

CONNECTING NEW ENGLAND: Cable's Impact on the Region's Economy





This report was prepared by the University of Massachusetts Donahue Institute, the public service, outreach and economic development unit of the University of Massachusetts Office of the President.

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The New England Cable & Telecommunications Association, Inc. (NECTA) is a six-state regional trade association representing cable telecommunications companies in Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont. NECTA retained the UMass Donahue Institute to conduct research, document the nature and scale of NECTA companies in each of the six New England states and analyze the contributions generated by its firms. NECTA represents the vast majority of cable companies in New England but is not representative of the entire industry. For this report, data were collected from various secondary sources as well as major NECTA member companies, which include Bee Line Cable, Cablevision, Charter Communications, Comcast, Cox Communications and Time Warner Cable.

PARTICIPATING NECTA MEMBER COMPANIES:



Bee Line Cable



OTHER NECTA MEMBERS:

Lincolntonville Communications (Maine)
MetroCast Communications
NEPSK Inc./Polaris Cable Services (Maine)
Ski Sat (New Hampshire)
TDS Telecom (New Hampshire)
Trans Video, Inc. (Vermont)
Waitsfield Cable (Vermont)
White Mountain Cablevision (New Hampshire)

SUMMARY OF KEY FINDINGS



New England's cable companies contribute significantly to the regional economy and to local communities. In 2010, cable's investment in network infrastructure and operating and payroll expenses resulted in a total contribution of \$6.85 billion in economic activity across the region. Further, between 2006 and 2010, when the region's overall economy slowed, New England's major cable companies added employees. Strong capital investments, growth in consumer demand for broadband, as well as diversified and emergent cable products and services have enabled this expansion. Finally, New England's cable companies also impact the communities they serve through philanthropic initiatives and by donating services to thousands of community institutions.

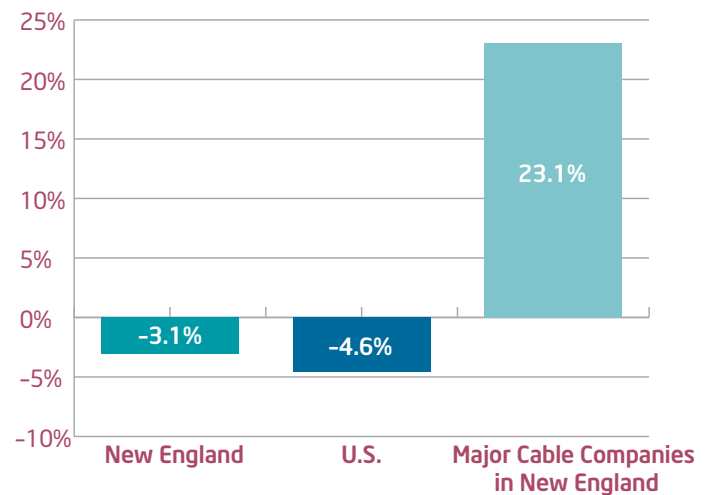
Building the foundation for economic growth

- New England's cable companies are significant broadband providers within the region, contributing nearly 60 percent of all wired high-speed lines.
- Since 2005, high-speed cable broadband lines in New England have increased at a rate of 67 percent, from 1.6 million to nearly 2.7 million in 2010.
- From 2006 to 2010, major cable companies in New England spent more than \$3.58 billion on capital improvements, \$637 million in 2010 alone, including investments in the network, head ends, customer premise equipment and vehicles. As of 2010, these investments helped support and create nearly 100,000 miles of broadband plant and almost 22,000 fiber strand miles across New England.

Bolstering the regional economy

- During a period when the overall economy slowed, the region's major cable companies grew employment by 23.1 percent from 9,908 employees in 2006 to 12,200 in 2010. During this same period, New England's overall employment decreased by 3.1 percent, and the nation's employment declined by 4.6 percent.

Change in Total Employment, 2006-2010



Source: United States Department of Labor, Bureau of Labor Statistics, Current Employment Statistics & State Departments of Labor; data collected from major NECTA firms

- Along with their own employment, New England's major cable companies support nearly 30,800 jobs, including more than 18,500 positions in other industries throughout the region.

- In 2010, spending by New England’s major cable companies and their employees generated \$6.85 billion in economic activity across the region. Direct spending by major cable companies (capital investment, operations and employee compensation) accounted for \$3.52 billion of that total, and that direct spending catalyzed an additional \$3.33 billion in spending by other industries throughout the region.
- Along with spending within the telecommunications industry, major cable companies in New England support a variety of important regional sectors, including cable programming; advertising and related services; and professional, scientific and technical services.
- In 2010, New England’s major cable companies contributed \$308.0 million in state and local taxes and \$88.5 million in franchise fees.

