BOSTON, MA

CRITICAL ECOSYSTEM GAPS IN BOSTON

1 AWARENESS AND NAVIGATION OF SMALL BUSINESS RESOURCES

- Comprehensive information about resource providers
- Clear pathways to resources
- Local, neighborhood resource and capital providers

2 ACCESS TO GENERAL TECHNICAL ASSISTANCE AND ONE-TO-ONE BUSINESS COACHING

- General technical assistance
- Targeted, firm-specific one-to-one coaching
- Financial literacy and capital readiness training
- Ability to plan and package capital deals for established firms

3 ACCESS TO CAPITAL

- Microloans (under \$25,000)
- Loans (\$25,000 - \$100,000)
- Loans for restaurants
- Capital without collateral

4 ACCESS TO AVAILABLE, AFFORDABLE REAL ESTATE

- Small business real estate (industrial, retail/restaurant, flex)
- Affordable real estate
- Support identifying real estate
- Industrial space for manufacturing and B2B firms
- Short-term or subdivided space for early-stage firms

5 ACCESS TO INDUSTRY-SPECIFIC NETWORKS AND PEER NETWORKS

- New industry and peer networks when lacking
- Improves access to existing industry and peer networks
- New restaurant and retail networks
- Tech sector networks accessible to MWBEs

6 ACCESS TO CRITICAL TALENT AND HUMAN CAPITAL

- Support identifying and recruiting employees

7 ACCESS TO NEW CUSTOMERS

- Ability to expand to new markets
- Ability to serve larger firms and institutions

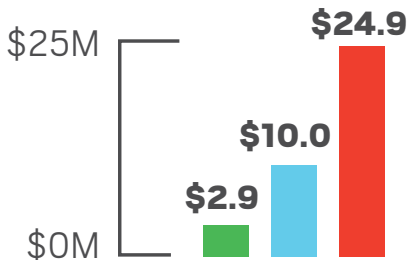
- 
1. Economic Performance of CT Cities
 2. Understanding Innovation Economy and Strategic Interventions
 3. Strategies for Urban Entrepreneurship
 - 4. Beyond Traded Cluster Strategies**
 5. Urban vs Regional Strategies

Beyond Traded Cluster Strategies

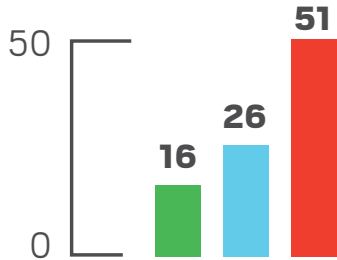
Neighborhood
Regional
Traded

Firms

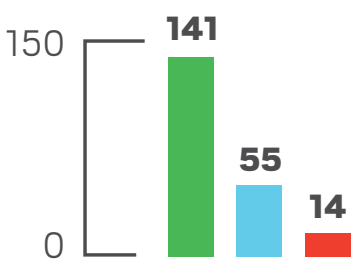
Avg. Sales / Firm
(2012, \$M)



Employees / Firm
(2012)



Avg. Establishments / Zip Code
(2014)

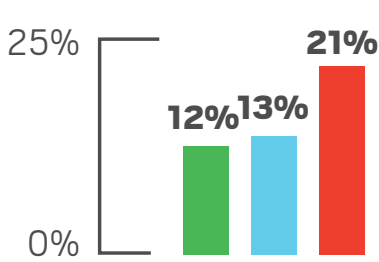


Productivity

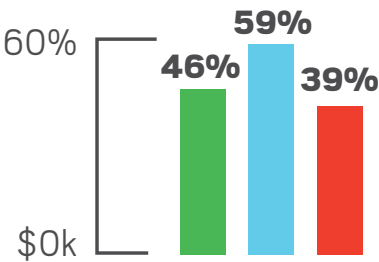
Value Added / Hr
(2014, \$)



Nom. Productivity Growth
(2009-14)

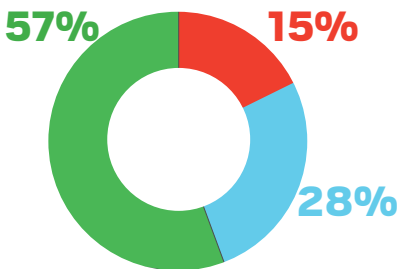


Wages as % of Value Added
(2014)

