

**National Telecommunications and Information Administration
Broadband Technology Opportunities Program
Finding of No Significant Impact
University of Utah
Utah Anchors Community Broadband Project**

Summary

The University of Utah applied to the Broadband Technology Opportunities Program (BTOP) for a grant to connect 128 community anchor institutions (CAIs) in Utah to the existing statewide education backbone infrastructure, known as the Utah Education Network (UEN). The proposed action will leverage approximately 1,168 miles of existing, unlit fiber optic facilities operated by eight of Utah's telecommunication providers. Approximately 47 miles of underground conduit and fiber laterals will be installed between targeted CAIs and the nearest UEN backbone manhole or interconnection facility. Less than one mile (approximately 3,533 feet) of fiber optic laterals will be installed aerially using existing utility poles and interconnections. The proposed action will benefit 59 underserved or unserved cities and towns throughout Utah and is referred to as the Utah Anchors Community Broadband Project (Project).

The National Telecommunications and Information Administration (NTIA) awarded a grant for the Project to the University of Utah, through BTOP, as part of the American Recovery and Reinvestment Act (ARRA). The funding must be obligated and the Project completed within three years. This timeline is driven by the laws and regulations governing the use of this ARRA grant funding.

BTOP supports the deployment of broadband infrastructure in unserved and underserved areas of the United States and its Territories. As a condition of receiving BTOP grant funding, recipients must comply with all relevant Federal legislation, including the National Environmental Policy Act of 1969 (NEPA). Specifically, NEPA limits the types of actions that the grantee can initiate prior to completing required environmental reviews. Some actions may be categorically excluded from further NEPA analyses based on the specific types and scope of work to be conducted. For projects that are not categorically excluded from further environmental review, the grant recipient must prepare an Environmental Assessment (EA) that meets the requirements of NEPA. After a sufficiency review, NTIA may adopt the EA, use it as the basis for finding that the project will not have a significant impact on the environment, and issue a finding of no significant impact (FONSI). Following such a finding, the BTOP grant recipient may then begin construction or other activities identified in the EA as the preferred alternative, in accordance with any special protocols or identified environmental protection measures.

The University of Utah completed an EA for this Project in November 2010. NTIA reviewed the EA, determined it is sufficient, and adopted it as part of the development of this FONSI.

The Project includes:

- Obtaining leased access to approximately 1,168 miles of existing, unlit fiber optic facilities throughout the state of Utah;

**National Telecommunications and Information Administration
Broadband Technology Opportunities Program
Finding of No Significant Impact
University of Utah
Utah Anchors Community Broadband Project**

- Using plowing and directional boring to install approximately 47 miles of underground conduit and fiber laterals between targeted CAIs and the nearest UEN backbone manhole or interconnection facility;
- Installing hand holes every 1,500 feet along the new fiber lateral routes and at CAI property lines;
- Installing less than one mile (approximately 3,533 feet) of fiber optic laterals aerially on existing utility poles and using existing interconnections;
- Installing telecommunications hardware (e.g., switches, cables, electrical circuits, and equipment racks) within existing UEN facilities and CAI buildings/structures.

Based on a review of the analysis in the EA, NTIA has determined that the Project, implemented in accordance with the preferred alternative, and incorporating best management practices (BMPs) and protective measures identified in the EA, will not result in any significant environmental impacts. Therefore, the preparation of an EIS is not required. The basis for this determination is described in this FONSI.

Additional information and copies of the Executive Summary of the EA and FONSI are available to all interested persons and the public through the BTOP website (www2.ntia.doc.gov/) and the following contact:

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Purpose and Need

The purpose of the Project is to improve or establish new broadband connections at 128 of Utah's elementary and charter schools, public libraries, and Head Start centers in underserved and unserved areas throughout Utah. This middle mile Project will create sustainable fiber infrastructure to improve educational opportunities and internet access to support current educational missions. The lateral expansions planned under this Project will capitalize on existing infrastructure and serve public institutions, businesses, and residents in 59 underserved and unserved cities and towns throughout the state.

**National Telecommunications and Information Administration
Broadband Technology Opportunities Program
Finding of No Significant Impact
University of Utah
Utah Anchors Community Broadband Project**

Project Description

The Project involves installation of approximately 48 miles of buried and aerial fiber optic lateral extensions to connect 128 CAIs to the existing UEN backbone. This existing infrastructure includes approximately 1,168 miles of existing, unlit, fiber optic facilities throughout the state.

