LEAD SECTOR: Broadband

SUPPORTING/OVERLAPPING SECTORS: Children & Families, Economy & Jobs, Human Services

COMMUNITY GROUP:

The local volunteer organization JBAT (Jefferson Broadband Action Team) makes up the community for the Broadband Group. JBAT is a group of 32 people representing a real cross-section of Jefferson County: County, City, Port, PUD, EDC Team Jefferson, WSU Extension, Chamber of Commerce, education, healthcare, library, internet service provider, small business, and residents. The makeup of this team was intentional; prior efforts to "move the needle" on this topic did not have enough teeth to make it happen. It was with forethought and purpose that this cross-functional team was setup, and we hope each member's association (and knowledge) will increase the power of this collective effort.

This team was organized before COVID hit and will continue to be in place after COVID subsides. Although the team's overall mission is to "advocate for and seek opportunities to improve access to reliable, affordable, high speed broadband internet..", for the purposes of the ICG efforts, we have taken a laser focus on how access to broadband networks can reduce the impact of the pandemic, build back the Jefferson County economy and provide enhanced access to educational opportunities and health care.

Please meet our team (steering committee are in bold): Arlene Alen, Beau Young, Ben Bauermeister, **Bill Putney**, **Brian Kuh**, Cedar Knoll, **Cliff More**, David Olsen, Dan Toepper, Daniel Heaton, Deborah Stinson, Diane Jones, Frank DePalma, Gage Pacifera, **Gary Nelson**, **Gary Rowe**, Greg Brotherton, Heather Dudley Nollette, Jerry Wilson, Jeff Randall, **Karen Bennett**, **Ken Collins**, Kevin Streett, Leo Boyd, Maggie Kelley, Norm Norton, Pete Duncan, Rich Durr, Tamara Meredith, Tom Brotherton, Will O'Donnell

SUMMARY OF RECOMMENDATIONS

These are the key issues related to Broadband:

- Broadband network access is not available in all areas of Jefferson County. Even where access to Broadband is available, service is often unstable and frequently fails to meet minimum accepted standards.
- Lack of equitable access to effective broadband throughout county is frequently due to financial challenges. And, lack of equitable access in our county/cities versus other county/cities is due to big company profit targets.

- Lack of useful equipment in the home to receive broadband, even if service is available.
- Developing effective, affordable and reliable broadband service is not cheap, takes time, and is impacted by evolving technologies.
- Service providers focus on a business model for highest-density/highest-revenue communities and don't need or want to take on the more rural, more isolated, least-profitable areas of Jefferson County.
- Federal and state support has, to-date, favored funding those same private companies (large internet service providers) who are reluctant to expand into the more difficult, less profitable areas. And prior federal support has gone to services like DSL or satellite that don't meet current standards and future needs.
- Definitions of broadband vary; current language of 25 megabits-per-second (Mbps) down and 3 Mbps up are inadequate, and are often much slower than advertised.
- A survey of residents and businesses conducted by Jefferson PUD in 2019 indicated that 45% of residential responders have either no internet or only have access to slow speeds and outdated infrastructure such as DSL. Only 59% of businesses surveyed indicated they had high speed broadband (Broadband Infrastructure Expansion Plan, Magellan Advisors, 2019)
- Many estimates say that at least 25% of rural Americans don't have access to broadband with speeds of at least 25 Mbps down and 3Mbps up (Information Technology & Innovation Foundation, July 13, 2020).
- 24% of rural adults say access to high-speed internet is a major problem in the local community (Pew Research Center, September 2018).
- There has not been a comprehensive (statistically meaningful) survey of Jefferson County but there is every reason to believe that it would be somewhat similar to those two quotes, but not necessarily higher.

Those known issues have been greatly exacerbated by COVID because:

- Children are now having to attend school virtually; teachers having to teach school virtually, putting extreme pressure on the need for access to reliable, affordable broadband networks and the internet from home.
- Residents are working from home in numbers never seen and all signs suggest that even as COVID wanes, many workers will continue to work remotely.
- Most Jefferson County residents are experiencing some level of virtual health care.
- Local business has been hurt by COVID restrictions , inability to receive customers at full capacity, and are more reliant on on-line business, on-line ordering, on-line experiences. If the business, or the customer has no access to broadband, the business/economy is affected.
- Loss of, or reduction in employment due of the pandemic, makes broadband out of reach, financially, for families/workers.

