

Introduction

Broadband access has become vital to life and commerce in America. Individuals, businesses, government agencies, healthcare providers and educational institutions all rely on it as an efficient and effective platform for communicating and conducting business. It has enabled significant prosperity already, and it will be a key element determining our continued competitiveness in the global economy. But while we have seen solid deployment and adoption of broadband in America so far, ***we still have a long way to go to achieve our goal: universal availability and adoption of truly high speed connections.***

The private sector has made great progress in creating and deploying ever-faster networks, and competitive markets must continue to lead. But there is an important role for government, particularly as we seek to address the gaps in deployment and adoption so often defined by demographics and geography. Similarly, the exponential explosion of digital content means that today's broadband is tomorrow's traffic jam, and policy needs to address and accommodate this rising exaflood.

The Internet Innovation Alliance believes it is time for our leaders to offer and embrace a National Broadband Strategy, a coherent set of policies and goals that complement and accelerate the efforts in the marketplace to achieve universal adoption of high speed Internet. Working together, public and private leaders can restore U.S. primacy in Internet technologies and ensure the benefits of true broadband reach all Americans within 10 years.

The Benefits of Broadband

Like many transformative technologies, broadband is the subject of significant hype and hyperbole. Subscribers may be disappointed to find that upon their adoption of broadband, they are not instantly healthier, smarter, happier and more successful. As with any enabling platform, broadband is a part of a solution that has many parts, and how users leverage the platform is the critical question. But while it often takes work, the benefits of broadband are indeed extraordinary. Among the benefits more recently identified:

- A 7% increase in broadband adoption could result in **\$134 billion per year in total direct economic benefit** to the American economy.¹
- For every 1% increase in broadband adoption, **293,000 jobs are created** in the private sector.²
- Broadband-based remote monitoring for all chronically ill patients could reduce hospital, outpatient, and drug expenses by 30% -- **reducing overall health care expenses for the US by roughly 25% or about \$350 billion annually.**³

¹ "The Economic Impact of Stimulating Broadband Nationally," ConnectedNation, February 2008.

² "The Effects of Broadband Deployment on Output and Employment," Brookings Institution, June 2007.

³ Robert E. Litan, "Massive Economic Benefits Foreseen: Ultra-fast Telemedicine and Telecommuting Can Save Money and Improve Quality of Life," February 2006.

- Telecommuting could reduce government transportation spending by \$3,000 per worker who telecommutes⁴
- “For every extra kilowatt-hour of electricity that has been demanded by ICT [such as broadband], the U.S. economy increased its overall energy savings by a factor of about 10.”⁵

Broadband Access in the United States

More and more Americans at home and work now have broadband Internet access. During the 12-month period ending December 31, 2006, FCC data shows that the number of home broadband lines continued to rise sharply to 58.2 million, a 32 percent increase from the year before.⁶ The total number of broadband lines, residential and business, climbed to 82.5 million by the end of 2006.

Broadband adoption rates vary significantly based on several demographic factors. There is a direct relationship between income and educational attainment and broadband uptake. Some 70 percent of households with annual income in excess of \$75,000 had a broadband connection in their home in 2007 compared to 30 percent of households with annual income of less than \$30,000. Twenty-one percent of American adults who did not complete high school reported a home broadband connection in early 2007, compared to 34 percent of high school grads and 70 percent who had earned a college degree.

There is also an inverse relationship between one’s age and broadband adoption. Only 15 percent of Americans age 65 or older reported a home broadband connection, compared to 63 percent in the 18-29 age group, 59 percent for 30-49 year olds, and 40 percent for those between age 50 and 64. White Americans are more likely than Blacks to enjoy a home broadband connection, though the gap (48-40 percent) has narrowed substantially in recent years. In 2005, only 14 percent of Black Americans had broadband in their home, compared to 31 percent of Whites.

Another significant challenge to broadband adoption is geography. As a result of lower linear population density and higher deployment costs, rural broadband penetration inevitably lags urban and suburban rates. Indeed, rural broadband penetration rates are just half of urban and suburban rates. According to the Pew Internet and American Life Project, broadband connections broke down as follows as of early 2007⁷:

- 31% percent of all rural households had broadband.
- 49% of all suburban residents had home broadband.
- 52% of urban Americans reported broadband in their homes.

⁴ George Washington University Center for Economic Research, 2005.

⁵ “Information and Communication Technologies: The Power of Productivity,” ACEE, February 2008.

⁶ “High-Speed Services for Internet Access: Status as of December 2006,” FCC, October 2007

⁷ “Home Broadband Adoption 2007,” Pew Internet and American Life Project, June 2007 (all demographic breakdowns cited here for home adoption are from Pew data)

Policy makers at the local, state and federal levels have tried various means to encourage more rapid rural broadband roll-out and uptake. Congress has devoted \$1.2 billion towards Rural Utility Service loan guarantees, though carriers have only a portion of those funds for deployment projects so-far. The Federal Communications Commission awarded \$417 million in grants to expand broadband Internet access to rural medical facilities over three years, as part of a pilot program aimed at extending broadband access lines to about 6,000 hospitals, research centers, universities and clinics in isolated areas, most of which still rely on dial-up Internet access. Some have discussed leveraging the Universal Service Fund, which currently subsidizes telephone service for high cost and low income areas.

