

Building a Next Generation Gigabyte Broadband Network in New England

Friday, March 2, 2012

The New England Board of Higher Education
&
Gig.U

NEW ENGLAND
BOARD OF
HIGHER EDUCATION



Gig.U

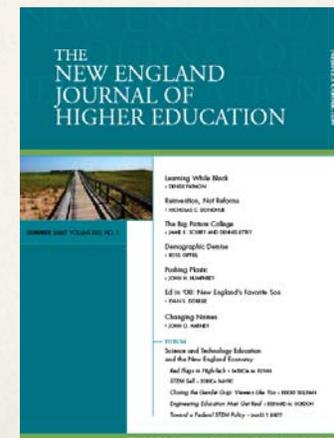
The University Community Next Generation Innovation Project

About NEBHE

- ❖ Mission: Expand education opportunities and resources
- ❖ Key areas:
 - ❖ Cost savings & affordability
 - ❖ College readiness & success
 - ❖ Policy leadership on key issues related to education & economy
 - ❖ Strengthening higher education's link to local and regional economic development

About NEBHE

- ❖ Regional Student Program “Tuition Break”
- ❖ College Ready New England
- ❖ Issue-oriented Conferences & Annual Excellence Awards
- ❖ Professional Development in STEM
- ❖ *The New England Journal of Higher Education*
- ❖ Policy & Research Reports, including “Trends & Indicators”
- ❖ Master Property Insurance Cost-saving Collaborative



Acknowledgements

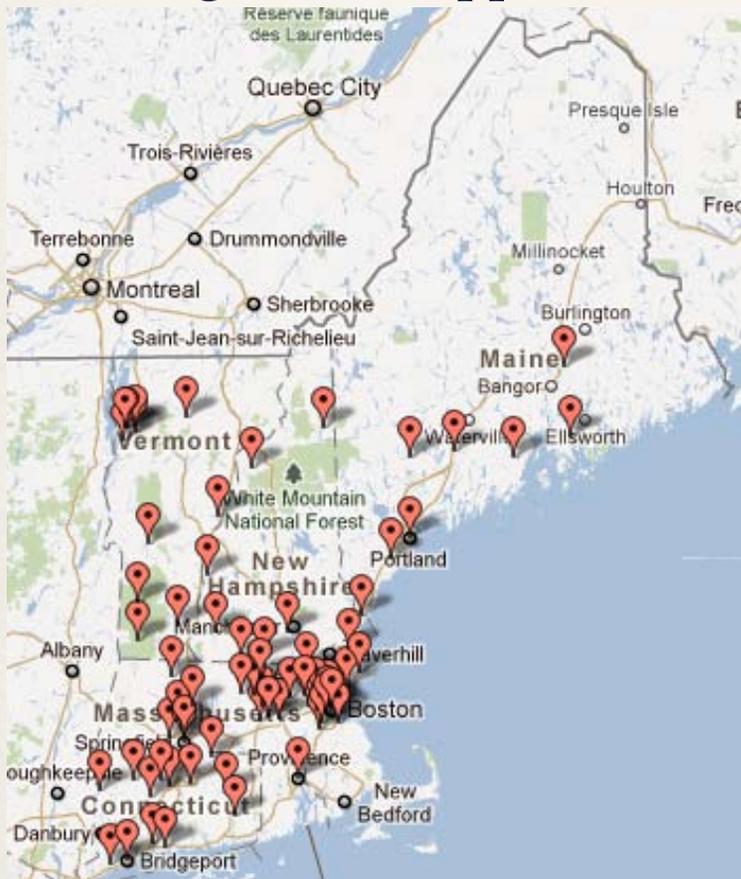
- ❖ Blair Levin and Gig.U
- ❖ NEBHE Staff
- ❖ Marcos Luna & Tim Howington, Salem State University
- ❖ The Boston Foundation
- ❖ The Massachusetts Competitive Partnership

Objectives

- ❖ “Accelerate the deployment of next generation networks and services”
- ❖ Secure New England’s competitive advantage in higher education and economic development
- ❖ Reaffirm Boston, MA and New England’s global leadership roles
- ❖ Benefit from, and build upon, Gig.U’s outstanding work
- ❖ Fully capture the innovation capacities the concentration of our colleges/ universities and their communities can provide
- ❖ Catalyze participation and collaboration across sectors

