



**AGENDA**  
**Special Meeting**  
**September 27, 2019 at 9-11 AM**  
**Legion Hall - McCall City Hall**  
**(Lower Level)**  
**216 East Park Street**

**WORK SESSION**

AB 19-213 Municipal Broadband and Fiber Utility Discussion (ACTION ITEM)

**ADJOURN**

American with Disabilities Act Notice: The City Council Meeting room is accessible to persons with disabilities. If you need assistance, please contact City Hall at 634-7142 at least 48 hours prior to the meeting.

**McCALL CITY COUNCIL  
AGENDA BILL**

216 East Park Street  
McCall, Idaho 83638

**Number AB 19-213**  
**Meeting Date September 27, 2019**

**AGENDA ITEM INFORMATION**

<b>SUBJECT:</b>  <i>Work Session Municipal Fiber Utility Discussion</i>		<i>Department Approvals</i>	<i>Initials</i>	<i>Originator or Supporter</i>
		Mayor / Council		
		City Manager	ABS	
		Clerk		
		Treasurer		
		Community Development		
		Police Department		
		Public Works		
		Golf Course		
<b>COST IMPACT:</b>	TBD	Parks and Recreation		
<b>FUNDING SOURCE:</b>	TBD	Airport		
		Library		
<b>TIMELINE:</b>	TBD	Information Systems	CC	Originator
		Grant Coordinator		

**SUMMARY STATEMENT:**

On July 12, 2018, Council approved Resolution 18-15 recognizing internet services to be essential services. Additionally, language in the McCall Area Comprehensive Plan’s Policy 2.5 “Improve broadband and fiber optic capacity within the city....” and Policy 5.2 “Explore ways of expanding high speed internet and fiber optic access to public buildings, businesses and residences....” supports this need.

At the April 26, 2019 Council work session, staff provided a brief history about the project and explained the challenges and goals of providing this service. The staff discussed the merits of expanding on installed fiber and conduit to create an open fiber network allowing third parties to offer internet services to citizenry and businesses within the City of McCall. This would be a multi-year project designed to support high speed internet access at lower prices for the community. Council expressed support of the project and gave staff direction to move forward and bring back more information on the methods for financing this effort.

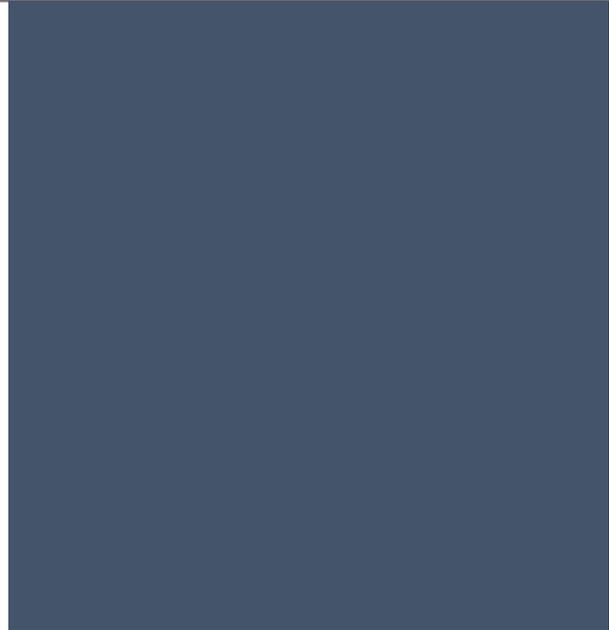
The purpose of this work session is to provide the merits of the different models and ask for direction on next steps in moving forward with the project. The Rapid Fiber Plan draft, Cost Projections, and Resolution 18-15 are attached.

**RECOMMENDED ACTION:**

For discussion the proposal outlined and give staff direction to move forward.

**RECORD OF COUNCIL ACTION**

<b>MEETING DATE</b>	<b>ACTION</b>
July 12, 2018	Request to Adopt Resolution 18-15 Recognizing Broadband as an Essential Service and A Presentation on Municipal Networks
April 26, 2019	Municipal Fiber Utility to provide High Speed Internet to Citizenry and Businesses Discussion



# RAPID Fiber

City Council Work Session 2019

Chris Curtin

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McCall’s Broadband Strategy

The purpose of this plan is to implement the City’s adopted policies found in the 2017 McCall Area Comprehensive Plan: Economic Development Goal 2, Policy 2.5 “Improve broadband and fiber-optic capacity within the city to enable improved telecommuting opportunities, cottage industries, and attraction of businesses that require high speeds of connectivity” and Public Facilities Goal 5, Policy 5.2 “Explore ways of expanding high speed internet and fiber optic access to public buildings, businesses and residences throughout the McCall Area.”

