

Upgrading America

The Semi-Annual Report
Of
Gig.U:
The University Community
Next Generation Innovation Project

February 19, 2013

"Like Britain in the Industrial Revolution, America's asset is, simply, risk taking and the use of optionality, this remarkable ability to engage in rational forms of trial and error, with no comparative shame in failing, starting again, and repeating failure."

Antifragile: Things That Gain from Disorder, by Nassim Nicholas Taleb

Gig.U: The University Community Next Generation Innovation Project began a year and a half ago as a collaboration of research university communities to accelerate the deployment of next-generation networks. The problem we anticipated—of market forces focusing on harvesting last generation investments instead of driving new investments into world-leading fixed networks—has proven accurate. The idea of a consortium of communities working to change the math to catalyze new investment was untested and, in ways, at odds with the more traditional pattern of provider-driven, federally-supported efforts to upgrade or build new networks.

It is clear that the experiment is bearing fruit. There is increasing evidence communities recognize the opportunity to consciously address their future bandwidth needs. Further, communities that want to fully take advantage of the information economy—in which the primary creation of value stems not from the manipulation and movement of atoms but rather though knowledge exchange that uses bits, chips and bandwidth—have the ability to improve their bandwidth capabilities.

Doing so is neither simple nor easy. But there is a path forward, one cleared by the willingness of Gig.U communities to take the risks and chart that path.

Last summer, we issued a one-year <u>report</u>. That report brought <u>awareness</u> to Gig.U activities and generated greater understanding in communities and amongst local officials about how to improve the "fiber readiness" of their jurisdictions. This report provides an update on activities in Gig.U communities, the Gig.U toolkit and the broader environment that affects members' abilities to achieve their mission.

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I. Recent Progress for Next Generation Networks

A number of Gig.U communities are already deep into exploring ways to accelerate the deployment of next generation networks, or as we like to think of it, bringing Gangnam Bandwidth with an American <u>Style</u>. Since the report last summer, nine additional communities have made four announcements as to how they intend to proceed:

A. Champaign-Urbana

The University of Illinois and the cities of Champaign and Urbana collaborated to support the Urbana-Champaign Big Broadband (UC2B) project, initially supported by federal Broadband Technology Opportunity Program funds. Building off a successful deployment, in August 2012, the UC2B released a Request for Information seeking applications to extend the \$29.4 million network to homes and businesses beyond the already-funded project area. The coalition is reviewing those responses. In addition, the project has developed an aggressive community engagement strategy, signing up and pre-committing residents to ultra-high speed service to demonstrate demand.

B. Chicago

In October, the University of Chicago, in partnership with the State of Illinois and the City, announced a project to bring gigabit-speed fiber to over 4,825 residents, businesses, schools and healthcare institutions in the Chicago's Mid-South Side neighborhoods. As the project—called <u>Gigabit Chicago</u>—advances, based on neighborhood participation and adoption, next generation broadband access will be potentially available to as many as 210,000 residents who live in over 79,000 households as well as the 10,000 businesses in the area. Announcing the partnership, Illinois Governor Quinn <u>noted</u>, "Smart communities will foster the job engines of the future. To win in the information economy, we need information infrastructure that is second to none."

C. Seattle

Following up on a Request for Interest issued in October, in December, the University of Washington, in partnership with the City of Seattle and provider Gigabit Squared announced the Gigabit Seattle project. "This is a very promising proposal that can help bring 21st century infrastructure to Seattle," said Seattle Mayor Mike McGinn, "I've heard from residents and businesses that Seattle needs better broadband service, and this agreement lays the groundwork for building that network. I'm excited to work with the University of Washington and Gigabit Squared to provide new Internet service choices." The project includes three pieces:

1. Fiber to the home and business

Gigabit Seattle plans to build out a fiber-to-the-home/fiber-to-the-business (FTTH/FTTB) network to more than 50,000 households and businesses in 12 demonstration neighborhoods, connected together with excess capacity that



Gigabit Seattle will lease from the City's own fiber network.