Building broadband networks in New England

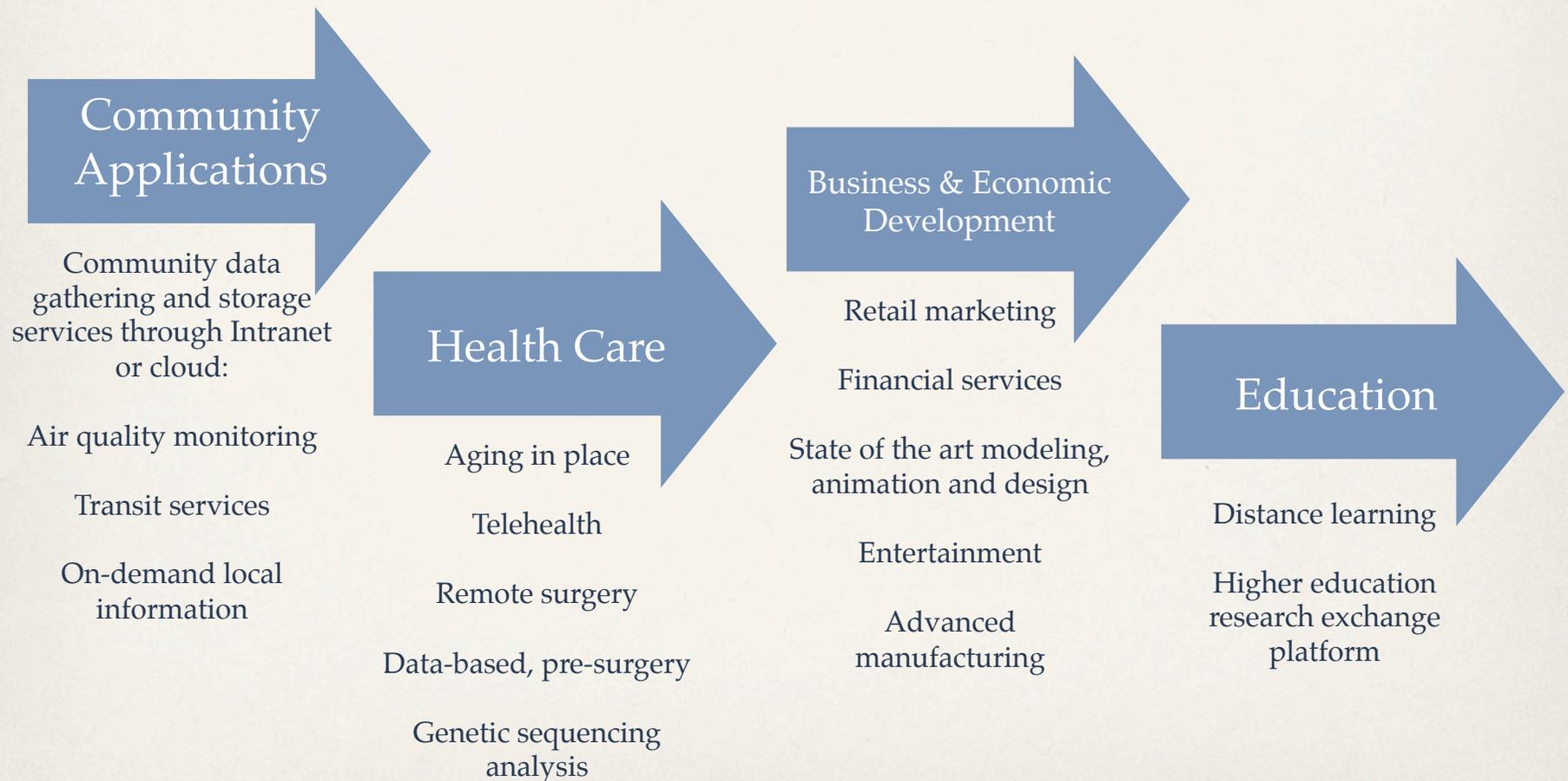
Google Fiber Applicants



Internet2 Members



Uses of Ultra-High Speed Networks



Opportunities in New England

A next generation, high-capacity broadband network in New England would benefit from:

