



SOUTHERN UTE INDIAN TRIBE

2022 Long Range Transportation Plan

*Developed by the
Southern Ute Department
of Tribal Planning*

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PREPARED BY





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Definition of Acronyms

AADT – Average Annual Daily Traffic
AADTT – Average Annual Daily Truck Traffic
ADA – Americans with Disabilities Act
ARPA – American Rescue Plan Act
BIA – Bureau of Indian Affairs
BUILD – Better Utilizing Investments to Leverage Development
CDOT – Colorado Department of Transportation
CFR - Code of Federal Regulations
DEMD – Division of Energy and Mineral Development
FAA – Federal Aviation Administration
FAST Act – Fixing America’s Surface Transportation Act
FHWA – Federal Highway Administration
GIS – Geographic Information System
IACAP – Ignacio Area Corridor Access Plan
IIJA – Infrastructure Investment and Jobs Act
IRR – Indian Reservation Roads
LED – Light-Emitting Diode
LRTP – Long Range Transportation Plan
LTAP –Local Transportation Assistance Program
MAP-21 – Moving Ahead for Progress in the 21st Century Act
MOA – Memorandum of Agreement
MOU – Memorandum of Understanding
MUTCD – Manual on Uniform Traffic Control Devices
PASER – Pavement Surface Evaluation and Rating
PM – Particulate Matter
PMP – Pavement Management Program
RAISE – Rebuilding American Infrastructure with Sustainability and Equity
RIFDS – Road Inventory Field Data System
RSA – Road Safety Audit
TA – Transportation Alternatives
TraCS – Traffic and Criminal Software
TTIP – Tribal Transportation Improvement Program
TTP – Tribal Transportation Program
TTSP - Tribal Transportation Safety Plan
USDOT – United States Department of Transportation



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CHAPTER 1 – INTRODUCTION

The Southern Ute Indian Tribe counts roughly 1,500 Tribal Members. The Southern Ute Reservation is in southwestern Colorado along the border with New Mexico in La Plata and Archuleta Counties, with a small portion of Montezuma County.

US Census 2020 population figures place the total Tribal and non-Tribal population of the reservation at 12,321, a slight increase from 12,153 in 2010. Many Tribal Members and other residents of the reservation live in or around the Town of Ignacio and the Los Pinos River.

The Long-Range Transportation Plan (LRTP) is a master transportation plan that addresses all modes of travel and examines needs and alternatives from maintenance to new facility construction. This LRTP assists the Tribe in establishing a transportation system that safely and efficiently moves people and goods and provides quality access to Tribal housing, services, employment, and resources.

The LRTP provides guidance for new policies and project decisions related to funding, providing a framework around which to construct the Tribal Transportation Improvement Program (TTIP). This Plan is comprehensive on a system level rather than a project level of detailed analysis. Where additional analyses or studies are needed, the LRTP provides direction regarding the types of analysis or studies that should be undertaken in the future.

The last formally adopted LRTP was completed in May 2016. An additional Safety Plan was completed in April 2016. This 2022 LRTP supersedes the May 2016 Southern Ute Indian Tribe Long Range Transportation Plan.

This LRTP fulfills the requirements outlined in the November 7, 2016 Federal Register, 25 CFR Part 170, Tribal Transportation Program (TTP); Final Rule. In compliance with those directives, this LRTP is a 20+ year strategy and capital improvements program developed to guide the effective investment of TTP funds and other funding programs, and to identify strong candidates for grant funding applications submitted for multimodal transportation facilities.

The short-range element applies to the five years from 2022 through 2026. The long-range element applies to the years 2027 through 2045. The Federal Register suggests that this plan be updated every 5 years.

PLAN PURPOSE

Per the CFR, the purpose of a Tribal LRTP is to clearly demonstrate a Tribe's transportation needs and to fulfill Tribal goals by developing strategies to meet those goals. These strategies should address future land use, economic development, traffic demand, public safety, and health and social needs.

Southern Ute Indian Tribe officials needed a strategic approach to respond to existing and anticipated future transportation issues. It is the goal of the Tribe to efficiently use available



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funding to provide a safe transportation system for tourists, visitors, and Tribal Members. Therefore, the Tribe has undertaken this effort to develop a master plan for transportation infrastructure. The purposes of this plan are:

- To collect and examine information on current and future transportation improvement needs.
- To consider the needs of all modes of travel (vehicular, pedestrian, bicycle, aviation, and transit) and develop strategies and recommend projects to accommodate them. This Plan examines the existing system of roads, sidewalks, bridges, airports, and transit facilities and considers opportunities for future improvements.
- To review the current transportation system maintenance strategy and consider opportunities to improve it.
- To provide a basis for future transportation improvement programming that is resilient and sustainable. The ability of the Tribe to sustain the transportation system is strongly tied to project costs and available funding. This Plan considers existing and potential funding sources, the costs of maintenance, rehabilitation, and new construction, and provides guidance on effective use of limited funding.

Great consideration was given in formatting this plan in a manner that is straightforward and clear to the reader. Following this introduction, the plan will present an inventory and data analysis of Reservation roads and traffic conditions, proceeded by a discussion of transportation needs and issues identified by technical analysis and public input. Existing conditions and recommendations will then be introduced, followed by policy recommendations, project funding alternatives, and a project prioritization plan.

RECENT AND CONCURRENT STUDIES

The Southern Ute Indian Tribe Tribal Transportation Safety Plan (TTSP) was last updated in 2016. It provided strategies to address transportation-related safety issues across the Reservation. This plan is being updated concurrently with the LRTP. The strategies and recommendations of the updated TTSP are being incorporated into this LRTP.

STUDY AREA

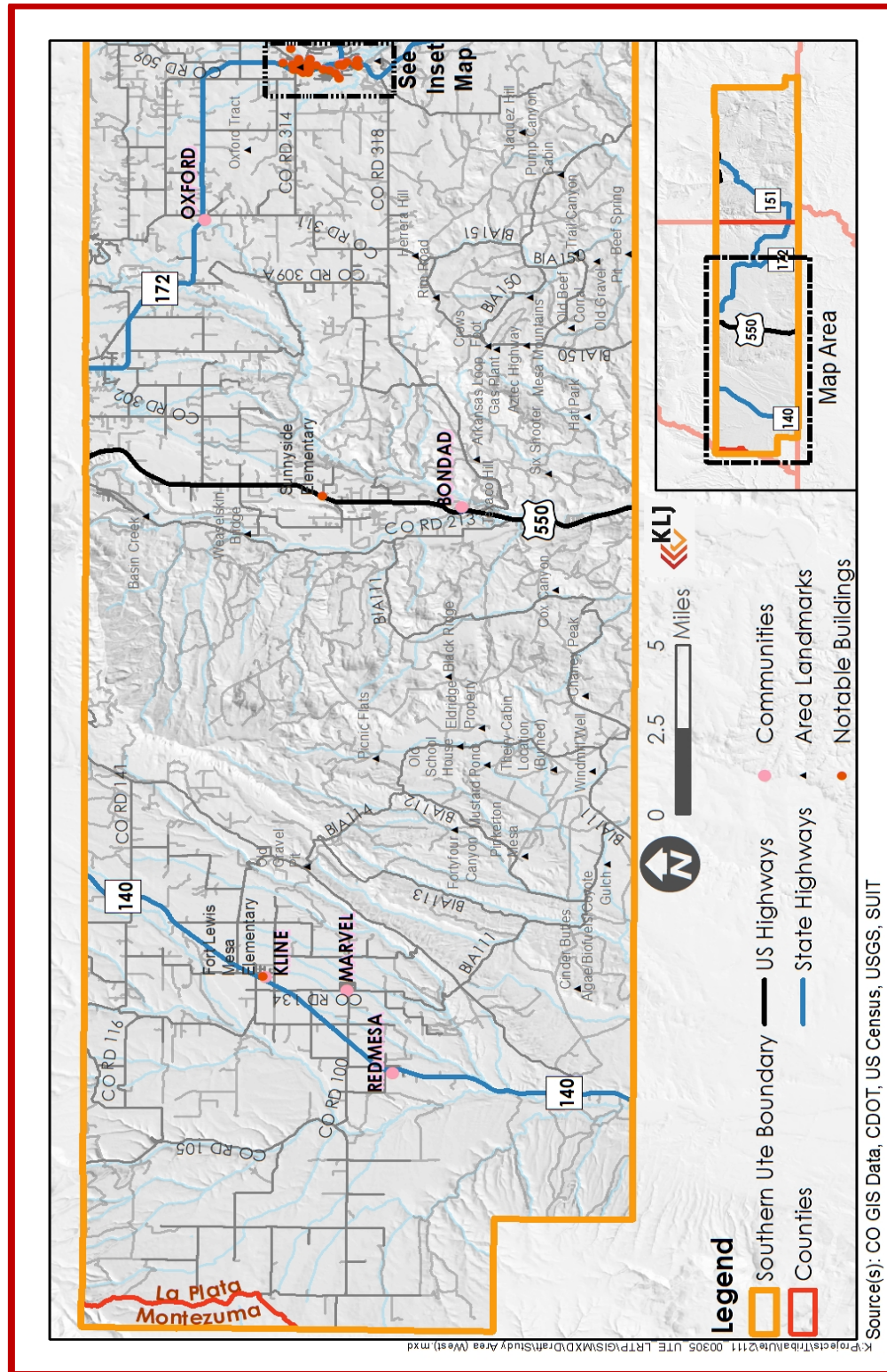
The Southern Ute Indian Reservation located in southwestern Colorado is home to the Southern Ute Tribe. The Tribe has over 1,500 enrolled members on and off the reservation. The Reservation is located across the southern portions of La Plata and Archuleta counties with a small piece located within Montezuma County. The study area is shown in **Figures 1, 2, and 3**.



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FIGURE 1: STUDY AREA (WEST)

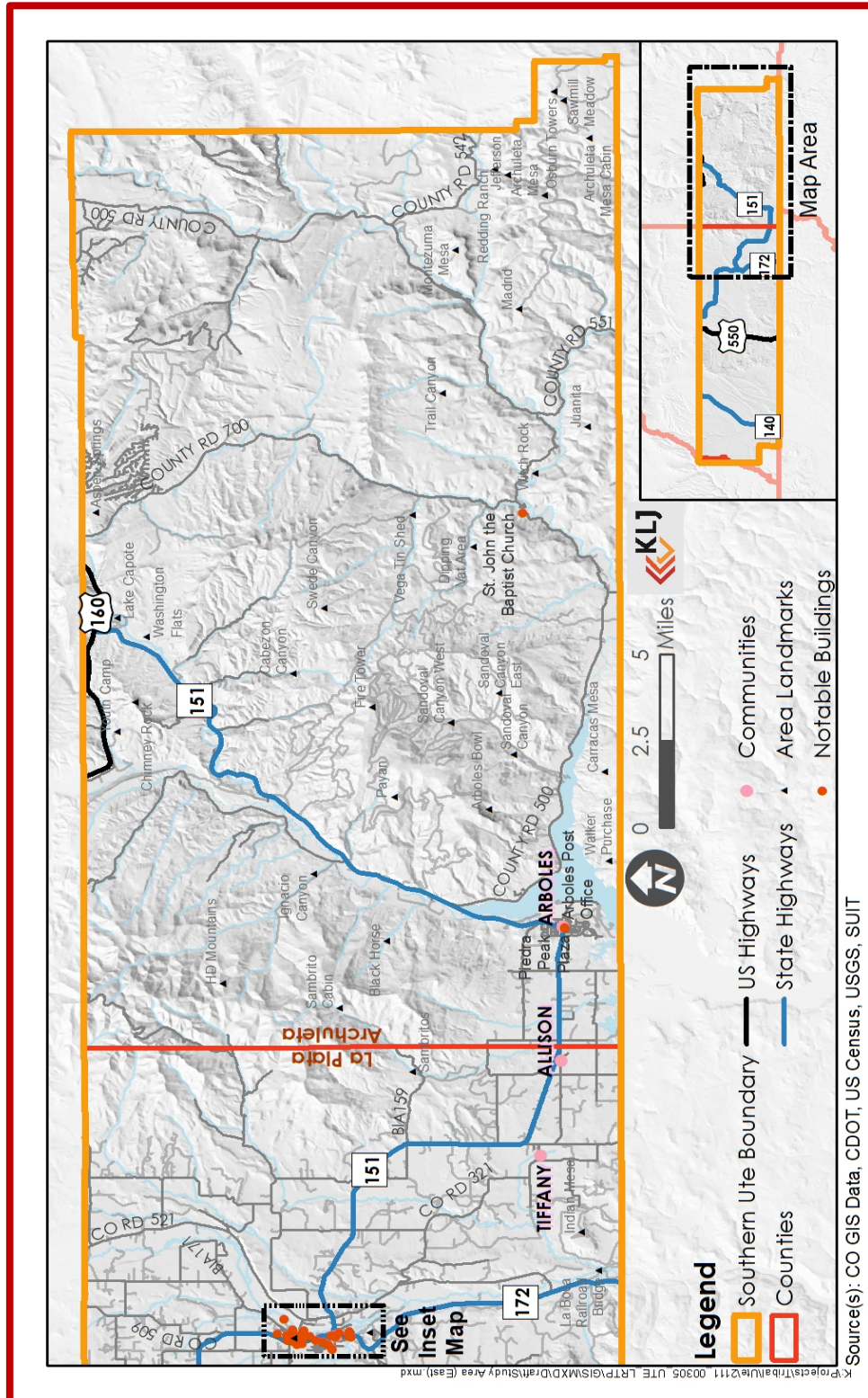




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FIGURE 2: STUDY AREA (EAST)





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The reservation has approximately 1,063 square miles of land area. The land area has a checkerboard nature of land tenure within the exterior Reservation boundaries, including the other federal lands (USFS, BOR, and National Parks). and indicating the acreage of non-trust land subtracted from the total.

The reservation lies in a mountainous area with elevations ranging from approximately 5,926 ft to its highest point of 9,170 ft located in the southeast corner of the reservation. Much of the most mountainous terrain lies in Archuleta County. The reservation is crossed by seven rivers including the San Juan, Navajo, Piedra, Los Pinos, Florida, Animas and La Plata rivers. Lake Navajo occupies a portion of the southern part of the reservation going into New Mexico.

Tribal headquarters are near the Town of Ignacio, CO, which is the most populous community on the Reservation with a 2020 Census population of 908. Other communities in the study area are Kline, Marvel, Redmesa, Oxford, Tiffany, Allison, and Arboles. There are 5 public schools operating on the Reservation located in Ignacio and the rural schools of Sunnyside Elementary and Fort Lewis Mesa Elementary. The Southern Ute Indian Montessori Academy (SUIMA) operated by the Tribe, is located on the Tribal campus. The Durango-La Plata County Airport is located just west of the community of Oxford on the Reservation.

Oil production is a prime economic driver on the Reservation. Leading employers include the Tribe itself, the Southern Ute Health Center, and the Bureau of Indian Affairs (BIA). Revenue is supplemented by operations at Sky Ute Casino and Resort in Ignacio and energy production and exploration through the Department of Energy.

The Tribe is organized into two entities, the Permanent Fund, providing government services to the membership, and the Growth Fund, which operates economic interests, including energy, utilities, the casino and other investment and economic interests.

The Southern Ute Indian Tribe transportation system serves many functions. Primary among these are access for residents and business establishments, movement of freight, and transportation within and across the region. Fishing, camping, and recreational boating are also all big attractions at Navajo State Park along the Navajo Reservoir. These areas in particular draw in seasonal guests. Recent persistent drought has threatened lake levels within the reservoir.

The Southern Ute Indian Tribe is responsible for maintaining around 215 miles of Tribal roads in conjunction with BIA and in some cases La Plata and Archuleta counties. The study area includes the following federal and state highways. The current state-specified functional classifications are noted for each highway. The study area includes the following major travel routes:

- US Highway 550 – Principal Arterial, providing north-south access from New Mexico to US Highway 50
- US Highway 160 – Principal Arterial, providing east-west access across the entire state
- State Highway 140 – Major Collector, providing north-south access from New Mexico to US Highway 160 for the western part of the Reservation



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- State Highway 172 - Major Collector, providing primary access from Durango to the Tribal headquarters and on to the Navajo Reservoir
- State Highway 151 – Major Collector, providing access from the Town of Ignacio to the eastern part of the Reservation, Chimney Rock National Monument and US Highway 160

Culture and History

The following sections were obtained and updated from the 2016 LRTP. They provide valuable background and information pertaining to the Southern Ute Tribe.

The Southern Ute Tribe is composed of two bands, the Mouache and Capote, and is governed by a seven-member Tribal Council elected by the membership. The Ute people are the oldest residents of Colorado, inhabiting the mountains and vast areas of Colorado, Utah, Wyoming, Eastern Nevada, Northern New Mexico, and Arizona.

The Utes first settled around the lake areas of Utah, some of which became the Paiute, other groups spread north and east and separated into the Shoshone and Comanche people, and some traveled south becoming the Chemehuevi and Kawaiisus. The remaining Ute people became the Southern Ute Tribe which comprises the Mouache and Capote bands and are headquartered at Ignacio, Colorado.

Around 1895 the Southern Ute Reservation was created. It was 15 miles wide and 110 miles long. In 1895 the Hunter Act enabled lands within the Ute Strip to be allotted to Tribal Members, and the surplus lands were homesteaded and sold to non-Indians. The Southern Ute Indian Tribe has a rich cultural tradition and holds several events throughout the year to keep these traditions alive. Some of the main events consist of the Ute Bear Dance each spring, the Sun Dance in midsummer which is the most important spiritual ceremony, and the Southern Ute Tribal Fair in late summer.

The Southern Ute Tribe also maintains a close relationship with its sister tribes, the Northern Ute located in northeastern Utah and headquartered in Fort Duchesne, UT and the Ute Mountain Tribe located in the southwestern corner of Colorado and headquartered in Towaoc, CO. Many years after the Brunot Treaty of 1874 that took much of their land away, the Southern Ute Indian Tribe signed a Memorandum of Agreement (MOA) in 2009 which assured the tribe with hunting and fishing rights in the off-reservation Brunot area, including rare game species. Tribal hunters participate in fishing activities and hunting bison, deer, elk, mountain lion, turkey, and waterfowl with special permits.

Government

The Southern Ute Tribe is a federally recognized Tribe. The Southern Ute Indian Tribal Council is the governing body of the Tribal Government as established by the passage of the Indian Reorganization Act by Congress (commonly called the Wheeler-Howard Act). The Constitution of the Southern Ute Indian Tribe, which was initially approved on November 4th, 1936, and



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subsequently amended on October 1, 1975, and August 27, 1991, authorizes and defines the Tribe's governing body as the Southern Ute Indian Tribal Council, which is composed of seven members (a chairman and six council members). Principle officers include the Chairman, Vice-Chairman and Treasurer, with all council members serving three-year staggered terms.

Demographics

The Southern Ute Indian Reservation primarily falls within La Plata County, Colorado and extends into Archuleta and Montezuma Counties. The population of the State of Colorado is projected to grow by about 2,702,904 people from 2010 through 2040. La Plata County includes 55,638 residents and experienced an annual growth rate of 8.3 percent between 2010 and 2020. Approximately 3.1 percent of La Plata County residents are American Indian or Alaska Native.

Durango is the closest city to the Reservation boundaries and Bayfield is located just north of the Reservation. Tribal Council headquarters are located north of the Town of Ignacio. Ignacio has a population of approximately 908 residents, with a 0.7% annual growth rate. The city includes approximately 411 housing units, with a homeownership rate of 48.5%.

The U.S. Census population estimate for the Southern Ute Census Designated Place (CDP) is 1,572 people. The median household income in the Southern Ute CDP is \$64,167 and there is a poverty rate of approximately 11% according to the U.S. Census Bureau's American Community Survey. Approximately 12.9% of families in the Southern Ute Indian Tribe CDP were estimated to live below the poverty level.

The Tribe's Vital Statistics Division reports a total of 1,504 Tribal Members, with 926 of those members as part of their total service population and 578 living off the reservation. Twenty percent of Tribal Members (312) are youth under 16 years of age and eight percent of members are over 64 years old.

Economy and Employment

Of the 1,504 total Tribal Members enrolled, there are 1,062 members between the ages of 16-64 that comprise the Tribal workforce. In addition to U.S. Census data, employment data for the Southern Ute Reservation was collected from the Sky Ute Casino Resort, Southern Ute Growth Fund and Permanent Fund. The cost of government activities and services is funded by the Tribe's Permanent Fund. This endowment fund operates separately from the business and investment activities that are analyzed and managed by the Tribe's Growth Fund.

The Southern Ute Indian Tribe is a major contributor to the local economy. The Tribe's business activity generates millions of dollars each year for La Plata and Archuleta Counties. Likewise, the Tribe is currently the largest employer in La Plata County and supports many area non-profit organizations.



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The Sky Ute Casino Resort alone reported employing approximately 400 individuals. In addition, the Tribe is aggressively creating and operating new businesses both on and off Reservation in the areas of oil and gas production, natural gas gathering, real estate development, housing construction, and gaming. Companies operated by the Growth Fund include the Red Willow Production Company, Red Cedar Gathering Company, Aka Energy Group, Southern Ute Alternative Energy, GF Properties Group, Department of Energy, Sky Ute Fairgrounds, and the Southern Ute Utilities Division.

The continued growth of reservation-based employment will improve the long-term socioeconomic status of Tribal Members. According to the 2013 American Indian Population and Labor Force Report, between 37 and 49 percent of the Tribe's population age 16 and older are employed in civilian (non-governmental) jobs.

Physical Characteristics and Climate

The Southern Ute reservation consists of timberlands on high mountains with elevations over 9,000 feet in the eastern portion, and flat arid mesas on the west. The eastern part of the reservation is forested, with elevations of more than 9000 feet.

The climate conditions are generally mild, with average high temperatures typically reaching the low 40s/ high 30s during winter to the high 80s during the summer. July is typically the warmest month of the year. Most precipitation falls August through November.

Land Ownership

The following data regarding Tribal land ownership was collected from the Southern Ute Indian Tribe's Land Division webpage. In 1984, Congress confirmed the exterior boundaries of the Reservation, spanning an area of approximately 700,000 acres and roughly extending from the eastern edge of Montezuma County to the middle of Archuleta County, and from points south of U.S. Highway 160 to the Colorado/New Mexico state line.

The current-day Reservation includes Tribal trust lands, Indian allotments, homestead fee tracts, Tribally owned or Indian-owned fee land, and Bureau of Reclamation lands and National Forest lands. This patchwork pattern of land ownership is commonly referred to as a "checkerboard" reservation. The Southern Ute Indian Tribe currently has title interest in approximately 300,000 acres of the surface estate within the exterior boundary of the Reservation as well as title to much of the mineral estate.

Jurisdiction on the Reservation is complex. A common misconception is that the Reservation includes only Tribal trust land and allotments. In fact, all land within the Reservation's exterior boundary is "Indian Country," and is considered to be "on the Reservation," regardless of the land's ownership status. "Indian Country" status is a key factor in determining the relative jurisdiction of the United States, the State, and Tribe over activities conducted on those lands.



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Existing Land Use/Facilities

The Reservation includes a variety of Tribally operated facilities that serve community members. The locations of these facilities are listed in the table below.

Southern Ute Facilities

Facility	Address		
<i>Animal Control</i>	16464 CO-172	Ignacio, CO	81137
<i>Annex</i>	116 Memorial Drive	Ignacio, CO	81137
<i>Chapel</i>	290 Memorial Drive	Ignacio, CO	81137
<i>Construction Services</i>	198 CO-151	Ignacio, CO	81137
<i>Construction Services - Wood Yard</i>	198 CO-151	Ignacio, CO	81137
<i>Cultural Center</i>	77 County Road 517	Ignacio, CO	81137
<i>Elder Center</i>	356 Ouray Drive	Ignacio, CO	81137
<i>Environmental Programs Division</i>	116 Memorial Drive	Ignacio, CO	81137
<i>Food Distribution Program</i>	740 Goddard Ave.	Ignacio, CO	81137
<i>Growth Fund Building</i>	14929 CO-172, P.O. Box 367	Ignacio, CO	81137
<i>Health Center - Dental Office</i>	123 Weminuche Ave.	Ignacio, CO	81137
<i>Health Center - Optometry Office</i>	123 Weminuche Ave.	Ignacio, CO	81137
<i>Housing Authority</i>	26 Shoshone Ave.	Ignacio, CO	81137
<i>Justice Department</i>	149 CR 517	Ignacio, CO	81137
<i>KSUT Radio Station</i>	123 Capote Drive	Ignacio, CO	81137
<i>Los Pinos Fire Department</i>	275 Browning Ave.	Ignacio, CO	81137
<i>Maintenance Building</i>	205 Ouray Drive	Ignacio, CO	81137
<i>Montessori and Head Start</i>	279 Capote Drive	Ignacio, CO	81137
<i>Multipurpose Facility</i>	290 Memorial Drive	Ignacio, CO	81137
<i>Natural Resources Division - Tribal Rangers</i>	149 CR 517	Ignacio, CO	81137
<i>Peaceful Spirit Rehabilitation Center</i>	296 Memorial Drive	Ignacio, CO	81137
<i>Police Department</i>	515 Goddard Ave	Ignacio, CO	81137
<i>Sky Ute Casino Resort</i>	14324 CO-172	Ignacio, CO	81137
<i>Sky Ute Fairgrounds & RV Park</i>	200 CO-151	Ignacio, CO	81137
<i>Social Services Department</i>	205 Ouray Drive	Ignacio, CO	81137
<i>Sun Ute Community Center</i>	290 Memorial Drive	Ignacio, CO	81137
<i>TERO Division Office</i>	149 CR 517	Ignacio, CO	81137
<i>Tribal Court</i>	149 CR 517	Ignacio, CO	81137
<i>Tribal Headquarters</i>	356 Ouray Drive	Ignacio, CO	81137
<i>Tribal Housing Office</i>	26 Shoshone Ave.	Ignacio, CO	81137
<i>USDA Ignacio Tribal Office</i>	601 CR 517, P.O. Box 737	Ignacio, CO	81137



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Residential: The Tribe's residential areas are mainly clustered into four residential subdivisions: 1) the Northridge Area; 2) Pow Wow Area; 3) Cedar Point; and 4) Ignacio Peak. Additional housing is planned for development at Cedar Point.

Commercial: Commercial and business activities are primarily concentrated within Ignacio City limits where the Tribe owns scattered parcels of land along major travel routes. The Sky Ute Casino and Resort provides gaming, lodging, restaurants, concerts, bowling, miniature golf, and space for conventions, meetings, and banquets. The facility includes 140 resort rooms and guest amenities, gaming opportunities, dining, a day spa and salon, a swimming pool and sun deck, a fitness center, and a laundry facility. The Resort also has an RV park. RV spaces provide water, sewer and hookups for 20, 30 and 50 amps. Amenities at the RV park include access to the pool, fitness center, showers, and laundry facilities.

The Southern Ute Indian Tribe Growth Fund building serves as the company's headquarters. The company's business ventures include energy, real estate, and private equity. Red Cedar Gathering Company, a natural gas gathering and treating company owned by the Growth Fund, has most of its operations on the Southern Ute Reservation. Sky Ute Casino Resort

Institutional/Governmental: The Tribe's administrative facilities are clustered mainly along Memorial and Ouray Drives.

Cultural: The Southern Ute Cultural Center and Museum provides interactive exhibits and informational displays depicting Southern Ute history and modern life. Exhibits include a teepee, ceremonial dress, and a Ute house and school room replica.

Public Safety: The Tribe operates a Police Department and a Tribal Court and is served by Los Pinos Fire Department. Detailed information on the public safety departments is included in Sections 2.2.11 (Law Enforcement) and 2.2.12 (Fire Protection Services), and in the Southern Ute Indian Tribe Transportation Safety Plan.

Recreational: The SunUte Community Center offers a 5,000 square foot fitness center, including a pool, gymnasium, exercise and weight training equipment, meeting rooms, a kitchen, and outdoor recreational space. The facility also offers league sports and hosts community events and activities, as well as housing the Southern Ute Boys and Girls Club. Baseball fields are located by the Community Center and near the Multi-Purpose Facility. The Sky Ute Fairgrounds is a venue for fairs, rodeos and other community events. It also offers a 64- space RV Park with shower facilities.

Education: Southern Ute Indian Tribe youth attend one of several area schools, including the Southern Ute Montessori Academy, and Ignacio, Durango, and Bayfield Public Schools. The Southern Ute Montessori Academy serves Southern Ute Tribal Members' children and Tribal decedents through age 12.



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Health and Social Services: The Tribe operates a number of health and social programs, housed in various facilities. The Southern Ute Health Center and Pharmacy is located on Weminuche Drive, and provides urgent care and primary care provider appointments, a pharmacy, behavioral health, vision, dental, nursing, laboratory and radiology services, and referral services. The Southern Ute Community Action Programs Elders' Center includes a kitchen and dining hall and meeting spaces. The Southern Ute Indian Tribe Social Services Division is located on Ouray Drive. Other social services buildings include a Food Distribution Program building and a rehabilitation facility.

Respect for Cultural Resources

The Southern Ute Indian Tribe ensures that Tribal lands are preserved, occupied, or developed in a manner which always considers and adheres to the best interests of the Tribe. The Planning Department generally implements transportation and roads development projects.

Southern Ute's Planning Department was involved throughout the project. The Planning Department works with outside agencies (e.g. CDOT) on right-of-way issues. Planning provides updates and recommendations to Tribal Council on proposed development projects and land acquisitions. The Planning Department was represented at the project kick-off meeting. Planning staff had the opportunity to review the interim draft of the Long-Range Transportation Plan and provided comments for implementation.