2. Dedicated gigabit to multi-family housing and offices

To provide coverage beyond the 12 demonstration neighborhoods, Gigabit Seattle intends to build a gigabit broadband wireless umbrella to cover the city, achieved by placing fiber transmitters on top of 38 buildings across Seattle. These transmitters can beam fiber internet to housing and offices across Seattle, even those outside the twelve demonstration neighborhoods, as long as they are in a line of sight. Internet service would be delivered to individual units within a building through existing wiring. This wireless coverage can provide network and internet services to customers that do not have immediate access to fiber in the city.

3. Next generation mobile wireless internet

Gigabit Seattle will provide next generation mobile, wireless cloud services in its 12 neighborhoods.

D. North Carolina Research Triangle/Winston-Salem

At the beginning of February, a regional partnership, called NC Next Generation Network (NCNGN) composed of six communities (Cary, Chapel Hill, Carrboro, Durham, Raleigh and Winston-Salem) with the support of their Gig U university partners (Duke University, NC State University, UNC Chapel Hill, and Wake Forest University/Wake Forest Baptist Medical Center) along with their associated Chambers of Commerce issued the nation's first regional Request for Proposals (RFP) for a next generation network deployment. Responses are due April 2nd. Learning from and building upon the approaches taken by Chicago and Seattle, the RFP provides potential service providers with a clear statement of what the communities hope will be built, as well as commitments by the communities to improve the conditions for investment in the desired deployments.

E. Other Efforts

While Gig.U communities can be proud of their leadership in community-driven upgrade efforts, they are not alone. They benefit from the actions of others who have taken similar steps to improve their community's—and the nation's—connectivity. Gig.U staff has been in conversation with these communities and groups, as well as many others, about these efforts, and we are optimistic that other projects will be announced in the next few months. Among the most significant efforts that are public at this time are:

1. City Initiatives

a) In September, Mayor Rahm Emmanuel of Chicago issued a Request for Information to engage private companies, universities and other organizations to accomplish three main goals: building



world-class broadband infrastructure for the city by establishing open, gigabit-speed networks in 15 innovation zones in key commercial and industrial corridors; extending broadband service into underserved areas; and providing free Wi-Fi access in public spaces throughout Chicago. The City received 30 responses and is currently evaluating how to proceed.

b) Also in September, Mayor Michael Bloomberg and the Speaker of the City Council of New York announced a suite of new initiatives to expand New York City's broadband connectivity including a competition to build out fiber wiring for commercial and industrial buildings, a grading program for connectivity in New York City buildings, a crowd-sourced digital map highlighting wired buildings citywide, a streamlined process for broadband-related permitting as well as exploring the streamlining of regulatory issues, and a competition to develop mobile applications to help residents access critical services provided by the City and community-based organizations. Among other things, this initiative has already resulted in Google providing a public WiFi zone in Tribeca.

2. AIR.U

After Gig.U's RFI in the fall of 2011, a number of rural college communities expressed their desire for a broadband upgrade. Gig.U and other organizations representing over 500 college and university communities formed AIR.U, a project to use unlicensed spectrum in rural America to bring faster broadband to rural educational communities. This project, coordinated out of the New America Foundation, is working with a number of communities, Gig.U and others, and hopes to announce its first test bed project within the next month.

Building the next generation network ecosystem

From the beginning of the Gig.U effort, we have welcomed efforts to develop high-bandwidth applications; a successful upgrade requires innovation in all parts of the broadband ecosystem. Among the more notable efforts is U.S. Ignite, which has been sponsoring a number of projects to develop applications. Chattanooga's GigTank—a gigabit application accelerator—and application acceleration activities in Kansas City are also promising models to watch as Gig.U communities move forward with projects and deployments.



II. Next-Generation Network Community Tools

The efforts described above are the best natural experiments to learn how communities can meet their bandwidth needs. The goal is to learn from those experiments what is possible to improve the ability of subsequent communities to achieve those goals. To capture those lessons in ways that are accessible and actionable, Gig.U has created several tools and is working on several others.

