City of Loveland

Broadband Update

City Council Study Session and Special Meeting
October 23, 2018

Presentation Purpose

- ✓ Provide information and answer questions on multiple topics regarding the broadband initiative in Loveland
- ✓ Council direction by Resolution to staff on how to proceed with broadband project

Agenda


Broadband Action Items Update


Public Private Investigation


Education and Outreach Campaign


Network Design Review


Business and Financial Plan


Bonding Package


Final Summary


Actions for City Council

Introduction of Presenters

- Brieana Reed-Harmel, Broadband Project Manager for the City of Loveland
- Lindsey Johansen, Customer Relations Specialist for City of Loveland
- Alan Krcmarik, Executive Fiscal Advisor and Acting Finance Department Director for City of Loveland
- Jim Lees, Utility Accounting Manager for the City of Loveland
- Johanna Graves, Director OSP Delivery for Nokia
- Randy Duncan, Senior Account Director for Nokia
- Brett Niles, CEO of Bear Communications
- Antti Suhonen, Executive Director, Denver for J.P. Morgan
- Pedro Ramos, Vice President, Denver for J.P. Morgan
- Dee Wisor, Attorney at Butler Snow LLP
- Richard Bilancia, Loveland Communications Advisory Board Chair

Introduction of Additional Contributors

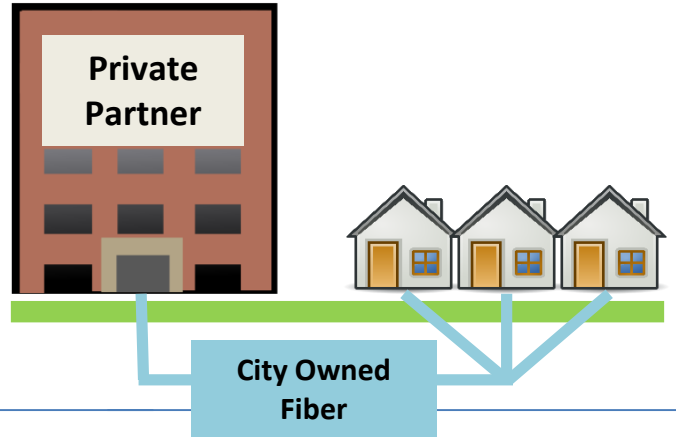
- Joe Bernosky, Water and Power Director for City of Loveland
- Sally Tasker, Attorney, Butler Snow Law Firm
- Keith Meyers, President and Owner of Ditesco
- Jim Manire, Director, Hilltop Securities Inc.
- Colman Keane, Executive Director, City of Fort Collins Connexion
- Jess Aills, Director of Electric and Broadband Engineering, Longmont Power and Communications
- Nicole Yost, Founder/President, Fyn Public Relations
- Jeremy Myers, Project Manager for Nokia
- Covadonga Iglesias La'taro, Customer Single Point of Contact for Design with Nokia
- Ryan Greene, Electrical Engineer for City of Loveland
- Kim O'Field, Technical Specialist for City of Loveland
- Coreen Callahan, Business Services Professional for City of Loveland

Business Model Options

Do Nothing Option

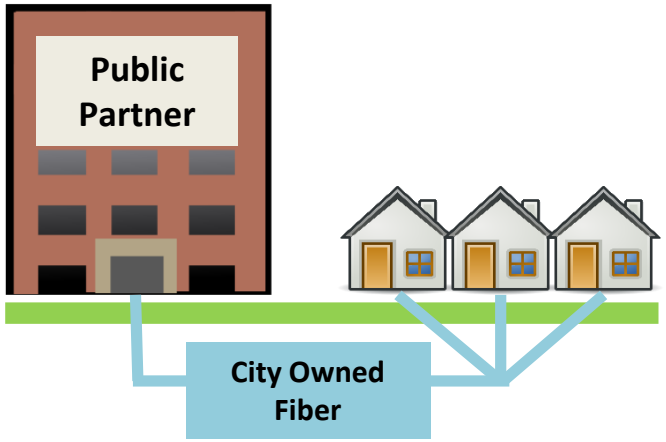
- Leaves market to be driven by existing and future incumbents
- Price, service options, and service build outs are dependent on private providers
- No ownership or role by the City

Public-Private Model Option



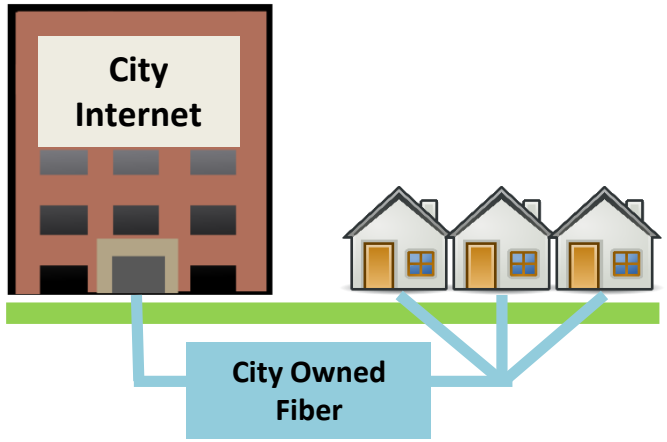
- City builds the infrastructure and a private company provides the service
- City negotiates a financial contract and a contract for services provided including customer service, content and technical support

Public-Public Model Option



- City builds the infrastructure and partners with a public organization to provide some portion of the service
- City contract for services provided including customer service, content and technical support

Retail Model Option



- City builds all the infrastructure
- City owns and maintains the infrastructure
- City operates the entire system
- City provides all customer service and tech support

Two Surveys, Multiple Methods

Take rate = Percentage of potential customers who will sign up for service

Two ways to confirm take rate of proposed broadband model.

- **Assessment and Feasibility Analysis**
  - Conducted by Magellan Advisors
  - Included surveys for residents and businesses
  - Provided insight on current options, needs, issues, sentiment and proposed business models

41% Residential
27% Business

- **Market Research Study**
  - Conducted by Jill Mosteller, PhD from Insights2Use
  - Conjoint Analysis Take-Rate Study
  - Included two surveys:
    - Resident
    - Business

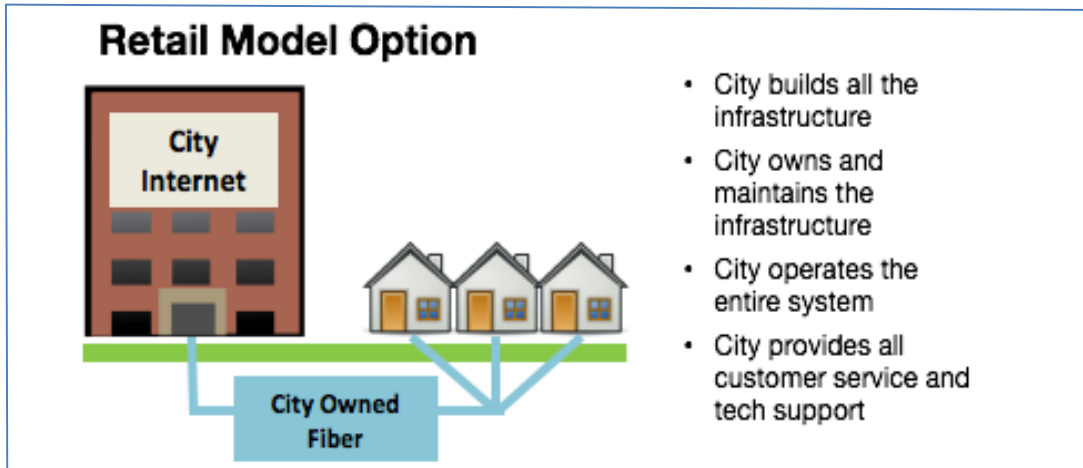
42.5% Residential
27% Business

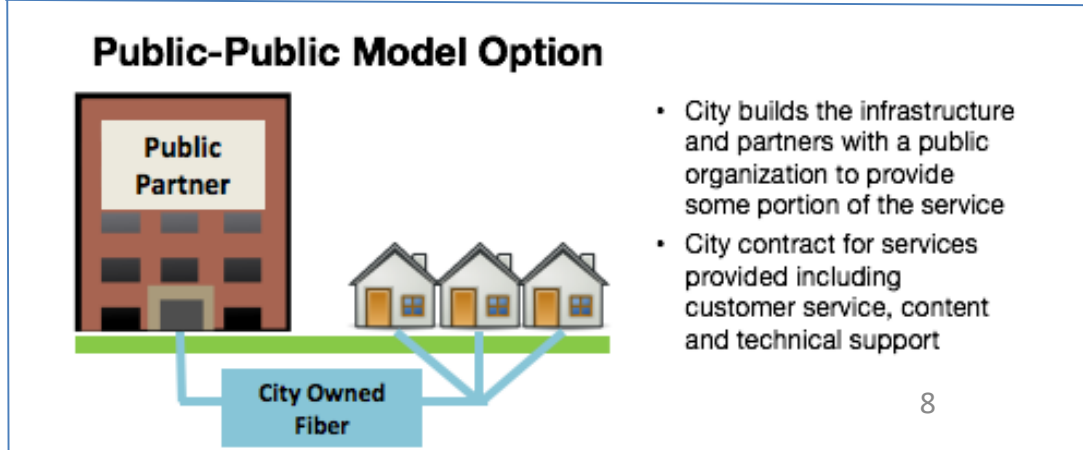
Broadband Task Force Recommendation

The Broadband Task Force recommended that the City of Loveland pursue community broadband through the retail or public-public model by taking the following actions:

- Establish the structure and governance of an enterprise utility;
- Further develop a detailed business implementation plan;
- Issue a Request for Proposal for a build-ready network design and complete same;
- Evaluate financing options;
- Immediately implement an aggressive community outreach and education effort; and
- Formally transition the existing Broadband Task Force into a City Commission.

