Community Broadband Network

An Overview:
Adequate Connectivity in our Community
June 28, 2022

Los Alamos
Community
Broadband
Network

LOS ALAMOS

Introduction

LAC

- Broadband Manager Jerry Smith

CTC Technology and Energy

- Patrick Mulhearn, Director of Broadband Policy and Project Manager

Los Alamos Community Broadband Network

Attachment A

LOS ALAMOS

Project Overview: Why Now?

- 2012/2013 Crestino Report

- Community interest in faster, more reliable broadband

- Federal funding opportunities

- Statewide infrastructure planning

Los Alamos Community Broadband Network

LOS ALAMOS

Project Overview: Our Deliverables

- Community infrastructure assessment
  - Infrastructure mapping
  - Demographic analysis
  - Broadband coverage (technology types, reported speeds, costs)
- Public outreach
- Map routes, connections, priority areas, gaps and cost estimates for a broadband infrastructure project(s)
- Identify potential state and federal funding opportunities applicable to the recommended projects/priorities
- Develop a broadband strategic plan
- Support County through an RFP process for project and/or program implementation

Los Alamos
Community
Broadband
Network

Attachment A

LOS ALAMOS

Project Timeline

June 2022 — Infrastructure & Demographic Analysis

July 2022 — Begin Community Outreach Process

August 2022 — Develop Design & Cost Estimate for Infrastructure Project(s); Develop Programmatic Recommendations

September 2022 — Evaluate Funding Opportunities

November 2022 — Present Updated Strategic Plan

December 2022 – January 2023 — Develop & Release RFP; Evaluate Responses & Make Recommendations

Los Alamos Community Broadband Network

Attachment A

LOS ALAMOS

Project Overview: Community Outreach Strategy

- Stakeholder interviews

- Speed test website

    - Utilizing NM DoIT speed test

- Survey (Attachment B)

