



ARAPAHOE COUNTY





Arapahoe County
Board of County Commissioners
Fiber Master Plan Update
May 20, 2025



Study Overview

Purpose:

- Develop a long-term vision for fiber-related services in Arapahoe County
- Create goals and strategies to provide these services
- Provide information for the BOCC to analyze, select, and implement best solutions
- Improve broadband connectivity across unincorporated Arapahoe County
- Provide a robust fiber network for County Fiber needs (ITS and data)

Meeting Schedule:

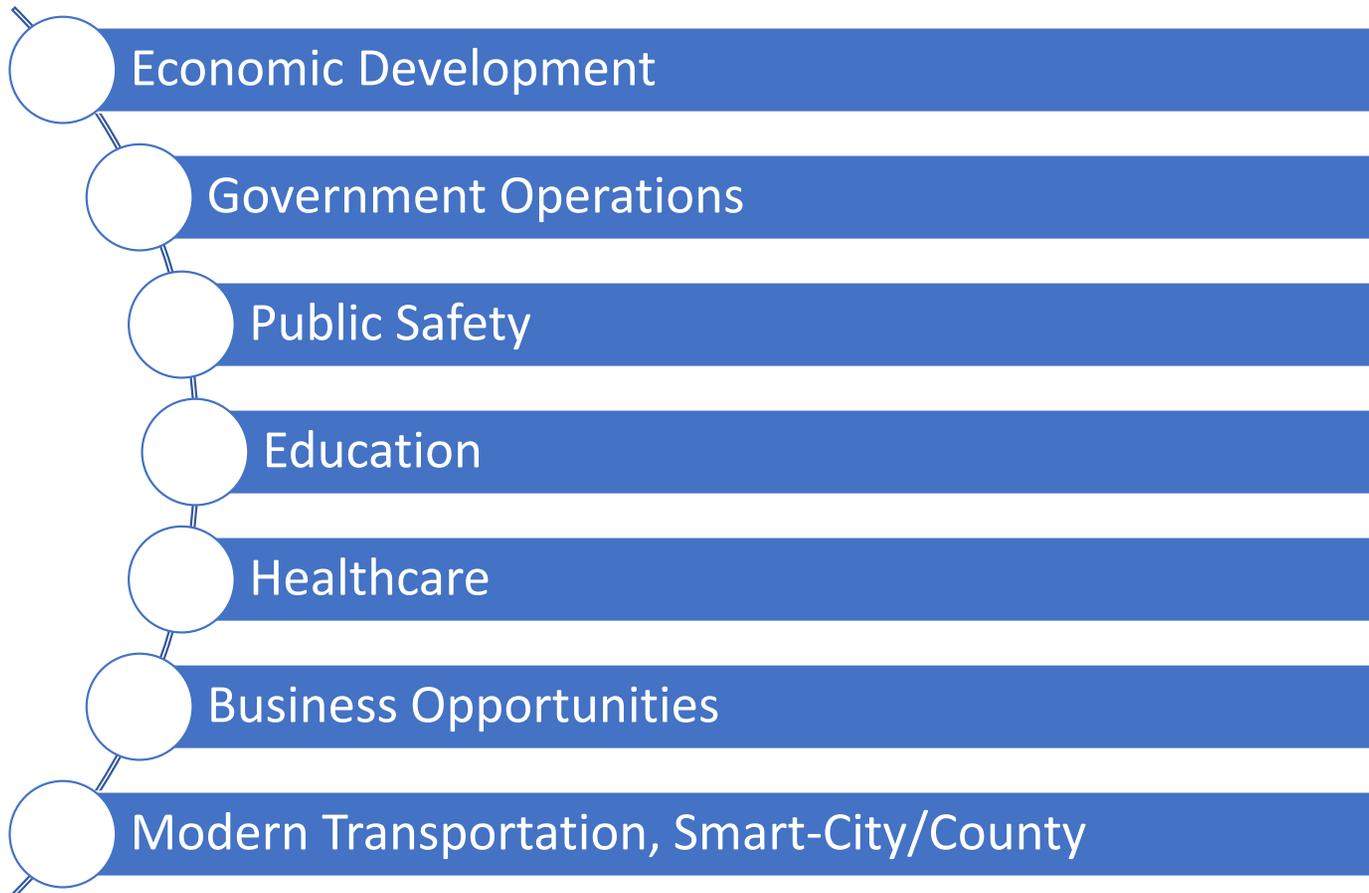
- Meeting #1 (May 2025): Overview of existing services and best practices, potential roles and models for improving broadband
 - Meeting #2 (July 2025): Detailed options based on BOCC direction, financial impacts of various options
 - Meeting #3 (TBD): Final recommendations and implementation plan
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Agenda

- Introduction
 - Industry Context, Why this Matters
 - Current Broadband Availability within the County
 - Most recent Grant Funding, Broadband Equity Access Deployment (BEAD)
 - Potential County Roles for Improving Broadband
 - County Fiber Needs
 - Existing Fiber, Locations, Data Centers, Growth Areas
 - Questions and Feedback
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Industry Context and Why this Matters



U.S. Average
Broadband Speeds:
242 Mbps

Fiber can deliver 1.2
Million times that.