- Per the Pew Research Center in April, "53% of Americans say the internet has been essential during the COVID-19 outbreak".
- From ITIF (Info Tech & Innovation Foundation) July 2020, "COVID-19 has exposed shortcomings that competitive networks do not adequately address. This should galvanize policymakers to address serious gaps in rural infrastructure, affordability for low-income users, and at-home access for students." In this same report, what was also expressed was that the urban networks fared well given the 20-40% uptick in home broadband use and not to change much in the urban areas in response to the pandemic.
- If we are unable to ensure that we have a system that provides widespread broadband services and lowers barrier so internet access which is so critical for our economic recovery and the mobility of our workers, Jefferson County's opportunities to grow our economy will be severely limited.

Overview of recommended actions

While access to broadband networks is a big topic, and solutions require time and money, we are making some recommendations for the immediate reduction of the impact of the pandemic, widening the breadth of those immediate actions to include more of Jefferson County, and we are also making recommendations that will take a bit longer but must still be done to ease pandemic pain, and to be prepared for future, similar crises.

In brief, we are making recommendations in these four areas:

1. **Implement short-term, interim, solutions to reduce the immediate impact of COVID:** We are recommending:

   a. funding the continuation of the work the Connected Students Initiatives has done to put computers, portable hot spots, and monthly internet access services into the hands of families with children on the free & reduced lunch program,

   b. like item 1.a above, approving funds to connect the last 10-20 homes of children on the free and reduced-lunch program, which are in the most rural and hard-to-reach areas.

   c. that the circle of support, in the way of portable hot spots and internet services, is widened to include a broader low-income group of families/workers and make provisions to get them the access they need for work, school, and healthcare from home,

   d. that funding be provided to extend the time limit for reduced-price monthly internet services that will expire in less than 12 months, and

   e. continue the support for the PUD in placing WIFI hotspots throughout the County, in their immediate response to the pandemic.

2. **Bring immediate and lasting attention to reducing the impact of the pandemic:** Here, we are making two key recommendations:

   a. to take cross-agency action and get a high response to the WA State Broadband Office speed survey to get Jefferson County the lasting and visible attention we need for state and federal support, while at the same time identifying un-and under-served areas, and

   b. to increase the power/success behind the work to solve these broadband access problems by creating a new cross-agency (or interlocal) Broadband Council, only focused on this topic, for the immediate and longer term.

3. **Complete the <u>plans</u> for near- and long-term broadband expansion:** We recommend:

   a. Ensuring 2.a above is done so that the results inform all plans,

   b. that the Broadband Council (or ICG) collaborate with PUD in the completion of their broadband busines plan,

   c. that funding be made available for experienced engineers to estimate costs for building broadband access infrastructure for communities and/or entire county.,

   d. that the Broadband Council and PUD identify 1-2 targeted pilot communities (un- and underserved, near fiber, feasible for immediate expansion, etc.) and make funds available to complete the engineering and business plans to make them "shovel-ready" (and grant-application-ready), and

   e. similar to 3.d above, that the Broadband Council works with various wireless providers (cellular, radio, and low-earth orbiting satellite) to target 1-2 pilot communities making funds available to complete the engineering and business plans to make them also shovel- and grant-ready.

4. **Implement broadband access expansion solutions:** Here we recommend acting in the near-term to expand broadband network access to various communities, and to layout a long-term implementation plan to cover the rest of the County including:

   a. using information from previous steps, ensure that 1-3 community broadband expansion projects are completed in the next year, that exercise all the various steps, technologies, and skills to inform all future expansions, and

   b. Funding, and ensuring, the creation of a 5-year plan that completes (or substantially completes) the remainder of the County.

Within each of these areas of recommendations, we have also included the legislation necessary to enable a higher level of successful implementation.

