INTERCONNECTIVITY

AND

TELECOMMUNICATIONS

(BROADBAND)

KEY INDUSTRY NETWORK

REPORT AND RECOMMENDATIONS

December 1, 2015

Introduction and Background Information

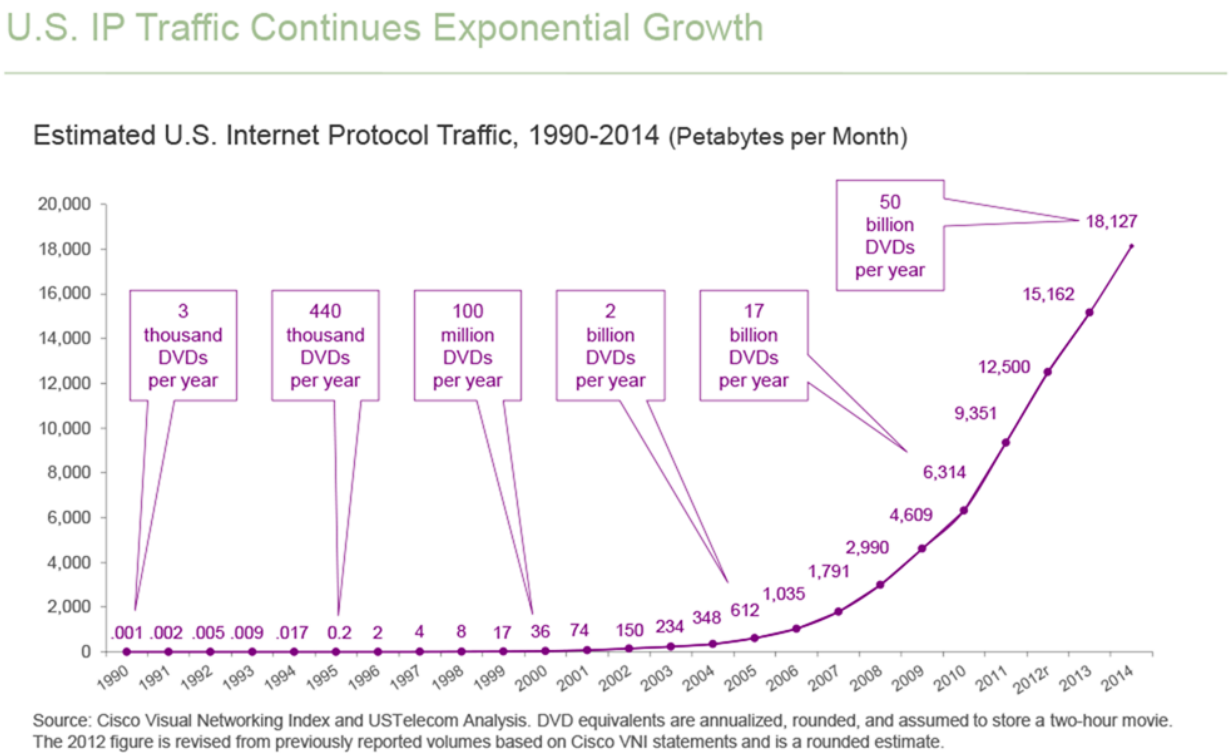
At the request of Governor Bullock, over the course of eight months Bill Johnstone, of D.A. Davidson, and Larry Simkins, of The Washington Companies, undertook to survey and better understand the economic landscape of our great State, and begin to establish the framework of a plan – a business plan – driven by the private sector. To continue the development and implementation of the overarching pillars of the Main Street Montana Plan, Johnstone and Simkins recommended the establishment of various "Key Industry Networks", or KINs, to take a deeper dive into the specifics of each Pillar goal, make recommendations, and seek on-going engagement, assistance and support from the private sector. One such KIN is the Interconnectivity and Telecommunications KIN.[1] That KIN is honored to present the following report and recommendations to Governor Bullock.

One of the hallmarks of the Main Street Montana project is the fact that it is directed principally by private citizens. KIN Chairs, including Rob Ferris and Bill Squires, were given great latitude in seeking very diverse representation among members. Appendix A to this Report lists the individuals that dedicated a great deal of time, knowledge and passion to this endeavor. The Co-Chairs wish to express their gratitude to all of these individuals, without whom this report and the recommendations contained herein would not have been possible.

