



# Commerce City

Broadband Strategic Plan

Report to City Council

March 23, 2026

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## Project Overview

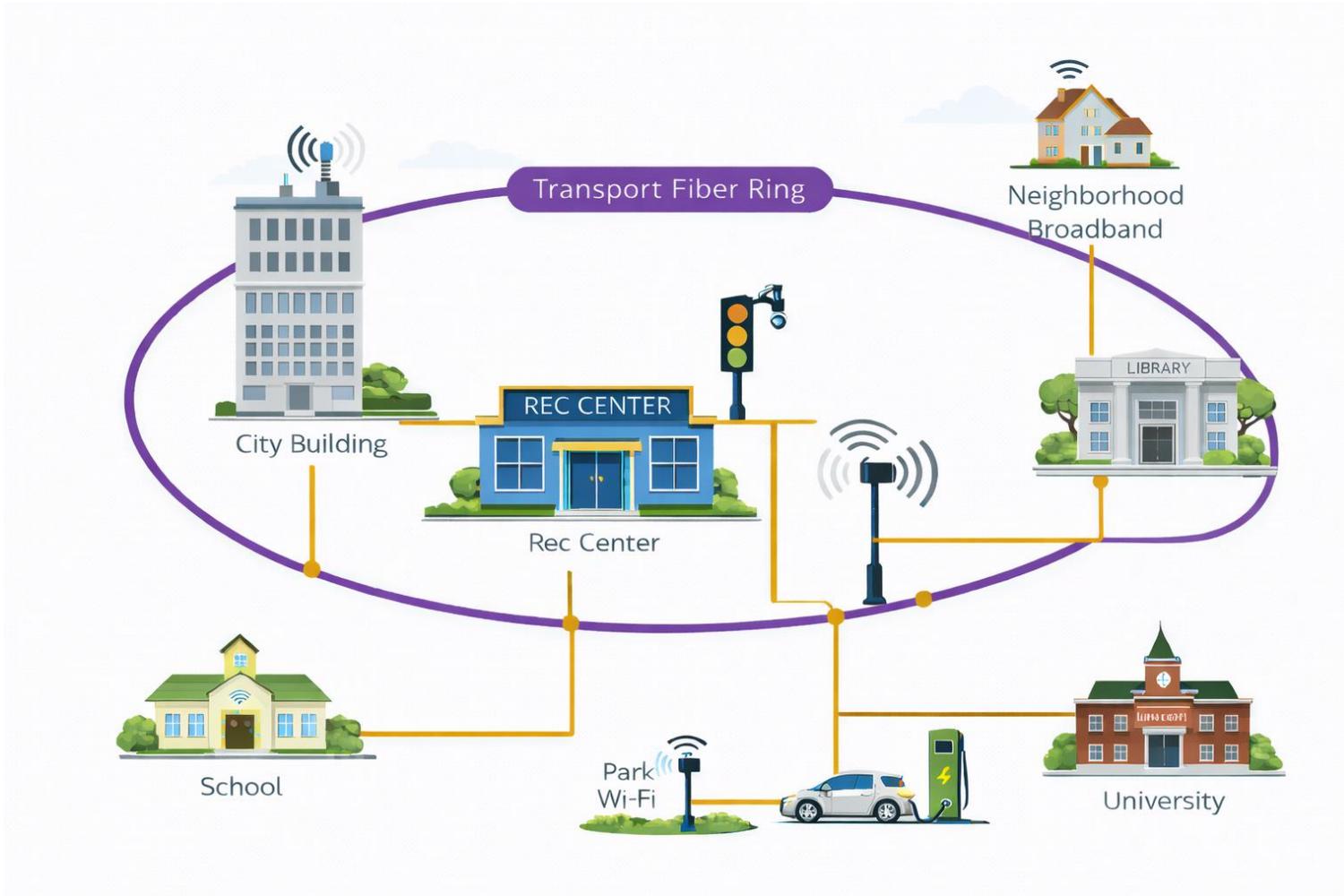
**Strategic Broadband Plan to evaluate how existing municipal assets, commercial broadband service quality, and wireless performance align with the City's long-term operational, economic, and community-serving goals**

