

Economic Benefits of Rail Investment

NHHS Rail Project



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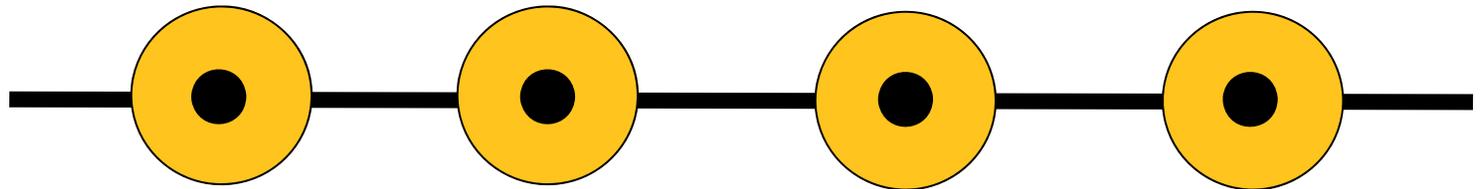
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Topics for Today's Presentation

- Two dimensions of economic impacts of rail: by mode and type of impact
- Case study of Knowledge Corridor Passenger Rail Feasibility Study (MA)
- Supporting initiatives
 - Station development and intermodal facilities
 - Economic development strategy
- Implications for NHHS Rail Project in Connecticut



Impacts by Mode: Light Rail / Subway



High Land Use Effects

- Frequency, Type, and Scale of Service is Land Use Supportive
- LRT Serves as New “Access” to Development
- Principal Impact Area – $\frac{1}{4}$ (125 Acres) to $\frac{1}{2}$ Mile (500 Acres) Radius
- Compact, Walkable Mixed Use Results



Impacts by Mode: Streetcar



High to Very High Land Use Effects

- Highly Land Use Supportive
- Development Follows the Streetcar Line
- Redevelopment Catalyst
- Principal Impact Area – Three Blocks Each Side of Line
- Compact, Walkable, Mixed Use Pedestrian-producing Results



Impacts by Mode: Commuter Rail



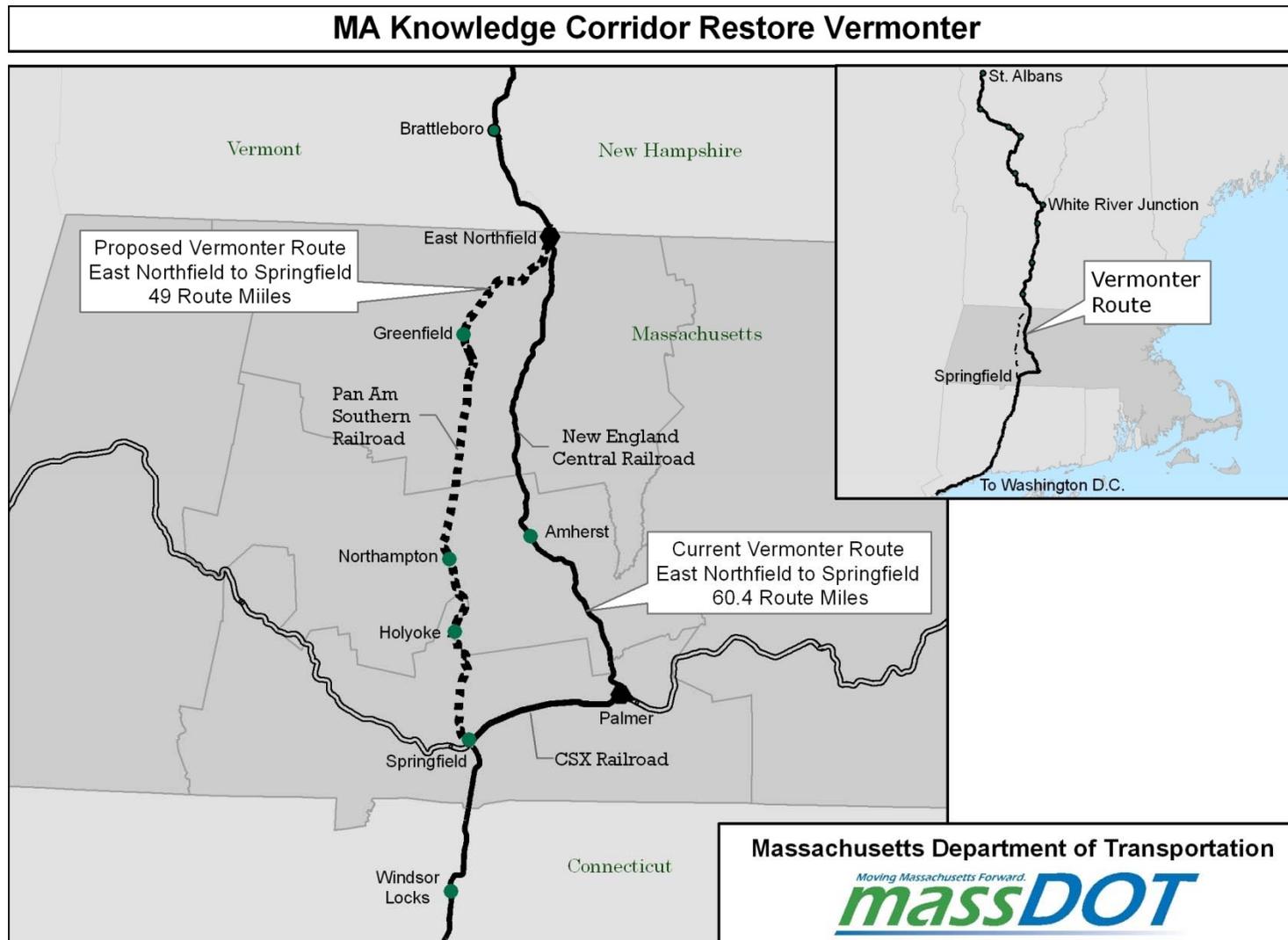
Low to Mid Land Use Effects – Increased Emphasis now for TOD Planning