The Information Systems department together with consultant Entry Point Solutions has researched and developed the following information for consideration by Council as a broadband access strategy to serve the McCall community. The City has branded this effort “RAPID” with the following goals:

 Why & What	<ul style="list-style-type: none"> <li>• Why: Network Access is Essential</li> <li>• What: Transform broadband from a system designed for the benefit of large incumbents to a system designed to deliver value for residents.</li> </ul>			
 Strategic Goals	<ul style="list-style-type: none"> <li>• Accessible</li> </ul>	<ul style="list-style-type: none"> <li>• Affordable</li> </ul>	<ul style="list-style-type: none"> <li>• Minimize Risk</li> </ul>	<ul style="list-style-type: none"> <li>• Enable Long Term Community Plans and Objectives</li> </ul>
 Key Initiatives	<ul style="list-style-type: none"> <li>• Start with Highest Demand Areas but make Availability Universal</li> </ul>	<ul style="list-style-type: none"> <li>• Move to an Open Access Model</li> <li>• Expose ISP to Competition and innovation</li> <li>• Lower Business and household expenses</li> <li>• Increase performance</li> </ul>	<ul style="list-style-type: none"> <li>• Make Participation Voluntary</li> <li>• Mitigate Financial &amp; Political Risk</li> <li>• Infrastructure is an Improvement to the Property</li> </ul>	<ul style="list-style-type: none"> <li>• City is Anchor Tenant</li> <li>• Support Economic Development</li> <li>• Incubate New Applications</li> </ul>

Based upon the Council’s adopted resolution 18-15 (appendix A), the RAPID strategy includes these assumptions:

- ➔ Broadband internet access is an essential service for the community.
- ➔ Since broadband internet access is an essential service, the City should consider treating the infrastructure component like a utility.



- Fiber optic cable is the most future proof communication media infrastructure to deliver broadband internet access to the community.
- The City owns fiber optic cable infrastructure (the “backbone”) already and it can be leveraged to support an open marketplace of private internet service providers.

**The primary objectives of RAPID are to leverage our fiber optic infrastructure to:**

- Democratize access, which means everyone has an opportunity to connect. Access is a function of availability and affordability. The network will be available to everyone. To enable affordability, the city seeks to drive the cost as low as possible.
- Promote economic development.
- Reduce overall household costs.
- Provide maximum value for the minimum necessary pricing.
- Advance policy measures to protect the privacy of subscribers.
- Promote abundant bandwidth.
- Build future proof infrastructure.

**The known problems with the current broadband system include:**

- Incumbent service providers have total control of infrastructure and access. Service quality and speeds are intermittent and expensive generating numerous complaints from residents, guests and businesses.
- There is a lack of competition and a lack of innovation because of the monopoly or duopoly control of incumbents (ISP Silo). Current broadband is delivered on inadequate infrastructure such as copper wire and DSL that cannot meet modern data demands.
- Incumbents have created independent infrastructure silos that will be costly to independently upgrade. The rural nature of our area with low density population does not make us attractive as a strategic area for infrastructure investment by the incumbents.

**Conclusion: Separating infrastructure ownership/control from the internet service providers is the first step to improving the access to and delivery of broadband internet services to our community.**

- In order to give subscribers choice, access to broadband services should be on an open marketplace of private internet providers. Incumbents and new providers have expressed an interest and willingness to partner with the City to participate in an open marketplace.

Open Marketplaces have been shown to: 1) evolve faster, 2) expose service providers to competition and competition leads to lower costs, 3) expose service providers to innovation, 4) lower the barriers to entry for new service providers, 5) make permission-less interaction and relationships possible.



- The City is the optimal steward over this infrastructure because the City’s goals are aligned with subscribers in seeking downward pressure on cost, innovation, abundant bandwidth and an open platform.
- The City is the optimal steward over this infrastructure because the City is incentivized to leave the network open and will not be incentivized to sell the infrastructure for profit.
- Investment in essential infrastructure supports economic development.

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### Assessing the Existing Broadband Infrastructure

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Although there are some limited wireless broadband options (Wilderness Wireless) available to subscribers in McCall, the overwhelming majority of residences and businesses subscribe to internet services from CableOne (Sparklight) and Frontier Communications. Typical speeds are in the 5-25 Mbps range through Frontier and Wilderness Wireless. CableOne offers basic service from 50-100 Mbps with availability up to 500Mbps. Many of these plans are limited with data caps. The pricing for these providers ranges from \$45-\$200+ \ month for unlimited plans.