The Task Force further recommended that no efforts preclude future partnering options with public or private entities.





February 2018 Council Measures

On February 6, 2018, Loveland City Council members authorized a series of measures to allow the City's broadband initiative to move forward:

- Appropriate $2.5 million from the Electric Enterprise Unrestricted Fund to pay for a fiber-optic build-ready network design and professional services
- Establish the Loveland Electric and Communication Enterprise
- Establish the Loveland Communication Advisory Board
- Launch a Community Education Campaign

Progress on February Council Measures

Electric & Communications Enterprise

- Established the Loveland Electric and Communication Enterprise

Broadband Network Design

- June 5, 2018 – Contract awarded to Nokia of America
- Nokia, with guidance from city staff, developed a high-level build-ready network design to run fiber past every home and business in the City of Loveland
- Refining the high-level design into a detailed design

Education & Outreach

- Launched an aggressive Community Education Campaign

Financing

- Bond Underwriter RFP Issued
- 15 RFPs Received
- J.P. Morgan announced as underwriter and senior manager in August

Loveland Communications Advisory Board

Regular meetings are held on the 2nd Wednesday of the month at 4 p.m. at the Service Center located at 200 North Wilson Avenue.

cityofloveland.org/LCAB

Richard Bilancia
Chairman

Paul Langfield
Vice - Chairman

Adam Auriemmo
Board Member

David Hetrick
Board Member

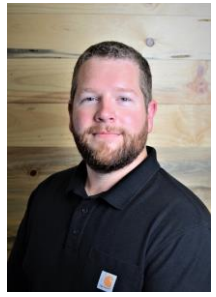
Brian Martisius
Board Member

John Fogle
City Council Liaison
(non-voting member)

Don Overcash
City Council Liaison
(non-voting member)

Dave Clark
City Council Liaison,
Alternate
(non-voting member)

Tom McInerney
Board Member



J.D. Walker
Board Member

Vi Wickam
Board Member

Korey Streich
Board Member

Joe Bernosky
LWP Director
(non-voting member)

Brieana Reed-Harmel
Broadband Project Manager
(non-voting member)

Public-Private Partnership

Purpose:

1. Provide additional staff findings from further due diligence
2. Provide final evaluation of risk/reward for public-private partnership

Public-Private Partnership Investigation

May 5, 2017
RFI for Public-Private Partnership
- 6 responses received

August 24, 2017
RFP for Public-Private Partnership
- 10 responses received

January 30, 2018
City Council Study Session
Broadband Discussion
- 6 of the 10 RFP respondents participated

Summer 2018
Further due diligence performed by staff to understand additional information presented by respondents at January 30th meeting

Incumbent Providers
Incumbents proposed various methods to make installation of infrastructure in Loveland easier and less costly for them. No proposals guaranteed extension of infrastructure to every premise in Loveland.

Infrastructure Companies
Companies were competent in designing systems, supplying equipment and troubleshooting networks but had minimal to no experience operating a network and providing services. Even when partnering with third parties to offer services, staff did not feel risks were fully mitigated.

Start-up Fiber Networks
Companies formed by teams of experienced people in the telecom industry. Although they were formed specifically to work with municipalities to extend fiber, they have little to no proven experience in actual public-partnerships.

Operators of Fiber Networks
These companies operate fiber networks ranging from private networks to small town and rural communities. Operating experience varies among these companies with minimal experience operating in a community the size of Loveland.

Public-Private Partnership Investigation

Additional Due Diligence

- Summer 2018 staff met with two respondents to follow up on information presented at the January 30, 2018 meeting that differed from their RFP response

ALLO Discussion:

- City build and own the backbone, they build and own the drops
- City leverages brand equity to help advertise services
- City receives fixed cost for lease of network over term of agreement

Risks:

- Lease amount City receives is fixed regardless of number of customers
- Partner would have exclusive use of service connections
- Additional ISPs would require additional service connections

Foresite Group Discussion:

- Fiberhood approach of building in higher take rate areas with long-term goal of entire city build-out
- Open Access model to provide internet services

Risks:

- Requires sufficient number of customer in sections of city to commit to services before construction starts
- All services provided through third parties would be a la carte and determined by independent parties
- No guarantee of multiple ISP options for customers through the Open Access model
- There are limited examples of Open Access models in the United States

Public-Private Partnership Investigation

After additional due diligence, staff's assessment of responses is that **none** of the options offer the ability to **substantially reduce the City's risk** while still **meeting the five primary objectives**.

Risk and Reward Evaluation	
Identified Risks	**Identified Rewards**
✓ City dependent on private partner meeting operational, maintenance and customer service obligations ✓ City's reputation and brand in private partner's hands ✓ City's ability to recoup investment costs depends on partner's success ✓ Several respondents required a minimum 45% take rate to make project viable - higher than anticipated through feasibility analysis ✓ If the City does not own entire network there are limitations on potential future revenue streams ✓ If partner suddenly goes out of business the City would have to rapidly take over customer service and operations ✓ May eliminate or lessen ability to collaborate regionally	✓ Some partners had experience operating a broadband network ✓ Some partners had expertise in navigating broadband deployment ✓ Some partners were willing to bring capital to the table provided we agreed to the terms of their proposal

Education and Outreach Campaign

LET'S TALK
BROADBAND

- What is broadband?
- What's been done?
- What's happening now?
- What's next?

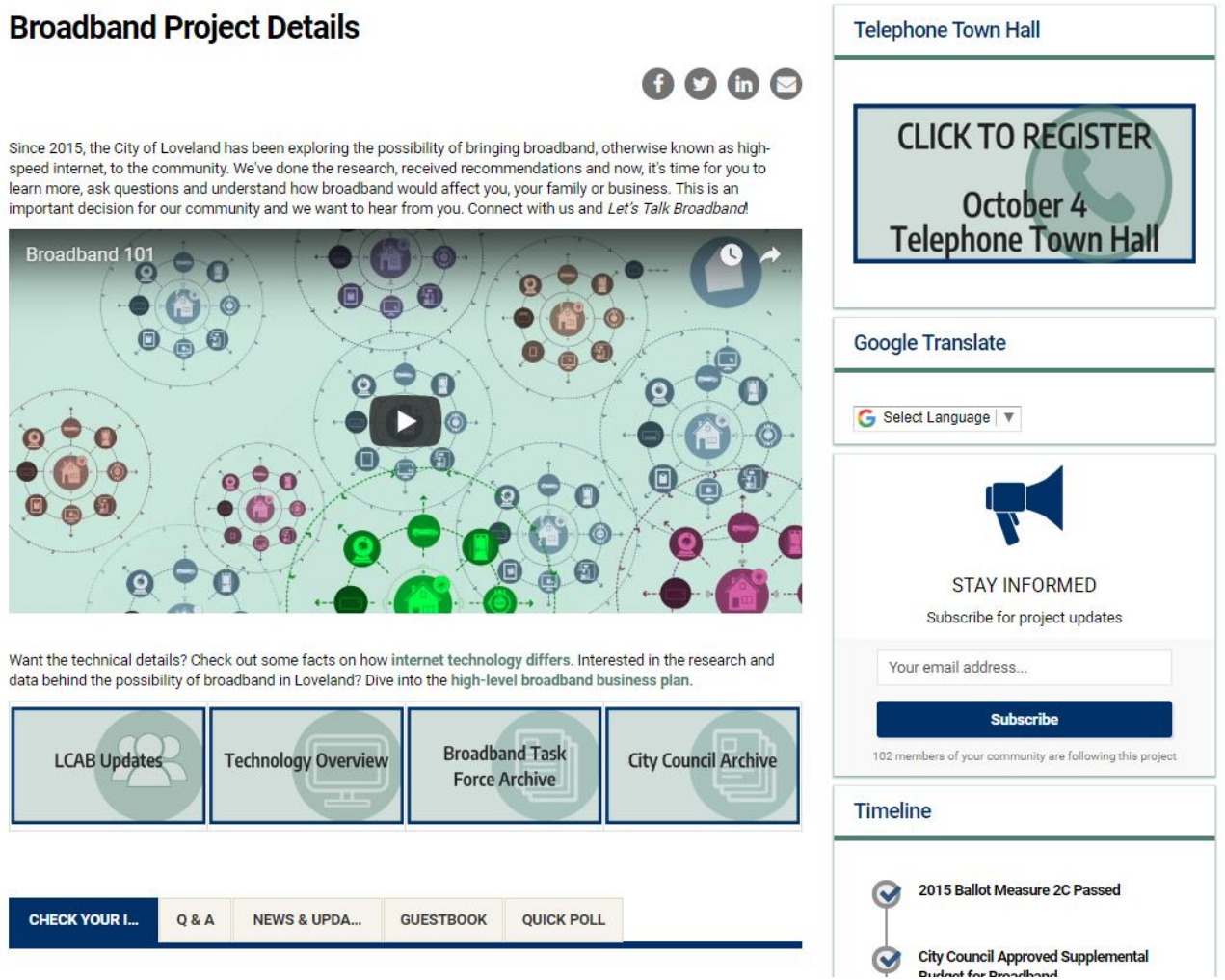
Efforts

- In-Person
- Phone
- Social Media
- Website
- Email
- Media
- Print Collateral
- Direct Mail

