



Marie Skłodowska-Curie RISE
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Multidisciplinary Approach to Plan Smart Specialisation Strategies
for Local Economic Development



The urban dimension in the innovation policy: Target Area *Education and Knowledge Creation* in Boston and Cambridge

Preliminary Insights from Cluster-led Initiative Analysis
Working Package No. 2 Cluster Policy and Spatial Planning

Giuseppe U. Cantafio, Giada Anversa
PAU unit

First International Workshops

MAPS-LED PROJECT

05-06/12/2016

Università "La Sapienza", Focus Unit, ITALY

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The urban dimension in the innovation policy: Target Area *Education and Knowledge Creation* in Boston

Outline

I. FIRST PART: Target Area Analysis

- *Education and Knowledge Creation* Target Area Localization and Key Indicators;
- General Description;
- Specificity of the Target Area and significance in respect of the European contest.

II. SECOND PART: Innovation Policy and Tools

- Planning tools hierarchy from County to Urban Level;
- Innovation-oriented tools: PDA Boston | PUD Cambridge;
- Actors involved (proponents and developers, operative structure and governance).

Conclusions

- The role of innovation Spaces as expression of knowledge dynamics;
- Expected and Achieved Objectives.

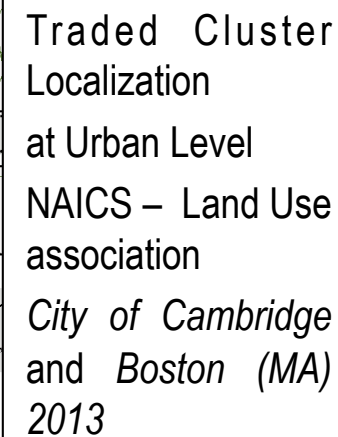


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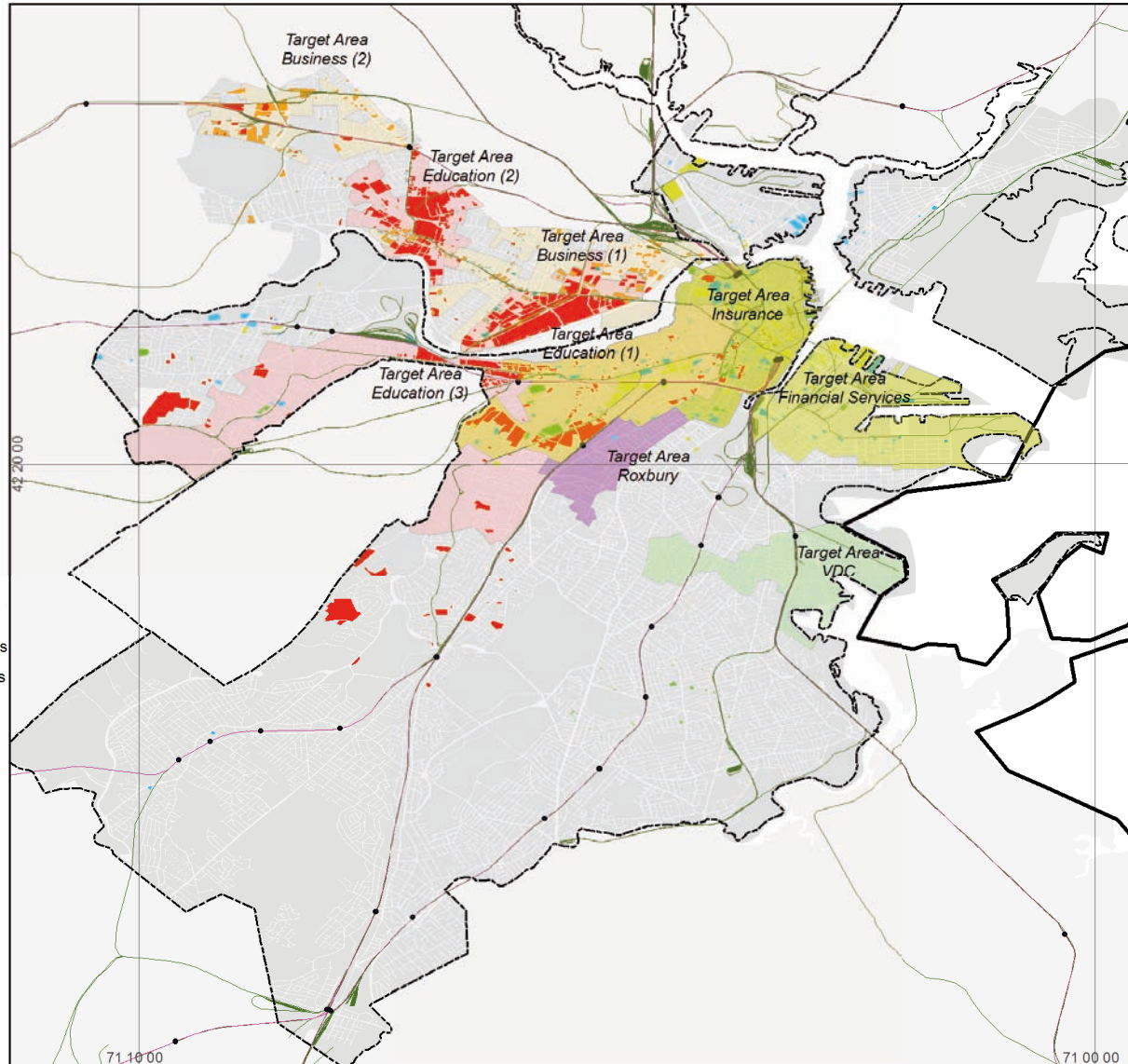
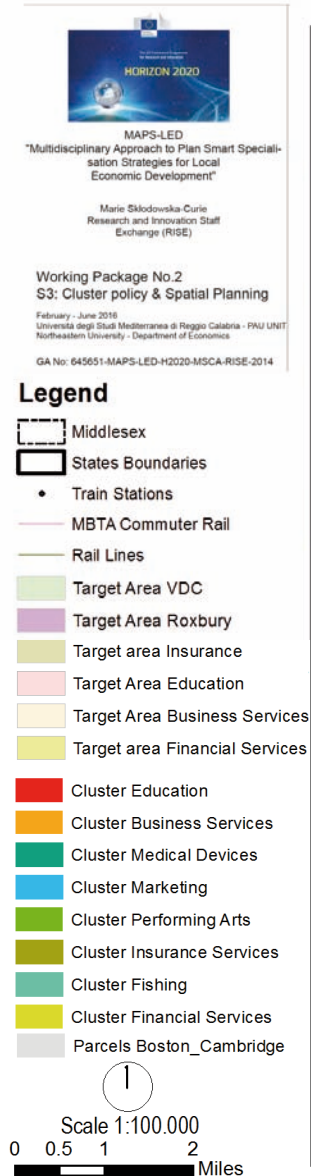


FIRST PART

Education and Knowledge Creation Cluster
Target Area Analysis



Education and Knowledge Creation Cluster | Overlay of Cluster Localization and Target Areas



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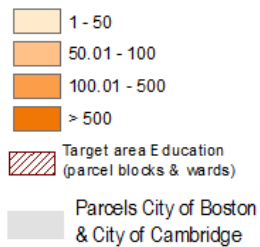
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Education and Knowledge Creation Cluster | Target Area Analysis

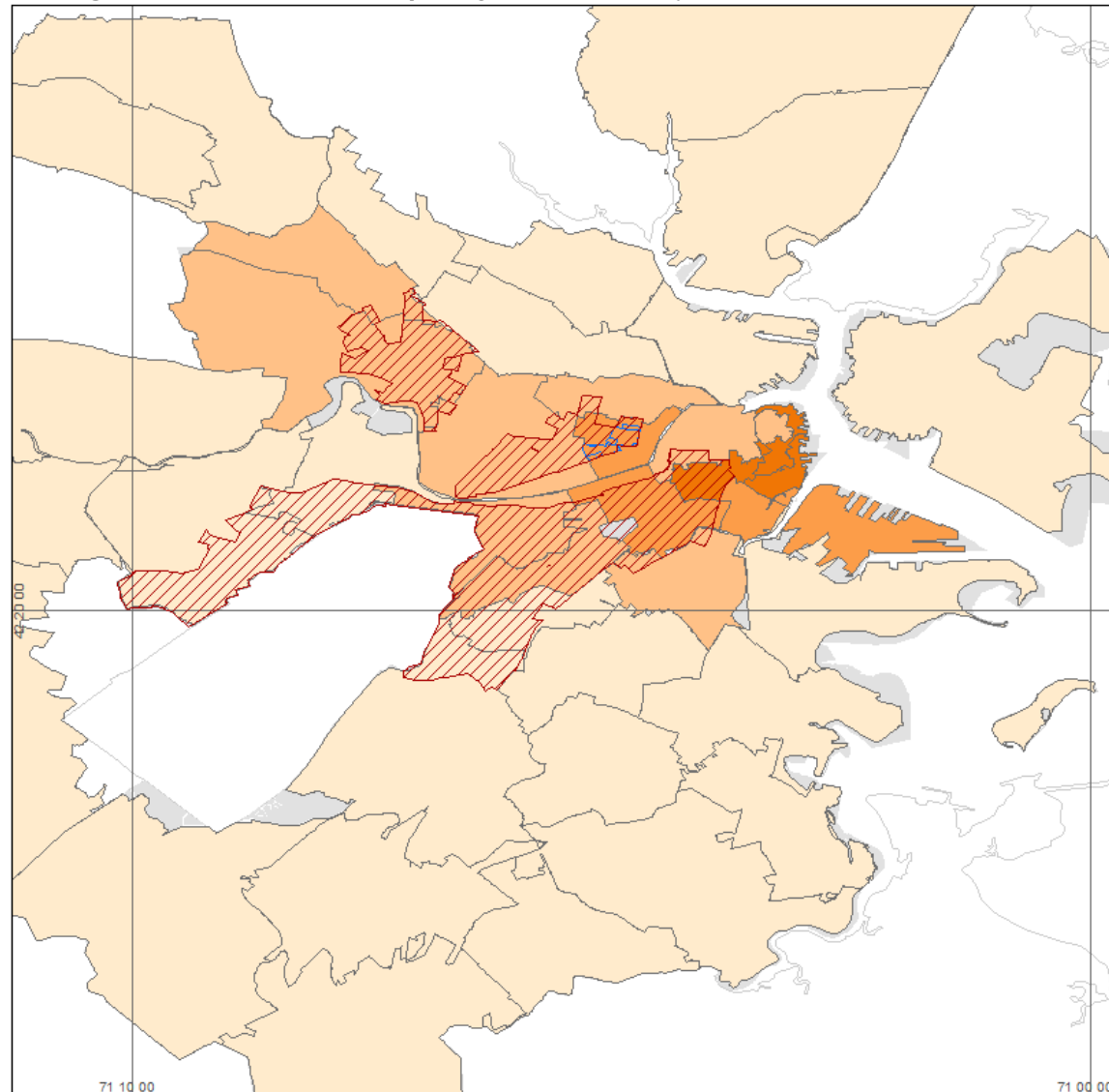
Legend

Establishments/sq.mile



Scale 1:100,000

0 0.5 1 2 Miles



The Education and Knowledge Creation Target Area is located in a very productive area, with a high density of establishments.