A. Community Assessment Worksheet

This tool, primarily designed for city administrators, provides a comprehensive list of assets and opportunities for cities to improve the conditions for investment in networks—by reducing capital expenditures, lowering potential operating expenditures, decreasing risk or increasing potential revenues. The worksheet includes notations about how other communities (such as Kansas City, Seattle and Chicago) have modified their practices to improve the economics for new deployments or upgrades. This tool has been completed and delivered to the members, though it is updated as appropriate.

B. Demand Identification Website

This tool, designed to assist those in charge of local outreach efforts, allows communities to assess the interest of community members in upgraded networks through a generic, customizable web site. This tool has been completed and delivered to the members, though it is updated as appropriate.

C. Generic Request For Proposals and Generic Request for Information Templates

These tools, primarily designed for municipal attorneys, provides a template for communities that wish to discuss paths for an upgrade (the RFI) and for those who wish to move to the next phase and negotiate with a service provider to deploy an upgrade—amongst other options (the RFP). While the details must be changed to reflect both local conditions and local policy preferences, these tools provide city attorneys and others with language that has been used in other settings, making it easier for communities to take these steps. These tools have been completed and delivered to the members, though they are updated as appropriate. (We wish to express our deepest appreciation to Mark Del Bianco, a telecommunications lawyer, who volunteered to serve as the principal drafter of the generic RFP).

D. Community Organizing and Demand Aggregation Strategy

One of the lessons learned from ongoing projects is the importance, of community outreach, including to the local real estate market. These stakeholders have both an interest in improving broadband on their properties as well as the ability to quickly aggregate demand for next generation services. We are working on a tool to provide a playbook for how to proceed with this community engagement, with a particular



emphasis on the real estate community. This tool is in the process of development. It will be discussed on the March membership call and will be delivered to the members by the end of April.

E. Gigabitpedia

We are currently working to build a compendium of materials for communities so that all stakeholders can have access to the documents, papers and other resources that might be necessary during the process of upgrading. It would include, for example, all the different legal resolutions, public memos and public presentations related to various efforts to-date. We hope to deliver this tool by the time of conference in Kansas City, described below.

F. Learning Community and Conference

As part of the effort to be a learning community that efficiently disseminates information on accelerating next generation networks, we have always hoped there would be a moment where there was sufficient activity and momentum to bring our community leaders together to discuss in person the strategies and tactics necessary to catalyze an upgrade. Fortunately, we have arrived at that moment.

Even more fortunate, we were not alone in that hope. Partnering with the Fiber to the Home Council (FTTH Council), Google Fiber, KC Digital Drive, the National Association of Telecommunications Officers and Advisors (NATOA), Broadband Communities and the National Telecommunications Cooperative Association (NTCA), we recently announced a conference to take place in Kansas City on May 29-30. The conference, "From Gigabit Envy to Gigabit Deployed," will feature working sessions that focus on every aspect of upgrading a network from building the business case and securing community support to navigating local government and engaging the key stakeholders. It will feature a keynote speech from our own Lev Gonick, Vice President, Information Technology Services and CIO Case Western Reserve University, who will discuss how gigabit connectivity has changed Case Western and the city of Cleveland. Blair Levin will close the conference, tying together lessons learned from Gig.U efforts with key "take aways" from the conference. We see this event as an opportunity to solidify the lessons learned from the past two years and as a launch pad for future activities.



III. Context

There are also a number of factors in the external environment that may influence the activities of Gig.U and its members in the future.

A. Google Fiber in Kansas City

Google's efforts in Kansas City have garnered considerable <u>interest</u>, particularly as to how faster networks attract entrepreneurs and enterprises that wish to take advantage of the big bandwidth revolution. This attention has helped build interest in Gig.U efforts. Moreover, it has helped our own analysis of what communities can do to become, in Google's phrase, "fiber ready." Many of the insights in the tools we have developed came initially from studying the Google/Kansas City collaboration.

