

City Broadband Working Group

April 16, 2015

3:30-5:30 p.m., Westview Conference Room, 3065 Center Green Drive

Attendees:

- City Staff
 - Don Ingle; Director of Information Technology
 - Francis Duffy; Infrastructure Services Manager
 - Paul Williams; Network Planner
 - Bob Harberg; Project Manager, Energy Strategy and Electric Utility Development
 - Liz Hanson; Economic Vitality Coordinator
 - Myles Wallingford; Economic Vitality Intern
- Working Group
 - Christopher Meier; Student, CU School of Law
 - Susan Oasheim; IT Project Director, Boulder Valley School District (BVSD); Filling in for Andrew Moore
 - Tim O'Shea; Engage Colorado
 - Claire Carlin; Student, BVSD
 - Angelique Espinoza; Boulder Chamber of Commerce
- Guest Speaker
 - Joanne Hovis; President, CTC Technology and Energy

Meeting Notes:

1) Introductions

Don Ingle led introductions and distributed the week's agenda. The group did not have any corrections to the agenda.

2) Guest Speaker: "The Emerging World of Broadband Public-Private Partnerships"

Don introduced Joanne Hovis to the group, noting that her company CTC Energy and Technology helped to design Boulder's *Connect Boulder* outdoor wifi project. CTC is a current consultant with the City of Boulder and is under contract.

Joanne reviewed her credentials and expertise in the area of broadband service. Her firm is a public sector consulting firm focused on broadband connectivity. She noted:

- Wireless Internet connectivity is a last quarter-mile technology that depends on fiber. Wireless is not an alternative to fiber, but a complement.
- Local governments have an increased interest in fiber for several reasons.
 - Local officials speak with constituents and are more connected to their concerns.
 - The Internet is becoming more sophisticated and requires fiber.
 - City Councils and Mayors are paying attention to other communities.
 - The impact of Google Fiber's investment in fiber to the home.
- Colorado has laws that are more favorable towards local broadband provision than other states that limit public investment like Colorado.
- There are 100 municipal fiber to the home networks in the US

- Boulder may be one of the 10 best markets in the country for broadband, but there will still be challenges.

Joanne said that many broadband providers have been municipal electric utilities. They have existing assets (poles, workers, customer services) and right-of-way.

- Chris Meier asked if access to infrastructure changes with reclassification as a communication service provider. Joanne noted that communication companies have a right to access poles at a price determined by the FCC or the state public utilities commission. Pricing for these actions is reasonable. To “make ready” is an expensive process to prepare poles to handle communication infrastructure and requires notification to all entities that are connected to the poles.
- Tim O’Shea asked if Joanne was aware of our municipal electric goals. Joanne noted that she was familiar. Bob Harberg added that 62% of utility infrastructure is underground. Joanne noted that the cost of obtaining poles might be greater than going underground. Joanne said that Chattanooga, TN is a well managed municipal electric utility, which provides them with inherent structural benefits for broadband.
- Tim asked who the incumbent municipal broadband providers were and what resistance they faced. Joanne said that communities starting earlier had less competition and that she believed that Time Warner is the most aggressive opponent of municipal broadband.

Joanne asked the group to assume that throughout her presentation, the goal is symmetrical speed so that users may both take from and add to the Internet, the creation of as many end users as possible, and to keep the network affordable.

Joanne discussed frameworks in which to analyze broadband projects. These items included legal, financial [the largest risk], political, and public relations risks. A key question is can you have control over policy while minimizing risk? Benefits to note include digital equity, economic development, communication, health care, and environmental protection.

Joanne went on to discuss three potential models of broadband provision that the City could adopt: *Public Investment*, *Private Investment*, and *Shared Investment and Risk*.

Public Investment

Joanne noted that this is an emerging model that involves public sector risk, but does not involve the public sector building, financing, managing, and operating services. All aspects of production are done by a company in return for a guaranteed stream of revenue from the public sector [tax, utility fee, etc.]. Joanne noted that financial risk is political risk, as taxpayers are charged with paying for services.

- Angelique Espinoza asked about Macquarie Capital and if they paid service providers to build broadband networks. Joanne clarified that Macquarie Capital has a team that acts as a bank that brings an implementation team together. In return for this service, the municipality will pay them every month. Bob added that the municipality must subsidize the capital firm to incentivize them to do this. Joanne referenced the Utah Telecommunication Open Infrastructure Agency, which had been in discussion with Macquarie for several years, but has been reluctant to proceed due to the tax burden.

Private Investment

Joanne noted that Google is an entity that has driven this idea. With private investment, companies will ask communities to make it cheaper for them to conduct their operations, to provide access to infrastructure, for rebates on property taxes, and to streamline city processes. Joanne referenced Metronet in Indiana, which asked for economic development tax incentives for themselves to operate. The quicker a company can build, the lower the cost will be. Joanne noted that with private investment, there is very little community risk. Making infrastructure available to private companies is a low cost strategy.