PROBLEM/OPPORTUNITY STATEMENTS:

1. **Problem/Opportunity 1**: **Implement short-term, interim, solutions to reduce immediate negative impact of the COVID pandemic**

   Support immediate-need solutions to enable broadband access to students, parents, and workers who, because of the pandemic, are being educated, working, or receiving healthcare attention from home. Emphasize solutions for un- and under-served, low-income and technologically challenged households.

   a. <u>Background</u>: Due to guidelines from shelter-in-place, to virtual-schooling, to temporarily closed business offices, our children, parents, and workers have had to find ways to continue their education and work from home (or alternate locations).   We have also all probably experienced engaging in virtual medical care. Having one or more people in a household who need to use the internet for streaming purposes (participating in class, working via Zoom, speaking to health professionals in a live environment, etc.) has underscored the either complete lack of broadband availability in some parts of the county or the substandard capabilities of some existing broadband services.

   b. <u>Recommended Actions</u>

      i. <u>Objectives/Desired Outcomes</u>: Immediately put services/hardware in the hands of families/workers, focusing on those in hard-to-serve areas, and in those whose low income prevents them from affording services. This may include solutions that are less than state goals but meet the immediate need. The goal is to immediately reduce the COVID-19 impact of needing to use broadband from home or an alternate location where either broadband does not exist, or the equipment/services to "fire up" access are not available.

      The desired outcomes are 1) broadband services/equipment are provided to all low-income families/workers to connect to existing broadband networks and 2) where broadband networks themselves are not available creative solutions are found to make broadband available.

      ii. <u>Leading/Supporting Roles</u>: Connected Students Initiative, PUD, ISP, and other non-profits take the lead with local government agencies, state and federal policy makers and funders, and stakeholders in supporting roles.

      iii. <u>Proposed Action Steps</u>:
         1. Enable the 113 households with students on the "free and reduced lunch program" to have access to broadband and on-

going internet services so that those students are able to attend school virtually. Approve funding to reimburse Connected Students Initiative for expenses related to the purchase of home-located "hot spots" (or other) equipment and one year of internet service fees.

    a. Approve funds for the initial 55 households requested in the September 4th proposal [by 11/1/20]

        i. [Previously approved] $80,563 requested, $18,918 previously approved by ICC/ICG

        ii. September/October monthly service: approximately $3,300

        iii. Remaining 8 months of monthly service: $13,200

    b. Approve funds to reimburse Connected Students Initiatives for their work since the September 4th proposal, for an additional 58 households [11/1/20]:

        i. Equipment: $5,800

        ii. September/October monthly service: $3,480

        iii. Remaining 10 months of service: $17,400

    c. Consider a placeholder for any new additions to the free and reduced lunch group as the effect of the pandemic continues to force new families into this group estimated at $1,000-$2,500 in equipment and $3,600-$9,000 in services (by December 31, 2020).

2. Approve funds for Connected Students Initiative and Internet Service Providers (i.e. North Olympic Peninsula Data Centers, StarLink, cellular providers) to implement broadband solutions, and provide the service/hardware for the last 10-20 most rural, hard-to-reach homes for households with students in the "free or reduced lunch" group [by 11/1/20].

    a. ISP equipment: very rough guess of $12,000

    b. Household equipment: $2,000

    c. 12 months of service: $7,200

3. Cross-reference the "free and reduced lunch" group from Connected Students Initiative with the low-income list from PUD to target and implement temporary broadband services and

provide hardware to other low-income households, which could potentially be 610 households, using PUD counts. [by 12/31/20]:

  a. Household equipment: rough estimate $61,000

  b. 12 months of service: rough estimate $219,600

  c. ISP extension of internet into hard-to-reach areas: unknown at this time

4. Set a deadline to discuss and prepare for funding the extension of the services that Connected Students Initiative has put in place, that start to expire in less than 12 months, beginning May, 2021 [meet in early March, 2021, fund by mid-April, 2021].

Rough example: when all of the 113 households reduced price service expires, there costs will jump from nothing (because the average $30 reduced-price monthly service is currently paid for them) to approximately $80/month, if we assume no new negotiated price nor paid-by-others solution is found. At a minimum, any households whose prepaid service ends before the school year is out will need assistance to get them through the end of the school year

Having said that, there really is not an end to the need for a student to have access to the internet, to support their education needs/requirements, even after they go back to the classroom.