Second tier providers such as satellite and cellular are also available. Satellite is more expensive and suffers from latency (time for signal to travel to space and back) as well as data caps. Additionally, satellite typically has maximum speeds of “up to” 25Mbps. Cellular “offers” speeds up to 50Mbps with data caps. McCall has a unique challenge as a resort town with weekly large influxes of visitors overwhelming the network.

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### Backhaul / Middle Mile Connectivity

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Backhaul – The connection that continues outside of the City and connects McCall to the internet – is one of the biggest challenges facing this project. Currently, Frontier and CableOne can provide this connectivity up to 1Gbps speeds. This is not fast enough (large enough pipe) for our needs. As such, it will be important to get additional providers and additional bandwidth (5-10Gbps) brought in. Syringa, CableOne and FatBeam have already approached the City to discuss partnering to bring in middle mile capabilities. Syringa, particularly, is in process with providing new, faster service to the City beginning in 2020. CableOne would simply need to upgrade the equipment on either end of their existing fiber to increase capability. The same is true with Frontier. Note: Frontier is going through a sale to a new owner so the future of communications offerings in McCall are unknown at this time. Additionally, InfoSys is working with IRON (Idaho Regional Optical Networks) in an effort to bring additional providers into our market.



## Anticipating the Future

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The range of broadband issues relevant to cities continues to grow. Pressing issues at the national and local level include the lack of competitive options for internet access, the high cost of services, requests by wireless companies to site cell towers around the city, the impact of the digital divide on underprivileged citizens, privacy issues and perhaps *the most important issue is the impact of communications on economic development and the reality that negative growth (the opposite of economic development) will increasingly happen in communities with broadband infrastructure that does not favor the consumer*. Technology related issues and the demand for competence around technology policy will increase over time.

Until now, municipalities have mostly watched from the sidelines while private companies have taken control of wireless and wired communications systems. With that control, these companies have decided where they will build, what they will build, what the price will be, what services will operate on their network, and the kind of innovation that occurs. However, because the network is now so fundamental to nearly every aspect of modern life, municipalities can no longer afford to merely watch from the sidelines. Municipal leaders must gain a more comprehensive understanding of how networks work and the interdependencies between networks and other technologies that increasingly impact the livability of a community. Local leaders cannot afford to ignore current broadband issues and should not continue to outsource the resolution of these issues to the large incumbent providers with the hope that these companies will do what is best for consumers. Planning and thoughtful broadband strategies are necessary to protect the long-term viability of communities.

Municipalities have a much broader and different set of interests related to broadband infrastructure than ISP's. These interests include economic development, livability, public safety, education, healthcare, emergency communications, smart grid, efficient government services, environmental stewardship, universal access and smart city applications. All these things are now network dependent and the value from the network to municipalities can align perfectly with the interests of individual businesses, residents and anchor institutions who subscribe to the network. The municipality as a whole and the individual subscriber will benefit from universal access, abundant bandwidth, affordable prices and local control of infrastructure. As a result, municipalities are becoming increasingly aware that broadband infrastructure is strategically important and should be controlled by the municipality for the good of all stakeholders. McCall's efforts around this Plan underscore the seriousness with which McCall's leaders attach to these issues.

McCall's Broadband Strategy is focused on anticipating the future to the degree possible. The following are key attributes that should be considered by McCall as it goes forward:

- **Flexibility and Capacity:** The network must offer the flexibility and capacity that will be needed in the future for whatever may come.
- **Speed:** Consumers have an insatiable appetite for speed – the demand curve for speed will not diminish and Fiber Optics is the most future-proof media available today.



- **On-Demand Self Service:** A network subscriber (customer) should be able to automatically provision or decommission services as desired at any time and have those choices realized in real time in the network without assistance from network personnel.
- **Rapid Provisioning:** Network automation, software defined networking, and virtualization should be used to make it possible and easy for subscribers to provision services in real time.
- **Minimal Management:** User friendly interfaces, automation, virtualization, and SDN (Software Defined Networks) eliminate or at least significantly reduce the need for interaction with network technicians.
- **Automation:** Systems should provide a control architecture that automates the operation of the edge network in a cloud-like manner to simplify and speed-up the introduction of new network services and applications.
- **Pay-as-you-Go:** Automation makes it possible for network operators to give subscribers and service providers the ability to dynamically create and tear down networks for various applications and services - which in turn makes it possible to offer pay-as-you-go models that mirror actual usage.
- **Eliminate Information and Functionality Silos:** Open systems tend to eliminate or diminish information and functionality silos.
- **Privacy & Security:** Networks must be secure and provide confidentiality options as needed.
- **Emerging technologies** will require advanced networking capabilities supported by business models that allow the network to evolve with the needs of networks users.