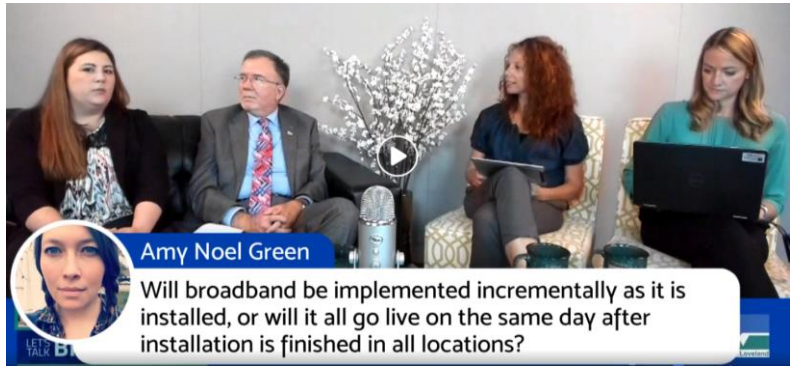
Efforts: Website

- Easy Engagement Options
  - Quick Polls
  - Speed Tests
  - Q&A
  - Guestbook
- Project Archive
- Important Dates
- Project Documents
- Broadband 101
- Videos

Reach:
- Total Visits – 3,900



Efforts: Let's Talk Tuesday



- Five "Let's Talk Tuesday" Facebook Live Events
- Partner episodes with I Love Loveland, education and healthcare professionals
- Reached over 19,300 participants

Efforts: Events

- Over 30 events/meetings
- 178 staff/LCAB hours in front of community members
- 2,865 participants reached
- City's 1st Telephone Town Hall

Efforts: Town Hall

Participation:

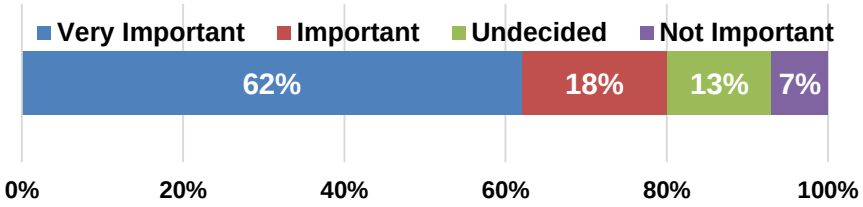
- In – Person: 60
- Telephone: 1,529
- Facebook Live (live participation only): 30
- Channel 16 (live stream online only): 18

Total Questions Answered: 25

	In Person	Telephone	Facebook Live	TOTAL
Questions Received	54	17	7	**78**
Comments Received	18	12	3	**33**

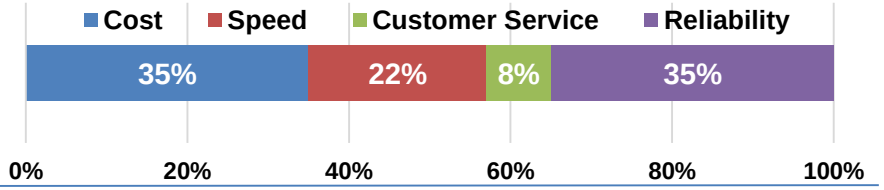
How important is having a choice in internet service provider to you?

Total Responses = 180



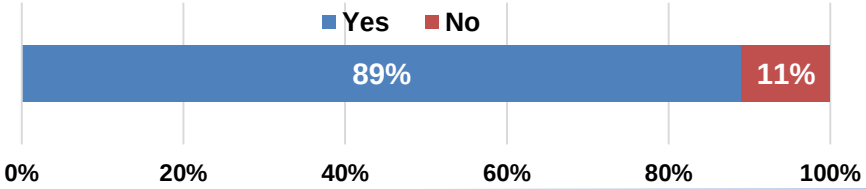
What is the most important to you when choosing an internet service provider?

Total Responses = 170



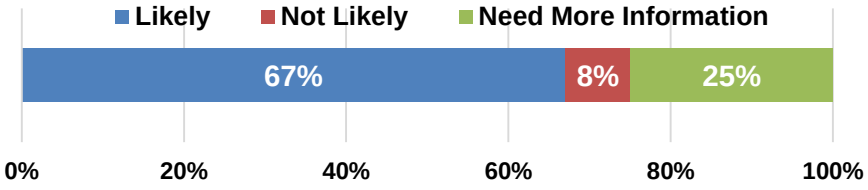
After hearing the information shared today, would you like the City to authorize the broadband project to move forward?

Total Responses = 100



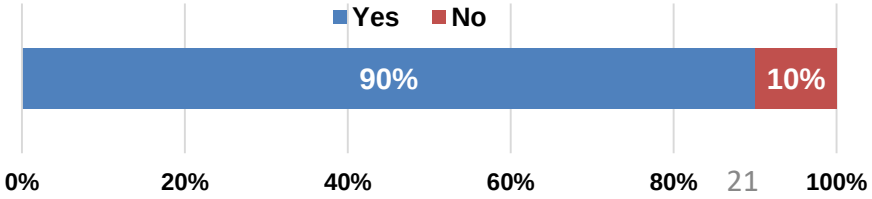
If the City of Loveland were to provide internet service as an option for residents, how likely would you be to sign up?