Supporting local communities

- New England’s major cable companies annually donate cable and broadband services worth more than \$12.2 million to nearly 11,000 schools, libraries, nonprofits, government facilities and other community institutions in their service areas.
- Additionally, in 2010 alone, New England’s major cable companies contributed more than \$17 million in cash and other in-kind support to nonprofit organizations in their local communities.

Total Economic Contributions of Major Cable Companies in New England, 2010

Direct Spending	Additional Indirect Contributions	Total Economic Contributions
\$3.52B	\$3.33B	\$6.85B

Source: Data collected from major NECTA firms, calculations by UMDI; MIG, Inc., IMPLAN System



INTRODUCTION

New England's cable companies provide the foundation for economic growth in an increasingly sophisticated economy. Connecting nearly 3.9 million residential and business subscribers, major cable companies¹ in New England are expanding technologies to provide a diverse range of video, data and voice products and services. Through investments in an increasingly expansive communications network, cable companies play a major role in growing broadband connectivity throughout the region. Major investment in the communications backbone is accompanied by ongoing investment in human capital to support the operations of the sector.

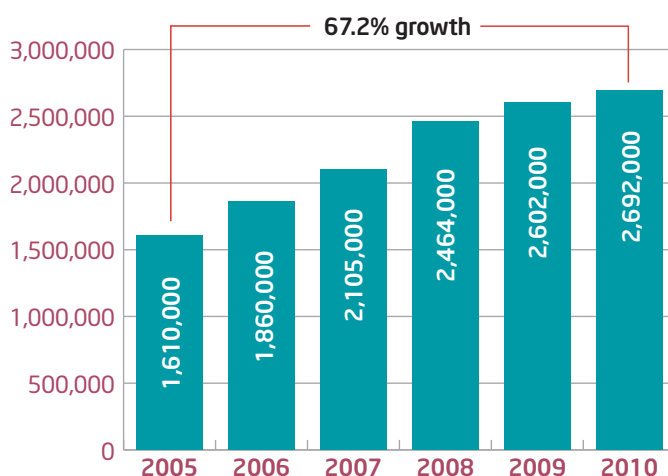
Day-to-day operations and capital investment activities have a major effect on the New England economy, contributing \$6.85 billion to the region's economy in 2010. In that same year, major cable companies employed 12,200 workers across New England and, in the last five years, their employment numbers grew significantly despite a struggling regional and national economy. While making significant economic contributions, cable companies also provide ongoing service and charitable contributions to community institutions, promoting better access to broadband and other technologies. Through their uniquely extensive and advanced broadband infrastructure, and as providers of essential communications technologies, New England's cable companies are indeed at the cutting edge, driving economic growth throughout the region.

BUILDING THE FOUNDATION FOR ECONOMIC GROWTH

New England relies on cable to connect

Broadband has revolutionized the way people live and work, and cable companies in New England are significant players in providing this crucial infrastructure to the region's economy. In response to consumer demand, the number of high-speed Internet lines in New England (including cable, DSL, mobile and FTTH) has grown explosively over the past decade, with year-over-year growth in the double digits. In 2009, there were more than 6.9 million high-speed lines, nearly 40 percent of which were cable. When considering high-speed lines supplied by strictly wired providers (without mobile), the cable sector makes up nearly 60 percent of the total.² High-speed cable broadband lines alone have increased 67 percent in the region since 2005, from 1.6 million to nearly 2.7 million in 2010.

FIGURE 1
Growth in High-Speed Cable Broadband Lines in New England, 2005–2010³

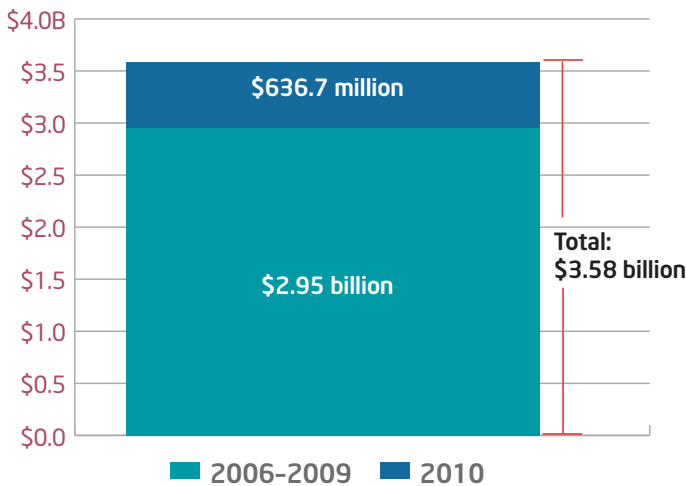


Source: Federal Communications Commission, *Internet Access Services Status as of June 30, 2010*, Table 22, <http://www.fcc.gov/wcb/iatd/comp.html>

Investing in the region’s broadband infrastructure

In response to increasing consumer demand for broadband capacity, the cable sector has been investing in critical communications infrastructure throughout the region. From 2006 to 2010, major cable companies in New England invested more than \$3.58 billion in capital improvements, \$637 million in 2010 alone, including investments in the network, head ends, customer premise equipment and vehicles. Investments accelerated through 2008 and 2009. As of 2010, these investments helped support and create nearly 100,000 miles of broadband plant and almost 22,000 fiber strand miles across New England.