- An assessment of City-owned assets
- A review of commercial broadband offerings
- An analysis of community and municipal connectivity needs
- A citywide wireless drive test of the three major mobile carriers
- Provide a coordinated wireless infrastructure strategy
- Development of conceptual options for strengthening municipal fiber connectivity
- Review financial modeling and feasibility of a City-operated broadband utility

# Recommendations



# Shared Infrastructure



## Asset Assessment Findings

- Over 30 miles of City-owned conduit and fiber provide a foundation for broadband expansion.
- Civic Center, recreation centers, police substations, and municipal facilities serve as natural network hubs.
- Major corridors such as Hwy 2, 56th Ave, 60th Ave, 104th Ave, and Tower Road provide strategic expansion routes.
- Planned roadway and infrastructure projects create opportunities to install conduit during construction.
- Parks, open space, and the 116-mile trail network provide continuous public corridors for infrastructure.
- Proximity to Adams County, ADAMCO911, and Denver fiber systems creates regional interconnection opportunities.

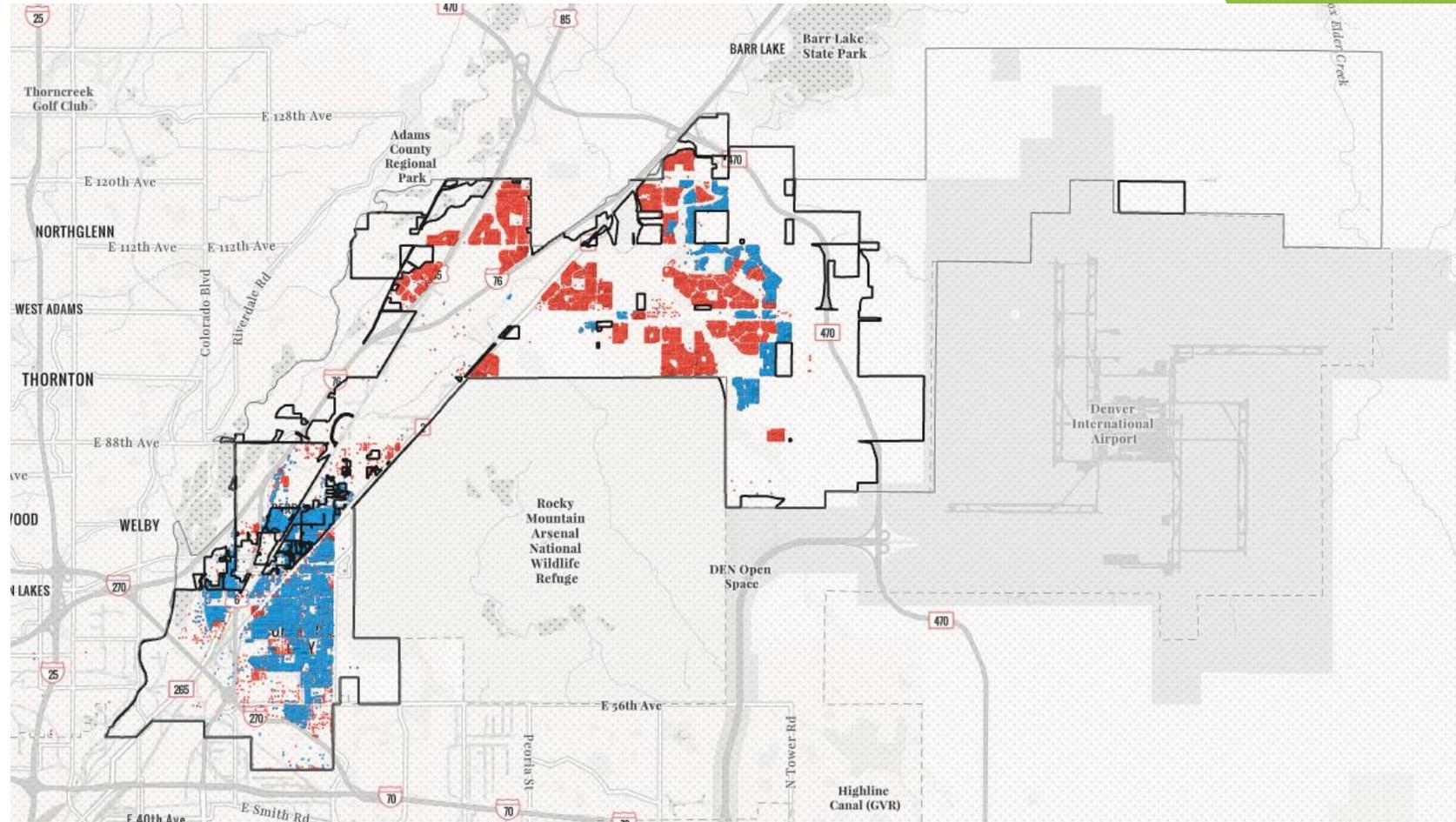
# Market Study Findings

- 40.9% of City has access to fiber service multi-gigabit fiber (Quantum)
- 92.3% of City has access to Cable service only (Xfinity)

Quantum covers 91% of Fiber market

Xfinity covers 100% of Cable Market

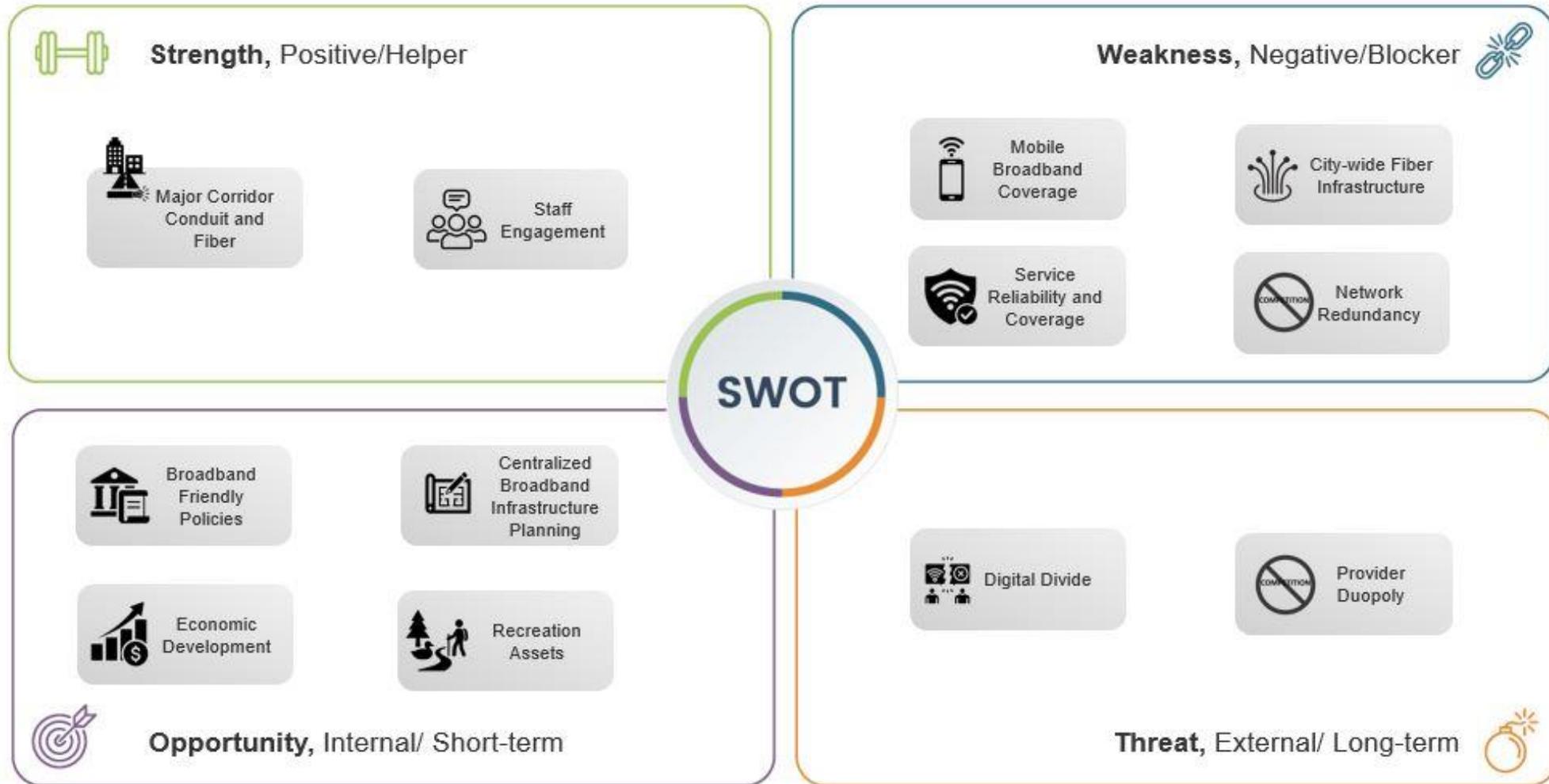
City	FTTP Coverage
Northglenn	87.8%
Brighton	53.8%
<b>Commerce City</b>	<b>40.9%</b>
Westminster	34.7%
Thornton	27.2%