Total Responses = 79

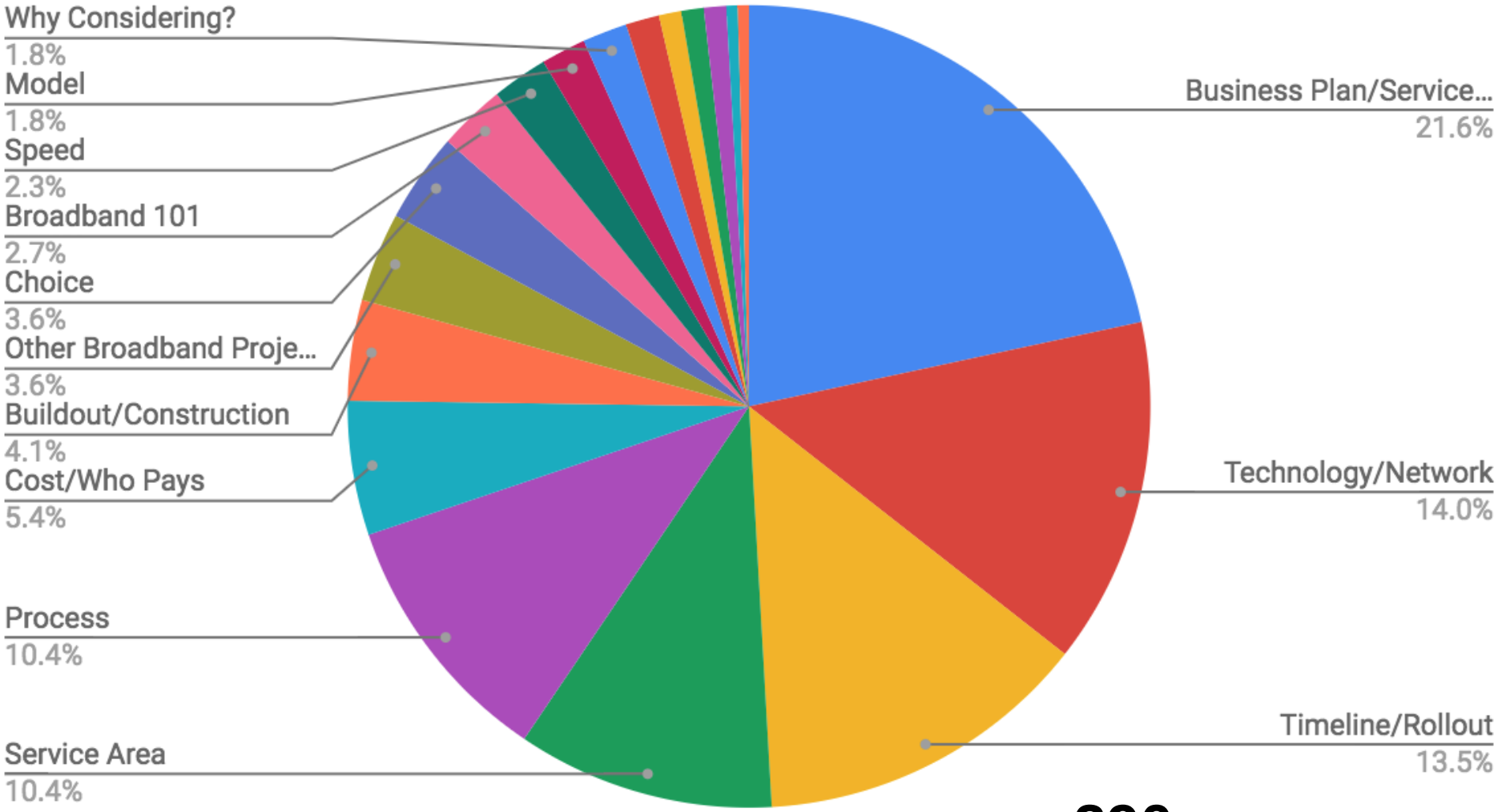


Was this Town Hall meeting effective in helping you learn what you need about this topic?

Total Responses = 42

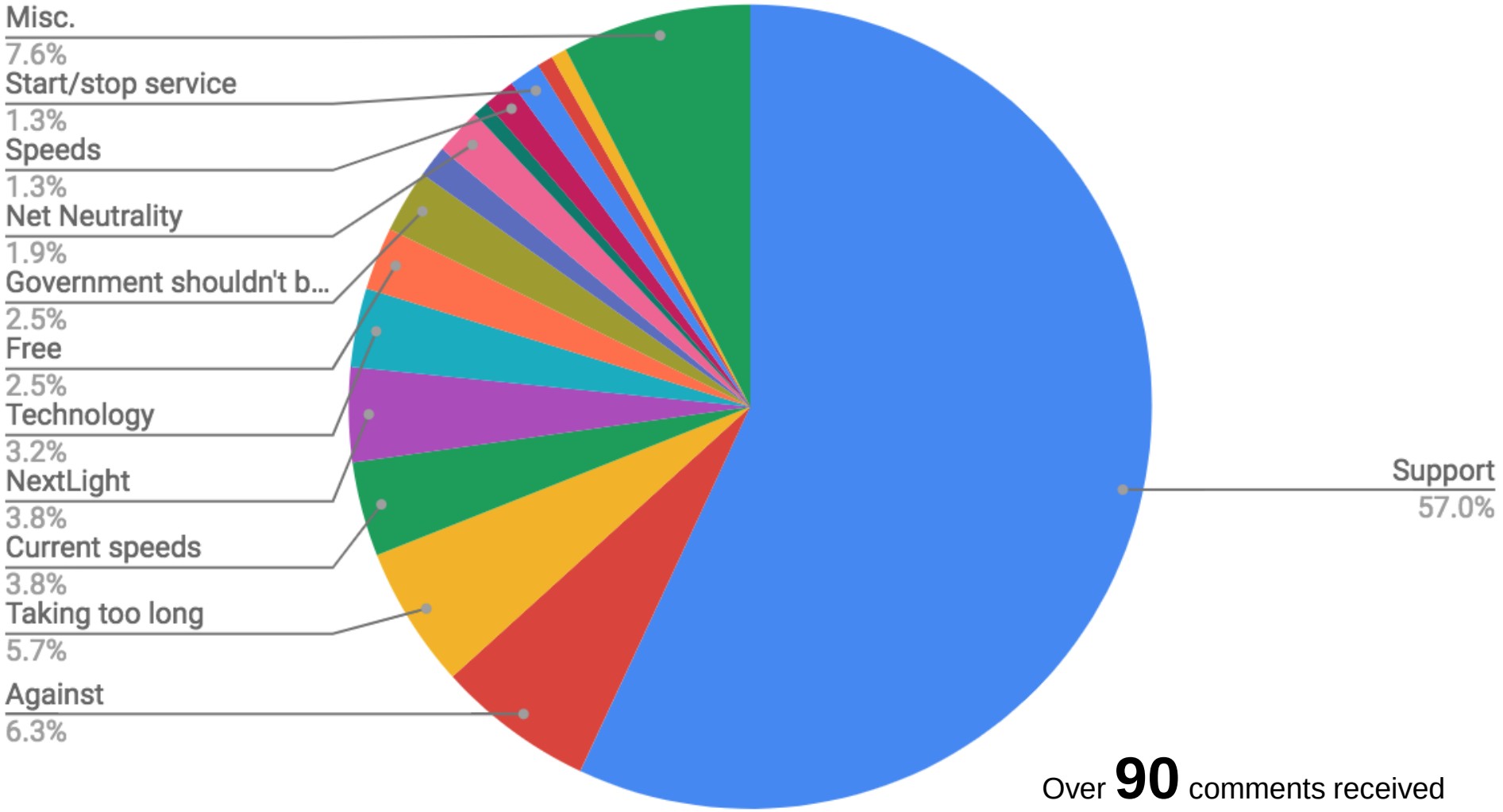


Questions Received



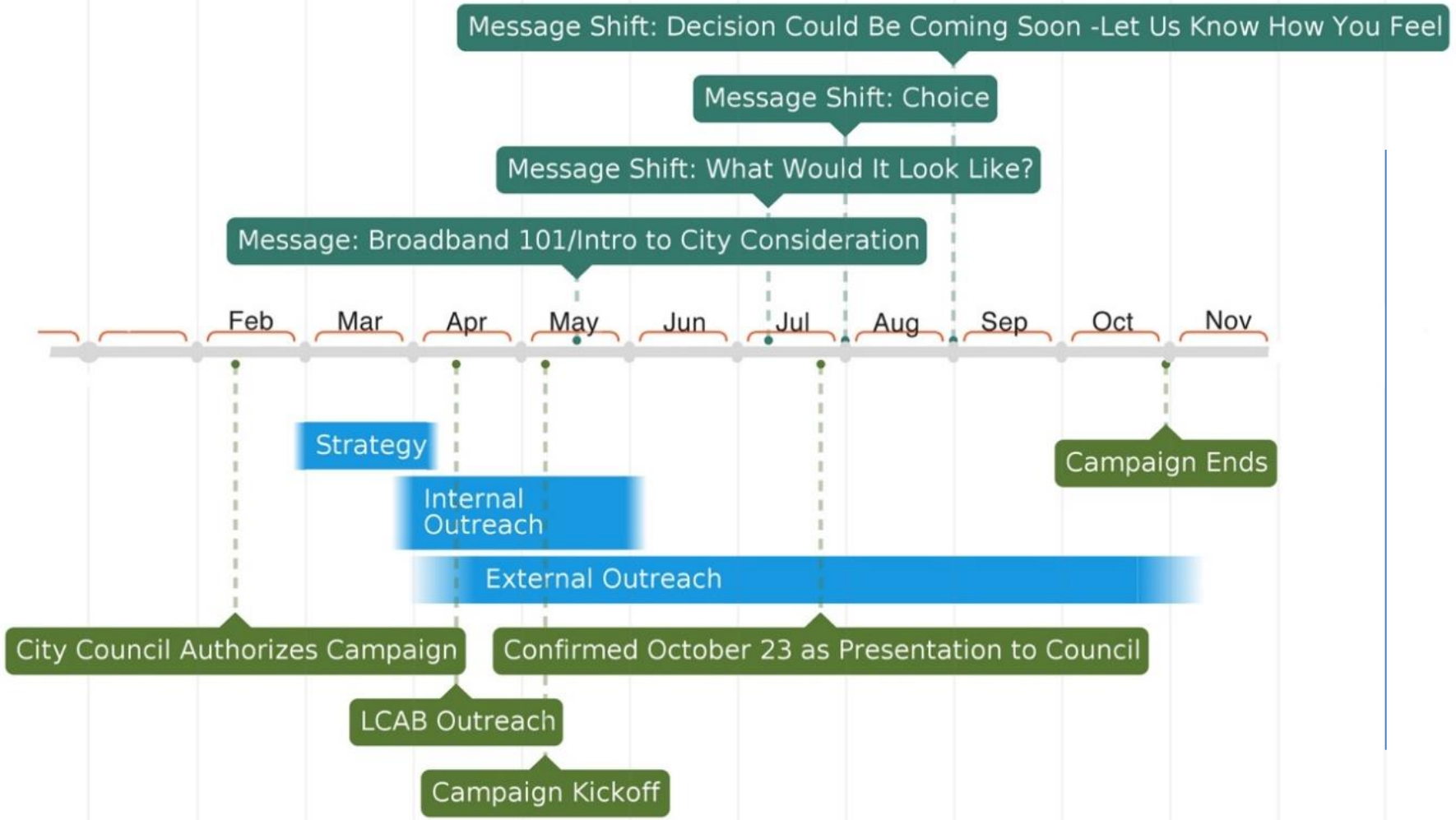
Over **290** questions received and answered

Comments Received



Over **90** comments received

Education and Outreach Summary



Campaign Reach	
In-Person	2,865
Phone	1,554
Website	2,759
Direct Mail	146,819
Print Collateral	3,071
Social Media	112,036
Email	8,937
Media	109,424
Total Reach	**387,465**

City of Loveland

Network Design Review

Purpose:

1. Provide network design elements and findings
2. Provide an updated network cost

Network Architecture

High-speed data transmission through fiber-to-the-premise **fiber optic** network offers:

- Virtually unlimited capacity for data transport
- Most future-proof technology currently known
- More bandwidth, reliability, flexibility and security than other technologies
- Longer economic life
- Less expensive to own and operate

Fiber Optic Cable ✓

Satellite ✗

Coaxial Cable ✗

Wireless ✗

Digital Subscriber Line (DSL) ✗

Why Nokia and Bear Communications?