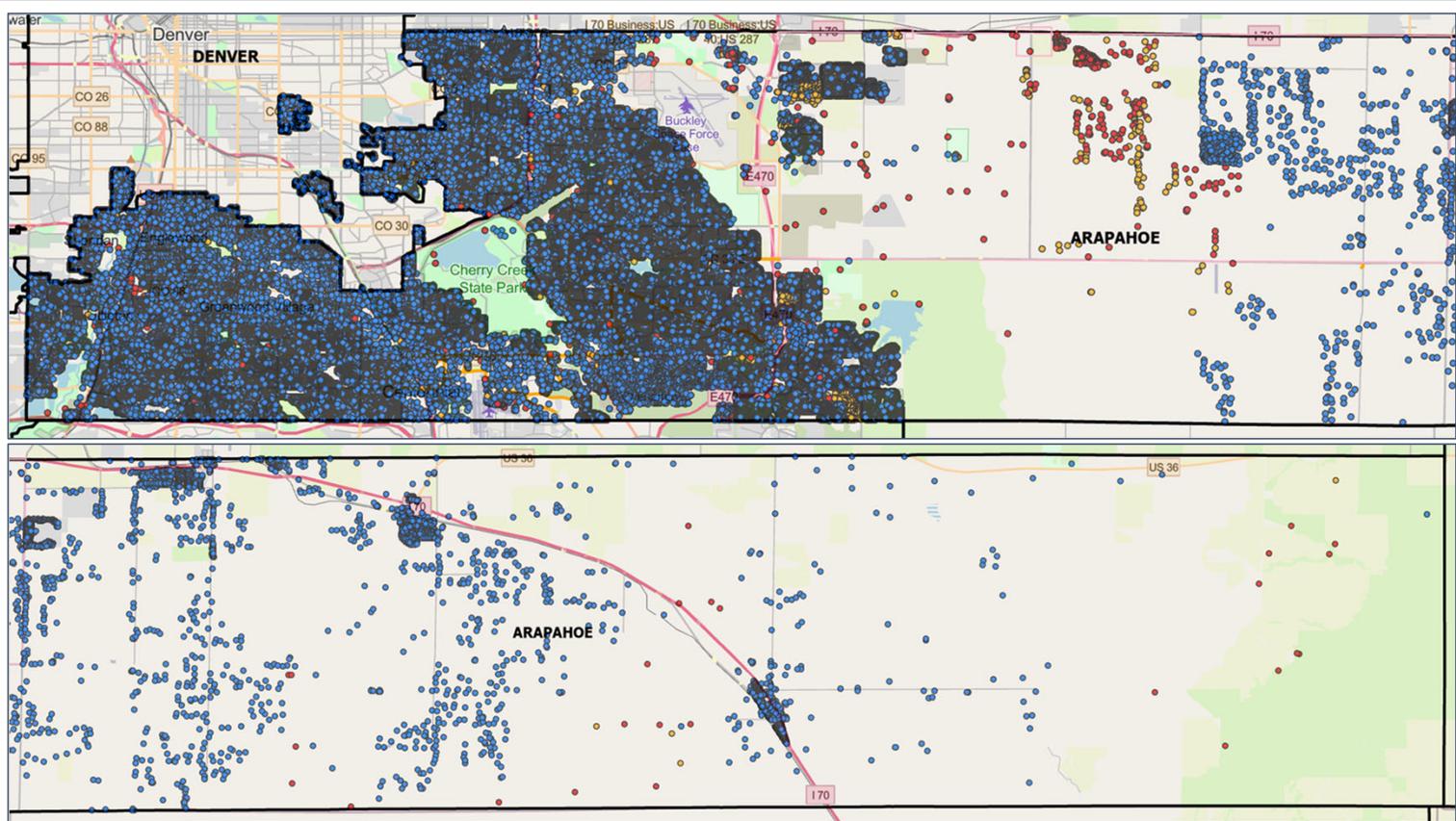
Practical offering to
homes/businesses:
6 – 100 Gbps
(6000 – 100,000
Mbps)



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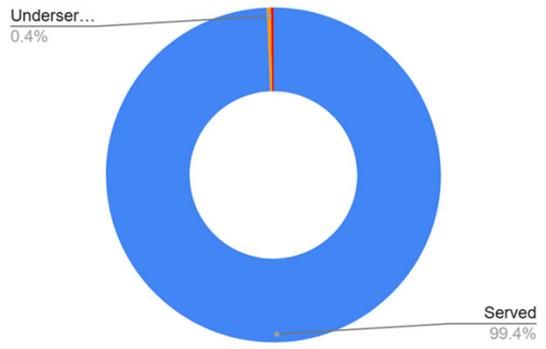
Current Broadband Availability in the County

Arapahoe County Broadband Availability



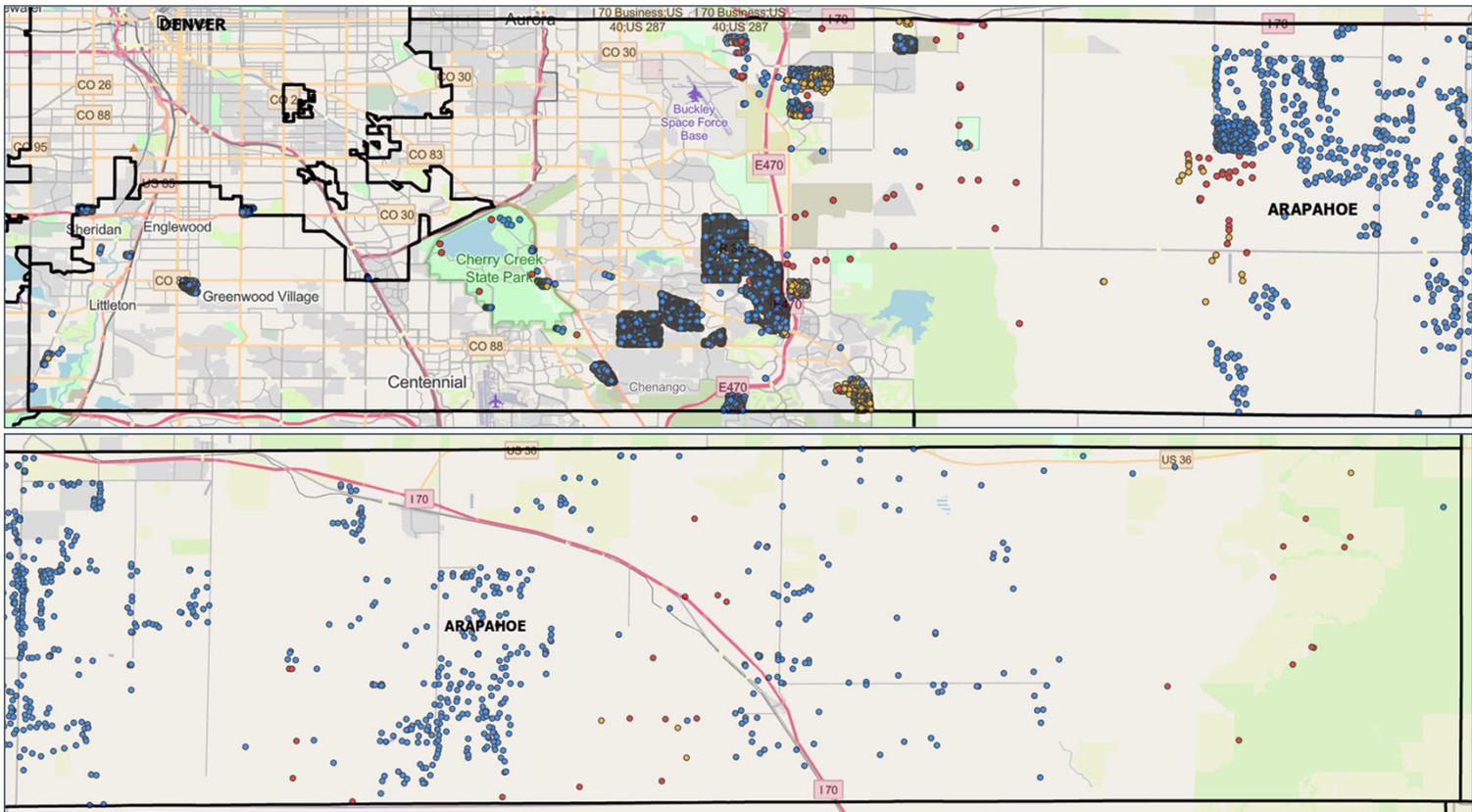
Service Level	Address Count
Served	177,940
Underserved	676
Unserved	469
Grand Total	179,251