The Tribe's Planning and Project Management departments coordinate with the Culture Department to protect culturally sensitive areas. The Culture Department consists of Education, Ute Language, Special Events, Native American Graves and Repatriation Act (NAGPRA), Traditional Events, and Traditional Committees. The NAGPRA Division is primarily involved in the transportation development process although all divisions carry out its mission to revitalize, promote, sustain, and document the culture, language, and history. NAGPRA requires museums and institutes to document and return objects and remains of historical significance to their appropriate tribes and protects Native American burial sites from further removal of cultural items. The NAGPRA program develops policies and procedures in the best interest of the tribe and consults within the State of Colorado and adjacent states.

The NAGPRA coordinator was invited to attend a project planning meeting. The Tribe's NAGPRA Coordinator is occasionally contacted by the Planning Department for input in the project development process. The coordinator provides feedback and consultation regarding development projects that have the potential to disturb cultural sites and/or pose a significant cultural impact.



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Scenic Byways

The only scenic byway that traverses the Reservation is called the Tracks Across Borders Byway (TABB). It traces parts of the Narrow-Gauge Railroad route that existed until the middle of the 20th Century from Durango to Dulce, NM. The most significant portion of the line follows the San Juan River eastward from Arboles along Trujillo Rd. (SU 169). This section still has several old railroad bridges and other facilities that attract those interested in the legacy of steam locomotive and narrow-gauge train travel that used to be prevalent in the two States.

Tourism

The only significant tourist destination within the exterior boundaries of the reservation is Chimney Rock National Monument west of CO Hwy 151 south of US Hwy 160. On September 21, 2012, President Barack Obama proclaimed Chimney Rock National Monument, making it the seventh national monument managed by the USDA Forest Service. The Chimney Rock National Monument encompasses 4,726 acres of the San Juan National Forest between Durango and Pagosa Springs, Colorado.

The Chimney Rock Interpretive Program is managed and staffed by the U.S. Forest Service and volunteer Chimney Rock Interpretive Association. In addition to daily guided walking tours, special events and school tours are also offered. At Chimney Rock you can imagine the landscape as it was a thousand years ago, with cultivated fields and settlements extending from the valley floors to the mesa tops. Chimney Rock represents one of the largest Pueblo II (900-1150 AD) communities in southwestern Colorado and is considered a Chacoan cultural “outlier.” The Chaco phenomenon was a complex system of dispersed communities bound by economic, political and religious interdependence centered in Chaco Canyon, New Mexico.

The area continues to hold special significance for today’s Native American peoples. More than 150 documented archaeological resources grouped into eight clusters at Chimney Rock date back to the Pueblo II period. Architectural structures include pit houses, great kivas, and great houses.

The pinnacles that give Chimney Rock its name frame multiple astronomical alignments. The Ancestral Puebloans incorporated their knowledge of astronomy into the design of their community. Today Chimney Rock is one of the best recognized archaeo-astronomical resources in North America, with alignments with the northern lunar standstill, summer solstice, equinoxes and Crab Nebula.



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CHAPTER 2 – INVENTORY ANALYSIS

An evaluation of the Southern Ute Indian Tribe transportation system was performed to establish the scope of transportation deficiencies and goals within the study area. The existing network and traffic conditions were assessed to determine potential issues and improvement opportunities, which provided a basis for transportation network needs and improvement strategies.

Geographic Information System (GIS) technology was used to map aerial photography and for data compilations. Mapping is intended to assist Tribal planners, staff, and officials gain a more complete understanding of the strengths and weaknesses of the Southern Ute Indian Tribe transportation system.

Many factors influence the traffic safety and mobility of a transportation system. These include the levels of existing and projected traffic, roadway capacity and intersection control, traffic operations, access management and on-street parking among others. This chapter will present the data that was analyzed during the LRTP process and how it was used to formulate transportation system recommendations.

ROAD INVENTORY AND OWNERSHIP

This section of the report discusses the existing BIA road inventory. Strip maps and the full roadway inventory are available for review upon request. Per the Code of Federal Regulations (CFR), the Indian Reservation Roads (IRR) Inventory is a comprehensive database of all transportation facilities eligible for IRR funding. Other specific information collected and maintained under the IRR Program includes classification, route number, bridge number, current and future traffic volumes, maintenance responsibility, and ownership.

The National Tribal Transportation Facility Inventory (NTTFI) means at a minimum, transportation facilities that are eligible for assistance under the Tribal transportation program that an Indian Tribe has requested, including facilities that meet at least one of the following criteria:

- (1) Were included in the Bureau of Indian Affairs system inventory prior to October 1, 2004.
- (2) Are owned by an Indian Tribal government (“owned” means having the authority to finance, build, operate, or maintain the facility).
- (3) Are owned by the Bureau of Indian Affairs (“owned” means having the authority to finance, build, operate, or maintain the facility).
- (4) Were constructed or reconstructed with funds from the Highway Trust Fund under the Indian reservation roads program since 1983.
- (5) Are public roads or bridges within the exterior boundary of Indian reservations, Alaska Native villages, and other recognized Indian communities in which the majority of residents are American Indians or Alaska Natives.



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(6) Are public roads within or providing access to either:

(i) An Indian reservation or Tribal trust land or restricted Tribal land that is not subject to fee title alienation without the approval of the Federal Government; or

(ii) Indian or Alaska Native villages, groups, or communities whose residents include Indians and Alaska Natives whom the Secretary has determined are eligible for services generally available to Indians under Federal laws applicable to Indians.

(7) Are primary access routes requested by Tribal governments for inclusion in the NTTFI, including roads between villages, roads to landfills, roads to drinking water sources, roads to natural resources identified for economic development, and roads that provide access to intermodal terminals, such as airports, harbors, or boat landings.

Roadway Ownership

There are approximately 800 roadway miles within the Southern Ute Reservation. Of these, 134 miles are US and State highways, 446 miles are county roads, and 215 miles are designated as BIA and Southern Ute Indian Tribe roads. It is anticipated that more miles will be added to the inventory once the inventory is updated.

Maintenance on the County Road system is handled predominantly by the counties. The Southern Ute Indian Tribe works with the BIA, internal departments, and other jurisdictions on the reservation to coordinate snow removal. Ignacio, CO receives approximately 29 inches of snowfall each year¹. Oil and gas facility access roads are maintained independently by respective oil and gas companies.

Inventory and Functional Classification

Table 1 shows the road surface type by jurisdiction that was retrieved from the 2021 Road Inventory Field Data System (RIFDS) through the BIA's ITIMS (Integrated Transportation Information Management System) software. Routes that appear in RIFDS are considered public roads that are accessible year-round thru Tribal land and non-Tribal land.

¹ Western Regional Climate Center



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Table 1: RIFDS Road Inventory - Surface Type by Jurisdiction - 2021

Jurisdiction	Road Mileage by Surface Type						Total (Miles)
	Proposed	Earth	Gravel	Bituminous <2"	Bituminous >2"	Concrete	
BIA Roads	0	176.4	22.8	1.4	14.3	0.2	215.1
County	0	31	352.1	3	59.9	0	446
State	0	0	4.9	0	129	0	133.9
Tribe	0	0	0.3	0	0.2	0	0.5
TOTAL	0	207.4	380.1	4.4	203.4	0.2	795.5
BIA Roads as % of Total	0%	85%	6%	32%	7%	100%	27%

Table 2 and **Table 3** list miles by functional class and surface type, respectively. The Inventory as of 2021 has many miles that have not been formally approved. Additional miles likely need to be added to the inventory to account for the low numbers of Tribal road miles.

TABLE 2: RIFDS ROAD INVENTORY - FUNCTIONAL CLASS BY JURISDICTION - 2021

Ownership	Rural Minor Arterial (2)	City Local (3)	Rural Major Collector (4)	Rural Local (5)	City Collector (7)	None (null)	Total Mileage (mi)
1-BIA		7.6	139.9	63.2	2.7	1.7	215.1
2-Tribe		0.5					0.5
3-State	133.9						133.9
5-County/Township			129.6			316.4	446
Totals	133.9	8.1	269.5	63.2	2.7	318.1	795.5

**Classes with 0 mileage omitted*

Table 3 shows the road inventory by surface type and functional classification. Those miles listed in the row labeled, No Class Specified, were input into RIFDS at some point in the past with no functional classification listed. These could be field verified and corrected in RIFDS in the future to properly fit the mileages within the appropriate functional classification.

The 7 bridges include 4 bridges with BIA ownership and 3 bridges with County/Township ownership.



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TABLE 3: RIFDS ROAD INVENTORY - SURFACE TYPE AND FUNCTIONAL CLASS - 2021

	Mileage (mi) Existing Roads and Trails					Total Mileage (mi)	Bridges	
	Surface Type							
	Earth	Gravel	< 2 inch	> 2 inch	Concrete		Count	Length (ft)
Functional Class	(1)	(3)	(4)	(5)	(6)			
2-Rural Minor Arterial				113.0		113.0		
3-City Local		0.3	0.7	6.9	0.2	8.10		
4-Rural Major Collector	125.3	100.0	2.0	42.2		269.5	7.0	561.0
5-Rural Local	51.1	12.1				63.2		
7-City Collector				2.7		2.7		
No Class Specified	31.00	267.70	1.70	38.60		339.00		
Total:	207.4	380.1	4.4	203.4	0.2	795.5	7.0	561.0

**Classes with 0 mileage omitted*

Parking Lot Additions

The Southern Ute Indian Tribe desires to upgrade many of their parking lots in the Tribal campus area. In addition, all their parking lots will require future maintenance to address vegetation overgrowth and adverse surface conditions. These parking lot locations must be included or be added to the RIFDS inventory to be eligible for TTP funding.

Road Inventory Modifications

The current inventory includes many roads in various stages of approval within RIFDS. Modifications to the data for many of these routes within RIFDS will be needed for these routes to be eligible for TTP funding. **Table 4** lists in-progress routes and sections that will need to be added to or updated within the inventory before they are eligible for TTP funding.

There are currently 256 official sections in the RIFDS inventory. There are 129 sections which have an in-progress status. This in-progress status suggests previously unsubmitted work. Spot checks performed on the inventory revealed that some sections have no data other than the route and section number, others have no photos, and others have inaccurate strip maps.

Before an In-Progress section is submitted, the uploaded data needs to be reviewed for accuracy and to make sure all required elements are submitted. This would include non-BIA routes having a



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Memorandum of Agreement (MOA), Strip Map accuracy, photos of each section, ADT data (minimum can be used), surface type, etc.

While reviewing the RIFDS data KLJ saw several things that could be done to update and improve the inventory:

- There are 52 In-Progress sections (49.4 miles) that are not in the current inventory. These sections are currently not eligible for TTP funding. They will be eligible once approved within RIFDS. KLJ suggests this be the priority since adding them would potentially increase TTP funds. A list of In-Progress routes and sections that are not in the inventory is provided in the following table.

TABLE 4: RIFDS IN PROGRESS

ROUTE NUMBER	SECTION NUMBER	ROAD NAME	ROUTE NUMBER	SECTION NUMBER	ROAD NAME
115	10		9005	810	RANGERS/ANIMAL CONTROL PARKING
151	815	STATE HIGHWAY 151	9006	810	POLICE STATION PARKING
172	820	STATE HIGHWAY 172	9007	810	JUSTICE CENTER PARKING
173	5	SHOSHONE AVENUE	9008	810	MUSEUM PARKING
300	30	OURAY DRIVE	9009	810	DAY CARE/SCHOOL PARKING
302	5	CAPOTE DRIVE	9010	810	L.C. BURCH ADMIN. PARKING
339	10	SKY UTE CASINO PARKWAY	9011	810	RECREATION CENTER PARKING
339	20	SKY UTE CASINO PARKWAY	9012	810	HEALTH CENTER PARKING
339	30	SKY UTE CASINO PARKWAY	9013	810	ANNEX PARKING
340	10	MIKE FROST WAY	9014	810	FACILITY PARKING
517	810		9015	810	DENTAL/OPTOMETRY PARKING
550	820	U.S. HIGHWAY 550	9016	810	MOUACHE CAPOTE PARKING
8002	810	SU8002	9017	810	AUXILIARY PARKING #1
8003	810	SU8003	9018	810	AUXILIARY PARKING #2
8004	810	SU8004	9019	810	AUXILIARY PARKING #3
8005	810	SU8005	9020	810	BALLFIELD PARKING
8006	810	SU8006	9021	810	MULTI-PURPOSE FACILITY PARKING
8007	810	SU8007	9022	810	BIA ADMIN. PARKING
8008	810	SU8008	9023	810	BEAR DANCE PARKING
8009	810	SU8009	9024	810	PARK PARKING #1
8010	810	SU8010	9024	820	PARK PARKING #2
8011	810	SU8011	9025	810	GROWTH FUND PARKING
9001	810	HOTEL PARKING	9026	810	RED WILLOW PARKING
9002	810	CASINO PARKING	9027	810	RV PARKING
9003	810	ROLLING THUNDER PARKING	9028	810	EMPLOYEE PARKING
9004	810	OVERFLOW PARKING	9029	810	SKY UTE EVENTS CENTER PARKING

- There are 78 In-Progress sections (293.6 miles) that are updating existing Official sections with minor changes (mileage, surface type, bridge name, etc.). KLJ suggests this be a lesser priority since the corresponding Official section is already eligible for use of TTP funds.
- There are 8 Approved sections that need the Official duplicate record deleted.



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- There are 7 Returned-to-Region sections that were submitted (proposed to replace an Official section), but not approved. These need something to be fixed (Strip Map, Ownership changed, etc.) and then they may be resubmitted through RIFDS.
- Having RIFDS routes mapped in GIS provides a strong benefit to planning, as well as modifications for future changes within RIFDS. 80 of the 256 sections from the RIFDS inventory appear to be mapped in GIS. KLJ suggests that all official RIFDS routes be mapped in GIS with proper categorization (surface type, ownership, etc.).
- Looking at GIS and Google Earth there appears to be many miles of routes that could be added to the Southern Ute Indian Tribe RIFDS inventory.
- Addition of future or planned routes need to be added to RIFDS and approved. Known future or planned routes include the following:
 - Ute Road extension west of State Highway 172
 - County 316 extension south of County Road 314

It will take significant effort to bring the entire inventory within RIFDS up to date. This may be done as a follow-up after the LRTP is completed.



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CHAPTER 3 – TRAFFIC AND CRASH ANALYSIS

This chapter of the report includes relevant safety analysis and information taken from the Tribal Transportation Safety Plan that was prepared concurrently with the LRTP plan preparation process.

EXISTING TRAFFIC

Much of the existing traffic within the Reservation is generated by key land uses, subdivisions, and Tribal facilities in and around the Town of Ignacio. Traffic conditions related to these land uses were a key factor in selection of traffic count locations selected for this plan. As part of this plan, traffic counts were taken in 118 locations. These locations re-used locations from the previous plan as well as added new locations and used input from Tribal officials, including Southern Ute Indian Tribe Tribal police. These counts were performed in one of two ways:

Streetlight

Of the 86 count locations from the previous plan, 69 were re-used. These 69 were gathered using Streetlight Data, Inc., a subcontracted consulting firm providing a nation-wide source of traffic-related data. Streetlight data is generated algorithmically combining five data sources: GPS, two types of location-based service (LBS) data, Census data, and thousands of validated continuous count stations (used for calibration and machine learning). StreetLight's AADT values are based on 365 days of data.

In addition to the 69 re-used count locations, an additional 22 were also generated using streetlight data. These locations were selected in areas where it was thought they could be used as a form of quality control.

Streetlight data was downloaded for the years 2019 and 2020, the most recent years available. Due to the COVID-19 pandemic, there was a large decrease in traffic volumes at nearly all locations where Streetlight data were gathered for 2020. Because of this decrease, this plan will use streetlight data from 2019 to reflect more “normal” traffic volumes. Using 2020 values would undercount existing (2021) traffic and lead to poorer projections for future volumes.

Along with concerns with data accuracy due to COVID-19, streetlight data on two likely low-volume roads gave much higher-than-expected ADT values. These count locations have been removed from analysis.

Tube Counters

27 locations were counted using traditional counter tubes. These were placed in areas that were thought to be underserved in the previous plan's counts. These tubes were placed in October of 2021. Technical difficulties during the counting process often due to poor internet connection in the



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most rural parts of the reservation resulted in some count locations being moved. In addition to difficulties with internet connectivity, a few tubes were tampered with or dislodged during counts.

Combining Sources

For the purposes of this plan, Streetlight 2019 traffic counts and 2021 tube counts were used and considered as “existing” traffic volumes. Although there is a two-year difference between these two datasets, differences were considered marginal. All counts can be seen in **Table 5**. Maps of the existing traffic counts can be seen in **Figure 4** through **Figure 6**.

TABLE 5: TRAFFIC COUNT LOCATIONS

Location	Route	ADT	Source	Projected ADT 2045	Relevant Figure
East of US 550	La Plata County 218	400	Tube Counts 2021	508	Figure 4
West of US 550	La Plata County 215	375	Tube Counts 2021	476	Figure 4
East of US 550	La Plata County 302(not mapped)	1575	Tube Counts 2021	2000	Figure 4
South of State 172	La Plata County 309 Airport Road	2620	Tube Counts 2021	3327	Figure 4
South of State 172	La Plata County 311 At Oxford	670	Tube Counts 2021	851	Figure 4
North of Junction with 509A	La Plata County 509	300	Tube Counts 2021	381	Figure 4 and Figure 5
South of State 172	La Plata County 307	725	Tube Counts 2021	921	Figure 4
SW of State 172	La Plata County 302	1725	Tube Counts 2021	2190	Figure 4
South of Anna Rd	La Plata County 311	385	Tube Counts 2021	489	Figure 4
West of US 550	La Plata County 214	290	Tube Counts 2021	368	Figure 4
South of State 151	La Plata County 324	150	Tube Counts 2021	190	Figure 5
South of State 151	La Plata County 333	355	Tube Counts 2021	451	Figure 5
East of State 172	La Boca Bridge Rd	20	Tube Counts 2021	25	Figure 5
South of CR 524	CR 521 Buck Highway	650	Tube Counts 2021	825	Figure 5
North of BIA 107/Bear Dance Dr	La Plata County 521 Buck Highway	1160	Tube Counts 2021	1473	Figure 6
West of Burns Ave	Becker St Ignacio	1330	Tube Counts 2021	1689	Figure 6
North of La Plata County 320	Burns Ave/La Plata County 320A	630	Tube Counts 2021	800	Figure 6



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Location	Route	ADT	Source	Projected ADT 2045	Relevant Figure
West of State 172	BIA 110 Shadow Spirit East	310	Tube Counts 2021	394	Figure 6
South of Tranquilo Ct	Romero Ave Ignacio	380	Tube Counts 2021	482	Figure 6
West of State 172	Lakin St Ignacio	575	Tube Counts 2021	730	Figure 6
South of Becker St	Burns Ave Ignacio	150	Tube Counts 2021	190	Figure 6
South of State 151	BIA 172 Sky Ute N. entrance	100	Tube Counts 2021	127	Figure 6
East of State 172	Pine St Ignacio	210	Tube Counts 2021	267	Figure 6
South of CR 517	SU 305 Mouache Dr.	210	Tube Counts 2021	267	Figure 6
South of CR 517	SU 305 Mouache Dr.	210	Tube Counts 2021	267	Figure 6
South of Bear Dance Dr	SU 106 End of Trail	45	Tube Counts 2021	57	Figure 6
North of 1st Ave N	La Plata County 122 Kline	344	Streetlight 2019	437	Figure 4
South of Adobe House Rd	La Plata County 122 Kline	435	Streetlight 2019	552	Figure 4
West of State 140	La Plata County 119 Kline	348	Streetlight 2019	442	Figure 4
North of La Plata County 100/133	La Plata County 134 Marvel	359	Streetlight 2019	456	Figure 4
East of State 140	La Plata County 103E Redmesa	394	Streetlight 2019	500	Figure 4
North of State 172	La Plata County 513 Oxford	793	Streetlight 2019	1007	Figure 4
South of State 172	CR 316 (not labeled on map)	358	Streetlight 2019	455	Figure 4 and Figure 5
South of State 172	CR 315	275	Streetlight 2019	349	Figure 4
West of State 172	CR 317	434	Streetlight 2019	551	Figure 4 and Figure 5



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Location	Route	ADT	Source	Projected ADT 2045	Relevant Figure
East of State 172	CR 516	827	Streetlight 2019	1050	Figure 4 and Figure 5
South of CR 516/317	State 172	3605	Streetlight 2019	4577	Figure 4 and Figure 5
West of BIA 0151	BIA 150 Arkansas Loop	641	Streetlight 2019	814	Figure 4
East of BIA 0150	BIA 151 Pump Canyon	548	Streetlight 2019	696	Figure 4
South of CR 318	BIA 151 Trail Canyon	801	Streetlight 2019	1017	Figure 4
East of US 550	CR 310	3328	Streetlight 2019	4226	Figure 4
South of Farmington Hill	US 550	8309	Streetlight 2019	10550	Figure 4
West of CR 213	BIA 111 Rancho Durango Rd.	873	Streetlight 2019	1108	Figure 4
South of Res Boundary	CR 213 La Posta Road	3005	Streetlight 2019	3816	Figure 4
North of BIA 111	BIA 112 Forty-four Canyon	275	Streetlight 2019	349	Figure 4
South of BIA 114	BIA 113 Valencia Canyon	85	Streetlight 2019	108	Figure 4
CR 136	BIA 114 Old School Hse Rd	316	Streetlight 2019	401	Figure 4
West of CR 136	BIA 111 Coyote Gulch	175	Streetlight 2019	222	Figure 4
West of State 151	La Plata County 329 Allison	295	Streetlight 2019	375	Figure 5
SE of State 151	Archuleta County 982 Arboles	495	Streetlight 2019	629	Figure 5
North of State 151	Archuleta County 193 Gallegos Canyon	478	Streetlight 2019	607	Figure 5
South of State 151	Sunset Trail Arboles	289	Streetlight 2019	367	Figure 5
SW of State 151	La Plata County 328 Tiffany	741	Streetlight 2019	941	Figure 5
North of County 523	La Plata County 521 Buck Highway	1813	Streetlight 2019	2302	Figure 5



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Location	Route	ADT	Source	Projected ADT 2045	Relevant Figure
South of Reservation Boundary	La Plata County 516 S. of Bayfield	1909	Streetlight 2019	2424	Figure 5
South of Reservation Boundary	La Plata County 509	1714	Streetlight 2019	2176	Figure 5
North of State 151	La Plata County 336	354	Streetlight 2019	449	Figure 5
North of State 151	La Plata County 334	736	Streetlight 2019	935	Figure 5
South of ACTrujillo Rd	Cabrascas Rd. Archuleta County 557	381	Streetlight 2019	484	Figure 5
North of Junction with County 551	AC 500/Trujillo Rd	362	Streetlight 2019	460	Figure 5
East of Junction with County 323	La Plata County 321	414	Streetlight 2019	526	Figure 5
East of La Plata County 521	La Plata County 524	558	Streetlight 2019	709	Figure 5
East of County 516	La Plata County 518 Sundance Loop	324	Streetlight 2019	411	Figure 5
West of Blue Moon Ct	BIA 188 Mountain Dew St	716	Streetlight 2019	909	Figure 6
West of Valley Dr	State 151	3104	Streetlight 2019	3941	Figure 5
West of CR 334	State 151	2656	Streetlight 2019	3372	Figure 5
South of CR 321	CR 322 S. of Shooting Range	647	Streetlight 2019	822	Figure 5
East of State 172 (South Half of Pair)	CR 322 BIA 101	484	Streetlight 2019	615	Figure 5
East of State 172 (North Half of Pair)	CR 322 BIA 101	467	Streetlight 2019	593	Figure 5
East of CR 517	CR 516	1854	Streetlight 2019	2354	Figure 5
East of State 151	CR 500 Trujillo Rd.	869	Streetlight 2019	1103	Figure 5
West of BIA 156	CR 500 Trujillo Rd (failure)	674	Streetlight 2019	856	Figure 5
West of CR 700 / Cat Creek Road	CR 500 / BIA 169 Trujillo Rd x Cat Creek	415	Streetlight 2019	527	Figure 5
South of CR 500	CR 551 Juanita Road	362	Streetlight 2019	460	Figure 5



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Location	Route	ADT	Source	Projected ADT 2045	Relevant Figure
North of CR 318	BIA 181 Lodge Pole Way	785	Streetlight 2019	997	Figure 6
West of Lodge Pole Way	BIA 183 Burning Cedar Ave	412	Streetlight 2019	523	Figure 6
East of Fry Bread Ave	BIA 182 Arrow St	255	Streetlight 2019	324	Figure 6
BIA 184 Fry Bread Ave	East of Lodge Pole Way	427	Streetlight 2019	542	Figure 6
North of CR 318	Rolling Thunder Ave BIA 180	633	Streetlight 2019	804	Figure 6
South of Blue Moon Ct	BIA 188 Mountain Dew Cir	346	Streetlight 2019	439	Figure 6
East of Rolling Thunder	BIA 186 Elk St	447	Streetlight 2019	568	Figure 6
North of Elk St	Sagebrush Ave BIA 187	338	Streetlight 2019	429	Figure 6
West of Ignacio Peak Dr	Ignacio Peak Jefferson Dr	322	Streetlight 2019	409	Figure 6
East of State 172 (North Half of Pair)	BIA 315 Ignacio Peak Dr	438	Streetlight 2019	556	Figure 6
East of State 172 (South Half of Pair)	BIA 315 Ignacio Peak Dr	269	Streetlight 2019	342	Figure 6
West of CR 517	Howe Dr BIA 317	172	Streetlight 2019	218	Figure 6
West of CR 517	Sky Ute Casino Pkwy BIA 339	928	Streetlight 2019	1178	Figure 6
East of State 172	Ute Rd BIA 309	889	Streetlight 2019	1129	Figure 6
North of Ute Rd	Buckskin Charlie Dr BIA 308	375	Streetlight 2019	476	Figure 6
East of Ute Rd	Bear Dance Rd BIA 107	1142	Streetlight 2019	1450	Figure 6
South of CR 314	Sunset Cir BIA 313	293	Streetlight 2019	372	Figure 6
South of CR 314	Northridge Dr BIA 311	275	Streetlight 2019	349	Figure 6
East of CR 316	Sunset Meadows Dr BIA 312	330	Streetlight 2019	419	Figure 6
East of CR 316	Pow Wow Cir BIA 310	322	Streetlight 2019	409	Figure 6
North of CR 314	CR 316	712	Streetlight 2019	904	Figure 6



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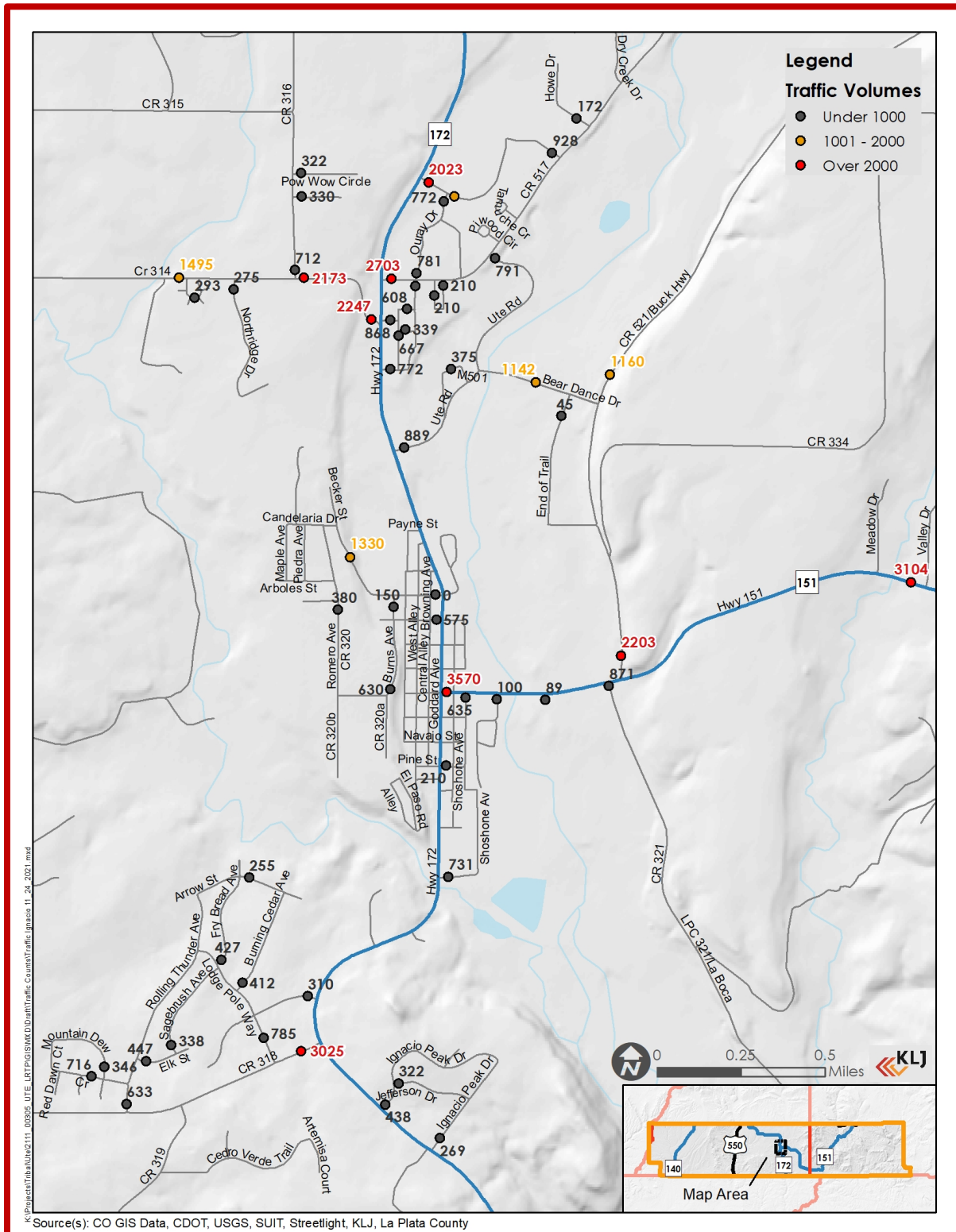
Location	Route	ADT	Source	Projected ADT 2045	Relevant Figure
South of State 151	Shoshone Ave BIA 173	635	Streetlight 2019	806	Figure 6
East of State 172	State 151 Ignacio	3570	Streetlight 2019	4533	Figure 6
East of State 172	Sky Ute Casino Pkwy	2023	Streetlight 2019	2569	Figure 6
East of Ouray Dr	Sky Ute Casino Pkwy (not labeled on map)	1417	Streetlight 2019	1799	Figure 6
North of CR 517	Ouray Dr BIA 300	781	Streetlight 2019	992	Figure 6
South of Sky Ute Casino Pkwy	Ouray Dr BIA 300	772	Streetlight 2019	980	Figure 6
West of State 172	CR 314 Growth Fund	2247	Streetlight 2019	2853	Figure 6
East of CR 316	CR 314	2173	Streetlight 2019	2759	Figure 6
West of Sunset Cir	CR 314	1495	Streetlight 2019	1898	Figure 6
East of State 172	Shoshone Ave Sky Ute Horse	731	Streetlight 2019	928	Figure 6
South of State 151	CR 321 BIA 101	871	Streetlight 2019	1106	Figure 6



