SOUTHWEST COLORADO COUNCIL OF GOVERNMENTS

Compiled from NEO Connect SWCCOG Regional Broadband Plan

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# Regional Broadband Plan Overview

## Planning Process Overview

Funding for the SWCCOG Regional Broadband Plan was made possible by the Department of Local Affairs, La Plata County Economic Development District, Colorado Department of Transportation, SWCCOG Board member jurisdictions, and Region 9 Economic Development District.

In the fall of 2015, the Southwest Colorado Council of Government (SWCCOG) engaged NEO Connect (NEO) to prepare a strategic broadband plan for Southwest Colorado Regional Broadband Plan for an area encompassing thirteen local government jurisdictions, consisting of Archuleta, Dolores, La Plata, and San Juan Counties as well as the municipalities of Bayfield, Cortez, Dolores, Durango, Ignacio, Mancos, Pagosa Springs, Rico, and Silverton. The project was supported in part by an Energy and Mineral Impact Assistance Fund (EIAF) grant awarded through the Colorado Department of Local Affairs (DOLA). The scope of work also included making recommendations to put together a sustainable financial plan for the existing Southwest Colorado Access Network (SCAN) project. The regional plan will provide a strategic broadband plan for the SWCCOG and its members to consider which will improve broadband services in the area, as well as provide recommendations for creating a sustainable financial model for the existing SCAN project without further expansion.

In October of 2016, the service area was amended to also include the Ute Mountain Ute tribal community in the study area. An add-on companion report will be provided to this plan that will address the Ute Mountain Ute tribal community's recommendations for improving broadband services.

The shared goal of members of the SWCCOG is to provide abundant, redundant and affordable Internet service to citizens, businesses and visitors. There are a number of options and strategies for improving broadband services throughout region. Some of these options may be considered in the short term and others may best be part of a longer-term plan.

## Recommendations for SCAN

NEO recommends the following strategies for the SWCCOG to create a sustainable SCAN. Change the current revenue model for dark fiber leases to improve SWCCOG's current financial position and create a path toward financial stability for the SCAN network.

### Potential Action Steps

1.  Change the current revenue model for dark fiber leases to improve SWCCOG's current financial position and create a path toward financial stability for the SCAN network.

2. Acquire an IRU between Durango and Cortez and implement an aggregation strategy for existing anchor institutions already connected on SCAN. This dramatically improves the connectivity between the two existing switch/router locations. This also dramatically improves the financial model for the SCAN project.

3. Consider implementing this aggregation strategy throughout the region to all existing SCAN-connected facilities.

4. Hold an election to opt out of SB-152 for those communities that have not yet done so.

5. Implement broadband-friendly policies and ordinances in each of the cities, towns and counties to help reduce the cost of broadband expansion.

6. Work with La Plata Electric, Empire Electric and San Miguel Power Administration to streamline the permitting process for access to their utility poles.

7. Follow up on discussion with the service providers for collaboration. Conversations regarding joint trenching, joint builds and implementation of a pre-committed fund for set asides for shadow conduit and broadband builds were initially discussed with the existing providers in the region. Additional collaboration may be in sharing very high-speed Internet access, transport and backhaul monthly fees.

8. Partner with CDOT, TriState, La Plata Electric, Empire Electric, San Miguel Power Administration, local providers and Region 10 to build key middle mile routes throughout the region.

9. Leverage grant funding – namely, the Department of Local Affairs (DOLA), the Rural Healthcare Grant, E-rate and others to pay for a significant part of these builds. These grant programs will pay for 50-65% of the capital costs to connect government entities, schools and the medical establishments. Many of these grants will also pay for the middle mile portion of these builds to connect various government and quasi-government locations. Each of the grant programs can be further leveraged to maximize the grant funding available.

10. Expand the SCAN project to more anchor institutions.

11. Establish a working group to spearhead and implement cooperation amongst all member communities for shared services, shared data centers, buying and negotiating power for potential public private partnerships as well as other common member interests.

12. Allow member communities to opt in to collaboration of last mile services or to work on solving last mile broadband opportunities on their own. Smaller communities and counties may want to collaborate together to solve last mile issues while other communities may want to work on their own.

13. Protect the revenue model for the SCAN network by delineating middle mile connectivity and its associated revenue to be managed by the SWCCOG and last mile connectivity and its associated revenue can be implemented either by opting in and collaborating amongst the member communities or not. Either way, member communities agree that having a financially stable and self-sustaining business model for middle mile connectivity helps the entire region and therefore, all members benefit.

14. Allow service providers to participate in joint builds and to install wireless access points and/or use the fiber to extend their services to homes and businesses.

## Key Assets and Potential Partners

NEO identified and mapped assets in the region and identified gaps in services. This analysis included creation of a comprehensive broadband asset inventory list and infrastructure map. The map includes assets from existing service providers and from other potential partners. Information collected includes topological data, identification of current underground and overhead infrastructure, fiber lines, conduit, pole access, tower access and view-shed data. Maps of the existing assets were provided to SWCCOG as a deliverable of this project.