Fiber vs. Cable vs. DSL vs. Wireless vs. 5G as a Network Media

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Media	Typical Deployment Speeds	Current Maximum Speed
Fiber Optics	500 Mbps – 1,000 Mbps	100,000 Mbps
Cable	50 Mbps – 200 Mbps	940 Mbps
DSL	20 Mbps – 75 Mbps	140 Mbps
Wireless – Point to Point	10 Mbps – 60 Mbps	100 Mbps
5G Wireless – Point to Multipoint	150 Mbps – 200 Mbps	1,000 Mbps



Another way to look at this is in the following Download Speed Comparison chart –

Length & Type of Media	Approx. Size	10 Mbps	20 Mbps	100 Mbps	1,000 Mbps
4-Minute Song	4 MB	3 sec	1.5 sec	0.3 sec	0.03 sec
5-Minute Song	30 MB	26 sec	13 sec	2.5 sec	0.2 sec
9-Hour Audio Book	110 MB	1.5 min	46 sec	9.2 sec	0.9 sec
45-Minute TV Show	200 MB	3 min	1.5 min	16 sec	1.7 sec
45-Minute HDTV Show	600 MB	8.5 min	4 min	50 sec	5 sec
2-Hour Movie	1.0-1.5 GB	21.5 min	10.5 min	1.5 min	8 sec
2-Hour HD Movie	3.0-4.5 GB	60 min	32 min	4.5 min	25 sec
Large Archive File	10 GB	Too long	Slow	Better	80 sec

### Current and Future Needs for Municipal Systems

Fiber optic cable is the foundational infrastructure for all municipal communication systems. Fiber optic cable can easily interface with wireless technologies but wireless works best the faster it gets to fiber.

#### Current and Future Commercial Needs

Fiber optic cable becomes the ingress and egress of all commercial communications. As commercial entities require increased capacity / speed - fiber can accommodate these demands.

#### Current and Future Residential Needs

Residents are currently paying too much for too little value. As with Commercial needs, fiber optic cable becomes the ingress and egress of all residential communications. As demand for speed increases, fiber optics easily accommodates these demands.

#### McCall Broadband Survey Results

As part of this project, The West Central Mountains Economic Development Committee did a small survey of McCall Residents regarding current sentiment regarding existing services and the possibility of municipal broadband infrastructure. Key findings from the survey include the following:

Key Survey Matrix	Current ISP Speed	Less Than 100 Mbps	72.17%
	Current ISP Cost	More Than \$50 per/mo.	79.91%
	Importance of ISP Choice	Important (Very/Somewhat)	96.06%
	Support Municipal Fiber Network	Yes	86.85%
	(as infrastructure with more IPS options)	Maybe	10.78%
		No	2.37%



## Financial Structure Options

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**#1. Dark Fiber Open Access** is an open access model where the city builds infrastructure to the curb and the subscriber then selects an ISP as its provider and the ISP finishes the last mile with its own infrastructure and electronics. The dark fiber model improves the number of options available to consumers, but it also carries a set of negative constraints for consumers as a consequence of each service provider providing its own drop and customer premise equipment.

The fact that the provider must place their equipment on each end of the fiber limits the usability of each strand of fiber. This is analogous to the way the telephone worked during the early days of the telephone system, before the advent of the telephone switchboard, where the dark wire idea was used to connect the phones together. It wasn't until the switchboard was invented that the telephone system allowed for dynamic call switching. With an isolated dark fiber connection, it is impossible to connect to other services that may not be available through the ISP that controls the subscriber edge.

The “other services” connectivity problem is solved in advanced networks through virtualization and by separating the infrastructure from the services to create an environment where multiple service providers can simultaneously and independently offer their services across the wire.

One additional limitation with the Dark Fiber Model is that it doesn't scale effectively because the network operator can never anticipate the fiber count required to meet the demand. This creates significant complications for the network operator.