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FIGURE 6: EXISTING TRAFFIC IGNACIO





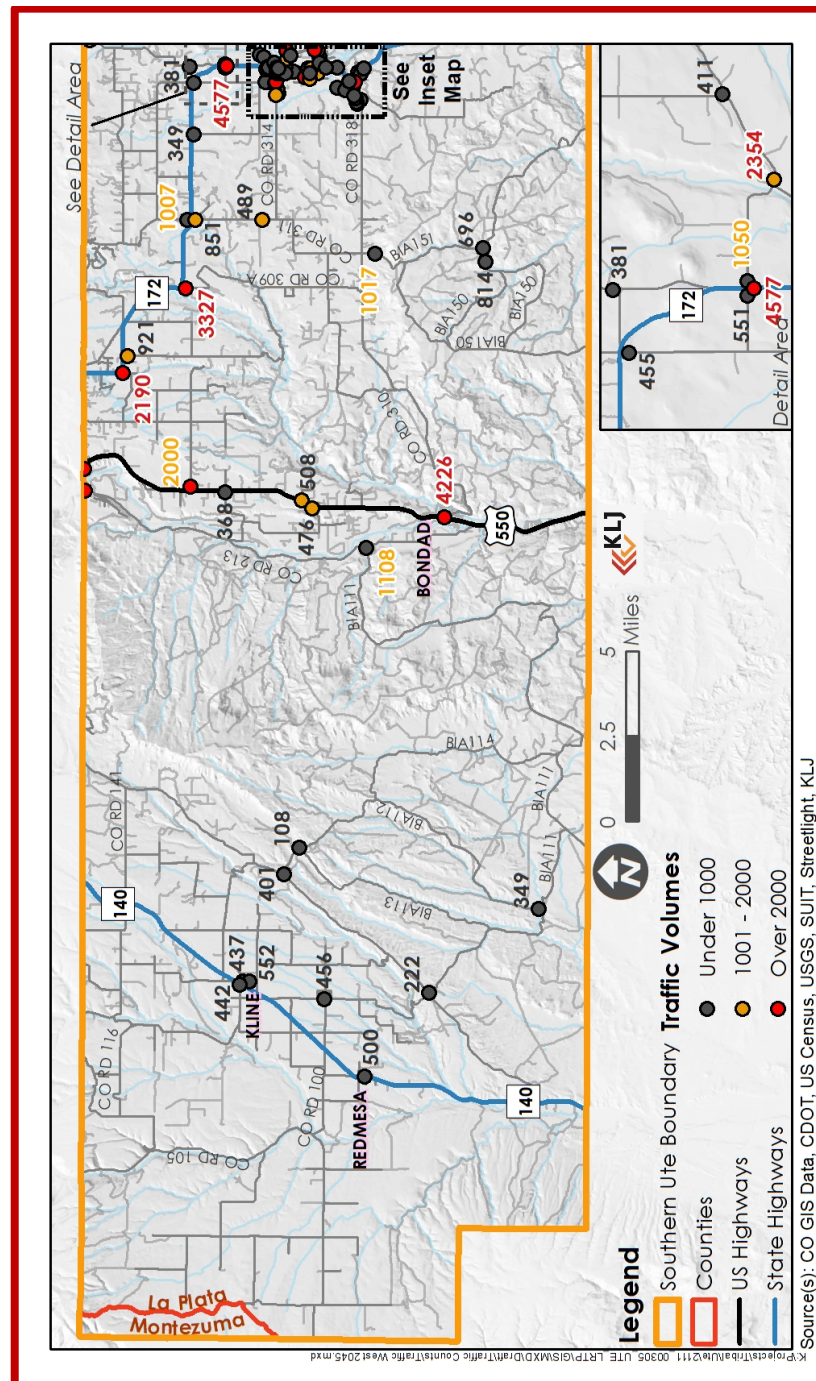
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PROJECTED TRAFFIC

Projected traffic volumes were generated based on one percent annual growth over 20+ years. Projected 2045 traffic volumes are shown in **Figures 7, 8, and 9.**

FIGURE 7: PROJECTED (2045) TRAFFIC WEST

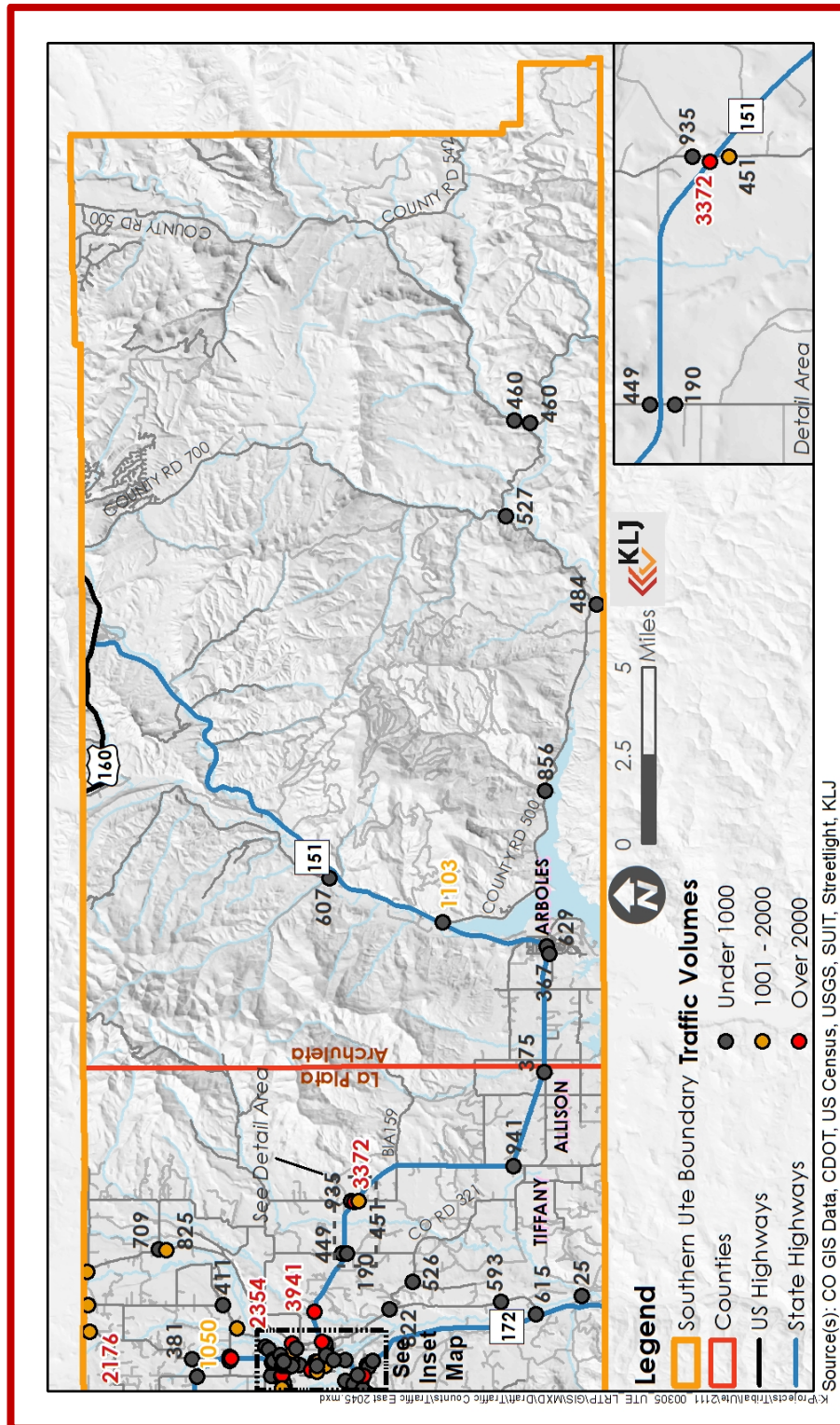




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FIGURE 8: PROJECTED (2045) TRAFFIC EAST

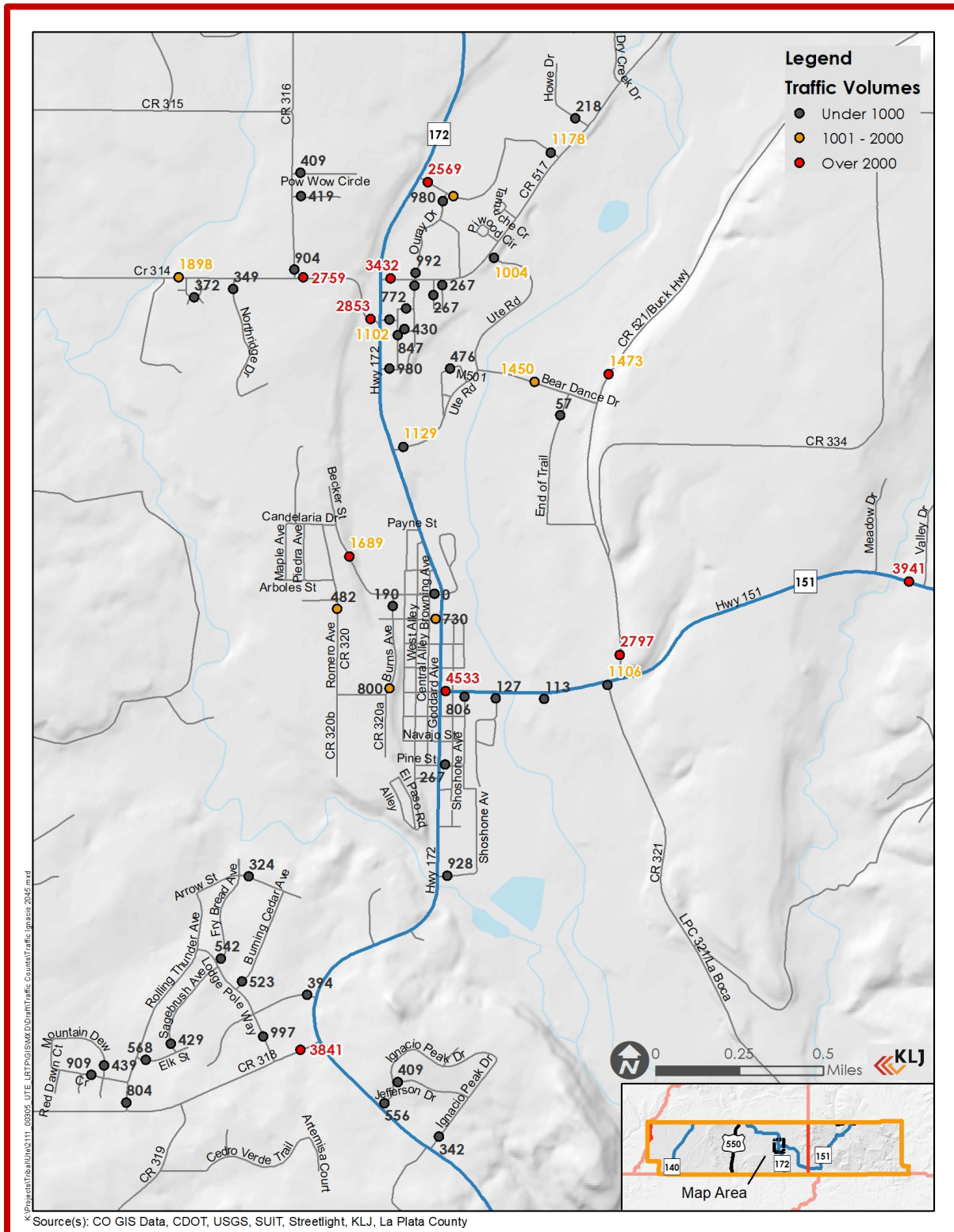




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FIGURE 9: PROJECTED (2045) TRAFFIC IGNACIO





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TRUCK TRAFFIC

Truck traffic data was pulled from the CDOT 2019 OTIS (Online Transportation Information System). Truck traffic on the Reservation ranged from an Annual Average Daily Truck Traffic (AADTT) of 60 along Hwy 172 on the southern border to 670 on US Hwy 550 near Bondad. Data for truck traffic volumes on the rest of the Reservation Road system is limited. AADTT's for the major corridors were documented in **Table 6**.



TABLE 6: CDOT TRUCK TRAFFIC COUNT LOCATIONS

Site ID	Highway Section	Single Truck	Combined Truck	Total
105552	550A	220	450	670
104822	160A	180	430	610
104821	160A	140	470	610
105554	550A	310	280	590
105555	550A	270	300	570
000257	550A	230	340	570
104965	172A	260	150	410
104960	172A	210	160	370
104955	172A	280	70	350
104630	140A	80	270	350
104956	172A	270	50	320
104963	172A	220	90	310
104631	140A	50	250	300
104740	151A	230	60	290
104629	140A	60	180	240
104742	151A	150	80	230
104957	172A	180	40	220
104962	172A	120	100	220
104959	172A	130	60	190
104744	151A	100	80	180
104634	140A	40	130	170
104958	172A	120	50	170
104745	151A	60	80	140
104954	172A	90	40	130
104746	151A	50	20	70
104953	172A	40	20	60

Figure 10 and **Figure 11** show the ranges of AADTT on the Southern Ute Indian Reservation.



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ROADWAY CAPACITY AND TRAFFIC OPERATIONS

It was beyond the scope of this report to provide an in-depth analysis of intersection capacity at any location within the Reservation. However, based on a review of existing daily traffic volumes on the major corridors, and considering projected growth, few traffic capacity issues exist or are expected to occur within the foreseeable future.

If at some point in the future this scenario changes, the Tribe is encouraged to conduct intersection or corridor studies along any affected roads. It is possible that increased development and traffic in Cedar Point and Ignacio Peak will warrant consideration of traffic signals at State Highway 172 and County Road 318. This would need to be confirmed by CDOT.

CRASH AND SAFETY ANALYSIS

Existing Conditions

Historical crash data was obtained from the Colorado Department of Transportation (CDOT) through the Colorado Open Records Act (CORA) for crashes occurring within Archuleta and La Plata County on all public roads for a ten-year time interval covering January 1, 2010, through December 31, 2019. When a crash occurs, after an officer investigates and fills out a crash form (DR3447), the form is sent to the Department of Revenue (DOR). DOR processes the records and enters them into a database called DRIVES where the official, legal record is maintained. CDOT receives data from the DRIVES system for all crashes, excluding private property and counter reports. CDOT then has a process that enhances the crash data received from DOR so that data can be used more efficiently for engineering and research purposes.²

One of the important factors in the development of a Tribal Safety Management Plan is the available crash data analyzed and utilized in the identification of issues and development of strategies. Adequate crash information plays a crucial role for the Tribe as this information can be used to assist in applying and securing federal and state funding and TTPSF funds for safety improvements on roadways throughout the Reservation, as many request data to support the grant application. Available crash data shown in this plan was analyzed to reflect contributing factors to traffic-related deaths and injuries on the Reservation.

— LOCATION OF CRASH

During the ten-year time interval between 2010-2019, there were a reported 14,777 crashes or approximately 1,478 crashes per year within the two-county area. Of the reported 14,777 crashes, 2,797 crashes were reported for Archuleta County and the remaining 11,980 crashes were reported to La Plata County. The number of reported crashes has remained relatively consistent per-year over the ten-year time interval. **Figure 12** shows the number of crashes reported per year in the two-county area.

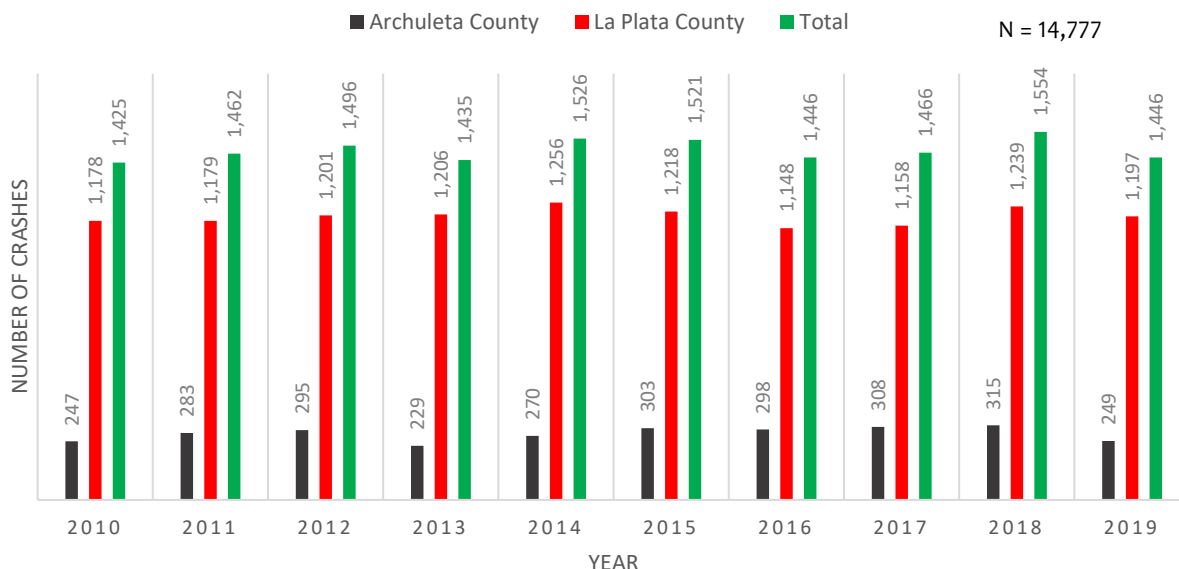
² <https://www.codot.gov/safety/traffic-safety/safety-programs-data/crash-data>



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FIGURE 12: NUMBER OF CRASHES REPORTED PER YEAR (2010-2019)



— CRASH TYPES

Wild Animal crashes were the most common reoccurring event throughout the ten-year time interval, accounting for 3,370 or the 14,777 crashes or 22.8% of all reported crashes. The other three top leading crash types observed are Fixed Object crashes accounting for 3,191 crashes or 21.6% of all reported crashes, Rear-End crashes accounting for 2,865 crashes or 19.4% of all reported crashes and Overturning crashes accounting for 1,508 crashes or 10.2% of all reported crashes.

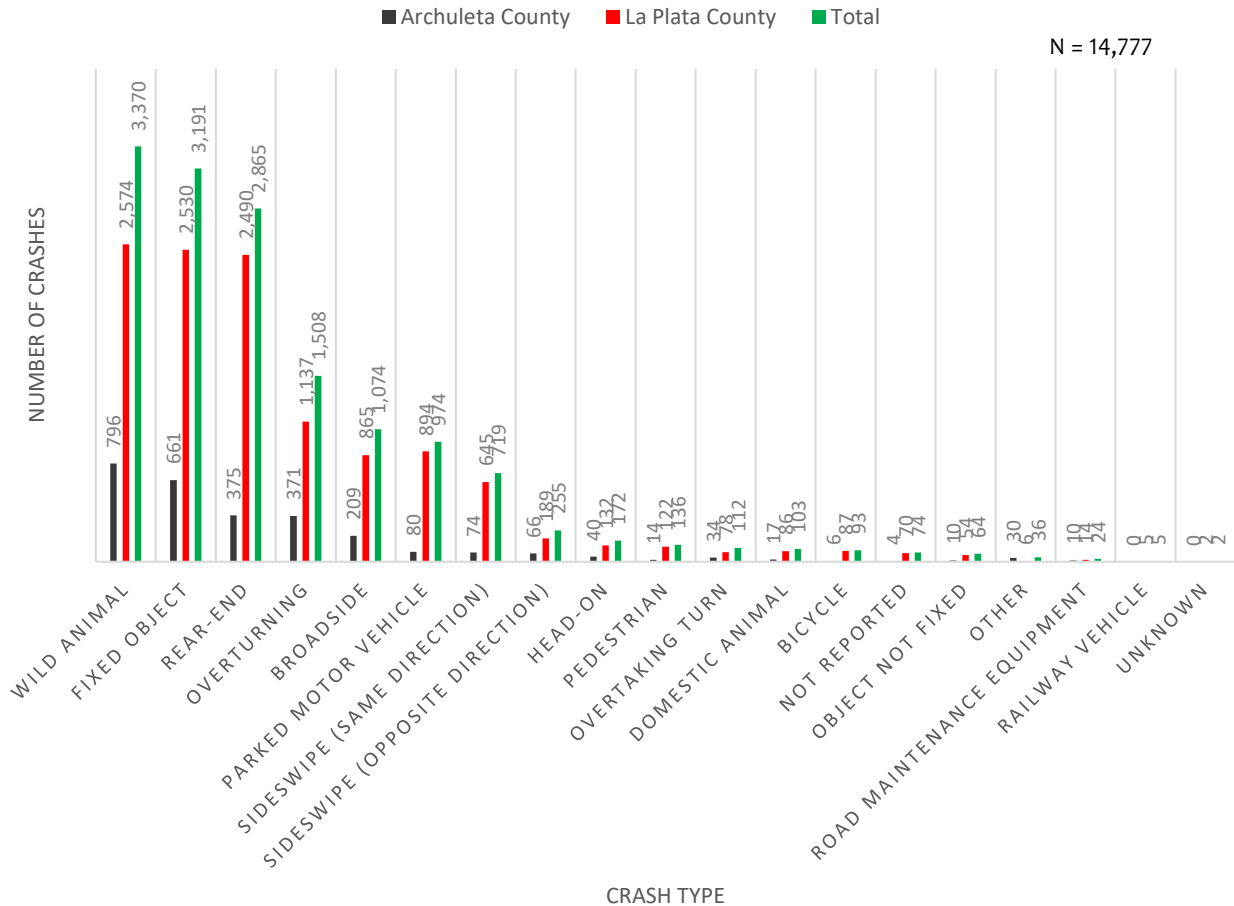
Approximately 67.3% of all reported Fixed Object crashes occurred in a rural setting. These crash types include crashes involving objects that are within the clear zone of the roadway and could include objects such as fences, trees, guard rail, roadway signs and mailboxes to name a few. Durango, CO accounts for 1,928 of the reported Rear-End crashes or approximately 67.3%. **Figure 13** shows the different crash types that occurred within the two-county area from 2010-2019.



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FIGURE 13: CRASH TYPES (2010-2019)





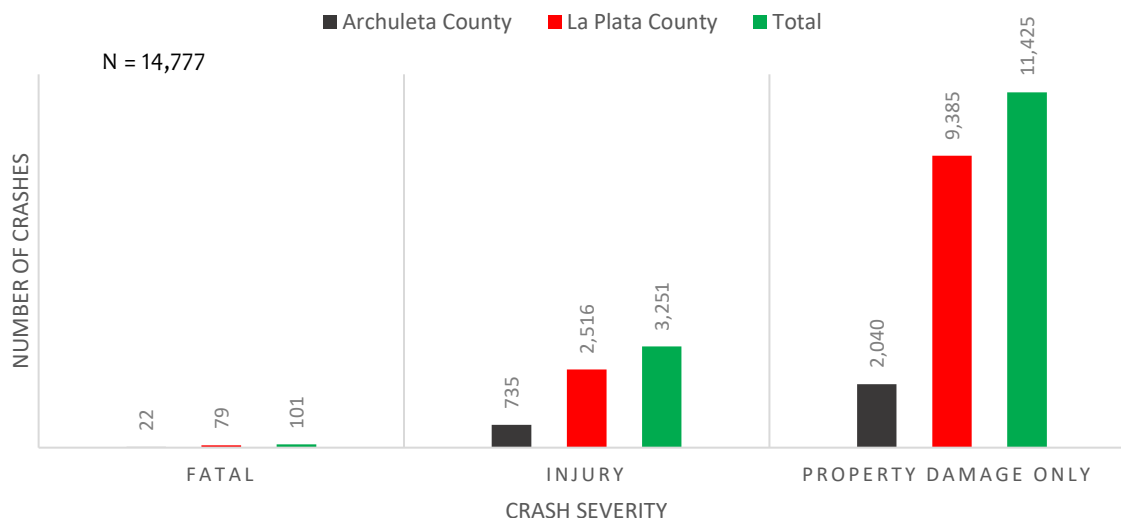
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— CRASH INJURY SEVERITY

During the studied ten-year time interval, there were 101 fatal accidents, 3,251 injury accidents and 11,425 property damage only accidents for a total of 14,777 accidents within the two-county area. **Figure 14** shows the crash severity for each county.

FIGURE 14: CRASH SEVERITY PER COUNTY (2010-2019)



The 14,777 accidents reported involved 30,291 occupants. The CDOT further analyzes crash injury severity into five different categories. These categories are:

- » **Injury Level 1:** No Injury
- » **Injury Level 2:** Complaint of Injury
- » **Injury Level 3:** Non-incapacitating Injury – Any injury, other than a fatal injury or an incapacitating injury, which is evident to observers at the accident scene
- » **Injury Level 4:** Incapacitating Injury - Any injury, other than a fatal injury, which prevents the injured person from walking, driving, or normally continuing the activities the person was capable of performing before the injury occurred
- » **Injury Level 5:** Fatal Injury - An injury results in death. An injury caused death that occurs within 30 days of an accident

Of the 30,291 occupants involved in crashes, 118 resulted in a fatal injury and 573 resulted in an incapacitating injury. **Figure 15** summarizes the different crash injury severities for each occupant involved in a crash within the two-county area.



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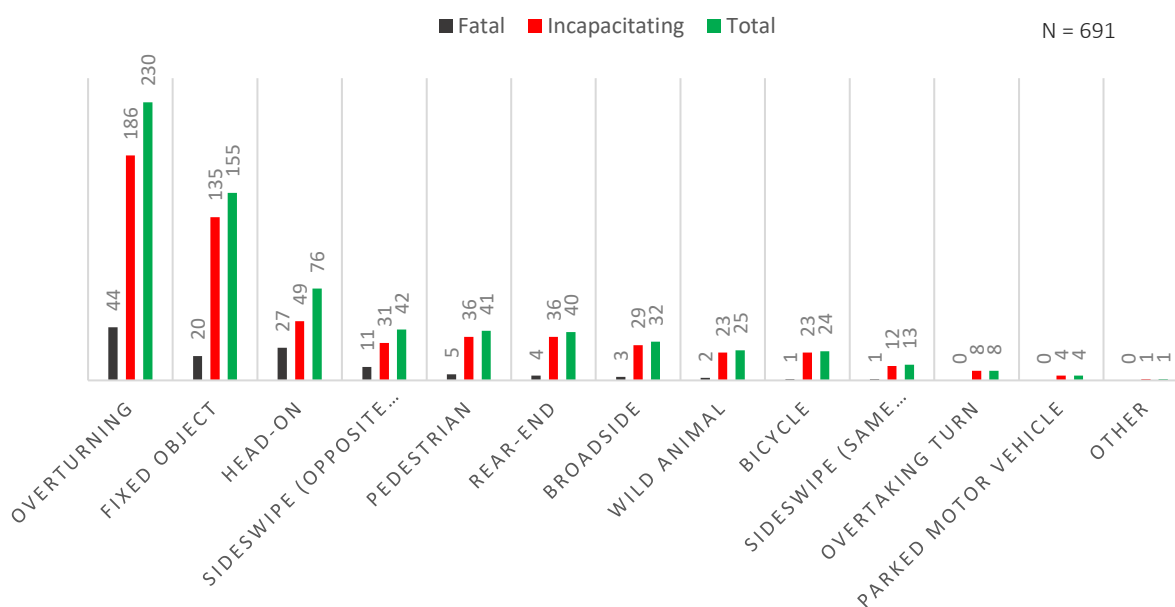
FIGURE 15: CRASH INJURY SEVERITY PER NUMBER OF OCCUPANTS (2010-2019)

Injury Severity	Archuleta County	La Plata County	Total	Percentage
Injury Level 1: No Injury	4,957	20,707	25,664	84.7%
Injury Level 2: Complaint of Injury	539	1,930	2,469	8.2%
Injury Level 3: Non-Incapacitating Injury	322	1,145	1,467	4.8%
Injury Level 4: Incapacitating Injury	160	413	573	1.9%
Injury Level 5: Fatal Injury	23	95	118	0.4%

Fatal and Incapacity injury crashes stand out due to their impact on lives. Of the 118 fatal injuries reported, 44 were from the result of Overturning crashes, 20 were the result of Fixed Object crashes, 27 were from the result of Head-On crashes, 11 were from the result of Sideswipe Opposite Direction crashes, five were from the result of pedestrian crashes, four from Rear-End crashes, three from Broadside crashes, two from Wild Animal Crashes and one each from Bicycle and Sideswipe Same Direction crashes.