Approximately 46.96 miles of underground conduit and fiber laterals will be installed between targeted CAIs and the nearest UEN backbone manhole or interconnection facility. Plowing and directional boring techniques will be used to complete this portion of the project. Plowing will be conducted using 2 to 6 inch blades to minimize ground disturbance, and conduit will typically be placed at a depth of 36 inches below the ground surface. Fiber optic cable will then be installed inside the protective subsurface conduit. Directional boring methods will be used to minimize impacts to finished surfaces (e.g., roads and driveways). Service hand holes will be installed at intervals of roughly 1,500 feet and at the CAI property line. Ductwork or conduit will then be run into the CAI building for delivery of service. In very limited circumstances, aerial cable will be installed to connect CAIs to the UEN. The total length of aerial cable to be installed under this Project is approximately 3,533 feet. All conduit and fiber cable will be installed within existing rights-of-way (ROWs), along previously disturbed road way ditches and utility corridors, and generally parallel to existing utility lines. Trucks, transport trailers, tractors, cable reel trailers, backhoe, horizontal directional boring machines, rubber tire vibratory plow, fiber optic splice trailers, and motor generators will be used during fiber installation.

No new structures or buildings will be installed under this Project. However, necessary telecommunications hardware (e.g., switches, cables, electrical circuits, and equipment racks) will be installed within existing UEN central offices, manholes, vaults, UEN hubs, and UEN points-of-presence. New fiber will also be installed within existing conduit in these locations to make physical connections to existing UEN infrastructure. Storage units and telecommunications hardware will also be installed within existing CAI buildings. This equipment will include horizontal/vertical conduit and inside fiber, electrical circuits (if necessary), equipment racks and distribution panels, and switches. Trucks, vans, and transport trailers are the only types of heavy equipment necessary to install equipment at existing UEN facilities and CAIs.

Alternatives

The EA includes an analysis of the alternatives for implementing the Project to meet the purpose and need. NTIA also requires that an EA include a discussion of the no action alternative. The following summarizes the alternatives analyzed in the EA.

Alternative 1 – Underground and Aerial Installation of Fiber Optic Cable (Preferred Alternative). As discussed previously, this alternative includes installing approximately 47 miles of underground fiber optic cable and less than one mile of aerial fiber cable to connect 128 anchor institutions to the existing UEN backbone, which extends approximately 1,168 miles

National Telecommunications and Information Administration
Broadband Technology Opportunities Program
Finding of No Significant Impact
University of Utah
Utah Anchors Community Broadband Project

across the state of Utah. This alternative also includes installation of telecommunications hardware and equipment at existing UEN facilities and CAI buildings. No new structures will be constructed under this alternative.

Alternative 2 – Aerial-Only Installation of Fiber Optic Cable. The University of Utah also evaluated installation of the lateral extensions using only aerial cable. Alternative 1 (i.e., the preferred alternative) was selected over Alternative 2 based on resource-specific evaluations detailed in the EA.

No Action Alternative. No action was also considered. This alternative represents conditions as they currently exist. Under the no action alternative, there would be no broadband infrastructure installation or improvements in the targeted underserved and unserved cities and communities in Utah. The 128 targeted CAIs would continue to operate without adequate high-speed broadband access. The EA examined this alternative as the baseline for evaluating impacts relative to other alternatives being considered.

Alternatives Considered But Not Carried Forward. The University of Utah evaluated implementation of copper-based lateral extensions because copper facilities already exist in many business and residential locations throughout the Project service area. However, transmission speeds across copper-based routes are insufficient for middle mile applications. In addition, the University of Utah determined that, due to the availability of terrestrial-based network infrastructure (copper and fiber) in the Project area, extending existing platforms would be more financially viable than installing new microwave-based components. Finally, the University of Utah considered implementation of wireless technologies to connect the targeted CAIs to the UEN. Although this option would avoid costly installation of copper and fiber facilities, the current range of wireless transmission limits this solution to a campus or small community rather than a scalable long term middle mile application. For these reasons, fiber optic cable was deemed most appropriate for the Project.

Findings and Conclusions

The EA analyzed existing conditions and environmental consequences of the preferred alternative in 11 major resource areas, including Noise, Air Quality, Geology and Soils, Water Resources, Biological Resources, Historic and Cultural Resources, Aesthetic and Visual Resources, Land Use, Infrastructure, Socioeconomic Resources, and Human Health and Safety. Cumulative impacts were also evaluated.