FIGURE 2
Capital Investment in New England by Major Cable Companies, 2006-2010



Source: Data from major NECTA firms; adjusted to 2010 dollars by UMDI

Cable supports New England’s IT industry

With more than \$3.58 billion in capital spending over the last five years, major New England cable companies depend heavily on other information technology firms within the region to support the infrastructure so integral to their industry and the economy. Analysis of capital investment spending shows that cable companies invest heavily in all other information technology sectors. Capital spending is particularly focused on IT firms for communications, computer and plant hardware, and equipment. Major New England cable companies also spend significantly on communications infrastructure firms within the network communications sector that help build and maintain the broadband network and provide service to customers.

FIGURE 3
Top Sectors Supported by Cable Capital Investment Spending, 2010

Industry	IT Sector
Telephone apparatus manufacturing	Hardware
Wholesale trade businesses	**
Broadcast and wireless communications equipment	Hardware
Telecommunications	Network Communication
Semiconductor and related device manufacturing	Hardware
Software publishers	Software
Custom computer programming services	IT Services
Electronic computer manufacturing	Hardware

Source: MIG, Inc., IMPLAN System⁴; UMDI **Not an IT sector

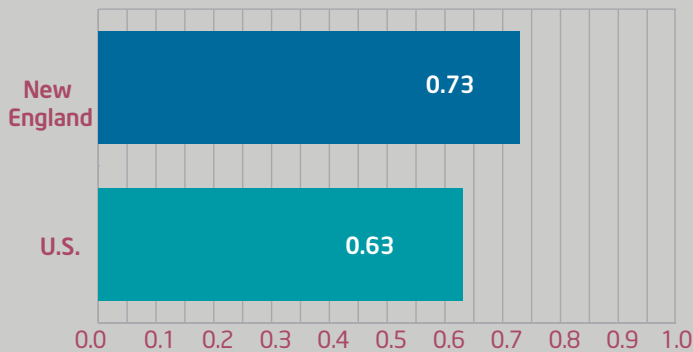


BRIDGING THE DIGITAL DIVIDE: PROMOTING BROADBAND ADOPTION IN NEW ENGLAND

Broadband subscribership in New England is above the national average

With significant growth in broadband infrastructure, New England households boast high levels of broadband subscribership. In New England in 2009, there were more than 4.1 million high-speed lines serving residential customers with about 0.73 high-speed broadband connections for every household in the region, compared to 0.63 in the nation overall.⁵

FIGURE 4
Residential Broadband Connections per Household, 2009



Source: FCC, *Internet Access Services: Status as of 12/31/2009*, Table 16, <http://www.fcc.gov/wcb/iatd/comp.html>

Expanding rural infrastructure

The **Three Ring Binder** project in Maine, a 1,100-mile fiber-optic network funded through a combination of stimulus funds and private investment, will enhance middle mile fiber access for carriers. Bee Line Cable, already serving rural communities in central Maine, anticipates

this project may provide opportunities to serve new communities and potentially decrease transfer costs on their leased fiber-optic cable down to Portland. Additionally, the **ConnectME Authority** provides grant funds for "last mile" infrastructure projects to provide high-speed Internet service to customers in unserved areas of Maine. In 2010, Time Warner Cable partnered with four towns to provide this infrastructure to 540 homes in Orrington, Sinclair, Baldwin, and Hiram, Maine.

Promoting adoption of broadband in low-income communities

Despite high levels of subscribership and the continuous development of the extensive broadband infrastructure by New England's cable companies and their competitors, in New England, the adoption of broadband remains an important public policy and economic development goal. National policy focus has been given to ensuring that all residents are able to access the economic and social benefits of broadband connectivity, particularly underserved groups like the economically disadvantaged and the elderly. In service of this broader effort, in April 2010, New England companies Cablevision, Charter, Comcast, Cox and Time Warner Cable joined other national cable providers as part of **One Economy's⁶ Digital Adoption Coalition**. The coalition is a public-private collaborative effort to bring broadband to low-income families across the United States. As the largest provider in New England, Comcast already supports several sustainable adoption programs. In Springfield, Massachusetts; Hartford, Connecticut; and Burlington, Vermont, the **Comcast Digital Connectors Program** provides digital literacy training to high school students, who in turn train others in their communities. Comcast is also providing low-cost, at-home Internet services for the **City of Boston's Technology Goes Home** initiative, a school-based, family broadband education program that will also provide training and netbooks to 5,800 families. Additionally, Comcast has established **Internet EssentialsSM from Comcast** to boost the number of low-income students using broadband in Comcast service areas. This national program will work with local school districts to offer low-income families high-speed Internet service for \$9.95 per month, computer equipment for less than \$150 and access to basic digital literacy training.