5. Continue the efforts to place WIFI antennas, where needed, in Jefferson County for drive-up access to the internet [timeframe tbd].

  a. [Previously approved] Equipment, cabling, labor for the first 13 WIFI hotspots: $190,000 previously approved by ICC/ICG in September 4th proposal

  b. Equipment, cabling, labor for additional WIFI locations [this estimate is unknown at the time of this report]

c. **Legislation Needed**

  i. Real and sustainable support is needed for low-income households to enable them to receive broadband service and equipment that they are not otherwise able to afford. Local grants, CARES funding, and charity are being used now to fund temporary solutions that will expire within 12 months. **Create and fund permanent solutions for low-income households to access broadband internet services, including ideas like**

vouchers (state of Alabama), negotiating fixed low-income pricing with service providers, etc.

ii. Once the pandemic "grace period" ends, ISPs that have reduced their monthly service fees for low income, will reinstitute pre-COVID rates which will be unaffordable for low income residents. Use the power of state and federal agencies/funding **to negotiate more permanent low-income rates with service providers**.

iii. State Broadband Office (and Jefferson County) must have an **educational outreach** arm that is available to help residents learn how to get and use broadband services and equipment. Provide support for **digital equity and inclusion legislation** that provides funding for training and skill-building, access to hardware and software, internet connectivity, digital media literacy, assistance in the adoption of information and communication technologies in low-income and underserved areas and populations, and development of locally relevant content and delivery of vital services and technology. (HB 2414, 2020)

2. Problem/Opportunity 2: Bring immediate and lasting attention to reducing the impact

Actually making broadband available (especially during crises like this pandemic) to the un- and under-served, and close the equity divide so that low-income households and rural communities are not left out, will require the power and attention of a group not unlike the ICG. Jefferson County needs a longer-term intergovernmental (or interlocal) entity focused on this topic.

> **Background**: Attention to the necessity of broadband for families, students, businesses/workers, healthcare, and the economy has exploded due to COVID-19. Efforts like this ICG/ICC is undertaking, have the potential to actually move the needle to bring about solutions. Prior to the pandemic, groups that did not have the full power/influence of elected officials, community leaders, lobbyists, etc., limped along making small progress. This pandemic is not over and the attention cannot wane. And, when it is over, the work will not be done. A strong organization who can build local and legislative partnerships, assess needs, understanding funding sources, set goals, assign responsibilities, hold people accountable is needed to ensure success in expanding broadband in Jefferson County.

There is work being done at the state level to improve broadband access. One way the state is judging where help is needed is via their survey response map on which Jefferson County has a low response rate. Getting "on the map" should be simple and is probably essential in moving forward. Some immediate state/federal relief may depend on it. Jefferson County needs to be on that map.

a. **Recommended Actions**

   i. <u>Objectives/Desired Outcomes:</u> The best outcome is that Jefferson County has the attention of federal, state, and local agencies for both funding and inclusion in large-scale broadband solution negotiations, as well as in developing appropriate and reachable standards/equity. And, that a new intergovernmental Broadband Council be created and tasked with supporting successful outcomes.

   ii. <u>Leading/Supporting Roles:</u> Jefferson County, City of Port Townsend, Jefferson PUD, Port of Port Townsend, EDC Team Jefferson and JBAT to take the lead with support from federal policy makers and funders, broadband service providers, local businesses, and citizens

   iii. <u>Proposed Action Steps</u>

      1. Immediately engage county residents and businesses to participate in the WA State Broadband Office survey of broadband access, so that the state's attention to Jefferson County is raised as a recipient of short- and long-term funding, solutions, and policies. The survey mechanism is already in place; the cost associated with the effort to get households to respond (akin to a "get out the vote" effort) is modest and should be absorbed by the City of Port Townsend, Jefferson County, the Port of Port Townsend and Jefferson PUD in activities already underway [starting now, and through December 31, 2020).

      2. Create an interlocal broadband council to stay in place for at least three years at a minimum to do the following (council to be setup as soon as feasible]:

         a. Identify roles, responsibilities and limitations of local governments and organizations and create interlocal agreements to enable a collaborative effort to fund and build out broadband access.
         b. Provide support/resources for planning and implementation of the council, including support for grant-writing, mapping, and related tasks.

