

Council Presentation

Broadband Feasibility Study

May 24, 2022

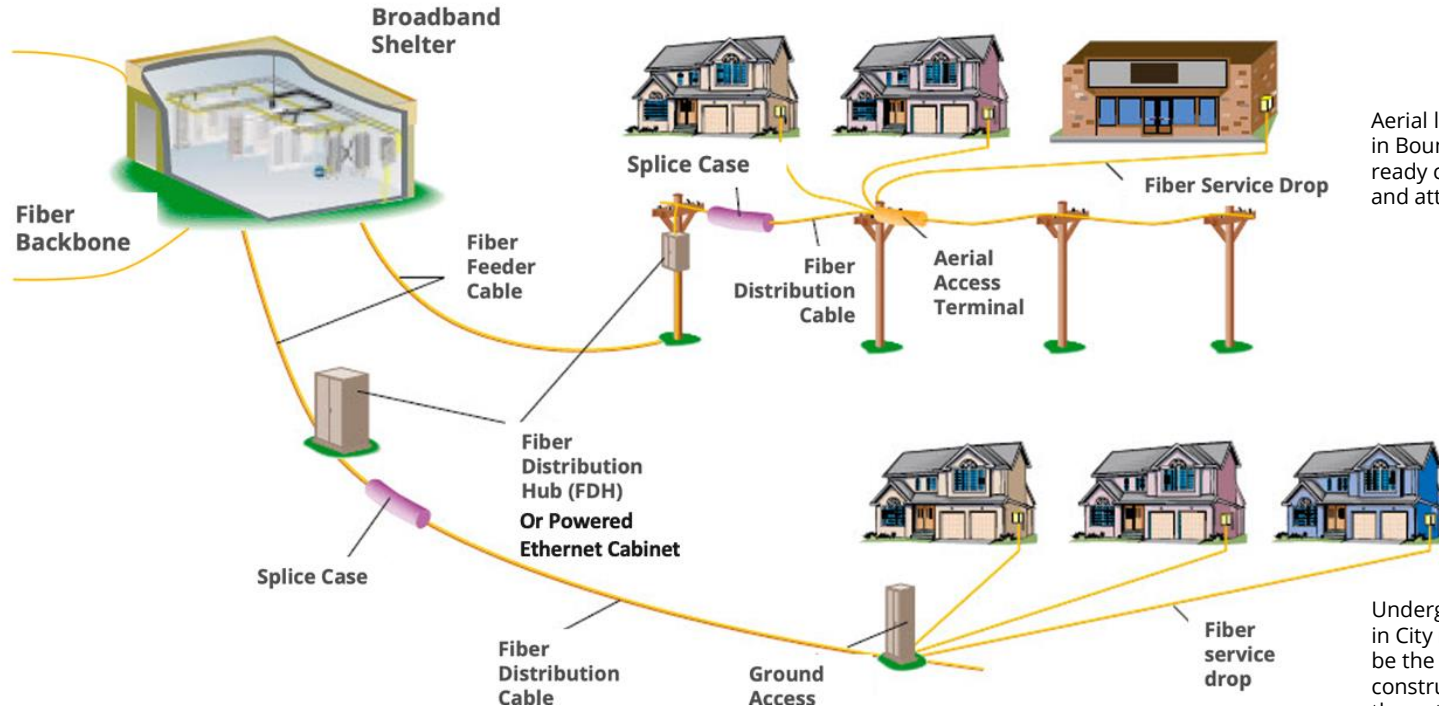


Could the City own the broadband network?

- **Is it financially feasible?**
- **Would rates be lower?**
- **Would service be superior to other providers?**
- **Would the City realize other benefits?**

Preliminary Engineering Design & Costs

Fiber To The Premise Architecture



Aerial less likely to be used in Bountiful due to make-ready costs, timeframes and attachment issues.