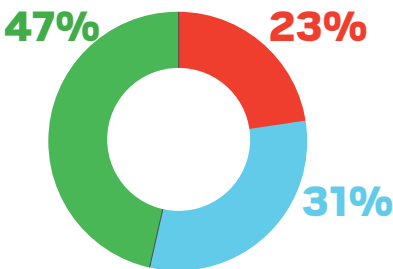


Contribution to Economy

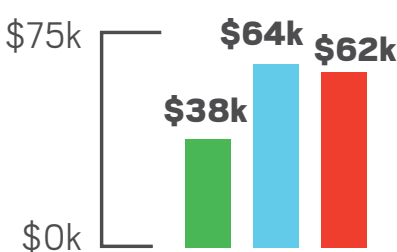
% of US Emp.
(2014)



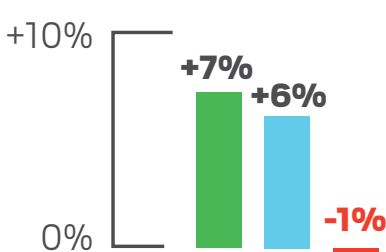
% of US GDP
(2014)



Compensation / Employee
(2014, \$K)



Employment Growth
(2004-14)



Beyond Traded Cluster Strategies

Source: 2012 SBO, Mass Economics analysis

US Economic Output (\$T)

\$33.0

Traded - Total Sales (\$T)

\$8.2

Public

Private

Total Sales (\$T) - \$6.5

% of Traded - 79%

% of US Output - 20%

Total Sales (\$T) - \$1.7

% of Traded - 21%

% of US Output - 5%

Avg. Sales (\$M) - \$166



Non-MBE

MBE

Total Sales (\$T) - \$1.6

Avg. Sales (\$M) - \$4.1

Total Sales (\$T) - \$0.1

Avg. Sales (\$M) - \$1.2

Regional - Total Sales (\$T)

\$12.8

Public

Private

Total Sales (\$T) - \$9.2

% of Regional - 72%

% of US Output - 28%

Total Sales (\$T) - \$3.6

% of Regional - 28%

% of US Output - 11%

Avg. Sales (\$M) - \$69.6



Non-MBE

MBE

Total Sales (\$T) - \$3.2

Avg. Sales (\$M) - \$1.4

Total Sales (\$T) - \$0.4

Avg. Sales (\$M) - \$0.5

Neighborhood - Total Sales (\$T)

\$12.0

Public

Private

Total Sales (\$T) - \$5.7

% of Nghbrhd. - 48%

% of US Output - 17%

Total Sales (\$T) - \$6.2

% of Nghbrhd. - 52%

% of US Output - 19%

Avg. Sales (\$M) - \$19.7



Non-MBE

MBE

Total Sales (\$T) - \$5.4

Avg. Sales (\$M) - \$0.5

Total Sales (\$T) - \$0.8

Avg. Sales (\$M) - \$0.2

- 
1. Economic Performance of CT Cities
 2. Understanding Innovation Economy and Strategic Interventions
 3. Strategies for Urban Entrepreneurship
 4. Beyond Traded Cluster Strategies
 - 5. Urban vs Regional Strategies**

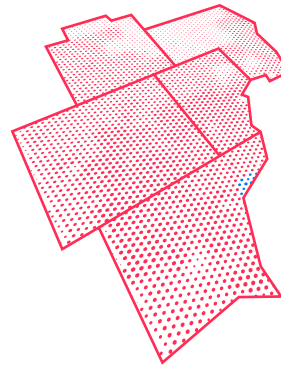
Urban vs Regional Strategies

Geography

City-Centered



Regional



Advantages of City-Centered:

> Specialization > New Economy > Fiscal

Urban vs Regional Strategies

Organization

City-Centered

- Political + Civic Leadership ▪
- Formal Power ▪
- Elected ▪

Regional

- Business Leadership
- Informal Power
- Appointed

Advantages of City-Centered:

- > Good Governance
- > Legitimacy

Urban vs Regional Strategies

Implementation

City-Centered

- Policy + Regulation ▪
- Resource Allocation ▪
- Fiat ▪

Regional

- Advocacy + Alignment
- Asset Building
- Voluntarism

Advantages of City-Centered:

- > Economic importance of built environment
- > Track record of voluntarism

Urban vs Regional Strategies

Strengths

City-Centered Strategy Strengths

- Policy
- Resource Allocation
- On-Going V/H Alignment

Regional Strategy Strengths

- Regional Asset Building
- Systems Restructuring

mass | economics

Teresa Lynch

masseconomics.com

 @MassEconomics