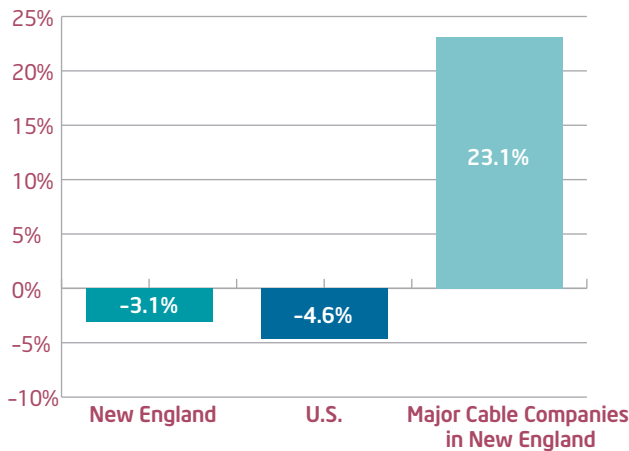
BOLSTERING THE REGIONAL ECONOMY

Cable is creating jobs

Cable companies compete as a part of a larger telecommunications industry, which includes firms that provide cable, wireline telephone and satellite distribution of voice, data, text, sound and video. In 2009, there were almost 35,000 New England workers in the larger wired telecommunications industry and, significantly, nearly 40 percent were employed by New England's major cable companies.

During a period when New England's overall economy experienced a slowdown, employment by major cable companies within the region grew 23.1 percent, from 9,908 employees in 2006 to 12,200 in 2010. During this same period, the region and the nation overall endured substantial employment losses (-3.1 and -4.6 percent, respectively). Strong capital investments, growth in consumer demand for broadband, and diversified and emergent cable products and services, including a growing business market, have enabled cable companies to expand.

FIGURE 5
Change in Total Employment, 2006–2010



Source: United States Department of Labor, Bureau of Labor Statistics, Current Employment Statistics & State Departments of Labor; data collected from major NECTA firms

Cable has a measurable impact

The cable sector contributes to the regional economy both directly and indirectly: through their spending on goods and services and ongoing capital investments; by hiring and paying thousands of employees; and through multiple forms of compensation to state and local governments. The value of major cable companies to the New England economy is illustrated by examining these key areas of spending and estimating their effects.

Total economic contributions

Major cable companies have an impressive impact on New England. Through their spending on everyday operations, capital investments and the household spending of their employees combined, these companies contributed \$6.85 billion in 2010 in economic activity across the region. Additionally, major New England cable companies reported franchise fees and taxes to state and local governments of \$396.5 million. Along with their own employment, major cable companies support almost 30,800 jobs, including nearly 18,600 in industries throughout the region.

FIGURE 6
Economic Contributions of Major Cable Companies in New England, 2010

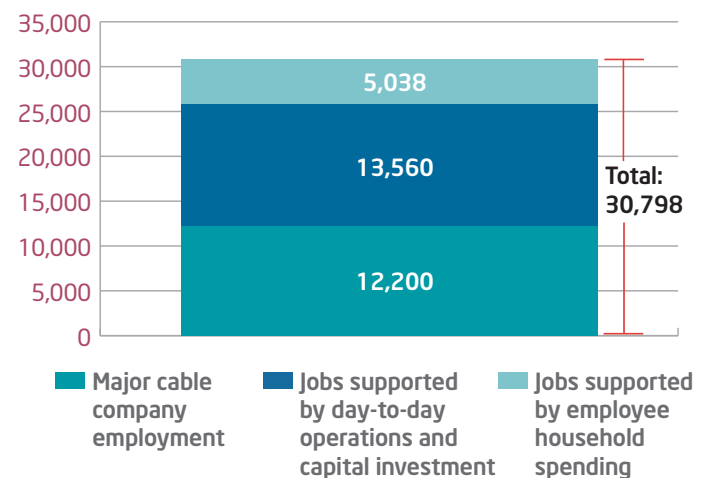
	Direct Spending	Additional Indirect Contributions	Total Economic Contributions
Operations and capital investments	\$2.67B	\$2.60B	\$5.27B
Employee compensation	\$854.1M	\$732.1M	\$1.59B
Total	\$3.52B	\$3.33B	\$6.85B

	Franchise Fees	State and Local Taxes	Total
State and Local Taxes and Fees*	\$88.5M	\$308.0M	\$396.5M

Source: Data collected from major NECTA firms, calculations by UMDI; MIG, Inc., IMPLAN System

Note: Numbers may not add due to rounding. *Includes subscriber-paid taxes. There are no franchise fees in Connecticut or Rhode Island.