    - Statistically valid

    - Hybrid paper/online

    - Integrated into speed test site

Los Alamos Community Broadband Network

Attachment A

LOS ALAMOS

What is a broadband network? Schematic fiber-to-the-premises architecture
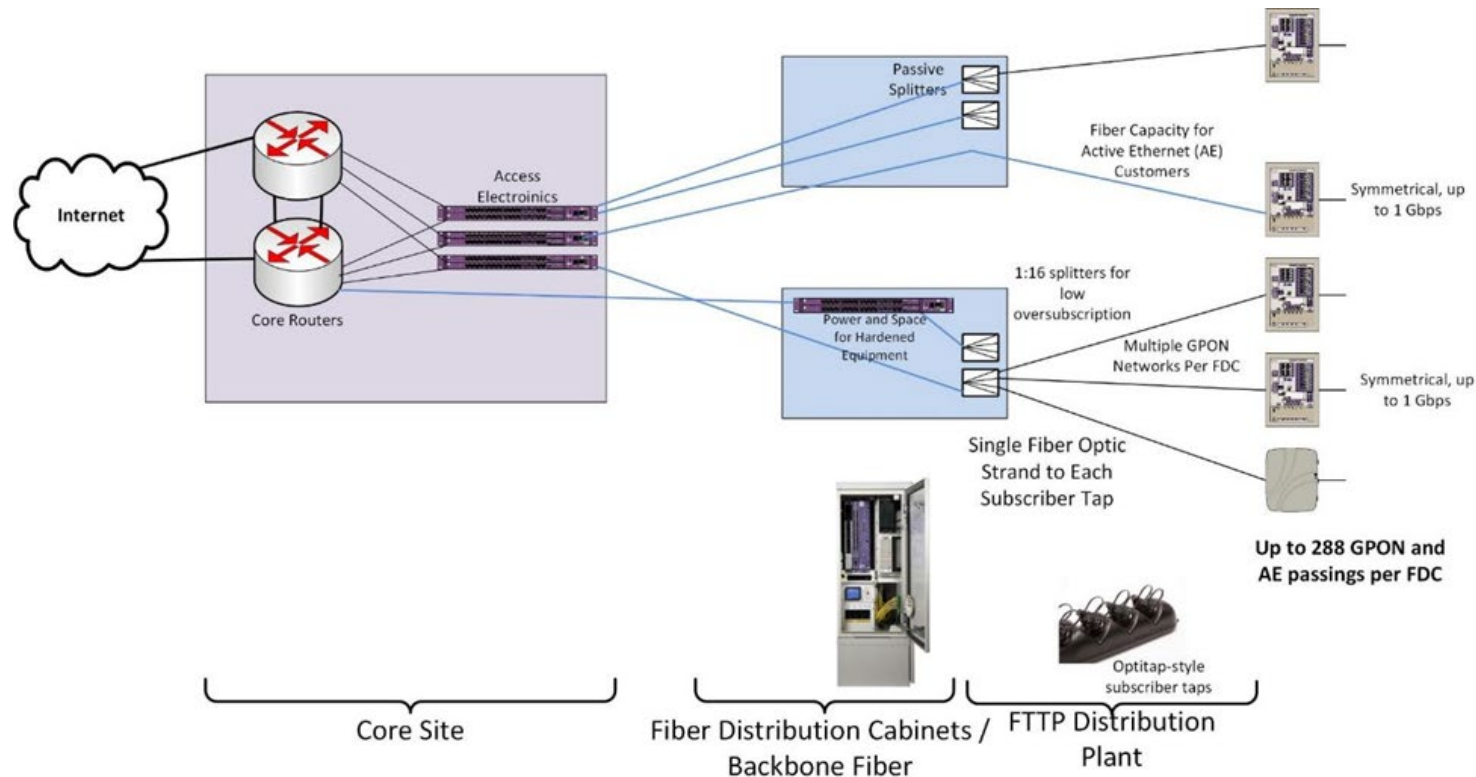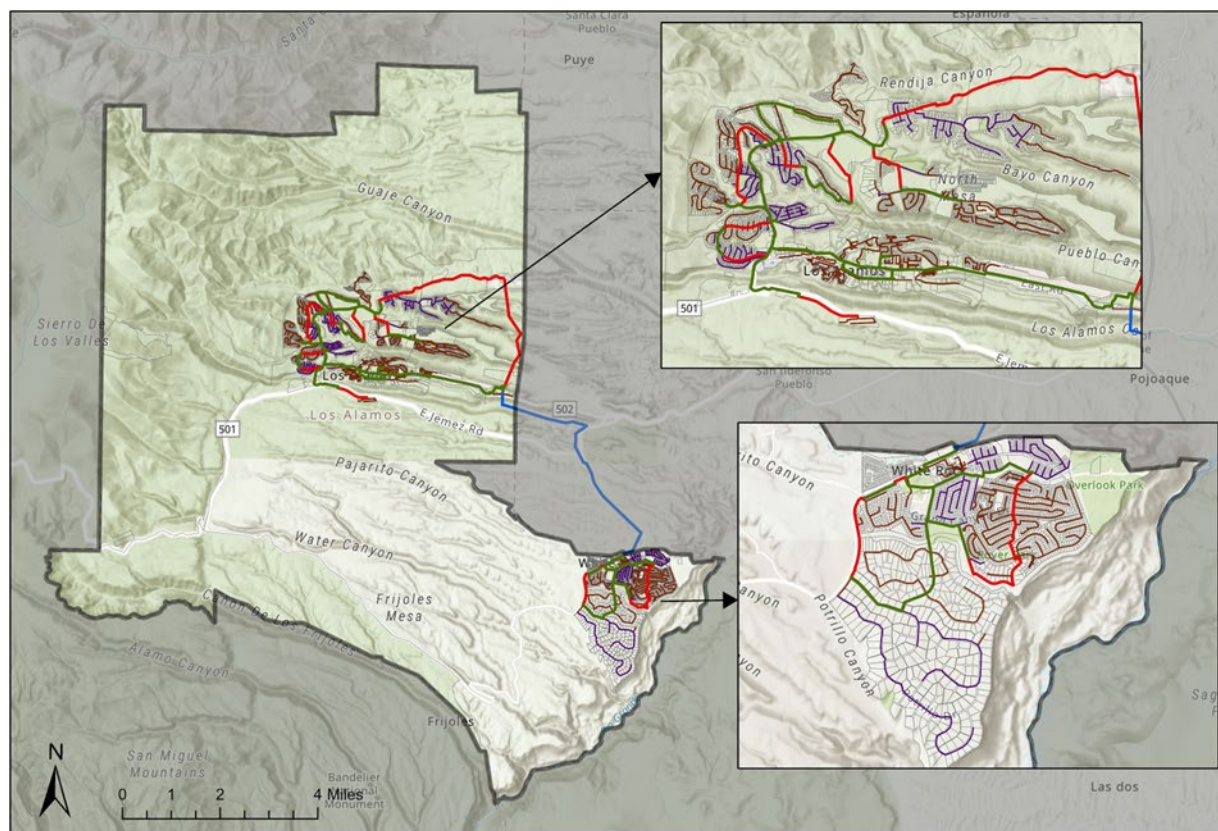
CBN Network Design