**#2. A Private / Public Partnership** is an arrangement where a private entity shares some common goals with municipal officials and the parties agree to work together to build out municipal infrastructure. This model is closer to the City becoming more of an Internet Service Provider (ISP). There are legal challenges associated with this type of service that may make it difficult. The City could be viewed as a competitor to incumbents in this model. Another limitation of this model is that the entity that assumes the risk and provides the capital required to build the network will also control the network. Without local and public control of the infrastructure, the city will be left with some form of the current incumbent control model. The chairs will have been rearranged but the key problems remain.

**#3. General Obligation Bond.** In this model, the City asks the voters to pay for the build out of the infrastructure using property tax dollars. All property owners pay for the build out whether they want to subscribe to the broadband services or not. The build out is not driven by the number of customers choosing to join the network in a given area and this creates a “take-rate risk” for the City (i.e. after the system is built out few people choose to use the City system and the taxpayers are left paying for an underutilized infrastructure). It does not ensure the long-term sustainability of the network.

**#4. Subscriber Owned Infrastructure (LID)** is a model where broadband infrastructure is treated as an improvement to the property like other essential infrastructure (sewer and water) and once a property owner signs up to participate in the network, that property owner is responsible for paying their portion of the infrastructure that connects his/her home to the backbone of the network.



The benefit to subscribers is that they get the ability to pay off the infrastructure over time, which keeps the monthly costs lower. The network benefits from customer loyalty and the city is not susceptible to take-rate risk, which is the risk that actual participation turns out to be lower than expected and/or the risk that the network loses participants over time.

The following table summarizes the four different approaches to financing the infrastructure.

Issue	Dark Fiber Option #1	Private\Public Option #2	Gen. Obligation Option #3	Subscrib. Owned Option #4
<b>City Retains Control</b>	No	No	Yes	Yes
<b>Tied to Success of Services</b>	Yes	Yes	Yes	No
<b>Taxes Non-Participants</b>	Yes	Yes	Yes	No
<b>Voluntary Participation</b>	No	No	No	Yes
<b>Residents have Influence</b>	No	No	Yes	Yes
<b>Customer Loyalty</b>	Low	Low	Low	High
<b>City Financial Risk</b>	High	High	High	Low
<b>Political Risk</b>	High	High	High	Low

**Recommendation:** The City of McCall use Option #4 Subscriber Owned Infrastructure Model (LID) because 1) this model gives the city full control of this essential infrastructure, 2) financial risk to the city is lower because build out is targeted to participants who will pay their share of the cost, 3) infrastructure is regarded as an improvement to the value of the property and only participants are assessed for infrastructure, 4) take-rate risk is reduced, 5) this model is most conducive to long term sustainability because of customer commitment to the network, and 6) it creates an open marketplace for internet service providers to gain customers. 7) The model has been successful elsewhere in Idaho and legal challenges are limited.

If the City chooses Option #4 then one of the following strategies for deploying municipal broadband infrastructure must be determined:

- **Opt-In:** Subscribers voluntarily decide whether they want to participate in the network and sign up online or at city hall. This approach has very low political and financial risk to the city. The downside of this approach is that take-rates will be less than 100% initially and the lower the take rate, the more expensive the installation cost is for participants and city employees or a contracted 3rd party will need to spend time and resources making contact with residents who are not paying attention and don't make the effort to sign up. Under this option the City's financial model conservatively assumes the take-rate would be 60%.



- **Opt-Out:** Subscribers voluntarily decide whether they want to participate in the network, but it is assumed that every property owner is going to participate and the burden is on the resident or property owner to opt-out online or at city hall. This approach also has some political risk and financial risk to the city. The downside of this approach is that take-rates will be less than 100% initially and infrastructure costs increase as take-rate declines. Additionally, the city will need to decide how to deal with residents who are not paying attention and don't take the initiative to opt-out and who don't want to participate in the network.
- **Infrastructure to the Curb:** The City Council determines that we will deliver the infrastructure to the curb of every property in the city. Because the infrastructure is only at the curb, residents or property owners will then either need to opt-in or opt-out to run the infrastructure into the home and place customer premise equipment in the home.
- **Infrastructure to the Premise:** The City Council determines that we will deliver infrastructure to the premise of every property in the city. The upside of this approach is that it can result in lower possible infrastructure cost to the property owner due to economies of scale. The downside of this approach is that it can be difficult to execute because the City will need every property owner's permission to perform work on their private property and the City assumes liability for the work performed.

**Recommendation:** City staff recommend the Opt-In Model and Infrastructure to the Curb for implementation of Option #4 above.