THE FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION
HORIZON 2020

proposed approach to develop LEITs in the field of AI and T in the CA
Initiative for T: AI@Rth: 2 f



Cluster Education Morphology at the County level, Urban Level, and Target area localization



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Exchange (RISE)

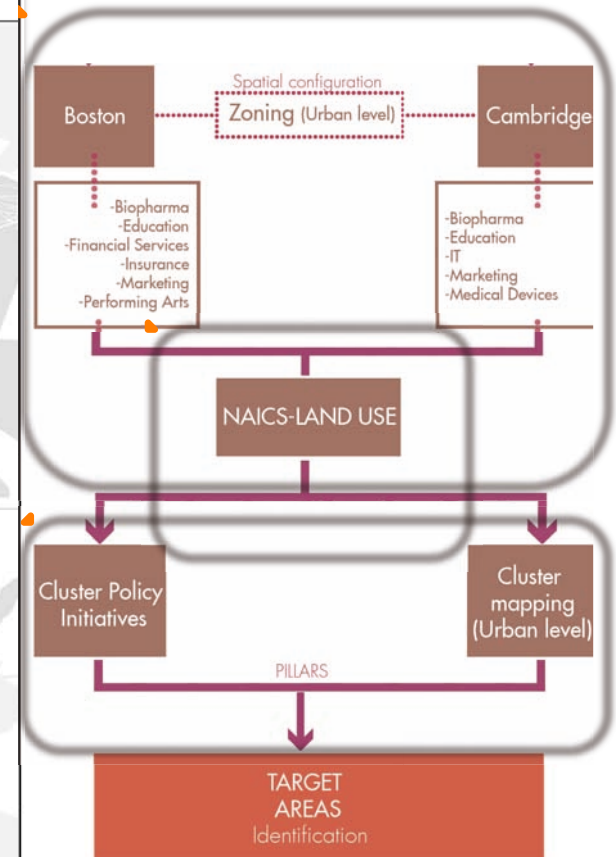
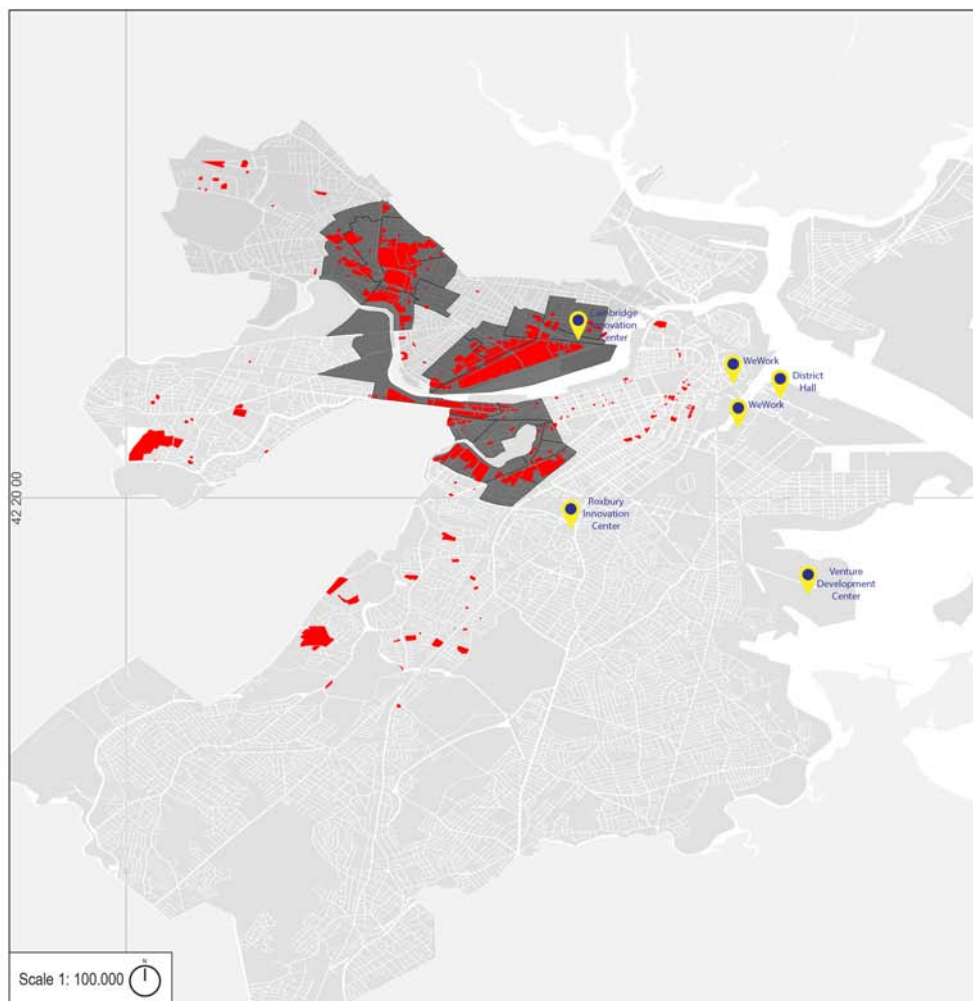
Working Package No.2
S3: Cluster policy & Spatial Planning

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Northeastern University - Department of Economics

GA No: 645651-MAPS-LED-H2020-MSCA-RISE-2014

8.1 Cluster Education Target Area

Legend
Administrative Boundaries
City Boundaries
Cluster Education at Urban Level
US Census Tract Boundaries
Target Area
Innovation Spaces





THE FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION

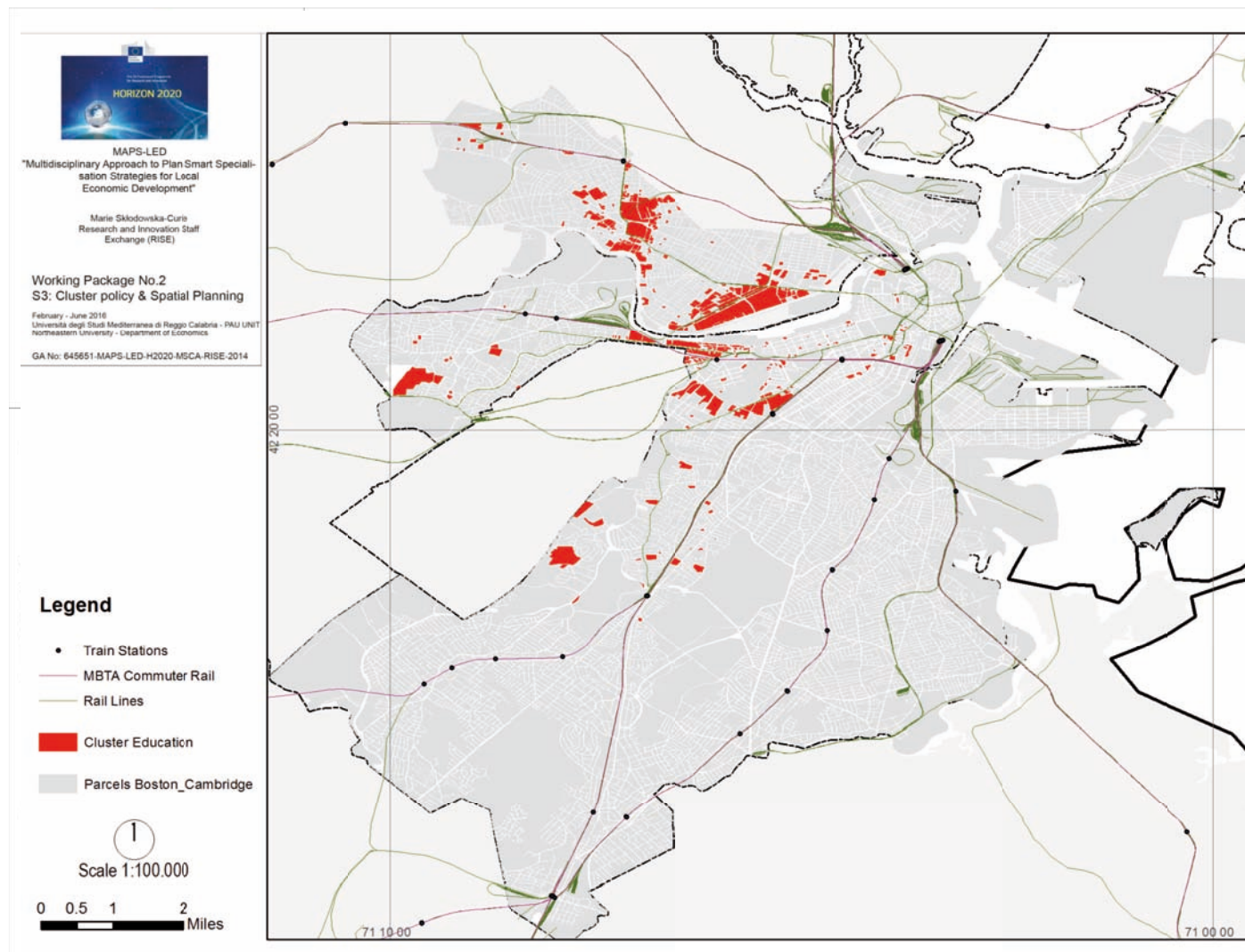
HORIZON 2020

THE FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION
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THE FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION
HORIZON 2020