Of the 573 incapacitating injuries reported, 186 were from the result of Overturning crashes, 135 from Fixed Object crashes, 49 from Head-On crashes, 36 from each Pedestrian and Rear-End crashes, 31 from Sideswipe Opposite Direction crashes, 29 from Broadside crashes, 23 from each Wild Animal and Bicycle crashes, 12 from Sideswipe Same Direction crashes, eight from Overtaking Turn crashes, four from Parked Motor Vehicle crashes, and one crash was reported as other. **Figure 16** summarizes the different crash types for Fatal and Incapacitating Injuries.

FIGURE 16: FATAL AND INCAPACITATING INJURIES PER NUMBER OF OCCUPANTS (2010-2019)





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— SAFETY IMPLEMENTATION STRATEGIES

The plan's main goal is to use a Shared-disciplinary approach to identify safety strategies for implementation that can address the transportation safety issues on the Southern Ute Indian Reservation. The strategies are intended to be implemented over the next several years. Each strategy should have a Strategy Champion and Funding Opportunities identified. The strategies were developed as a comprehensive approach to safety, including education, enforcement, emergency management opportunities, and engineering.

Education Strategies

CONTINUE AND EXPAND THE RESERVATION WIDE TRANSPORTATION EDUCATION PROGRAM

The Southern Ute Indian Tribe should work with law enforcement, schools, and other interested parties on the reservation to provide education on transportation safety. Areas to consider for continuing education include:

- Education Program for Distracted Driving
- Education Program for Alcohol and Drug Impaired Driving
- Education Program for Youth and Senior Driving
- Education Program for Pedestrian and Bicycle Safety

These programs would use and build on national safety campaign themes on impaired driving, seat belt use, texting and driving and other transportation safety issues, by using local leaders, or other easily recognizable individuals from the Tribal Community to promote these safety themes. Many safety campaigns across the country have shown a greater rate of success when they are made culturally relevant to the Tribal audience and utilize local talent to deliver the safety message.

Strategy Champion: Southern Ute Planning, Education Department, Southern Ute Police Department, Tribal Services, Tribal Information Services, Youth Council/Committees, Risk Management Division

Funding Opportunity: BIA Indian Highway Safety Program (IHSP)

PROVIDE A MOTORCYCLE AWARENESS EDUCATION PROGRAM

Motorcycles have become an increasingly popular mode of transportation which can lead to fatal and serious injury crashes involving motorcycle riders and passengers. The Tribe experiences an increase in motorcycle traffic within the reservation during peak summer months with many Tribal Members and visitors riding motorcycles. There has been an expressed need to provide motorcyclist training programs to teach motorcycle safety and skills to avoid crashes, including the importance of using proper safety equipment when operating a motorcycle such as helmet use. In addition to these programs, an increase in providing public information and motorcycle awareness campaigns through school and media outlet is encouraged.

Strategy Champion: Southern Ute Planning, Southern Ute Police Department, Tribal Information Services



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Funding Opportunity: BIA IHSP

PROVIDE A WILDLIFE EDUCATION PROGRAM

Wild Animal crashes account for approximately 23% of all reported crashes within the study and are the leading crash type from January 1, 2010, through December 31, 2019. The large number of the crashes are primarily property damage only crashes, as only 4% of all reported serious and fatal injuries were the result of a Wild Animal crash. Wild Animal crashes have been identified to primarily occur alongside the migratory patterns of the mule deer and elk on and near the Southern Ute Indian Reservation.

A need for increased public education regarding migratory patterns of the mule deer is needed to alert drivers when to be more vigilant when driving to avoid wild animal collisions during certain times of the year. This information can be presented to the public through media outlets such as local newspapers and radio stations and is highly encouraged to help reduce the number of Wild Animal Crashes.

Strategy Champion: Southern Ute Planning and Southern Ute Natural Resources Department

Funding Opportunity: BIA IHSP

Enforcement Strategies

INCORPORATE THE USE OF SPEED RADAR TRAILERS AS A DETERRENT

Other Tribal Law Enforcement agencies have been using Speed Trailers (**Figure 17**) that use radar to provide feedback on vehicle speeds to help reduce speeds in Tribal communities and around schools. These trailers can also collect and store the speed data for use in determining areas for targeted enforcement due to high speeds.

With speeding being a major cause of crashes on the Southern Ute Indian Reservation and the concerns that have been expressed about speeds and safety around schools, the Tribe should purchase more speed trailers. These could be used by law enforcement in the various Tribal communities as part of a targeted education and enforcement campaign to help reduce speeds.



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FIGURE 17: EXAMPLE OF A SPEED RADAR TRAILER³



Strategy Champion: Southern Ute Police Department

Funding Opportunity: TTP, TTPSF or BIA IHSP

BAT MOBILE

From 2003 to 2012 the CDC reported approximately 1.9% of drivers within the State of Colorado drove a vehicle under the influence of Alcohol.⁴ Within the study area approximately 5% of all reported crashes involved the use of alcohol, which is a little over two and a half times the state average. With this higher rate of impaired driving within the study area a need has been expressed for additional resources to help combat people driving under the influence. A Breath Alcohol Testing (BAT) Mobile (**Figure 18**) is a highly specialized vehicle used as a mobile command post for conducting sobriety checkpoints. The goal of a BAT Mobile is to provide advanced training and on-site technical and equipment support to law enforcement officers and agencies conducting low-staffing sobriety checkpoints.

The BAT Mobile can also be used as a training platform and public relations tool to raise community awareness of the crime of driving under the influence of either alcohol or drugs. It can assist in developing a legal, safe, efficient sobriety checkpoint program that can be used regularly by the Southern Ute Police Department as part of an ongoing program to deter and apprehend individuals driving under the influence of alcohol or drugs and to reduce alcohol and drug related traffic crashes and fatalities on roadways throughout the Southern Ute Indian Reservation. If funding can be made available for the purchasing of a BAT Mobile, it is recommended that the Southern Ute Police Department consider purchasing one.

³ <https://www.fdlsheriff.com/patrol/radar-trailer>

⁴ https://www.cdc.gov/motorvehiclesafety/pdf/impaired_driving/drunk_driving_in_co.pdf



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FIGURE 18: EXAMPLE OF A BAT MOBILE.⁵



Strategy Champion: Southern Ute Police Department

Funding Opportunity: BIA IHSP or NHTSA

Engineering Strategies

INSTALL TRANSVERSE RUMBLE STRIP AND IMPROVE ROADWAY SIGNING

Two intersections were identified with safety concerns due to the lack of roadway signing and drivers inadequately stopping at the stop-controlled intersection. The intersections identified are:

- County Road 318 and State Highway 172
- County Road 521 and State Highway 151
- Airport Road and State Highway 172
- County Road 515 and State Highway 172
- County Roads 316/ 509A and State Highway 172

It is recommended that an engineering study be completed for each of these intersections to identify safety deficiencies and to recommend improvements. Some safety recommendations that should be considered are the installation of transverse rumble strips on the approaching lane to the state highway and additional signing. Transverse rumble strips assist in alerting a driver of an upcoming stop condition and that they will need to slow down to stop. Coordination will need to be done with CDOT for the intersections with them both being located on the state highway system.

Strategy Champion: Southern Ute Planning in coordination with CDOT

Funding Opportunity: TTP Safety Funding, TTP Funding, CDOT.

⁵ https://tulsaworld.com/news/local/education/drunken-drivers-beware-bat-mobile-is-on-the-prowl/article_3c8bd349-5c00-50c1-8935-a2e522ea57de.html



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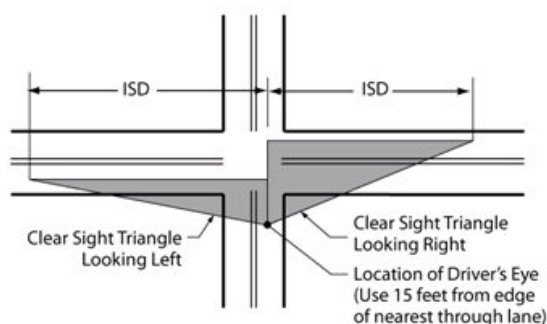
IMPROVE INTERSECTION SIGHT DISTANCE WITH VEGETATION CONTROL

Intersection sight distance plays a crucial role in allowing a vehicle to determine when it is safe to enter an intersection when stopped on an approach. It is defined as the distance needed for a motorist to see approaching vehicles before their line of sight is blocked by an obstruction near the intersection. A motorist approaching or departing from a stopped position at an intersection should have an unobstructed view of the intersection. Provision of adequate intersection sight distance will assist in lowering the potential of a collision.

A concern with overgrown vegetation near some intersections throughout the reservation has been identified. This vegetation should be cut back to be outside of the suggested intersection sight distance triangle as outlined with the current edition of the “American Association of State Highway and transportation Officials (AASHTO) A Policy on Geometric Design of Highways and Street.” It is recommended that an engineering study be completed to identify intersections throughout the reservation experiencing issues with overgrown vegetation at intersection. Along with identifying overgrown vegetation, other objects should be identified that may interfere with intersection sight triangles at intersections. This type of object may include but are not limited to utility poles, buildings, signs, and parked vehicles.

Figure 19 shows an example of Intersection Sight Distance (ISD) triangles for a stop-controlled intersection.

FIGURE 19: SIGHT DISTANCE TRIANGLES FOR A 4-LEG STOP-CONTROLLED INTERSECTION.⁶



INCORPORATE SPEED FEEDBACK SIGNS WITHIN SCHOOL ZONES

An issue that was identified for concern was the prevalence of speeding within school zones. Speed Feedback Signs (SFS) (**Figure 20**) provide drivers with feedback about their speed in relationship to the posted speed limit. They can be an effective method to help reduce speeds at desired locations when properly installed at certain distances upstream in both directions to maintain the desired speed reductions. It is recommended that an engineering study be completed to identify desired school zone locations, desired speeds within the school zone, and proper locations for the SFS to be placed.

⁶ https://safety.fhwa.dot.gov/local_rural/training/fhwasa1108/ch3.cfm



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FIGURE 20: EXAMPLE OF A SPEED FEED BACK SIGN WITHIN A SCHOOL ZONE



Strategy Champion: Southern Ute Planning

Funding Opportunity: TTP Safety Funding, TTP Funding

PERFORM ROAD SAFETY AUDIT ON BIA, TRIBAL AND COUNTY ROADWAYS

Road Safety Audits (RSAs) have been an important tool for many Tribes and one that the Southern Ute Tribe could utilize. RSAs provide an opportunity to bring traffic and safety expertise to assess safety concerns along routes where there are high numbers of crashes or where there have been specific concerns. The goal of these RSAs is to identify safety issues and then develop specific transportation safety improvements that may include signing, lighting, striping, pathways, intersection improvements and other activities to rectify shortcomings.

The Tribe should pursue funding to accomplish a RSA for the BIA, Tribal and county roadways within the Reservation.

Strategy Champion: Southern Ute Tribal Planning

Funding Opportunity: TTP Safety Funding.

PERFORM FEASIBILITY STUDY ON COUNTY ROAD 500 FOR ERODING ROADWAY NEAR SAN JUAN RIVER

County Road 500 is a north/south route that follows along the San Juan River near the eastern edge of the Southern Ute Indian Reservation. Near mile post 12.9 there is a section of roadway that is experiencing eroding due to the river and rising water levels during certain periods of the year. It is recommended that coordination be completed with Archuleta County and a full engineering and geotechnical investigation be completed to determine a feasible solution to prevent the roadway from continuing to erode.



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Strategy Champion: Southern Ute Tribal Planning and Archuleta County

Funding Opportunity: TTP Safety Funding, TTP Funding, Archuleta County

DEVELOP SHARED-USE PATHWAYS AND PATHWAY LIGHTING PROJECTS

There are locations within the Southern Ute Indian Reservation where there is pedestrian/bike traffic, and the Tribe has identified specific need for pathways. The locations included several areas within and around Ignacio. Crash data identifies pedestrian and bicyclist as major crash type, being in the top 10 of crash types occurring and accounting for approximately 9.4% of all serious and fatal injuries between 2010-2019. Shared-use pathways should be considered to separate pedestrians from vehicle traffic. The need for these shared-use pathways has been present for some time and has increased as there is a need for access to Tribal communities and schools.

FIGURE 21: SEPARATED SHARED-USE PATHWAY WITH PEDESTRIAN LIGHTING



Lighting should be considered along all pathways as appropriate to increase pedestrian visibility, provide for traffic calming and potentially increase security. Solar powered and/or LED lighting could be used to reduce the cost for providing power and the need for continual power usage. An example of a solar powered lighting system is shown, and several companies produce such systems.



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FIGURE 22: SOLAR PEDESTRIAN LIGHTING EXAMPLE.⁷



Cedar Point East Shared-Use Pathway

Cedar Point Housing – East is located just southwest of the Town of Ignacio along Colorado State Highway 172. There are currently no pedestrian facilities along the route until within the town of Ignacio. This area has been identified as a high pedestrian area as Tribal Members walk into town along the route. This project would develop a separated shared-use pathway creating a pedestrian connectivity along Colorado State Highway 172 between the Cedar Point Housing – East and the town of Ignacio.

This shared-use pathway would be approximately 0.84-miles and could include pedestrian lighting depending on the available funding or broken into two different phases to accommodate both the shared-use pathway and pedestrian lighting. The approximate project construction cost for the shared-use pathway and lighting are shown below:

- Separated Shared-Use Pathway: \$1,100,000.00
- Pedestrian Lighting: \$255,000.00
- Total Construction Cost: \$1,355,000.00

Strategy Champion: Southern Ute Tribal Planning

Funding Opportunity: TTP Safety Funding, TTP Funding or CDOT Transportation Alternatives Funding

⁷ <https://www.sepco-solarlighting.com/solar-pathway-landscape-lighting>

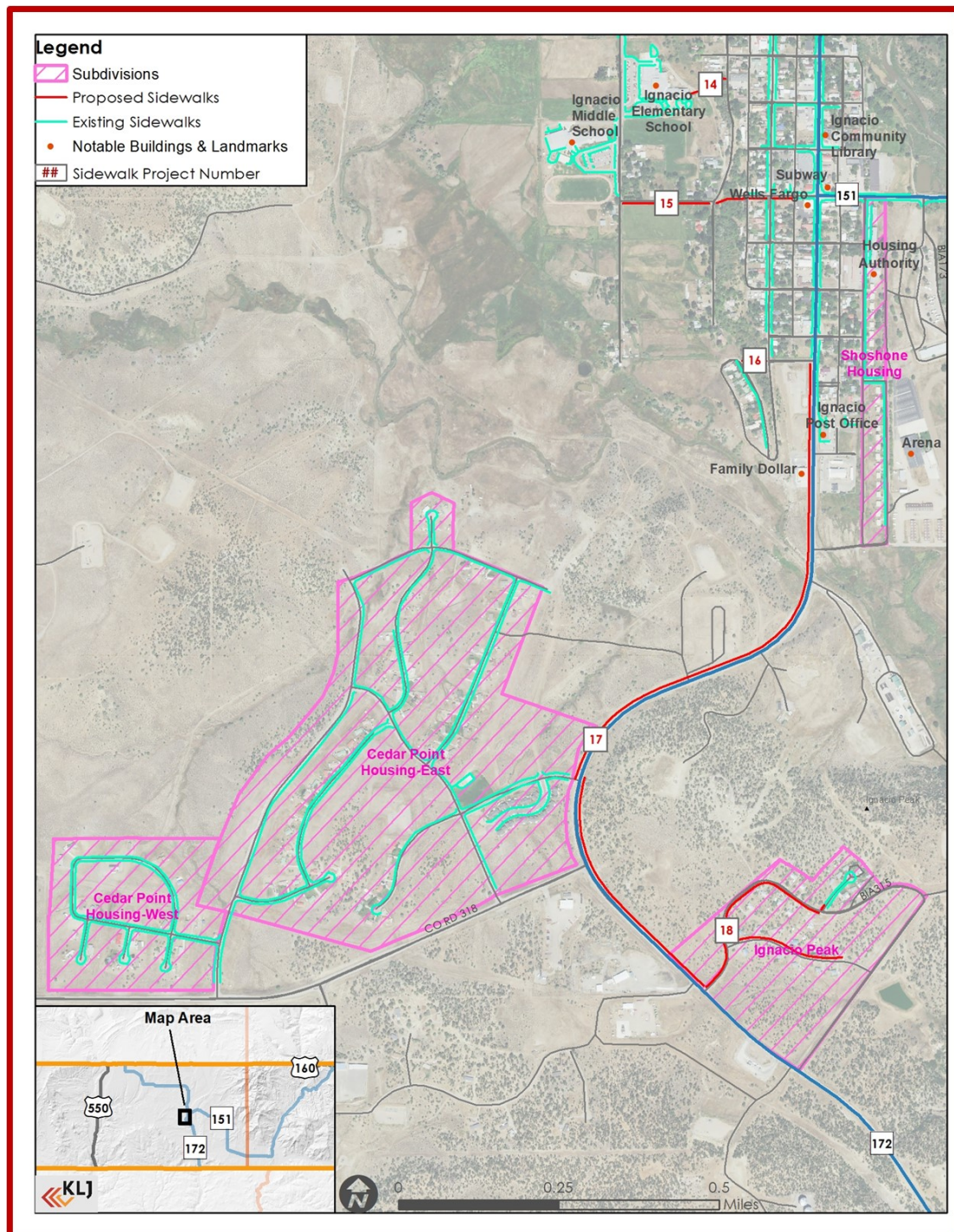


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Figure 23 shows the proposed location for the Cedar Point East Pathway, labeled as project number 17.

FIGURE 23: PROPOSED LOCATION FOR CEDAR POINT EAST SHARED-USE PATHWAY





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Northridge Shared-Use Pathway

Northridge is located just west of the town of Ignacio along County Road 314. There are currently no pedestrian facilities along the route. This area has been identified as a high pedestrian area as Tribal Members walk along the route. This project would develop a separated shared-use pathway creating a pedestrian connectivity along County Road 314 between the Northridge and the town of Ignacio.

This shared-use pathway would be approximately 0.94-miles and could include pedestrian lighting depending on the available funding or broken into two different phases to accommodate both the shared-use pathway and pedestrian lighting. The approximate project construction cost for the shared-use pathway and lighting are shown below:

- Separated Shared-Use Pathway: \$1,250,000.00
- Pedestrian Lighting: \$285,000.00
- Total Construction Cost: \$1,535,000.00

Strategy Champion: Southern Ute Tribal Planning

Funding Opportunity: TTP Safety Funding, TTP Funding or CDOT Transportation Alternatives Funding

Figure 24 on the next page shows the proposed location for the Northridge Pathway, labeled as number 6 on the figure.

Ute Road Shared-Use Pathway

Ute Road is located south and east of the Tribal campus. There are currently no pedestrian facilities along the proposed route. Some pedestrian facilities exist at the Patrick Silva Memorial Field, BIA Offices, and the skate park. The proposed shared-use pathway would give a complete connection between Colorado State Highway 172 and County Road 517 within the town of Ignacio.

This shared-use pathway would be approximately 0.87-miles and could include pedestrian lighting depending on the available funding or broken into two different phases to accommodate both the shared-use pathway and pedestrian lighting. The approximate project construction cost for the shared-use pathway and lighting are shown below:

- Separated Shared-Use Pathway: \$485,000.00
- Pedestrian Lighting: \$115,000.00
- Total Construction Cost: \$600,000.00

Strategy Champion: Southern Ute Tribal Planning

Funding Opportunity: TTP Safety Funding, TTP Funding or CDOT Transportation Alternatives Funding

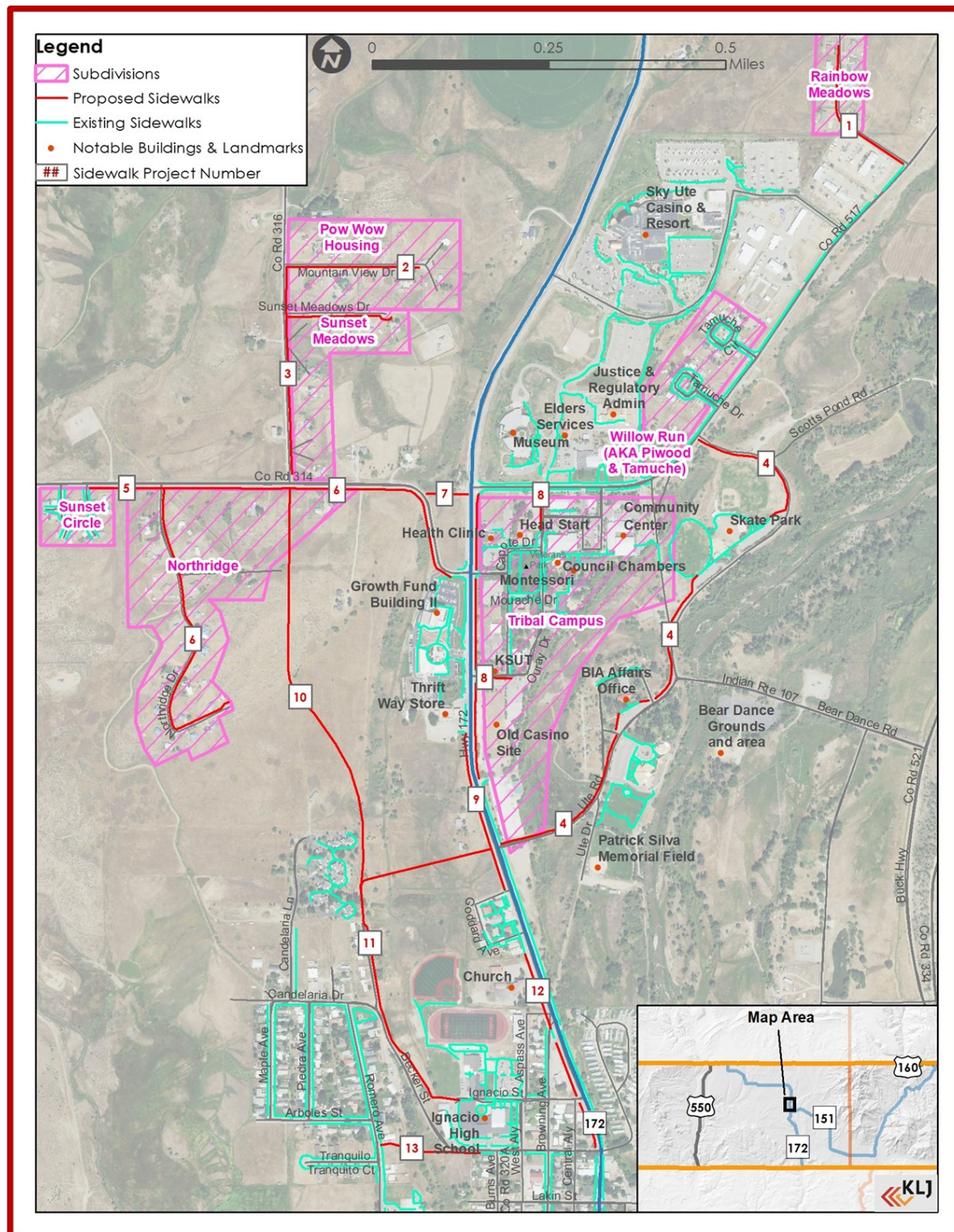
Figure 24 shows the proposed location for Ute Road, labeled as number 4 on the figure.



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FIGURE 24: PROPOSED LOCATIONS FOR NORTHRIDGE AND SUNSET MEADOWS SHARED-USE PATHWAYS





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WILDLIFE ENGINEERING

Wild Animal crashes account for approximately 23% of all reported crashes within the study and are the leading crash type from January 1, 2010, through December 31, 2019. The large number of the crashes are primarily property damage only crash, as only 4% of all reported serious and fatal injuries were the result of a Wild Animal crash. Wild Animal crashes have been identified to primarily occur alongside the migratory patterns of the elk and mule deer on and near the Southern Ute Indian Reservation. A variety of other wild animals are involved in the crashes as well.

There are several different mitigations that can be done to help reduce the potential of a wild animal crash. These mitigations can be on the low end for cost with simple vegetation control with clearing overgrown vegetation outside of the existing right-of-way, to a moderate cost of installation of wildlife friendly fencing along a corridor identified to have a high crash rate with wildlife, to a high-cost alternative with the installation of wildlife over/underpass structures. It is recommended that the “Western Slope Wildlife Prioritization Study”⁸ be referred to for different types of mitigations to be considered along different corridors within the Southern Ute Indian Reservation.

Strategy Champion: Southern Ute Planning, Southern Ute Natural Resources Department, in coordination with CDOT

Funding Opportunity: TTP Safety Funding, TTP Funding, CDOT

Safety Planning and Other Strategies

SEAT BELT SURVEY

In gathering data for the Southern Ute Safety Plan, recent and local data on seat belt and child seat usage rates was not available. Many states and communities set up seat belt observations to determine what percentage of drivers, passengers and children are using restraints while travelling on the roadways. This data can then be used to assist with identification of potential education and enforcement activities. Other Tribes that have experience extremely low rates have implemented primary seat belt ordinances and then followed them up with public outreach and enforcement. They have been able to double and triple usage rates through this cooperative approach. To get a better understanding of the local usage rates the Southern Ute Indian Tribe should gather this seat belt data. Resources on how to conduct these can be found through the CDOT⁹.

Strategy Champion: Southern Ute Police Department

Funding Opportunity: BIA IHSP

⁸ https://www.codot.gov/programs/research/pdfs/2019/WSWPS/wswps_final_report_april_2019-revised-5-3-2019-copy.pdf

⁹ <https://www.codot.gov/library/surveys/2021-seat-belt-survey-report.pdf>



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CHAPTER 4 – PUBLIC INVOLVEMENT

A kickoff meeting was held virtually on June 24, 2021 to discuss the LRTP process, TTP Program, various project efforts and for leadership education. Tribal and KLJ representatives were present. In addition, numerous conversations with many of the Southern Ute Indian Tribe department heads were held to receive further input throughout the planning process.

A virtual open house public meeting for this Plan was held from August 27 – September 10, 2021. The agenda included the following discussion items:

- Review Plan Purposes and Processes
 - Long Range Transportation Plan (LRTP)
 - Tribal Transportation Safety Plan (TTSP)
- Present Existing Conditions Information
- Discuss Opportunities for Input
- Adjourn

Virtual-only meetings were selected due to COVID-19 restrictions and protocols from March 2020 continuing through Spring 2022. These protocols were mandated by Tribal Council.

Steve Grabill from KLJ conducted the virtual meeting with an introduction and background regarding the LRTP process as well as a presentation. There was then a discussion held regarding the projects to include in the Plan which touched on the topics of existing issues, locations, and possible funding opportunities.

A midpoint review of the LRTP was sent to representatives of the Division of Transportation, BIA, on November 4, 2021. The review outlined the completed tasks as of that date and provided an anticipated LRTP report completion date of near the end of 2021. Receipt of the review was acknowledged with no additional comments.

A second virtual public open house opportunity was held February 17 – 21, 2022. The agenda included the following discussion items:

- Describe Plan Purposes and Uses
- Review Draft Plan
- Discuss Opportunities for Input
- Adjourn

Input was encouraged through use of an interactive map on the website where comments could be left or by mail, email, or phone. Copies of the draft plan were made available for review. A copy of the meeting notice ad placed in the DRUM newspaper is shown on the next page.



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Tuesday - Feb 15, 2022



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Tribal Long Range Transportation Plan

17 February 2022 - 21 February 2022

Seeking Your Input

Tribal Long Range Transportation Plan

Virtual Open House
Thursday, Feb. 17 - Monday, Feb. 21



How to attend:
klj.mysocialpinpoint.com/2022-tribal-transportation-plan

Watch a prerecorded presentation, share your feedback and help guide the plan as it moves forward. The long-range transportation plan looks to the next 20 years and addresses a wide range alternatives and options for vehicles and pedestrians and bicyclists too.

 **Ensure your voice is heard**
Learn about the planning process

Comments/Questions can also be directed to:
KLJ Engineering
Att: Steve Grabill
330 Knollwood Dr.
Rapid City, SD 57701
605-872-5021 or
steve.grabill@kljeng.com

Hard copies and digital versions of the 2022 LRTP will be available to the Tribal membership for review.
Contact Tribal Planning for a copy.
Tribal Planning:
Doug McDonald (970) 563-2271 or
Mary E.S. Eagle (970) 563-2270.



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PUBLIC INPUT

Limited public input was received following both public input meetings. All comments came in the form of phone conversations and emails. Questions received by phone pertained primarily to what the study was for and how long it would take to see improvements made. People were told that the length of time was tied to Tribal priorities and the time needed for project development and acquisition of funds, which can take years.

Comments received by email pertained largely to needed edits to improve clarity in the report. Many comments were also received from BIA, Road Runner Transit, Tribal staff, and department heads, who provided valuable insight into the project needs and considerations for future transportation system maintenance. These comments were all incorporated into the content and recommendations of this Report.



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CHAPTER 5 – FACILITY CONDITIONS AND RECOMMENDATIONS

Chapter 2 of the report provided an analysis of the inventory. This chapter discusses the existing and future conditions of the transportation facilities found on the Reservation. This includes roadside elements, paved and non-paved roads, freight and trucking, bridges and culverts, pedestrian and bicycle facilities, airports, transit system, and utilities, along with recommendations based on conditions analysis.

The existing and proposed transportation systems were reviewed to identify relationships between transportation and the environment. The need for improved energy efficient lighting is an example of how transportation modifications can be responsive to environmental preservation. Similarly, energy efficient cars can reduce emissions and improve air quality. Enhanced pedestrian facilities can further benefit health, safety, and air quality.

ROADSIDE ELEMENTS

Facility Conditions

— **TRAFFIC CONTROL**

Road traffic control devices are signs, markers, or signaling devices utilized to control the flow of traffic, including pedestrians, bicyclists, and motor vehicles.

The following list outlines common traffic control methods from the FHWA's Manual on Uniform Traffic Control Devices (MUTCD) for Streets and Highways, 2009 Edition. Each of these types of traffic control may be considered to address future traffic control issues within the Reservation, or to provide ideal traffic control for new developments.