- ❖ History of interest in building broadband networks across New England:
 - ❖ Google Fiber Applications, Internet2
 - ❖ Northeast Cyberinfrastructure Consortium (DE, ME, NH, RI, VT)
- ❖ Gig. U's outstanding efforts to date
- ❖ Close geographic proximity of communities
- ❖ Concentration of higher education institutions and other indicators of demand

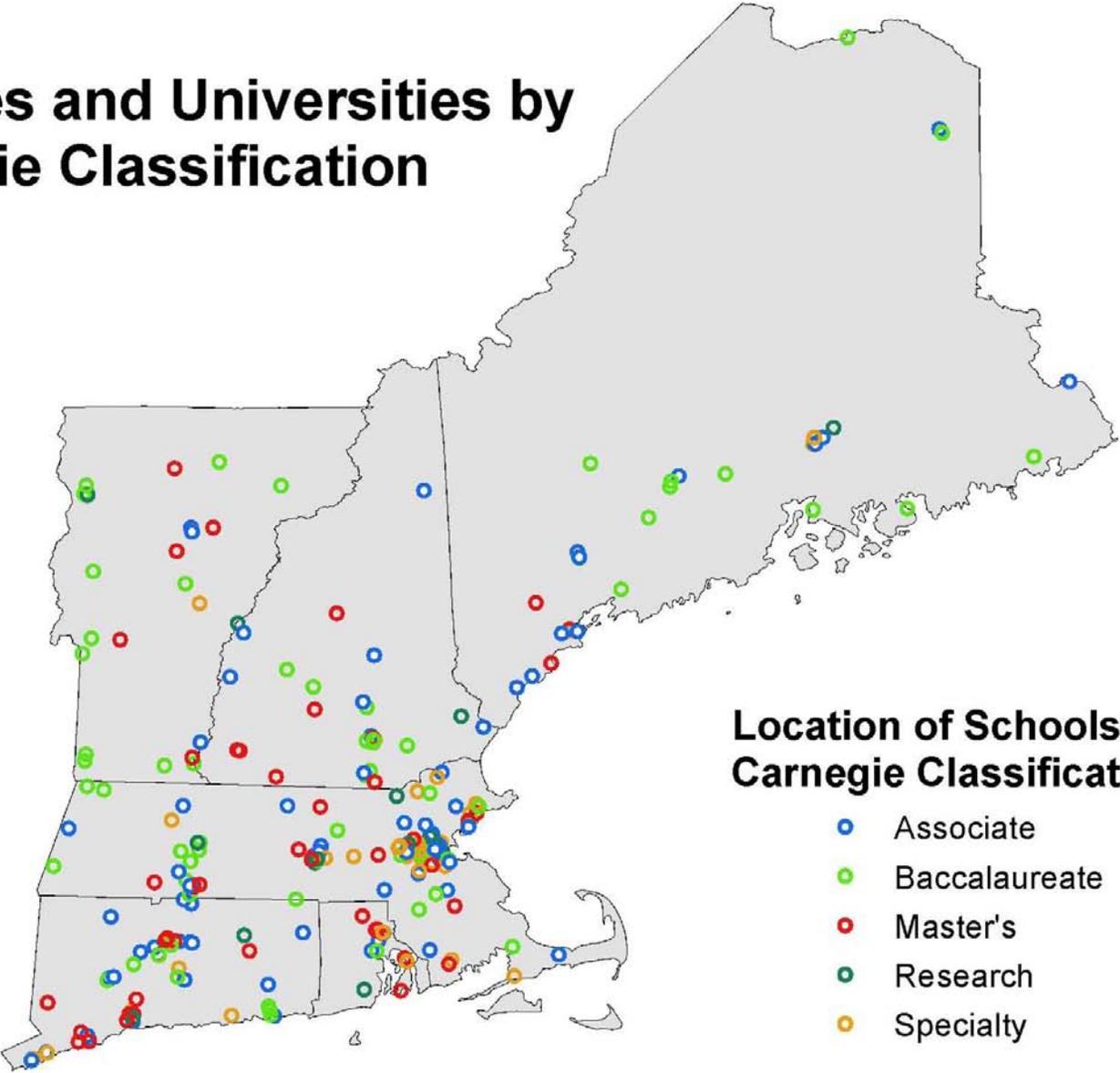
Visualizing Demand for 1 GB Broadband

New England schools are well-placed geographically to serve as community anchors for 1 GB broadband.