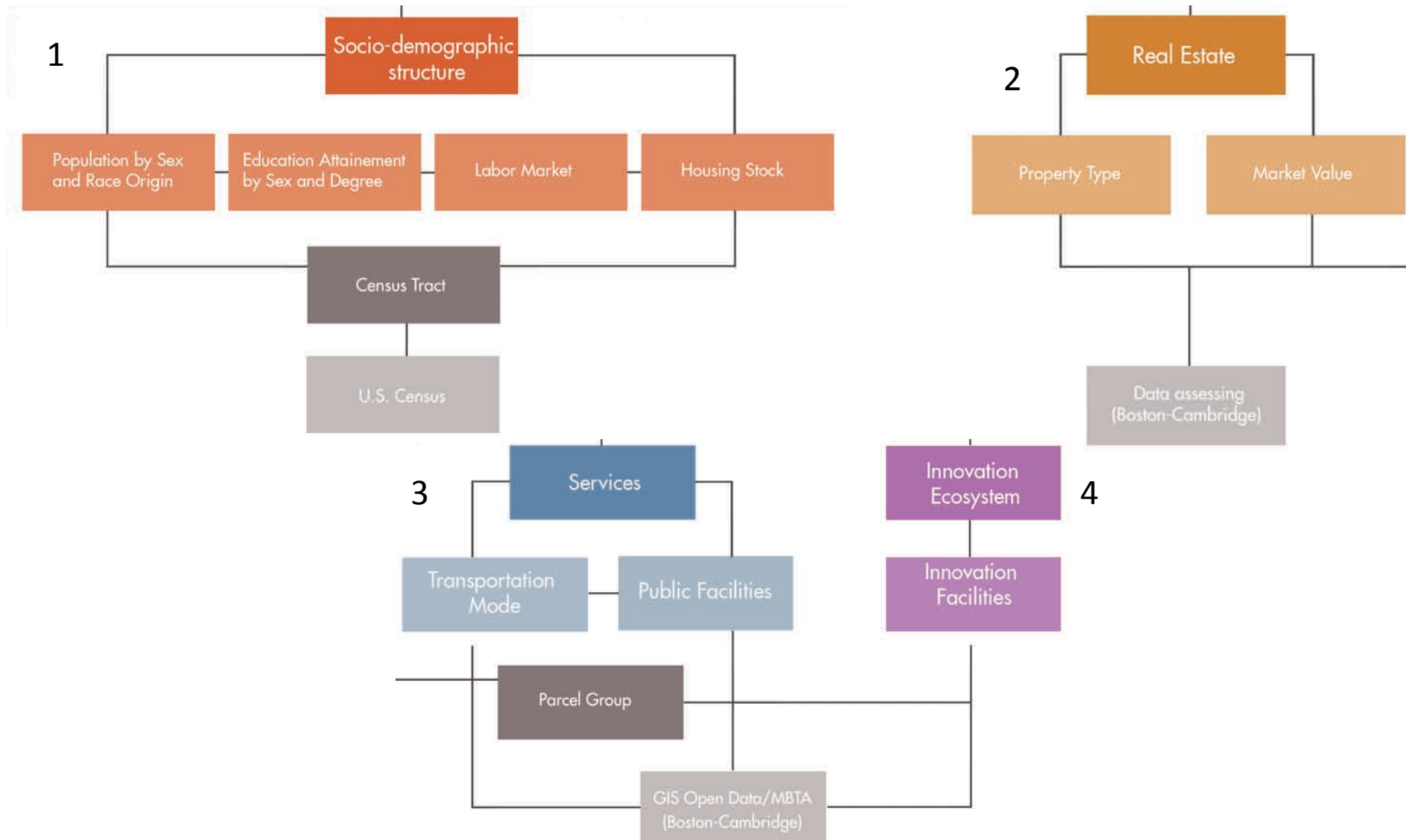
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Cluster Education Morphology from County level to the Urban Level, and Target area localization



The map shows the spatial distribution of education clusters in the Boston area. The red areas represent the locations of education clusters, which are concentrated in the central urban area and along the major transportation routes. The map also shows the locations of train stations, MBTA Commuter Rail lines, and other rail lines. The legend indicates that the red areas represent education clusters, and the grey areas represent parcels in Boston and Cambridge. The scale bar shows a scale of 1:100,000, and the map includes a north arrow.

Education and Knowledge Creation Cluster | Survey Form





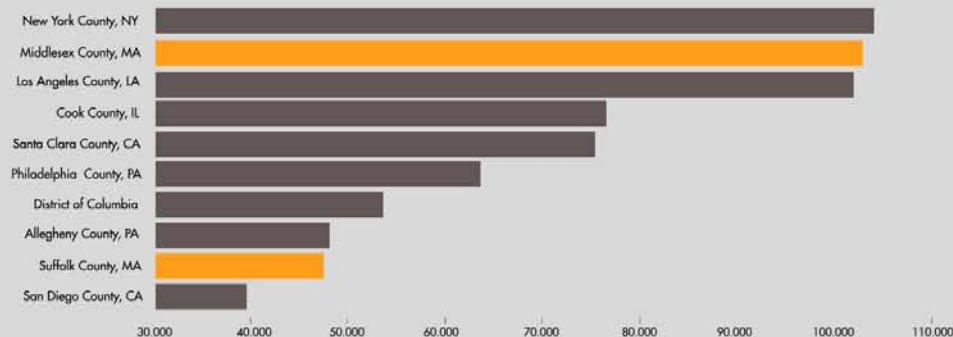
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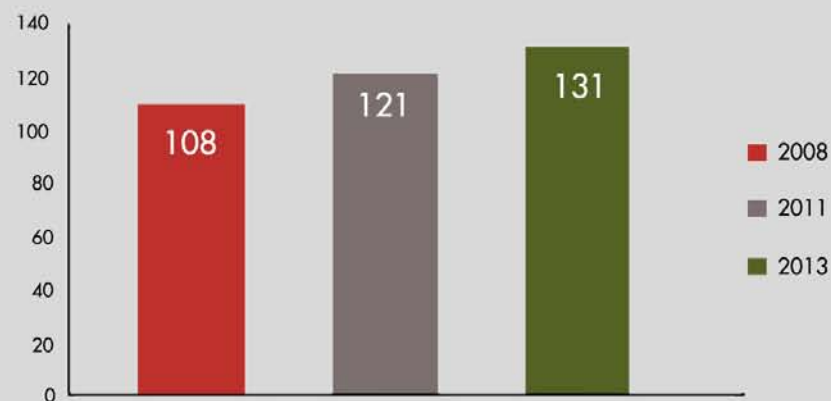


Education and Knowledge Creation Cluster | Employment Vs. Knowledge Creation

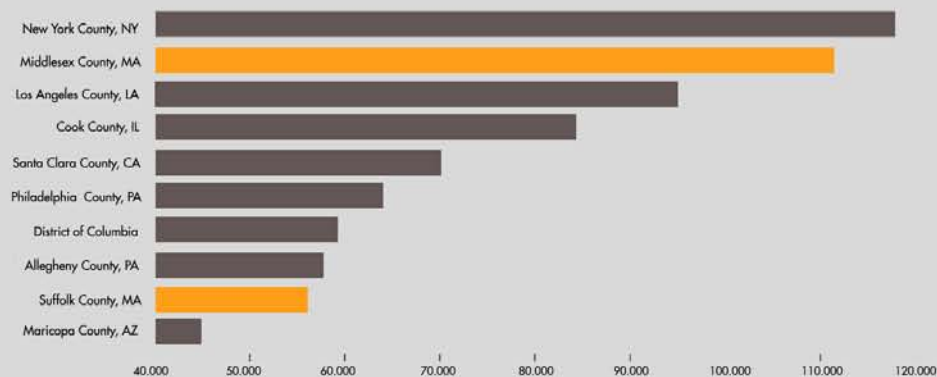
Employment by County (2008)



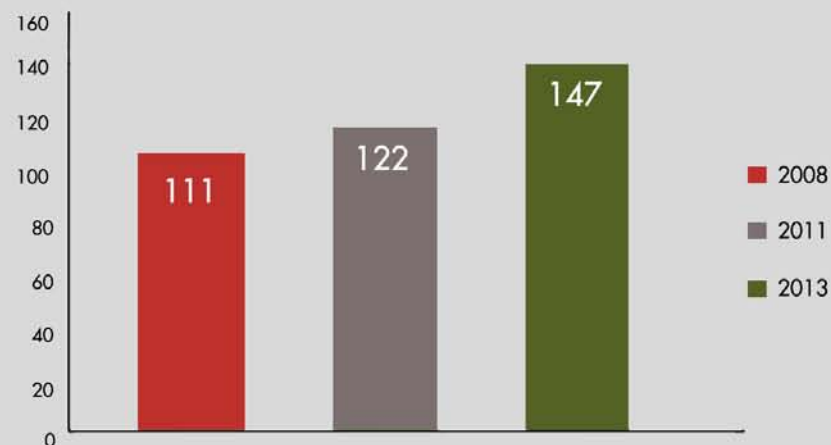
Training Programs (Middlesex County)



Employment by County (2013)



Research Institutes (Middlesex County)