## Findings of Need and Visible gaps

- Without proactive investment and policy alignment, the City risks falling behind in the digital economy
- Need for infrastructure investment in lower density areas
- In the core part of the city, heavy fiber presence in commercial/industrial areas does not always translate into benefit to nearby residents
- Stakeholders consistently describe a gaps in “availability” and “accessibility”
- Lack of competitive options and diversity
- Inconsistent mobile/cellular coverage

# Commerce City – SWOT Analysis



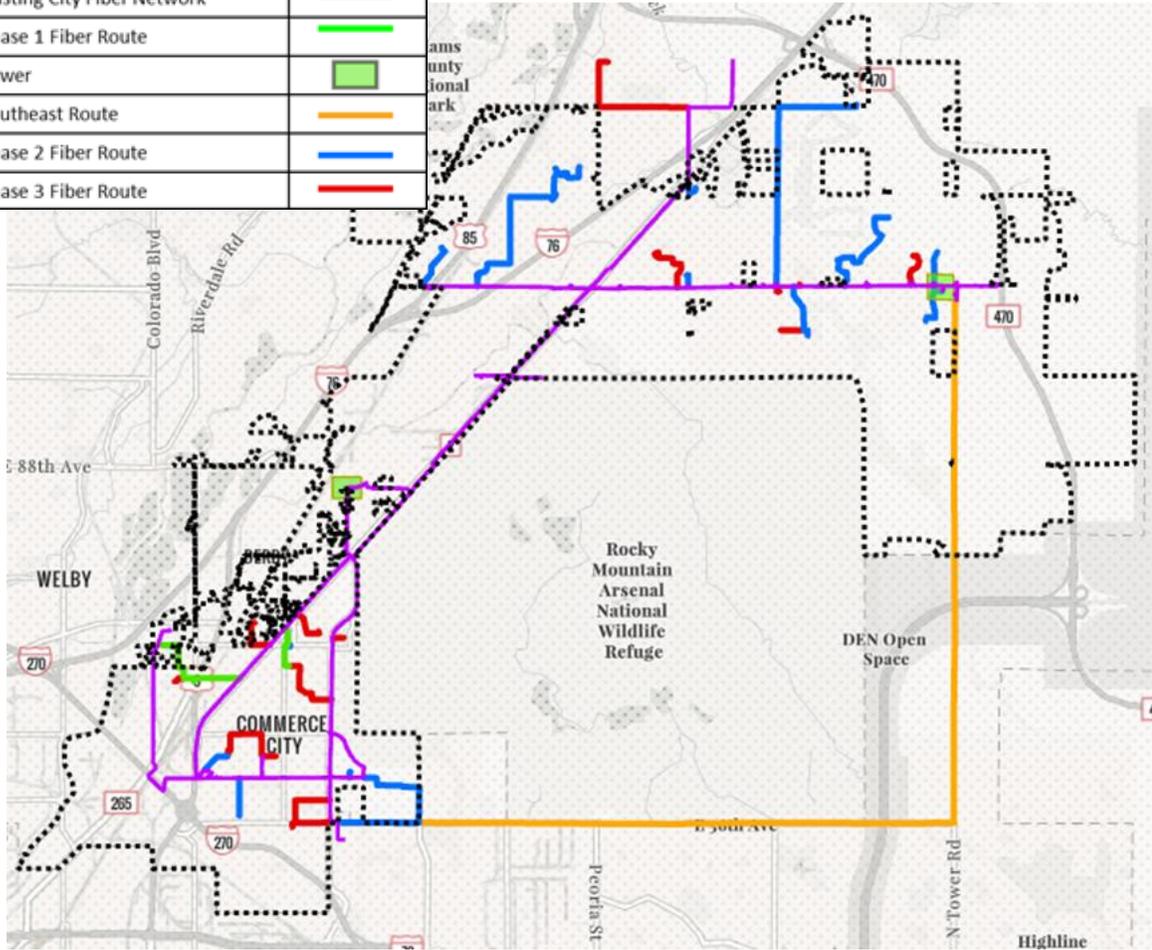
# Wireless Findings

	AT&T	T-Mobile	Verizon
<b>Signal</b>			
5G	35.4%	43.1%	0.0%
4G	63.9%	43.1%	98.2%
NO DATA	0.7%	13.6%	1.8%
<b>Signal Strength LTE</b>			
Excellent	25.0%	39.0%	38.3%
Good	14.4%	19.3%	20.2%
Average	15.0%	12.6%	17.0%
Poor	45.7%	29.1%	24.5%
<b>5G</b>			
Excellent	42.7%	65.1%	NA
Good	35.5%	24.0%	NA
Average	21.8%	11.0%	NA
Poor	0.1%	0.0%	NA
	AT&T	T-Mobile	Verizon
<b>Download Speed</b>			
100+ Mbps	18.2%	33.0%	16.8%
2 – 99.99 Mbps	75.8%	53.2%	75.2%
Less than 2 Mbps	6.0%	13.8%	8.0%
Average (Mbps)	53.3	95.5	50.5
Peak (Mbps)	498.7	728.6	363.0
<b>Upload Speed</b>			
20+ Mbps	19.7%	35.8%	21.5%
2- 19.99 Mbps	27.8%	15.8%	41.2%
Less than 2 Mbps	52.5%	48.3%	37.3%
Average (Mbps)	10.7	21.5	10.2
Peak (Mbps)	95.2	122.4	40.2

- Each carrier demonstrates a different mix of speed, consistency and signal strength
- Signal Strengths impacts mobile traffic differently than in home or business connectivity
- Network infrastructure –including backhaul & tower density directly impacts speed and reliability