What are factors affecting demand?

- ❖ Colleges and Universities
 - ❖ Full time equivalent enrollment
 - ❖ Research expenditures
 - ❖ Total expenditures
 - ❖ Carnegie Classification
- ❖ Hospitals
- ❖ Employment
 - ❖ Total employment
 - ❖ Information industry (NAICS 51)
- ❖ Aggregate Household Income
- ❖ Presence of fiber optics to the end user

Colleges and Universities by Carnegie Classification

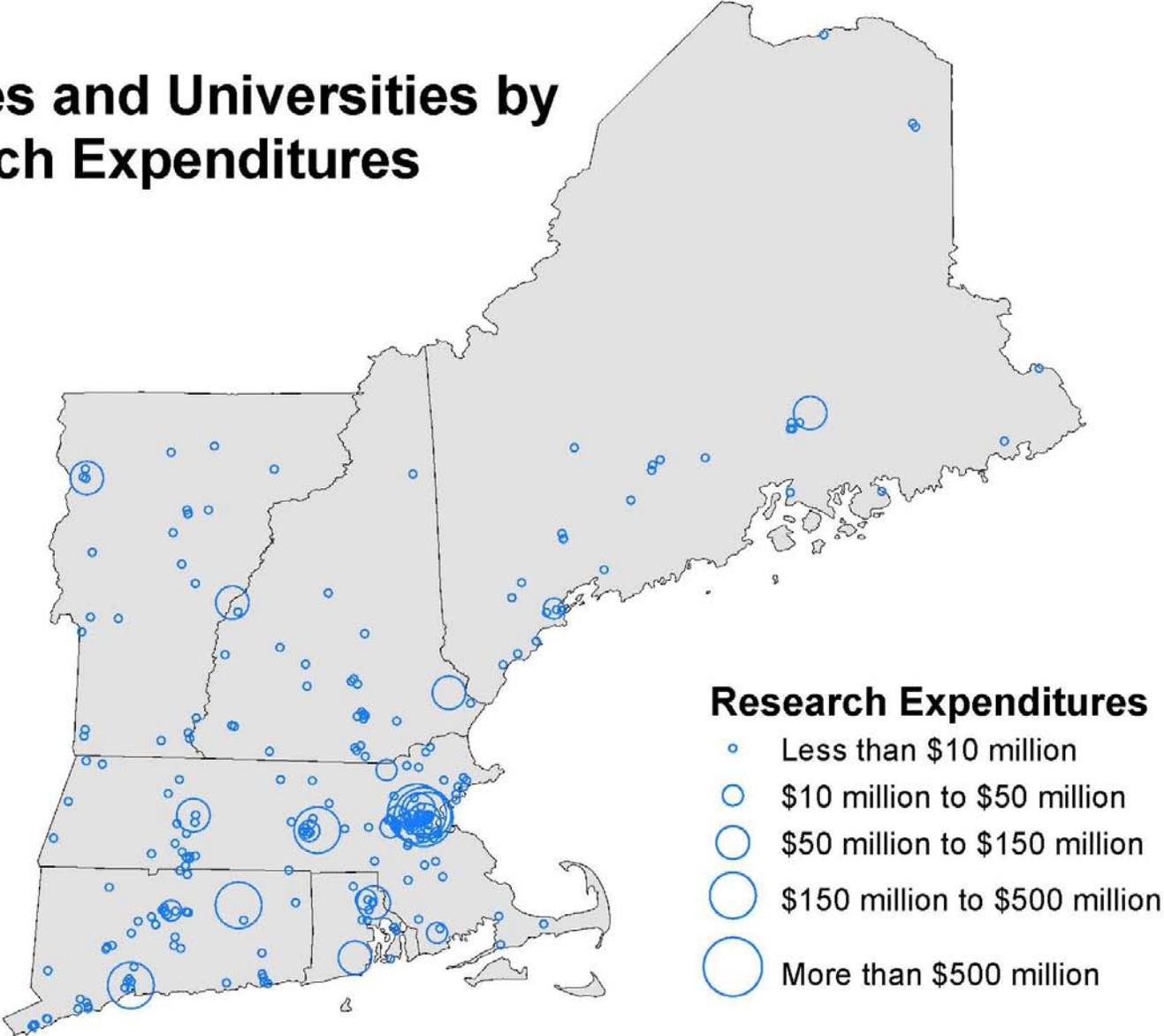


Location of Schools by Carnegie Classification

- Associate
- Baccalaureate
- Master's
- Research
- Specialty

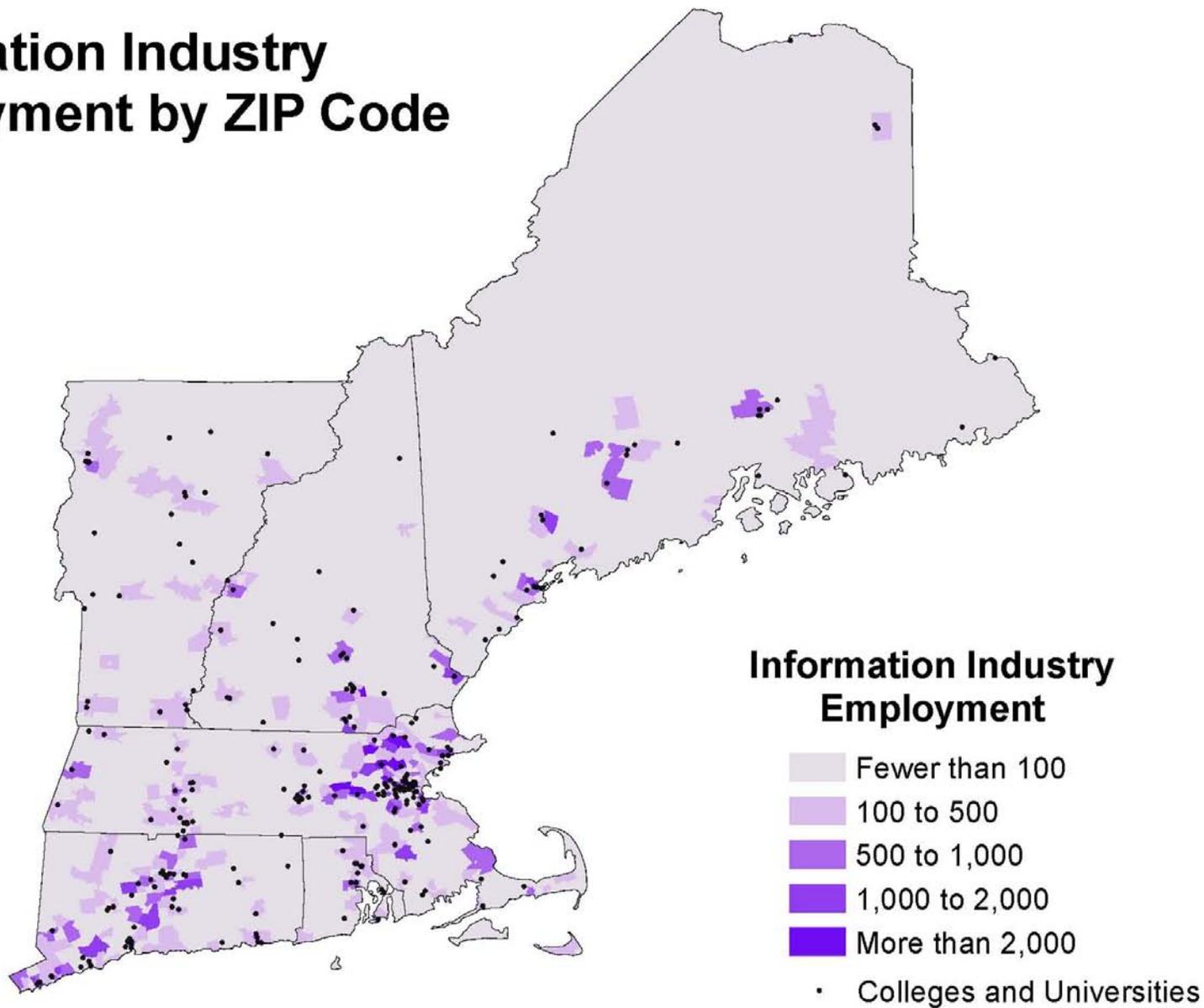
Source: NEBHE.

