Public Works Department
City of Bellingham

Broadband Advisory Workgroup
Meeting Notes
Tuesday, October 5, 2021
6:00pm – 7:30PM
Zoom

Workgroup Members in attendance:	Kristopher Keillor Milissa Miller	Spencer Moore Steve Spitzer RB Tewksbury
Ex Officio Members in attendance:	Terry Davis David Brinn Kevin Stamey (Wave)	David Namura Gina Stark
Guest Presenters:	Jory Wolf, Magellan Advisors LLC Greg Laudeman, Magellan Advisors LLC	
City Staff and Facilitator in attendance:	David Roberts, Facilitator Eric Johnston, Public Works Director Marty Mulholland, IT Director Rush Duncan, Public Works Webinar Support	

1. Welcome, Introductions, Agenda Review, Approval of Notes

    David Roberts started the meeting at 6:00 PM. Notes from September 7 meeting were approved.

2. Administrative & Technology Items Update / RFP Update

    Eric Johnston: We are officially under contract with Magellan Advisors LLC! We have an regular meetings on the 3rd Tuesday of the month with Magellan that will include R.B.Tewksbury and Steve Spitzer. City data will be shared with Magellan. Kristopher Keillor agreed to present an update to the City Council on December 3rd.

3. RFP Update: Magellan Advisors + Q&A

    Jory Wolf & Greg Laudeman: Greg and Jory shared a presentation on their survey tool for determining citizen access and quality of service. The survey is location based. It contains an embedded speed test that auto-collects data using MLabs Diagnostic Tool. It asks what people are paying for service and other relevant questions about their household. The survey is a convenience sample, not a random sample which is statistically representative of the population. Basic customization could include changing names, adding a color scheme, or a logo. They try to keep it very focused and specific.

    Question: Will people be responsive when the survey asks for a complete street address? Would a zip code work? **Greg:** we regularly see family A on one side has great Broadband, and family B across the street does not. Location is critical, including street address. Magellan has found that people are not that sensitive. They generally understand that they need to share information. It is kept confidential and is only used for this analysis. The follow

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up request is the only information about them being retained. If they feel strongly about not wanting to share their address, there are other opportunities for input. *Jory:* This is a critical component. Other than the surveys, we have mapping info from various sources. But they are all based on self-reporting from the service providers and the census block information.

Question: Do we need to ask for the City and State? *Jory:* We want to be sure we are not including people who are responding and should not be included.

Comment: We should include language describing the importance of information provided. *Greg:* We try to keep it simple and focused and recommend you take copy the introductory text and include it on the city webpage for the survey. Magellan publishes that URL.

Question: Where does it say the info collected is confidential? That should be added.

Comment: The statement about high-speed internet seems subjective. *Greg:* We have worked to make the survey as simple as possible – this is after numerous versions of these questions. Folks don't necessarily know the difference between cable and fiber, but this allows people to focus on different parts of the survey. Surveys are a blunt instrument in a lot of ways, we follow best survey practices, including minimum required questions and simplicity.

Question: Do you include this same survey in different languages? *Greg:* Yes, Spanish is built into the standard template. Translations are easy due to the platform we use. We have a 1-page front-and-back paper survey for folks that do not have internet.

Question: I have reached out to various sources over the last month, all the groups I contacted have said these folks don't have internet access to take the survey. What is your strategy with connecting with the existing non-profits and working with their established underserved population base? *Greg:* You can take the survey from a smartphone. If they answer that they have low-speed service, it will take them to the "no broadband" section and bypass unnecessary questions. This would be a 5-minute questionnaire. A paper flyer can be distributed through local organizations and we can include a QR code. We need to mobilize the community anchor organizations. We look at the demographics and will be able to tell who we are not hearing from. When you connect, they are very interested in being involved. Small businesses are the biggest challenge. They have critical needs but are a challenge to get responses from.

Question: Would you be willing to send a pdf of this survey to members? *Greg:* Yes. *Eric Johnston:* That is the plan. The intent tonight is to share the survey quickly for your review. Greg will send a .pdf of the survey to Eric and he will distribute it to the group. Eric asked that everyone respond quickly with feedback. *Greg:* I encourage folks to look at the survey once as a household, once as an organization, and test the survey via multiple routes. *Eric:* I will forward the link to the group for testing. When it is ready to for roll out it will be provided to the community college and the library for example. Preliminary target to rollout is October 18th. We can get it out quickly and wrap it up in a few weeks. We are looking at closing the survey around Thanksgiving. We will use

the normal city websites and outreach approaches (10,000 subscribers) to disseminate, as well as through the PUD and the port.