Noise

Heavy equipment to be used during cable installation will result in a temporary and localized increase in ambient noise. This noise will be similar to that associated with vehicle traffic along the route. Adverse noise impacts will be minimized by limiting the allowable hours for construction and not exceeding local maximum permissible sound levels. Operation of the

**National Telecommunications and Information Administration
Broadband Technology Opportunities Program
Finding of No Significant Impact
University of Utah
Utah Anchors Community Broadband Project**

network for data transmission to CAIs will not impact noise levels in the long term. No significant adverse impacts on noise are expected to occur as a result of Project implementation.

Air Quality

Fugitive dust will be generated during installation of buried fiber cable. Dust control measures (e.g., managing ground cover, limiting speeds on unpaved roads, cleaning equipment to reduce tracking) will be implemented as necessary. Use of heavy diesel equipment during construction will temporarily increase air pollutant and greenhouse gas emissions (e.g., nitrogen oxides, carbon monoxide, sulfur oxides, particulate matter). These emissions will be similar to those currently generated by vehicles traveling along the Project route. To minimize adverse impacts, construction crews will maintain truck and equipment engines in good running condition. No significant air impacts will occur during long-term operation and maintenance of the network. Accordingly, no significant adverse impacts on air quality are expected as a result of this Project.

Geology and Soils

Underground fiber optic cable will be placed in previously disturbed areas along existing ROWs. Some ground disturbance will occur during plowing and boring, but disturbed soil will be replaced immediately after conduit and fiber installation. BMPs (e.g., silt fences and sediment capture devices around storm drain outlets) will be implemented to prevent soil erosion and sedimentation during all construction activity. No ground disturbance is expected in locations where aerial fiber will be installed. Based on these considerations, the Project will not result in significant adverse impacts on geology and soils.

Water Resources

Under this Project, construction will occur in previously disturbed areas along existing ROWs and roadways. BMPs (e.g., silt fences, inlet protection, and prompt spill cleanup) will be implemented to prevent soil erosion and sedimentation and minimize impacts on water resources throughout the Project area. Discharge of pollutants to storm water from contaminated or erodible surface areas will be minimized by leaving as much vegetation on site as possible, minimizing soil exposure time, stabilizing exposed soils, and preventing storm water runoff. Consultation with the U.S. Army Corps of Engineers is ongoing, but the Project is not expected to involve direct impacts to rivers or streams. Installation of fiber optic cable to link the 128 planned sites will not encroach on existing wetlands, and no excavation is planned for wetlands or other sensitive areas. Industry standard BMPs will be used to reduce construction impacts in Project-related flood zones (i.e., at the Cedar City Public Library, Guadalupe School, and Park City Library). Through implementation of appropriate BMPs, no significant adverse impacts on water resources will occur as a result of this Project.

Biological Resources

As stated previously, fiber optic cables will be installed underground in areas of previously disturbed soil or placed on existing utility poles along existing ROWs. Burying cable involves excavation of existing soils, backfilling the trench to bury the cable, compacting the soil, and restoring the area to its natural state. Installing aerial cable on existing poles to connect certain

**National Telecommunications and Information Administration
Broadband Technology Opportunities Program
Finding of No Significant Impact
University of Utah
Utah Anchors Community Broadband Project**

CAIs will involve no significant ground disturbance. On April 19, 2010, the U.S. Fish and Wildlife Service (USFWS) determined that the Project is not likely to adversely affect threatened and endangered species or critical habitat. In addition, USFWS is not aware of any potential Project-related impacts to migratory birds. Based on these analyses, no significant adverse impacts on biological resources are anticipated.

Historic and Cultural Resources

An intensive-level cultural resource record search and assessment was completed during Project planning. A Class I assessment was completed on all 128 sites, and a Class III assessment was completed on 14 sites determined to be eligible for listing on the National Register of Historic Places. After the Class III assessment was completed, the Project team concluded that all construction associated with this Project will avoid all cultural resource sites. The results of the Selective Historic Reconnaissance Level Architectural Survey were provided to the Utah State Historic Preservation Office (SHPO) for review. On November 9, 2010, the SHPO issued concurrence that the Project will have no adverse effect on historic buildings and structures.

The University of Utah provided notification to interested Native American tribes through the Federal Communications Commission's Tower Construction Notification System (TCNS). Two tribes responded to the notification, indicating no interest in the Project as planned. No Project activities will occur on tribal lands, and no further Tribal Historic Preservation Office consultation is required.

Based on these findings and consultations, the Project will have no adverse impacts on archeological and cultural resources.