# Conceptual Network Design – Phases 1-3

City Boundary	*****
Existing City Fiber Network	—
Phase 1 Fiber Route	—
Tower	■
Southeast Route	—
Phase 2 Fiber Route	—
Phase 3 Fiber Route	—



Component	Quantity	Units	Unit Cost	Total Cost
Phase 1 Fiber	9,600	LF	\$130	\$1,248,000
Phase 1 Wireless Point to Point	2	towers	\$407,500	\$815,000
Phase 1B Southeast Loop Option	67,300	LF	\$130	\$8,749,000
Phase 2 Fiber	65,300	LF	\$130	\$8,489,000
Phase 3 Fiber	38,000	LF	\$130	\$4,940,000
<b>TOTAL</b>	<b>180,200</b>	<b>LF</b>		<b>\$24,241,000</b>

- Conduit verification could drastically reduce deployment cost estimates
- Removing Wireless Point to Point & 1B Loop reduces total cost by 39% (\$14,677,000)
- “Pay as you go”  
Incremental – Joint – Opportunistic
- Debt financing  
Municipal bonds
- Interagency partnerships
- Technology Fund
- Grants

# Retail Broadband Analysis

Average Annual Revenue Estimate	
Service Revenues (MRC)	\$ 757,746
<b>TOTAL</b>	<b>\$ 757,746</b>

Average Annual Expenses Estimate	
<b>Direct Cost of Services</b>	
Data Transport	\$ 60,000
Data Center	\$ 12,000
Vehicle Maintenance	\$ 29,250
Network Maintenance	\$ 507,900
Utilities	\$ 10,000
Field Tools	\$ 27,667
Network Software	\$ 14,235
Revenue Share	\$ -
<b>SUBTOTAL</b>	<b>\$ 661,051</b>

<b>Administrative Expenses</b>	
Staffing	\$ 1,147,201
Legal Fees	\$ 2,000
Marketing	\$ 15,155
Reporting	\$ 12,000
Travel & Training	\$ 9,000
Office Supplies	\$ 15,223
General Overhead	\$ 38,058
Bad Debt	\$ 7,612
<b>SUBTOTAL</b>	<b>\$ 1,246,248</b>
<b>TOTAL EXPENSES</b>	<b>\$ 1,907,300</b>