Key anchor institutions were identified that are eligible for the rural healthcare grant program. From this information, NEO's team provided preliminary design and projected capital costs for build-out of a middle-mile network.

In addition to meeting with the primary service providers within the region, NEO also reached out to other entities that might have assets in place today or may be potential partners for fiber expansion projects in the future. Key potential partners identified in this process are CDOT, La Plata Electric, Empire Electric, Region 10 and its member communities, and TriState.

## Strategies for Middle Mile Connectivity

NEO put together a preliminary design and capital cost estimates for connecting the communities. Bringing fiber to the communities aggregates demand and reduces costs for broadband services, as the costs for the services are shared amongst all of the users. Also, once fiber is brought to a community, it is relatively inexpensive to expand this fiber within the community to other key locations and anchor institutions.

E-rate and Rural Healthcare Grant Programs can be leveraged to pay for many of the capital costs associated with building to schools and libraries (E-rate) and to medical facilities and hospitals (the Rural Healthcare Grant program). NEO worked with Colorado Telehealth Network (CTN) to identify anchor institutions (medical facilities and hospitals) that would be eligible for the Rural Healthcare grant program.

The Rural Healthcare Grant fund is available for the following eligible entities:

> (1) post-secondary educational institutions offering health care instruction, teaching hospitals, and medical schools;
>
> (2) community health centers or health centers providing health care to migrants;
>
> (3) local health departments or agencies;
>
> (4) community mental health centers;
>
> (5) not-for-profit hospitals;
>
> (6) rural health clinics; and
>
> (7) consortia of one or more of such entities.

The grant program would potentially fund 65% of the capital costs to connect these medical establishments, including the middle mile portions of the fiber build between the communities. Targeting this grant, and building to the medical establishments "first" would allow for much of the desired routes to be built.

NEO also met with CDOT management, locally, regionally, and at the State-level, to develop a potential partnership to leverage grant funding and collaborate on joint builds, especially for the middle mile connections between the various communities within the region. Many of the segments between the communities are "priority 1" routes for CDOT's RoadX and traffic management system.
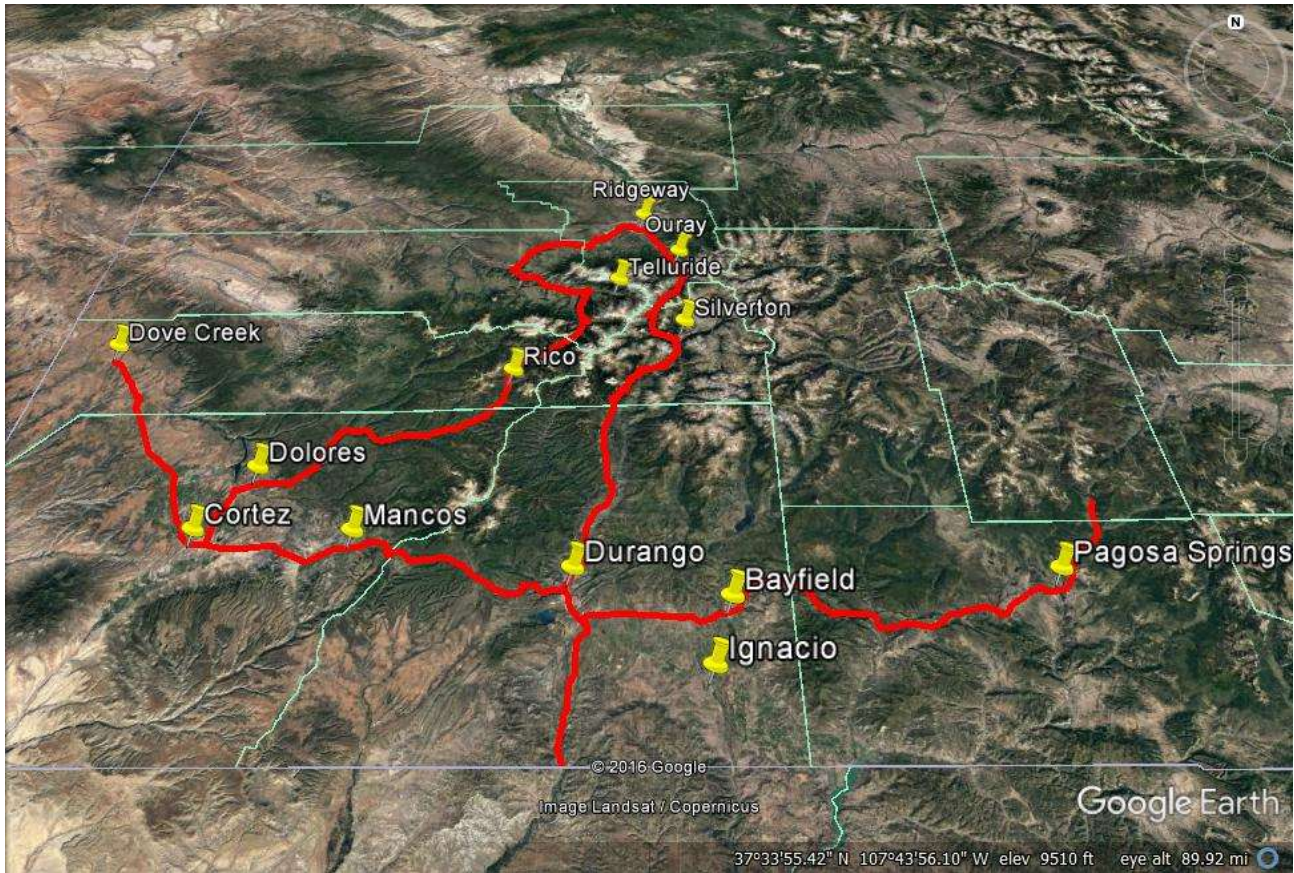
**FIGURE 1: PROPOSED MIDDLE MILE ROUTES**