INTEGRATED APPROACH

INTEGRATED APPROACH

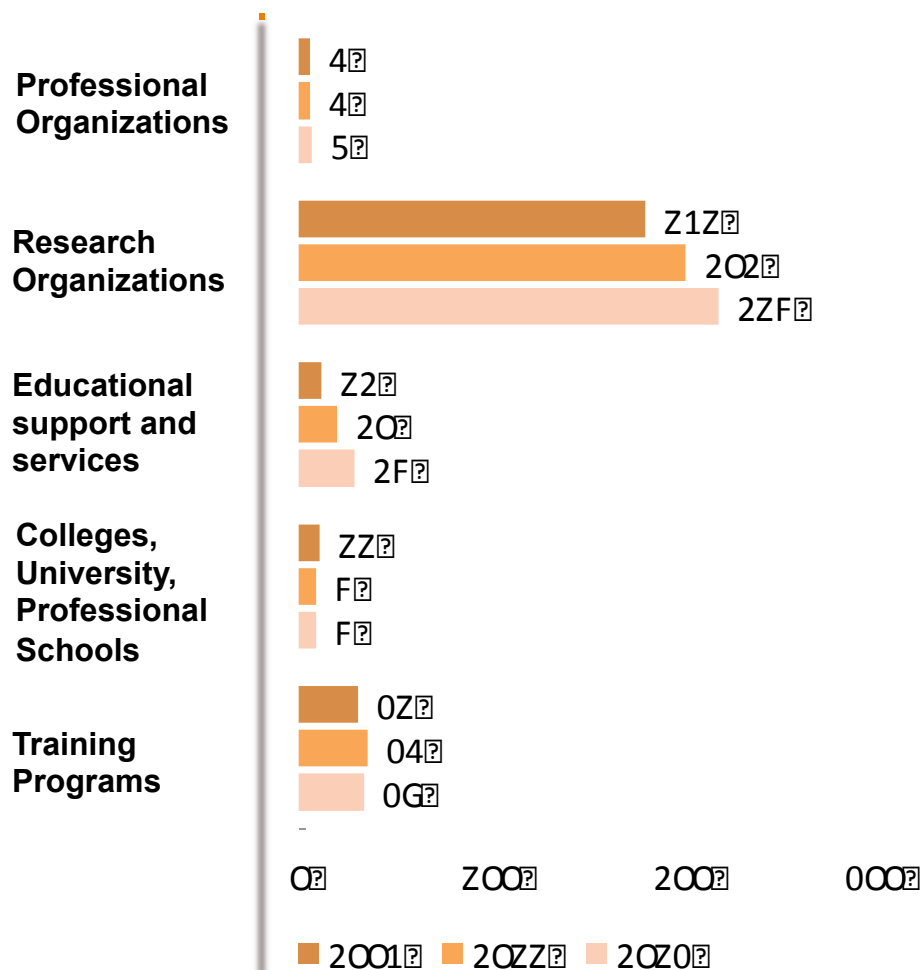
PROJECT AREA: Digital LEADER: 2014-2020

PROJECT T: AGRICULTURE: 2014-2020

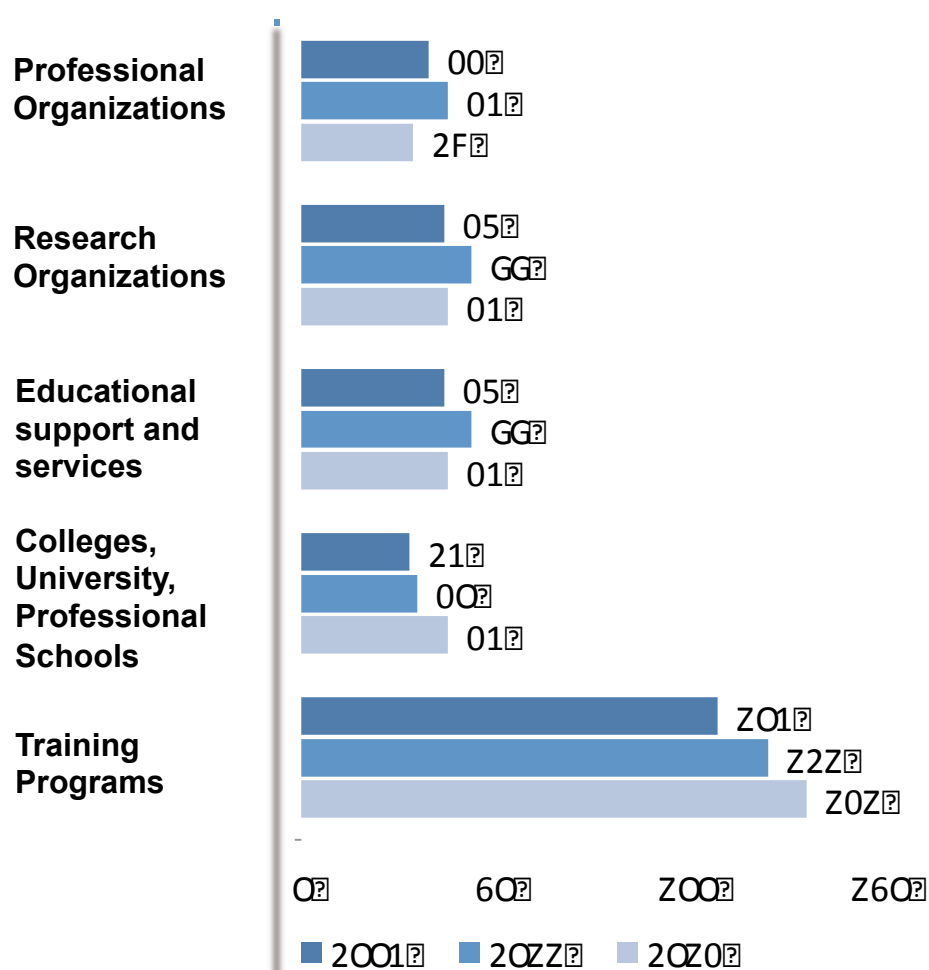


Education and Knowledge Creation Cluster | First findings on spatial oriented approach at urban level

Number of Establishments in Cambridge



Number of Establishments in Boston





INNOVATION AND GROWTH
 THE EUROPEAN UNION
 PROGRAMME FOR GROWTH AND EMPLOYMENT
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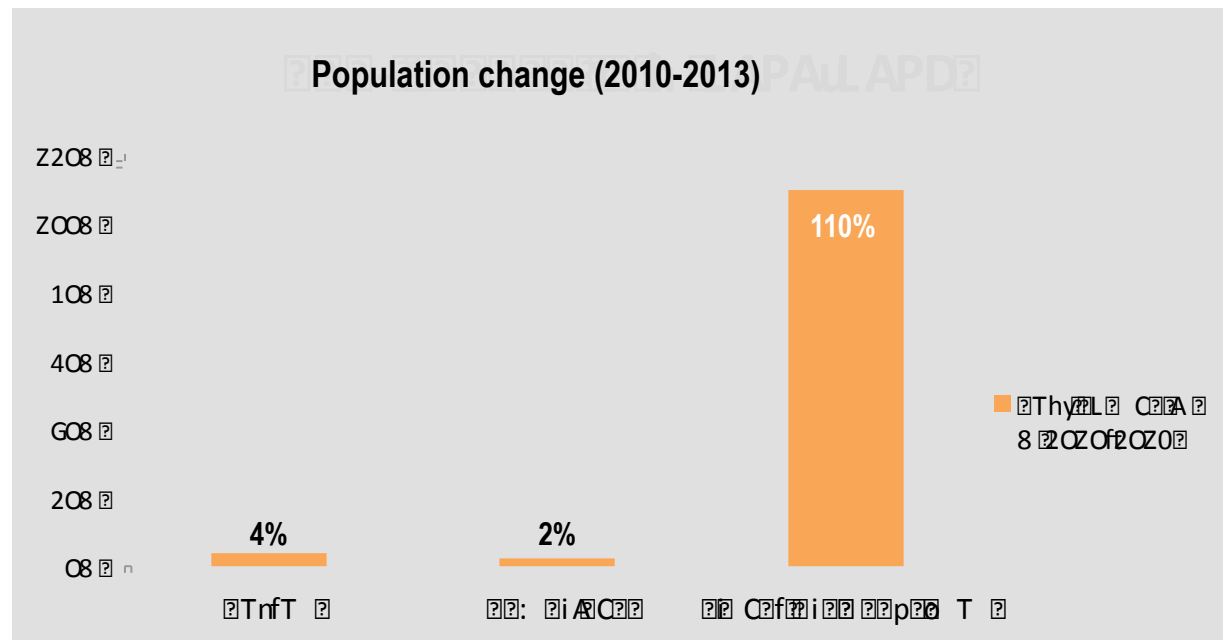
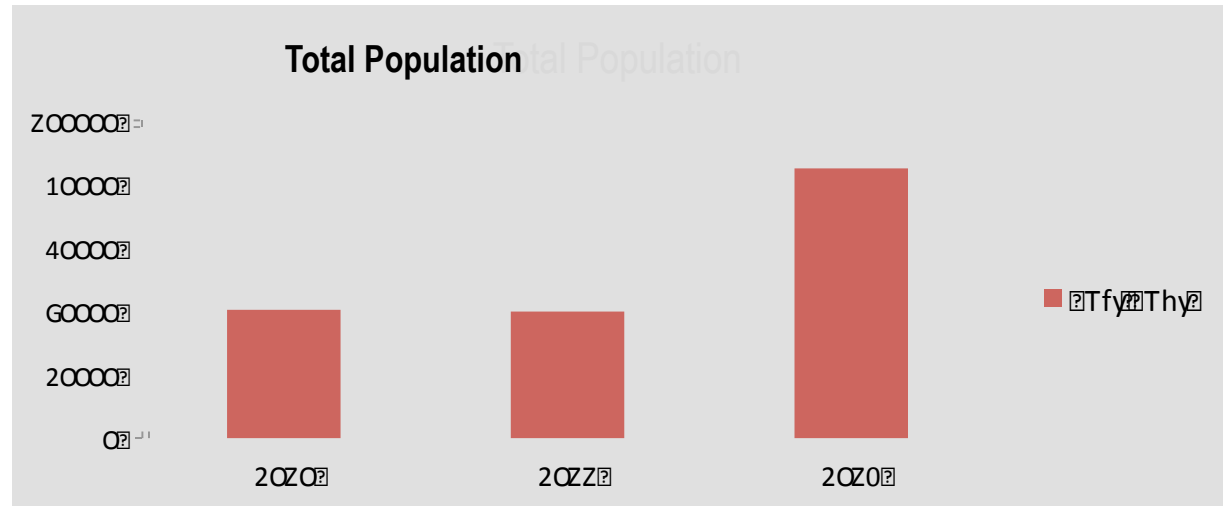


Education and Knowledge Creation Cluster | Socio Demographic Indicators



Socio-demographic indicators :

- Population
- Education attainment
- Racial Fragmentation
- Housing Costs.