The City Council can ask the voters whether they approve of creating a Full Municipal Fiber Utility where the City operates the full system instead of using a partnership/open platform subscriber model. Taking the issue to a vote will likely draw in a significant propaganda campaign from lobbyists of the Cable and Telecommunications industry opposing a fully publicly owned McCall network/internet service provider system. When Fort Collins took a similar decision to its voters in 2018, lobbyists and special interest groups representing the Cable industry spent nearly \$900,000 in advertisements in a failed attempt to stop the municipal network. Fort Collins residents still overwhelmingly approved the full utility municipal model. In McCall, there is no guarantee that such a measure will succeed even though total monthly cost projections for the McCall network are in the \$50 - \$55 range for Gig symmetrical speeds, a 25% - 30% improvement over current average costs both nationally and in McCall.

<https://www.coloradoan.com/story/news/2017/12/08/fort-collins-broadband-vote-spending/934967001/>.



Cost Estimates

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The following Table provides ranges of expected costs based on the Opt-In Strategy in the Subscriber Owned Infrastructure model:

Connection Speed	Network Installation Expense	Ongoing Network Operations	Internet Service Provider	Total Monthly with Install Expense	Total Monthly After Install is Paid Off
100 - 1000 Mbps (Gig)	\$15 - \$21 Per Month	\$18 - \$21 Per Month	\$5 - \$10 Per Month	\$38 - \$52 Per Month	\$23 - \$31 Per Month

**Governance of Network Operations**

The City will have a centralized Network Operations Center (NOC) based in City Hall that can be expanded going forward. There are multiple possibilities for expansion available with this type of Fiber Optic Utility. It is our opinion that an internally managed Network Operations Department is viable with a reliable network that has advanced network monitoring capabilities. In keeping with the recommendations above, staff does not recommend that the City become an internet service provider and instead should only provide the open market platform for private providers to offer their services.

Other Funding Possibilities

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**Donating Partners and Other Funding Opportunities**

While it is possible that anchor institutions within McCall City limits may become a donating partner to the city’s effort to build a city-wide fiber optic network, the proposed strategy allows the city to build its network in a sustainable, low-risk manner without external funding donations.

**Federal & State Grants**

Federal & State Grants are available for broadband projects, but they are highly competitive. The most likely path for securing grant funding is for projects that advance smart city initiatives. The National Science Foundation is very active in funding research activities for transportation, healthcare, aging in place, education, renewable energy, public safety, emergency communication and other smart city initiatives.

An important technology goal in the strategic plan is to deploy a new city-wide private internet that runs alongside the conventional public internet. This initiative would be particularly compelling as an enabler for Federal Grant Opportunities.



## Additional Revenue Possibilities

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- **Dark Fiber** – The City can lease unused fiber to businesses or individuals.
- **Open Conduit** – Current installation of conduit includes 3 x 1.25” conduit. The City could lease empty conduit to businesses or individuals
- **Rack Space** – ISP’s could pay a monthly fee for rack space within the City network operation center.
- **Network Operations** – The City could provide additional infrastructure – switches, routing, VPN etc. – to third parties for their operations.
- **Installation Partnership** – The City could work with providers during backbone installation that want to own a conduit. Example: Install a 4<sup>th</sup> conduit alongside our 3 or split install costs – City pays for 2 and provider pays for one of the conduits - 2\3’s vs 1\3 install cost split.

## Risk Analysis

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The McCall Broadband Plan was designed to minimize financial risk, political risk and create a sustainable network.

**Financial Risk** will be minimized by following the Subscriber Owned Infrastructure Model Strategy recommended.

**Political Risks** are also minimized by following an Opt-in or Opt-out strategy within a Subscriber Owned Infrastructure Model described earlier. Political risk increases if the city decides to do a Full-utility model and build to every premise in the city. This project did not do an assessment of the appetite for a full utility model. A full-utility model would provide the lowest infrastructure cost per home.

**Partners** The following are potential service providers, contractors, and consulting partners for some of these roles.

### Internet Service Providers (ISP)

- Syringa
- Frontier Communications
- SparkLight (CableOne)
- Fybercom
- Fatbeam

### Network Engineering

- Foresite Group
- MidStates Consultants
- Finley USA

### Construction

- Connex
- Circle H
- Sawtooth Directional Drilling



- North Coast/Codale Utility Group
- Spligitty Fiber Optic Services
- Henkels & McCoy

#### **Backhaul / Middle Mile Connectivity**

- Syringa
- CableOne
- Cambridge Telephone
- Frontier
- FatBeam

#### **Financing**

- Zions Bank
- Municipal Capital Markets Group
- Key Bank
- Municonsults, LLC (Todd Marriott)

#### **Proof of Concept Requirements**

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City staff recommend that the City work with Entry Point Solutions to identify, plan and set a test area to deploy a proof of concept. Deployment of the technology in a proof of concept (POC) – Phase 1 would allow the City to test the rollout plan, costs, partnership interest, financing, and viability before entering a full-scale deployment.