Colleges and Universities by Research Expenditures



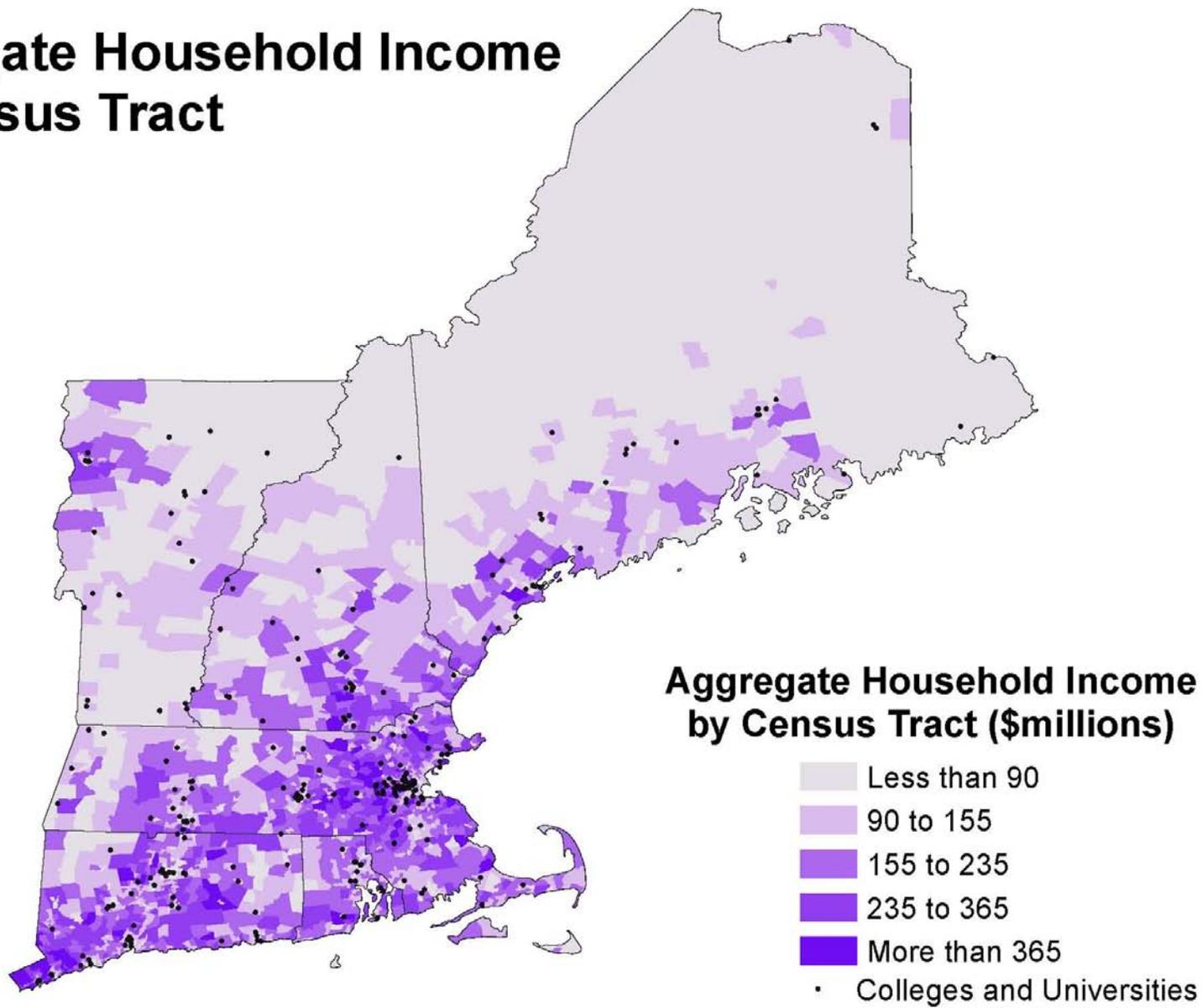
Source: NEBHE.