—— Connecting Aerial Fiber　—— CBN Aerial Fiber　—— CBN Buried Fiber　—— CBN Lateral Fiber Aerial　—— CBN Lateral Fiber Buried

Basemap: ESRI World Topographic
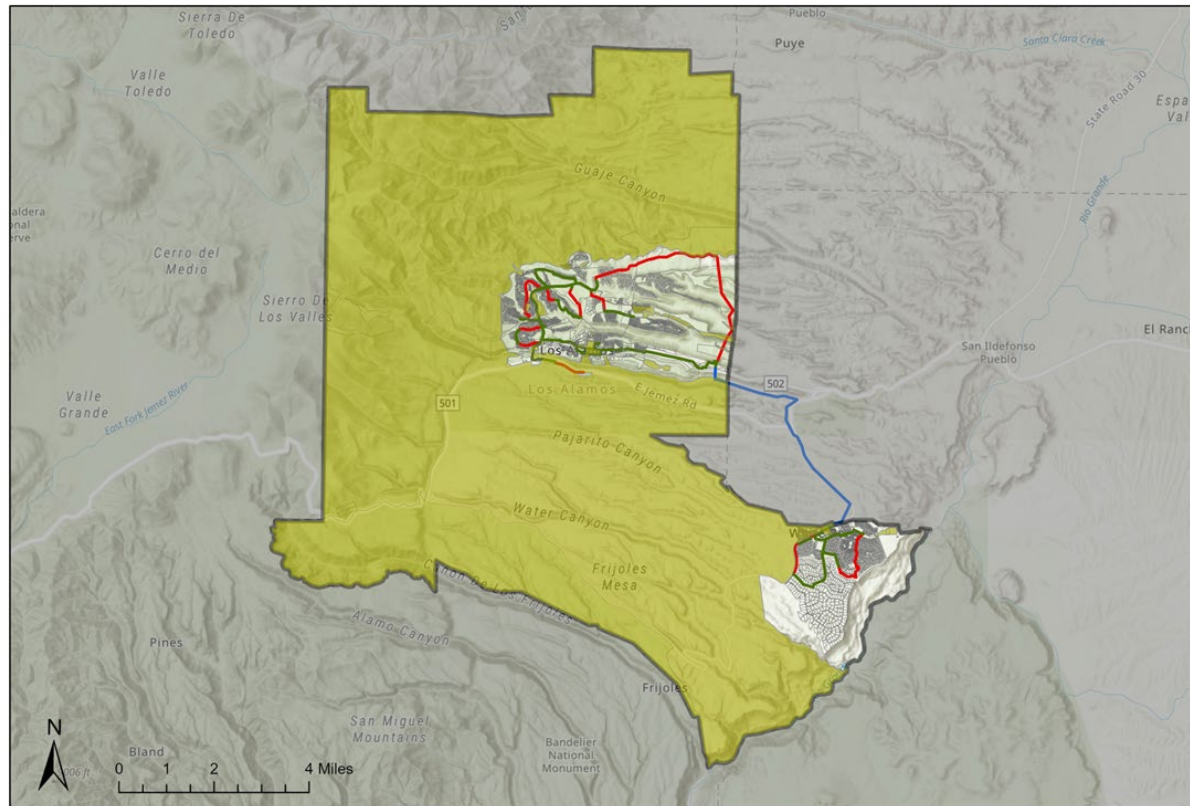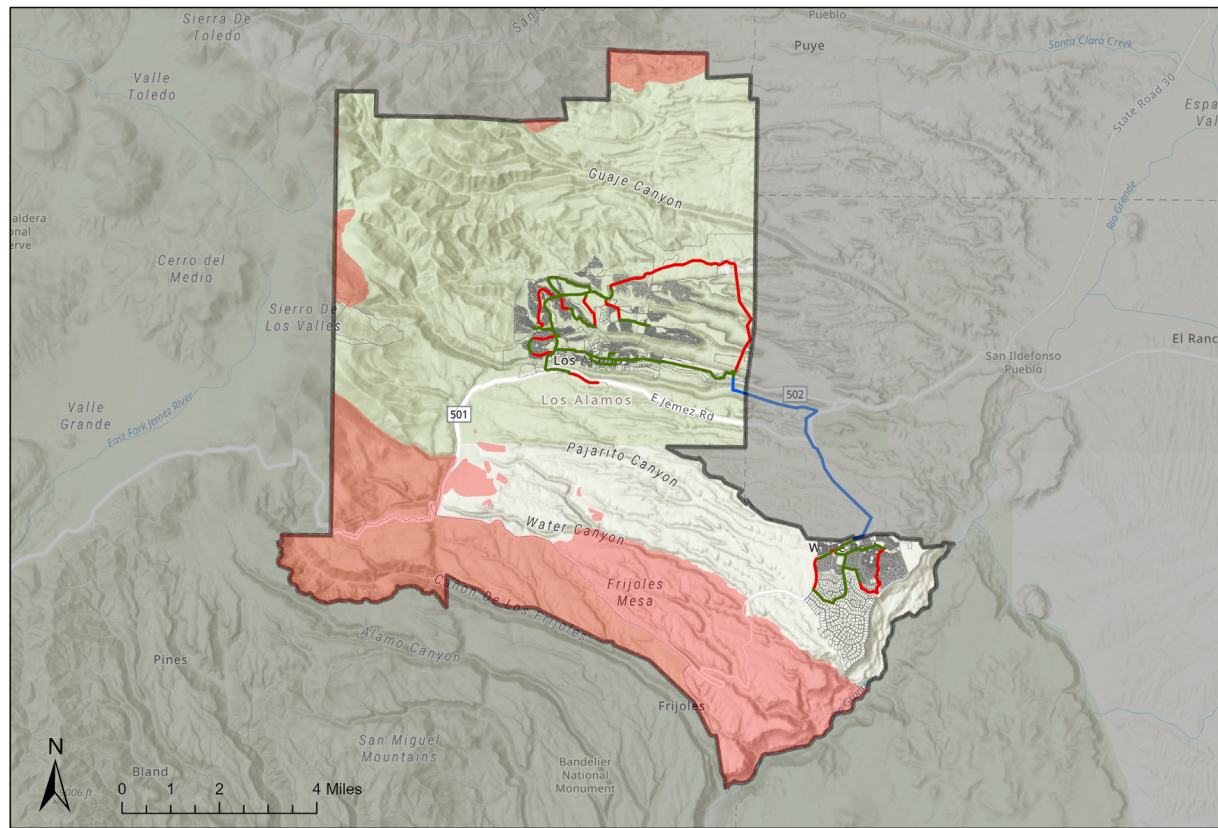Coordinate System: NAD1983 State Plane New Mexico Central FIPS3002 (USFeet)

Created By: CTC Technology and Energy, 20220602
Data Sources: CTC Analysis, Crestino Report, Los Alamos County