County Service Levels



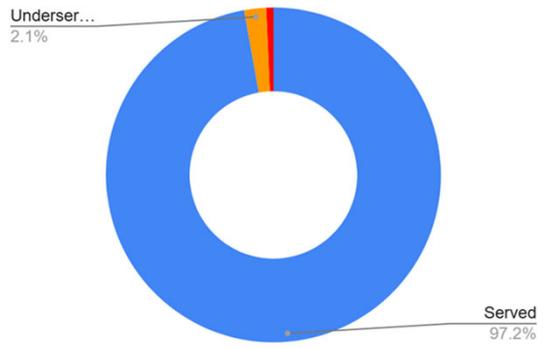
Served: 100/20 Mbps
 Underserved: Under 100/20 Mbps
 Unserved: Less than 25/3 Mbps

Unincorporated Arapahoe County Broadband Availability

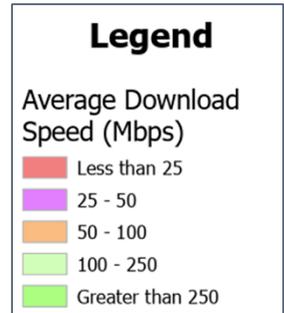
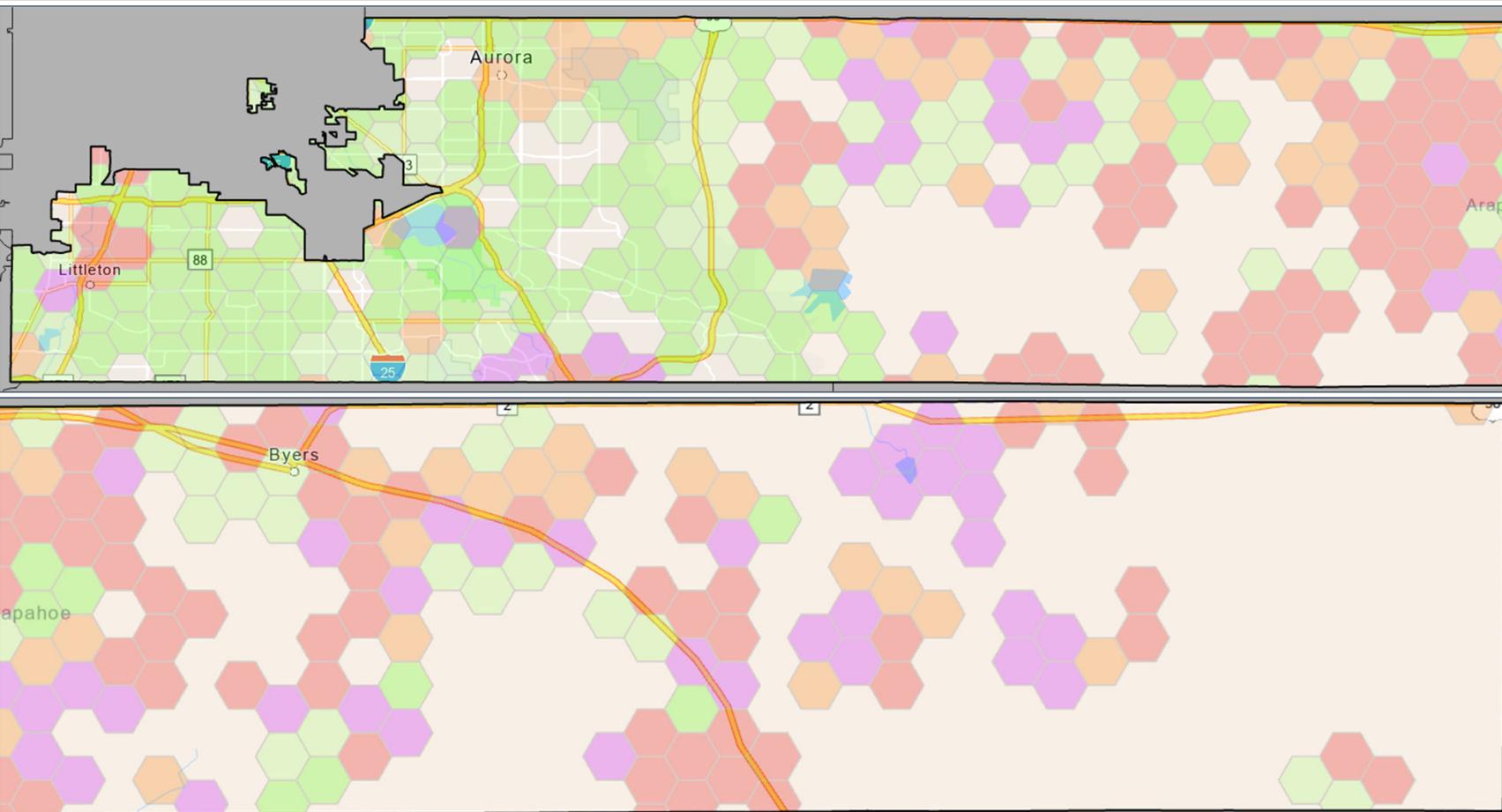


Service Level	Address Count
Served	13,532
Underserved	296
Unserved	9
Grand Total	13,983