The efforts have also taught us about value of patience. Google has a well-deserved reputation for moving at "Silicon Valley Speed" but on this project, the company often had to delay making an announcement and deploying the network occurred later than originally anticipated. This is not criticism of Google; rather it serves as a critical reminder that charting new ground always carries the risk of the unanticipated. Patience is always a virtue but as our communities work on their own efforts, it is also a necessity. But that should also make communities impatient to start the process because waiting may cause missed opportunities and delays the day by which a community will have a world-leading network.

Future Expansion of Google Fiber

Gig.U arose out of the extraordinary community organizing in response to the Google Fiber challenge. Gig.U sought to use those efforts to reverse Google's competition by having a demand-side-driven, company-agnostic effort to upgrade networks. But we are mindful of the reality, that if Google were to expand its efforts, it increases the possibility our communities can obtain Google Fiber and that others, particularly incumbent providers, will face increased incentives to upgrade their existing networks or take other steps to improve broadband in their current areas. We do not know anything about Google's plans beyond what we read, but we are certainly pleased that all indications are that Google intends to expand its fiber footprint to other communities. As noted above, Google Fiber leadership has talked about the need for communities to take steps to be "fiber ready" and Gig.U communities, through their experiences so far, are ahead of the curve in terms of understanding that process.



B. Thought Leadership

There has been a growing interest in community efforts to upgrade their available bandwidth. Of course, we have done our part to <u>publicize such efforts</u>. But we cannot take credit for such national leaders as former President <u>Bill Clinton</u> and *New York Times* columnist <u>Tom Friedman</u> discussing the need for faster networks, former White House aide and professor <u>Susan Crawford</u> decrying the country's bandwidth deficit, or the *Wall Street Journal* <u>describing how</u> local community efforts were now the only activities on the horizon providing broadband speeds beyond those offered by cable providers. We believe that which was clear to Gig.U members when they launched the project has become more obvious to others over time.

C. Broadband Market

While we are pleased with the growing awareness of the importance of next generation bandwidth for economic development and other purposes, it is still clear the vast majority of the country will not experience a wireline upgrade in the near future. The two leading, national telephone providers have not reported plans to upgrade to provide higher speeds, beyond a few markets where higher speeds were already planned or in areas where existing infrastructure has been decimated because of natural disasters. If history is a guide, it is unlikely that the current faster network—generally cable—will upgrade without a competitive threat of higher speeds from another network. It is not surprising, therefore, that some in the cable industry have downplayed the need for faster networks. While some providers see the importance of bigger bandwidth, some in cable industry have suggested that faster speeds "ends up being more about publicity and bragging rights." We're grateful that FCC Chairman Genachowski took this argument head-on. (More on his comments below). The Chairman said this argument "seriously misreads what the U.S. needs to grow our economy and maintain our leadership in today's global, innovation-driven economy. And it also overlooks the history of U.S. innovators to take advantage of increased network capacity."

Shortly after the Chairman's comments, the ratings agency Fitch proved his point when it <u>upgraded</u> Kansas City, Missouri's bond ratings, noting that "Kansas City is a host city for Google Fiber, which is an ultra high-speed broadband network up to 100 times faster than current broadband. The network is already attracting a number of smaller internet and data companies to the city and has the potential to make a significant economic impact." Based on our conversations with numerous different city officials over the last few months, we feel confident they <u>recognize</u> the long-term benefits to their communities of accelerating the deployment of greater bandwidth.



Legislation limiting local control

While communities throughout the country work to upgrade broadband speeds for their residents, schools, hospitals and businesses, some state legislatures have continued to consider restrictions on potential models for those communities to use. Most recently, some legislators in Georgia introduced House Bill 282 that would prohibit publicly owned broadband networks from being built anywhere an existing provider delivers at least 1.5 Mbps broadband. Many, including the Chairman of the FCC, have noted these restrictions could have a chilling effect on the type of experimentation communities can undertake. As Chairman Genachowski noted, "Proposals that would tie the hands of innovative communities that want to build their own high-speed networks will slow progress to our nation's broadband goals and will hurt economic development and job creation in those areas." As many of our members are the innovative communities to which the Chairman refers, we applaud the defense of our communities' right to experiment in how to incent an upgrade.