- Frequency, Type, and Scale of Service is Land Use Supportive
- Existing Railroad Lines and Industrial Uses
- Station Spacing 5 to 10 miles
- Large Park and Ride Facilities are Negatives
- Modest Customer Base for Retail Uses
- Nominal Residential and Office Uses
- Longer-term Development Period

Transportation and Economic Impacts

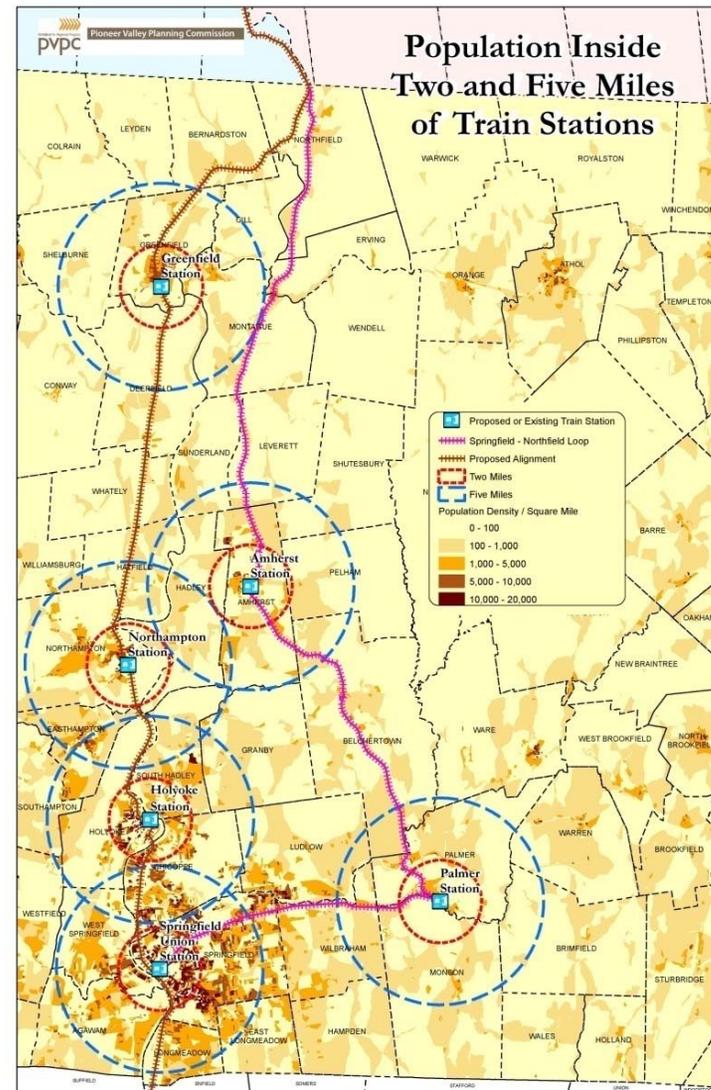
- 1st Order Benefits – Transportation benefits for existing residents and businesses
 - Access, mobility, travel cost
- 2nd Order Benefits – TOD (mostly residential and retail) development surrounding train station
 - Facilitated by zoning and other land use development incentives
 - Reflects a re-distribution of land use clustered near station/CBD
- 3rd Order Benefits – Regional/corridor economic impacts of fixed guideway projects attracting businesses
 - Increased competitiveness for business location choices, and access to labor and key markets (e.g., NYC, Boston)
 - Requires close coordination with local/regional economic development strategies
 - Target industries (not “just” land use policy near station)
 - Less commonly observed or measured (jobs, # of businesses), though predicted by economic models