#### **Summary of Key Ideas Related to the Business Model**

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The following is a bulleted summary of the key ideas from the RAPID Plan for the Broadband Business Model. The Plan is a living document and can be modified but there should be alignment between the Plan and the actual network implementation:

- Individual Subscribers will be responsible for the Infrastructure / Installation Cost because it is an improvement to the property.
- Services should generally be provided by the private sector and available to subscribers from “the cloud.” That means all service providers including ISP’s will be software companies with no control over infrastructure.
- Services can be suspended by subscribers.
- Infrastructure expenses cannot be suspended by the property owner until that property’s infrastructure debt is retired.
- Late-comers – those who do not participate in the LID - will pay the LID installation cost up front and do not have the option to access long term city sponsored financing.



- Revenues from late comers will go into reserves and will be used for maintenance and operational expenses for all subscribers to the network.
- Network sustainability depends on the city not assuming take-rate risk. (Take-Rate Risk is the risk that actual participation turns out to be lower than expected participation or the risk that the network loses participants over time.) The city will follow a model where broadband infrastructure is treated as an improvement to the property like other essential infrastructure (sewer and water) and once a property owner signs up to participate in the network, that property owner is responsible for paying off the infrastructure. In this way, the city avoids assuming take-rate risk.
- Initial take-rate target will be established up front before construction begins and projected costs will be based on initial take-rate. Expected minimum take rate will be ~50%.
- Subscribers will be responsible for infrastructure expense and the payment transaction between subscribers and service providers will be independent of the city (or the fiber utility).
- Network sustainability depends on customer loyalty. Making subscribers responsible for their infrastructure as an improvement to the property creates customer loyalty.
- Network sustainability depends on insulating the network operator from changes in the prices for services. Therefore, the transaction between the subscriber and the service provider will be independent of the city or the fiber utility.
- The City will consider not collecting a percentage of service provider fees because an important goal is to allow competition and innovation to put continuous downward pressure on the cost of services.

In order to democratize and commoditize access, we recommend separating the cost structure into the following categories to optimize the monthly expense for each category:

- Installation of Infrastructure
- Ongoing Network Management and Operations
- Services (including ISPs)

Rather than approaching the construction and operation of a municipal broadband network as a new cost for taxpayers, the city and subscribers should view this process as a mechanism for enabling a change in the flow of money already being spent each month by subscribers in order to empower consumers and initiate a change in network ownership and control. While it is true that property taxes may be used as a mechanism for long term financing for the new fiber optic infrastructure, the cost of this infrastructure is a current expense to anchor institutions, commercial entities, residents and the city itself. By adopting the strategy outlined above the City can reduce household expenses for residents while simultaneously positioning the City for economic development.

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**Description**

Materials (hard goods)	\$ 247,845.00	Fiber, GBIC's,Switches etc
Equipment (electronics)	\$ 25,350.00	In Home router
Construction Equipment	\$ 59,280.00	Boring machine, trencher
Labor	\$ 199,680.00	Loaded @~\$32\hour 4 FTE
Bldng (Shared Costs)	\$ -	
Trunk Line	\$ 39,000.00	BackHaul
<b>Total</b>	<b>\$ 571,155.00</b>	

**Professional Costs**

LID attorney	\$ 10,000.00
Financial Advisor	\$ 10,000.00
Engineering	\$ 10,000.00

Grand Total \$ 601,155.00

Estimated # of Participants 195  
 Cost per Participant \$ 3,082.85

15% over run (labor)= \$ 691,328.25

Result to resident \$ 3,545.27

Construction days per month 13-May

	13-May	4	3	2	
		<b>Work days in Month</b>			
May	15	60	45	30	
Jun	20	80	60	40	
July	23	92	69	46	
Aug	22	88	66	44	
Sept	21	84	63	42	
Oct	21	84	63	42	
Nov	15	60	45	30	

**Totals 548 411 274**

**Assumptions**

Take Rate	65%
Total Properties Passed	300
Properties Taking Service	195

<b>Residential</b>	Monthly	Annual
# of Subscribers	195	195
Backbone \$	\$16.50	\$198.00
LID \$	\$20.30	\$243.60

