

# Presentation on Fiber Network Proposals

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Fiber Committee

# Committee Members

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# Proposals Received

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- SenaWave Communications
- UTOPIA Fiber
- STRATA Networks
- First Digital
- Bit Stream Networks

# Process

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- Learn some of the basics of how fiber networks work
- Initial comparison of proposals
- Develop criteria to judge the proposals
- View presentations and ask questions of finalists
- Detailed comparison of finalists
- Recommendation to city council

# Fiber Basics

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- Carries signal using light instead of electronic signals
- Very high speeds – typically 250 Mbps, 1 Gbps, 10 Gbps offered to residents
- Speeds are symmetric (both upload and download)
- High upload speeds are particularly helpful for video calls, uploading YouTube videos, backing up files online, running servers at home

# Fiber Competitors

Service	Download Speed	Upload Speed	Note
Fiber	1 to 10 Gbps	1 to 10 Gbps	symmetric
Cable / Xfinity	maximum 1.2 Gbps	1 to 10 Mbps, max 35 Mbps	bandwidth shared among neighbors
DSL G.Fast	100 Mbps to 1 Gbps	90/10 or 50/50 split, or 500 Mbps maximum	unlikely to come to Cedar Hills
5G	50 to 100 Mbps	10 to 50 Mbps	shared among nearby residents, requires fiber
Starlink	100 Mbps (1 Gbps future)	20 Mbps	signal blocked by trees, other obstacles

# Initial comparison of proposals

Respondent	Network Owned By	Type of Network	Financing	Features
SenaWave Communications	SenaWave	not clear, but have built active ethernet in the past	private financing arranged and paid for by Senawave	not open access
UTOPIA Fiber	UTOPIA	active ethernet	UTAH Infrastructure Agency provides financing, subscriber fees (\$30/month) + city backstop	fiber huts have redundant cooling + battery backup + natural gas generators, discusses long-term upgrades
STRATA Networks	Cedar Hills	hybrid active/passive network	subscriber fees or utility fees	open access, discusses long-term upgrades
First Digital	First Digital	passive ethernet (residents) + active ethernet (biz)	\$7 million bond, paid with \$45/month utility fee	open access with \$30 per subscriber going to First Digital
Bit Stream Communications	Multiple models	hybrid fiber and wireless	private financing, backed by municipal bonds	few details in the proposal



# Comparison of STRATA and UTOPIA

# Financing, Ownership, Maintenance, Risk

- STRATA

- City obtains bonds for construction
- City owns network
- Subscriber fees → bond payments
- Subscriber fees → STRATA for maintenance, operations
- Subscriber fees → city for future upgrades / equipment refresh
- Bond covers only 35% of resident connections
- For excess subscribers, either bond more in advance, or city or resident pays connection fee
- The city has the potential to earn excess revenue
- If subscriber fees are insufficient, the city has to use other revenues to pay debt, provide upgrades and long-term maintenance

→ Risk to city for subscriber connections, bond debt, long-term maintenance

# Financing, Ownership, Maintenance, Risk

- UTOPIA

- UIA finances construction
- UTOPIA owns network
- Subscriber fees → bond payments
- Subscriber fees → UTOPIA for maintenance, operations and future upgrades
- All subscriber installation costs, regardless of number of subscribers, are covered by UTOPIA and financed through subscriber fees
- If subscriber revenues are insufficient to cover the bond debt, the city makes a short-term loan until sufficient revenues are received and then is repaid
- economy of scale when maintenance and operation costs pooled among cities

→ Risk to city for bond debt

# Operations, Customer Service

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- UTOPIA has an edge with a track record of operating UTOPIA for numerous cities in the area, with strong customer service and numerous ISPs for residents to choose from
- UTOPIA offers economy of scale for ISPs who can service customers in all connected cities → likely leads to greater choice for residents

# Subscriber vs Utility Model

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- STRATA can use either, UTOPIA uses subscriber model only
- Utility model has a benefit of everyone chipping in to pay, since it does benefit everyone, and can lead to higher revenues for city
- Subscriber model has a benefit of being more politically acceptable since some don't want to pay for what they don't want to use

From UTOPIA Fiber survey:

- 90% of residents support the city pursuing broadband options
- 83% support a fiber-to-the-home plan that uses a subscriber model, versus 68% supporting a utility model
- In a direct comparison, about 47% support the subscriber model and 42% support the utility model

Criteria	STRATA Networks	UTOPIA Fiber	Notes
Financing	+	+	city responsible for debt in both cases, backed by subscriber fees
Network Ownership	-	+	risks of ownership outweigh potential benefits, UTOPIA spreads costs of maintenance among cities
Network Architecture	-/+	+	active fiber preferred
Maintenance	-	+	UTOPIA covers installation cost for all subscribers
Operations	+	+	UTOPIA has local operations already
Resident Access	-	+	UTOPIA has no installation charge for any resident connecting, even after subscription rate met
Resident Pricing and Service	+	++	both open access, good pricing, UTOPIA has strong service track record in the area and ISPs under contract
Risk	+	++	UTOPIA has lower risk due to success with subscription rates locally and no extra fees for subscribers who join later
Project Timeline	+	+	comparable

# Context

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- Most residents are dissatisfied with their current Internet service providers, as indicated by a Net Promoter Score of -61, compared to +63 for UTOPIA (both from UTOPIA Fiber surveys)
- Significant opportunity for residents due to much higher upload and download speeds, better pricing
- No investment from incumbent providers in higher speed Internet services, with current services capped at lower speeds than fiber for significantly higher cost than what UTOPIA ISPs provide

# Recommendation

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- Award a bid for a fiber network contract to UTOPIA Fiber