Regional Rail Case Study – Knowledge Corridor in Massachusetts



Regional TOD Case Study – Pioneer Valley

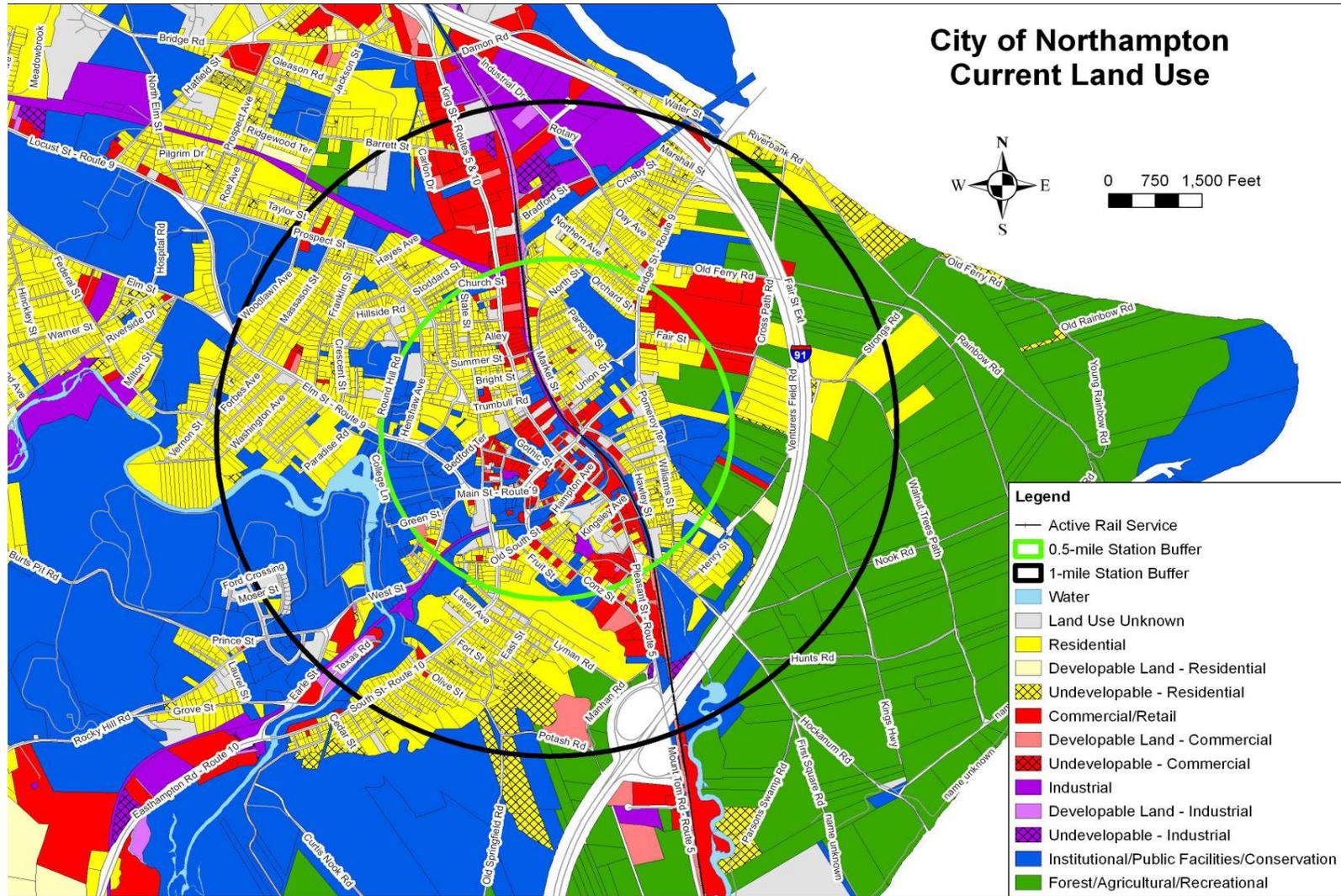
- 29% increase in population within 5 miles of stations
- 46% increase in population within 2 miles of stations
 - Opportunities for ridership, TOD, multi-modal connections