NOKIA

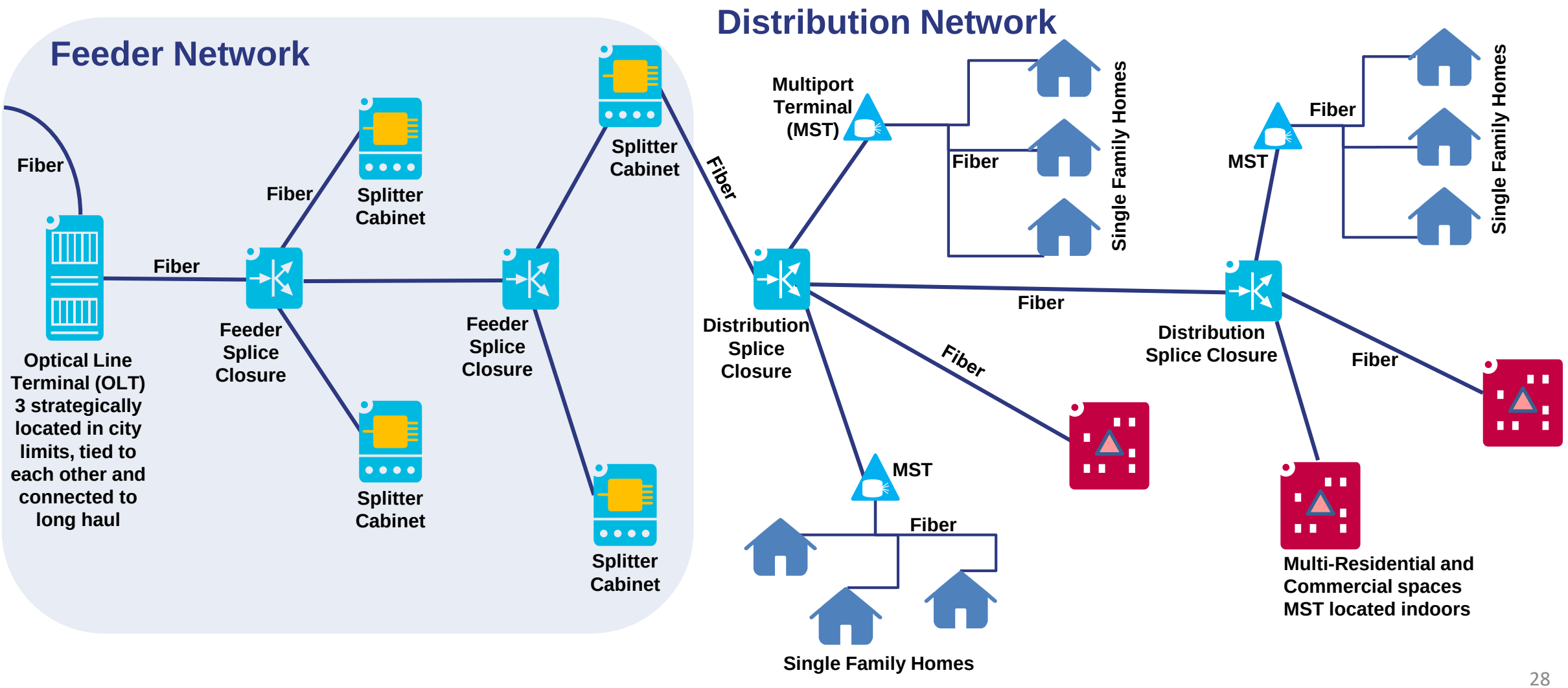
- 30 plus years of success managing full-scope, turn-key outside plant projects world-wide
- Vast experience managing fiber, coax and copper plant telecom projects in the Middle-East, Africa, and Asia Pacific
- Experience managing fiber-to-the-premise networks in Europe, South America and the United States since 1980
- More than 4M homes passed designed and >3M homes passed built for operators worldwide over the last 4 years
- Three design centers with more than 300 Specialist resources in Outside Plant Design, Material and Construction practice
- Nokia Bell Labs co-received the 2018 Nobel Prize in Physics

BEAR Communications

Strength. Integrity. Results.

- Established in 2001
- Vision to be the best communications company built on strength in capabilities, integrity in business, and positive results for all projects and clients
- Over 400 employees and offices across the United States
- Specialize in design/build outside plant projects, upgrades, and maintenance for overhead and underground construction, fiber splicing, subscriber drop placement, and installation for fiber-to-the-premise projects
- Current project locations include Madison, WI, Huntsville and Birmingham, AL, Omaha, NE

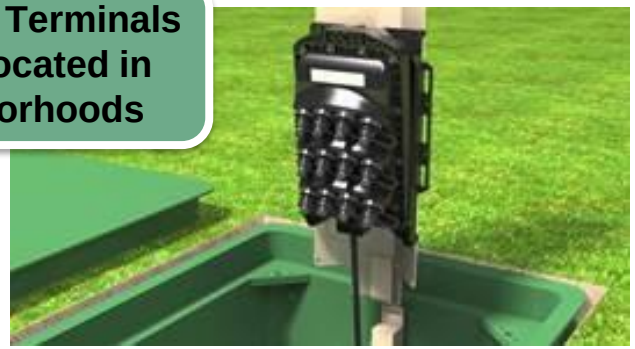
Network Architecture



What Does Design Look Like?

- Building past every home and business in City limits
- Direct fiber connection to the premise
- Field surveys conducted
- Phase 1 – Inside City limits, Phase 2 - Electric Service territory outside City limits
- Spare conduit and fiber added to design for future growth
- Gigabit Passive Optical Network (G-PON)
- Future proof to 10 Gigabits per second and beyond

Multiport Terminals (MST) located in neighborhoods



Optical Line Terminal (OLT) – 3 strategically located in city limits

Street cabinets located along roadways

Splice closures located in underground handholes

What Would Construction Look Like?

- Mostly underground construction
- Boring in some areas, trenching in others
- Multiple trucks in community
- Multiple construction areas at a time
- Landscape reconstruction

Design Findings for Phase 1 – City-Limits

Capital Design Costs	Cost
*Build Ready Network Design**	*$2,170,137*
Engineering & As-Built Documentation During Construction	$1,068,586
Total =	**$3,238,723**

Capital Construction Costs During Initial Build-out	Cost
Network Construction (includes 24% contingency for rock and obstructions)	$47,647,634
Miscellaneous Construction Contingency (10% for permit fees, ROW work, street rehab)	$4,764,763
Network Headend & Equipment	$3,365,514
Fiber Drops and Premise Connections at 42% (residential) & 27% (business) take rate	$13,304,859
Total =	**$69,082,770**

***Paid for with $2.5M appropriation from February 2018*

42% at completion of initial build-out is approximately 14,034 residential customers
27% at completion of initial build-out is approximately 1,291 business customers

Business and Financial Plan

Purpose:

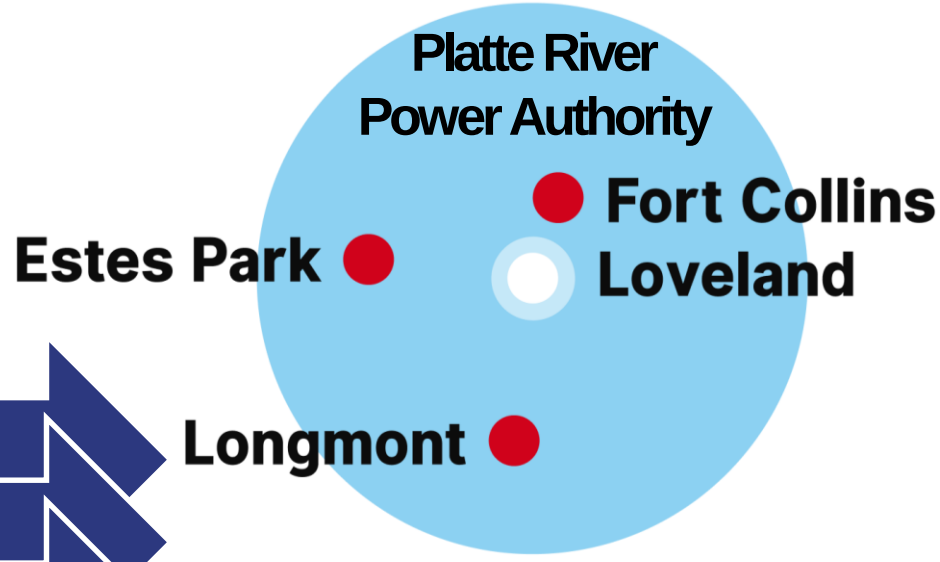
1. Provide information on Business Plan
2. Review Financial Model
3. Share assumptions and thought processes