- **Traffic Signals** - The MUTCD traffic signal standards include warrants for varying data thresholds ranging from pedestrian and vehicular volumes to crash frequency. Based on a review of the highest traffic volumes within the Reservation, no unsignalized intersections meet traffic signal warrants. It is possible that increased development and traffic in Cedar Point and Ignacio Peak will warrant future consideration for traffic signals at the State Highway 172 and County Road 318 intersection.
- **All-Way Stop Control** - The MUTCD includes All-Way Stop Control (AWSC) warrants based upon traffic volumes, motorist delay and crash frequency. The AWSC signs increase delay on major approaches by forcing vehicles to stop on the primary streets regardless of whether a vehicle is present on the minor approaches. Studies have found AWSC sites with great disparities between major and minor approach volumes typically experience high levels of traffic control noncompliance.



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- Pedestrian Hybrid Beacons - A pedestrian hybrid beacon (PHB) is a special type of beacon used to warn and control traffic at an unsignalized location to assist pedestrians in crossing a street or highway at a marked crosswalk. This type of beacon is activated by pedestrians when needed. MUTCD standards for this type of traffic control require consideration of vehicular traffic volumes, pedestrian crossing volumes and crosswalk lengths.
- Pedestrian Flashing Beacons - Flashing beacons may be used at pedestrian crosswalks to enhance pedestrian visibility and induce vehicle stoppages.
- Two-Way Stop Control - The MUTCD guidance for Two-Way Stop Control (TWSC) installation is based upon either traffic volume thresholds, sight distance limitations or crash frequency thresholds.
- Roundabouts - There are currently no functioning roundabouts in the study area. There is an intersection located just east of the Cultural Center and Museum that has the look of a roundabout but does not function as one. This intersection should be studied in the future to determine whether it should be modified to operate as a roundabout or whether other geometrics would be better.

Roundabouts are a traffic control measure that offers potential traffic operational benefits when implemented at the proper location. Roundabouts also offer the following safety benefits:

- Roundabouts have fewer vehicular conflict points in comparison to conventional intersections. The potential for high-severity conflicts, such as right angle and left-turn head-on crashes, is greatly reduced with roundabout use.
- Low speeds generally associated with roundabouts allow drivers more time to react to potential conflicts, also helping to improve the safety performance of roundabouts. Low vehicle speeds help reduce crash severity, making fatalities and serious injuries for vehicles and pedestrians uncommon at roundabouts.
- Pedestrians need only cross one direction of traffic at a time at each approach as they traverse roundabouts (i.e., crossing in two stages) as compared with the existing intersections, reducing exposure and delay by reducing vehicular gap requirements.

Roundabouts can substantially reduce the number and severity of crashes at an intersection in comparison to traffic signal use. The expected reductions are shown in **Figure 25**. Future roundabouts should be considered for larger developments and to resolve identified issues susceptible to correction by a roundabout. They may also serve as a focal point for economic development through use of Native design in the center circle. No specific

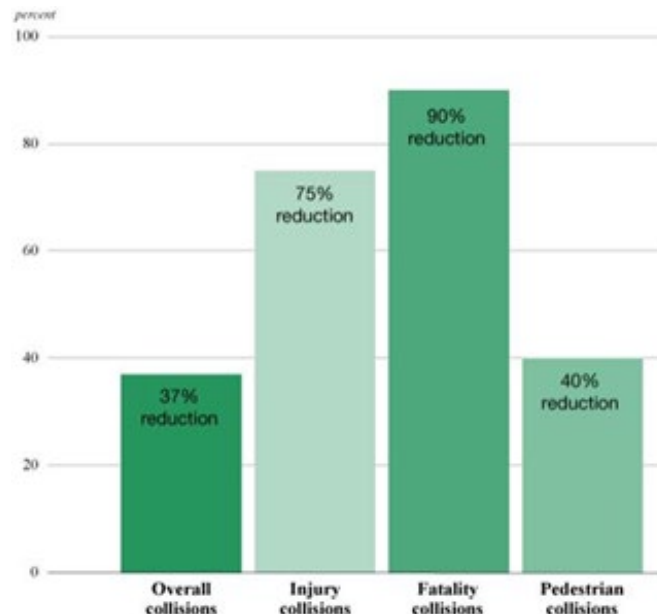


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locations for new roundabouts were identified as part of this plan. However, use of roundabouts is supported due to the safety and mobility benefits they provide.

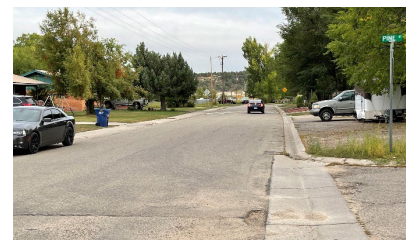
FIGURE 25: COLLISION REDUCTION WITH ROUNDABOUTS



Source: Federal Highway Administration and Insurance Institute for Highway Safety (FHWA and IIHS)

— ACCESS CONDITIONS

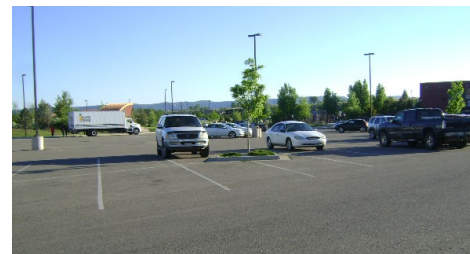
High levels of access exist along various road segments within the Southern Ute Indian Reservation. Studies have shown that this increases the potential for crashes. Land access can also be limited due to poor road conditions. Better access for hunting, fishing, tourism, and development should be considered in many locations throughout the Reservation. One example of this is the La Boca Cemetery located southeast of Ignacio, where road conditions hamper access.



— OFF-STREET PARKING

Parking is an essential complement to transportation systems and land development. Although many locations on the Southern Ute Indian Tribe campus have off-street parking, some may not be used to capacity.

Cursory visual analysis of existing parking lots on the Southern Ute Indian Tribe campus identified multiple large parking lots which were underutilized. Although some may have been under capacity due to the particular time of day, it is likely that many of the lots would remain below capacity even during peak use.





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Large paved off-street parking facilities need to be maintained and it is important to identify which parking lots are necessary to avoid heavy maintenance costs on underused parking lots.

Tribal officials have identified unnecessary islands within existing parking lots that could be removed to reduce maintenance challenges and to perhaps increase total parking spaces. Unneeded islands should be removed whenever deemed appropriate. Consideration should be given to preserve islands that perform an important function to discourage cut-through traffic through the parking lot which could increase the potential for additional conflicts and crashes. A comprehensive parking analysis and design program is recommended to provide detailed solutions to the many parking issues to balance aesthetics, function, maintenance impact, and provision of low impact designs.

— STREET LIGHTING

A review of existing lighting was not undertaken as part of the LRTP. However, there is a need for a needs assessment and design of improved lighting in towns and subdivisions, at busy intersections, and along existing and future sidewalks and shared use paths.

Recommendations

— TRAFFIC CONTROL

A formal engineering study of traffic control conditions was not conducted as part of the LRTP. The following recommendations are based on traffic and crash data obtained from the CDOT website, observations made during the LRTP process, and information available from the Southern Ute Indian Tribe's TTSP that was being prepared concurrently with the LRTP.

- Pedestrian Flashing Beacons – This type of beacon is popularly requested due to the belief that it will motivate vehicle drivers to slow down. Due to construction, maintenance, and operating costs, installation of this control should only be completed after a traffic study has been conducted. It is recommended that this type of beacons be assessed and designed and installed as needed around the schools and high pedestrian activity locations to be identified at a later date.
- There is an intersection located just east of the Cultural Center and Museum that has the look of a roundabout but does not function as one. This intersection should be studied to determine whether it should be modified to operate as a roundabout or whether other geometrics would be better.
- Because of the reduced collisions and safety benefits offered by roundabouts, and the high pedestrian traffic generated on the Reservation, it is recommended that the Tribe considers this measure for future construction at any location having a high level of traffic and identified safety concerns.



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— ACCESS CONDITIONS

Access Conditions - Efforts to reduce access (private driveways or small subdivision accesses) along collector or arterial roads where access is excessive should be undertaken when possible. The planning phase of a new road project is the best time to consider how access can efficiently and safely be provided. New development plans should also be carefully reviewed to determine whether planned access will interfere with safety or mobility along an adjacent highway.

Where undesirable access conditions exist, access management strategies can be implemented. Access management is a set of techniques that can be used to control access on streets and highways. It is typically focused on functionally classified collector and arterial roads. Access management techniques generally reduce the number of accesses or increase the spacing between accesses onto major thoroughfares. These techniques can also include aligning offset intersections. The Ignacio Area Corridor Access Plan (IACAP), adopted and approved by Tribal Council in 2011 in coordination with the Town of Ignacio, CDOT, and La Plata County also provided valuable direction for provision of good access planning.

— OFF-STREET PARKING

Provision of off-street parking within the Reservation should be evaluated on a case-by-case basis. Off-street parking is expensive to build and maintain. The Tribe should consider undertaking a parking lot use study to determine which lots are used and how full they are.

— STREET LIGHTING

It is recommended that the Southern Ute Indian Tribe conduct a study to identify the types and locations for street lighting needed throughout the Reservation, and that lighting improvements be prioritized and completed as funding becomes available. It is also recommended that street lighting be designed, added and/or upgraded in the Northridge, Sunset Circle, Pow Wow Housing, and Sunset Meadows Subdivisions as funding allows.

PAVED ROADS

Facility Conditions

According to the inventory, a total of about 16 miles of BIA and Tribal roads are paved. However, best available GIS layers only indicate a total of about 10 miles. These are identified in **Table 7** and **Figure 26**. GIS data was compiled from multiple sources including from the Southern Ute Indian Tribe, CDOT, and La Plata and Archuleta counties. These disparate databases were combined to create one comprehensive database of all BIA and Tribal roads. Where necessary, overlapping/redundant entries in GIS were eliminated.

A list of each road with its surface type (asphalt or concrete) is available in **Table 7**. All are in or around the general vicinity of Ignacio. Most of the paved, subdivision roads are in good condition. The most notable locations where pavements were in poor condition include the south campus area and the Ignacio Peak subdivision.



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A more detailed analysis of existing pavement conditions was beyond the scope of this plan. In-person visual analysis was performed on select roads with guidance from Tribal officials.

TABLE 7: BIA/TRIBAL PAVED ROADS

Road Name	Surface Type	Feet	Miles
Tamuche Dr	Asphalt	767	0.15
Piwood Cir	Asphalt	756	0.14
End of Trail	Asphalt	2,856	0.54
Ouray Dr	Asphalt	1,009	0.19
Ouray Dr	Asphalt	816	0.15
Bear Dance Dr	Asphalt	1,706	0.32
Capote Dr	Asphalt	1,171	0.22
Mouache Cir	Asphalt	1,045	0.20
Pow Wow Cir	Asphalt	1,066	0.20
Ute Rd	Asphalt	4,610	0.87
Ouray Dr	Asphalt	1,547	0.29
Jefferson Dr	Asphalt	1,256	0.24
Northridge Dr	Asphalt	2,401	0.45
Shoshone Ave	Asphalt	3,653	0.69
Sky Ute Events Center	Asphalt	1,740	0.33
Chief Shavano Dr	Asphalt	371	0.07
Memorial Drive	Asphalt	254	0.05
M501	Asphalt	239	0.05
Weeminuche Ave	Asphalt	241	0.05
Ignacio Peak Dr	Asphalt	4,391	0.83
Rolling Thunder Ave	Asphalt	3,752	0.71
Fry Bread Ave	Asphalt	1,787	0.34
Lodge Pole Way	Asphalt	2,229	0.42
Mountain Dew Cir	Asphalt	2,962	0.56
Red Dawn Ct	Asphalt	331	0.06
Blue Moon Ct	Asphalt	277	0.05
Elk Street	Asphalt	830	0.16
Sunset Meadows Dr	Asphalt	765	0.14
Gray Stroke Ct	Asphalt	265	0.05
Shadow Spirit Str	Asphalt	1,125	0.21
Burning Cedar Ave	Asphalt	1,734	0.33
Arrow St	Asphalt	1,771	0.34
Sage Brush Ave	Asphalt	1,655	0.31
Sunset Cir	Concrete	768	0.15
IA 19	Asphalt	439	0.08
Howe Dr	Asphalt*	1,252	0.24
Total		53,836	10.2



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Funding levels have not allowed for extensive regular overlays, reconstruction, seal coats, and other maintenance. Having a proactive strategy plan in place will maximize design life and help prevent the necessity of higher-cost reconstruction versus more moderately priced repairs. Images of example paved roadway conditions are shown in the **Figure 27**.

FIGURE 27: PAVED ROAD CONDITIONS



RECOMMENDATIONS

This section focuses on the strategies and projects needed to maintain and improve upon the existing paved roads for which the Southern Ute Indian Tribe is responsible. The primary source for information in this chapter came from the FHWA's Pavement Preservation Compendium, Strategic Planning for Pavement Preventive Maintenance, documenting the Michigan Department of Transportation's "Mix of Fixes" Program.

- Initiate a Pavement Management Program (PMP)
- Establish a Schedule for Pavement Preservation and Maintenance
- Undertake Short and Long Range Paving Projects

— **INITIATE A PAVEMENT MANAGEMENT PROGRAM**

Pavement management is the methodical planning and repair of paved roadways intended to optimize pavement conditions over the entire transportation system. A good pavement management plan includes a periodic evaluation of all road pavements. On a paved road system, conditions are typically rated on metrics like distress, ride quality, friction, and rutting.



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These programs fall under Road Maintenance for funding. The use of TTP funds must follow 25 CFR Part 170 Subpart G-Maintenance as well 82 IAM for BIA Road Maintenance Program. A Pavement Management Program should be initiated to examine the conditions of all Tribal and BIA paved roads within the reservation.

The beginning of this program would include assessing the conditions of your paved road system. This should be done through a project to either take core samples along each mile of paved road, or ground penetrating radar to determine the existing thicknesses of asphalt and base materials. In areas where pavements are distressed, this will give valuable insight into the best approaches for repairs.

— **ESTABLISH A SCHEDULE FOR PAVEMENT PRESERVATION AND MAINTENANCE**

Pavement preservation is performed to keep the pavement surfaces in good condition. Common asphalt pavement preservation efforts include vegetation control, crack sealing, seal coats, and non-structural overlays. The pavement preservation program is designed to provide the public with safe, smooth, and well-maintained roads by applying cost-effective treatments to correct minor pavement deficiencies before the problems become major. This is a more cost-effective alternative to the more traditional practice of reactive maintenance and expensive reconstruction. Prioritizing pavement preservation over reconstruction saves money in the long-term.

Asphalt pavements with a moderate stress load will generally have a 20-year life cycle. Using this life cycle duration, asphalt overlays would ideally be completed every 15 years to minimize pavement deterioration that would require costly reconstruction to rehabilitate. However, on Southern Ute Indian Tribe roads where truck travel is uncommon, useful pavement life may extend beyond 20 years if maintained with timely crack filling and seal coats.

There are 15.9 miles of asphalt BIA and Tribal roads on the reservation. At a current estimated cost of \$19,000/mile for crack filling and sealing plus 75,000/mile for seal coats, the entire paved system could receive a crack sealing project followed by a seal coat project in the next year for about \$1.5 million. This equates to about 2 years of the Southern Ute Indian Tribe TTP funds set aside for projects. Costs of inflation are not included.

Each paved road should be crack sealed and receive a seal coat every 10 years, and a nonstructural overlay every 20 years. By following a schedule of improvements, the Southern Ute Indian Tribe will prolong roadway life and reduce premature failure. This will be economically beneficial to the Tribe, who may then decide to allocate more of their transportation budget to maintaining and improving the gravel road system. Any paved roads that may be constructed or added to RIFDS inventory during this 20-year cycle will need to be added to the rotation as applicable.



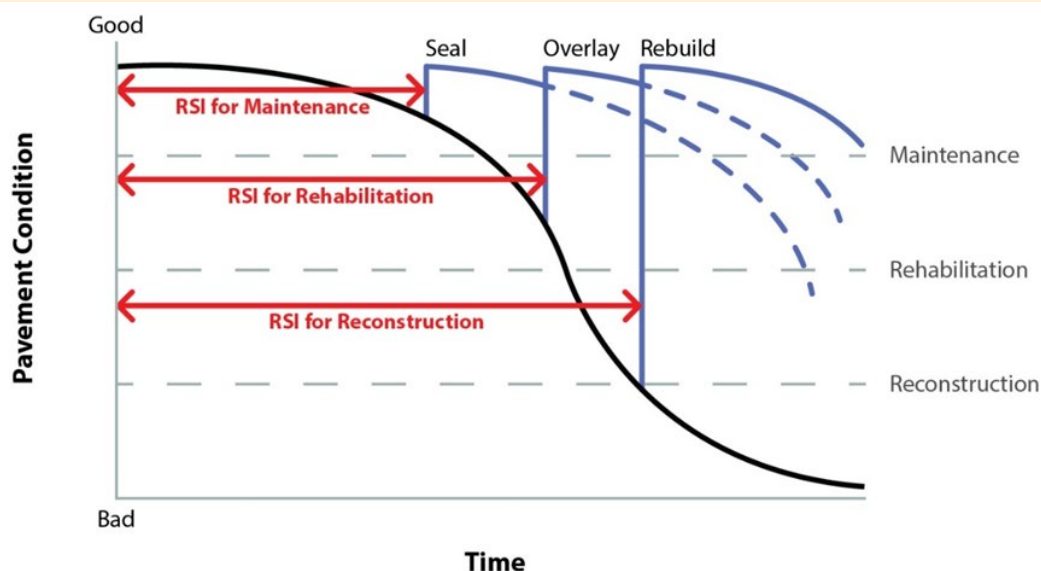


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Preventive maintenance can extend pavement life by using short-term treatments. Benefits can be maximized by applying treatments to roads while they are still mostly in good condition. **Figure 28** demonstrates that a longer asphalt life over time can be expected when preventative measures are utilized appropriately. The black curved line represents pavement condition over time. The RSI relates to the Remaining Service Interval, or the amount of time before an improvement is made. It demonstrates that if a road is maintained before the pavement surface deteriorates too far, costly rehabilitation or reconstruction can be avoided.

FIGURE 28: LIFE-EXTENDING BENEFIT OF PREVENTATIVE MAINTENANCE



General maintenance on the Southern Ute paved roadway system primarily consists of snow removal operations. It is recommended that in the future, asphalt maintenance projects such as crack sealing, chip seals, and non-structural overlays be contracted to outside entities to have work completed. This will allow the future Southern Ute Indian Tribe maintenance staff to focus on snow removal, sign and guardrail maintenance, vegetation removal, mowing, emergent repairs, and maintenance of the gravel road system.

— UNDERTAKE PMP PAVING PROJECTS

Short range projects were identified during the process development of this plan. They will need to be incorporated into the TTIP and cover projects to be completed through the year 2026. A list of these projects is available in Table 8.



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Table 8: Short Range Paving Projects

Project Name	Description	Route(s)	Area	Length (Miles)	Estimated Cost
Cedar Point Roads Rehabilitation	Crack seal and seal coat all 12 roads in Cedar Point subdivision as needed	Elk St, Rolling Thunder Ave, Arrow St, Burning Cedar Ave, Lodge Pole Way, Sage Brush, Fry Bread, Shadow Spirt St, Mountain Dew Cir	Cedar Point Subdivision	3.82	\$359,000
Campus North Parking Rehabilitation	Remove islands and rehab parking areas	Parking lots	Campus	NA	\$600,000
Campus Mid Parking Rehabilitation	Remove islands and rehab parking areas	Parking lots	Campus	NA	\$850,000
Campus South Parking Rehabilitation	Remove islands and rehab parking areas	Parking lots	Campus	NA	\$650,000
Campus Interconnecting Street Upgrades	Remove islands and rehab parking areas	Ouray Dr	Campus	NA	\$850,000
Museum Parking and roundabout reconstruction	Create true roundabout east of Museum	Ouray Dr	Campus	NA	\$250,000

The Southern Ute Indian Tribe has recognized the need to update roads and parking lots within the campus area for some time. Poor roadway geometrics, overdue maintenance needs, and poorly functioning facilities all point to the need for improvements. Detailed preliminary and final design were beyond the scope of the LRTP. It is likely that as improvement options are explored, further ideas to improve this area will become evident.

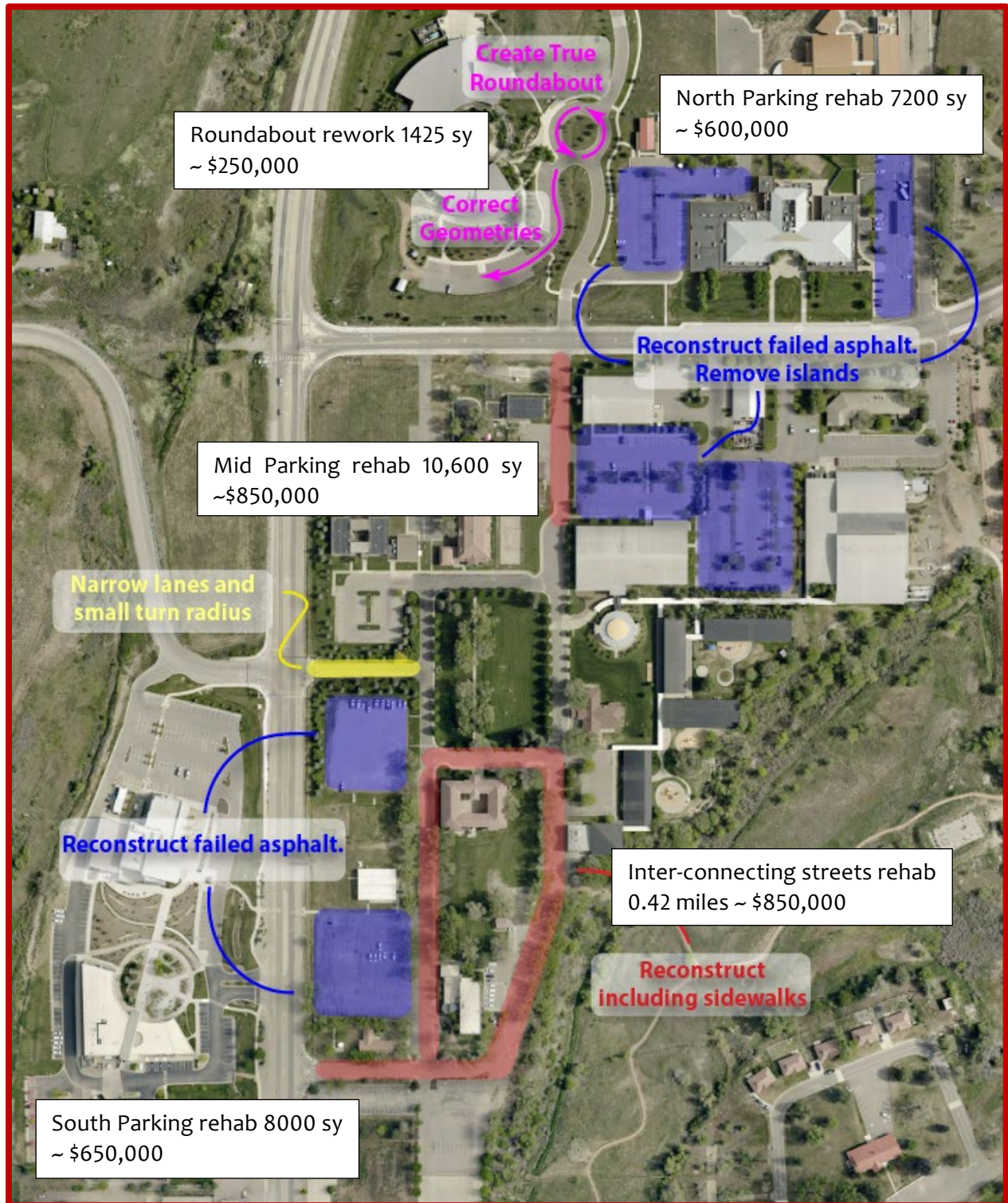
A draft plan for campus area improvements was provided by the Southern Ute Indian Tribe. Campus area paving projects that were provided can be seen in **Figure 29**. Some project improvements reflected in **Figure 29** may not be compatible with the IACAP. Changing the IACAP requires consultation and agreement by the other three involved entities. It is recommended that further planning, design, entity coordination, and construction be undertaken to advance these improvements as funding allows.



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FIGURE 29: SOUTHERN UTE INDIAN TRIBE CAMPUS PAVING PROJECTS NEEDS





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Costs for maintenance and new construction may vary within Southern Ute Indian Tribe borders. Approximate contracted out costs for major maintenance tasks on the Reservation are listed in **Figure 30**. It is very important for future planning to keep track of all maintenance costs (crack sealing, seal coats, etc.), no matter how minor the task. Tracking costs allows for an accurate pavement management plan throughout the Reservation and will enable more accurate programming, scheduling, and budgeting.

FIGURE 30: PAVED ROAD MAINTENANCE & REHABILITATION COSTS

Improvement Type	Cost per Mile*
Reconstruction	\$1,700,000.00
Structural Overlay	\$ 500,000.00
Non-Structural Overlay	\$ 275,000.00
Chip Seal	\$ 70,000.00

* Costs include TERO fees, engineering design and construction observation. Crack seals should be performed the year before chip seals and non-structural overlay projects. Overlay assumptions include structural (>2") & non-structural overlay (2" and less). Almost all seal coat techniques are anticipated to be in the \$60K to \$70k per mile range, though local costs could vary significantly.

NON-PAVED ROADS

EXISTING CONDITIONS

There is limited documentation available regarding the condition of non-paved roadway surfaces within the Reservation. The condition of non-paved Reservation roadways varies significantly.

According to the inventory, a total of about 200 miles of BIA and Tribal roads are non-paved. However, best available GIS layers indicate a total of about 207 miles. GIS data was compiled from multiple sources including from the Southern Ute Indian Tribe, CDOT, and La Plata and Archuleta counties. These disparate databases were combined to create one comprehensive database of all strictly BIA and Tribal roads. Where necessary, overlapping/redundant entries in GIS were eliminated. A list of BIA/Tribal non-paved roads is available in **Table 9**. These are shown graphically in **Figures 32 and 33**.

Some have received little or no surfacing and are earthen or primitive in nature. An example of this is La Boca Ranch Road located southeast of Ignacio. This road is not a BIA Road and is located on private land for which MOA's will need to be developed with the property owners. However, visual analysis of select roads found that many primitive roads are adequate. Issues with non-paved roadways can include them being too narrow, limited or no surface aggregate, poor cross section, lack of proper ditches and drainage, rutting, and dust. Pictures of non-paved roadway surface conditions on the Southern Ute Indian Reservation roads are shown in **Figure 31**, but most roads are not maintained to this level.