	2021	2022
LID Costs \$	691,328.25	1,410,309.63
Residential Rev	\$86,112.00	\$172,224.00
Commercial Rev	\$62,760.00	\$125,520.00
	\$542,456.25	\$1,112,565.63

**Total Subscribers 195 390**

**Inflation Rate 2%**

<b>Commercial</b>	Monthly	Annual
# of Subscribers	100	100
Backbone \$	\$32.00	\$384.00
LID \$	\$20.30	\$243.60

Production stops										Maint = \$250K		
2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
\$ 2,115,464.45	\$ 2,820,619.26	\$ 3,525,774.08	\$ 4,230,928.89	\$ 4,936,083.71	\$ 5,641,238.52	\$ 6,346,393.34	\$ 7,051,548.15	\$5,817,828.15	\$4,033,404.15	\$2,248,980.15	\$464,556.15	-\$1,319,867.85
\$258,336.00	\$344,448.00	\$430,560.00	\$516,672.00	\$602,784.00	\$688,896.00	\$775,008.00	\$861,120.00	\$1,104,000.00	\$1,104,000.00	\$1,104,000.00	\$1,104,000.00	\$1,104,000.00
\$188,280.00	\$251,040.00	\$313,800.00	\$376,560.00	\$439,320.00	\$502,080.00	\$564,840.00	\$627,600.00	\$935,424.00	\$935,424.00	\$935,424.00	\$935,424.00	\$935,424.00
\$1,668,848.45	\$2,225,131.26	\$2,781,414.08	\$3,337,696.89	\$3,893,979.71	\$4,450,262.52	\$5,006,545.34	\$5,562,828.15	\$3,778,404.15	\$1,993,980.15	\$209,556.15	-\$1,574,867.85	-\$3,359,291.85
585	780	975	1170	1365	1560	1755	1950	0	0	0	0	0



## City of McCall

### RESOLUTION 18-15

A RESOLUTION OF THE CITY OF MCCALL, IDAHO, DECLARING BROADBAND INTERNET TO BE AN ESSENTIAL SERVICE, AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the 2017 McCall Area Comprehensive Plan was adopted by the McCall City Council on January 11, 2018; and

WHEREAS, the 2017 McCall Area Comprehensive Plan states its intent, at Economic Development Goal 2, Policy 2.5, to “Improve broadband and fiber-optic capacity within the city to enable improved telecommuting opportunities, cottage industries, and attraction of businesses that require high speeds of connectivity.”; and

WHEREAS, the Federal Communications Commission (FCC) has deemed broadband internet access service to be an essential telecommunications service under Title II of the Communications Act of 1934; and

WHEREAS, broadband internet access service is currently defined by the Federal Communications Commission (FCC) as internet service with minimum download speeds of 25 Megabits per second (Mbps) and minimum upload speeds of 3 Mbps; and

WHEREAS, low population density and other factors hinder private sector deployment of broadband in rural areas, such that 39% of rural Americans lack access to broadband internet access service; and

WHEREAS, when electricity and telephone service first became viewed as essential to society, federal, state and local governments worked in accordance with programs established pursuant to the Rural Electrification Act of 1936 and the Communications Act of 1934 to ensure that citizens have universal access to these essential services; and

WHEREAS, federal and state efforts to promote broadband internet access should not erode longstanding requirements to ensure universal access to all essential communications services that are reliable and affordable for residents of the City of McCall.

NOW, THEREFORE, BE IT RESOLVED, by the Mayor and City Council of the City of McCall, Valley County, Idaho:

Section 1: That broadband internet access is an essential telecommunications service that should be accessible and affordable to residents of the City of McCall.

Section 2: That federal, state, and local governments have a role in ensuring, supporting, and facilitating reliable, affordable broadband internet access services.

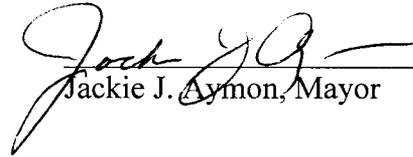
Section 3: This resolution shall be in full force and effect upon its passage and approval.

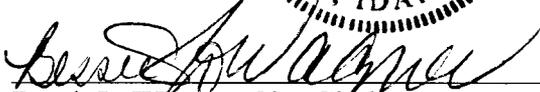
Passed and approved this 12<sup>th</sup> day of July 2018.

CITY OF MCCALL  
Valley County, Idaho



ATTEST:

  
\_\_\_\_\_  
Jackie J. Aymon, Mayor

  
\_\_\_\_\_  
BessieJo Wagner, City Clerk