Aesthetic and Visual Resources

The Project will cause short-term impacts on aesthetic and visual resources as construction crews trench roadsides, install cable (aerially or underground), and revegetate disturbed areas. Short-term impacts associated with construction equipment will be temporary and virtually eliminated upon Project completion and regrowth of vegetation. In the long-term, placement of a single additional cable on existing utility poles along certain lateral connections may have a small incremental impact on the local aesthetics. However, the effect of viewing one additional cable on already existing utility poles is expected to be minor and not noticeable, even along rural road corridors. Accordingly, this Project will not have significant adverse impacts on aesthetic and visual resources.

Land Use

Implementation of this Project will involve roadside construction in existing ROWs and along active roadways, and placement of less than one mile of aerial cable on existing utility poles. Although short-term disturbances may occur when heavy equipment is present, this Project will have no impacts on land use.

**National Telecommunications and Information Administration
Broadband Technology Opportunities Program
Finding of No Significant Impact
University of Utah
Utah Anchors Community Broadband Project**

Infrastructure

This Project will leverage existing UEN broadband backbone and last mile network resources to build fiber infrastructure to public schools, early childhood development centers, and public city and county libraries. Expansion of these fiber facilities will provide residential broadband access in underserved or unserved areas of Utah, and provide infrastructure resources for connecting additional CAIs in the future. During installation of buried cable, construction crews may occasionally encounter existing utility crossings. The Project will be implemented in coordination with local utility providers to locate underground utilities. The existing roadway infrastructure is adequate for the types of vehicles and equipment required to complete this Project. No significant adverse impacts on infrastructure are anticipated during construction, and long-term beneficial infrastructure impacts are expected.

Socioeconomic Resources

Implementation of this Project will have a positive impact on Utah communities that will receive new or enhanced broadband services. The Project will offer higher bandwidth connectivity to all 128 sites around Utah, with particular benefits in the rural areas of Utah. The Project will have no disproportionate adverse impacts on minority or low income populations, and will have a positive impact on the ability of small communities and schools to remain viable. In the short-term, the Project will create new construction jobs. In the long-term, this Project will help communities, businesses, and employers compete in the global economy. Overall, the Project will have a positive impact on socioeconomic resources.

Human Health and Safety

Because construction activities under this Project will occur in easements and utility corridors along highways and roads, UEN and its contractors will not be located directly in the path of traffic. Construction work outside of the roadway reduces the impact to the traveling public because there is no need to close or re-route traffic lanes. Appropriate warning and guidance will be provided to maintain the flow of traffic. Construction crews exposed to traffic or construction equipment will wear high-visibility safety apparel. Ten Superfund sites have been identified within five miles of the planned Project construction. Three Superfund sites (i.e., the Intermountain Waste Oil Refinery site, the Monticello Mill tailings site, and the Five Points tetrachloroethylene plume) are located less than one mile from the utility line where fiber optic line will be installed. Any hazardous waste encountered during construction in these areas will be managed in accordance with applicable federal and state regulations, including emergency response requirements, if necessary. Worker safety will be ensured through implementation of appropriate Occupational Safety and Health Administration requirements. Based on these analyses and protocols, this Project will not generate any significant adverse worker or public health or safety issues.

Cumulative Impacts

This Project will result in few adverse effects on the evaluated resource areas. Effects of the Project, when combined with other unrelated activities (e.g., road maintenance or construction), are considered less than significant.

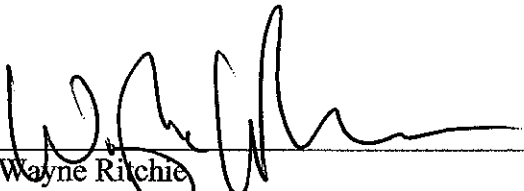
National Telecommunications and Information Administration
Broadband Technology Opportunities Program
Finding of No Significant Impact
University of Utah
Utah Anchors Community Broadband Project

There is a minor cumulative impact to infrastructure. The Project involves adding cable to existing ROWs and poles thereby reducing availability of these areas for future utility expansion. The Project will result in substantial positive cumulative impacts on socioeconomic resources in underserved and unserved Utah communities – improving opportunities to participate in the global economic, providing increased education opportunities, and improving public safety through reliable, high speed communication.

Decision

Based on the above analysis, NTIA concludes that constructing and operating the Project as defined by the preferred alternative, identified BMPs, and protective measures will not require additional mitigation. A separate mitigation plan is not required for the Project. The analyses indicate that the proposed action is not a major Federal action that will significantly affect the quality of the human environment. NTIA has determined that preparation of an EIS is not required.

Issued:



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Date 12/07/2010