Information Industry Employment by ZIP Code



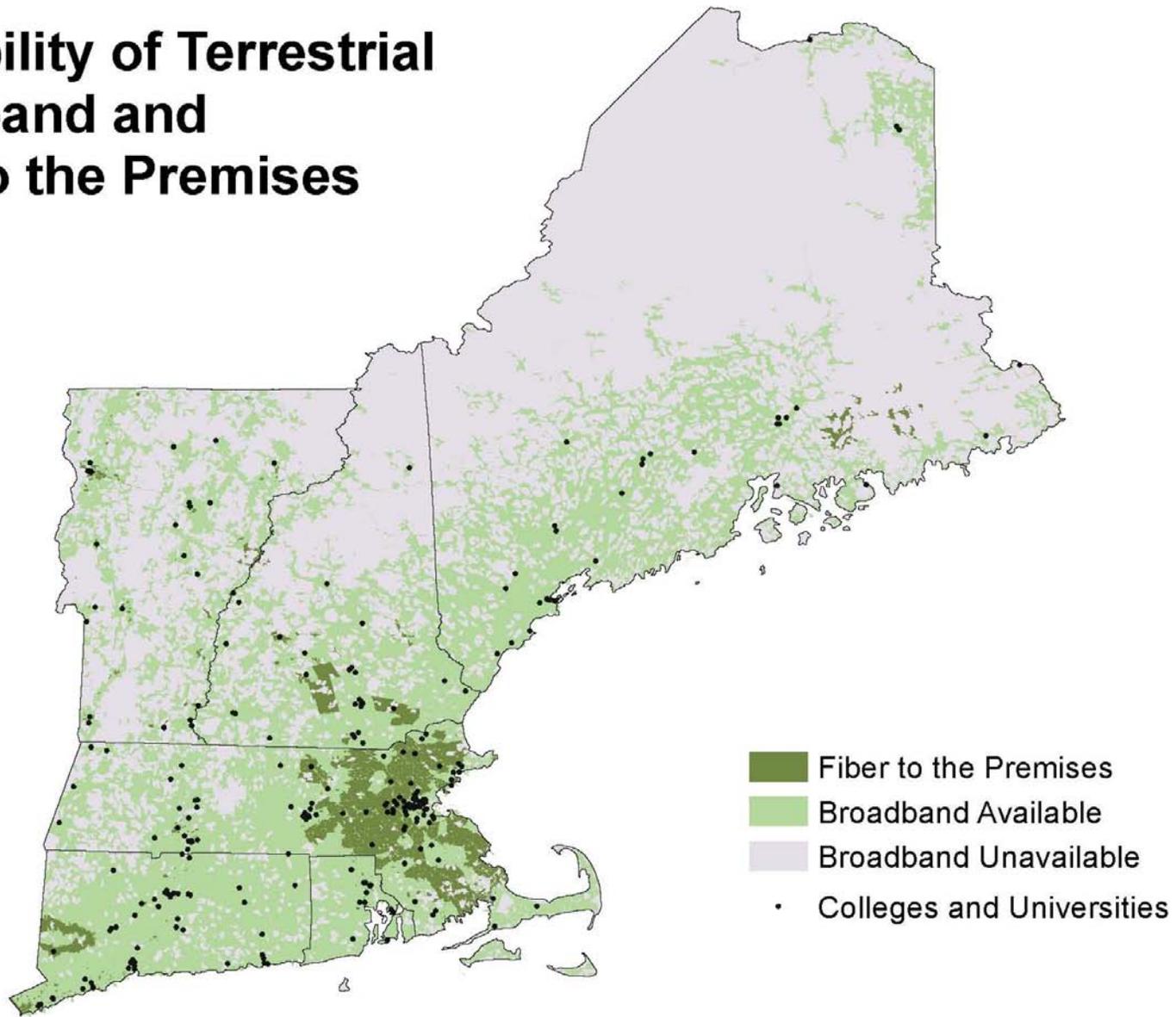
Source: U.S. Census Bureau County Business Patterns, 2009.

