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

- 1% (43rd) for 2001-2008
- -4% (27th) for 2008-2009
- 3% (46th) for 2009-2015
- -0.2% (47th) for 2001-2015

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
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

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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.

<table>
<thead>
<tr>
<th>Innovative Activity</th>
<th>Application-Specific Value</th>
<th>Broader Market Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designing and planning the layout of equipment in a chemical plant</td>
<td></td>
<td>Developing a model that accurately predicts future stock prices</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Routine Activity</th>
<th>Application-Specific Value</th>
<th>Broader Market Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conducting quality assurance as part of product manufacturing</td>
<td></td>
<td>............</td>
</tr>
</tbody>
</table>
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
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
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
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
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
### Understanding Innovation Economy and Strategic Interventions

#### Summary: US Employment by Stage of Innovation, 2014

<table>
<thead>
<tr>
<th>Stage of Innovation</th>
<th>Percent of Tasks</th>
<th>Percent of Occupational Categories</th>
<th>Percent of Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ideation</td>
<td>3%</td>
<td>11%</td>
<td>3%</td>
</tr>
<tr>
<td>Prototype</td>
<td>3%</td>
<td>10%</td>
<td>10%</td>
</tr>
<tr>
<td>Commercialization</td>
<td>1%</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Scaling</td>
<td>1%</td>
<td>8%</td>
<td>9%</td>
</tr>
<tr>
<td>Routine Operations</td>
<td>93%</td>
<td>66%</td>
<td>74%</td>
</tr>
</tbody>
</table>
Understanding Innovation Economy
and Strategic Interventions

Wage
(Designated as I, P, C, S, R)

Wage $XXk
% Increase Over Routine (+XX%)
### Top 5 MSAs by Stage of Innovation

<table>
<thead>
<tr>
<th>Ideation</th>
<th>Prototyping</th>
<th>Commercialization</th>
<th>Scaling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boston-Cambridge-Newton</td>
<td>San Jose-Sunnyvale-Santa Clara</td>
<td>San Jose-Sunnyvale-Santa Clara</td>
<td>San Francisco-Oakland-Hayward</td>
</tr>
<tr>
<td>San Francisco-Oakland-Hayward</td>
<td>Seattle-Tacoma-Bellevue</td>
<td>San Francisco-Oakland-Hayward</td>
<td>San Jose-Sunnyvale-Santa Clara</td>
</tr>
<tr>
<td>Richmond, VA</td>
<td>Austin-Round Rock</td>
<td>Boston-Cambridge-Newton</td>
<td>Denver-Aurora-Lakewood</td>
</tr>
<tr>
<td>New York-Newark-Jersey City</td>
<td>Boston-Cambridge-Newton</td>
<td>San Diego-Carlsbad</td>
<td>Atlanta-Sandy Springs-Roswell</td>
</tr>
</tbody>
</table>

*denotes multiple entries for a region*
### Understanding Innovation Economy and Strategic Interventions

<table>
<thead>
<tr>
<th>Area (sq mi)</th>
<th>Boston MSA</th>
<th>Boston + Cambridge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Jobs</td>
<td>2,363,800</td>
<td>29%</td>
</tr>
<tr>
<td>Routine Operations</td>
<td>1,639,000</td>
<td>27%</td>
</tr>
<tr>
<td>Scaling</td>
<td>211,200</td>
<td>32%</td>
</tr>
<tr>
<td>Commercialization</td>
<td>133,200</td>
<td>32%</td>
</tr>
<tr>
<td>Prototype</td>
<td>283,300</td>
<td>34%</td>
</tr>
<tr>
<td>Ideation</td>
<td>96,700</td>
<td>57%</td>
</tr>
</tbody>
</table>

| Area (sq mi)      | 3,487      | 1.5%               |
# Understanding Innovation Economy and Strategic Interventions

## Kendall

<table>
<thead>
<tr>
<th>Stage</th>
<th>Jobs</th>
<th>LQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ideation</td>
<td>9,100</td>
<td>7.1</td>
</tr>
<tr>
<td>Prototype</td>
<td>8,800</td>
<td>1.4</td>
</tr>
<tr>
<td>Commercialization</td>
<td>6,800</td>
<td>2.5</td>
</tr>
<tr>
<td>Scaling</td>
<td>7,500</td>
<td>1.6</td>
</tr>
<tr>
<td>Routine Operations</td>
<td>26,000</td>
<td>0.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>58,200</td>
<td>--</td>
</tr>
</tbody>
</table>