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FIGURE 31: EXAMPLES OF NON-PAVED ROADWAY TYPES AND CONDITIONS



TABLE 9: BIA/TRIBAL NON-PAVED ROADS

Road Name	Surface Type	Feet	Miles
Payan Canyon Rd BIA 168	Earth/Unimproved	68,345	12.94
Middle Sandoval Rd BIA 166	Earth/Unimproved	36,169	6.85
Archuleta Mesa Rd BIA 139	Earth/Unimproved	43,872	8.31
East Archuleta Mesa Rd BIA 140	Earth/Unimproved	15,757	2.98
Madrid Canyon Rd BIA 153	Earth/Unimproved	39,883	7.55
East Sandoval Canyon Rd BIA 156	Earth/Unimproved	56,727	10.74
Dipping Vat Rd BIA 155	Earth/Unimproved	27,386	5.19
Jefferson Canyon/Redding Ranch BIA 154	Earth/Unimproved	14,810	2.80
Escondido Creek Rd BIA 165	Earth/Unimproved	54,473	10.32
Rancho Durango BIA 111	Earth/Unimproved	62,325	11.80
Hondo-Vega Rd BIA 165	Earth/Unimproved	28,484	5.39
FS 842/Hondo-Vega Rd	Earth/Unimproved	28,683	5.43
Herion Canyon Rd BIA 167	Earth/Unimproved	24,450	4.63
Quintana Canyon Rd	Earth/Unimproved	13,464	2.55
Trail Canyon/Round Meadow/Deep Canyon BIA 152	Earth/Unimproved	25,644	4.86
Youth Camp Rd BIA 163	Gravel	1,726	0.33
Sambrito Creek Rd BIA 159	Gravel	16,905	3.20
Sambrito Creek Rd BIA 159	Gravel	1,653	0.31
Sambrito Creek Rd BIA 159	Gravel	23,155	4.39
Youth Camp Rd BIA 163	Gravel	320	0.06
Sky Ute Events Center Rd	Earth/Unimproved	2,098	0.40
Shoshone Ave	Earth/Unimproved	2,676	0.51



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FIGURE 32: BIA/TRIBAL NON-PAVED ROADS WEST

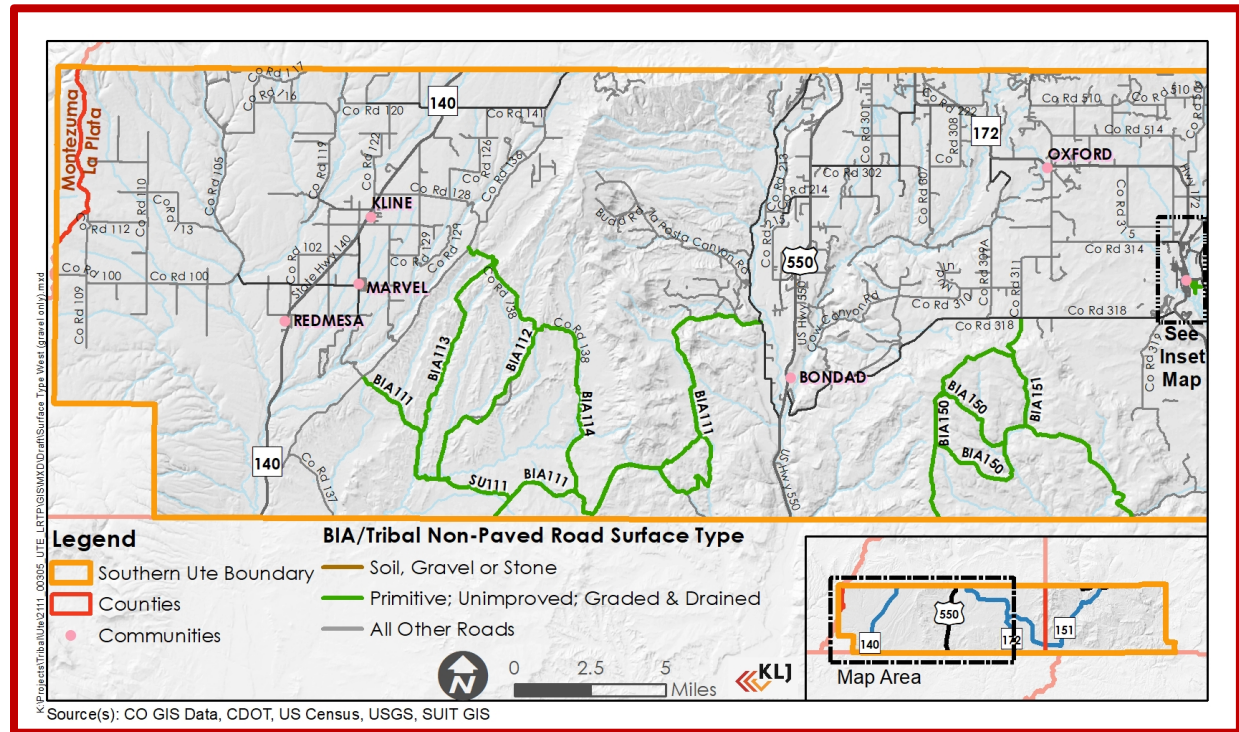
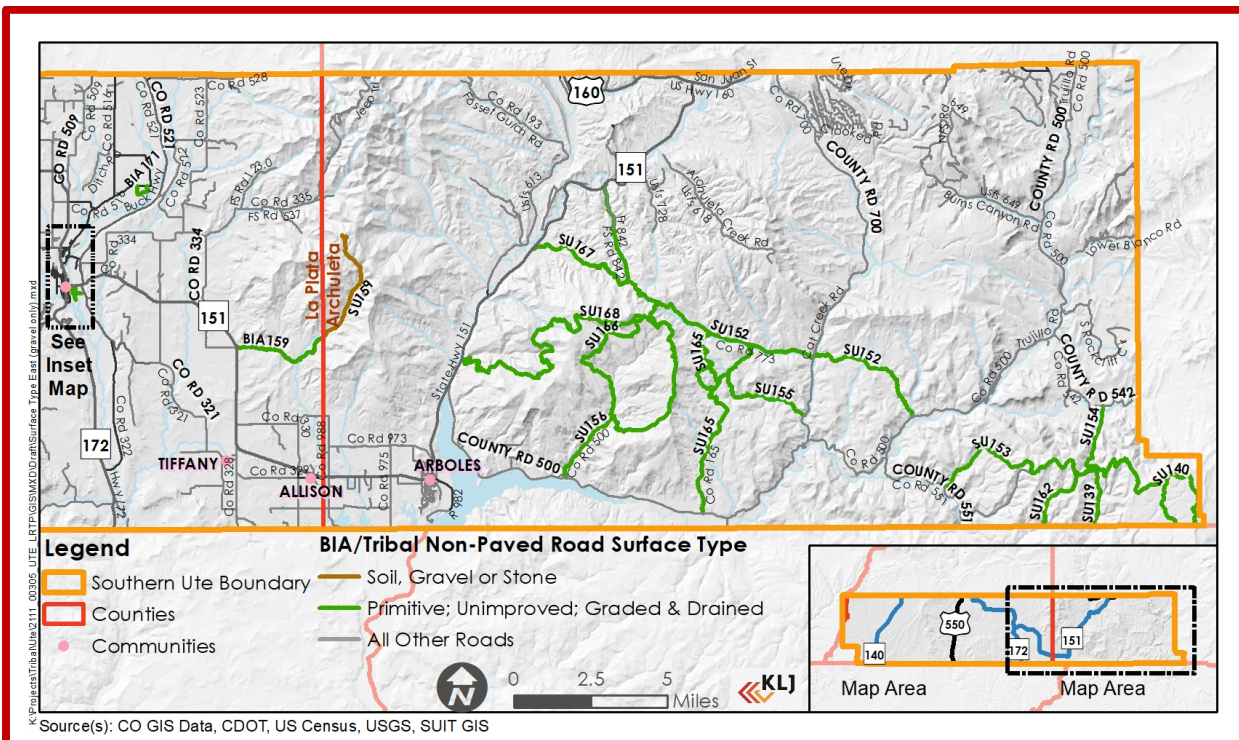


FIGURE 33: BIA/TRIBAL NON-PAVED ROADS EAST





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RECOMMENDATIONS

Non-paved roadways recommendations address the need for use of good roadway materials and surface treatments, as well as the implementation of improvements through gravel rehabilitation and maintenance programs.

There are many resources available that provide guidance on good maintenance practices for gravel roads. This report referred to the FHWA Gravel Roads Construction & Maintenance Guide published August 2015, the SD LTAP Gravel Roads Maintenance and Design Manual published November 2000, and the PASER Gravel Roads Manual published in 2002.

— SURFACE AND BASE MATERIALS

Roadway surface conditions can be dramatically improved when better materials are used. Gravel performs well when the right gradation is used, and it can perform nearly as well as pavement. Currently, the Southern Ute Indian Tribe does not own or operate any gravel pits within the Reservation. It may be beneficial for the Tribe to investigate the potential for developing new gravel resources to reduce costs and to improve road maintenance within the Reservation.

The Southern Ute Indian Tribe could undertake a geological study to identify new gravel sources. These resources could be used by Tribal Members to improve driveways, or for maintenance staff to use on gravel road maintenance and improvement projects. These resources could also be made available to other entities in exchange for maintenance assistance or for additional funds. It is anticipated that once available, new gravel sources will provide more efficiency in obtaining quality gravel materials for use on Southern Ute Indian Tribe roads. It is recommended that the Tribe seek grant funding for the study through the Division of Energy and Mineral Development (DEMD).

— SURFACE TREATMENTS

Surface treatments can be applied to reduce dust and to stabilize loose surface gravel. Magnesium chloride (MgCl) is a chemical (hygroscopic salt) effective in dust control. It costs about \$8,000 per mile for the first treatment and \$5,000 per mile for additional treatments. These treatments need to be applied once or twice a year depending on conditions to be effective. Dust control may be included in the Southern Ute Indian Tribe road maintenance program if deemed a priority. MgCl should not be applied across bridges and box culverts due to its corrosive properties. Hot mix asphalt can be applied at these isolated locations to avoid structure degradation while also providing dust suppression where MgCl is not applied.

— GRAVEL REHABILITATION

Some existing gravel roads need significant effort to improve them to function as a quality gravel road. When the gravel surfacing needs to be removed and the subgrade needs to be improved, and changes to the ditch cross section are needed, a gravel rehabilitation project should be planned.

This type of work falls well beyond the typical gravel maintenance project and is therefore more expensive. However, without proper drainage and a good cross section, addition of gravel will



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often have less than the desired impacts on fixing the problem. Gravel rehabilitation may also be used as an interim step towards future paving.

La Boca Ranch Road located southeast of Ignacio is once such road that would benefit from a gravel rehabilitation project. It is recommended that this project proceed as a short-range improvement project of coordination with the property owners is achieved.

— MAINTENANCE

Effective roadway maintenance techniques are outlined in the manuals discussed on the previous page. Non-paved roadways will perform better if they are maintained with a 4 percent crown. Improper grading can remove valuable surface materials and grading must account for intersecting roads and driveways, as well as other site conditions.

Fines content (material passing a 200 sieve) of 8%-15% in the gravel surfacing matrix, and maintaining that content is key to gravel road longevity and ride comfort. Training is recommended for road grader operators and material handling from pit source to laydown, which will to improve their ability to maintain various non-paved road surfaces, prevent matrix segregation, and to respond to varying conditions. This training may be available through the Colorado LTAP program.

The ability for roadway shoulders and ditches to keep the surface and subgrade free from water and ice is also important. Mowing operations should be included in the annual maintenance budget. Ditch inslopes should be mowed. This will also improve visibility, resulting in improved safety. Whenever possible, ditches should be provided to allow good drainage to occur and to provide additional snow storage. KLJ observed that numerous roads lack a crown or proper drainage, so they are severely impacted during even minimal rainfall events.

Other issues include gravel roads in narrow mountainous areas being subject to riverine erosion. The Southern Ute Indian Tribe identified a segment of Archuleta County Road 500 along the San Juan River as being in danger of slumping into the river due to the river eroding the banks and the adjacent roadway.

Ditch improvements and culvert jetting should be considered along roadways where drainage issues exist.

Conversion of primitive roads to gravel roads is desirable wherever practical and as funding allows. Priorities should be roads with higher usage. Funding can also be set aside annually to upgrade equipment to bolster the gravel maintenance program.



— EARTHEN & GRAVEL ROAD PROJECT PRIORITIES

A short-range gravel project priority was identified and consists of upgrading La Boca Ranch Road located approximately 7 miles south of Ignacio off Highway 172. The first portion is non-Tribal fee land until the bridge. The project is approximately 0.9 miles long and is complicated by flooding caused by beaver dam construction. The road is not a BIA inventoried road and is on private property under several different ownerships.



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Long range gravel projects are listed in **Table 10** and will be identified and prioritized in a multi-year maintenance program to be contracted beginning in 2022. Like the long-range pavement projects, these projects have been identified by the Tribe and will need to receive funding before work can begin. If funding becomes available or priorities change, long range projects may be moved up into the short-range element of the plan. Maintenance along some of these roads may be handled by applicable oil and gas entities.

TABLE 10: LONG RANGE GRAVEL SURFACING MAINTENANCE PROJECTS

Road Name	Surface Type	Miles	Est. Cost
Payan Canyon Rd	Earth/Unimproved	12.94	\$1,060,000
Middle Sandoval Rd	Earth/Unimproved	6.85	\$562,000
Archuleta Mesa Rd	Earth/Unimproved	8.31	\$682,000
East Archuleta Mesa Rd	Earth/Unimproved	2.98	\$244,000
Madrid Canyon Rd	Earth/Unimproved	7.55	\$619,000
East Sandoval Canyon Rd	Earth/Unimproved	10.74	\$880,000
Dipping Vat Rd	Earth/Unimproved	5.19	\$426,000
Jefferson Canyon Rd	Earth/Unimproved	2.80	\$230,000
Escondido Creek	Earth/Unimproved	10.32	\$846,000
Rancho Durango	Earth/Unimproved	11.80	\$968,000
Hondo-Vega Rd	Earth/Unimproved	5.39	\$442,000
FS 842/Hondo-Vega Rd	Earth/Unimproved	5.43	\$445,000
Herion Canyon Rd	Earth/Unimproved	4.63	\$380,000
Quintana Canyon Rd	Earth/Unimproved	2.55	\$209,000
Trail Canyon Rd	Earth/Unimproved	4.86	\$400,000
Youth Camp Rd	Gravel	0.33	\$1,650
Sambrito Creek Rd	Gravel	3.20	\$16,000
Sambrito Creek Rd	Gravel	0.31	\$1,550
M511	Gravel	0.02	\$500
Sambrito Creek Rd	Gravel	4.39	\$22,000
Youth Camp Rd	Gravel	0.06	\$500
M509	Gravel	0.02	\$500
BIA172	Earth/Unimproved	0.40	\$33,000
BIA173	Earth/Unimproved	0.51	\$42,000
BIA111	Earth/Unimproved	0.83	\$68,000
BIA111	Earth/Unimproved	7.92	\$650,000
BIA113 (Soda Springs Gulch)	Earth/Unimproved	6.97	\$572,000
BIA114 (Gore Road)	Earth/Unimproved	3.26	\$267,000
BIA150	Earth/Unimproved	7.69	\$630,000
BIA112 (Canyon 44 Road)	Earth/Unimproved	6.77	\$555,000



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BIA151 (Pump Canyon)	Earth/Unimproved	9.87	\$809,000
BIA111	Earth/Unimproved	14.77	\$1,211,000
BIA114	Earth/Unimproved	9.42	\$772,000
BIA150 (Trail Canyon Road)	Earth/Unimproved	3.37	\$276,000
BIA150	Earth/Unimproved	5.28	\$433,000
BIA171	Earth/Unimproved	0.81	\$66,000
BIA111	Earth/Unimproved	2.69	\$220,000
BIA150	Earth/Unimproved	7.69	\$630,000
Total		206.61	\$15,669,700

FREIGHT AND TRUCKING

EXISTING CONDITIONS

Freight is defined as the movement of goods. The efficient movement of goods is a fundamental prerequisite for growth in jobs and a strong economy. Trucking is the only means of freight movement within the Reservation since no railway or airport freight movement facilities within the Reservation are present. See the previous chapter for an inventory of existing truck traffic on the reservation.

RECOMMENDATIONS

Heavy loads carried by trucks cause much greater damage to roads than passenger vehicles, and the heavier the load, the more the damage increases exponentially. Heavy loads exacerbate rutting and accelerate fatigue cracking, which can lead to potholes. This impact can be minimized if load limits are established and enforced. Scales can be set up to monitor travel by trucks exceeding the load limits, and to assist in levying fines. It would be beneficial for the Southern Ute Indian Tribe to consider development of ordinances, policies and procedures aimed to reduce the activity of heavy trucks on Reservation roads. Ideally, contractors and major businesses would be held responsible for damage to any haul roads on the Reservation.

The hauling of hazardous materials is a potential issue associated with hauling of freight. Emergency planning should address the potential for hazardous spills and their impacts on access and safety.

Future policies could include requiring hauling permits and levying fines for all overweight vehicles that use BIA and Tribal roads. Ideally, contractors and major businesses would be held responsible for damage to any haul roads on the Reservation.



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BRIDGES AND CULVERTS

EXISTING CONDITIONS

There are four bridges identified on the BIA or Tribal Road systems on the reservation. The remainder of bridges on the Reservation are either state or county owned.

An inventory of existing bridges with ownership and length is shown in **Table 11** and **Table 12**. Maps showing locations of bridges and culverts are shown in **Figure 34** and **Figure 35**.



TABLE 11: BIA/TRIBAL BRIDGE INVENTORY

Bridge ID	Facility Carried	Features Intersected	Ownership	Length	Bridge or Culvert
M510	IRR BIA RTE 101	LOS PINOS RIVER	BIA	82	Bridge
M501	IRR BIA RTE 107	LOS PINOS RIVER	BIA	124.3	Bridge
M509	IRR BIA RTE 163	DEVIL CREEK	BIA	85	Bridge
M511	IRR BIA RTE 159	PINE RIVER CANAL	BIA	33.1	Bridge

TABLE 12: STATE BRIDGE INVENTORY

Bridge ID	Facility Carried	Features Intersected	Ownership	Length	Bridge or Culvert
P-07-B	US 160 ML	DEVIL CREEK	State	29.3	Bridge
P-05-G	US 550 ML	ANIMAS RIVER	State	108.6	Bridge
P-04-A	SH 140 ML	LA PLATA RIVER	State	32.9	Bridge
P-07-D	SH 151 ML	PIEDRA RIVER	State	110.8	Bridge
P-04-E	SH 140 ML	LONG HOLLOW CREEK	State	29.1	Bridge
P-07-R	SH 151 ML	STOLLSTEIMER CREEK	State	9.2	Culvert
P-07-S	SH 151 ML	STOLLSTEIMER CREEK	State	9.8	Culvert
P-07-X	SH 151 ML	STOLLSTEIMER CREEK	State	12.5	Culvert
P-05-R	SH 172 ML	FLORIDA RIVER	State	31.7	Bridge
P-05-H	US 550 ML	DRAW	State	17.4	Bridge
P-05-I	US 550 NB ML	DRAW	State	45.8	Bridge
P-05-D	US 550 ML	DRAINAGE/GAME CROSSING	State	6.1	Culvert
P-06-AB	SH 151 ML	LOS PINOS RIVER	State	76.2	Bridge

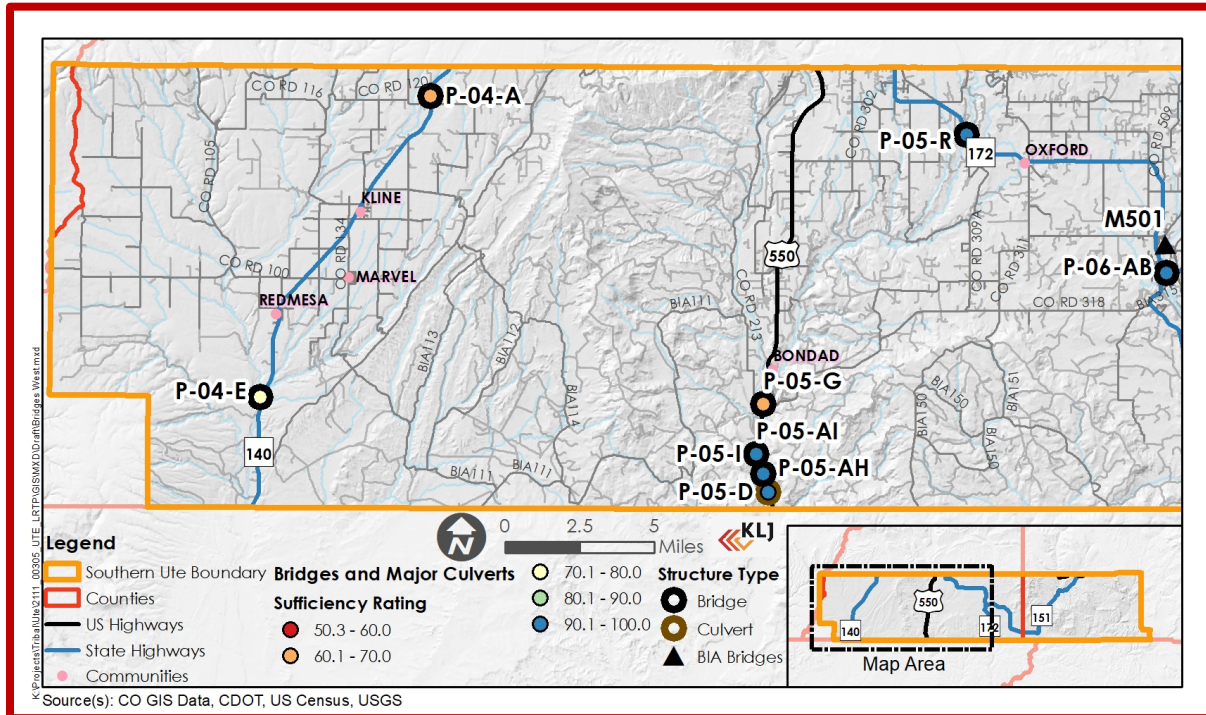


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P-05-AI	US 550 SBND ML	DRAW	State	45.9	Bridge
P-05-AH	US 550 NBND ML	DRAINAGE WAY	State	17.4	Bridge

FIGURE 34: BRIDGES WEST

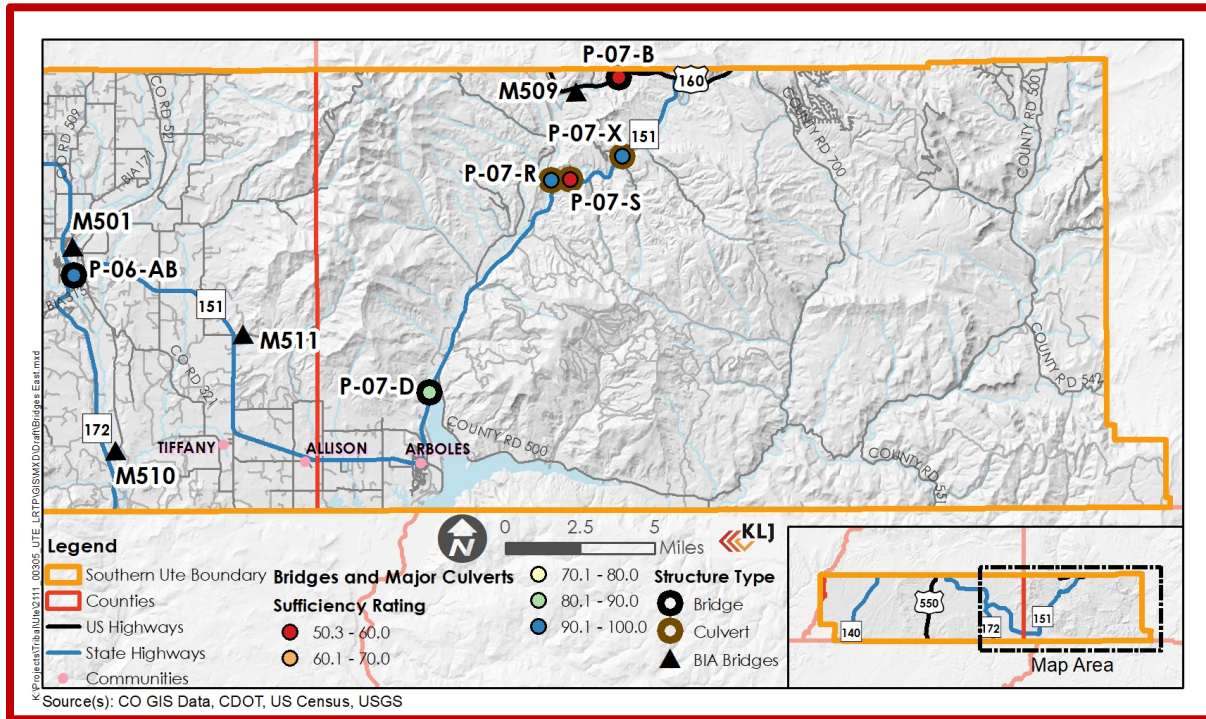




SOUTHERN UTE INDIAN TRIBE

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FIGURE 35: BRIDGES EAST



RECOMMENDATIONS

There are two bridges that have a bridge condition of “good” and two that are “fair”. All others appear to be in very good condition. Regular inspections and maintenance are recommended to keep these bridges in good operating condition.

Although the Tribe has no maintenance responsibilities for most of the bridges on the Reservation, it is further recommended that the Tribe coordinate with state and county representatives on any needs that are identified in the future.

Culvert cleaning and replacement is recommended as needed to provide good drainage in residential areas. This may also require coordination between the Tribe and relevant jurisdiction.

PEDESTRIANS AND BICYCLES

EXISTING CONDITIONS

Sidewalks and shared use paths are important pedestrian and bicycle transportation facilities and serve a variety of functions. They are essential to the health and safety for many Tribal travelers. Sidewalks and shared use paths differ with sidewalks typically about 5 feet wide and are designed to handle pedestrian traffic only.



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Shared use paths are typically 8-10 feet wide and are designed to serve both pedestrians and bicyclists. They provide critical access to a variety of destinations, recreation, and shortcuts or additional safety versus walking or biking on the shoulder of a roadway. It is assumed that in most cases, proposed sidewalk improvements will meet the design criteria for a shared use path.

An inventory of existing sidewalks and shared use paths was completed using aerial imagery in conjunction with input from the Southern Ute Indian Tribe. Many rural areas of the reservation have no sidewalks, even in areas with rural subdivisions and schools. Most sidewalks are in and around the town of Ignacio. There are approximately 24.2 miles of existing sidewalks/shared use paths on the reservation. This plan proposes an additional 7 miles of shared use paths. A summary of existing reservation sidewalks/shared use paths can be seen in **Table 13**.

Table 13 breaks out sidewalks based on their basic geographic area, then their subdivision name (where it exists) or other familiar identifying area name. Catalogued existing sidewalks are shown with proposed linear feet. Not all areas have existing sidewalks. Existing sidewalks can be seen in **Figure 36 and 37** (starting on page 82). Sidewalks were mapped for the entire reservation, however sidewalks in some outlying areas have not been mapped within this document.

TABLE 13: EXISTING SOUTHERN UTE INDIAN TRIBE SIDEWALKS

Subdivision or Geographic Area		Linear Feet
Ignacio Area	Campus North	15,519
	Campus South	16,647
	Cedar Point East	22,487
	Cedar Point West	8,716
	Ignacio (Town)	44,051
	Ignacio Peak	784
	Northridge	0
	Pow Wow Housing	0
	Rainbow Meadows	0
	Shoshone St	3,402
	Sunset Cir	2,021
	Sunset Meadows	0
Remaining Areas	Willow Run	2,624
	Arboles Area	4,954
	Kline	1,519
	Redmesa	614
Sunnyside Elementary		1,046
Total		124,384

**Not all areas in table are represented in maps*



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RECOMMENDATIONS

Walking and biking is an important mode of transportation for many of the Southern Ute Indian Tribe inhabitants. Some areas, particularly in proximity to Ignacio, have adequate sidewalk or shared use path facilities. However, there are significant corridors within the Reservation that have no facilities, limited facilities, gaps in the system, or facilities that are compromised due to maintenance issues.

Sidewalks and shared use paths were proposed using the following methods:

- Fill areas where there are gaps.
- To serve and connect Southern Ute Indian Tribe subdivisions.
- To connect schools to area housing.
- To create a more complete network in the Ignacio Area.
- Sidewalks were divided into projects and given project ID's so that they can be evaluated based on their subdivision and a logical separation of projects into likely segments

Going forward, designing roadways to accommodate all users would improve walking and biking conditions on the Reservation. This practice is commonly referred to as “complete streets” and offers the following benefits:

- **Safety:** A FHWA safety review found that streets designed with sidewalks, raised medians, traffic-calming measures, and treatments for travelers with disabilities improves pedestrian safety.
- **Health:** Multiple studies have found a direct correlation between the availability of walking and biking options and obesity rates. In fact, the Centers for Disease Control and Prevention recently named adoption of complete streets policies as a recommended strategy to prevent obesity.
- **Reduced User Costs:** Complete streets offer inexpensive transportation alternatives to roadway users. A recent study found that most families spend far more on transportation than on food.
- **Foster Strong Communities:** A recent study found that people who live in walkable communities are more likely to be socially engaged and trusting than residents living in less walkable communities.

Shared use facilities may use either a paved, gravel, or dirt surfacing, and can also include path lighting, and bike racks. Bike racks at populous destinations add a level of security and establishes the locations where people may park their bikes. Locations where bike racks would be beneficial are schools, Tribal offices, convenience stores, transit stops, and transit shelters. It is recommended that the Southern Ute Indian Tribe provide bike racks and benches in high activity locations when funding is available.



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In general, the Southern Ute Indian Tribe should work to maintain existing sidewalks which have become overgrown with vegetation. Several sidewalks in and around Ignacio and Southern Ute Indian Tribe subdivisions have trees and shrubs blocking the way. Whenever possible, the Tribe can work with homeowners to replace trees which have overtaken sidewalks with new plantings in residents' yards.



— SHORT- AND LONG-RANGE SHARED USE PATH PROJECTS

There is one shared use path project in the current TTIP, shown in **Table 14** along with the estimated cost. The project involves connecting sidewalks along both sides of Highway 172 between Ignacio Senior Center and County Road 517. The project is funded for 2023.

The next three projects in **Table 14** are top priority locations for improvements. Project 17 will provide connectivity for Cedar Point East subdivision. Project 6 will connect the Northridge subdivision to State Highway 172 along County Road 314 for a total of nearly 5,000 ft. Project 4 extends east from Highway 172 passing by baseball fields and the skate park before it turns west to connect with sidewalk at County Road 517. This will provide connection for recreational facilities to users from the rest of the campus and Ignacio.

Grant monies should be pursued to cover most of the costs for these projects. Should grants be obtained, matching funds should be provided using TTP funding.

TABLE 14: SHORT RANGE PEDESTRIAN/BICYCLE PROJECTS

Subdivision or Geographic Area	Project ID	Linear Feet	Estimated Project Cost
Ignacio Hwy 172	9	3,200	\$225,000
Cedar Point East	17	4,435	\$168,000
Northridge	6	4,955	\$188,000
Ute Road	4	4,600	\$175,000



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In addition to the short-range projects, there are 14 additional shared use path projects which were identified during the LRTP process and designated as long-range projects. These should be completed as funding becomes available. Projects were numbered in Ignacio roughly from north to south. **Table 15** lists the long-range projects and estimated costs. **Figure 36 and 37**, found a few pages later in the report, show the locations of each sidewalk project with Project ID.

TABLE 15: LONG RANGE PEDESTRIAN/BICYCLE PROJECTS

Proposed Shared Use Path Projects - Linear Feet by Location			
Subdivision or Geographic Area	Project ID	Linear Feet	Estimated Project Cost
Rainbow Meadows	1	1,141	\$44,000
Pow Wow Housing	2	1,364	\$52,000
Sunset Meadows	3	1,970	\$75,000
Sunset Circle	5	3,600	\$136,000
Hwy 314 Connect to 172	7	520	\$20,000
South Campus Gap Fills	8	308	\$12,000
Becker St. Ext. to 314	10	3,167	\$120,000
Ignacio	11	2,950	\$112,000
	12	1,672	\$64,000
	13	745	\$28,000
	14	307	\$12,000
	15	1,245	\$47,000
	16	194	\$8,000
Ignacio Peak	18	4,716	\$179,000
Total		38,356	\$1,085,000

— LONG RANGE PROJECTS DESCRIPTIONS

Rainbow Meadows

Project 1 with 1,100 ft was identified to connect the subdivision with the surrounding campus.

Pow Wow Housing

Project 2 with 1,300 ft was identified to connect the subdivision.