Jory shared the results of the surveys carried out in Marion County, Oregon, and Marin County, California.

Question: Is the survey mobile optimized? Could it be done while canvassing with a tablet? *Greg:* It is not mobile–optimized, but it works great with a tablet.

Question: How can we translate the survey? *Greg:* if you have something you need translated, we can assist. *Eric:* The city can help. It subscribes to a state service for translation.

Question: Do you have a statistical analysis page? *Greg:* No, but the output is very straightforward.

Action Item: Eric sent link to survey to broadband group during the meeting, requests to have feedback by end of the day Monday 10/11.

4.	ISP Presentations & Discussion	David welcomed four representatives from Bellingham's internet service providers and queued up the discussion. Each was given 5 minutes to describe current activities at their company, then David posed a series of questions for each company to respond to if they wanted.

Company Overviews

David Brinn (Wave): Wave's network in the city is mostly fiber oriented and mostly serving small businesses. Wave is a customer of the city. They rent the City's fiber network, and the city uses their fiber via IRU. Wave looks forward to seeing the results of Magellan's work and hearing the city needs. *(IRU means Indefeasible Right of Use, a type of telecommunications lease, a permanent contractual agreement that cannot be undone between the owners of a communications system and a customer of that system. An IRU is calculated by route miles and is a way of trading fiber usage among agreed upon parties.)*

Kevin Stamey (Wave): Wave has stayed away from single family units because Comcast and Century Link are addressing that need. Wave has focused on rural, and underserved areas - small towns of 1,000 residents without service. They stay away from dense areas.

Terry Davis (Comcast): Comcast is one of the nation's largest video and high-speed providers. There is a lot of synergy that comes with that, such as network strength and monitoring. Comcast maintains a hybrid fiber-coaxial cable system across Washington state, including Bellingham. They have head-ins and secondary head-ins that deploy their signal which divide our community and businesses into nodes resulting in a robust service. When Comcast completed their HFC (Hybrid Fiber Coaxial) upgrade and launched internet the first time, it was 1 Mbps download. Today, Comcast offers download speeds up to 1.2 Gbps for residential and 10 Gbps for commercial. Also, commercial fiber-based download speeds that range up to 100 Gbps. Comcast is largely built out across all residential units. Sometimes a property owner may not have provided us a right of entry, but our services are within the city's right of way. Our Bellingham system is supported by over 80 technicians and sales staff and

supported by a 24/7 monitoring and operations center. We are able to correct most matters without the customer being notified or in need. Through our interlocal agreement we have a spectrum swap agreement.

David Namura (Lumin Technologies): Lumin predates the state of Washington. The company was originally part of Bell telephone. We are the 2nd largest communications provider in the world. Our investment strategy is to deploy as much fiber as possible. Fiber is the future that we see as an investment to better serve customers.

How was the company impacted by COVID and what technology and use learnings can you share?

Terry Davis (Comcast): Comcast experienced almost two years of traffic increase during the pandemic. Peak performance rose 32% from pre-pandemic levels to almost 50% of capacity. The vast majority of that was asymmetrical. Video streaming and gaming grew the most. Video conferencing only accounted for 5% of the growth even with folks working from home. Our network withstood that level of inquiries and was able to adjust to address capacity issues. But overall, there were no reductions in streaming requirements compared to Europe where they put in a video restriction on high-definition streaming. This indicates the robust nature of our hybrid system and the extra capacity that is built in. We are learning from that experience. Some historic peaks have dropped, but a lot of people are still working from home and streaming, and we are adapting our network.

Kevin Stamey (Wave): Wave had similar experiences throughout our network. What we've built was able to handle it without massive upgrades. The peak (for residential use) stayed there for a very long time. We were prepared and didn't see many issues. We had a massive spike in requests for service and had technicians trying to keep up with demand.

David Brinn (Wave): Wave saw lots of shutdowns and deferrals of bills on the business side. There was not a massive uptick in demand. From a network capacity, lots of providers requested more bandwidth.

David Namura (Lumin Technologies): At the start of the pandemic as the world was shutting down, there was a huge spike in requests for service to move to fiber or upgrade their service. Lumin was among the first responders to try and figure out how to keep people working safely in an unknown world, keeping our technicians safe, while transitioning call center workers to work from home, shutting down some overseas call centers, and transitioning back to the US. There was a scaling model on both ends, keeping both customers and the workforce safe.

David Namura (Lumin Technologies): It might be helpful to know that all 3 providers (here today) signed the FCC *Keep America Connected Pledge* making sure we were not disconnecting people for lack of payment. The financial strain is evident. We have millions of dollars in bills in arrears we are trying to finalize. The ramifications are still pretty significant. We are having a lot of conversations to try and future-proof this model.