City of Loveland Retail with Regional Collaboration

- City builds all the infrastructure
- City owns and maintains the infrastructure
- City operates the entire system
- Operate as an enterprise utility located within Loveland Water and Power
- Broadband utility marketed under a distinctive brand
- Objective of collaborating regionally to achieve cost savings and operational efficiencies

City of Loveland Retail with Regional Collaboration

- Loveland and neighboring cities have similar goals
- Utilize economies of scale
- Share cost savings in key areas



Ways to Achieve This:

Current Regional Collaboration

- Bi-monthly meetings with neighboring communities
- Asset inventory
- System design review
- Standardized on asset management tool - Fiber Manager

Near Term

- Shared long haul
- Alignment of design standards and requirements

Interim Term

- Shared staffing resources through mutual aid agreements

Long Term

- After hours call center
- Other support services

Delegation of Authority Best Practices

City Manager / GM / Utility / Broadband Director	Loveland Proposed	Longmont	Fort Collins Proposed	Chattanooga, TN	Cedar Falls, IA	Wilson, NC
New Authority						
Within City Council's parameters, establish pricing & fees for services, rate cards, etc.	X	X	X	X	X	X
Major Policy Decisions – low income programs, privacy & security etc.						X
Significant Decisions through Self Regulating Memo to Council						X
Existing Authority						
Council/Board Updates on Policies and Decisions	X	X	X	X	X	X
Executive Oversite on Project	X	X	X	X	X	X
Operate Within Framework of Delegated Authority	X	X	X	X	X	X
Promotional Programs and Campaigns	X	X	X	X	X	X
Marketing Plan and Materials	X	X	X	X	X	X
Branding Design and Logos	X	X	X	X	X	X
Construction Design and Build-out	X	X	X	X	X	X
Financial Plan and Reporting	X	X	X	X	X	X

Delegation of Authority Best Practices

Goal: Maintain nimbleness and flexibility in a competitive market while maintaining clear and transparent pricing to the community

What Could this Include?

- Promotional rate discounts
- Bundle Specials
- Promotional installation fees (business)
- Sign-up specials
- Group Promotions for Multifamily or Multi-tenant buildings

Why is this important?

- Affects bond ratings
- React timely to situational opportunities/sales
- Allows for proactive marketing and promotional campaigns
- Allows utility to quickly adjust to market changes
- Utility is operating in a competitive marketplace
- Allows for speed and flexibility in reacting to incumbent campaigns and promotions

What are the Alternatives to City Manager Delegation?

LCAB Delegation of rate setting
Or
City Council retains full rate setting authority

- Limits ability to be proactive with promotions and campaigns
- Impacts City's ability to participate in a competitive market
- Slows response to incumbent campaigns and promotions
- "Open Meetings Law" requirements for the City may benefit incumbents in a competitive market

Staffing

Creating a broadband utility adds living wage jobs in our community

- Addition of 32 permanent full-time benefited positions
- Hiring term employees to supplement staffing during initial build-out

		Positions Added Per Year Yr 1	Yr 2	Yr 3
6 Total	**Technical Positions** (Engineering and Technical Service)	0	3	3
6 Total	**Installation and Field Service Positions**	4	1	1
11 Total	**Customer Service, Customer Experience and Marketing Positions**	5	3	3
4 Total	**Managerial Positions**	3	1	0
5 Total	**Ancillary Support Positions** (Mapping, Finance, Warehouse, Locating)	3	2	0
	Total by Year =	15	10	7

Take Rate and Pricing Assumptions

Estimated Take Rates		
	Residential Take Rate	42%
	Business Take Rate	27%

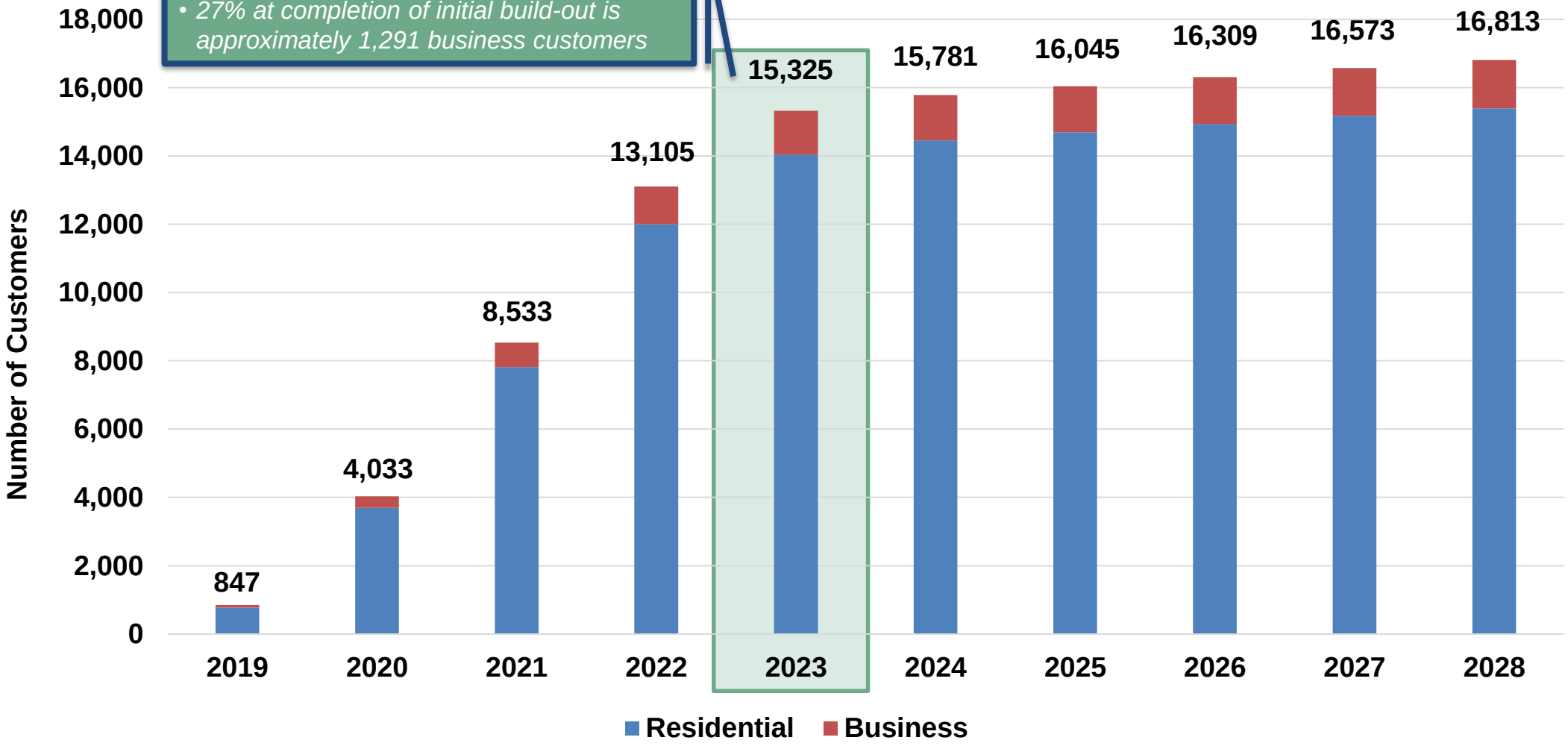
Residential Subscription Pricing	
25 Mbps	$19.95
300 Mbps	$49.95
1 Gbps (1000 Mbps)	$79.95
Voice	$19.95

Business Subscription Pricing	
50 Mbps	$49.95
100 Mbps	$109.95
250 Mbps	$199.95
500 Mbps	$399.95
1 Gbps (1000 Mbps) – Dedicated	$799.95
Voice (3 Lines)	$119.95

*This pricing is for business and financial modeling purposes only. Actual prices or subscriptions may differ.