Los Alamos Community Broadband Network

Attachment A

LOS ALAMOS

Attachment A

CBN Network Design

— Connecting Aerial Fiber   — CBN Aerial Fiber   — CBN Buried Fiber   ▮ Unserved Areas (Less than 25/3)

Basemap: ESRI World Topographic
Coordinate System: NAD1983 State Plane New Mexico Central FIPS3002 (USFeet)

Created By: CTC Technology and Energy, 20220602
Data Sources: CTC Analysis, Crestino Report, Los Alamos County

Los Alamos Community Broadband Network

Attachment A

LOS ALAMOS

Much of the County population has access to some broadband

Unserved:
No access to 25/3 Mbps services
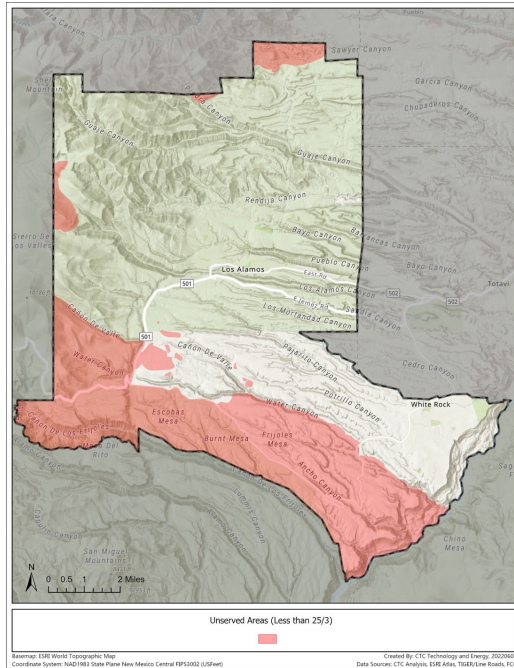
County population density

Attachment A
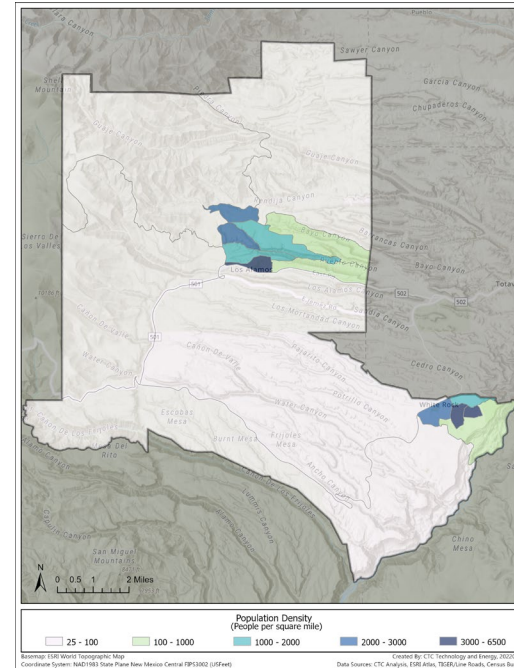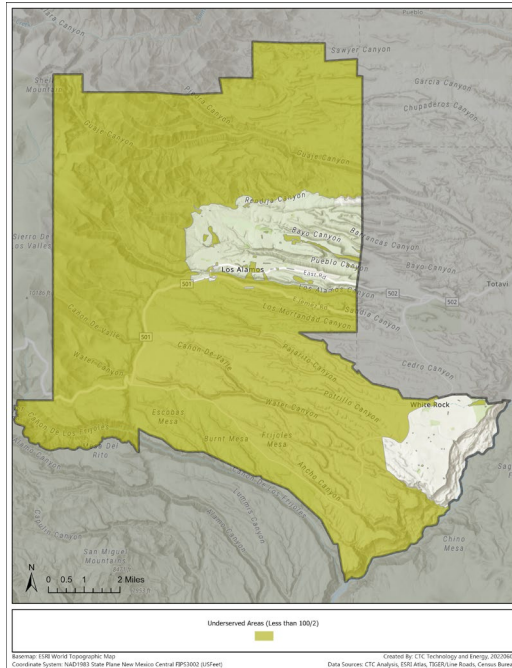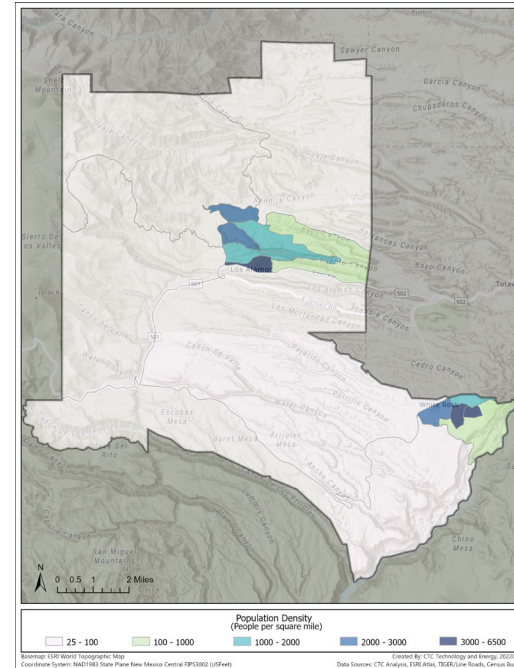
Much of the County population has access to some broadband