**Stage LQ**
- Ideation: 7.1
- Prototype: 1.4
- Commercialization: 2.5
- Scaling: 1.6
- Routine Operations: 0.6
- **Total**: --

**ID Anchors**
- MIT
- Pfizer
- Genzyme
- Biotech
- Kendall Square

**Other ID Assets**
- Various Biotech
- Genomics Collaborative
- Acceleration

**3 Largest Employers (Private)**
- Pfizer
- Genzyme
- Biotech

**Map Legend**
- ID anchors
- Other ID assets
- 3 largest employers (private)
Spatial mismatch between innovation assets is a common problem.
Understanding Innovation Economy and Strategic Interventions

<table>
<thead>
<tr>
<th>LQ Delta (Actual - Predicted)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td><strong>Boston-Cambridge-Newton</strong>, MA-NH MSA</td>
</tr>
<tr>
<td><strong>San Francisco-Oakland-Hayward</strong>, CA MSA</td>
</tr>
<tr>
<td><strong>San Diego-Carlsbad</strong>, CA MSA</td>
</tr>
<tr>
<td><strong>New York-Newark-Jersey City</strong>, NY-NJ-PA MSA</td>
</tr>
<tr>
<td><strong>Richmond</strong>, VA MSA</td>
</tr>
<tr>
<td><strong>San Jose-Sunnyvale-Santa Clara</strong>, CA MSA</td>
</tr>
<tr>
<td><strong>Oklahoma City</strong>, OK MSA</td>
</tr>
<tr>
<td><strong>Sacramento-Roseville-Arden Arcade</strong>, CA MSA</td>
</tr>
<tr>
<td><strong>Baltimore-Columbia-Towson</strong>, MD MSA</td>
</tr>
<tr>
<td><strong>Raleigh</strong>, NC MSA</td>
</tr>
<tr>
<td><strong>Seattle-Tacoma-Bellevue</strong>, WA MSA</td>
</tr>
<tr>
<td><strong>Austin-Round Rock</strong>, TX MSA</td>
</tr>
</tbody>
</table>
### Understanding Innovation Economy and Strategic Interventions

#### LQ Delta (Actual - Predicted)

<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>P</th>
<th>C</th>
<th>S</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual &gt; Predicted</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actual &lt; Predicted</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Detroit-Warren-Dearborn, MI MSA**

- Actual > Predicted
- Actual < Predicted
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
<table>
<thead>
<tr>
<th>PROJECT</th>
<th>Boston Small Business Strategy</th>
<th>NEI Neighborhood Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOCATION</td>
<td>Boston, MA</td>
<td>Detroit, MI</td>
</tr>
<tr>
<td>CLIENT</td>
<td>City of Boston</td>
<td>New Economy Initiative</td>
</tr>
<tr>
<td>PARTNERS</td>
<td>Next Street</td>
<td>--</td>
</tr>
<tr>
<td>YEAR</td>
<td>2015</td>
<td>2014</td>
</tr>
<tr>
<td>DESCRIPTION</td>
<td>Comprehensive small business</td>
<td>Neighborhood business and</td>
</tr>
<tr>
<td></td>
<td>strategy for the City of Boston.</td>
<td>entrepreneurship strategy</td>
</tr>
<tr>
<td></td>
<td>Primary goals: to make the small</td>
<td>for Detroit foundation.</td>
</tr>
<tr>
<td></td>
<td>business economy thrive, to</td>
<td>Primary goals: to</td>
</tr>
<tr>
<td></td>
<td>enhance neighborhood</td>
<td>strengthen neighborhood</td>
</tr>
<tr>
<td></td>
<td>vibrancy, and to drive</td>
<td>businesses and entrepreneurs</td>
</tr>
<tr>
<td></td>
<td>inclusion and equity</td>
<td>as well as to support and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>increase business ownersh</td>
</tr>
</tbody>
</table>
NEI NEIGHBORHOOD STRATEGY - DETROIT, MI
Entrepreneurship Organizations in Detroit + Self Employment

Strategies for Urban Entrepreneurship

LEGEND

4.3 Innovation District
CDCs, NIOs, Workforce Dev., Other Orgs.

Organization Type
- Large
- Medium
- Small
- Very Small
- No Data Available

Self Employment, Total
- 1 - 25
- 26 - 50
- 51 - 100
- 101 - 200

Capital Provider
- Economic Dev., Business Dev., Service Providers
- Entrepreneurial Initiatives (Incl. Educational Inst.)
- Incubators, Accelerators, Shared Spaces
- T.A., Networking, and M/WBE Focus