Assessment of Development Supporting Conditions

Evaluation Category	Description	Format
Current Market Strength	Are properties in the analysis zone selling well and do they have high absorption rates or healthy lease rates?	L / M / H
Expected Improvement in Accessibility	Will the project make the analysis zone more convenient and easy to travel to? What alternative access modes are available now?	L / M / H
Residential Desirability	Does the analysis zone have the capacity to attract residential development?	L / M / H
Commercial Desirability	Does the analysis zone have the capacity to attract commercial development?	L / M / H
Supportive Zoning	Does the analysis zone have transit-oriented zoning (which encourages increased development densities, endorses mixed-use development, reduces parking requirements and is pedestrian friendly)?	L / M / H
Available Land for Development or Redevelopment	Does the analysis zone have properties available for development or redevelopment?	L / M / H
Major Attractions	Does the analysis zone contain (or is close to) major attractions that create a destination for riders?	L / M / H
Public Sector Investment / Support	Does the analysis zone have public sector support and ongoing or proposed public sector investment in place to support operations? Will all necessary infrastructure be in place?	L / M / H
Private Sector Investment / Support	Does the analysis zone have private sector support and ongoing or proposed private development projects in place, which will support TOD?	L / M / H

Northampton Land Use Development Patterns Centered on Station Location



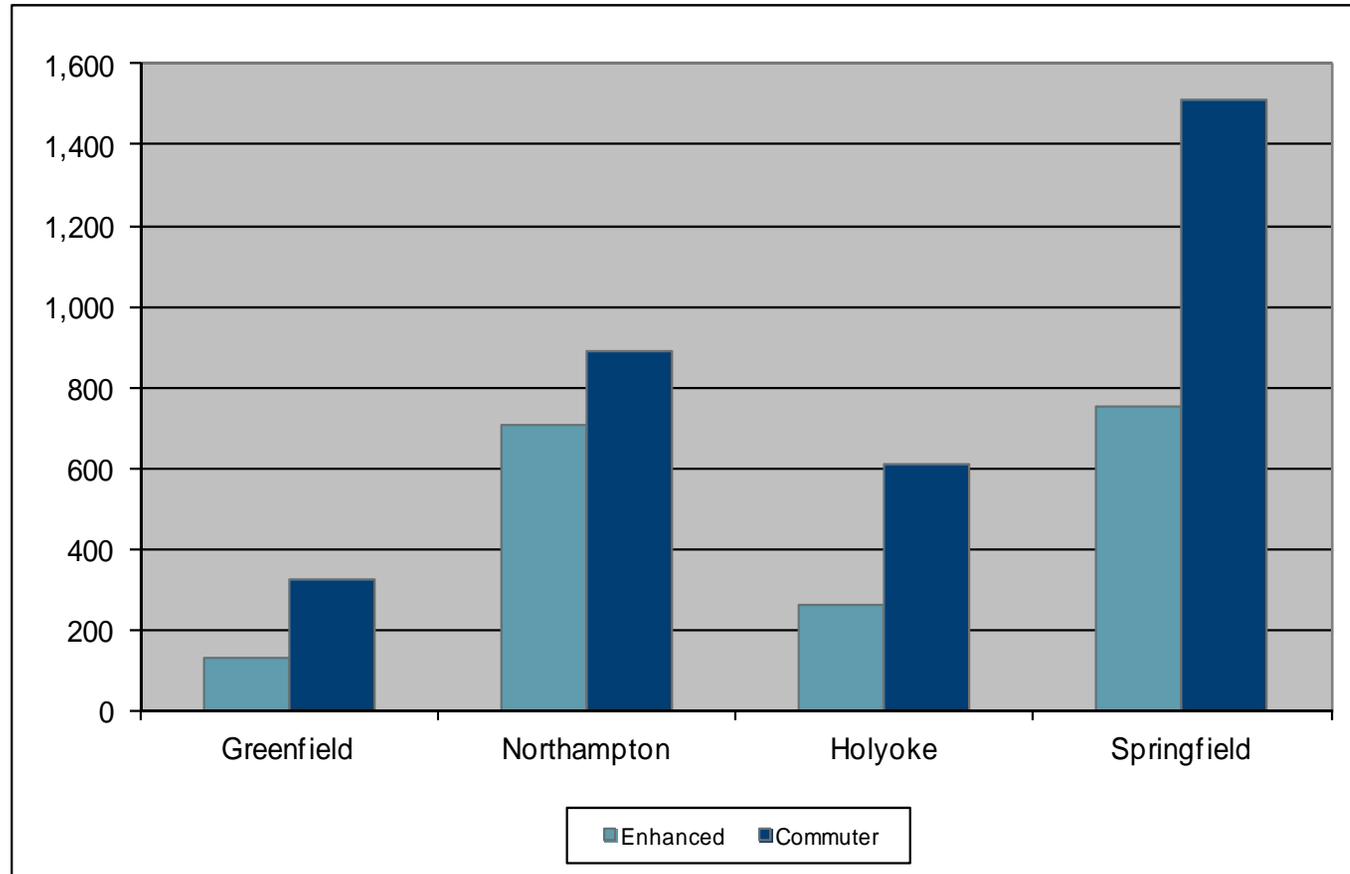
Northampton Land Use Development Patterns Centered on Station Location