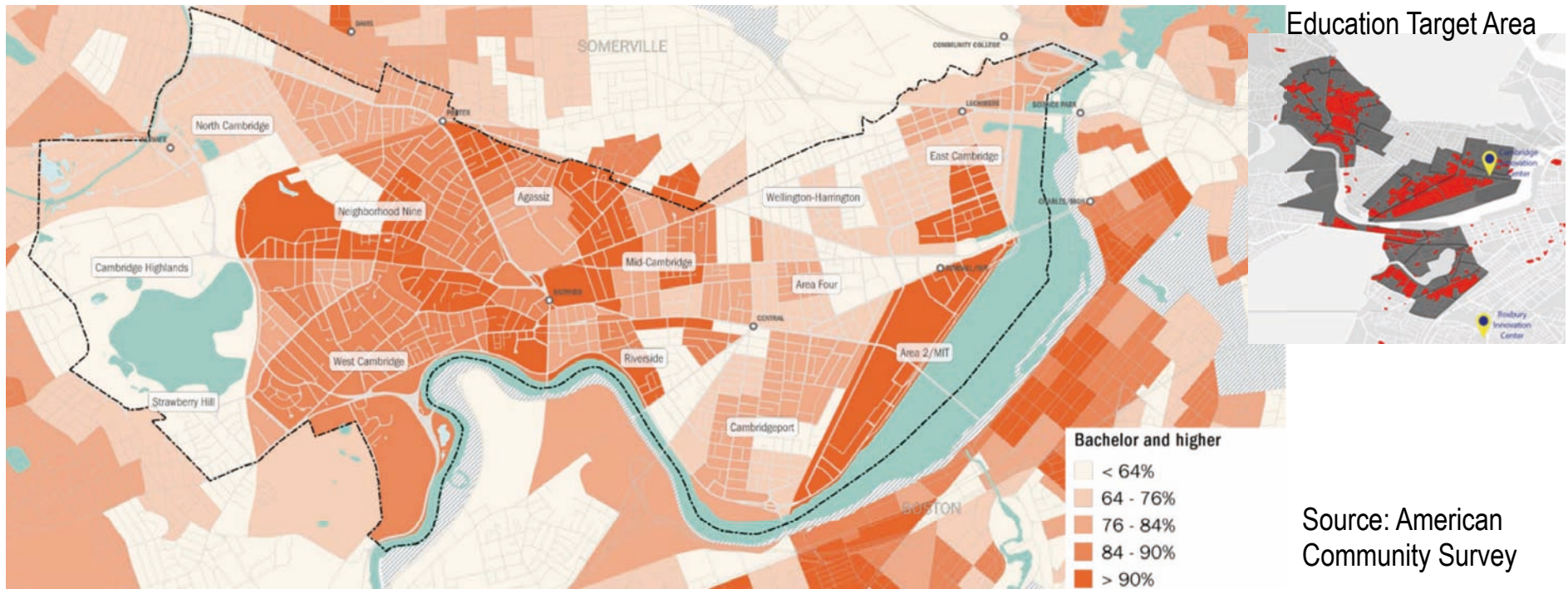
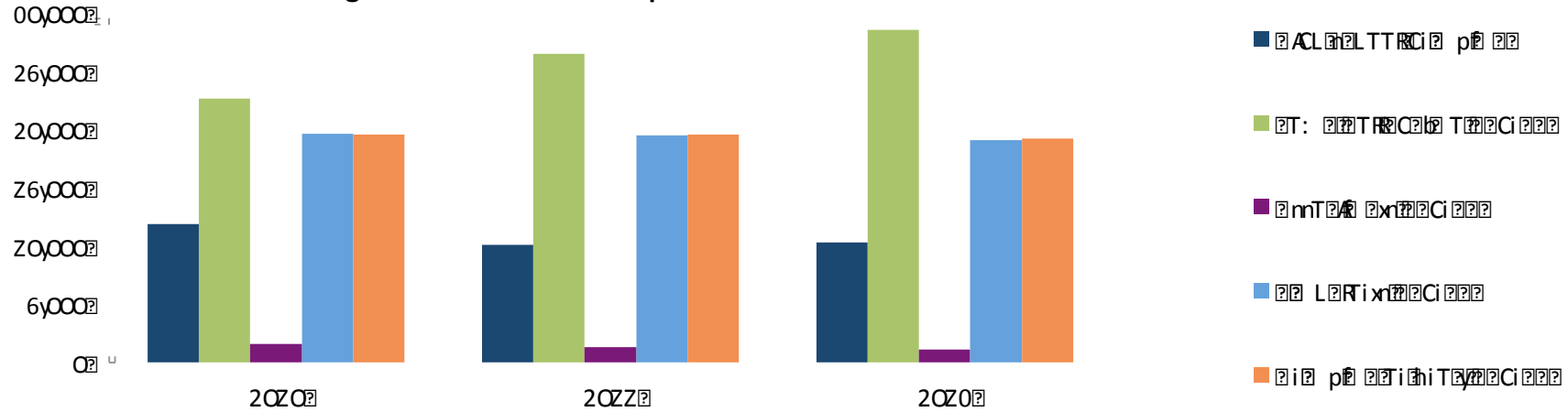
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TO THE FUTURE

PROVIDING A HIGH-LEVEL OF SUPPORT TO THE FUTURE OF THE
CITY OF CAMBRIDGE



Education and Knowledge Creation Cluster | Educational Attainment



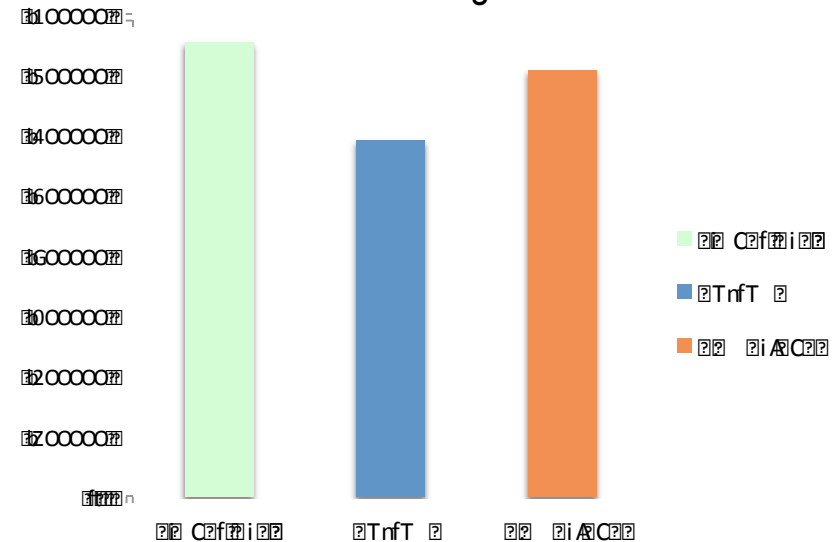
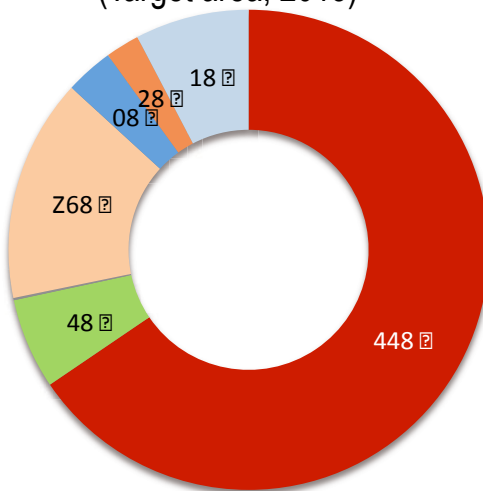
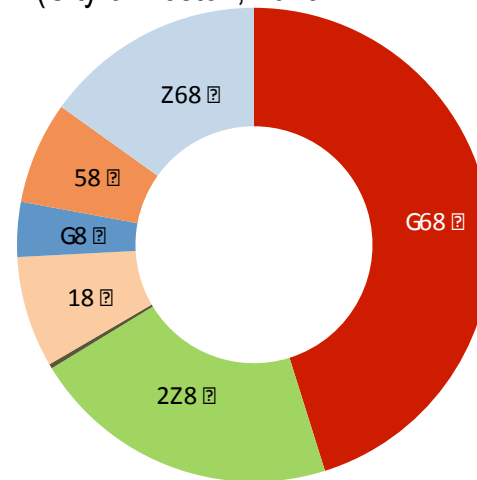
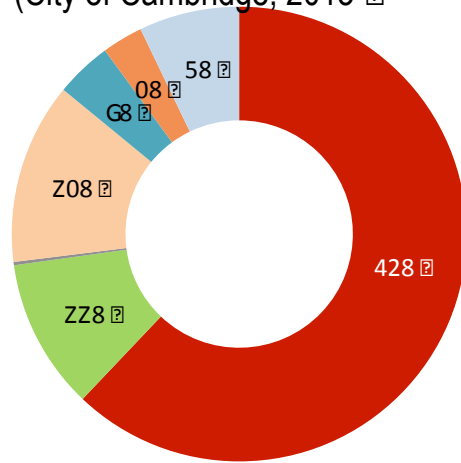


