TOWN OF FRISCO
COLORADO

MEMORANDUM

P.O. BOX 4100 ◆ FRISCO, COLORADO 80443

TO: **MAYOR AND TOWN COUNCIL**

FROM: **CHRIS MCGINNIS, PUBLIC WORKS DIRECTOR/TOWN ENGINEER**

RE: **BROADBAND DEPLOYMENT FEASIBILITY REPORT DISCUSSION**

DATE: **SEPTEMBER 24, 2024**

Summary and Background:

Broadband, the term used for high-speed internet and related communication services, offers a range of benefits, including improved government services, enhanced communication, better educational opportunities, economic development, expanded telework options, increased efficiency, cellular service improvements, and support for smart infrastructure.

The Town of Frisco has been exploring broadband development for several years. Initial discussions date back to 2013 during the Step Up Main Street project, when plans to install fiber conduit were ultimately abandoned due to cost. Nonetheless, the Town Council recognized fiber infrastructure as crucial to Frisco's economic future and resident connectivity. However, the rising costs and lingering impacts of the Great Recession at the time, halted this effort.

In April 2018, over 90% of Frisco voters opted out of Senate Bill 152, a 2005 law that restricted local control over broadband services. This voter decision opened the door for the Town to invest in its own broadband infrastructure. Early in 2019, concerns over declining cell service reignited Council discussions on how a fiber network could improve both cellular and internet services, potentially enabling Townwide Wi-Fi. These issues were further echoed in public comments during the adoption of the 2019 Community Plan.

To address this, in February 2020, Frisco Town Council passed a "dig once" ordinance, requiring joint trenching and conduit installation during utility work in Town rights-of-way. This ordinance has been applied in various areas, including Granite Street, to install conduit for future broadband use. Also in 2020, the Northwest Colorado Council of Governments (NWCCOG) completed Project Thor, a middle-mile network designed to bring reliable broadband to communities across western Colorado. Concurrently, Town staff were in discussions with NWCCOG about the Thor project, as well as Summit County Government and the Towns of Silverthorne, Breckenridge, Dillon, and Blue River about how to work together to secure grant funding. Since then, several municipalities in Summit County have connected to Project Thor to provide broadband services to municipal buildings and residents.

In 2022, the Town Council began more serious discussions about establishing a comprehensive broadband strategy and directed staff to hire a consulting firm for this purpose. The Town issued

a request for proposals (RFP) in 2023 for a broadband strategic plan. However, no contract was awarded, and the project was deferred for a year.

In 2024, the Town was in a better position to pursue broadband options and issued a new RFP for a broadband feasibility report and design with a phased approach that would address both municipal infrastructure and the broader community. A contract was awarded to Bonfire Consulting in early 2024. By August 2024, Bonfire had completed a feasibility report, which provided critical analysis of existing broadband options, competition, community feedback, financial modeling, and high-level network designs for both municipal buildings and key community facilities. This report offers a roadmap for addressing the Town's infrastructure needs and broader broadband requirements, helping to shape the future of connectivity in Frisco.

The Town is currently challenged under its existing broadband options. Town facilities utilize Xfinity business internet services. While Xfinity can meet many of the Town's needs for internet, it generally does not offer 1 gbps symmetrical speeds that a fiber network could provide (upload speeds are significantly slower on the Town's current service), there are service outages which occur occasionally at Town facilities, a separate Lumen copper ethernet system is required between Town facilities to provide a secure network and results in slow speeds for the Town servers, there are no internet services at most Town water facilities, there are not "dark fiber" options with Xfinity (dark fiber are fiber strands that are dedicated only to Town use for additional control and security), and the Town does not currently have other options for service.

Broadband Network Types

Broadband is a wide ranging term with many different models and options which vary between municipalities. Below is a summary of the major models and differences between these options, all of which were analyzed in the feasibility report.

Municipal network to Town Facilities only (Phase 1)

This model includes a Town "backbone" of fiber only serving Town government facilities.

Fiber-to-the curb (FTTC)

Municipal network extends to the property line to all properties in Town limits and a service provider installs/own/operates final portion between residence and Town property.

Municipally Owned, Third Party Operated

The Town owns the infrastructure while a private entity manages the network operations.

Municipally Owned and Operated

The Town owns the infrastructure, as well as maintaining and operating all network operations.

Public Private Partnership (P3)

A P3 leverages Town infrastructure, funding, and/or permitting into an agreement with a private entity to build, maintain, and operate a broader network for Town businesses and residents. Models can vary regarding Town versus private ownership of infrastructure.