Take Rate Graph Over Ten Years

- *42% at completion of initial build-out is approximately 14,034 residential customers*
- *27% at completion of initial build-out is approximately 1,291 business customers*



Financial Assumptions and Key Facts

Current Total Premises	• Residential Premises: 32,097 • Business Premises: 4,600
Take Rate	• Residential Internet: 42% • Business Internet: 27% • Wireless Gateway: 75% (Residential) and 25% (Business)
Borrowing Assumption	$93M Total 20 Year Electric Utility Revenue Bond • Capitalized interest only for the first three years • $65.1M as Tax-Exempt at 3.85% • $27.9M as Taxable at 5.05%
General Inflation Adjustment	3.50%
Operating Reserves	15% of Operating Expenses
1% for Arts	1% of Capital Construction Expenses • Estimated $1M in Arts in Public Places Program over 20 years
Payment-in-lieu-of-Taxes (PILT)	7% of Revenue • Estimated over $24.4M in PILT to General Fund over 20 years
Building Lease	7,000 sq. ft. building at $17.50 per square foot with 3.0% inflation
Growth from New Development	Growth rate consistent with other utilities
Service Rate Increase	2.0% per Year
Network Construction	$52.4M (includes construction and miscellaneous contingencies)
Drop Cost	$832 per Drop
Staffing	32 new permanent full-time, benefited employees (FTE) • In addition to current LWP staff's percentage allocation to the broadband utility

Attachment 5

LINE		Broadband Utility 10 Year Plan	BUDGET 2019	Projected 2020	Projected 2021	Projected 2022	Projected 2023	Projected 2024	Projected 2025	Projected 2026	Projected 2027	Projected 2028
	7	**BEG'G WORKING CASH BALANCE:**	$0	$58,386,219	$28,535,276	$10,329,863	$5,519,797	$4,463,077	$4,420,925	$4,862,771	$5,640,013	$7,695,160
	8	**REVENUES & SOURCES:**										
	9	Service - Residential	193,159	1,543,545	4,595,388	7,974,153	10,945,761	11,737,340	12,243,049	12,693,767	13,157,527	13,622,708
	10	Service - Business	57,993	481,216	1,456,535	2,532,139	3,477,892	3,713,451	3,878,202	4,024,040	4,177,906	4,334,841
	11	Service - Key Accounts	0	0	0	0	0	0	0	0	0	0
	12	Installation - Residential	0	0	0	0	0	0	0	0	0	0
	13	Installation - Business	6,930	26,962	39,552	40,343	19,932	3,935	2,676	2,729	2,784	2,839
	14	Installation - Key Accounts	0	0	0	0	0	0	0	0	0	0
	15	Wireless Gateway - Residential	23,310	182,700	533,295	907,245	1,220,895	1,283,535	1,312,560	1,334,160	1,355,760	1,376,190
	16	Wireless Gateway - Business	700	5,520	16,350	27,870	37,485	39,315	40,200	40,920	41,640	42,360
	17	Wireless Gateway - Key Accounts	0	0	0	0	0	0	0	0	0	0
	18	Fiber Leases	100,000	102,000	104,040	106,121	108,243	110,408	112,616	114,869	117,166	119,509
	19	Source - Interest on Investments	1,534,983	831,125	281,358	145,116	121,562	141,230	164,442	201,235	281,711	169,812
20	20	Source - Bonds Issued	93,000,000									
	21	**TOTAL REVENUES**	**$94,917,076**	**$3,173,067**	**$7,026,517**	**$11,732,987**	**$15,931,770**	**$17,029,214**	**$17,753,745**	**$18,411,719**	**$19,134,494**	**$19,668,259**
	22	**OPERATING EXPENSES:**										
	23	Wholesale Costs	14,062	94,975	272,845	473,984	656,995	715,455	756,056	796,845	839,334	880,304
	24	Distribution	1,320,289	2,041,124	2,844,600	2,550,141	2,742,375	2,836,663	2,952,505	3,053,152	3,192,174	3,317,471
	25	Customer Relations	556,150	1,114,026	1,359,818	1,386,996	1,452,745	1,496,961	1,532,426	1,562,773	1,637,356	1,687,204
	26	Admin	799,226	816,485	835,903	861,727	898,680	922,263	944,106	973,286	1,015,224	1,041,805
	27	Workers Comp & Gen'l Liability	275,000	284,625	294,587	304,897	315,569	326,614	338,045	349,877	362,122	374,797
	28	1% for Arts Transfer	284,802	220,958	127,486	38,533	20,049	12,788	12,207	12,612	3,334	57,116
	29	Payment in-lieu-of taxes PILT	26,746	163,936	472,161	811,151	1,106,715	1,182,159	1,231,251	1,274,734	1,319,695	1,364,891
	30	Services rendered-other depts.	200,000	362,250	530,179	548,735	567,941	587,819	608,392	629,686	651,725	674,535
	31	Building Lease	122,500	126,175	129,960	133,859	137,875	142,011	146,271	150,660	155,179	159,835
32	32	Debt Service - Internal Loan Power	67,500	75,000	70,000	67,500	70,000	555,000	555,000	555,000	555,000	555,000
34	33	Debt Issuance Cost	650,000	0	0	0	0	0	0	0	0	0
	34	Debt Service	1,957,650	3,999,123	3,999,123	5,504,662	7,010,200	7,010,200	7,010,200	7,010,200	7,010,200	7,010,200
	35	**TOTAL OPERATING EXP'S (excl depn)**	**$6,273,926**	**$9,298,677**	**$10,936,662**	**$12,682,185**	**$14,979,143**	**$15,787,933**	**$16,086,459**	**$16,368,824**	**$16,741,344**	**$17,123,159**
36	36	**NET OPERAT'G REV/(LOSS) (excl depn)**	**$88,643,150**	**($6,125,609)**	**($3,910,144)**	**($949,198)**	**$952,628**	**$1,241,281**	**$1,667,285**	**$2,042,895**	**$2,393,151**	**$2,545,101**
	37	CAPITAL EXPENDITURES	30,256,931	23,725,333	14,295,269	3,860,868	2,009,348	1,283,433	1,225,439	1,265,653	338,004	5,716,301
	38	NET CHANGE IN WRK'G CASH BAL	$58,386,219	($29,850,943)	($18,205,413)	($4,810,066)	($1,056,720)	($42,152)	$441,846	$777,242	$2,055,147	($3,171,200)
	39	(Net Oper Rev/(Loss) less Cap Exp)										
40	40	**ENDING WORKING CASH BALANCE**	**$58,386,219**	**$28,535,276**	**$10,329,863**	**$5,519,797**	**$4,463,077**	**$4,420,925**	**$4,862,771**	**$5,640,013**	**$7,695,160**	**$4,523,960**
	41											
	42	Operating Reserve (15% of Operating Exp)	$941,089	$1,394,801	$1,640,499	$1,902,328	$2,246,871	$2,368,190	$2,412,969	$2,455,324	$2,511,202	$2,568,474
43	43	Fav/(Unfav) to Desired Balance	$57,445,130	$27,140,475	$8,689,364	$3,617,469	$2,216,205	$2,052,735	$2,449,802	$3,184,689	$5,183,958	$1,955,486
	44											
	45	Loan Balance	94,957,650	94,957,650	94,957,650	93,452,112	90,378,109	87,175,580	83,839,063	80,362,859	76,741,025	72,967,356

Bond Requirements

Total Bond Requirement	
Capital (Construction, Equipment, Vehicles, etc.)	$72.1M
Operations	$39.2M
Revenue	($23.8M)
15% Reserves	$1.9M
Ending Working Cash Balance	$3.6M
	$93M

*All figures are through initial-build out at Year 4

- Network construction completion in Year 3
- Completed Drops in Year 4

42% at completion of initial build-out is approximately 14,034 residential customers
27% at completion of initial build-out is approximately 1,291 business customers

Cost Increase Details

Construction Cost Increases:

- Labor costs in Northern Colorado are very competitive and continue to climb
- Increase in demand for material is driving up costs and increasing lead times
- Tariffs and oil price increases on raw materials
- Addition of Ditesco for third party inspection and construction management through construction

Staffing Costs:

- Market competition in the area is increasing pay levels
- Gaps identified post feasibility study (warehouse, buyer, MDU specialist, etc.)

Financial Changes:

- Bond rates have increased since 2017 by 0.5%

Design changes

- More front lot construction. This is safer for our staff to build and maintain and less disruptive to residents.
- Increase the percentage of underground. Increases reliability and reduces variable/contingent costs. Not all of our utility poles can have additional attachments without significant “make-ready work”. We have seen pricing increases and fluctuations for this type of specialized staff due to the hurricanes and other natural disasters

Business and Market Scenarios

	Base Case	Break-Even	Fast Growth	Delayed Project (Summer 2019)	Delayed Project (January 2020)**
Take Rate	Residential: 42% Business: 27%	Residential: 32% Business: 27%	Residential: 53% Business: 35%	Residential: 42% Business: 27%	Residential: 42% Business: 27%
Total Network Construction Cost	$52.4M	$52.4M	$52.4M	$54.7M	$55.9M
Total Drop Capital Cost	$13.3M	$10.1M	$16.7M	$13.8M	$14.1M
Bond Total	$93M	$93M	$93M	$99M	$111M
Bond Interest Rate	Tax-Exempt: 3.85% Taxable: 5.05%	Tax-Exempt: 3.85% Taxable: 5.05%	Tax-Exempt: 3.85% Taxable: 5.05%	Tax-Exempt: 4.35% Taxable: 5.55%	Tax-Exempt: 4.85% Taxable: 6.05%
Bond and Capitalized Interest Total	$155.6M	$155.6M	$155.6M	$174.5M	$205.8M
Positive Net Operating Income*	Year 5	Year 8	Year 4	Year 5	Year 7
Ability to Service Bond Prior to Bond Maturity	3 Years Early	No	10 Years Early	No	No

*Includes Debt Service Payment

**Likely requires at least a 5% service rate increase

City of Loveland

Bonding Package

Purpose:

1. Understand financing options for the City
2. Review and discuss Series A, B and C Bonds
3. Evaluate risk and reward

Why J.P. Morgan?