QUESTION 10



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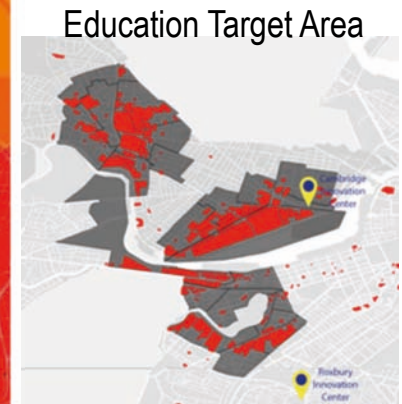
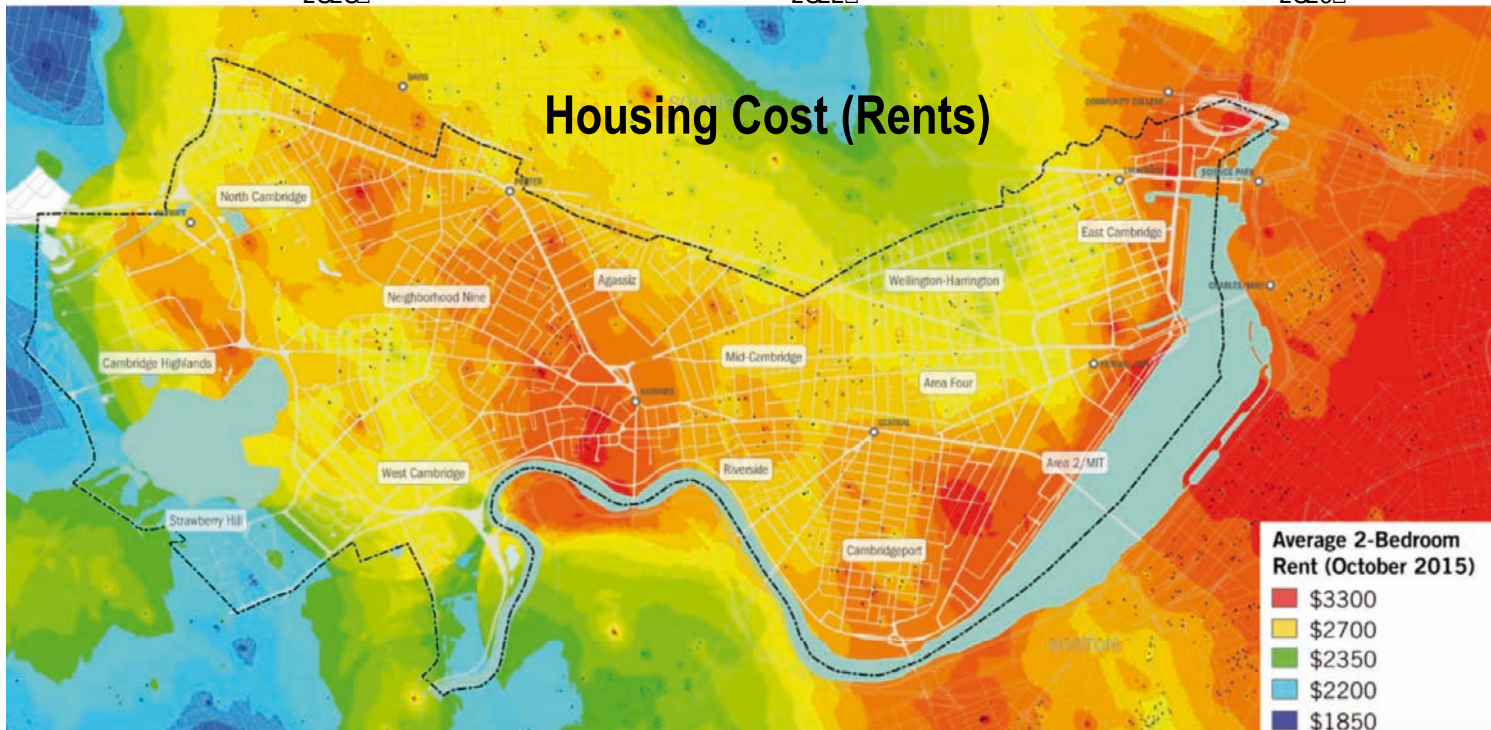
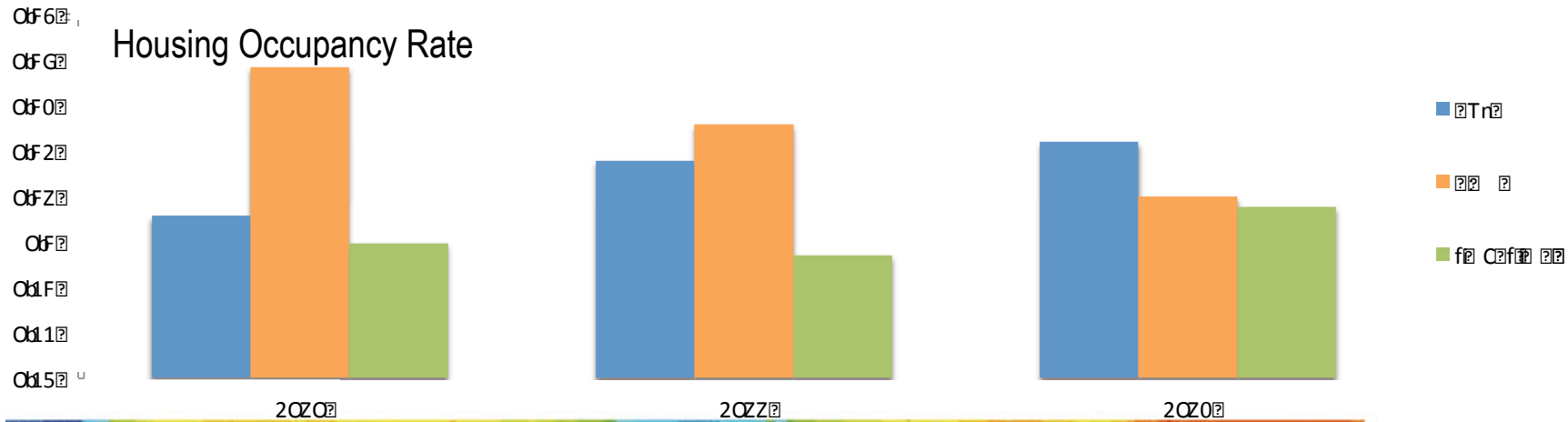
INTEGRATED APPROACH

TO THE FUTURE

PROVIDING A HIGH-LEVEL OF SUPPORT TO THE FUTURE OF THE
CITY OF CAMBRIDGE



Education and Knowledge Creation Cluster | Housing



Source: Padmapper data



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Education Cluster | Characteristics of the case study “Education and Knowledge Creation Target Area”

- What are the specificities of the area with respect to the MAPS LED project and that can be useful to take in consideration for the European Context?
- In this Target Area is possible to find a high concentration of startups, incubators, research institutions.
- Therefore, there is a particular focus towards innovation, research and knowledge dynamics.



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Education Cluster | Innovation District Framework



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Legend



Policy Initiatives

Parcels City of Boston
 & City of Cambridge



Scale 1:100.000

0 0.5 1 2
 Miles



- Cluster policy innovation
- Policy initiatives
- Typology
- Description
- Year
- Total investment
- Planning initiative



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Education and Knowledge Creation Cluster | Cambridge Innovation Center (CIC)



is a private co-working space founded in 1999 by Tim Rowe.

Vision : “Startups make the world much better. CIC can help them by setting up and managing their office for them so they can focus on their business.”

Mission: “Create a powerful innovation ecosystems.”

3 key elements:

- Proximity, as the trigger of cooperation and knowledge sharing among people;
- Culture of collaboration, as a peculiarity of the innovation environment;
- Entrepreneurs concentration, as engine of innovation.

CIC office spaces price: \$425-\$1,500/person/month. In addition CIC provides entrepreneurs with stocked kitchens, conference rooms, Internet, printing & copying, phones, high-end furniture, operational & technical support, concierge and much more. CIC hosts numerous events every week that draws members from across the startup community to CIC.

More than 1400 companies have chosen CIC as their home and many have gone on to prove their value to the world as startups. Currently CIC **houses over 800 companies**, most of them startups. **CIC attracted more than 1.8 B venture capitals funds.**



Source:cambridgecoworking.com

SECOND PHASE

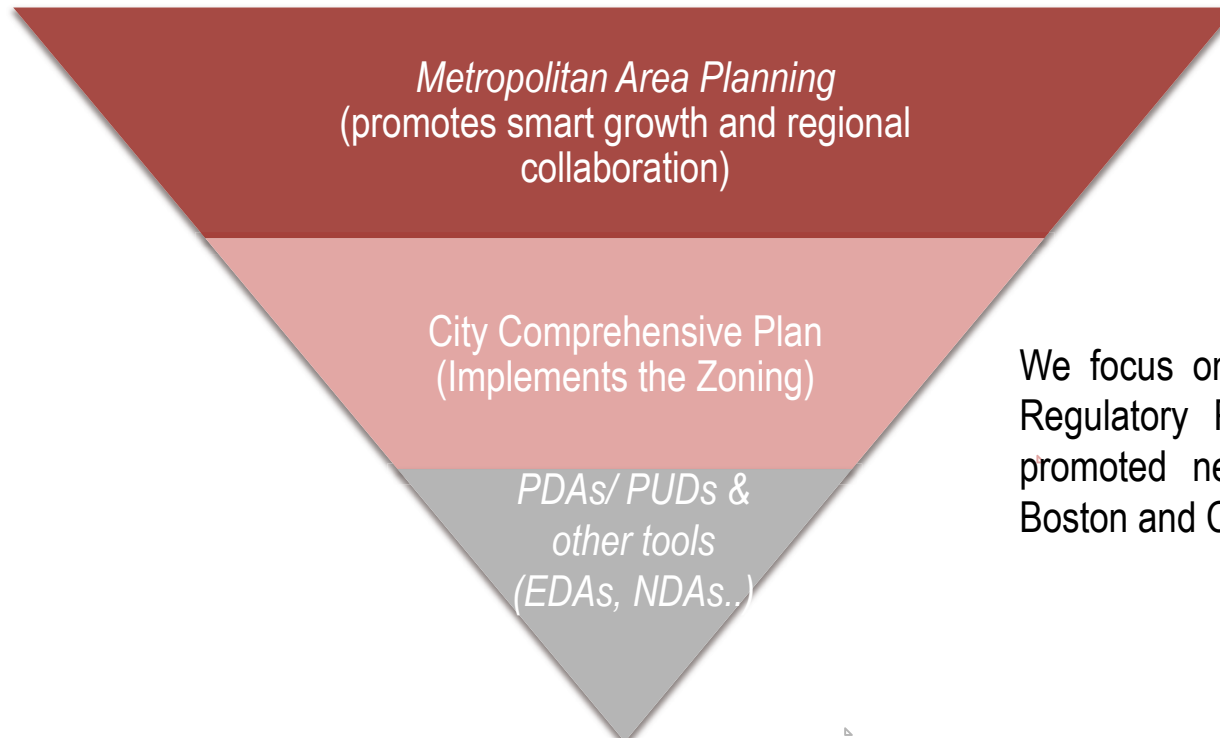
Innovation Policy and Tools



INFORMATION o a p u k N
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Education and Knowledge Creation Cluster | Planning hierarchies in the target area



We focus on PDAs/PUDs because they are the Regulatory Processes by means of which are promoted new developments into the cities of Boston and Cambridge.

PDA: “An overlay zoning district which may be established under Article 80 where a development that is well-suited to its location cannot be accommodated by the general zoning for the area. For example, a PDA may be appropriate where a development involves a large building, a cluster of buildings, or a mix of uses.”

The Planned Unit Development (PUD): zoning designation intended to create a built environment superior to that which is accomplished through conventional zoning districts. This is achieved by allowing the PUD rezoning applicant to propose the uses, development standards, and design guidelines for a site, and by doing so, entering into a collaborative review process.