Pillar III of the Main Street Montana Report establishes, among other things, the goal of ensuring that Montana businesses and communities have efficient and reliable infrastructure. Within that goal is the specific objective of enhancing broadband and telecommunications access across Montana. Recommended tasks for accomplishing that objective included a statewide study of telecommunications, with resulting recommendations to increase broadband access, and initiatives to adopt best practices to encourage broadband infrastructure development. It is important to note that the

KIN's charge and scope did not include addressing the critical issues involved with making broadband more universally available to residential users. Certainly there is overlap when discussing broadband as an economic development driver in communities generally and the need to have reliable, affordable broadband available in the home. It is this KIN's belief that adoption of their recommendations, while directed at economic development and "business" services, will have beneficial impacts on residential availability as well.

Broadband usage and consumption over the past ten years has been explosive. The chart below provides an understandable depiction of that growth.



According to a recent report of the Federal Communications Commission (FCC), approximately eighty-six percent of Montanans have access to fixed download broadband speeds of at least 3 Mbps.[2] However, coincidentally approximately that

same number lacks access to broadband download speeds of 25 Mbps or higher.[3] Availability is based in large part on advertised speeds, and the KIN noted that actual delivered speeds do not always rise to the level of advertised speeds. It is also worth noting that all carriers participating in the KIN and presentations commented that they were in a position to provide any requested speed or bandwidth to "main street" or local businesses in their service areas.

Broadband is rapidly becoming an essential tool in business. As early as 2008 over sixty-two percent of American workers relied on the Internet to perform their jobs.[4] This is driving growth in employment as well. Five years ago the Bureau of Labor and statistics forecasted that jobs depending on broadband and information technologies will grow by 25% from 2008 – 2018, 2.5 times faster than the average across all occupations.[5] Broadband availability and affordability also play key roles in attracting telecommuting works to Montana. One recent report shows telecommuting grew by a whopping 103% since 2005.[6] Montana is no exception to this work culture change. According to one recent study, Montana ranked first in the number of telecommuters as a percentage of workforce.[7]

With that background, the Broadband KIN embarked on its charge to develop recommendations to help drive economic development through the deployment and use of broadband across Montana.

KIN Process and Deliberations

What is broadband?

The Broadband KIN began its work in July, 2014. However, before the KIN could begin to identify issues and search for solutions, it had to grapple with just what is meant by the term "broadband." A number of definitions are regularly tossed about in

national policy debates, including various prognostications by the FCC, which itself has, within the last two years, adopted definitions ranging from 4 Mbps per second to 25 Mbps per second download speeds. It is a very fluid target, with different users requiring differing speeds.

In the end, the KIN took a very pragmatic approach to defining "broadband" as:

> That speed which is sufficient to support the users' online needs and provide an enjoyable experience.

Coincidentally, more than one year after the KIN adopted this definition, the Broadband Opportunity Council, a collaborative project of the U.S. Departments of Commerce and Agriculture, adopted the following definition of "broadband":

> [A] connection that supports an acceptable quality of service for the applications that people expect to use in the course of their work and daily life.[8]

The KIN acknowledges that certain instances require the use of an actual speed benchmark, such as establishing minimum standards for any deployment incentives. However, what is sufficient is truly in the eyes of the beholder depending on his or her circumstances and business application. To that end, while not an independent recommendation of this KIN, it is believed that continued consumer (including business consumer) education on the facts of broadband availability and usage is important to Montana and its citizens.

The Urban – Rural Divide Myth.

A specific charge to the KIN was to explore ways to increase broadband availability in rural areas of Montana. The KIN determined that there is not a significant availability difference between urban and rural communities. However, there can be an affordability difference between urban and rural areas. In an effort to sort out these differences, the KIN formed two subcommittees, one to discuss urban last-mile and middle-mile issues, and one to similarly discuss rural last-mile and middle-mile issues.

These more focused discussions helped guide the KIN's deliberations and ultimate recommendations. Again, the KIN's focus was on business services, and availability to "frontier" residential customers was not explored.

A Survey of Existing Broadband Facilities.

In addition to the urban and rural subcommittees discussed above, the KIN formed a "mapping" subcommittee to explore issues around developing an interactive inventory and map of existing broadband facilities and providers. Ultimately the deliberations of this subcommittee helped focus the KIN's recommendation regarding the development of an interactive availability and provider map discussed below.

Stakeholder Advice.