Aggregate Household Income by Census Tract



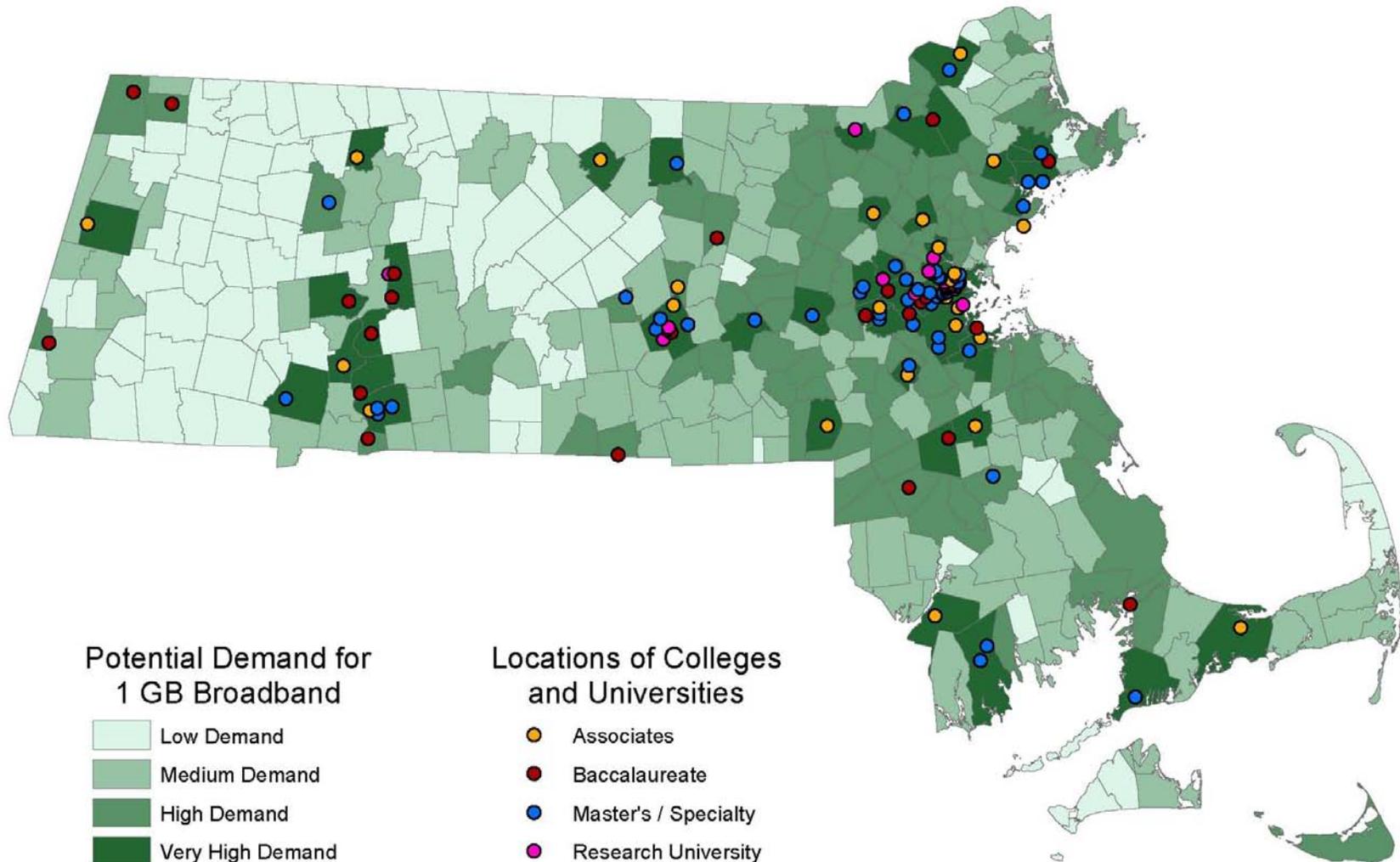
Source: U.S. Census Bureau, 2010.

Availability of Terrestrial Broadband and Fiber to the Premises



Source: National Telecommunication and Information Administration, State Broadband Initiative (December 30, 2010).

Potential Demand for 1 GB Broadband - Index 1



Potential Demand for 1 GB Broadband

- Low Demand
- Medium Demand
- High Demand
- Very High Demand

Locations of Colleges and Universities

- Associates
- Baccalaureate
- Master's / Specialty
- Research University

Conclusions

- ❖ New England colleges and universities are natural hosts for next generation broadband services.
- ❖ The surrounding communities provide excellent potential for demand.