Terry Davis (Comcast): The other thing is how we are reacting to the small businesses impacted. We have seen a tremendous shift including the need to

support severely impacted communities. There are a lot of great efforts coming out of our response above and beyond the COVID outbreak.

Question: Terry, do you think some of those programs will remain permanent when COVID is over? *Terry:* Comcast is continuing to help our small businesses. Our diversity and equity commitments that focus on digital equity and the digital divide will continue, but I can't predict at what level.

What are the future proofing plans for your technology to address the City's connection needs over time?

David Namura (Lumin Technologies): The best thing we can do is drive fiber. Once the investment is laid, it is about changing technology on the back end to help communities sustain their internet needs.

Kevin Stamey (Wave): Everything Wave has is fiber. We are moving away from the hybrid system.

Terry Davis (Comcast): We have a hybrid fiber-coaxial cable system but are getting behind the cable industry's 10-gig initiative. Consumer demand drives us. We look at providing the right pipe and option for the needs of our customers. Over a year ago we successfully trialed our live production network and the delivery of 4 gigabits over the hybrid network. The architecture we use has a lot of room for growth. There is still a lot of resilience in our system and we invest in that every day.

What is your company doing to address equity and access for disadvantaged communities?

Terry Davis (Comcast): Comcast has invested a lot in our program called *Internet Essentials*, a comprehensive, low-cost service for low-income communities. We have connected over 2,500 first time households in Bellingham (serving up to 10,000 individuals). It is a great entry level internet option. COVID definitely heightened the need for this, especially with school children learning from home. We had to adjust the service so the school district and other community organizations could help pay for families where $10 per month was a burden. The Bellingham School District was our first partner to pay for over 300 vouchers for low-income families. This also includes 60 days free for connection to the program. In addition to the program, we invested over 1,000 lift zones - community locations where low-income folks could connect. In Bellingham, one is at Lighthouse Mission and the other is at Goodwill Services. We are also approved vendors for the EBB (*Emergency Broadband Benefit*) as well as the *Emergency Connection Fund* for libraries and schools through the FCC. This program is not going away, we will continue to invest in it.

Kevin Stamey (Wave): Wave has a similar program called *Internet First*. We are looking at rolling it out further and improving the speeds.

David Namura (Lumin Technologies): Lumin has a number of specials on speed and access, but nothing specifically focused on low-income individuals.

Question: What is the retention rate of these programs? Do people stick with them or migrate between full service? And what is the growth in the past two years from the inception of the program to COVID peak? Do you expect the

same amount of growth to continue or go back to pre-COVID times? *Terry:* Comcast has not seen a growing disconnect rate. That is a positive sign. But it all depends on the needs of the family. *Internet Essentials* was not put together to support gaming at home. It is more about critical connections like finding jobs. It does come with a wi-fi system in the home. We continue to see there is a great opportunity out there, but we have not seen the same growth in the program as in March 2020. Back to school does drive connection needs. Some families did not have kids in school when the program started.

Question: Do those lower speeds meet the demand for Zoom? Telehealth? *Terry Davis:* We have increased the speed and found that it supports video conferencing.

Question: I noticed you need an internet connection to sign up for the program. Most poor people do not have a connection. *Terry:* You need an internet connection, but the sign-up system is smartphone capable. We also have a 1-800 number where we are available. Internet sign-up is easier and faster, but not the only way. Our community partners are the best resource for families that need help with the process.

Question: Can the lack of internet be mitigated by a caseworker or 3rd party? *Terry:* Yes, this program is on the backbone of those grass roots resources.

What synergies do our Ex-Officio members look for to get involved in a public/private partnership?

David Brinn: In the City of Bellingham, Wave's fiber network is not an open access network. We are looking at areas of growth - where to build it and how. We have done lots of public/private projects in California. The door is open. Let's talk about what the City of Bellingham needs. We are here to serve the community and want to grow with it. What does the city need? Let's grow together.

David Namura (Lumin Technologies): When it comes down to public/private partnerships, we seek predictability in terms of time, cost, construction, outcomes, goals, and longevity of program. A long-term, long-range vision is the big thing we look for. Also, sustainability. There are ongoing, recurring costs of operating a network. How do you ensure those costs are minimized and that value is sustainable?