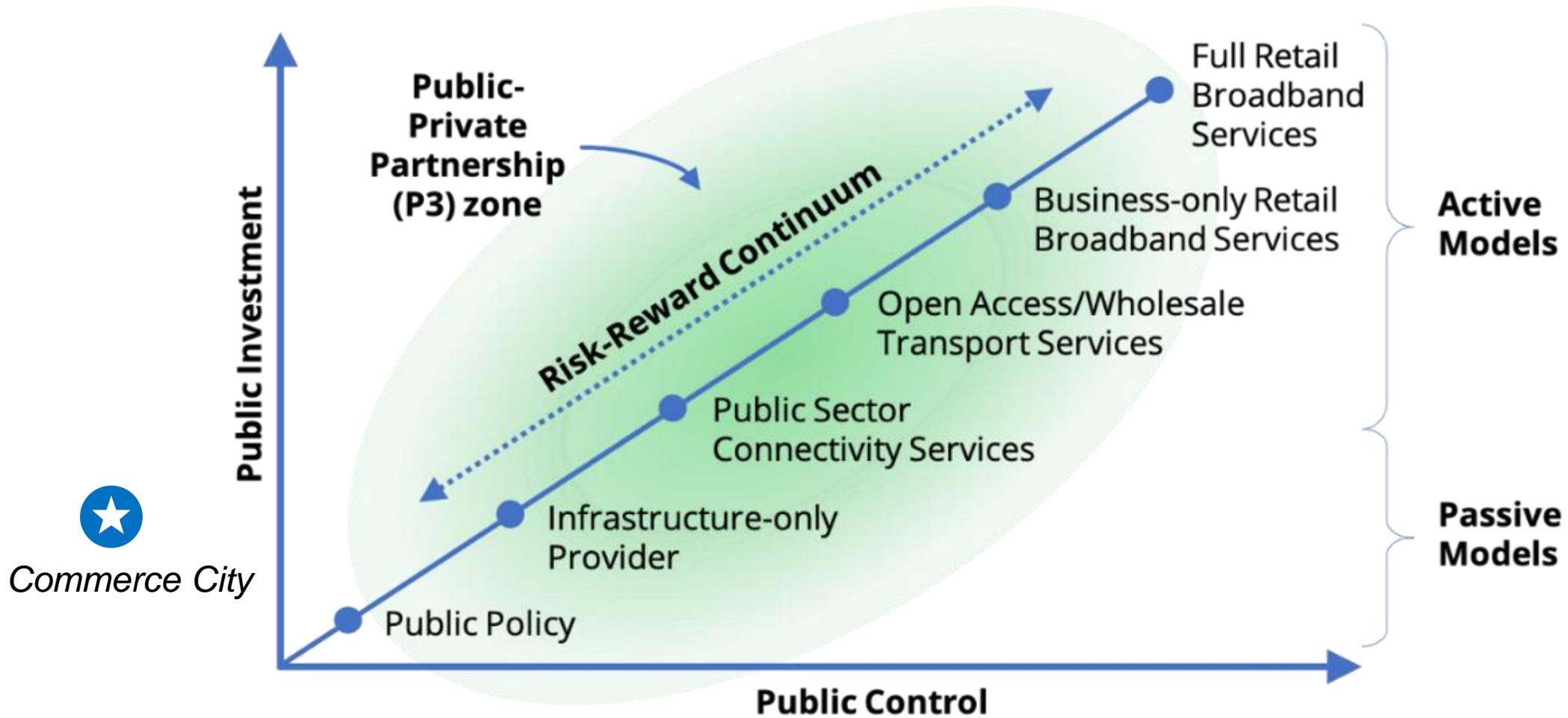
EBITDA **\$ (1,138,532)**

3-Phase Conceptual Design  
Retail Model ≠ Sustainability

# Assumptions

- 3,827 serviceable addresses across planned routes
- 30% take rate
- Does not include debt service on original \$23 Million 3 Phase Backbone CAPEX
- Does not include \$3.2 Million in additional CAPEX
  - (Service drops/equipment, etc.)
- Major Differentiator than other retail examples – no existing municipal utility ownership

# Business Model Assessment



# Recommendations



# Q & A

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Thank you for the opportunity to support Commerce City in this effort.

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