D. FCC Chairman's Challenge

On January 18, 2013, Federal Communications Commission Chairman Genachowski spoke at the Conference of Mayors on the need for America to have faster networks in order to compete internationally. He also <u>issued a challenge</u> to America's mayors to establish a gigabit community in every state by 2015.

We applaud the direction of the Chairman's comments and agree with his sentiment—first expressed in the National Broadband Plan nearly three ago—that our country needs a critical mass of communities with world-leading networks. But, we have a concern that some might interpret the challenge to only be to the cities; indeed others at the Commission seem to believe the only obstacles to gigabit networks are municipal or other government regulations. The reality is that many communities are willing to help an entity ready to deploy a world-leading network but often find there is no one on the other side of the table. Gig.U communities have done significant outreach to all manner of providers. Over time, we hope that all, including national incumbent providers, recognize the need to form a new partnership to catalyze an upgrade.

We look forward to the upcoming workshops planned by the FCC and trust they will allow the FCC and others in the federal government to engage serious self-reflection as to how policies can affect the environment for an upgrade. We hope these efforts will not merely be duplicative of those of groups like Gig.U, the Fiber to the Home Council and Broadband Communities, among others. The FCC has immense powers. Its policies always impact investment decisions and the agency itself allocates



billions of dollars every year to shape broadband deployment. While we are delighted the leadership recognizes the importance to America of gigabit communities, we hope it examines all government policies, including its own, to determine what can be modified to stimulate the kind of investments are necessary for international competitiveness.

IV. The Path Forward

Our primary goal over the next few months will be to assist those communities launching projects, to work on completing and improving the tools discussed above and to make the necessary preparations to make the conference in Kansas City as productive as possible. While others are involved, and their involvement both makes the conference possible and better, Gig.U members should view the conference as testament to the wisdom of joining together two years earlier and an opportunity to harvest the gains of the last two years.

During these months, Blair will have the principal responsibility of long-term strategy and meeting with and working with communities (and is prepared to come to any Gig.U community to discuss potential options. For an example of his most recent presentation to a community, you can see his presentation to the College Station, Texas City Council. As we have moved from football season to basketball season, he promises to modify the metaphors.) Ellen will have the primary responsibility for working on the tools and the conference, as well as managing the growing learning community.

Gig.U was never envisioned as a permanent institution. Rather, we wanted to create a low-cost/high-impact project that would catalyze action by some and learning for all. We have succeeded but there is still much to do. As we have seen with the conference, given the interests of others there is much to be gained in creative partnerships.

V. Conclusion

We began with a quote from a new book on what makes certain ideas, institutions and entities strong. It expresses an idea that we strongly agree with: that strength comes through that process of experimentation, of "rational trial and error." We look back over the last year and a half and are proud and excited about the fact that we have arrived at a time when such experiments will be carried out, which was far from certain when we started.

But in the interest of full disclosure, we note that just ahead of the section quoted at the top of this report, the author writes "[m]any people keep deploring the low level of formal education in the United States (as defined by, say, math grades.) Yet these fail to realize that the new comes here and gets imitated elsewhere. And it is not thanks to universities, which obviously claim a lot more credit than their accomplishments warrant."



We agree with the author's view of the importance of risk taking, and the view that the new comes from the United States. But we do not think that over the long-term, the United States' preeminence is inevitable, which is why we want to make sure there are world-leading networks here. Moreover, we disagree with his characterization of the credit due universities, as would anyone familiar with the <a href="https://linking.nichen.com/history.com/hi

While our members have been the pioneers, our activities have helped others start conversations in their communities about the need for and opportunity to improve their broadband offerings. Over the last six months, we have been in communication with a number of other communities and private enterprises that have sought information about what we at Gig.U have learned and are looking to chart a similar path. We are excited by these efforts as well and feel confident that by the time we arrive at the conference in Kansas City in May, the next generation network map in the United States will have significantly improved since our launch less than two years earlier.