Sunset Meadows

Project 3 connects the Sunset Meadows subdivision to the proposed shared use path along County Road 314, with a length of 1970 feet.

Sunset Circle

Project 5 connects the Sunset Circle subdivision the proposed shared use path extending from the Northridge subdivision, with a length of 3600 feet.



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Hwy 314 Connect to 172

Project 7 provides an extension off the end of County Rd 314 to tie directly into Hwy 172. This is likely to occur only if the road gets extended at some point as well.

South Campus Gap Fills

Project 8 fills in gaps in the south campus along portions of Ouray Dr near the Head Start building and the KSUT building to Ute Road.

Becker St. Ext. to 314

Project 10 provides sidewalk along a new street construction to run south from County 314 to the north end of Becker St for 3,100 ft. This project would need to acquire assigned land to be feasible.

Ignacio

Multiple projects were identified within the town of Ignacio. These projects do not appear to serve any Southern Ute Indian Tribe subdivision directly but fulfill other goals.

- Project 11 would connect Ignacio High School to the neighborhoods at the top of the ridge and provides for a sidewalk to a potential extension of Ute Road running west from Highway 172 to connect with Becker St. The project length is 2,950 ft.
- Project 12 continues where Project 11 leaves off and provides sidewalk on the west side of Highway 172 from Ute Rd to Becker St. The project totals 1,600 ft and is slated for completion in 2023.
- Project 13 is a 740 ft project to replace an existing trail which is rough in nature with uneven steps and a gravel/dirt surface.
- Project 14 is a 300 ft sidewalk which would connect Ignacio Elementary School east to the rest of Ignacio.
- Project 15 consists of four segments of sidewalk totaling 1,200 ft to connect existing sidewalk around Ignacio Middle School to Ignacio.
- Project 16 is a short 190 ft length of sidewalk to connect about nine residences in the southern part of Ignacio to the rest of town.



Project 13 Area

Ignacio Peak

Ignacio Peak proposed sidewalks were aggregated into one large project called Project 18 totaling 4,700 ft to connect the Ignacio Peak subdivision to Cedar Point and Ignacio

It is further recommended that the Southern Ute Indian Tribe conduct a reservation-wide sidewalk condition and needs survey as the first step in prioritizing new shared use path and sidewalk construction and identifying sidewalks in need of rehabilitation. A schedule could then be prepared based on priorities and available funding.

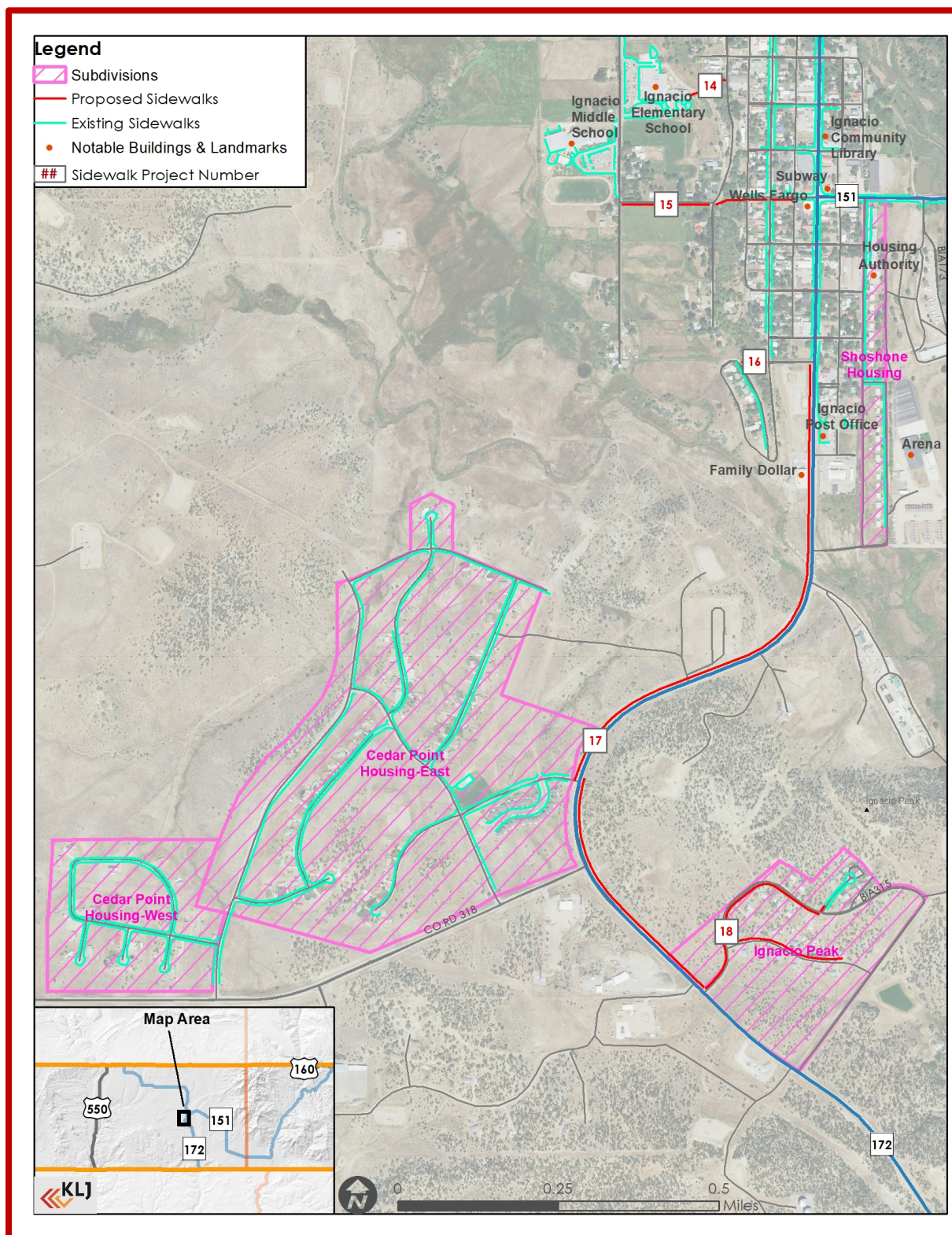
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FIGURE 37: SIDEWALK PROJECTS - IGNACIO SOUTH





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AIRPORTS

EXISTING CONDITIONS

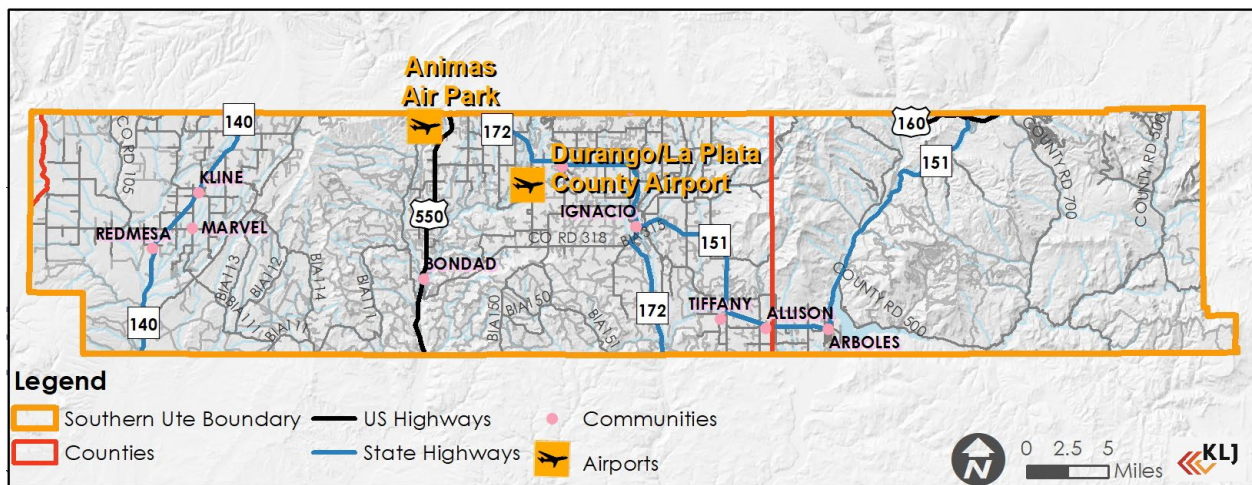
— DURANGO-LA PLATA COUNTY AIRPORT

Durango-La Plata County Airport is a public airport 10 miles west of Ignacio along Highway 172. The airport has connections to Denver, Las Vegas, Dallas, Phoenix, and Los Angeles. FAA operational statistics indicate that Durango-La Plata County Airport has aircraft operations that had 295,000 enplanements in 2019.

Airlines serving the airport include American Airlines, United, and Frontier. The airport has air freight, air ambulance, charter, instruction, rental, and sales services. The airport has one paved runway with a length of 9,201 ft.¹⁰

— ANIMAS AIRPARK

Animas Airpark is a general aviation paved airport south of the city of Durango. Services provided include air cargo, air ambulance, charter, instruction, rental, and aerial survey. The airport has one paved runway with a length of 5,010 ft.¹¹



RECOMMENDATIONS

Both airports operate independently of the Southern Ute Tribe. Durango-La Plata County Airport (designated DRO) is administered by a board of commissioners and is co-owned by the City of Durango and La Plata County. Animas Airpark is privately owned. It is recommended the Southern Ute Indian Tribe coordinate with La Plata County and CDOT for the proper maintenance of Highway

¹⁰ CDOT

¹¹ CDOT



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172 to maintain access to Durango-La Plata County Airport from Ignacio. Road Runner Transportation does not currently provide shuttle service to DRO, but such a connection would benefit the region.

TRANSIT SYSTEM

EXISTING CONDITIONS

Southern Ute Reservation is served by Road Runner Transportation, a transit service of Southern Colorado Community Action Agency (SoCoCAA). The primary purpose of the transit system is to provide transportation between the cities of Bayfield, Durango, and Ignacio. This is a valuable service to the Southern Ute Indian Tribe and those who have no personal transportation and rely on it to get to work, school, medical appointments, etc. One route currently runs in circular pattern between the three towns. The route provided four round-trip runs per day, with no night or weekend service.



Budget cuts in recent years have greatly reduced service. The Tribe withdrew a portion of the agency's funding after 2019. Other participating jurisdictions have filled in part of the missing funding, but the agency has had to make cuts to staff and vehicles. As of February 2020, the route is currently served by one bus. Recent National Transit Database (NTD) data is outdated due to the reorganization following budgeting and is not included in the plan. Recent ridership has also been affected by Covid 19 restrictions.

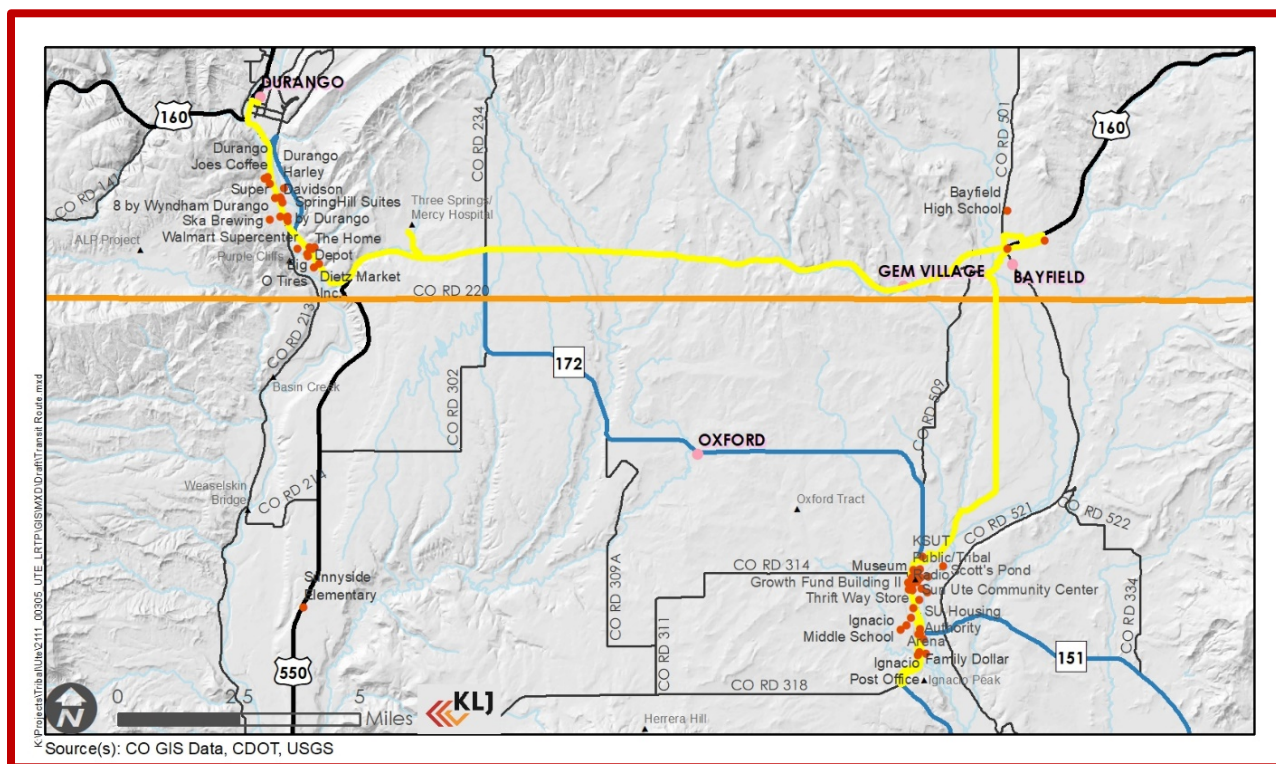
Dial-a-Ride service is also provided by Road Runner within the Ignacio area seven days a week with shorter hours on weekends. **Figure 38** shows the approximate existing route. **Figure 39** shows the existing transit schedule for the fixed route between the three towns.



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FIGURE 38: ROAD RUNNER TRANSIT ROUTE





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FIGURE 39: ROAD RUNNER SCHEDULE

IGNACIO/BAYFIELD TO DURANGO				
STOPS	1A	2A	3A	4A
RRT OFFICE	5:45 AM	8:25 AM	11:30 AM	4:50 PM
CEDAR POINT EAST	REQUEST	REQUEST	REQUEST	REQUEST
POST OFFICE	5:50 AM	8:30 AM	11:35 AM	4:55 PM
IGNACIO LIBRARY	5:53 AM	8:32 AM	11:37 AM	4:58 PM
IGNACIO SENIOR CENTER	REQUEST	8:34 AM	11:39 AM	5:00 PM
GROWTH FUND	REQUEST	REQUEST	REQUEST	5:02 PM
ANNEX BLDG	REQUEST	REQUEST	REQUEST	5:04 PM
LCB BLDG	REQUEST	REQUEST	REQUEST	5:05 PM
SKY UTE CASINO	6:03 AM	8:41 AM	11:46 AM	5:08 PM
BAYFIELD TOWN HALL	6:18 AM			5:23 PM
CONOCO EAST	6:20 AM			5:25 PM
PINE RIVER LIBRARY	6:25 AM			5:27 PM
GEM VILLAGE	6:30 AM			5:30 PM
PARK N RIDE	REQUEST			REQUEST
FLORIDA MESA	REQUEST	8:58 AM	12:03 PM	REQUEST
MERCY	6:45 AM	9:00 AM	12:05 PM	5:40 PM
WAL MART	REQUEST	REQUEST	REQUEST	REQUEST
CENTENNIAL CENTER	REQUEST	REQUEST	REQUEST	REQUEST
DURANGO TRANSIT	7:05 AM	9:27 AM	12:32 PM	6:05 PM

TRANSIT CENTER TO MERCY HOSPITAL				
* ROAD RUNNER TRANSIT ACCEPTS DURANGO TRANSIT PASSES AND TOKENS FOR SERVICE BETWEEN MERCY HOSPITAL AND DURANGO TRANSIT CENTER				
				7:15 AM
				10:00 AM
				1:05 PM
				6:20 PM

MERCY HOSPITAL TO TRANSIT CENTER				
* ROAD RUNNER TRANSIT ACCEPTS DURANGO TRANSIT PASSES AND TOKENS FOR SERVICE BETWEEN MERCY HOSPITAL AND DURANGO TRANSIT CENTER				
				6:45 AM
				9:00 AM
				12:05 PM
				5:40 PM

TRANSIT CENTER TO TECH CENTER				
* ROAD RUNNER TRANSIT ACCEPTS DURANGO TRANSIT PASSES AND TOKENS FOR SERVICE BETWEEN MERCY HOSPITAL AND DURANGO TRANSIT CENTER				
				REQUEST 7:05 AM
				9:40 AM
				12:50 PM
				REQUEST 6:05 PM

TECH CENTER TO TRANSIT CENTER				
* ROAD RUNNER TRANSIT ACCEPTS DURANGO TRANSIT PASSES AND TOKENS FOR SERVICE BETWEEN MERCY HOSPITAL AND DURANGO TRANSIT CENTER				
				REQUEST 7:10 AM
				9:45 AM
				12:55 PM
				REQUEST 6:10 PM

DURANGO TO IGNACIO/BAYFIELD				
STOPS	1B	2B	3B	4B
TRANSIT	7:15 AM	10:00 AM	1:05 PM	6:20 PM
CENTENNIAL CENTER	7:20 AM	10:06 AM	1:11 PM	6:25 PM
WAL MART	7:25 AM	10:12 AM	1:18 PM	6:30 PM
MERCY	7:35 AM	10:27 AM	1:26 PM	6:40 PM
FLORIDA MESA	REQUEST	10:30 AM	1:33 PM	REQUEST
PARK N RIDE				6:50 PM
GEM VILLAGE				7:05 PM
PINE RIVER LIBRARY				7:10 PM
CONOCO EAST				7:13 PM
BAYFIELD TOWN HALL				7:16 PM
CASINO	7:55 AM	10:45 AM	1:51 PM	7:30 PM
LCB BLDG	7:58 AM	10:48 AM	1:54 PM	7:33 PM
ANNEX	7:59 AM	10:49 AM	1:55 PM	7:34 PM
GROWTH FUND	8:00 AM	10:50 AM	1:56 PM	7:36 PM
SENIOR CENTER	8:03 AM	10:52 AM	1:58 PM	7:38 PM
IGNACIO LIBRARY	8:05 AM	10:54 AM	2:00 PM	7:40 PM
POST OFFICE	8:07 AM	10:56 AM	2:02 PM	7:42 PM
CEDAR POINT EAST	REQUEST	REQUEST	REQUEST	REQUEST
RRT OFFICE	8:15 AM	11:00 AM	2:08 PM	7:50 PM



SOCOCAA.ORG/ROAD-RUNNER-TRANSIT
 OFFICE: (970) 563-4545
 DIAL A RIDE: (970) 799-6201
 TRANSIT CENTER: (970) 259-5438



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RECOMMENDATIONS

Recent revenue shortages caused the Southern Ute Indian Tribe to withdraw funding from Transit. If possible, it is recommended the Southern Ute Indian Tribe reinstate these funds when conditions improve as a federal match will boost Road Runner's ability to provide greater routes and services.

The Southern Ute Indian Tribe could work with Road Runner to provide transportation to and from Durango-La Plata County Airport to serve both residents and tourists as Ignacio could be a convenient stop for visitors to the area.

Road Runner Transit is requesting that the Operational Costs for the projects below be funded as part of the LRTP. This would require Tribal Council approval.

1. Road Runner Transit has and is currently experiencing requests from Southern Ute Tribal Members, as well as requests from others currently being served to bring back an established route from Ignacio Colorado to Aztec New Mexico, with available transfers to Farmington, New Mexico by connections with Red Apple Transit. Road Runner would like to bring back that service in 2022 with approval from the Southern Ute Indian Tribe and confirmation that they have secured funding needed.
2. Road Runner Transit would like to provide transit service that connects the Southern Ute Indian Tribe and the Ute Mountain Ute Tribe's Reservations with a daily fixed route. This may be a route that could be marketed as part of the Colorado Bustang Outrider with the support of both Tribes and approval by CDOT or could be operated as a fixed route.
3. Road Runner Transit would like to expand the Dial A Ride Service to the La Plata County Airport to include service to all flights utilizing buses custom designed for this service.
4. Road Runner Transit would like to expand the hours and stop locations of the current fixed route to include evening and weekend service between Durango and Ignacio including added routes from Three Springs and Mercy Hospital in Durango to Ignacio. Road Runner Transit asks that the extended service hours be funded by the Southern Ute Indian Tribe.
5. Road Runner Transit would like to expand the service area for Dial A Ride to better serve Seniors and the Disabled living in rural La Plata County by expanding the service area to include the entire county.
6. Road Runner Transit requests funds to pay for the planning and operations cost of a larger and much-needed Transit Center.

Requested Capital Expenditures:

1. Buses. Road Runner Transit requests funds to purchase new buses be included in the LRTP. The exact number and sizes of buses will be determined upon approval of the requested operations expansions listed in this plan.
2. Funding to install pavilions, benches and appropriate signage in the Ignacio and Bayfield Bus Stop locations.



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3. Matching funding for the purchase of real estate, and construction of a transit operations site to include space for offices, secure bus storage, an equipped garage that allows for bus maintenance to be conducted in-house, and temporary employee housing.

UTILITIES

EXISTING CONDITIONS

Utility conditions can have a strong impact on the maintenance of roads and in the cost of construction or reconstruction. When undertaking roadway improvements, it is essential that the age, condition, and capacity of utilities under the road be considered and addressed.

Future planning should gather information on the types, locations, and conditions of utilities within the Reservation. Much of this information may be unknown or has never been documented and mapped. Like roads, good utilities planning and a program for maintenance can help Tribal leaders to prepare for costly utility projects and to be alerted to utility costs that will accompany roadway improvement projects.

RECOMMENDATIONS

A review of existing lighting was not undertaken as part of the LRTP. However, there is a need for improved lighting in towns and subdivisions, at busy intersections, and along existing and future sidewalks and trails. This provides an added level of safety and security for travelers.

It is recommended that the Southern Ute Indian Tribe conduct a future study to identify the types and locations for needed street lighting throughout the Reservation, and that lighting improvements be prioritized and completed as funding becomes available. It is also recommended that the Southern Ute Indian Tribe conduct a utilities study and map the locations of utilities, particularly underground utility mains. This information is imperative when planning transportation improvements in communities where utilities are more likely to be impacted. This will also allow for planning utility repairs and upgrades to be performed concurrently with road projects.



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CHAPTER 6 – POLICY RECOMMENDATIONS

This chapter of the LRTP provides recommendations on a policy level that should be considered in the development and maintenance of the Southern Ute Indian Tribe transportation system.

SYSTEM MANAGEMENT

Management of the Southern Ute Indian Tribe transportation system is shared by various departments within the Southern Ute Indian Tribe, as well as the BIA. This structure of system management presents unique challenges, as the BIA does not have adequate resources to address the ongoing maintenance needs of the BIA road system, such as grading and snow removal. Likewise, the various departments within the Southern Ute Indian Tribe are limited in staffing and equipment to perform all that is needed.

Many Tribes manage their transportation through a Tribal Department of Transportation that oversees the personnel, equipment, and daily operations required to manage the transportation system within the Reservation. Having these activities coordinated by one department enables Tribal priorities to be addressed in a more focused manner. It is recommended that the Southern Ute Indian Tribe consider development of a Department of Transportation. Until such time as this can be done, it would be prudent for the Southern Ute Indian Tribe to consider use of contracted services for as many of their maintenance needs as is practical.

To explore this possibility, departments currently active in assisting with transportation system maintenance and equipment operations should be included in discussions regarding possible reorganization or expansion within existing departments. For many essential program functions, contracting (construction and equipment repair) and consulting (planning and engineering) with outside entities is often vital to many Tribes to supplement their limited staff and to move the program forward.

As part of a Tribal department of transportation, many Tribes choose to incorporate the BIA road maintenance program by assuming control of it through a Pub. L. 93-638 Self Determination contract. In addition to the Tribe assuming control and responsibility for the BIA agency road maintenance allocation, the Tribe can negotiate a lump sum startup cost with the BIA made available to the Tribe at the beginning of the contract for startup costs for facilities and equipment purchase or repair.

The typical transportation department owns and operates a variety of heavy equipment. A brief listing follows:

1. Motor Grader
2. D5 Dozer with 6-way blade
3. 320 Excavator
4. Track Steer
5. Water Truck



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6. Super End Dump with haul trailer OR a tractor with lowboy and side or end dump trailer.
Many pros & cons to each.
7. Flatbed delivery truck
8. High pressure washer/vacuum truck or wagon
9. Dura-patcher or similar pothole patching machine.
10. Crack sealing equipment.
11. Mower for roadside maintenance
12. Miscellaneous tools such as jumping jack, trench compactor, demo saw, laser level, trash/dewatering pump, basic traffic control signs & cones, etc.
13. Snowplows and other snow removal equipment. End dumps can be configured to for haul duties in summer and snowplow/sand spreader in winter

For some pieces of equipment, a maintenance agreement may be purchased from the vendor. This may be ideal especially in the short term as the Tribes' ability to maintain this type of equipment does not currently exist. The Tribe could use companies like Wagner or Honan to provide and service the equipment. Equipment needs should be prioritized and TTP dollars banked to pay for top equipment priorities over time. Equipment purchases count against the maximum maintenance transfer allowed for the Tribe

Staffing is also a challenge in setting up a Department of Transportation. This department will require a director plus 1-4 full time field staff/operators and a similar number of seasonal summer labor. Staffing may be paid for using TTP funding and the 2% Planning set-aside. If the Tribe assumes control of the BIA road maintenance program, the maintenance staff can be paid with those funds or with the allowable amount of TTP funding that can be expended on road maintenance. To avoid road maintenance staffing challenges, there are arrangements (Interagency Personnel agreements, or IP agreements) available to the existing BIA employees allowing them to retain their federal benefits after becoming Tribal employees because of the Pub. L. 93-638 transition.

The Southern Ute Indian Tribe has a rather unique road system with about 16 miles of paved BIA and Tribal roads, a little over 23 miles of gravel roads and 176 miles of earth/primitive roads listed in the Inventory to maintain. There are many more miles not listed within the Inventory that the Southern Ute Indian Tribe also maintains.

The Southern Ute Indian Tribe should initially direct much of its funds to maintaining the asphalt pavements with the purpose of getting all paved roads on a low-cost rotational schedule of crack sealing and seal coat maintenance. Roads that are already in good condition will need to be properly maintained and roads requiring structural overlays or full reconstruction will need to be completed as funding allows so they can be placed within this rotational schedule.

This LRTP recommends that pavement maintenance performed by the Southern Ute Indian Tribe be limited to plowing, grading, signing, mowing and vegetation removal, and culvert and guardrail repair or replacement. Road maintenance projects such as crack sealing, seal coats and overlays should be contracted out, leaving more time available for the Southern Ute Indian Tribe to focus on vegetation removal, primitive and gravel road maintenance.



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There are many roads within Reservation boundaries which need to be added to RIFDS or modified within RIFDS to be eligible to receive funding for improvements. Adding a new route to RIFDS may not always be advisable as routes that appear in RIFDS are considered public roads accessible year-round thru Tribal land. There are many dirt and earthen roads that are in bad condition due to drainage issues and others with safety issues that are good candidates for graveling.

It is recommended that the Southern Ute Indian Tribe develop project priorities based on the following:

1. Schedule crack seal, seal coat, and overlay projects based on timeline narrative discussed on page 56.
2. Conduct Road Safety Audits (RSAs) as needed to document safety issues on the entire road system.
3. Continue and expand upon snow plowing, grading, and mowing/vegetation removal capabilities as high-priority maintenance activities.
4. Add or modify roads within the RIFDS inventory so they meet the requirements for BIA approval within RIFDS.
5. Conduct a paved road conditions survey through ground penetrating radar or core samples to compile necessary data for prioritizing paved road needs.
6. Conduct a gravel road conditions survey to compile necessary data for prioritizing road needs.
7. Prioritize gravel road projects.
8. Develop County Memorandums of Agreements (MOA's) if or when needed.
9. Complete gravel road projects on primary roads, focusing first on gravel road surface and cross section/drainage deficiencies.
10. Complete reconstruction along paved routes experiencing significant pavement distress.
11. Correct road surface and cross section/drainage deficiencies on secondary and primitive roads.

It is recommended that crack sealing and seal coats on paved BIA and Tribal facilities be given top priority over the rest of the transportation system. Since existing paved roads are in generally good condition, many of them may wait for 4-5 years before receiving this type of maintenance treatment. This will enable the Tribe to keep as much of their existing system in good condition as possible, delaying the conditions that may result in expensive reconstruction.

Primary BIA gravel roads on the Reservation have not been receiving maintenance. Many of the earth, dirt, primitive, and secondary gravel roads are only responded to after an emergency. A study is recommended to identify secondary routes that should receive maintenance and critical issues that can be fixed before they become emergencies.

Ideally, any new routes or pavements completed as part of economic development or new housing should leave maintenance responsibility with the development or agency undertaking the project.



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ROADWAY CROSS-SECTION STANDARDS

Roadway, path, and sidewalk cross-section standards have been used, though no clear standards have been adopted. The Tribe and their design consultant must follow design guideline set forth by American Association of State Highway and Transportation Officials (AASHTO) and CDOT. Also, a clear zone will be applied to all typical sections except shared use paths and sidewalks. These typical sections should be adopted for future projects and should serve as guidance for future housing and development projects. It is recommended that these standards be used on all future projects. The proposed cross-sections are shown in **Figure 40** through **Figure 46**.