Installation Methods

Several different construction methods exist for the installation of conduit and fiber. The first method is open trenching, which uses an excavator to dig an open trench, place conduit, and backfill. This method typically has the highest costs, most disruption, and largest surface restoration work. The next method is directional boring, which is a trenchless method utilizing

equipment to install conduits underground without the need for excavation and surface restoration. This method can be more cost effective, less disruptive, and not require surfaces restoration compared to open trenching. However, boring can be difficult in the rocky soils encountered in Frisco and can be more expensive or not feasible in very rocky soils. The final fiber installation method available is microtrenching. Microtrenching is a cost-effective method of utilizing a machine to cut narrower and shallower trenches than typical methods in roadways. This method allows for quicker installation, less disruption and lower cost, but it also requires the conduit & fiber to be installed at a lesser depth than typically required of utilities in Town streets.

Analysis:

Highlights from the feasibility report and resident survey include the following:

- Xfinity provides coverage to 99.8% of Frisco with speeds up to 1200/35 MBPS download/upload speeds
- Lumen, AT&T, Verizon, T-Mobile and satellite internet provides offer services at slower speeds. Resident speed tests
- Resident speed tests show a median Xfinity speed of 207 / 24 Mbps upload/download
- 43% of residential respondents said they would definitely switch providers and 50% said they would consider switching
- 82% of business respondents stated they would switch providers
- Residential and business respondents cited a desire for faster speeds, lower costs, and greater reliability as primary reasons for considering switching providers
- Several private sector providers are interested in building broadband in the Town
- Frisco has high housing density and resident desire for another provider, but also has high construction costs due to subsurface ground conditions

The feasibility report shows several broadband models could be feasible in Frisco, but there are also many risks and considerations. The capital costs of the various models and phases range from approximately $2 million to over $25 million depending on the phases/business model. While a return on investment is possible for many of these models, the payback periods are long, microtrenching of streets would likely be required, and the Town would assume many financial risks due to uncertainty in subsurface conditions and other factors. Additionally, a municipally owned Town-wide network would require additional staff and expertise beyond the Town's current staffing.

For these reasons, the municipal network to Town facilities only (Phase 1) and a public private partnership (P3) could provide the most benefit with the lowest risk. Connecting fiber between Town facilities provides better communication, improved core services, reliability, redundancy, and cost savings over current Xfinity services. Additionally, the implementation of Phase 1 fiber creates a "backbone" which can provide opportunities for future expansion, either through future Town network expansion, attracting a private partner to connect to the backbone and build a private network, improving cellular service through connection to the fiber, public Wi-Fi, and other opportunities to improve core services.

Financial Impact:

The financial impact of the various options in the feasibility report varies between different phases and business models. If the Town proceeds with Phase 1a (Town building facilities and North Ten Mile Water Plant), the capital costs would total approximately $2,250,000 in 2025. However, the Town currently pays approximately $120,000 per year for Xfinity internet services at Town facilities. The projected annual costs of a network to Town Facilities would be $64,000 annually, resulting in a net savings of $56,000 per year. The Town does not qualify for most broadband grants due to not being considered unserved due to existing speeds and is also not being considered economically disadvantaged. However, the Town may be eligible for a broadband grant of $1 million maximum. Because of this, grants could offset the capital costs, but are not expected to cover the entire project cost.

Alignment with Strategic Plan:

Broadband improvements enhance Core Services by adding valuable infrastructure, improving communication, enhancing public safety through greater reliability, and improving security. Broadband can also support a thriving economy through future phases which could serve businesses and provide for further economic development.

Environmental Sustainability:

Broadband improves environmental sustainability through improvement of telework, remote meetings, remote education, and other opportunities which reduce the need for driving and fuel consumption.

Staff Recommendation:

Staff recommends continuing with design of the Phase 1a network to provide fiber to Town facilities, as well as budgeting of $2.25 million in 2025 for the construction of Phase 1a. Staff also recommends advertising an RFP to gather interest from a public-private-partnership to determine if there is a partner available to provide broadband services to the greater community. Staff is requesting feedback from the Council on their support for the proposed broadband services, the suggested budget allocations in the CIP, whether Council prefers to prioritize other projects, and whether Council would like further discussion at future meetings.

Reviews and Approvals: This report has been reviewed and approved by:

Tom Fisher, Town Manager
Diane McBride, Assistant Town Manager
Leslie Edwards, Finance Director

Attachments:

Attachment 1: PowerPoint Slides for Presentation

Attachment 2: Town of Frisco Feasibility Report