FIGURE 7
Employment Contributions of Major Cable Companies in New England, 2010



Source: Data collected from major NECTA firms, calculations by UMDI; MIG, Inc., IMPLAN System

Major areas of spending

Spending to New England firms

In 2010, major New England cable companies spent \$2.67 billion on day-to-day operations and investing in telecommunications infrastructure projects across New England. This operating and capital spending catalyzed an estimated \$2.60 billion of additional economic activity in firms throughout the region. In addition to spending within the telecommunications industry, major effects are also seen in cable and other subscription programming; advertising and related services; and professional, scientific and technical services, as shown in the table to the right. This spending also supported more than 13,500 jobs in these and other sectors.

Employee spending

In 2010, major New England cable companies employed 12,200 people in the region with a combined payroll of \$854.1 million. The household spending of these employees contributed to an additional \$732.1 million in economic activity and supported more than 5,000 additional jobs in other industries throughout the region.

FIGURE 8
Top Sectors Supported by Major Cable Company Spending on Operations and Capital Investment, 2010

Telecommunications	\$412.1M
Cable and other subscription programming	\$129.8M
Advertising and related services	\$92.4M
All other miscellaneous professional, scientific and technical services	\$87.6M
Architectural, engineering and related services	\$87.2M
Real estate establishments	\$80.2M
Wholesale trade businesses	\$62.7M
Motion picture and video industries	\$61.8M
Telephone apparatus manufacturing	\$54.4M
Accounting, tax preparation, bookkeeping and payroll services	\$49.6M

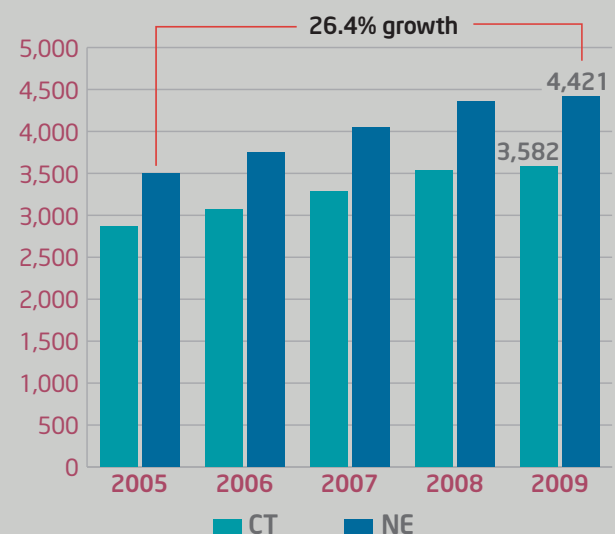
Source: Data collected from major NECTA firms, calculations by UMDI; MIG, Inc., IMPLAN System

NEW ENGLAND'S MAJOR CABLE COMPANIES SUPPORT KEY INDUSTRIES

New England has a small but robust cable programming and production sector, and major cable companies across New England spent nearly \$130 million in this sector. In 2009, this sector had 4,421 jobs across the region and grew by more than 25 percent in the last five years. The vast majority of these jobs, nearly 80 percent in 2009, are based in Connecticut.



FIGURE 9
New England Employment in Cable and Other Subscription Programming Firms, 2005–2009



Source: United States Bureau of Labor Statistics, Quarterly Census of Employment and Wages for NAICS Industry 515210, the Cable Programming Industry

Contribution to state and local revenues

The cable sector contributes to government coffers, through not only state and local taxes but also through franchise fees. In 2010, major cable companies paid \$308.0 million in state and local taxes (this includes subscriber-paid sales tax). They also generated \$88.5 million in franchise fees across New England for a total of \$396.5 million directly supporting state and local governments.

Responding to the demands of a new economy: Cable innovation in New England

Home and business uses of data are proliferating, and the demand for lightning-fast connection speeds and capacity is growing in step, spurring cable innovation. Regional speeds are some of the nation's best, invigorating business and home uses that push economic advancement. Ongoing infrastructure investments by New England's major cable companies have contributed to the region's enviable data speed capacity. Collectively, New England states consistently rank in the top ten for connection speeds according to Akamai Technology's quarterly *State of the Internet* report.⁷ Recent data show that on average, the United States had a measured connection speed of 5.0 mbps. Rhode Island, Vermont, New Hampshire and Massachusetts averaged 6.3, 6.2, 6.1 and 5.9 mbps, respectively, ranking fourth through seventh in the United States overall. The improved speed and capacity allow for additional innovation at work and in the home. While enabling cable's traditional entertainment market to expand with new technologies such as high-definition television, digital video recording and 3D television, cable companies are also leveraging broadband's new speeds to foster groundbreaking new services and products that launch businesses and residential consumers into the new economy.