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Cambridge Innovation Center | Urban Management Tools: PUD Cambridge

Case Study(s)	Planning Initiative(s)	Typology	Description	Year (s)	Map
CIC Cambridge	EASTERN CAMBRIDGE PLANNING STUDY AND EASTERN CAMBRIDGE REZONING (ECAPS)	Community Planning	<p>The ECAPS is a planning effort undertaken by a committee of residents, representatives of institutions and businesses, and City staff working with a team of planning consultants to create a vision for future development in the eastern portion of Cambridge. The planning process resulted in goals for future economic development, housing, transportation, urban design and open space in those areas, and led to a rezoning of certain districts (adopted by the City Council in 2001) and the establishment of a set of urban design guidelines to inform future project review. <i>While the Eastern Cambridge Planning Study (ECaPS) was completed in 2001, it is relevant to the more recent Kendall Square/Central Square Study (K2C2). In many ways, the K2C2 study provides an updated planning vision for portions of the ECaPS area.</i></p> <p>The Eastern Cambridge Kendall Square open space study is a unique opportunity to plan and implement a vision for the entire open space network in Kendall Square and vicinity.</p> <p>In order to further promote creativity and innovative ideas during this exciting process, the Community Development Department sponsored a planning and design competition to develop a comprehensive open space plan for the area. The competition attracted a wide range of planning and design firms and encouraged new thinking regarding not only open space design but also the overall public realm, connections, programming, and place making.</p> <p>The K2C2 Plan is a comprehensive planning study to develop a vision for the future growth of Central Square, Kendall Square, and the area South of Main Street (including the Osborn Triangle) connecting the two squares. In addition to developing a vision for the study area, the process has formulated recommendations including specific actionable steps to achieve the vision.</p>	1999 -2001	
	EASTERN CAMBRIDGE/ KENDALL SQUARE OPEN SPACE STUDY	Open Space Planning		2015 -2016	
	KENDALL SQUARE CENTRAL SQUARE (K2-C2) PLAN	Comprehensive Community Planning		2011 -2013	
	ECODISTRICTS - KENDALL SQUARE ECO DISTRICT PILOT	Sustainable Development	<p>EcoDistricts are a comprehensive strategy to accelerate sustainable development at the neighborhood scale by integrating building and infrastructure projects with community and individual action. The EcoDistrict framework brings together public and private partners to innovate sustainable neighborhoods of the future. Such communities will be based on a vision of resilience, vitality, the efficient use of resources and social equity. An EcoDistrict is governed by a group of neighborhood stakeholders who are invested in making their neighborhood more sustainable through collective action. Improvements to the neighborhood might include anything from creating district energy systems to hosting community events to planting trees to improving safety at street crossings.</p>	2013	



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Cambridge Innovation Center | Urban Management Tools: PUD Cambridge

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QUESTION

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2015 - 2019

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Cambridge Innovation Center | Target Area PDA and PUD

Localization of the specific Target Area (Education) with respect to all the PDAs and PUDs of the cities of Boston and Cambridge.

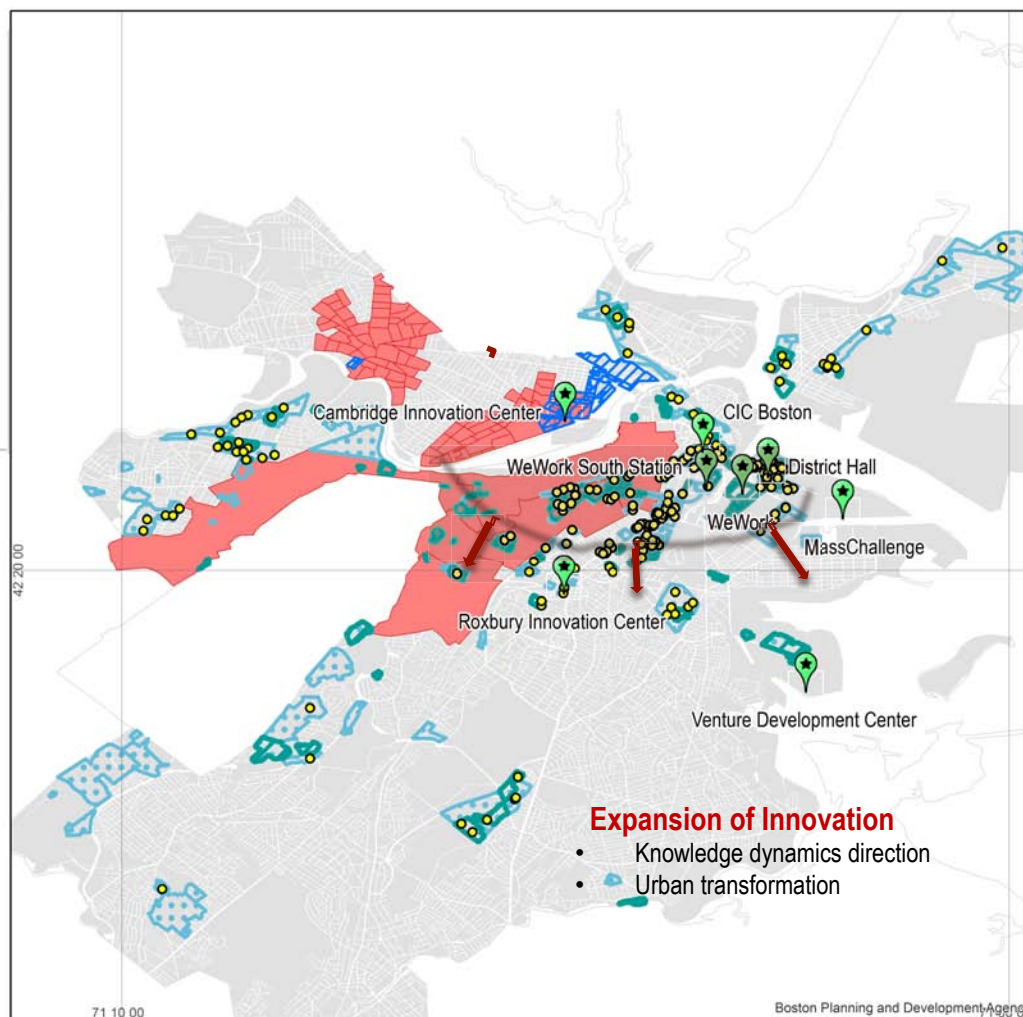


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Legend

- PDA
- Planned Development Areas - Permitted
- Planning Development Areas (PDAs) - Boston
- Planning Unit Development (PUD) - Cambridge
- Target area Education (parcel blocks & wards)
- Policy Initiatives
- Parcels City of Boston & City of Cambridge

Scale 1:100.000
0 0.5 1 2 Miles



Expansion of Innovation

- Knowledge dynamics direction
- Urban transformation

High number of Physical Transformations (PDAs PUDs)



INFORMATION to a public network
 2020

proposed a digital LIT: a future and a new
 digital T: a new Th: a f



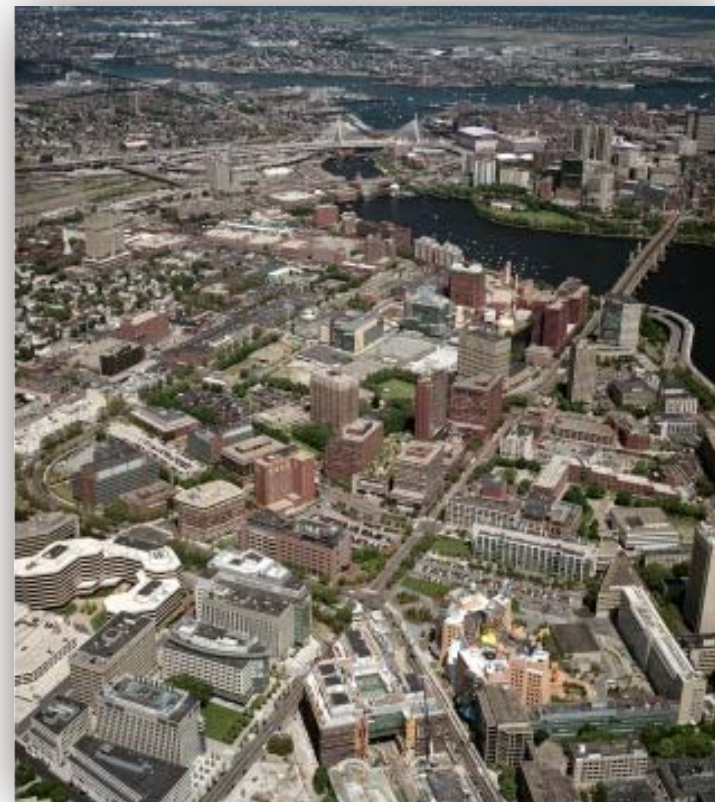
Cambridge Innovation Center | Knowledge-intensive policies leading to Urban transformation

1970s



- The Area of Kendall Square has historically undergone dramatic transformation: from former manufacturing-based area to a **highly growing Innovation ecosystem**.

2000s



- **Knowledge-intensive policies** are key to the transformation of the **urban environment**.



INFORMATION ON THE MAPS-LED PROJECT

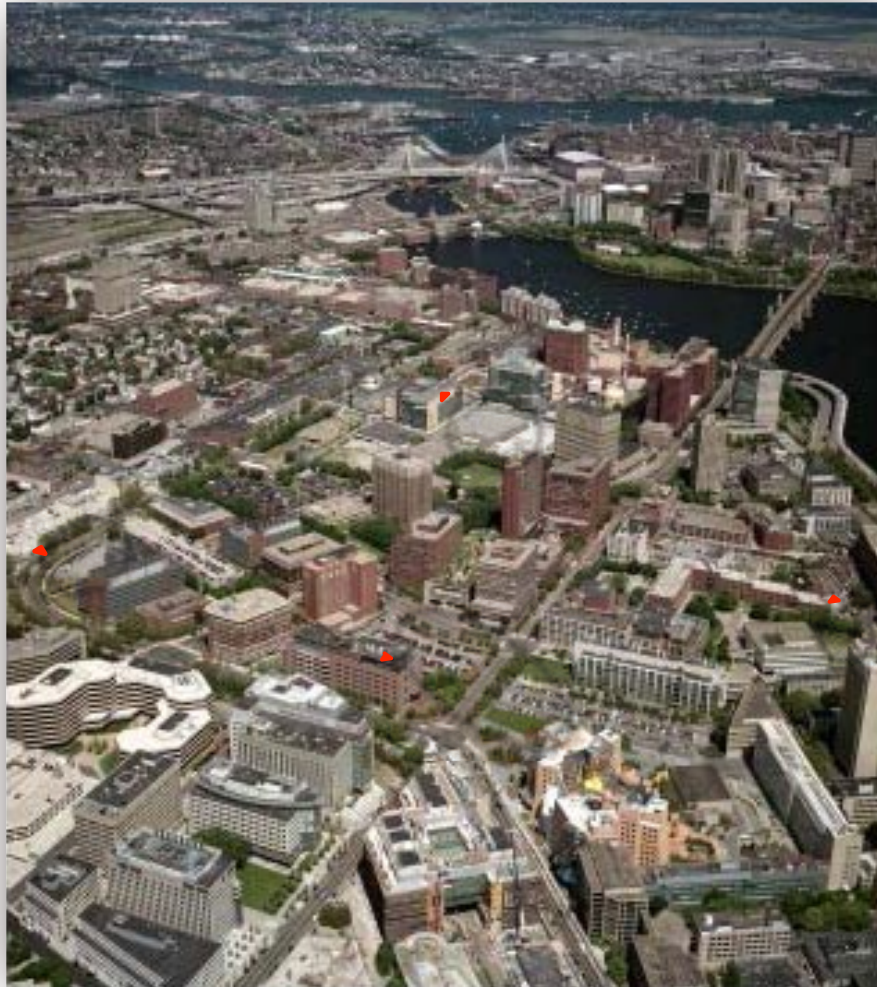
2015-2019

PROJECT Aims: To develop a framework for the development of a smart specialisation strategy for local economic development