Interview Findings – Northampton

- Main Strengths:
 - Vibrant downtown economy – cultural attraction
 - Stable population – willingness to use trains
 - Large retail & service sector and higher-end jobs
- Main Constraints:
 - Somewhat limited developable land and parking
 - High land costs
- Strong regional connections to universities, artist community, NYC
- Not a 9-to-5 traditional business center

Employment Impacts by City and Scenario: 2030



Summary of Induced Employment and Population Results – 2015 and 2030

	Enhanced				Commuter			
	Employment		Population		Employment		Population	
	2015	2030	2015	2030	2015	2030	2015	2030
Greenfield	32	128	61	243	80	321	159	634
Northampton	177	707	307	1,227	222	889	361	1,444
Holyoke	65	260	131	522	152	609	256	1,022
Springfield	189	754	250	998	378	1,510	502	2,006
Rest of Franklin County	38	153	187	746	99	396	451	1,802
Rest of Hampshire County	88	352	452	1,806	206	823	671	2,682
Rest of Hampden County	87	349	416	1,662	242	967	959	3,837
TOTAL	676	2,703	1,804	7,204	1,379	5,515	3,359	13,427

Employment and Population Attributable to Enhanced Service: 2030 Risk Analysis

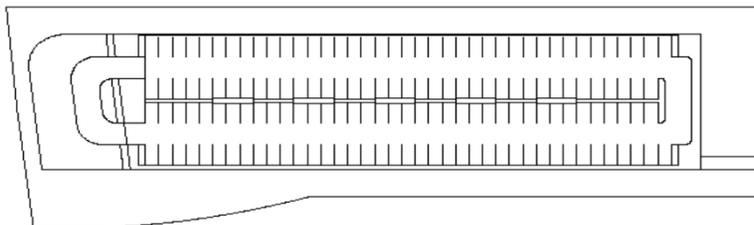
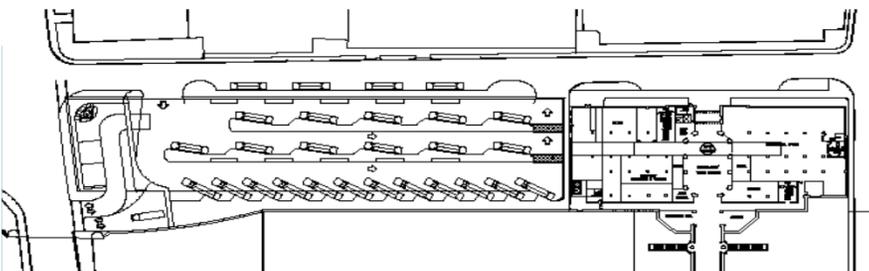
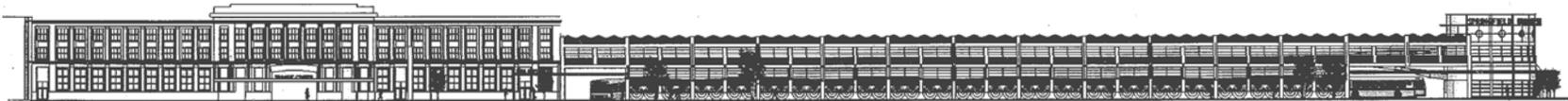
	Employment			Population		
	10%	50%	90%	10%	50%	90%
Greenfield	55	128	219	90	243	451
Northampton	365	707	1,224	558	1,227	2,210
Holyoke	114	260	486	221	522	915
Springfield	409	754	1,242	472	998	1,807
Rest of Franklin County	55	153	274	337	746	1,353
Rest of Hampshire County	309	352	1,030	670	1,806	3,356
Rest of Hampden County	210	349	523	709	1,662	2,487
TOTAL	1,517	2,703	4,998	3,057	7,204	12,579

Knowledge Corridor Passenger Rail Feasibility Study

Benefits and Costs of Rail Scenarios (millions of 2009 dollars)