Underground construction in City rights of way would be the predominant construction method for the network

Preliminary Engineering Design & Costs



Engineering Analysis

Underground Construction

- 80% of total project cost
- Directional boring & trenching
- Use of existing City rights of way
- Costly in eastern neighborhoods where rock is prevalent

Opportunities to Reduce Cost

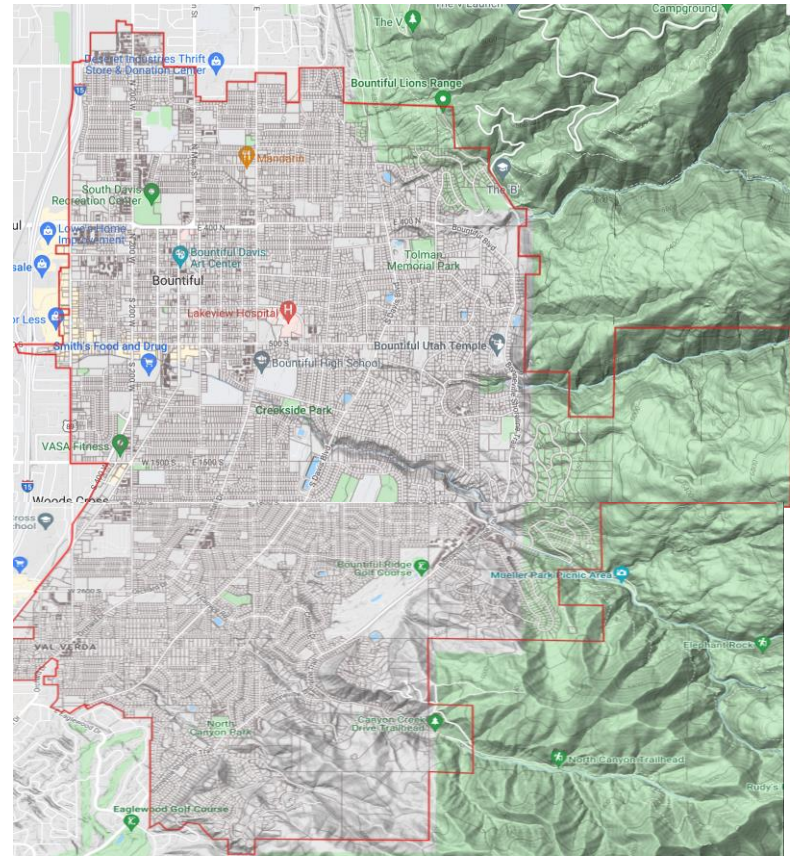
- Aerial construction
- Microtrenching

Materials & labor inflation is prevalent

- Conduit & fiber: 35% - 75%
- Vaults & handholes: 30% - 40%
- Labor: 10% - 15%

Materials Delay

- Impacting conduit, fiber, vaults and closures
- 6-12 month lead time currently



Preliminary Engineering Design & Costs



Cost Estimate	Amount
Fiber Feeder Distribution	\$34,550,600
Fiber Service Drops & Home Equipment	\$8,600,000
Fiber Huts	\$850,000
Data Center & Headend	\$1,500,000
Network Electronics	\$3,870,000
Total Capital Costs	\$49,370,600
Additional Contingencies (Covering Inflation of Labor & Materials Costs)	15%
Total Costs	\$56,776,190

Market Research Summary Findings

- Internet access is highly relevant and important to citizens; speed and reliability are the features that they value most.
- At least one third and up to one half of citizens aren't satisfied with current internet services and could switch to a new provider if speed, reliability, and price were superior to what they currently have today.
- 60% of citizens prefer a City-owned internet service, if the City's service is price competitive, fast and reliable.
- Based on the choice-based conjoint study, approximately 43% of homes and businesses would subscribe

Estimated rate plans – speeds and pricing

City ownership could deliver lower rates to the community than if a provider owned and controlled the network

Silver

100 Megabit
FAST

\$35 - \$50

Starter package with speeds needed for streaming TV, gaming, work from home, webcams and smart homes

Gold

500 Megabit
FASTER

\$50 - \$70

Advanced package with speeds needed for streaming multiple TVs, gaming consoles, work from home, webcams and smart homes

Platinum

1 Gigabit
FASTEST

\$70 - \$90

The gold standard for power users with speeds for many TVs, game consoles, webcams, smart homes and virtual reality

City-Owned Option – Roles & Responsibilities

City Responsibilities

- Debt Principal & Interest Payments
- Renewal & Replacement

Network Operator & ISP Responsibilities

- Network Operations
- Plant Maintenance
- Provisioning
- Billing
- Network Operations
- Customer Service
- Upgrades (Capital expenditures covered by City)
- Sales & Marketing