Cambridge Innovation Center | Knowledge-intensive policies leading to Urban transformation

2000s



2010s



Source of the image: Courtesy of MITIMmCo – Massachusetts Institute of Technology Management Company, and of Les Vants

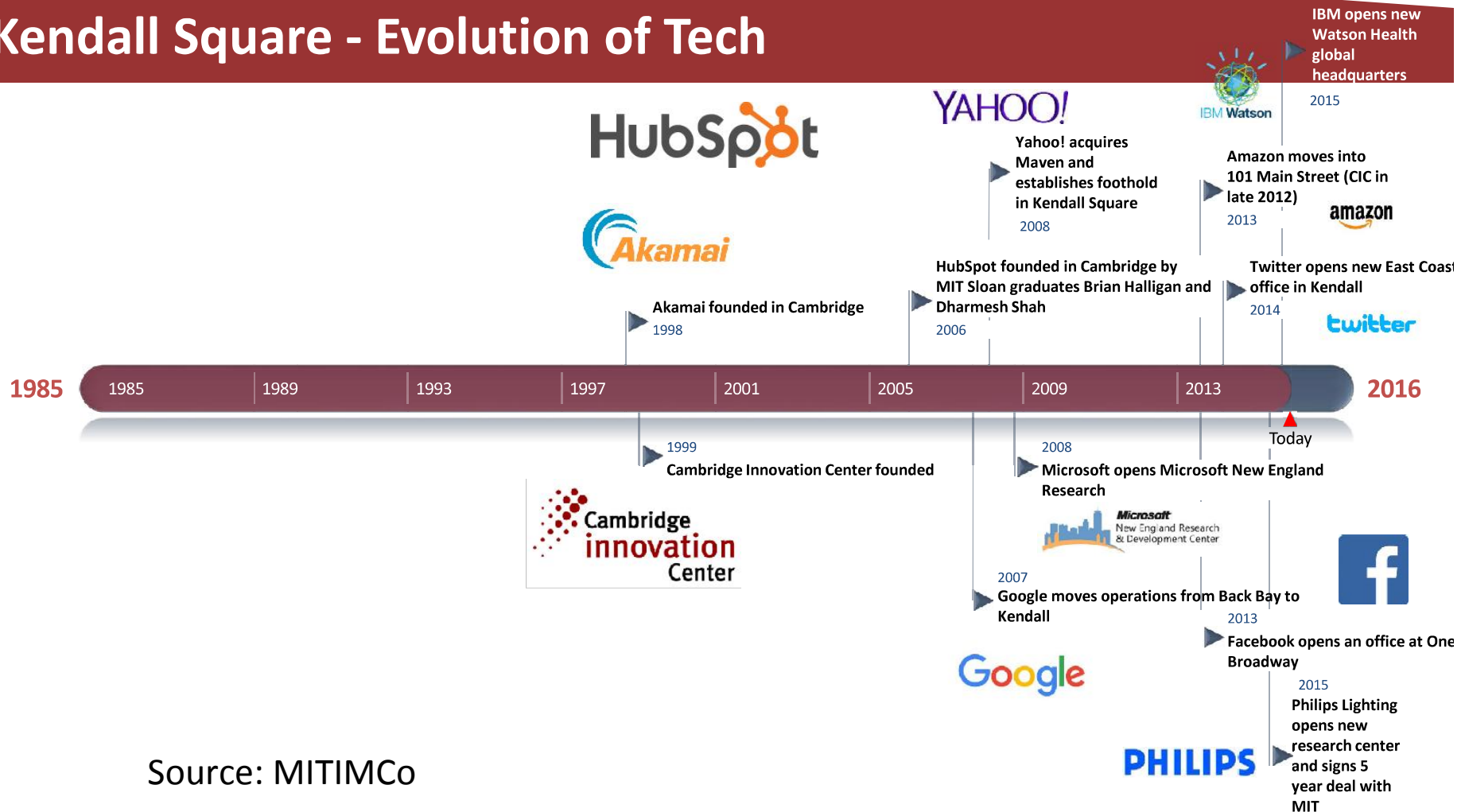


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Cambridge Innovation Center | Knowledge-intensive policies leading to Urban transformation

Kendall Square - Evolution of Tech



Source: MITIMCo



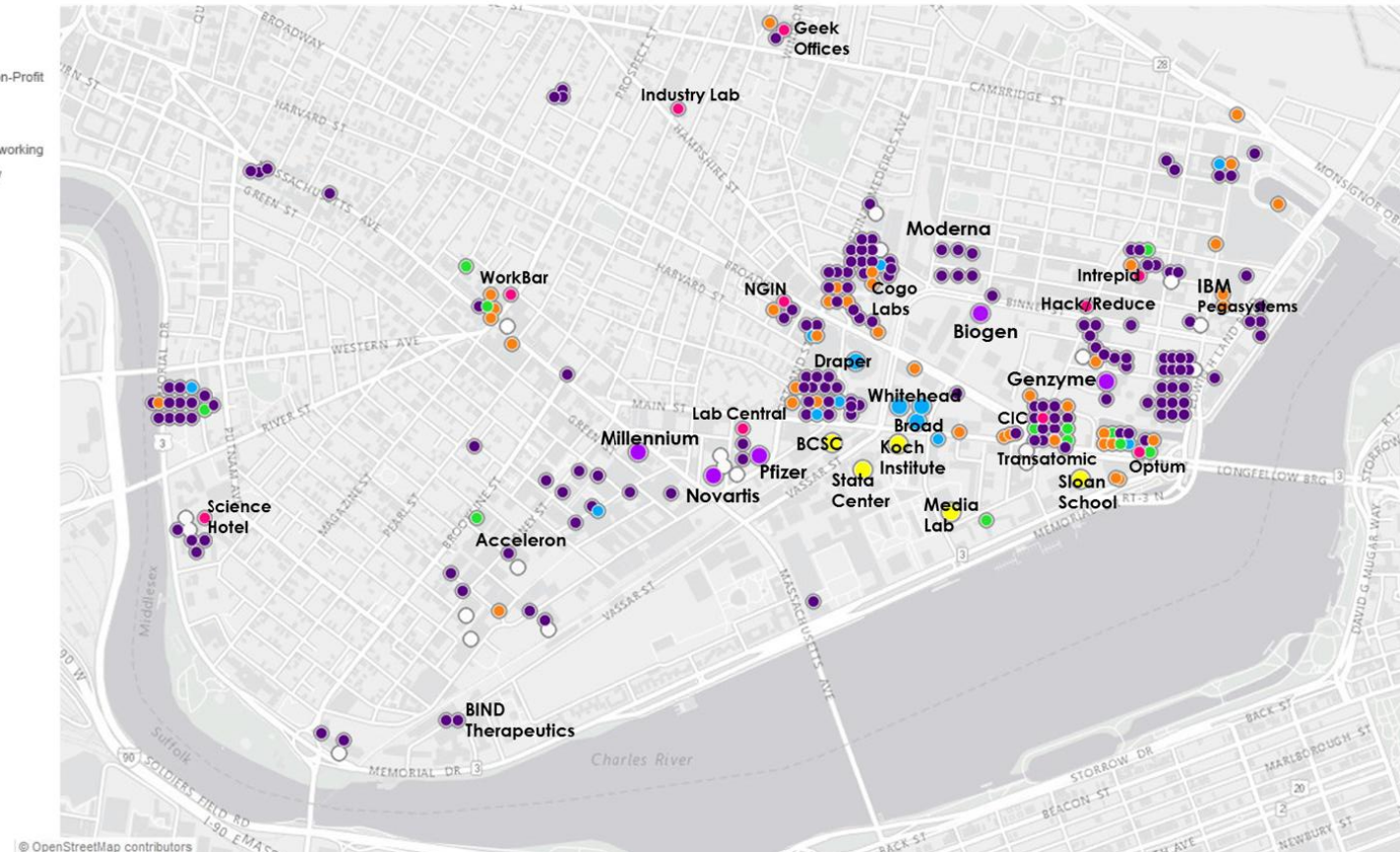
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Cambridge Innovation Center | Knowledge-intensive policies leading to Urban transformation

2015

- Academic/Non-Profit
- Life Science
- High Tech
- Incubator/Coworking
- Clean Energy
- MIT
- Moved



Source: MITIMCo



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Cambridge Innovation Center | Expected and achieved Objectives.

- Through The target area analysis of the MAPS-LED project, it emerged the role of PDAs and PUDs (Urban Planning Tools).
- They can be considered as tools related to Urban Regeneration process representing the on-going transformations in the area, locally acting in the direction of the knowledge dynamics.



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REFERENCES

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- Art. 80 Zoning Code, City of Boston
- Boston Redevelopment Authority
- Cambridge Community Development Department
- Cambridgecoworking.com
- Cambridge Redevelopment Authority
- Census.gov
- City of Cambridge, Zoning Ordinance
- Envision Cambridge (Citywide comprehensive Plan)
- Massachusetts Institute of Technology Investment Management Company (MITIMCo)
- Pad mapper Data

Thank you!

Giuseppe Umberto Cantafio

Giada Anversa

PAU Unit

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