Growing markets for cable companies

The increasing needs of residential and business customers for connectivity and customized services are leading to growth in new markets for cable companies.

Telecommuters

Cable broadband increasingly connects employers to their employees and contractors remotely. According to the United States Census Bureau,⁸ nearly 4.3 percent of New Englanders work from home, in contrast to the national share of 4.1 percent of workers. Increased broadband availability, along with other business-focused cable innovations, are helping to support this wave of home offices for the self-employed and telecommuters. Select cable companies in New England are also taking advantage of their networks' speed and remote access technologies and, increasingly, are giving employees, like customer care representatives, the opportunity to work from home.

Small businesses and microbusinesses

Small businesses drive regional economies.

A November 2010 survey⁹ for the United States Small Business Administration revealed that for the majority of small business respondents (54.7 percent) in the Northeast (New England with New York, New Jersey and Pennsylvania), high-speed cable is the dominant means for the provision of broadband services. In contrast to the rest of the nation, where high-speed cable connects only between a quarter and a third of small businesses, small businesses in the Northeast are highly reliant on the services of cable operators.

Further, recent work suggests that microbusinesses¹⁰ are essential to regional economic growth¹¹ and, no doubt, these businesses have been highly impacted by broadband expansion. These businesses are important in New England: In 2008, 17.9 percent of New England workers were employed by a microbusiness. Given the general reliance of small business on cable broadband in New England, it is clear that these extra-small businesses are relying heavily on cable companies to help connect them to their customers.



Large and institutional customers

Major cable companies are tailoring products and services to large business clients with industry-specific customization needs. Growing emphasis on increasing health care efficiencies has led to strong relationships in that industry. Cable is customizing private networks that connect hospitals, doctors' offices and labs with increased bandwidth and greater data speeds to meet the growing needs of its users.

Innovative products and services

Building on faster speeds and increased broadband capacity, the following are examples of new products and services provided to residential and large and small business customers.

Mobile and wireless

Consumers are demanding access to products and services on the go, and the cable sector is responding with new mobile and wireless options. Cable companies in New England are entering new product markets by adding additional services to the bundling trend, like wireless phones, as well as upgrading their established markets by providing online and portable access to their bread-and-butter digital subscription television services.

Home security

Advancing technologies have enabled cable companies to enter entirely new markets. Home security products are being tested in select New England markets by major cable companies, which include a Web portal, mobile applications, and text and e-mail alerts, and utilize both broadband and cellular technology.

VoIP

A significant share of New Englanders use Voice over Internet Protocol, or VoIP, for their residential voice service (28.1 percent), and businesses are starting to convert to this technology. The most recent Federal Communications Commission report¹² finds 2.6 percent of New England businesses have migrated to digital phone service from their traditional switched service, a rate slightly lower than the United States overall (3.1 percent).

Data storage services

Beyond voice and data, new technology innovations like cloud computing are enabling cable companies to provide more comprehensive and sophisticated data storage solutions for businesses, including disaster recovery, data backup, data protection, security and connectivity to accompany their growing suite of business products and services.

SUPPORTING LOCAL COMMUNITIES

Through philanthropic giving, unique local programming and targeted educational initiatives, major cable companies are helping to build stronger communities in New England.

Philanthropic giving

In 2010, major New England cable companies provided nearly 11,000 schools, libraries, nonprofits, government facilities and other community institutions in their service areas with donated cable and broadband services with an estimated value of more than \$12.2 million. Additionally, in 2010, New England's major cable companies report contributions of more than \$17 million in cash and in-kind support to nonprofit organizations in their local communities. In a tight fiscal climate, cable companies are providing valuable support to help sustain critical community institutions.

FIGURE 10
Philanthropic Activity by Major Cable Companies in New England, 2010

Cash contributions	\$3.3M
In-kind contributions	\$13.8M
Voice, video and data broadband services (estimated value)	\$12.2M
Total	\$29.3M