J.P.Morgan

- J.P. Morgan is a leading underwriter in Colorado
- More than 1,300 employees in the State with 31 working within the City of Loveland.
- Since January 2013 senior managed more than $3.8 billion in par for Colorado-based issuers, making them one of the State's top ranked underwriters
- A market leader in underwriting public power and combined utility bonds
- Extensive experience with infrastructure and broadband related financings
- Brings a marketing team dedicated to investor outreach with a goal to maximize investor demand for a bond offering
- Local team, combined with national, industry leading resources will enable the City to successfully structure and market a bond offering

Overview of Bonding Structure

Borrowing Assumption	$93M Bond Total Issued in January 2019 20 Year Electric Utility Revenue Bond • Capitalized interest only for the first three years • $65.1M as Tax Exempt at 3.85% ▪ A portion of the tax exempt series will be small denomination bonds (mini-bonds) • $27.9M as Taxable at 5.05%

Bond Rating Projections

- Standard & Poor's as sole rating agency
- Anticipated rating is upper medium grade
- Anticipated range is A+ to A-

Moody's		S&P		Fitch		Rating description	
Long-term	Short-term	Long-term	Short-term	Long-term	Short-term		
Aaa	P-1	AAA	A-1+	AAA	F1+	Prime	Investment-grade
Aa1		AA+		AA+		High grade	
Aa2		AA		AA			
Aa3		AA−		AA−			
A1		A+	A-1	A+	F1	Upper medium grade	
A2		A		A			
A3	P-2	A−	A-2	A−	F2		
Baa1		BBB+		BBB+		Lower medium grade	
Baa2	P-3	BBB	A-3	BBB	F3		
Baa3		BBB−		BBB−			
Ba1		BB+	B	BB+	B	Non-investment grade speculative	
Ba2		BB		BB			
Ba3		BB−		BB−			

Bond Series

Series A:

- Tax-Exempt bonds – take advantage of lower tax-exempt interest rates for 70% of issuance

Series B:

- Taxable bonds – issue 30% as taxable to address tax concerns for use of the bonds

Series C:

- Tax-Exempt Small denomination bonds (mini-bonds) – increase local participation in financing the broadband project

Bond Structure Alternatives

Several bond structure alternatives investigated:

Scenario	Description	Findings
1. Multiple smaller bond issues instead of one large bond issue	Build fiber network in smaller phases and bond for each phase individually	• The overall debt service costs will be higher with all issuances due to expected increasing interest rates • Each bond issue has certain fixed costs that would be repeated
2. Insure the bond issue	Take out bond insurance to enhance creditworthiness and improve debt terms	• Generally used to improve credit ratings but City expected to fall into an A category so insurance will be less likely to move rating upward • Increases cost to the project overall with limited to no benefit
3. Issue all the bonds as taxable bonds	Issue all bonds as taxable and not tax-exempt	• Taxable bonds have a higher interest rate than tax-exempt so this would increase the debt service cost

Bond Structure Alternatives

Scenario	Description	Findings
4. Issue a portion of bonds in small denomination or mini-bonds	A portion of bonds issued in small denomination or mini-bonds to be sold specifically within the local market at smaller price points	• A way to increase local participation in the financing of the project and drive excitement and engagement • Complexity and cost is added due to administrative process for issuance • Other communities have not experienced a significant portion to be financed through mini-bonds but have successfully financed a portion
5. Delay the bond to accommodate a spring 2019 special election or a November 2019 regular election	Delay the bond issues until a vote of the people can be held either through a 2019 spring special election or November 2019 regular election	• Federal fund rates are expected to increase 0.25% each quarter over the next year which adds cost to the project the longer it is delayed • Will have to bond for higher amount increasing the bond interest and capitalized interest amounts • Construction and material contract likely to increase with inflation – assumed at 4% per year

Risk Mitigation Strategies to Insulate Electric Rate Payers

Several strategies investigated:

Strategy	Findings	Solution

1. Issue the broadband bond without support of electric enterprise utility	• Electric utility risk would be removed
	• Likely to have higher bond costs
	• May be unable to get investment grade bond rating
		• **Add an Operational Risk Mitigation Reserve Fund**
		  • $4M held in reserves to protect against slow take rate growth and provide time to adjust operationally or through an increase in rates to the level needed to cover debt service
		  • Increases the bond amount needed and leads to higher total issuance and debt service costs
		  • Estimated to provide approximately one year to make adjustments to the business model and financials to cover debt service

2. Issue the broadband bond as a non-rated issue	• May be difficult to secure adequate funding for the project • Typically require higher yields to attract buyers • The risk of the broadband project would increase driving borrowing costs prohibitively higher	
3. Insulate electric rate payers	• Customers may only be charged for costs of providing a service, limits charges or fees above and beyond the costs of debt service • Both business activities being part of and managed by the city is detrimental to potential providers • Staff was not able to find a product that worked for this situation	

City of Loveland

Final Summary

Purpose:

1. Provide LCAB recommendation to Council
2. Answer outstanding questions
3. Review project options

LCAB Recommendation

In the interest of providing the community of Loveland with fast, reliable, affordable, and City-wide accessible broadband service backed by excellent customer service, the Loveland Communications Advisory Board recommends that, without delay, the Loveland City Council direct the City Manager to establish the structure and governance of a broadband utility and secure network construction funding by bond issuance through the following actions:

- Establish through necessary ordinances a City-owned broadband enterprise utility under a retail model with regional collaboration
- Delegate authority to the City Manager to set rates, charges, and fees for particular broadband network and related services within the parameters and reporting requirements to be set by City Council
- Authorize the City Manager to explore regional partnerships with other governmental entities, broadband providers, and owners of fiber optic cable in order to capitalize on regional municipal broadband opportunities
- Direct staff to bring to City Council ordinances and supporting documents for bond issuance based on the Base Case Scenario identified by City staff

Bonding Alternative Structures

Alternatives to Base Case	Base Case	Spring 2019 Election	November 2019 Regular Election	Multiple Smaller Issues	Operational Risk Mitigation
Additional Bond Amount above Base Case	--	$6M	$18M	$11M	$4M
Total Bond Amount	$93M	$99M	$111M	$104M	$97M
Additional Bond and Capitalized Interest above Base Case	--	$18.9M	$50.2M	$28M	$6.7M
Total Bond and Capitalized Interest	$155.6M	$174.5M	$205.8M	$183.6M	$162.3M
Positive Net Operating Income	Year 5	Year 5	Year 7	Unknown	Year 8
Ability to Service Bond Prior to Bond Maturity	3 Years Early	No	No	Unknown	No
Details	• January 2019 bonding • Tax-Exempt, Taxable mix • Mini-bonds included	• June 2019 bonding • Tax-Exempt, Taxable mix • Mini-bonds included • Estimated $50k for special election	• January 2020 bonding • Tax-Exempt, Taxable mix • Mini-bonds included	• Assumes 5 issues total at $18.6M each issued 6 months apart • January 2019 bonding	• $4M held in reserves until needed • January 2019 bonding • Tax-Exempt, Taxable mix • Mini-bonds included

This does not account for all potential variables

City Council Actions

Purpose:

1. Receive direction from Council to staff on how to move forward with the broadband project

Resolution

- Recommend City Council motion to adopt a resolution approving and adopting the recommendations of the City of Loveland Communications Advisory Board concerning municipal broadband services

Council Action Options	Consequence
Approve the motion	Adopt the resolution
Deny the motion or take no action	If no action is approved, no additional work will be conducted on municipal broadband services
Adopt a modified action	Specify in the motion – project cost increases may occur depending on the modification
Refer back to staff	A referral back to staff for further development and consideration would delay progress and increase the costs

Next Steps - Ordinances

1. Council's action on the resolution will determine the ordinances needed at future meetings
   - Ordinances and supporting documents for bond issuance
   - Ordinances for operational structure and governance

2. Bonding Process:
   - Estimated to take 60 days from first reading of necessary bond ordinances

3. Network Construction:
   - Estimated to take three years to complete
   - Construction contract execution, acquisition of materials and other related tasks can start after completion of the bond issue