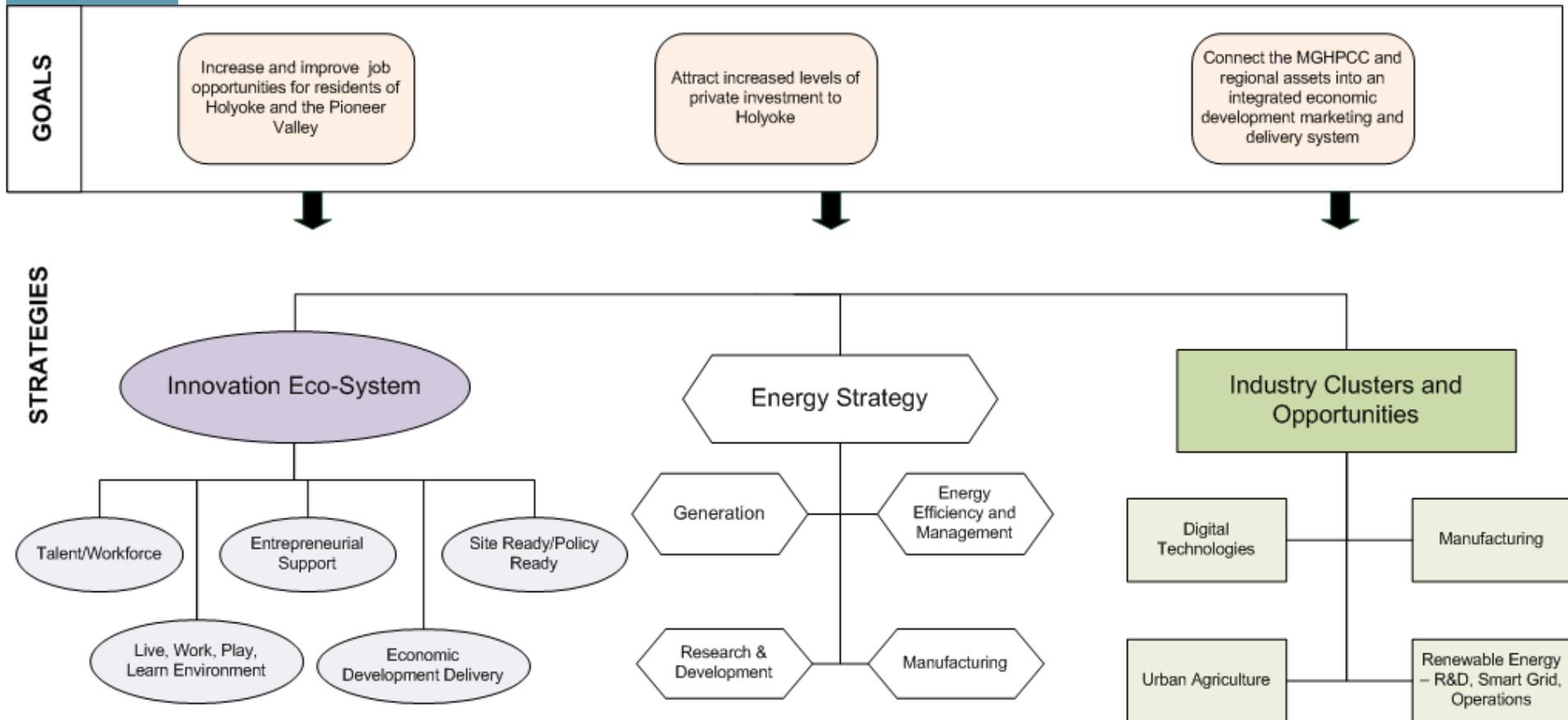
BENEFITS	Realignment	Enhanced	Commuter
Travel Time Savings - Existing Riders	\$32.7	\$32.7	\$32.7
User Benefits - Induced Riders	\$16.7	\$236.0	\$289.1
Reduced Emissions	\$5.9	\$21.9	\$17.8
Reduced Highway Maintenance	\$32.6	\$33.8	\$33.9
Congestion Relief Benefits	\$152.7	\$608.5	\$1,035.1
Freight Shipping Cost Savings	\$69.2	\$69.2	\$69.2
TOTAL BENEFITS	\$309.8	\$1,002.2	\$1,477.8
PV of Total Benefits	\$121.2	\$362.1	\$534.1
COSTS			
Capital Costs	\$72.9	\$102.4	\$312.5
O & M Costs	\$0.0	\$123.4	\$549.2
TOTAL COSTS	\$72.9	\$225.8	\$463.5
PV of Costs	\$68.1	\$139.1	\$375.0
Net Present Value (NPV)	\$53.1	\$222.9	\$70.6
Benefit-Cost Ratio (BCR)	1.8	2.6	1.2

