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## **BROADBAND SERVICE PROVISION**

### **Description:**

Broadband service is high-speed internet connection through wires. The goal of universal broadband access is to provide a high-speed internet connection to everyone, even in rural areas, regardless of economic status. Basic broadband delivers data to the customer at least five megabits per second downstream, and at least one megabit per second upstream. Advanced broadband delivers data at least 45 megabits per second downstream and at least 15 megabits upstream per second. Advanced wireless broadband delivers data at least three megabits per second downstream and at least one megabit per second upstream over an internet protocol wireless network.

Two keys to the success of broadband service are its availability and its use by community residents, including older people and people with disabilities—for example, internet technologies have an impact on both these populations socially, economically, and with health care issues. Educating older adults and younger people with disabilities about the benefits of broadband internet use is key to their adoption and use of current technologies. Access can be through the home, the senior center, community center, or the public library. In addition, the availability of broadband service supports the provision of health care services in rural areas. For example, rural providers rely heavily on the Internet for health and medical information, and rural nurse practitioners use the Internet for clinical information and for taking needed educational courses through on-line learning venues.

The federal economic stimulus plan included nearly \$179.9 million to upgrade New York's internet broadband services in areas not currently covered. The focus of the New York State Universal Broadband Initiative is to ensure that every New Yorker has access to affordable, high-speed broadband. This also includes infrastructure development, digital literacy, economic development, and online government services. The U.S. Department of Agriculture's Rural Utilities Service program included \$2.5 billion in loans and grants to target rural areas. The National Telecommunications Information Administration administers the Broadband Technology Opportunities Program, and has approximately \$4.7 billion targeted to assist vulnerable populations (such as frail elderly persons and unemployed individuals of all ages).

### **Benefits:**

*For older people and younger-aged people with disabilities:*

- When older adults and people with disabilities are educated about the personal benefits of broadband-enabled technologies, they can use these resources to live

healthier and more independent lives, stay connected to families and friends, and have greater access to amenities, supportive services, and medical care.

- Internet use can enhance social and civic engagement and decrease social isolation. Communicating via the internet can be cheaper and more convenient than long-distance phone calls. Web-cams can allow both a visual and audio connection, to enhance the experience of visiting and communicating with family and friends.
- Using the internet for reading daily papers, composing emails, working crossword and Sudoku puzzles, engaging in on-line brain-building exercises, doing personal research, playing games, and many other activities stimulates the brain, promotes mental sharpness, and helps maintain cognitive abilities throughout the aging process.
- High-speed broadband access will support the ability of older adults and younger individuals with disabilities to maintain or extend their working careers. For example, those who are semi-retired or who engage in freelance work (as a first or second career) can enjoy the benefits of telecommuting with increased flexibility.

*For caregivers:*

- Internet use provides an affordable, effective tool for caregivers to communicate regularly with their elderly or impaired family members—regardless of the geographic distance between them. Such regular contact helps caregivers keep abreast of the physical, emotional, and cognitive status of their family members, thereby reducing the daily worry about the safety and well-being of those family members.

*For the wider community:*

- The internet can have an impact on small-business creation, as the associated start-up and operating costs of web-based businesses are dramatically lower than traditional bricks and mortar businesses.
- Using the internet for personal financial management tasks and for conducting routine daily activities can have a positive personal economic impact for community residents, including older adults and people with disabilities<sup>1</sup>—for example, residents can monitor retirement accounts, track investments in stocks and bonds, conduct online banking, and pay bills. Without leaving their homes, residents can research and purchase prescription drugs, manage health care benefits, choose doctors and hospitals, research symptoms and treatments of illnesses, and communicate with their health care professionals. They can do their grocery shopping, make appointments, arrange travel plans, download books and videos, and many other activities from the comfort and security of their homes—and at any hour of the day or night.

- High-speed broadband service offers the potential to significantly enhance the provision and efficiency of health and long-term care services, as well as reduce costs—for example, replacing traditional record-keeping methods with electronic medical record-keeping, and taking advantage of new health care technologies such as telemedicine and in-home monitoring technologies, which are transforming how diagnoses are made, services are provided, patients are monitored, and communications are increased between patients and health care providers.
  - Many of these changes allow residents to take a much more active role in their own health care, including personally interacting with health care providers directly from their own homes. Patients of all ages and disabilities whose conditions require daily monitoring are now able to download the data from their monitoring equipment from the privacy and comfort of their homes, reducing the hours and cost of in-home aides or saving the cost of nursing home care.
  - Telemedicine and in-home care technologies have three important, and increasing, audiences: the older adult or person with a disability, who can enjoy prolonged independence; families or caregivers, who want the security of knowing their loved one is in good hands; and the health care staff, who can monitor the patient continually to identify concerns.<sup>2</sup>
- Broadband service can keep a community's residents safer; for example:
  - Real time information and intelligence can be shared with first responders by adding wireless computers to patrol cars to improve emergency and day-to-day communications.
  - Emergency 911 services can be extended to rural or remote areas that formerly were without coverage.
- Internet use provides an effective means for a community's residents to follow and have an impact on politics at the local, state, and federal levels. State and local governments can provide better and more cost-efficient services through internet access so that all "e-citizens," including older adults, people with disabilities, and homebound individuals, can be full participants in the information age and can be more fully active and involved in their communities.

**Impediments or barriers to development or implementation:**

- Service gaps:
  - There are gaps in broadband service provision across New York State, especially in the rural regions.
  - Vision and leadership are required to make the right business decisions to bring broadband service to rural and remote areas, where the cost of extending the necessary infrastructure is prohibitive. For example, a service company would not see a good return on their investment in rural areas with small populations.