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c. Develop and/or expand regional, state, and federal partnerships.
d. Develop service provider partnerships and incentives.
e. Establish timelines, goals, and mechanisms to evaluate progress.
f. Ensure that broadband actions & services meet local, state, and federal goals for broadband services and digital equity
g. Develop the legislative agenda that supports broadband expansion.

b. **Legislation Needed**

i. Adopt an **interlocal agreement to implement a local government Broadband Council that identifies** the team members, establishes roles and responsibilities, goals, timeframes, and funding commitments.

3. Problem/Opportunity 3: Complete plans for near- and long-term broadband expansion

Plan, and take the steps to be ready for medium and long-term solutions for Jefferson County.

a. **Background:** For the last few years, each time a broadband expansion grant has been available, Jefferson County has not been in a position to apply for the grant. We don't have complete survey information, it is not explicitly clear where our un- and under-served areas are, we don't have the relationships with ISPs to collaborate on the grant request, and we don't have accurate estimates of costs and revenue potential.

Even in the timeframe during this pandemic, we could have acted on expanding broadband in some communities had we had the information and the relationships to move faster.

b. **Recommended Actions**

i. <u>Objectives/Desired Outcomes</u>: The actions below should result in our being <u>ready to find funding and start building out</u> expanded broadband access networks in Jefferson County. These actions should also enable us to start small expansion projects in the near term.

  ii. <u>Leading/Supporting Roles</u>: Broadband Council, Jefferson PUD, broadband engineering companies, Internet Service Providers play leading roles with federal and state legislators, EDC Team Jefferson and JBAT support

  iii. <u>Proposed Action Steps</u>

   1. Complete item 2.b.iii.1 (see above) and have useful survey results at the ready to be used to get state/federal support and to target areas in need.

   2. Either have the ICG, or a new broadband interlocal council (from 2.b.iii.2 above), be an active partner with the PUD as they finish their broadband business plan helping to ensure that county-wide priorities and cost/benefit can be met, and to provide assistance with funding sources [starting now, through end of December, 2020].

   3. Fund, and engage with a group like GEO Partners to provide additional cost estimates for either community-specific or county-wide broadband implementation. Ensure both all-fiber and hybrid approaches are estimated. The cost for this could be less than $15,000 and will give the us more confidence in other third-party estimates [by December 31, 2020].

   4. Using the power of a newly created interlocal council (from item 2.b.iii.2), appoint a team to collaborate with the PUD to create a near-term list of targeted communities, close to existing fiber where expansion can be feasible. Fund the micro-business plan (cost/revenue estimates, basic engineering design) for 1-2 pilot community buildouts. [cost estimate is tbd; timeframe for this step is November 2020-February 2021]

   5. Additionally, have the appointed teamwork with other wireless service providers for expansion into harder-to-reach neighborhoods (cellular, radio, and low-earth-orbiting-satellite). Fund the micro-business plan (cost/revenue estimates, basic engineering design) for 1-2 pilot community buildouts. [cost estimate is tbd; timeframe for this step is November 2020-February 2021]

 c. <u>Legislation Needed</u>

  i. <u>Retail ISP authority of last resort</u>: **Change the WA state regulations that restrict public agencies from servings as a retail internet service provider**. Minimally, allow public agencies to be the retail provider "of

last resort" when other internet service providers won't deliver service in rural areas because of limited revenue potential.

ii. <u>Definition of broadband speed</u>: The generally accepted current definition of broadband speed, of 25megabits per second on downloads and 3 megabits per second on uploads, is what has been and continues to be used as the measure of success for internet service providers. Not only is this measure no longer fast enough for today's work, education, and healthcare needs, it is not even what many service providers are actually delivering, even after they have accepted grant money to do so. This current accepted standard is perhaps only 25% of the speed actually being delivered in most urban areas, even minor ones. Even the state of WA has these speeds as their 2024 goal for "all Washington businesses and residences", growing to 150 megabits per second symmetrical (down and up) by 2028. **Rural areas will continue to be the last communities brought up to these broadband speed standards and by then, the rest of the US will be far ahead. These broadband speed goals are not aggressive enough**. **Grants for long-term infrastructure should only be awarded to those who are committed to meeting long-term (at least 10-year horizon) broadband speed goals, not just 2-3 year speed goals.**

iii. <u>Alternative criteria for grants</u>: **Remove the restrictions on broadband grant and loan programs** that handcuff local government agencies and others, and that use criteria that only large-scale internet service providers can win when those are the same providers failing the rural, underserved, and low-income communities. If public agencies had more access to grant money, then open architecture (bullet number iv below can also become a reality).