Union Station Redevelopment - Springfield

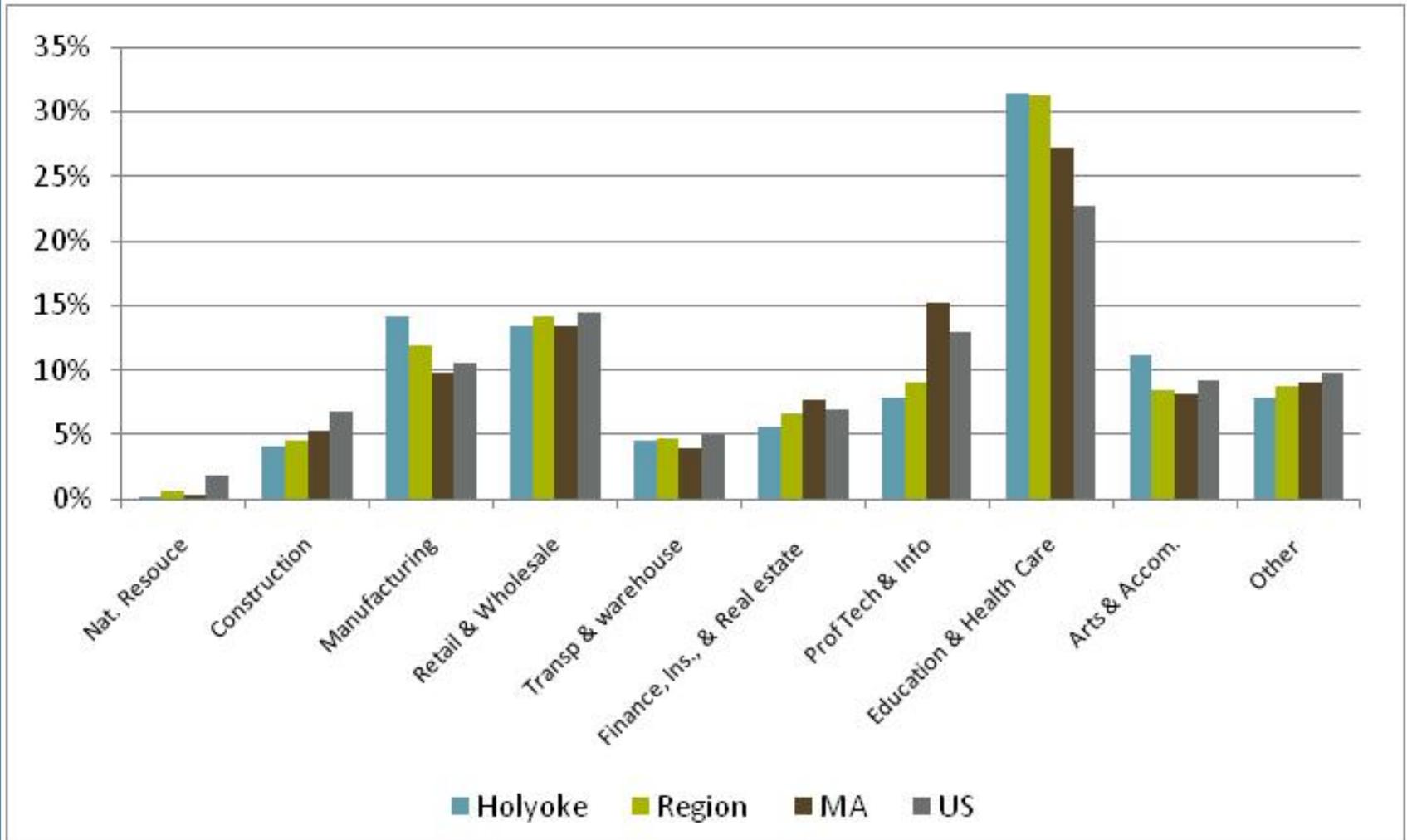


- Create a 21st Century transit facility
- Improve access and connectivity to public transportation
- Adaptively reuse and preserve an important landmark
- Ensure that capital improvements are feasible and annual operations sustainable
- Spur local area economic development