On a personal note, we wish to express how much fun it has been working with all the Gig.U members and their communities and to express our unbounded appreciation for their work in turning vision into reality. This effort would not exist without their leadership—both on the ground and in vision—and we are thankful for the opportunity to be a part of it. We also wish to thank Charlie Firestone, Patricia Kelly and everyone at the Aspen Institute Communications and Society Program for their support of this effort.

— Blair Levin and Ellen Satterwhite



VI. Selected Media on Gig.U Communities

General

Now it gets interesting: How to build a social contract for broadband Blair Levin GigaOm – October 19, 2012

<u>Seattle Leads the Way to Strategic Bandwidth Advantage for America</u> Blair Levin and Ellen Satterwhite CivSource – December 18, 2012

Speedier Internet Rivals Push Past Cable

Shalini Ramachandran Wall Street Journal – January 2, 2013

Gangnam Bandwidth, American Style

Blair Levin and Ellen Satterwhite AllThingsD – January 9, 2013

The Real Gigabit Challenge is Getting ISPs to Think Like Tech Firms

Stacey Higginbotham GigaOM – February 3, 2013

North Carolina Research Triangle/Winston-Salem

<u>Gigabit Networks: Maybe They're Not So Crazy After All</u> Joan Engebretson Telecompetitor – February 1, 2013

<u>First Steps Taken to Build Gigabit Network in North Carolina</u>

Marguerite Reardon CNET – February 1, 2013

Carrboro board approves Gig.U, Johnny's and neighborhoods in negotiation

Kathryn Trogdon The Daily Tar Heel – January 16, 2013

City wants ultra fast Internet access

Richard Craver Winston-Salem Journal – January 19, 2013



Leaders see Gig-U as path to opportunity

Tammy Grubb The Chapel Hill News – January 22, 2013

Seattle, University of Washington and Gigabit Squared

Seattle, Gigabit Squared, UW to announce broadband plan

Brier Dudley Seattle Times – December 12, 2012

Seattle Strikes Deal on Broadband Network

PoliticoPro – December 13, 2012

Seattle, University of Washington, and Gigabit Squared announce plan to develop ultra-fast broadband network

Bailey McCann CivSource – December 13, 2012

Seattle is the latest city to go around ISPs to get a gigabit network

Stacey Higginbotham GigaOm – December 13, 2012

Seattle announces fiber partner, broadband test project

Brier Dudley Seattle Times – December 13, 2012

Mayor Mike McGinn announces plan to develop "ultra-fast broadband network"