Unincorporated Service Levels

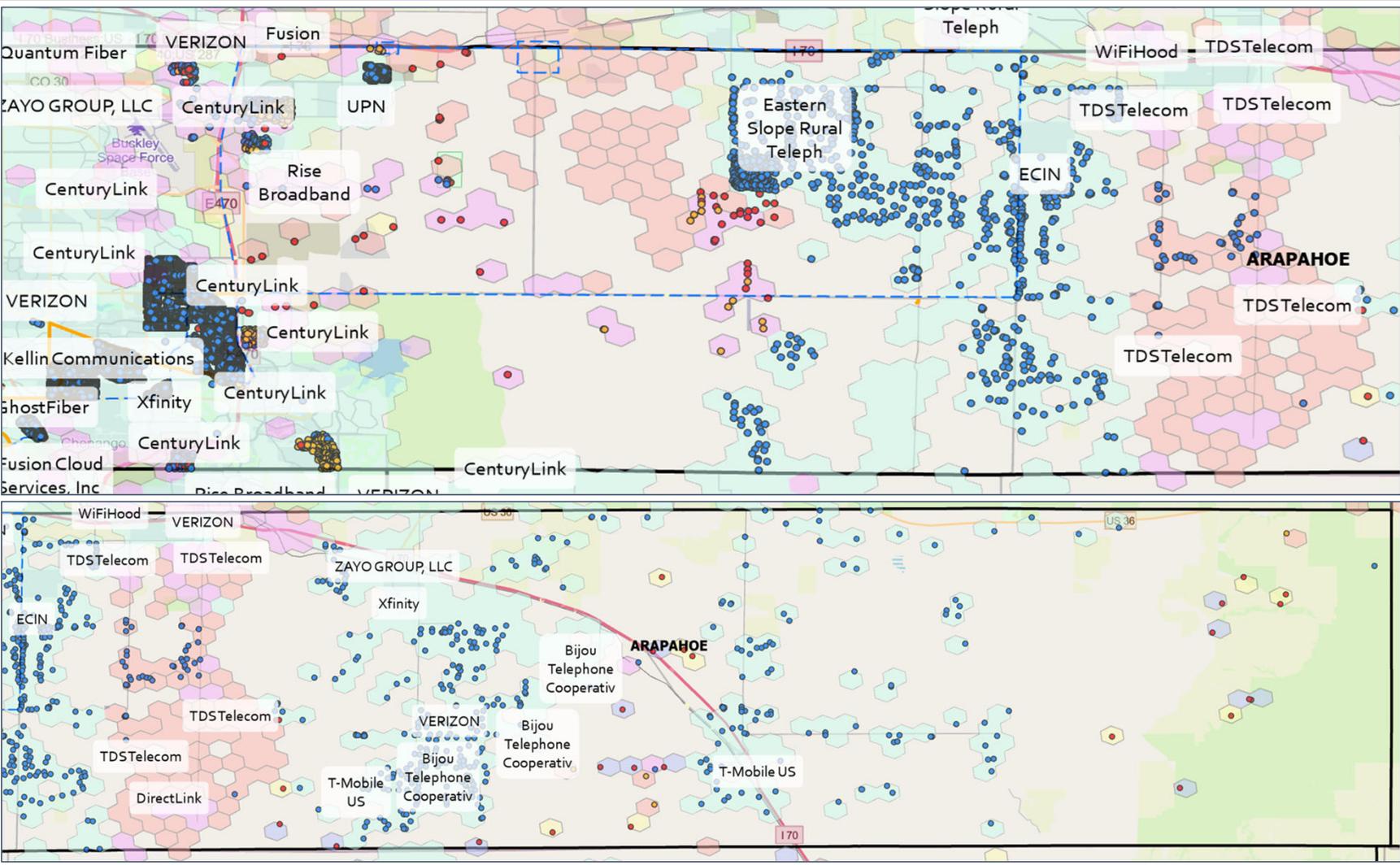


Arapahoe Speed Tests (source Speedtest.net)



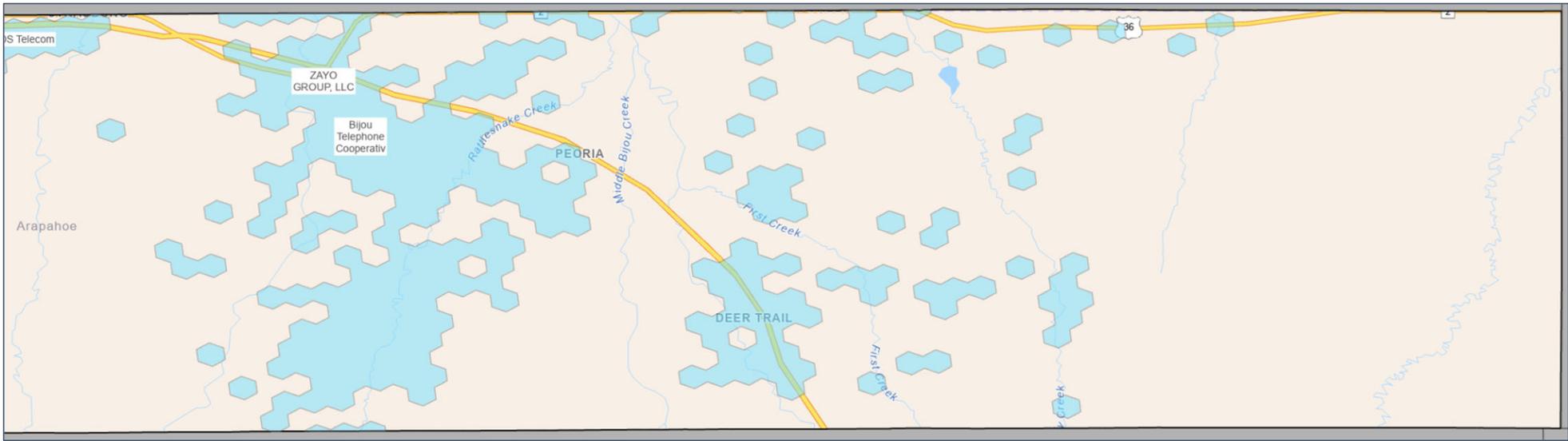
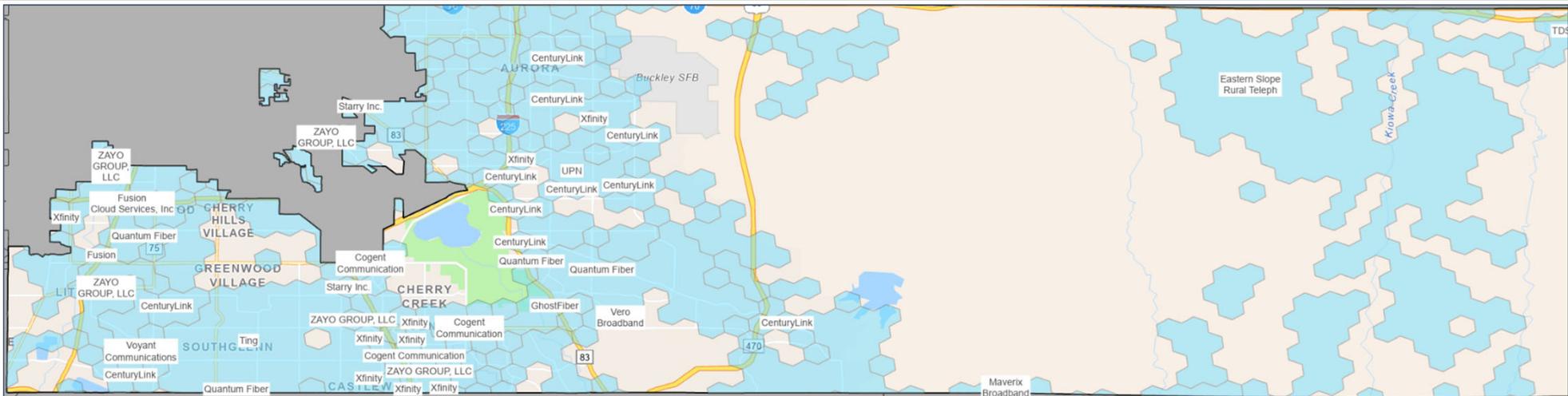
Actual speeds are less than what is being reported or advertised.