Underserved:
No access to 100/20 Mbps services

County population density

Attachment A

Residential broadband providers in Los Alamos County

Fiber providers
- Los Alamos Net
- CenturyLink/Lumen

Cable
- Comcast

DSL
- CenturyLink/Lumen
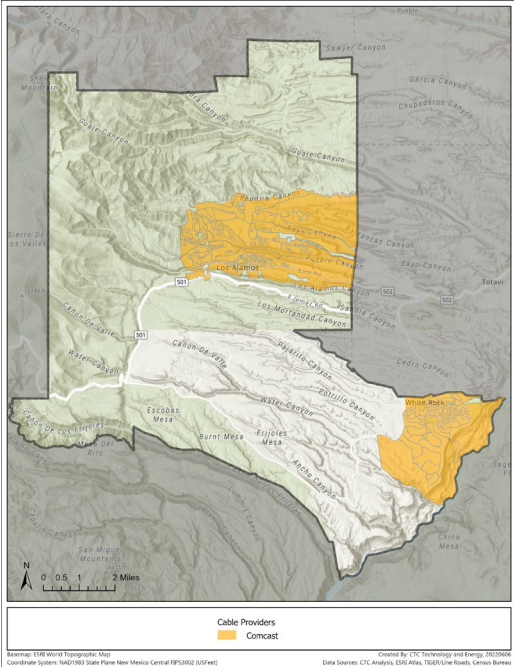
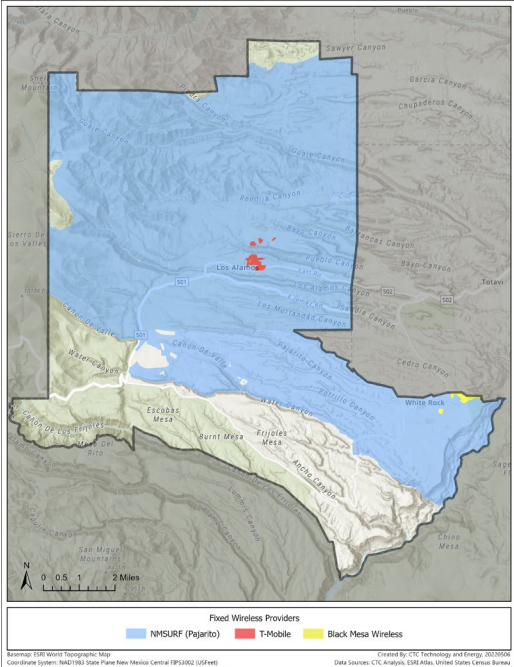Wireless
- New Mexico Surf
- T-Mobile
- Black Mesa Wireless