Taylor Soper GeekWire – December 13, 2012

Seattle partners with Gigabit Squared to offer gigabit Internet

Brittany Hillen SlashGear – December 13, 2012

Seattle Broadband Upgrade: Gigabit Speeds Coming to 12 Neighborhoods

Benjamin Romano xconomy – December 13, 2012

Seattle announces its own gigabit Internet service

Cyrus Farivar Ars Technica – December 13, 2012



Light the Dark Fiber We Must, Says Robed Mayor McGinn

Michael van Baker

The Sun Break - December 13, 2012

Gigabit-speed Internet coming to some Seattle neighborhoods

kiroTV - December 13, 2012

Public-private effort to build faster Internet network for Seattle

Chris Daniels

King 5 News - December 13, 2012

Seattle Adds Partner To Develop Computing Network

CBS Seattle (AP) – December 13, 2012

Seattle Neighborhoods getting Ultra High-Speed Broadband Project

Sean Keeley

CurbedSeattle - December 13, 2012

Seattle Announces Broadband Partnership

Sarah Rich

Government Technology - December 13, 2012

<u>Ultra high-speed "Gigabit" internet available to Seattleites next fall</u>

Kirsten Johnson

Puget Sound Business Journal - December 13, 2012

Booting Up: When Computer Geeks Create the Future

Patrick Clark

BetaBeat – December 14, 2012

Seattle Tries Again For Fiber Network

Karl Bode

DSL Reports - December 14, 2012

Seattle looking to bypass ISPs with its own gigabit network

Steven Hodson

VR-Zone – December 14, 2012

<u>Ultra-Fast Gigabit Internet Headed to Seattle</u>

Angela Moscaritoio

PC Mag – December 14, 2012

Seattle: Welcome To The Internet Fast Lane

KUOW.org - December 17, 2012



Mapping Seattle's Gigabit Internet plans: Are you in or out?

Taylor Soper GeekWire – December 17, 2012

Chicago, University of Chicago, State of Illinois and Gigabit Squared

University of Chicago, South Side to get gigabit-speed fiber network

Wailin Wong Chicago Tribune – October 16, 2012

Illinois launches gigabit broadband initiative for Mid-South Chicago neighborhoods

Bailey McCann CivSource – October 16, 2012

State, U of C plan broadband push for South Side

Erik Unger Crain's Chicago Business – October 16, 2012

State Hopes To Bring Super-Speed Internet To South Side

CBS Chicago – October 16, 2012

Gigabit Squared plans fiber broadband for Chicago's south side

Kevin Fitchard GigaOm – October 16, 2012

UC2B, Urbana-Champaign, and the University of Illinois Champaign-Urbana

UC2B Rolls Out Fiber

Broadband Communities, Editor's Choice

Big Broadband seeking information on building out network

Patrick Wade

The News-Gazette - August 17, 2012

NATOA Announces Recipients of 2012 Community Broadband Awards for Outstanding Broadband Endeavors

Orono and Old Town, University of Maine and GWI

Old Town, Orono residents and businesses to receive 'super-high-speed' Internet

Nick McCrea

Bangor Daily News - May 2, 2012



GWI Internet project shows Maine is a leader

York County Journal Tribune - May 5, 2012

University of Maine Rolling Out Ultra-High-Speed Community Network

Leila Meyer, Campus Technology - May 3, 2012

Who needs Google Fiber? Orono, Maine, getting 1Gbps broadband network

Brad Reed, PC Advisor May 2, 2012

It's coming together in the Bangor region

Michael W. Aube Bangor Daily News – May 3, 2012

Bangor is poised for great things

John Porter Bangor Daily News - May 6, 2012

GWI to build high-speed network around UMaine

Mainebiz.biz - May 3, 2012

<u>Ultra-High-Speed Internet Coming to Communities Near UMaine</u>

The Maine Public Broadcasting Network - May 3, 2012

Gainesville, University of Florida and Gainesville Regional Utilities

GRU, UF bring ultrahigh-speed broadband to Innovation Square

Anthony Clark The Gainesville Sun – June 11, 2012

Gainesville Regional Utilities to provide fast Internet services

Chris Alcantara The Independent Florida Alligator – June 11, 2012

Touchdown! Florida Gators Get Gigabit Broadband

Stacey Higginbotham GigaOm – June 11, 2012

Gig.U partners with University of Florida, local utility to build Gigabit-capable network

Sean Buckley FierceTelecom – June 13, 2012

Gigabit Broadband Comes to Innovation District

Gainesvillebizreport.com



Greater Lansing Area, Prima Civitas

<u>Gigabit Ready initiative seeks to broaden the reach of higher-speed broadband in Lansing</u> Amy Lane

Crain's Detroit Business - July 13, 2012

MSU, Lansing on track for high speed internet

Isabella Shaya The State News – July 13, 2012

Gigabit Ready initiative launches with new partnerships, website and accreditation program

Capitalgainsmedia.com

<u>Greater Lansing Gig.U Coalition Touts High-Speed Internet Progress</u> Scott Pohl WKAR