Broadband Providers



While most locations are “Served”; only 30-46% have access to fiber.

Arapahoe County Fiber Providers





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Recent Grant Funding Efforts:
Broadband Equity Access Deployment (BEAD)

Arapahoe County by # of Applications

Total Applications Received:

- 5

Project Area Summary:

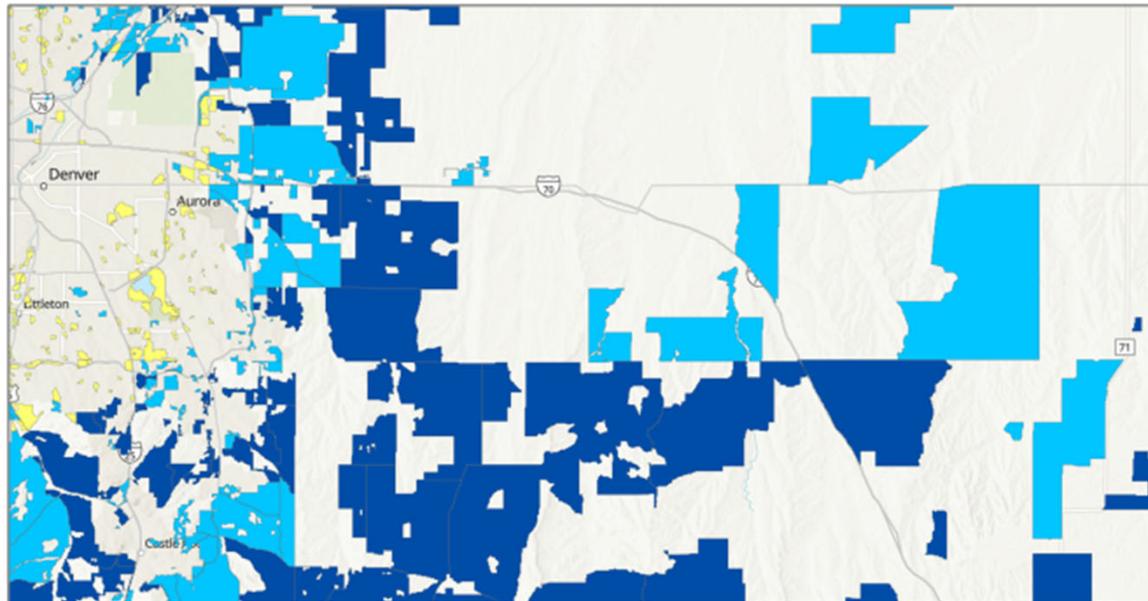
- 37.40% of project areas received applications (46 out of 123)

Location Summary:

- Total Unserved BSLs: 441
- Total Underserved BSLs: 431
- Total Served BSLs: 4,707
- 351 of Unserved BSLs received applications (79.59%)
- 372 of Underserved BSLs received applications (86.31%)



Arapahoe County – Applications by Project Area



Legend

Project Areas by application count

-  No applications
-  One application
-  More than one application

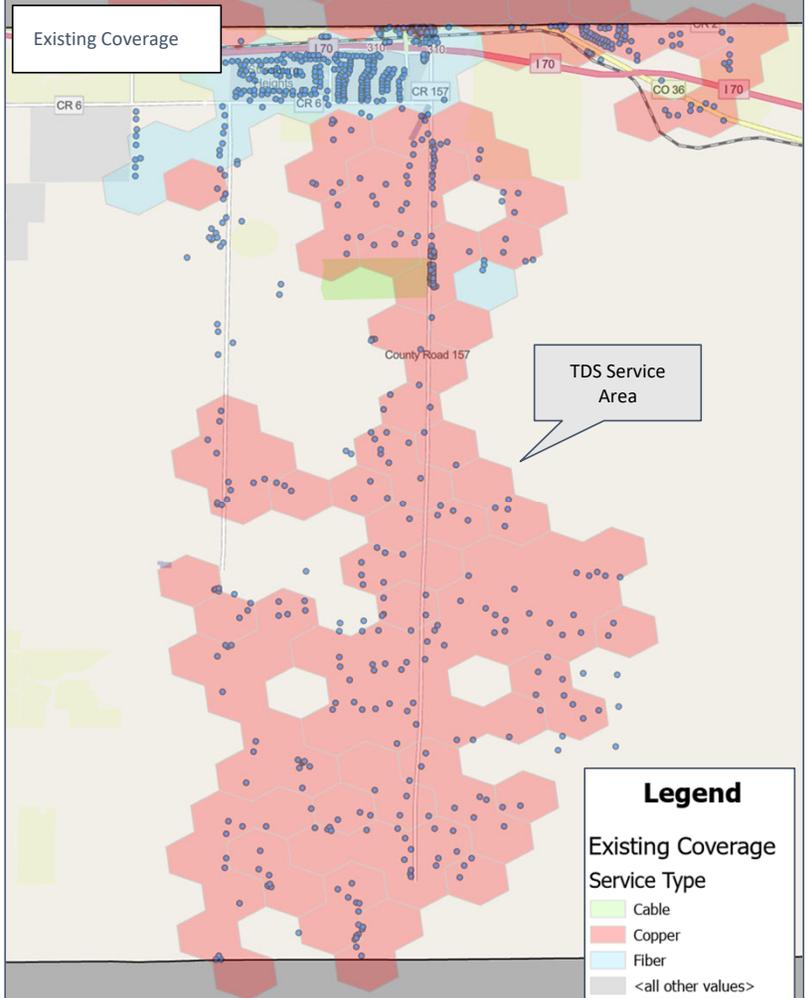
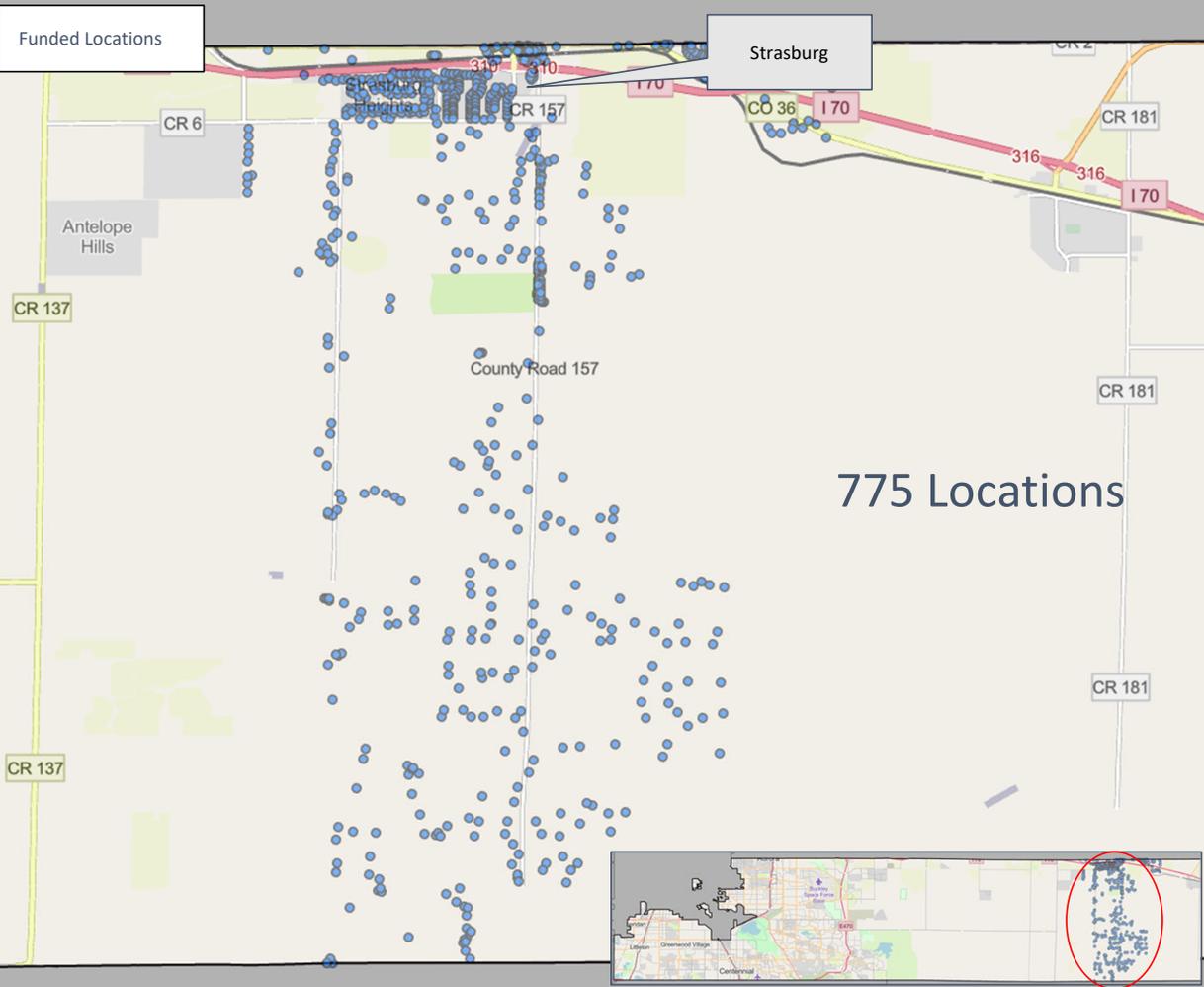
Project Areas with Multiple Applications:

- 9
- Total Eligible Locations:**
- 446
 - (244 unserved and 202 underserved)

Project Areas with No Applications:

- 12
- Total Eligible Locations:**
- 149
 - (90 unserved and 59 underserved)

Apparent Funding (Inside TDS Territory)





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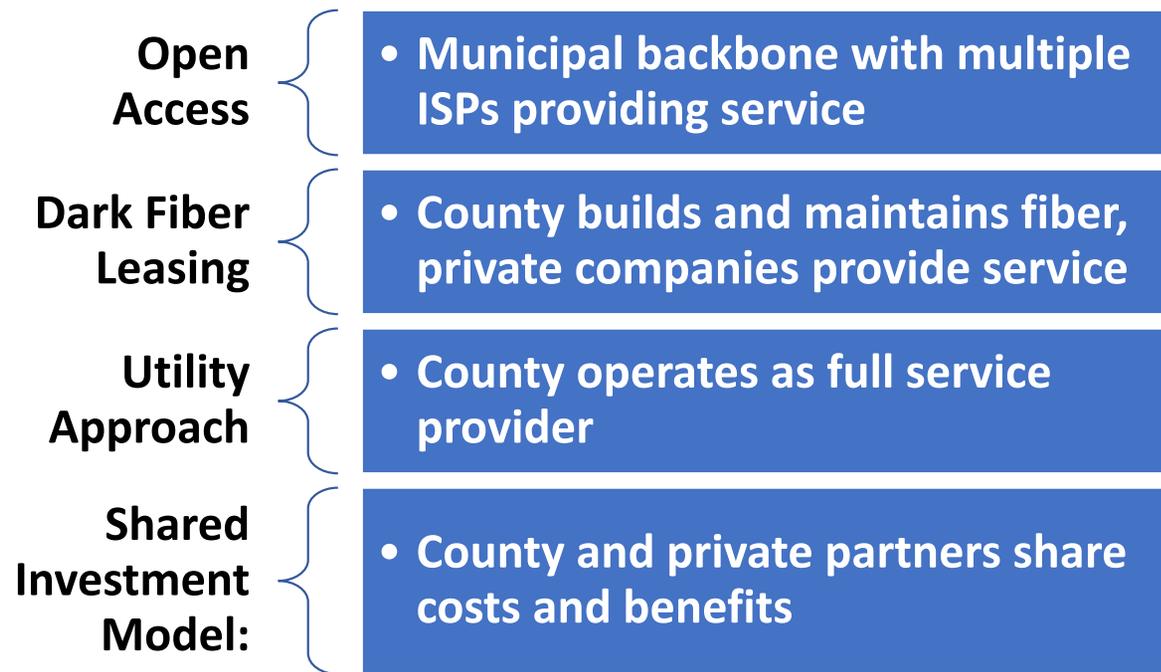
Improving Broadband
Possible Roles, Partnership Models, Examples

Potential County Roles for Improving Broadband

- Implement Broadband Friendly Policies (Arvada)
 - Build Fiber Infrastructure, Connecting Traffic Lights, Government Offices and Locations, Data Centers (Centennial, Greenwood Village, Boulder)
 - Lease County-owned Fiber to Internet Service Providers
 - Develop Public-Provide Partnerships (Fort Morgan, Colorado Springs)
 - Perform Design of Areas to Improve
 - Financial Involvement, Share in Capital Costs
 - Financial Incentives to Further Goals (Build-out Schedule, Pricing)
 - Provide Services Directly to End Users (Longmont, Estes Park)
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Partnership Models