Los Alamos Community Broadband Network

LOS ALAMOS

Cable, fixed wireless, and DSL providers have significant footprints

Cable

Fixed wireless

DSL
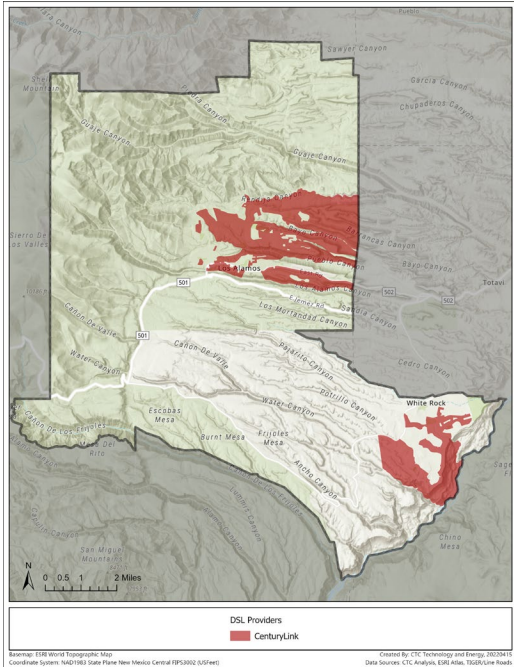
The state of fiber in Los Alamos County

- Los Alamos Network's (LA Net) has a fiber presence that allows it to offer fiber services in Los Alamos and fixed wireless services in White Rock and elsewhere

- CenturyLink/Lumen has announced plans to extend fiber to many legacy copper customers, but so far appears to be focusing fiber investments in larger metro areas

  - Its investment in Los Alamos County is limited so far to new residential construction

Los Alamos
Community
Broadband
Network

Attachment A

L☉S ALAM☉S

Fiber is the gold standard to meet consumer needs and provide competitive pressure

- With a growing demand for upload capacity, FTTP's near-symmetrical offerings are better able to satisfy current and future household usage patterns

- FTTP offers better network reliability than HFC networks
  - Simpler architecture with fewer powered components leads to fewer network issues that require a truck roll, and greater overall network uptime

- The cable industry has signaled that it focuses upgrades in areas with the largest competitive threats

Los Alamos
Community
Broadband
Network

Attachment A

L○S ALAM○S

The future of broadband in Los Alamos County

- Areas without cable service may be eligible for funding to support new network infrastructure

- Areas with cable service will require public or private investment in new network infrastructure to provide incentives for incumbent providers to make upgrades and timely repairs, offer its most competitive pricing and deliver quality customer service

Los Alamos Community Broadband Network

LOS ALAMOS

How have other communities improved broadband access?

<u>West Des Moines, IA</u>
- In 2020, financed and built a ubiquitous, open-access conduit network
- Google Fiber has a 20-year commitment to deploy fiber; will pay the City per connection

<u>Springfield, MO</u>
- Municipal electric utility built a fiber network, and is now collaborating with CenturyLink to expand services to homes
- City is financing and building new middle-mile infrastructure with CenturyLink will build FTTP and provide service on the municipal network

Los Alamos
Community
Broadband
Network

Attachment A

LOS ALAMOS

How have other communities improved broadband access?

<u>Holly Springs, NC</u>
- In 2013, determined that it would be less expensive to connect municipal facilities using publicly-owned fiber
- NC law prevents local governments from becoming ISPs, so the town entered into a 20-year agreement with Ting to leverage the town's fiber backbone to deliver FTTP

<u>Garrett County, MD</u>
- This Appalachian community struggled with inadequate broadband speeds and ISPs had no plans for upgrading their infrastructure
- The County incrementally built fiber to connect public facilities, and entered into an agreement with DNG to deploy a fixed wireless network utilizing the public fiber backbone

Los Alamos Community Broadband Network

Attachment A

LOS ALAMOS

Next Steps

- Continue mapping efforts of existing fiber locations

- Finalize and issue community survey

- Assess results and provide another update to Council

Los Alamos
Community
Broadband
Network

LOS ALAMOS