One of the highest profile efforts at rural deployment has come from a public-private partnership called Connect Kentucky, which boosted broadband availability 58% and broadband usage 100% in the four years since the program started in the Bluegrass State. These increases were a result of a minimal public investment of approximately \$7 million and private investment for broadband build out of more than \$800 million.⁸ Other states are launching similar programs with great success.

A Call for a National Broadband Strategy

We must take appropriate steps now to ensure we are prepared as a country to capitalize on the great economic, cultural and social opportunities presented by the broadband platform. The benefits are undeniable and compelling. It is time to act.

Whereas accelerating broadband deployment spurs new job creation, new product innovation and broad economic growth;

Whereas broadband access increases educational opportunities and offers a platform for higher quality and lower cost health care;

Whereas broadband usage can help reduce energy intensity and environmental impacts from alternative activities;

Whereas broadband enables enhanced communication for everyone, particularly disabled and home bound people;

The Internet Innovation Alliance hereby calls for creation and enactment of a National Broadband Strategy. Such a Strategy must include efforts on both the supply side (promoting broadband deployment and access) and the demand side (encouraging broadband adoption and addressing gaps in understanding). We recommend that national leaders include the following policies to achieve our goal of universal adoption of true broadband by 2018.

⁸ “Technology for Stronger Communities and Open Markets” Connected Nation, 2007.

SUPPLY SIDE: PROMOTING BROADBAND DEPLOYMENT

- **Improve information to the market** to help policy makers, consumers and competitors make more informed decision.
 - Redefine broadband. The FCC should maintain a robust and dynamic multi tiered definition of broadband to help consumers better understand market offerings, especially as technologies evolve and market conditions change.
 - Enact Connected Nation legislation. Congress should enact and assist in funding a nationwide mapping initiative that emulates the success of ConnectedNation in identifying Census-block-level information on broadband availability, market offerings, trends and gaps.
- **Promote competition across multiple platforms.**
 - Minimize regulatory obstacles for new entrants. Amend, don't extend legacy regulations that were created for monopolies, when new competitors enter markets.
 - Minimize regulation of high speed networks. Maintain FCC policy of non-regulation of high-speed information services.
 - Maximize Third and Fourth-Pipe Opportunities. Allow spectrum derived from "white spaces" to be used for innovative and unlicensed broadband services.
 - Expedite efforts by the FCC and NTIA to free additional spectrum for private sector uses. Identifying additional undertutilized spectrum and increasing spectrum efficiency could provide additional opportunity for wireless technologies and services.
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- **Encourage investment in next generation technologies.**
 - Incent investment in infrastructure. Provide tax credits for meaningfully significant upgrades to network capacity. Like the R&D tax credit, such credits should be based on improvements over status quo.
 - Incent investment in equipment. Accelerate depreciation schedules for capital expenditures in broadband equipment, to better reflect their actual life cycles and encourage higher capacity.
 - Incent investment in new technologies. Reduce regulatory obstacles to deployment of broadband over power lines and higher-speed wireless networks.
- **Address market failures and public purchasing.**
 - Affordable housing. Insist public investments in affordable and public housing go towards broadband-ready properties, while allowing broadband acquisition as permissible operating expenses.
 - Government procurements. Use purchasing power of Federal, State and Local Governments to promote broadband technologies and broadband

deployment. Every government facility should have a high-speed connection.

- Reform the Rural Utility Service loan guarantee program. Convene a Commission of experts to review the RUS program and assess how to maximize return on investment dollars and ensure the program is fully used and useful.
- Rural Broadbandification Fund (RBF). Auction competitive, one-time, multi-billion dollar federal infrastructure grants to any investors who offer the best commitments to (1) upgrade infrastructure in rural areas, (2) facilitate the most robust competition and (3) commit to the most affordable access to rural consumers.

DEMAND SIDE: ENCOURAGING BROADBAND ADOPTION

- **Expand digital literacy and educational applications.**
 - No Child Left Offline. Cover home access by students of low income families in 7th through 12th grades.
 - A Laptop in Every Backpack. Subsidize laptop computer acquisition by students of low income families in 7th through 12th grades, following the successful model pioneered by the non-profit One Economy Corporation.
 - Worker Retraining. Expand government retraining and transition assistance programs to include online access and content, broadband and computer subsidies for the unemployed, and employer credits for giving employees lifelong learning opportunities.
- **Enable transformative applications.**
 - Promote Greater IT Usage in Health Care. Set standards for CMS reimbursement for virtual visits and consultations; preempt state licensure restrictions against inter-state practice of medicine; and provide all federal workers and Medicare patients with personal, portable and private digital health records by 2012.
 - Promote Telework. Offer tax incentives for companies that can exceed federal government levels of and improvements in employee teleworking.
 - Encourage Energy Efficiency. Expand home and business monitoring of energy usage via Internet-based digital thermometers.
- **Aggregate broadband demand within offline communities.**
 - Support economic development authorities' efforts to aggregate broadband demand through education, grants and case studies.
- **Protect consumers online.**
 - Spam & Viruses. Increase federal R&D into networking and information technologies that focus on systems defense. Expand FTC enforcement powers and penalties against spammers, fraudsters and malware creators.
 - Online Safety. Establish a federal task force including NIST, NSF, DOS, FTC, FCC and Department of Education experts, along with private-

sector leaders, to report on ways to improve the effectiveness and ease-of-use of online safety technologies.

- **Electronic commerce.**
 - Enact a permanent Internet Tax moratorium rather than annual or multi-year renewals.