Source: Data collected from major NECTA firms; calculations by UMDI



Serving local communities with regional programming

Almost universally, major cable companies provide unique local content to their customers in the form of sports coverage, regional politics and public interest programming through the traditional video medium and, increasingly, enhanced online content. In Connecticut, **Cablevision's MSG Varsity Initiative** partners with students and teachers in its Connecticut service areas to produce both professional and student-generated news content focused on high school sports, academics and activities on a dedicated television and online network. In addition, **Cablevision's News12** provides 24-hour local news coverage in its Connecticut service areas, including updated local weather and traffic conditions. In Rhode Island, **Cox Sports** provides its Rhode Island and Connecticut service areas with coverage and original programming on the local and regional sports scene. From *Varsity Life*, the network's weekly program on Rhode Island's high school athletes to *Friars All Access*, a new program in 2011, providing a behind-the-scenes look at all things Providence College Men's Basketball, Cox is tailoring its local programming to its region. In Massachusetts, **Charter Communications' WCTR TV3** provides Central Massachusetts with news, sports and other local programming, including *Worcester News Tonight*, a twice-nightly live news program, as well as other community programming like the *Commonwealth Report*, hosted by Lt. Governor Tim Murray from the State House. **Comcast Sports Network New England** features New England-centric comprehensive sports programming for local, regional and national events of interest, including both college and professional coverage. Both on TV and online, Comcast has rolled out this regional sports-focused programming in 11 areas of the country, including New England. Also New England-wide, **Comcast's New England Cable News (NECN)** is the largest 24-hour regional news network in the country. Along with its Newton, Massachusetts-based studios, NECN maintains local news bureaus in Hartford, Connecticut; Manchester, New Hampshire; Burlington, Vermont; and Worcester, Massachusetts. In Maine and New Hampshire, **Time Warner Cable** customers watch the Portland Pirates and the Maine Red Claws, along with select local high school sports, on **Time Warner Cable Sports**.

Connecting and engaging 21st-century learners and leaders

New England's major cable companies have established numerous programs to improve students' technological literacy and to prepare them to be future leaders and innovators in an information-based economy. **Cox Charities New England** has focused its community grant program on outcomes-based academic after-school programming for middle-schoolers. Past grantees have included the College Crusade of Rhode Island, City Year Rhode Island and the Boys and Girls Clubs of Pawtucket and Warwick, among others. Since 2003, in its largest national partnership, **Comcast** supports **City Year's** recruitment of young people for a full year of community service, leadership development and civic engagement. At its New England sites, City Year volunteers are working in schools as mentors and role models. Over the next year, **Cablevision's Power to Learn** initiative will be raising awareness about cyberbullying. Partnering with schools and Boys and Girls Clubs, the campaign includes public service announcements, town hall meetings on local television channels and events in schools to educate teachers, students and parents on identifying, preventing and responding to cyberbullying. **Charter's** national **Get Hooked on Education** initiative provides a resource for families on media literacy. Additionally, in its New England service areas, Charter sponsored events to provide the **DIGIKIDS® Child ID Program**, providing parents and authorities with the digital tools needed to respond quickly to a missing child. **Time Warner Cable**, through its **Connect a Million Minds** initiatives, supports STEM (science, technology, engineering and math) programs in its service areas. The initiative includes support for programs like the Coastal Studies for Girls Program in Freeport, Maine, the Annual Maine Engineers Expo at the University of Maine, the traveling Maine Discovery Museum and New Hampshire's Mt. Washington Valley Regional Science and Technology Fair for middle- and high-school students.