- Limited resources:
  - State and local governments may have insufficient resources to dedicate to closing the “digital divide”; collaborations between public and private entities can be successful and should be encouraged.
- “Gray gap”:
  - Internet awareness and use are higher among younger seniors compared to older seniors (the so-called “gray gap”). Older seniors, particularly those who do not live in their own homes, remain more skeptical of the internet's use and benefits and they are less likely to own their own computer. The relative high cost of computer hardware and software, coupled with broadband service availability, also impedes internet usage.<sup>3</sup>

### References:

<sup>1</sup> Charles M. Davidson and Michael J. Santorelli (December, 2008), *The Impact of Broadband on Senior Citizens*, pp. 16-19. Washington, DC: U. S. Chamber of Commerce.

[http://www.nyls.edu/user\\_files/1/3/4/30/83/BroadbandandSeniors.pdf](http://www.nyls.edu/user_files/1/3/4/30/83/BroadbandandSeniors.pdf).

<sup>2</sup> Ibid, pp. 20-23.

<sup>3</sup> Ibid, pp. 9-10.

### Resource—statutory authority:

The Federal *American Recovery and Reinvestment Act of 2009*: for the fiscal year ending September 30, 2009 supplemental appropriations were made for job preservation and creation, infrastructure investment, energy efficiency and science, assistance to the unemployed, and state and local fiscal stabilization.

<http://www.recovery.gov/Pages/home.aspx>.

### Resource—examples:

- The Veteran’s Administration (VA) has been using telemedicine services for over 30 years for in-home and outpatient settings, using VOIP (voice over internet protocol), internet, and broadband. The VA’s home telehealth program cares for 35,000 patients and is the largest of its kind in the world. A recent study<sup>4</sup> by the VA of 17,025 of its home telehealth patients found a 25 per cent reduction in the average number of days hospitalized and a 19 per cent reduction in hospitalizations for those patients using home telehealth. Findings also showed that, for some patients, the cost of telehealth services in their homes averaged \$1,600 a year – much lower than in-home clinician care costs.
- Today, between 700-800 telemedicine networks are functioning. In Binghamton, New York, telemedicine is used in virtual pediatrics in Binghamton, New York, and is used for diabetes control in Ohio, Virginia, and Pennsylvania. Within the next five years, major hospitals will be conducting their internal “in-

take to discharge" functions electronically, using patient-carried "Smart Health Cards" (which is now being done in Europe).

**Reference:**

<sup>4</sup> Larry Scott (January 9, 2005), "VA Data Show Home Health Technology Improves Access to Care," *VA Watchdog dot org*.

Also: U. S. Department of Veterans Affairs (January 5, 2009), "VA Data Show Home Health Technology Improves Access to Care," *News Release*. Washington, DC: U. S. Department of Veterans Affairs, Public and Intergovernmental Affairs:

<http://www1.va.gov/opa/pressrel/pressrelease.cfm?id=1637> ; also:

<http://www.va.gov/opa/pressrel/docs/telehealth.doc>.

**Resource—written and web:**

- 111<sup>th</sup> Congress, 1<sup>st</sup> Session: *American Recovery and Reinvestment Act of 2009* (for the fiscal year ending September 30, 2009), which provides supplemental appropriations for: job preservation and creation, infrastructure investment, energy efficiency and science, assistance to the unemployed, and state and local fiscal stabilization: [http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=111\\_cong\\_bills&docid=f:h1enr.pdf](http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=111_cong_bills&docid=f:h1enr.pdf).
- United States Department of Agriculture, Rural Development Office—*Telecommunications Program*, "Welcome to the Rural Development Telecommunications Program": provides financing programs for rural telecommunications infrastructure (Broadband Program, Recovery Act Broadband, Distance Learning and Telemedicine, Telecom Infrastructure program): <http://www.usda.gov/rus/telecom/index.htm>.
- Chief Information Officer, New York State Office for Technology:
  - New York State Broadband Development and Deployment Council, established by Executive Order #22, June 8, 2008: <http://www.cio.ny.gov/assets/documents/executive%20order.pdf>.
  - New York State Council for Universal Broadband (June, 2009), *Connecting New York to the World for Sustainable Adoption: New York State Universal Broadband Strategic Roadmap*. Albany, NY: New York State Office of Technology: [http://www.nysbroadband.ny.gov/assets/documents/Final\\_Broadband\\_Strategy\\_June2009.pdf](http://www.nysbroadband.ny.gov/assets/documents/Final_Broadband_Strategy_June2009.pdf).
- Charles M. Davidson and Michael J. Santorelli (December, 2008), *The Impact of Broadband on Senior Citizens*, A Report to the U. S. Chamber of Commerce, pp. 16-19. Washington, DC: U. S. Chamber of Commerce. [http://www.nyls.edu/user\\_files/1/3/4/30/83/BroadbandandSeniors.pdf](http://www.nyls.edu/user_files/1/3/4/30/83/BroadbandandSeniors.pdf).

- United States Department of Agriculture, Rural Development: provides financing programs for rural telecommunications infrastructure:  
<http://www.usda.gov/rus/telecom/index.htm>.
- Amy K. Glasmeier, Ph.D., Chris Benner, and Chandrani Ohdedar (May, 2008), *Broadband Internet Use in Rural Pennsylvania*. Harrisburg, PA: The Center for Rural Pennsylvania, Pennsylvania General Assembly. A report of research, conducted in 2005–2006, employing case studies to provide a qualitative description of how four sectors (healthcare, local government, education, and business) in rural Pennsylvania are using broadband Internet technology, and determining whether these sectors were engaging in transactional or transformational uses of the Internet.  
<http://www.rural.palegislature.us/broadband2008.pdf>.