Innovation-Based Economic Development Strategy for Holyoke and Pioneer Valley

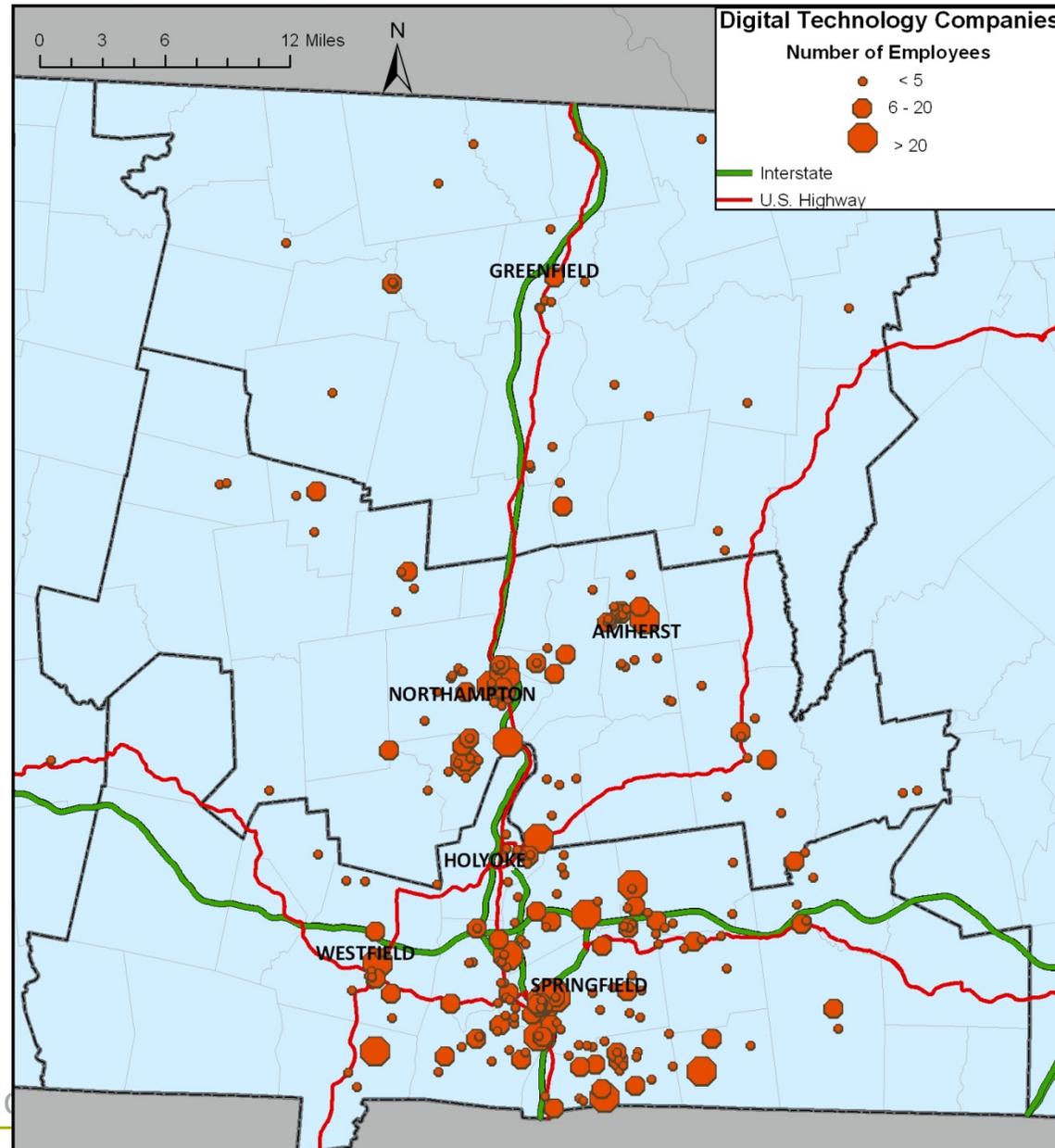


Employment Shares by Industry (2009)



Source: US Census Bureau American Community Survey 2009

Digital Technology Companies in Pioneer Valley



Targeting Land Use in the Holyoke Innovation District



Innovation-Based Economic Development Strategy for Holyoke and Pioneer Valley

- Four Innovation Eco-System Strategies
 - Talent/Workforce Delivery and Development
 - Entrepreneurial Support and Innovation
 - Site Ready/Policy Ready
 - Economic Development Delivery System
- Four Industry Cluster Strategies
 - Digital technology/IT
 - Advanced/Precision Manufacturing
 - Clean Energy Innovation and Development
 - Urban Agriculture

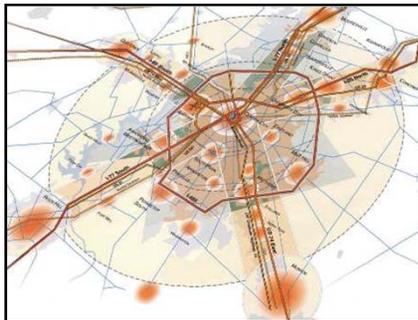
www.innovateholyoke.com

Implications for CT NHHS Rail Project

- Challenges
 - Unconventional system – mixed rail service, not hub and spoke – less evidence of inter-city economic impacts
 - Modest population growth trends
 - Elements of infrastructure and operations still TBD
- Opportunities
 - Significant levels of service, train frequency
 - Access to many regional cities, NYC, Boston
 - Access to job centers, colleges/universities, connecting multi-modal transportation (including Bradley Airport)
 - Many traditional downtowns with infrastructure “bones” consistent with TOD
 - Significant proactive planning – avoiding a “build it and they will come” trap
 - CRCOG HUD grant, \$5 million CT TOD projects

Elements of Success

- Regional Growth
- Regional Vision
- Regional/Local Plans and Codes
- Strong Corridors and Activity Centers
- Transit System Design
- Station Types and Locations
- Mobility and Connectivity
- Community Support
- Long-term Focus



Thank you

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