- Don asked if Joanne had seen consistent regulatory or economic motivators for broadband providers to select certain communities. Joanne said yes, citing how one broadband provider (Google) selected cities based on cost feasibility, opting out of tier-one cities.
- Don asked Joanne to explain fiber code deployment methods. Joanne responded that this is a method used to ease the process of building fiber to the home by ignoring one-time orders and having residents of neighborhoods (e.g. Google's "fiberhoods") sign up in advance to have broadband installed on a pre-determined date.
- Tim noted how Google is building a campus in Boulder and asked if they could be linking their campus to the public broadband network. Joanne did not have information on this. Liz Hanson said that Google has not requested any incentives for their campus in Boulder. Angelique added that there is significant community benefit that has been requested of Google and they obliged.

Don noted that the time the working group agenda allocated to Joanne Hovis' presentation had expired, but the group agreed they would like to push back other agenda items in order to continue their discussion.

- Don went on to note that Paul Williams had done a recount of the City's surplus fiber and found Boulder has around 180 miles of fiber.
- Don asked if there was any possibility of companies partnering with private infrastructure providers such as Zayo Group. Joanne said she did not know if there was a possibility, but she stated that Zayo could be a good partner due to their openness to fiber swaps. Companies like Level 3 Communications are less flexible.
- Paul noted underground construction, pointing out inefficiencies and asking if anything could be done at the policy level to enforce construction in the right-of-way. Joanne said that "dig once" policies are an efficient way of getting infrastructure into the ground, but does not help to get fiber into the home. Mandating the laying of conduit anytime ground is open is a piecemeal process. A successful "dig once" policy requires that anytime a company has a road open, there must be a notice sent out to the city and competitors so there is an opportunity for them to add infrastructure. Bob noted that the city has versions of these policies, but the issue is the level to which they are enforced.

Joanne went on to discuss different low-cost strategies for private investment. Making data available helps to reduce the cost for private partners. Pre-approval of contractors that private partners can use will speed up the permitting and inspection process. The best case scenario with all strategies is that a city reduces the cost of private sector construction by 8%. Joanne referenced

a Raleigh/ Durham, North Carolina case study that saw competition arise between different providers. The communities were offered enticing agreements because of the competition.

Shared Investment and Risk

Joanne stated this is where most innovation is being seen. With this model, a city recognizes cost, but doesn't want to take on much financial risk. She noted a case study where a city agreed to give a private company all unused fiber they had installed for a 20 year lease at no cost in return for three things: guaranteeing symmetrical gigabit products would always be available, committing to wholesaling service over the network at prearranged pricing, and not using demographic filters when determining locations. She noted that there may be neighborhoods where providers won't build; in this situation, the City may need to build it themselves, or they may need to subsidize.

- Francis Duffy asked about cost of service involved in this strategy. Joanne described different types of pricing structures for various providers, noting that home pricing is cheaper than it is for businesses and certain providers only focus on residential markets.
- Tim elaborated on cost-per-megabit and variations in pricing. Joanne reiterated that business products are much different than consumer grade. Some costs are hard for small businesses to understand. Tim asked which company has been providing fiber service to homes and business for the longest. He asked if there was a timeline associated with the ability to provide service. Joanne answered that there is litigation, bonding processes, etc., but cities could be connecting the first neighborhood within a year to 18 months. Two and a half to four years is the time needed to make a city the size of Boulder fully operational. The oldest municipal to home networks are 12 years.

Joanne referenced a case study in Westminster, MD to show one example of the future of broadband. In this community, the City is connecting every home and business to the fiber line, the City will build and maintain the fiber, and the City partnered with a well-resourced company that agreed with City Counsel's prioritization of what is built first. This company guaranteed some part of the City's debt in return for the City paying back bonds over 30 years. The company made a commitment to wholesale services to competitors within two years. Joanne referenced a different model used by Champaign-Urbana, IL where the city laid down a significant amount of fiber, realized they did not want to be an ISP, and sought private partners to continue their work.

Joanne noted the importance of customer service to inconvenience people as little as possible. She cautioned that a real partner would invest in the city, and not simply encourage cost reduction for their operations. Joanne noted that she is a conservative [not politically speaking] consultant. She suggests knowing risks up front.

- Chris asked if companies are able to utilize federal funding mechanisms that help lower income residents access the network. Joanne said that federal funding is currently difficult to obtain, referencing the opposition that an NGO, Lifeline Linkup, faces. There is \$9 Billion in funding for the Universal Services Fund that might be utilized to subsidize service.
- Tim asked if Joanne had any feedback in regard to the working group's draft vision. Joanne said it is important to not rush the process and more competitors is a positive thing. She noted the benefit in having a robust fiber to the home network; phone and cable companies will follow by upgrading and providing better service. She questioned if an open access requirement can change the business case for a private partner and private investment.

3) Summaries and Follow Up

- The group agreed to meet the 3rd Thursday in May (May 21st).
- Don reviewed the recent opening of public wifi in the Downtown Civic Area through ConnectBoulder.
- Liz asked the group to review the level of detail found in meeting minutes (posted online) and provide any feedback or suggestions.
- Tim asked if meetings were closed, noting that meeting notes are open. The meetings are open to the public.
- Due to the lack of time to cover anticipated agenda items, Don noted that there may be a follow up via email with information on some agenda items. .

The meeting concluded at 5:41 pm.