KIN members represented a wide spectrum of interests, from rural telemedicine to multi-national business and everything in between. The individual experiences, expertise and recommendations brought forward by KIN members throughout the process were instrumental in guiding our discussion and ultimately our recommendations. However, as part of its work the KIN wanted to insure, to the greatest extent possible, that it heard the concerns and recommendations of even a greater diversity of broadband users, public officials, and economic development leaders. The KIN members are very grateful to all of the individuals and organizations that dedicated so much time and effort to educate and inform the KIN. The following briefly lists the presentations received by the KIN during the course of its deliberations:

Bozeman Broadband Project
Brit Fontenot, Director of Economic Development
David Fine, Economic Development Specialist
City of Bozeman

Missoula Municipal Fiber Project
Caitlin Copple, Missoula City Council
Marcy Allen, BitterRoot Economic Development District

State of Montana Information Technology Services
Ron Baldwin, Chief Information Officer
Kris Harrison, Bureau Chief – Network Technology Services

Montana University System and Commissioner of Higher Education
Matt Riley, Chief Information Officer, University of Montana
Tyler Trevor, Deputy Commissioner for Planning & Analysis, Office of Commissioner of Higher Education

Office of Public Instruction
Dennis Parman, Deputy Superintendent

Department of Commerce
Meg O'Leary, Director
Dustin de Young, Development Officer

Department of Labor & Industry
Mike Cooney, Deputy Commissioner

Healthcare -- REACH Telehealth Network
Gene Koppy, Telehealth Network Administrator
Benefis Health Systems

Innovation & Technology KIN
Don Beeman, Co-Chair

Montana Telecommunications Association
Geoff Feiss, General Manager

Montana Chamber of Commerce
Glenn Oppel, Government Relations Director

Finally, the KIN was honored to be joined by Governor Bullock to hear first-hand his vision for economic vitality throughout Montana, and the important role broadband availability and affordability plays in achieving that vision. Governor Bullock stressed that he is seeking recommendations that leverage and incentivize private investment in the State, and that the KIN should look at successful public-private partnerships in other areas as examples of the path forward. Governor Bullock also encouraged the KIN, and all stakeholders, to immediately undertake efforts to educate both policymakers and the public in general on the needs of business, education, and consumers for greater broadband accessibility. Finally, while thanking the KIN for its work on the Main Street Montana Project, Governor Bullock expressed hope that, in one form or another, an advisory group will continue to expand on the work of the KIN.

Recommendations

Broadband Mapping

The lack of an interactive, continuously updated "broadband map" both hinders site selection for new business and creates misperceptions on broadband availability. As part of a national broadband effort in 2012 Montana built a broadband map resource. Unfortunately the data received was limited, but is still maintained by the Montana Department of Commerce. That data should be leveraged and improved as part of a comprehensive interactive mapping project.

Recommendation:

Create an interactive broadband map, maintained by the Department of Commerce, that complies with, at a minimum, the following criteria:

- Location of broadband assets and capacity, with clear definitions of availability
- "Workable" non-disclosure agreements must be available to providers to protect confidential information while providing usable data for mapping purposes
- Carrier/provider contact information should be readily available on the map
- A "challenge" process should be developed allowing both providers and consumers to easily challenge and correct the information available through the interactive map
- The KIN believes that ongoing maintenance will require minimal time and resources when combined with the Department's current infrastructure mapping platform

Further mapping criteria may be developed by the Broadband Advisory Task Force recommended below.

Broadband Pilot Project Funding

The KIN discussed that ubiquitous statewide deployment of broadband speeds at or above 25 Mbps could cost well in excess of $1 billion. Given the high cost of deployment, particularly in rural areas, public-private partnerships need to be incented to encourage continued investment.

Recommendation

The 2017 Montana Legislature should commit a minimum of $25 million over the biennium to take a small step forward in partially funding projects which:

- Target unserved or underserved areas
- Encourage public-private investment by requiring at least 50% of project funding come from private investment
- Encourage innovative funding which allows non-profit and other grant funding as part of the private investment requirement
- Additionally, encourage tax (both income and property) incentives for the extension of broadband in both urban and rural areas

Again, the Broadband Advisory Task Force should be enlisted to further develop application and evaluation criteria for project funding.

Remove Barriers to Deployment

The KIN recognized that the cost of government permitting, both in terms of real dollars and time, can serve as barriers to timely and cost effective deployment of broadband facilities.

Recommendation

The 2017 Montana Legislature should adopt legislation which:

- Mandates that all State agencies, as well as county and local permitting authorities, issue all permits within 30 days of receipt of a complete application
- Calls on state agencies to review and simplify permit applications, including survey requirements, to the greatest extent possible
- Eliminates all permitting fees
- Encourages “dig once” policies where feasible

Creation of a Broadband Advisory Task Force

As discussed above, deployment and adoption, including consumer education, of broadband is a dynamic process that cannot end with the recommendations of this KIN.