## Capital Costs and Funding Opportunities

Strategies to pursue E-rate and the Rural Healthcare Grant program, coupled with collaboration with CDOT, Region 10, and the electric and power companies identified, as well as the service providers in the region should be pursued.

In addition to this strategy, there are other grant and loan programs that are also available for broadband build-out. Certain financing and funding programs restrict who is eligible to apply for and receive funding.

Estimated capital costs to build out to the remaining anchor intuitions identified throughout this process:

| CDOT Build Routes | | | | | | | |
|---|---|---|---|---|---|---|---|
| Segment | From | To | New (Miles) | Existing (Miles) | Type | Fiber Ct | Build Cost $$ |
| 1 | Dolorez | Cortez | 10.08 | 1.19 | 100%U | 144 | $ 2,325,734.53 |
| 2 | Cortez | Mancos | 15.14 | 2.54 | 100%U | 144 | $ 3,458,654.64 |
| 3 | Mancos | Durango | 27.66 | 0.45 | 100%U | 144 | $ 6,261,983.06 |
| 4 | Cascade | Silverton | 0.00 | 19.94 | 100%U | 145 | $ 68,000.00 |
| 5 | Durango | Cascade | 27.08 | 0.00 | 100%U | 146 | $ 6,134,124.85 |
| 6 | Durango | NM State Line | 12.44 | 5.06 | 100%U | 144 | $ 2,853,484.27 |
| 7 | Durango | Bayfield | 12.60 | 7.23 | 100%U | 144 | $ 2,889,340.35 |
| 8 | Bayfield | Pagosa Springs | 39.42 | 2.29 | 100%U | 144 | $ 8,897,697.45 |
| 9 | Bayfield | Ignacio | 8.11 | 0.76 | 100%U | 144 | $ 1,884,231.09 |
| 10 | Pagosa Springs | North toward South Fork | 10.39 | 0.00 | 100%U | 144 | $ 2,395,546.36 |
| 11 | Dolorez | Rico | 37.77 | 0.15 | 100%U | 144 | $ 8,527,502.11 |
| 12 | Dove Creek | Cortez | 32.55 | 7.71 | 100%U | 144 | $ 7,358,345.58 |
| | | | | | | Total | $ 53,054,644.30 |

## Public Private Partnerships

During the broadband planning process, NEO and the SWCCOG issued a formal Request for Information (RFI) for a Public Private Partnership (PPP). The RFI was broad and open-ended, allowing for a number of responses. The purpose of the RFI was to extend an invitation to partner with the SWCCOG and it member communities and counties in improving broadband services for the entire region.

The SWCCOG RFI sought input from potential partners regarding the terms and conditions under which partners would collaborate in offering a high-speed broadband data network to residents and businesses in each of the communities and counties within the region. Possible options that were included were:

1. Responses to design, build, own, operate and finance a high-speed Internet network.

2. Responses to jointly finance a high-speed Internet network in collaboration with the SWCCOG.

3. Responses to operate and maintain a high-speed Internet network on behalf of the SWCCOG. The network would be owned by the SWCCOG. Operations and maintenance activities must be defined by the respondent.

4. Responses to provide high speed Internet services to end users on a network that is owned by the SWCCOG or its member communities/counties and available on an open access basis to multiple service providers. The RFI discussed the City of Cortez and Montezuma County plans to build a Fiber to the Home/Business network with the option to evaluate an open access strategy. It asked respondents to discuss their product offering and pricing and willingness to provide services on an open access Fiber to the Home/Business network.

5. Responses to provide either dark fiber leases or Indefeasible Rights of Use (IRU) for the SWCCOG to acquire from the Offeror for fiber and/or conduit.

6. Other responses that were not described above.


The SWCCOG received ten responses from various incumbent, national and local providers. The types of responses included:

        Services, 1 Gig: CenturyLink, Cedar Networks, Allo, FastTrack

        Finance: Macquarie Capital

        Partial Finance: CenturyLink, Cedar Networks, Allo, FastTrack

        Manage/Operations: EntryPoint, Data Safe, Wide Open Networks

        Other: Charter


The full Regional Broadband Plan can be found at the SWCCOG's website.