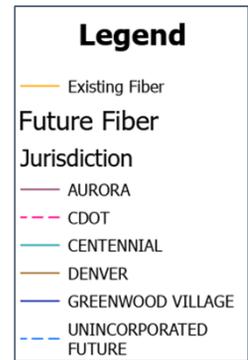
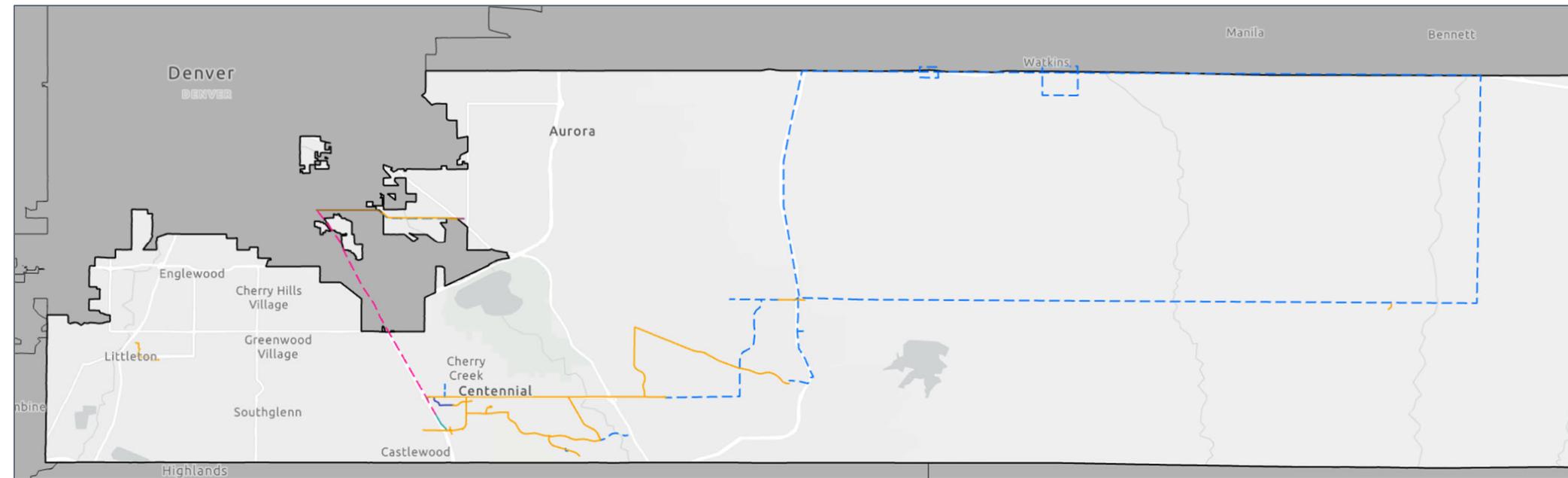


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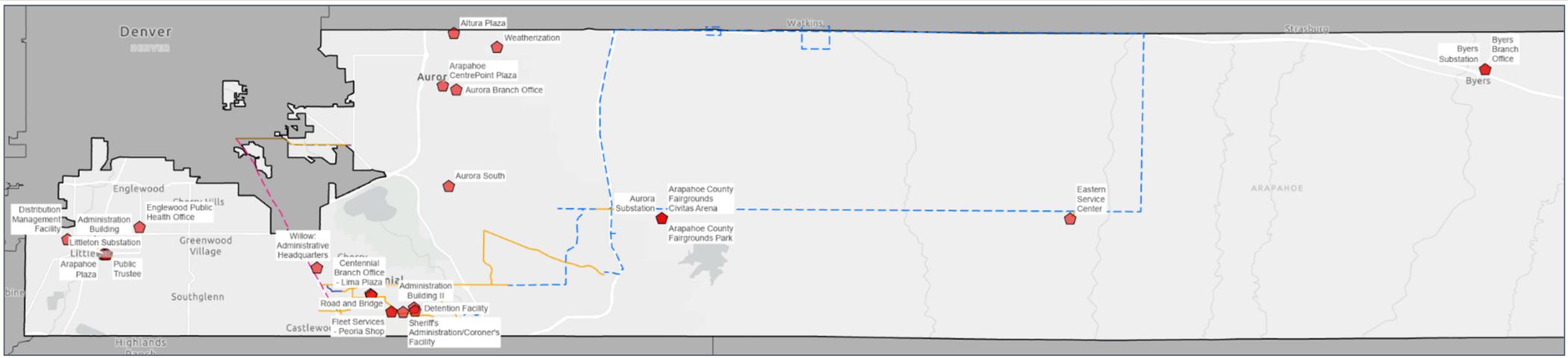
County Fiber Needs (preliminary)