Detroit

Primary DFC Employment Districts

Entrepreneurship Organizations in Detroit (by Type and Employee Size Category)
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
Figure 3: Composition of Small Businesses by Segment

- **Early Stage Businesses**: Firms less than 3 years old
  - *Micro Businesses*: < 10 employees and <$0.5M in sales
    - Micro Industrial / Traded: 4% 2% 2%
    - Micro Local Services: 25% 9% 13%
    - Micro Restaurants + Retail: 9% 4% 6%
    - Micro Professional Services + Creative Economy: 14% 6% 7%
  - *Established Businesses*: 10-49 employees and/or $0.5 - $5M
    - Established Small Businesses: 13% 64% 54%
- **Established Businesses**: 70-49 employees and/or $0.5 - $5M
  - Tech: 1% 3% 2%

Sources: NETS ZIP Code Business Patterns

Figure 5: Business Service Organizations by Primary Category and Type

- **BSO CATEGORY**
  - Entrepreneurship: 66 - 26%
  - Operations Support: 145 - 57%
    - Talent, Real Estate, Other Inputs: 69 - 27%
    - Neighborhood Environment: 64 - 25%
    - Customers: 12 - 5%
  - Market-Shaping: 43 - 16%
- **Total**: 254 - 100%
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
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Beyond Traded Cluster Strategies

Source: 2012 SBO, Mass Economics analysis

**US Economic Output ($T)**

- **Traded** - Total Sales ($T): $8.2
  - Public
    - Total Sales ($T) - $6.5
      - % of Traded - 79%
      - % of US Output - 20%
      - Avg. Sales ($M) - $166
    - Non-MBE
      - Total Sales ($T) - $1.6
      - Avg. Sales ($M) - $4.1
    - MBE
      - Total Sales ($T) - $0.1
      - Avg. Sales ($M) - $0.2
  - Private
    - Total Sales ($T) - $1.7
      - % of Traded - 21%
      - % of US Output - 5%
      - Avg. Sales ($M) - $3.5

- **Regional** - Total Sales ($T): $12.8
  - Public
    - Total Sales ($T) - $9.2
      - % of Regional - 72%
      - % of US Output - 28%
      - Avg. Sales ($M) - $69.6
    - Non-MBE
      - Total Sales ($T) - $3.2
      - Avg. Sales ($M) - $1.4
    - MBE
      - Total Sales ($T) - $0.4
      - Avg. Sales ($M) - $1.2
  - Private
    - Total Sales ($T) - $3.6
      - % of Regional - 28%
      - % of US Output - 11%
      - Avg. Sales ($M) - $1.2

- **Neighborhood** - Total Sales ($T): $12.0
  - Public
    - Total Sales ($T) - $5.7
      - % of Nghbrhd. - 48%
      - % of US Output - 17%
      - Avg. Sales ($M) - $19.7
    - Non-MBE
      - Total Sales ($T) - $5.4
      - Avg. Sales ($M) - $0.5
    - MBE
      - Total Sales ($T) - $0.8
      - Avg. Sales ($M) - $0.2

**Public**

- Total Sales ($T) - $6.5
  - % of Traded - 79%
  - % of US Output - 20%
- Total Sales ($T) - $9.2
  - % of Regional - 72%
  - % of US Output - 28%
- Total Sales ($T) - $5.7
  - % of Nghbrhd. - 48%
  - % of US Output - 17%

**Private**

- Total Sales ($T) - $1.7
  - % of Traded - 21%
  - % of US Output - 5%
- Total Sales ($T) - $3.6
  - % of Regional - 28%
  - % of US Output - 11%
- Total Sales ($T) - $0.8
  - % of Nghbrhd. - 52%
  - % of US Output - 19%
1. Economic Performance of CT Cities
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5. Urban vs Regional Strategies
Urban vs Regional Strategies
Geography

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

<table>
<thead>
<tr>
<th>City-Centered Strategy Strengths</th>
<th>Regional Strategy Strengths</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Policy</td>
<td>• Regional Asset Building</td>
</tr>
<tr>
<td>• Resource Allocation</td>
<td>• Systems Restructuring</td>
</tr>
<tr>
<td>• On-Going V/H Alignment</td>
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</tr>
</tbody>
</table>