Recommendation

The Governor should appoint, and seek funding through HB2 (or other appropriate legislation) for, a Broadband Advisory Task Force (or other name determined appropriate by the Governor), consisting of private and public stakeholders, which at a minimum would be charged with:

- Assisting in further developing and implementing the Broadband Mapping recommendation set forth above
- Assisting in further developing and supporting the funding legislation recommended above
- Serving as a communication hub for broadband education
- Advising state agencies on community infrastructure development that includes broadband
- Further developing means by which federal programs (e.g. E-Rate) can be leveraged for the benefit of the State
- Conducting research into best practices and methods including assessing rural needs, actual speeds, and expansion of services
- Assisting in determining future broadband programs and legislation
- Keeping all private industry stakeholders actively engaged

Closing Comments

"Any project to craft a state economic development blueprint should be undertaken with considerable humility, particularly for a state as large and diverse as Montana." *Bill Johnstone & Larry Simkins, Main Street Montana Project.* With that humility in mind, all KIN members wish to recognize the invaluable assistance and guidance through this process of Jim Molloy, Senior Policy Advisor to Governor Bullock, Dan Lloyd, Business Development Specialist, Mary Craigle, Bureau Chief – Census & Economic Information Center, Department of Commerce, Jennie Stapp, Montana State Librarian, Michaela Wolfinger, Program Assistant, Department of Commerce, and last, but certainly not least, Mae Nan Ellingson, the initial Main Street Montana program coordinator that ensured that our KIN got off to a good start.

As Governor Bullock clearly noted, the work is just beginning. Broadband accessibility across all of Montana is critical to our State's, and our citizens', ability to compete and succeed in the global economy, as well as enjoy all that access to information promises. Members of the Telecommunications and Interconnectivity (Broadband) KIN remain committed to the Pillars and Goals of the Main Street Montana Project, and the recommendations made herein.

APPENDIX A – BROADBAND KIN MEMBERS

Co-Chairs:

Rob Ferris
CEO, Vision Net, Inc.

Bill Squires
CEO, Blackfoot Telecommunications Group

KIN Members:

Paul DeWolfe
President, Access Consulting

Chris Fulton
VP/General Manager, Charter Communications

Mike Kilgore
CEO, Nemont Communications

Erin Lutts
External Relations Manager, Mid-Rivers Communications

Thelma McClosky Armstrong
Director, Telecommunication & Outreach Services, Billings Clinic

Jason Moothart
Area Operations Manager, CenturyLink
(Replaced Jeremy Ferkin upon Mr. Ferkin's internal promotion and transfer)

Judy Preston
President, Ronan Telephone Company/Access Montana
(at time of appointment)

Darryl Rensmon
Vice President, Chief Information Officer. Morrison-Maierle, Inc.

Paul Roble
Chief Technology Officer, Stockman Bank

Joe Sullivan
Nomad Global Communications Services
(President & CEO, Montana Sky, at time of appointment)

Martha Tate
VP, Wholesale & Government Education, Electric Lightwave/Integra
(Replaced Joe Harding of Integra upon his resignation from the KIN)

Sarah Walsh
Chief Operating Officer, PayneWest Insurance

Chris Warden
VP, Technology, Washington Corporations

ENDNOTES:

[1] It became immediately clear to the KIN that "broadband" – both its availability and affordability – was the overarching issue and topic for the KIN to address. As a result, the KIN members began referring to themselves simply as the "Broadband KIN." The members thank Governor Bullock for indulging this simplification.

[2] 2015 Broadband Progress Report and Notice of Inquiry, *In the Matter of Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steeps to Accelerate Such Deployment and Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband and Date Improvement Act*, GN Docket No. 14-126, February 4, 2015, Appendix G. ("2015 Broadband Progress Report").

[3] 2015 Broadband Progress Report, Appendix D.

[4] Mary Madden & Sidney Jones, Pew Internet & Am. Life Project, Networked Workers 3 (2008).

[5] Bureau of Labor Stat., Occupational Projections and Training Data, 2009–2010 Edition (2009), *available at* http://www.bls.gov/emp/optd/

[6] Global Workplace Analytics, http://globalworkplaceanalytics.com/telecommuting-statistics , September 29, 2015.

[7] FlexJobs, https://www.flexjobs.com/blog/post/infographic-which-states-have-most-full-time-telecommuters/ , November 3, 2015.

[8] Broadband Opportunity Council Report and Recommendations, August 20, 2015.