iv. <u>Open architecture</u>: An open broadband access network encourages an open market for services. Currently, when a large internet service provider brings fiber or coaxial cable to a community, that community is basically held captive by that provider and will only get the level of service that provider is willing to deliver. The provider won't let any other provider onto the broadband access network it built. **It is time to incentivize and prioritize <u>open</u> broadband access network infrastructure**. Fund public agencies to create broadband access networks rather than ISP or joint ISP/public agency developed networks. Open architecture allows the customer to choose their internet service provider, and for any internet service provider to gain access to the infrastructure (fiber, etc.).

4. **Problem/Opportunity 4: Implement broadband access expansion solutions**

Expand broadband network access in Jefferson County, with starting with smaller, identified shovel-ready pilot projects, and overall, for all of the County.

   a. **Background**: There are some communities in Jefferson County who have wired (fiber, coax) or wireless (radio, cellular hot spot, low earth orbiting satellite) broadband and internet access delivered by CenturyLink, Wave, North Olympic Peninsula Data Centers, Starlink, Marrowstone Wireless, T-Mobile, AT&T, Sprint, etc.). In those communities, there are success stories, and there are those that are just limping along with substandard capabilities. Expansion of broadband network access in Jefferson County has been done in small increments.

   The pandemic has brought into broad focus that there continue to be many un- and under-served, along with those whose income does not allow them to participate.

   Where communities are either 1) adjacent to existing fiber, 2) within range of an existing radio tower, 3) within range of a cellular fixed wireless broadband tower, or 4) within range of the new Starlink low earth orbiting satellites, we have opportunities to expand broadband network access in the nearer term. Doing so may mean we expand without "open architecture" (because these solutions mean using existing ISP-owned infrastructure) but could reduce pandemic pain earlier.

   The larger, more comprehensive, all-county solution is a longer term venture; Washington's goal is that 25Mbs up/3Mbs down by 2024, and then the higher 150 Mbs by 2028 – both many years away.

   b. **Recommended Actions**
      i. <u>Objectives/Desired Outcomes:</u> Successful completion of the actions recommended in Problem/Opportunity 3 puts Jefferson County in "shovel-ready" position to build-out broadband access networks in a few pilot communities. The desired outcome of these next steps is to complete, and make broadband access services available in 2-3 Jefferson County pilot communities (preferably in the un- and underserved categories) within the coming 12 months and to use the information and skills gained to create a five-year plan, and accelerate future build-outs.

      ii.   <u>Leading/Supporting Roles</u>: Jefferson PUD, Internet Service Providers, Broadband Council play leading roles with the support of federal and state legislators, community activists, EDC Team Jefferson, community organization (i.e. JBAT), businesses and residents

      iii.   <u>Proposed Action Steps</u>

          1.   Expand broadband, now, where we can [in the next 12-18 months]:

               a.   From the planning work done in items 3.b.iii.4 and 3.b.iii.5 above, build out at least 2-3 of these small expansions in the next year as pilot projects that can be models for larger build-outs. Exercise all of these steps:

                    i.   Apply for grants and find other funding sources to fund the build-outs

                    ii.   Build relationships with infrastructure builders (PUD and/or others) and retail internet service providers who will complete the work and supply the on-going services in these communities

                    iii.   Develop how-to guides for residents.

                    iv.   Complete the builds and "light them up".

          2.   Develop a 1-5 year plan to complete implementation in the remainder of the County [within the next 10 months].

c. Legislation Needed

      i.   <u>Alternative criteria for grants</u>: [Repeated from 3.c.iii above] **Remove the restrictions on broadband grant and loan programs** that handcuff local government agencies, and that use criteria that only large-scale internet service providers can win when those are the same providers failing the rural, underserved, and low-income communities.