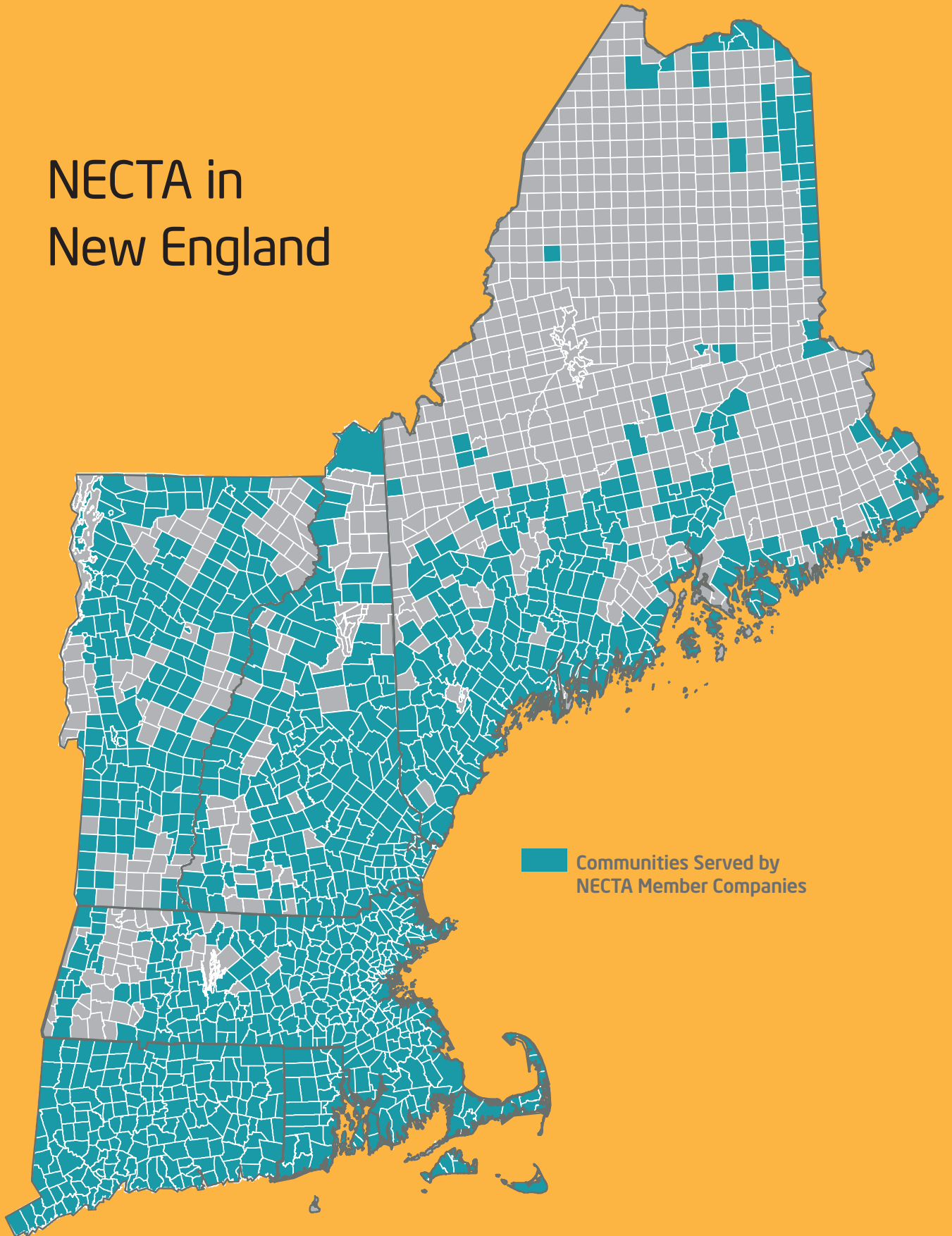
CONCLUSION

New England's cable companies support the regional economy in many ways. They are significant employers, and through their day-to-day operations, their massive capital investment and the spending of their thousands of employees, these companies contribute \$6.85 billion to New England's economy. Their diverse service offerings are expanding to meet the demands of hundreds of thousands of their residential and business customers. Major cable companies are leaders in building the region's broadband infrastructure, and their investments support IT and other industries across the region. No less important, they are making further contributions to the communities they are serving through their philanthropic initiatives and by donating services to thousands of community institutions. As data demands change and increase, cable companies will continue to dynamically adapt, providing cutting-edge technology to residences and businesses and providing the connectivity to support and grow the region's economy.

ENDNOTES

- ¹ For the purposes of this study, major cable companies are defined as those NECTA cable companies that provided data for this study, and not necessarily all cable companies present in a region. Therefore, analysis of the employment and economic contributions of major cable companies to the region represents a conservative estimate. In New England, these companies include Bee Line Cable, Cablevision, Charter Communications, Comcast, Cox Communications and Time Warner Cable.
- ² Federal Communications Commission (FCC), *Internet Access Services Status as of June 30, 2010*, <http://www.fcc.gov/wcb/iatd/comp.html>.
- ³ Due to data suppression by the FCC, Rhode Island data is not included in the totals and Vermont data from 2005–2007 is not included. Therefore, this data represents a conservative estimate.
- ⁴ MIG, Inc., IMPLAN System (2008 data and Version 2 software), 1725 Tower Drive West, Suite 140, Stillwater, MN 55082, www.implan.com, 1997.
- ⁵ This does not mean that 73 percent of all households have broadband service since some households may have more than one connection.
- ⁶ See <http://www.one-economy.com>.
- ⁷ Akamai Technologies, Inc. *The State of the Internet*, 3rd Quarter 2010, Vol.3, No.3, p.19.
- ⁸ U.S. Census Bureau, American Community Survey, New England Division, Selected Economic Characteristics, 2007–2009, <http://factfinder.census.gov>.
- ⁹ *The Impact of Broadband Speed and Price on Small Business*, Columbia Telecommunications Corporation, November 2010.
- ¹⁰ A microbusiness is defined as having five or fewer employees, minimal start-up capital and limited access to commercial loans.
- ¹¹ *Number of Microbusinesses and Employment Levels by State, 2008*; compiled by James C. McConnon, Jr., Extension Business and Economics Specialist and Professor of Economics, University of Maine; <http://umaine.edu/soe/files/2010/08/Micro-business-Data-State2003.pdf>.
- ¹² Federal Communications Commission, *Trends in Telephone Service, 2010*, Table 8.6, <http://www.fcc.gov/wcb/iatd/trends.html>.

NECTA in New England





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