City-Owned Option – Cost & Rate Structures

	City Cost Recovery = Debt Service Payments + Renewal and Replacement	Operator/ISP Fees = Network Operator Costs + ISP Costs + Profit Margins	Retail Rates = Prices that Residents and Businesses Will Pay for Service
Residential Internet	City Cost Recovery	Operator/ISP Fees	Retail Rates
100 Megabit	\$37.00	\$20.00	\$57.00
500 Megabit	\$37.00	\$30.00	\$67.00
1 Gigabit	\$37.00	\$40.00	\$77.00
Business Internet	City Cost Recovery	Operator/ISP Fees	Retail Rates
100 Megabit	\$50.00	\$30.00	\$80.00
250 Megabit	\$100.00	\$50.00	\$150.00
500 Megabit	\$200.00	\$300.00	\$500.00
1 Gigabit	\$300.00	\$750.00	\$1,050.00
10 Gigabit	\$1,500.00	\$1,500.00	\$3,000.00

City-Owned Option – Key Financial Metrics

Item	Metric
Interest rate on long-term debt	5%
Total Capital Costs & Funding Required	\$56,776,190
Residential Take Rate	43%
Business Take Rate	43%
Annual Rate Increase	2%
Annual Debt Service Payments	\$3,707,932
Annual Renewal & Replacement Reserve	\$500,000
Annual Total Costs to the City	\$4,207,932
Annual Cost Recovery from Residential Subscribers	\$2,670,486
Annual Cost Recovery from Business Subscribers	\$1,537,446
Total Cost Recovery From Subscribers	\$4,207,932

City-Owned Option – Key Risks

Item	Current Value	Risk	Sensitivity	Impact
Interest rate on long-term debt	5%	Higher rates will increase debt service costs, reducing ending cash	+/- 2%	Impacts from higher interest rates, construction costs will raise expenses.
Capital Costs & Funding	\$56,776,190	Higher construction costs or longer construction timeframes will raise funding requirements and debt service costs.	+10%	
Residential Take Rate	43%	Lower take rates will reduce revenues needed to cover expenses and debt service	-10%	To mitigate these issues, the City would need to raise the cost recovery fee to end customers or reduce operator/ISP fees.
Business Take Rate	43%	Lower take rates will reduce revenues needed to cover expenses and debt service	-10%	
Price Competition	0%	Existing providers reduce their prices and lock customers into long-term contracts. Pricing possibly erodes by 10% through promotions.	-10%	

Additional Benefits of Owning the Network



Smart City & Utility Value

Use Case	Examples
Community Network	<ul style="list-style-type: none">• Community-wide network to be used by Bountiful's institutions: schools, hospitals, libraries, clinics, public housing• Provide better connectivity and lower costs
Grid Modernization	<ul style="list-style-type: none">• Fiber communications platform to modernize electric grid• Improve electric reliability by reducing outages• Early fault detection
Smart City	<ul style="list-style-type: none">• Fiber communications to support sensor networks• Early wildfire detection• Water automated meter reading, SCADA control
Transportation	<ul style="list-style-type: none">• Fiber communications platform in key corridors• Connecting cameras, sensors, smart signs to improve traffic control capabilities• Snow and ice sensors in traffic corridors
Public Safety	<ul style="list-style-type: none">• Interconnecting public safety and transportation management• Early warning for residents near wildfire impact zones

Timeline for Deployment & Next Steps

Key next step finalize construction costs, financial feasibility and timeline.

Timeline	2022		2023	2024	2025	2026
	Start	End				
30% Engineering Design, Cost Estimates & Financial Plan (Final Construction Estimates)	June	August				
100% Engineering Design & Construction Documents	August	November				
Secure Funding	August	November				
Select Construction Contractor	November	December				
Construction Phase 1						
Customer Connections Phase 1						
Construction Phase 2						
Connections Phase 2						
Construction Phase 3						
Connections Phase 3						

First customers connected Q3 of 2023

Owning the network is feasible for the City. It would:

1. Provide a platform for delivery of high-speed internet services to 100% of citizens and businesses in Bountiful City
2. Support rates equal to or less than if a provider owned the network
3. Support the project's debt service and renewal and replacement costs through system revenues
4. Provide an infrastructure to support long-term technology needs of the City and community.

Questions

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