Existing Fiber, Locations, Data Centers, Growth Areas

Arapahoe Fiber - Existing and Planned



County Buildings



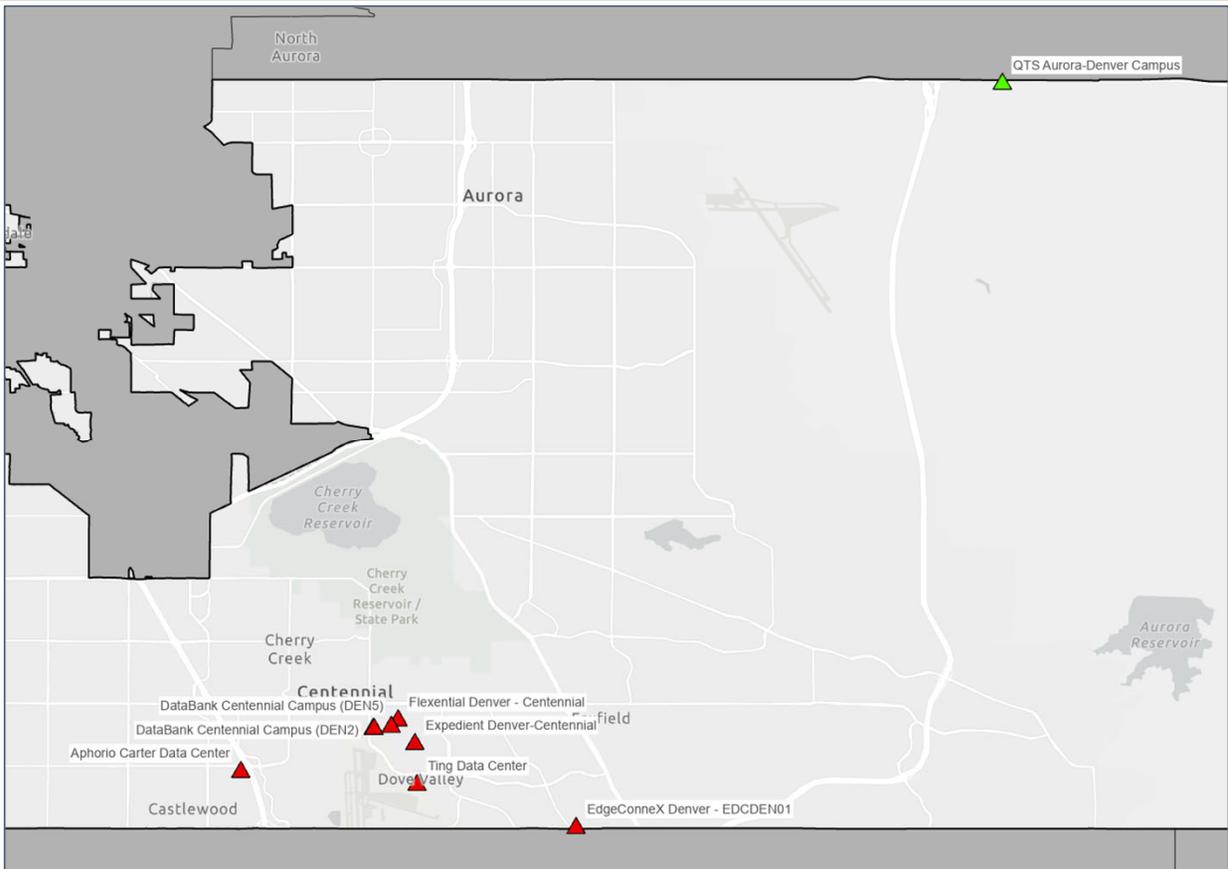
Legend

- Existing Fiber
- Future Fiber
- Jurisdiction**
- AURORA
- CDOT
- CENTENNIAL
- DENVER
- GREENWOOD VILLAGE
- UNINCORPORATED
- FUTURE

We will also plan for County Growth Areas

Possible partnerships with key stakeholders: water districts, CDOT, fire, schools, medical community, cities

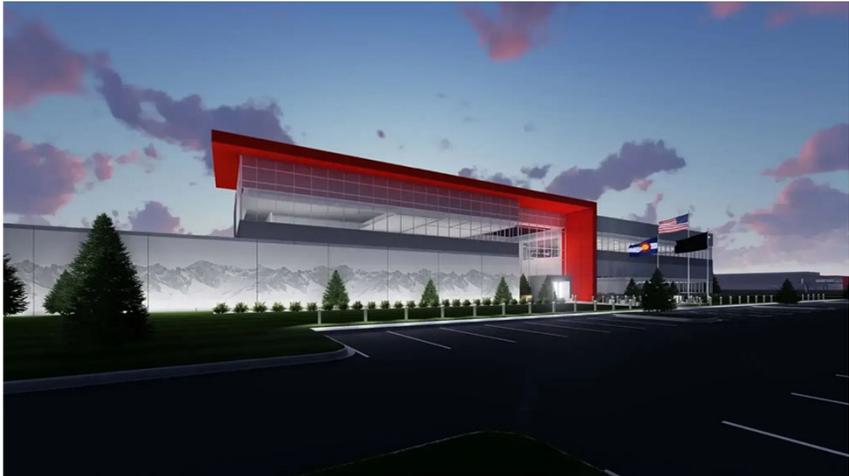
Arapahoe Data Centers



Legend

Datacenters

- ▲ Existing
- ▲ Planned



Critical campus capacity

160 MW+



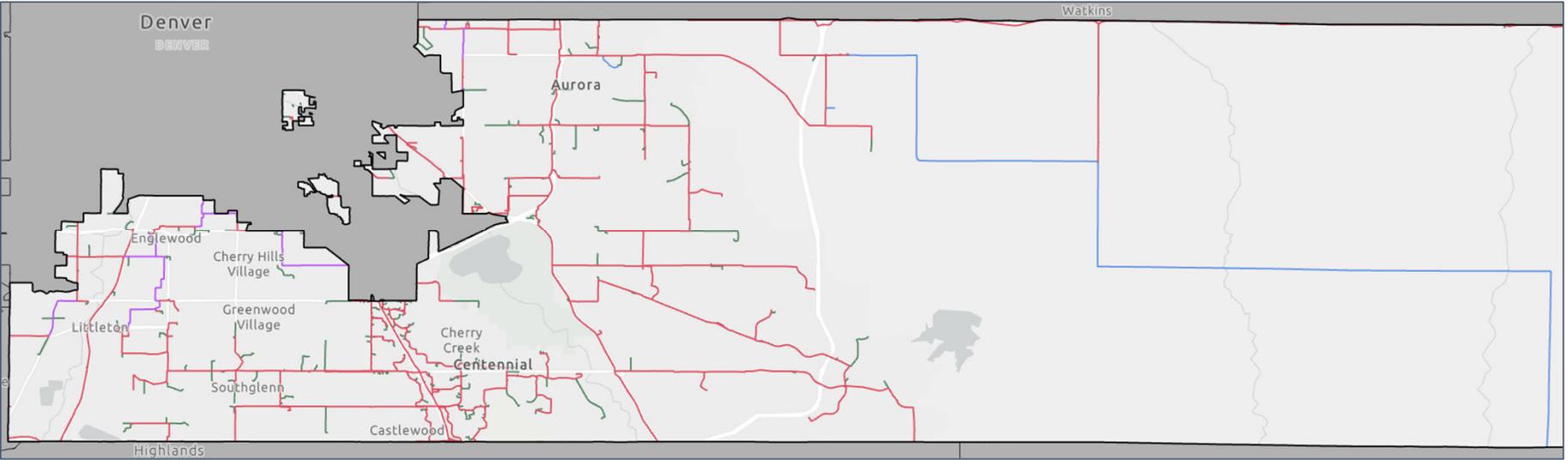
BUILDING SPECIFICATIONS

QTS Aurora-Denver 1

- Planned 160 MW+ of critical power capacity.
- 65 total acres of owned land enables growth capacity.
- Customize space and power with exponential growth opportunity.
- Customer office and conference space available.
- Freedom Standard Design

<https://qtsdatacenters.com/data-centers/denver/>

Existing Leasable Fiber



Legend

Name	
<ul style="list-style-type: none"> — Metro Lateral - Own - Underground Routes — Metro Backbone - Own - Aerial Routes — Metro Backbone - Own - Underground Routes 	<ul style="list-style-type: none"> — Longhaul Network - Owned - Aerial Routes — Longhaul Network - Owned - Underground Routes — Metro Backbone - Own - Aerial Routes — <all other values>

Public Outreach

Purpose of outreach:

1. To understand resident and community perspectives and experiences with internet providers and access
 - Availability, reliability, speed

Guidance on engaging the public:

1. Unincorporated areas and/or underserved-unserved areas
 2. Outreach questions
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Feedback, Questions, Discussion

Items to consider by BOCC

Potential roles for Arapahoe County:

1. Policy facilitator only
2. Infrastructure investor
3. Full-service provider
4. Public-private partnership facilitator

Options to build out County's fiber network:

1. Focus on government services only
 2. Expand to serve community anchor institutions and data centers
 3. Develop backbone for private provider use
 4. Full county-wide deployment
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Thank you

The next study session is scheduled for July 2025, where we will present:

- Detailed financial impacts and models
 - Partnership options
 - Network design concepts for County Fiber Needs and Broadband Expansion
 - Feedback from community outreach and surveys
 - Propose a Implementation Roadmap
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