Terry Davis (Comcast): A great example was when state superintendents contracted for family connections to the internet during COVID. The city can use their American Rescue Plan Act dollars to help connect your families. There is not a residential unit (in Bellingham) I am aware of that we do not serve. That is a great way for us to partner. Beyond a formal contract, if the city is looking to redevelop an area of the city, let's partner to better serve that area, or build that system ahead of time. Those are ways we can partner together to be proactive in addressing the needs.

Question: There are a lot of different models we are considering. Given the FCC's program, Comcast's *Internet Essentials*, and *Internet First* from Wave, when the public subsidizes an internet service for a low-income household, there seems to be a lot of boilerplate (ideas? Language?) we can draw from. When you are looking at a city or municipality building out their own structure

and then entering into a shared arrangement, say for the last mile, could you elaborate on what those contracts look like? Indefeasible rights of use? Can we see an example contract representing a public/private partnership? *David Brinn:* I will try to find one. Those contracts are posted online by the cities. I will find one and share with the group.

What is missing from the City's assessment of the Broadband market, that you feel should be taken into consideration?

Terry Davis (Comcast): In my opinion, the city is 20 years too late on this. You are only focused on the wire line aspect and missing the robust marketplace called "the broadband industry" which is more than just the ex-Officios here. There are competitors that will challenge and compete with all of us. You are focused only on fiber. We can solve the equity issue. Money is coming from the government to address these issues and the City can manage it. There is an industry moving at a high-speed rate that needs to be accounted for by the city. You are a farmer's market compared to a real supermarket where people go. That to me is what is missing out of this. You are focused on one option only. You should look at the money and how the city can drive broadband for low-income families.

David Brinn: The cost of construction is a factor. In new HOAs and developments, the city should force them to put in a new conduit. Right now, you are boxing these houses in, potentially limiting their services. Mesh systems will come in in the future. But if the city can force anyone doing underground work to install conduit say as part of your permit fee this will keep options open. You are a little late to the game in building a fiber network. The roads are already built and there is no more room on the poles. If there is coax in front of every resident in Bellingham, what is the root cause of why they don't have broadband? Is it money? Would a voucher system pay for that? Whatever the path forward, you have to look at the surrounding agencies. To have the city, the Port, the PUD each building something you have to figure out how to work with your fellow agencies if you are going down this public path to make sure it's done right.

Question: Terry, you mentioned other technologies, *Terry Davis*: Small cell, 5G, satellites clouding our skies - they are new players coming into the marketplace and will be competing with us. We will adapt and grow with it.

Comment: I read Apple is working on 6G for 10 years out.

Question: I was wondering if any or all ex-Officios could speak to economic development. Some think we are at a disadvantage because we do not have an existing fiber network. True or not? *Terry Davis:* Not true. You have existing providers that will readily compete. There may be areas they want to go, probably outside the city, where there are some capitalized costs to get it done. A partnership will look at those areas and work with us to identify an incentive zone or investment area. We did that in Snohomish County for the Arlington Airport area. They identified it as an area of priority focus. Having that kind of thing in place makes you just as strong and competitive before new businesses come looking. That is your best economic development driver.

Question: This is not a supply side issue (for Bellingham), except for very in-the-weeds zoning asks. The infrastructure exists, and as Terry has said, there

are few refusals. What I'm hearing is *"anybody in Bellingham can access the internet if they are not poor, and if they are, there are a few ways, but they are very hard and may require a caseworker, knowledge of the program, or community support"*. Am I hearing this correctly? ***Terry Davis:*** Before *Internet Essentials* was created, the FCC studied the barriers to providing internet service. The top three were 1) cost; 2) equipment; and 3) it is relevant in their life. If people feel internet service is relevant in their lives, they will invest in it for their home. This was considered in the National Broadband Plan from 2010. https://www.fcc.gov/general/national-broadband-plan

5. Next Meeting Agenda

David Roberts reviewed the agenda items for the next meeting on November 2, 2021. Kim Kleppe, Information Systems Director, has been invited to talk about Mount Vernon's internet system. R.B.Tewksbury will talk about Plus Codes. We will also have an update from Magellan. The Magellan update will be an ongoing part of our meeting agenda going forward.

Eric Johnston expressed appreciation to the ex-Officios for their presentations and the conversation.

David Roberts shared that he will be calling each workgroup member to check in and see how you are feeling about the process and our progress.

Steve Spitzer asked when members should provide their lists of potential survey contacts. Eric Johnston asked everyone to send those to David and Eric via email as soon as possible so a master list can be compiled. We want to avoid duplication.

The meeting was adjourned at 7:45 PM.

Next meeting scheduled for Tuesday, November 2nd at 6:00 PM via Zoom or possibly in person at the Fairhaven Library (Fireplace Room)