FIGURE 40– STANDARD HIGH-SPEED BIA PAVED ROAD TYPICAL SECTION

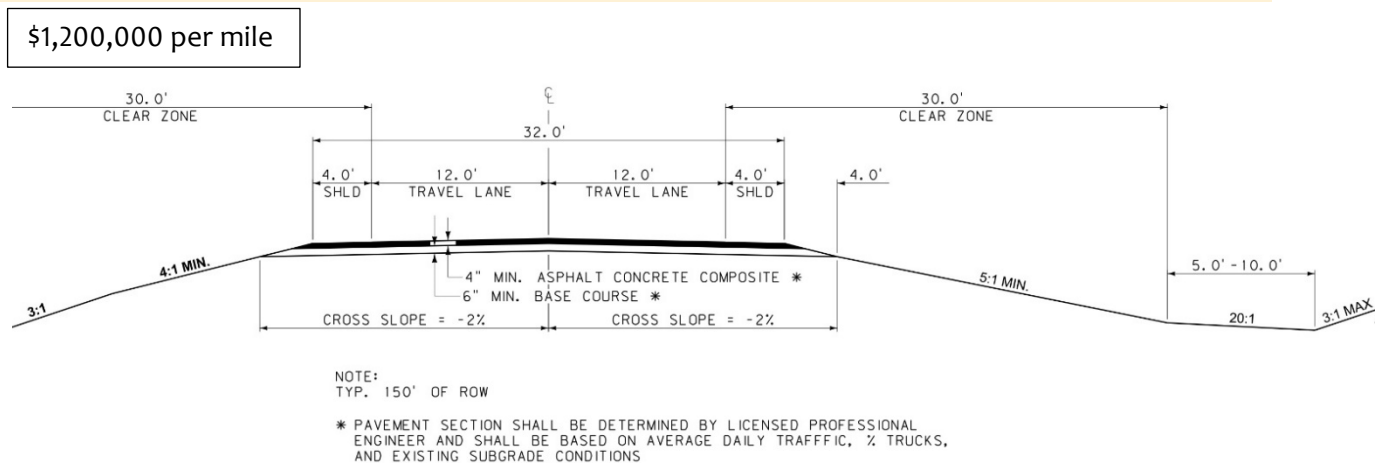
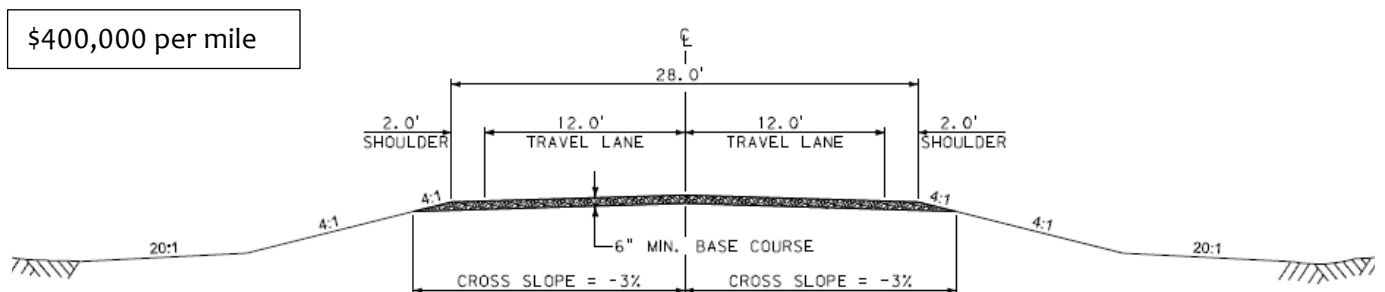


FIGURE 41 – STANDARD HIGH-SPEED GRAVEL ROAD TYPICAL SECTION





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FIGURE 42– STANDARD LOW SPEED GRAVEL ROAD TYPICAL SECTION

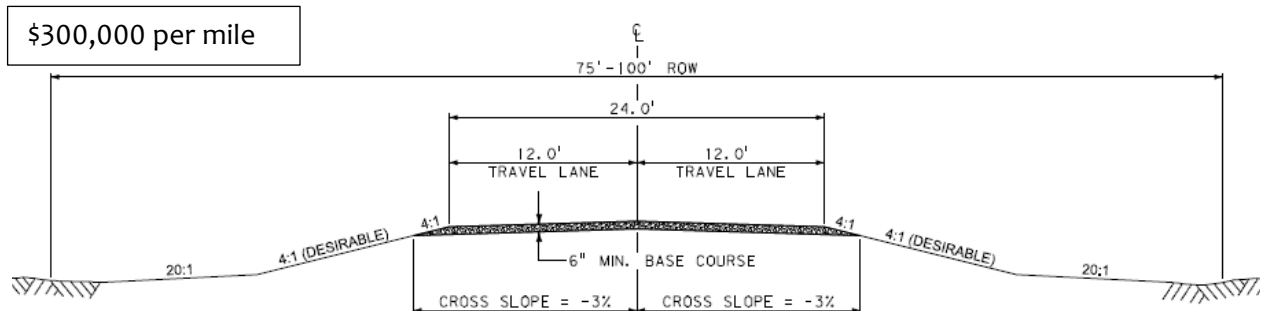
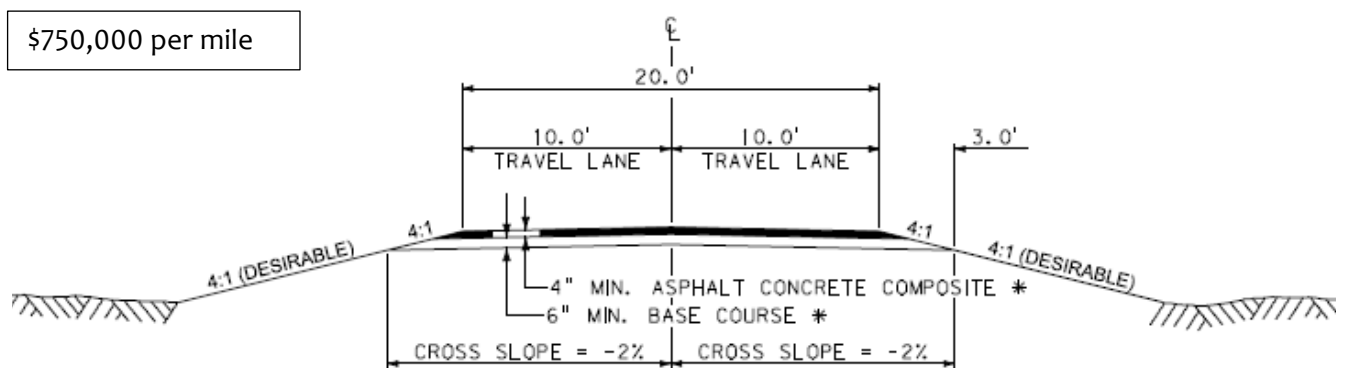
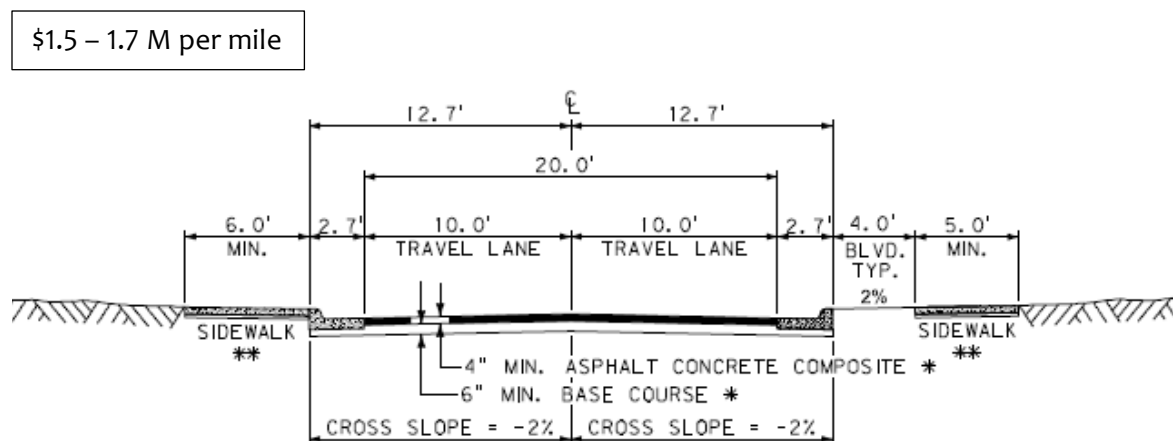


FIGURE 43 – STANDARD TRIBAL RESIDENTIAL STREET TYPICAL SECTION - RURAL



* PAVEMENT SECTION SHALL BE DETERMINED BY LICENSED PROFESSIONAL ENGINEER AND SHALL BE BASED ON AVERAGE DAILY TRAFFIC, % TRUCKS, AND EXISTING SUBGRADE CONDITIONS

FIGURE 44 – STANDARD TRIBAL RESIDENTIAL STREET TYPICAL SECTION – URBAN



* PAVEMENT SECTION SHALL BE DETERMINED BY LICENSED PROFESSIONAL ENGINEER AND SHALL BE BASED ON AVERAGE DAILY TRAFFIC, % TRUCKS, AND EXISTING SUBGRADE CONDITIONS

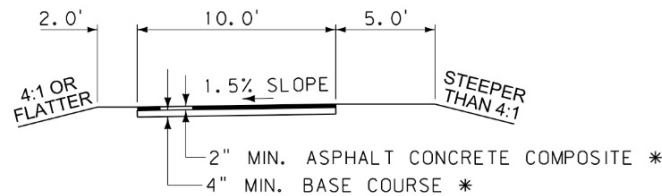


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FIGURE 45 – STANDARD SEPARATED SHARED USE PATH TYPICAL SECTION

\$200,000 per mile



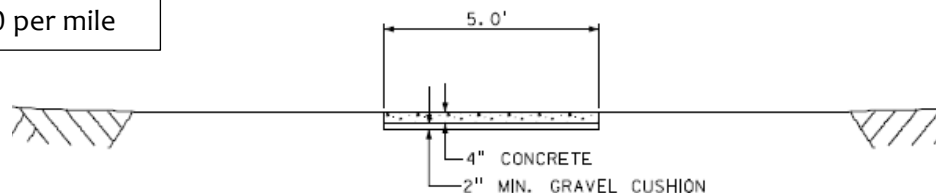
NOTE:

2" MIN. ASPHALT CONCRETE COMPOSITE OVER 4" MIN. BASE COURSE
OR
4" MIN. CONCRETE OVER 2" MIN. GRAVEL CUSHION

* PAVEMENT SECTION SHALL BE DETERMINED BY LICENSED PROFESSIONAL ENGINEER

FIGURE 46 – STANDARD SIDEWALK TYPICAL SECTION

\$300,000 per mile



DEVELOPMENT REVIEW

Future development proposals have the potential for impacts on the Southern Ute Indian Tribe transportation system. It is recommended that future development proposals be submitted to Southern Ute Indian Tribe Planning for review and comment before approval. This will increase Tribal leaders' information and their ability to make the best decisions pertaining to the development and potential impacts to the transportation system.

ENERGY CONSERVATION CONSIDERATIONS

It is recommended that the Southern Ute Indian Tribe use Light-Emitting Diode (LED) lighting for locations accessible to electric utilities, and Solar lighting for locations not accessible to utilities. The reason for LED preference has been that the maintenance cost for solar batteries is high and the performance of solar batteries is impacted by the colder weather. It is recommended that this energy conserving practice be continued until the cost and performance of solar batteries outweighs that for LED lighting.

Energy conservation can also be realized through improvements to roads that can serve as effective short cuts to other, longer routes. Energy is conserved when people choose non-motorized transportation as their mode of travel. This plan provides alternatives to improve facilities for walking, biking, and transit. It is anticipated that as these facilities are improved, use of alternative transportation modes will increase over time.



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CHAPTER 7 – PROJECT FUNDING

US and State highways on the Reservation are currently funded and maintained by the CDOT. There are multiple funding sources available for roads, bridges, sidewalks, trails, and transit which are not on the state highway system. It is possible that more of these funding sources can be tapped if a greater emphasis is placed on applying for these funds. These funding source alternatives are discussed in the following sections. It is also important to note that since the American Rescue Plan Act (ARPA) and H.R. 3684 Infrastructure Investment and Jobs Act (IIJA) were signed, there will be more grant money available for the Tribe.

TRIBAL TRANSPORTATION PROGRAM FUNDS

The Tribal Transportation Program (TTP) is the primary source of Tribal transportation funding. It is estimated that the Southern Ute Indian Tribe will be allocated slightly over \$1.0 million annually, although IIJA provides for increases in TTP funding in the amount of \$3 billion overall in the next five years. This may result in a higher allocation from FY2022 through FY2026.

The purpose of the TTP is to enhance the quality of life in Indian country by providing access to basic community services. The TTP replaces the former Indian Reservation Roads (IRR) program. Prior to distribution to Tribes, the following amounts may be deducted from the overall federal program:

- Up to 6% for program administration, including funding for Tribal Technical Assistance Centers (TTAPs). These funds may be used by the Secretary or the Secretary of the Interior for program management and oversight and project-related administrative expenses.
- Up to 2% per year for transportation planning, to be allocated among Indian Tribal governments that apply for transportation planning.
- Up to 2% per year for a nationwide priority program for improving eligible deficient bridges.
- Up to 2% per year for safety projects, to be allocated to applicant Tribal governments for eligible projects.

Unless additional funding resources can be tapped, funding for transportation improvements is limited to those resources identified in the Southern Ute Indian Tribe TTIP.

TRIBAL TRANSPORTATION PROGRAM SAFETY FUNDS

The TTPSF program has established funding goals for safety planning and engineering improvements. Funds are available to federally recognized Indian Tribes through a competitive, discretionary program. Awarded annually, projects are chosen based on outcomes that will address the prevention and reduction of deaths or serious injuries in transportation related



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crashes. Safety funds support safety projects, studies, safety audits, and other title 23-eligible safety activities.

It is recommended that the Southern Ute Indian Tribe apply for TTPSF funding to address transportation safety issues on the Reservation. The success of these applications can be increased if location-specific crash data is collected with a higher level of detail.

TRIBAL BRIDGE PROGRAM FUNDS

Applications for bridge project funding can be submitted under the Tribal Transportation Bridge Program (TTBP). All projects are ranked and prioritized based on the following criteria:

- Bridge sufficiency rating (SR)
- Bridge status with structurally deficient (SD) having precedence over functionally obsolete (FO)
- Bridges on school bus routes
- Detour length
- Average daily traffic
- Truck average daily traffic

TTBP funds may be used for planning, design, engineering, preconstruction, construction, and inspection of a project to replace, rehabilitate, seismically retrofit, paint, or for anti-icing and deicing, or to implement any countermeasures (including multiple-pipe culverts) for eligible Tribal transportation facility bridges.

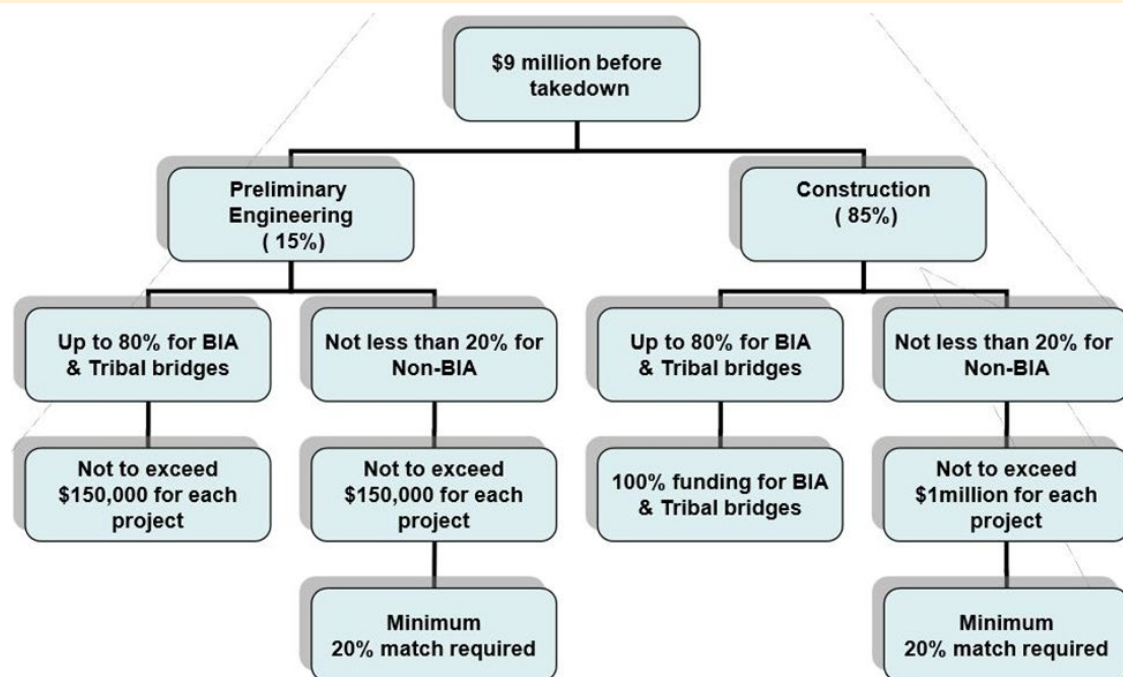
The Rebuilding American Infrastructure with Sustainability and Equity (RAISE Act) requires inspection of all public bridges including Tribal bridges be performed at least every 2 years, and the data reported into the FHWA National Bridge Inventory. To be eligible for funding, a bridge must have at least a 20-foot opening, be classified as a Tribal transportation facility, and be structurally deficient or functionally obsolete. IIJA provides for a \$100 million set-aside in the Tribal Transportation Facility Bridge Program for Tribes. On a national level, annual Tribal bridge program funding that the Southern Ute Indian Tribe can compete for is shown in **Figure 47**.



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FIGURE 47– ANNUAL TRIBAL BRIDGE PROGRAM FUNDING



NATIONALLY SIGNIFICANT FEDERAL LANDS AND TRIBAL PROJECTS (NSFLTP)

Administered by the USDOT and FHA, this funding opportunity was updated by the RAISE Act and provides Federal funding to projects of national significance for construction, reconstruction, or rehabilitation of transportation facilities within, adjacent to, or providing access to Federal or Tribal lands. Criteria for the NSFLTP program has been altered as part of the IIJA legislation, resulting in an increase of \$1.775 billion in funding over the next five years, requirement that 50 percent of funds be utilized for Tribal projects, eliminating the federal cost share for Tribes (providing 100 percent of funding), and reducing the minimum cost of construction to \$10 million. Projects must be a single, continuous project, meet the definition of transportation facilities, and have all NEPA activities complete.

TRIBAL TRANSIT PROGRAM

The Federal Transit Administration (FTA) Section 5311 Program authorizes capital, administrative, operating assistance, planning, technology, acquisition of public transportation services, and training grants to Indian Tribes providing public transportation services.

All projects must benefit residents in non-urbanized areas (under 50,000 population) of Colorado. Section 5311 provides up to 80% federal share of the costs for administrative expenses, up to 80% for capital costs and up to 50% of the net operating deficit for rural transit operations.



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The Rural Technical Assistance Program (RTAP) available under Section 5311 provides grants for training at 100% federal share. Eligible subgrantees for RTAP training grants include administrative and operating personnel providing rural transit services to areas in Colorado.

CDOT TRANSPORTATION ALTERNATIVES

Transportation Alternatives (TA) is authorized by the Rebuilding American Infrastructure with Sustainability and Equity (RAISE Act) which provides funding for a variety of alternative transportation projects, including many that were previously eligible under separately funded programs. TA replaces the Transportation Alternatives Program (TAP), and the set-aside funds include projects approved under previous programs authorized under MAP-21: Scenic Byways, Recreational Trails, and other discretionary programs.

The Federal share for these projects is 80%, with the non-Federal share covered by the responsible jurisdiction. The award maximum is \$400,000, with a minimum amount for infrastructure projects of \$50,000. There is no minimum amount for non-infrastructure projects.

Eligible categories include bicycle/pedestrian, and other non-motorized forms of transportation activities (both planning and construction), environmental mitigation transportation activities, historic/scenic transportation activities (such as turnouts, overlooks and viewing areas) and planning, designing, or construction boulevards and other roadways largely in the ROW of former Interstate System routes or other divided highways

RAISE GRANTS

The Department of Transportation provides funding through the Rebuilding American Infrastructure with Sustainability and Equity (RAISE) program. The funds are awarded on a competitive basis for planning and capital investments in transportation projects that will have a significant local or regional impact.

The 2022 RAISE program makes available \$1.5 billion in discretionary funding to support roads, bridges, transit, rail, ports, or intermodal transportation. \$75 million will be awarded to planning projects and at least \$15 million will be awarded to projects located in or to directly benefit areas of persistent poverty or historically disadvantaged communities (including Reservations).

Additionally, RAISE Transportation Planning Grants will be impacted by the passing of H.R. 3684 – Infrastructure Investment and Jobs Act, which should overfund grant programs like RAISE. The impact of the IIJA will be roughly \$110 billion dollars to roads, bridges, and major projects. Funds will be dedicated to grant programs to replace and repair bridges and increase funding for the major project competitive grant programs like RAISE.

Changes in the RAISE program for FY2022 include:

- An emphasis on cutting-edge technologies that explicitly address climate change.



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- A commitment to racial and economic/access equity along with economic equity.
- An emphasis on addressing environmental justice, particularly for communities that disproportionately experience climate-related consequences
- Commitment to projects that create good paying jobs

Projects for RAISE will be evaluated based on merit criteria that include safety, environmental sustainability, quality of life, economic competitiveness, and opportunity, mobility and community connectivity, state of good repair, innovation, and partnerships/collaboration.

COLORADO TRANSPORTATION ECONOMIC DEVELOPMENT PROGRAMS

The Colorado Department of Transportation administers grant programs to foster economic development, enhance community access, and to help smaller communities revitalize after the COVID-19 Pandemic. Colorado offers a variety of programs and in 2021 they added a “Improving Main Street” provision which infused an extra \$4.1 million in funds to help communities revitalize local economies after the COVID-19 Pandemic.

CDOT also offers Multi-Modal Optional Fund (MMOF) grants. MMOF was created during the 2018 legislative session. MMOF funds may be used for an array of capital, construction, operations, and planning projects including but not limited to bicycle, pedestrian, ride sharing, or transit projects. MMOF is split evenly between state and local projects. These grants require a 50 percent match.

Lastly, Colorado will be implementing the Colorado Outdoor Equity Grant in 2022. The purpose of this program is to increase access and opportunity for underserved youth and their families to experience Colorado’s open spaces, state parks, public lands, and other outdoor areas. Projects are anticipated to be those that directly engage youth and families by reducing barriers to the Colorado outdoors, creating pathways for formal and informal conservation of the environment and providing outdoor-based educational opportunities. Information related to eligible applicants and specific project criteria has not yet been released but is anticipated in 2022.

NEW ARPA & IIJA PROGRAMS/OPPORTUNITIES

ARPA:

The State and Local Fiscal Recovery Funds program, which authorized ARPA allocates \$20 billion for Tribal governments to support their response to the recovery from the COVID-19 public health emergency. On January 6, 2022, Treasury published the final rule which, for purposes of this LRTP, and direct impact on transportation related projects, allowed for a standard deduction of revenue loss up to \$10 million or the entirety of the Tribal allocation if it is less than \$10 million. Essentially, this opens use of these dollars for “any service traditionally provided by the government to include road building and maintenance, and other infrastructure.”



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IIJA:

H.R. 3684, the Infrastructure Investment and Jobs Act (IIJA) provides significant additional funding to existing programs and several new grant programs to benefit Tribal transportation and transit needs. Although administrative rules have not yet been established for all IIJA programs, the following is a general list of opportunities that will become available for Tribal consideration between 2022-2026:

- Inclusion of Tribes as eligible recipients for State Safe Routes to Schools Program dollars
- Wildlife Crossing Safety Pilot Program
- Tribal High Priority Projects Program (which creates a funding set-aside out of the TTP program for high priority projects (\$9 million each year for 5 years) and authorizes an additional \$30 million per year out of the general fund for the program)
- Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) Program (which establishes both a formula and competitive grant program to improve the resiliency of transportation infrastructure). The competitive program includes 1) Resilience Improvement Grant (to improve the ability of existing surface transportation assets to withstand weather events, natural disasters, or increase resilience to impacts of flooding, wildfires, or other natural disasters); and 2) Community Resilience and Evacuation Route Grant, It is anticipated there will be NO match requirement for these grants and funding includes a 2% set-aside for Indian Tribes.
- Inclusion of Tribes as eligible recipients for State Healthy Streets Program dollars
- Inclusion of “poor” condition of bridges to be funded in the Bridge program (in addition to the previously defined “deficient” bridges.
- Establishes the Rural and Tribal Infrastructure Advancement Program (to provide financial, technical, and legal assistance to evaluate potential projects and assist with development phase activities and to serve as a clearinghouse)
- Authorizes \$150 million per year for 5 years for a new program to modernize the state data collection systems to enable full electronic data transfer of vehicle crashes. Indian Tribes are eligible for these grants as “states.” Federal share up to 80 percent.
- Establishes a new grant program, Safe Streets and Roads for All” to support local initiatives to prevent death and serious injury on roads and streets. Authorizes \$200 million per year for 5 years and allows for 80 percent federal share.
- Establishes a new grant program SMART-Strengthening Mobility and Revolutionizing Transportation which shall provide grants to conduct demonstration projects focused on advanced smart city or community technologies and systems that improve transportation efficiency and safety. Authorizes \$100 million per year for 5 years with 30 percent for rural community and regional partnerships.
- Establishes a new EPA program to award grants and rebates on a competitive basis for replacement of existing school buses with clean or zero emissions school buses.



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FEDERAL AVIATION ADMINISTRATION AIRPORT IMPROVEMENT PROGRAM

The Airport Improvement Program (AIP) provides grants to public agencies and, in some cases, to private owners and entities for the planning and development of public-use airports that are included in the National Plan of Integrated Airport Systems (NPIAS).

For large and medium primary hub airports, the grant covers 75 percent of eligible costs (or 80 percent for noise program implementation). For small primary, reliever, and general aviation airports, the grant covers a range of 90-95 percent of eligible costs, based on statutory requirements.

AIP grants for planning, development, or noise compatibility projects are at or associated with individual public-use airports (including heliports and seaplane bases). A public-use airport is an airport open to the public that also meets the following criteria:

- Publicly owned
- Privately owned but designated by FAA as a reliever
- Privately owned but having scheduled service and at least 2,500 annual enplanements.

Further, to be eligible for a grant, an airport must be included in the NPIAS. The NPIAS, which is prepared and published every 2 years, identifies public-use airports that are important to public transportation and contribute to the needs of civil aviation, national defense, and the Postal service.

The description of eligible grant activities is described in the authorizing legislation and relates to capital items serving to develop and improve the airport in areas of safety, capacity, and noise compatibility. In addition to these basic principles, an awardee must be legally, financially, and otherwise able to carry out the assurances and obligations contained in the project application and grant agreement.

Eligible projects include those improvements related to enhancing airport safety, capacity, security, and environmental concerns. In general, sponsors can get AIP funds for most airfield capital improvements or rehabilitation projects and in some specific situations, for terminals, hangars, and nonaviation development. Certain professional services that are necessary for eligible projects (such as planning, surveying, and design) can also be eligible. The FAA must be able to determine that the projects are justified based on civil aeronautical demand. The projects must also meet Federal environmental and procurement requirements.

The following requirements must also be met for FAA to consider a project for AIP funding:

- The project sponsorship requirements have been met.
- The project is reasonably consistent with the plans of planning agencies for the development of the area in which the airport is located.



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- Sufficient funds are available for the portion of the project not paid for by the Federal Government.
- The project will be completed without undue delay.
- The airport location is included in the current version of the NPIAS.
- The project involves more than \$25,000 in AIP funds.
- The project is depicted on a current airport layout plan approved by FAA.

Figure 48 lists examples of typical eligible and ineligible AIP Projects.

FIGURE 48 - EXAMPLES OF ELIGIBLE AND INELIGIBLE AIP PROJECTS

Examples of Eligible Versus Ineligible AIP Projects	
Eligible Projects	Ineligible Projects
Runway construction/rehabilitation	Maintenance equipment and vehicles
Taxiway construction/rehabilitation	Office and office equipment
Apron construction/rehabilitation	Fuel farms*
Airfield lighting	Landscaping
Airfield signage	Artworks
Airfield drainage	Aircraft hangars*
Land acquisition	Industrial park development
Weather observation stations (AWOS)	Marketing plans
NAVAIDs such as REILs and PAPIs	Training
Planning studies	Improvements for commercial enterprises
Environmental studies	Maintenance or repairs of buildings
Safety area improvements	
Airport layout plans (ALPs)	
Access roads only located on airport property	
Removing, lowering, moving, marking, and lighting hazards	
Glycol Recovery Trucks/Glycol Vacuum Trucks	

*May be conditionally eligible at non-primary airports.

For complete information about the AIP, view the website at www.faa.gov/airports/aip.

Local Fees and Taxes

The Southern Ute Indian Tribe has very limited resources for raising local funds. Some items that may be considered include assessing a wheel tax on vendors, fines for overweight vehicles, and fees associated with haul road agreements. The success of any of these options is contingent on Tribal lawyers drafting the regulations and laws required and Tribal courts providing needed enforcement.



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RECOMMENDED FUNDING STRATEGY

Until an inventory of pavement conditions and a pavement management plan is prepared, it is difficult to know the extent of transportation improvement needs, both now and heading into the future. It is reasonable to anticipate that the needs will be greater than funding that is available. The federal register requires analysis of funding alternatives.

Keeping this in mind, it is more important than ever that the Southern Ute Indian Tribe wisely spend the limited funds that are received and make necessary efforts to leverage additional funds from competitive funding programs including those established by ARPA and IIJA.

Figure 49 provides a general guide for project types and funding mechanisms. It should be consulted yearly to determine potential projects that fit within competitive programs. When projects are identified, the Tribe should determine the appropriate timing to initiate funding applications.

FIGURE 49 – FUNDING MECHANISMS BY PROJECT TYPE

Funding Program	Acronym	Funding Mechanism	Typical Project Type
Tribal Transportation Program Funds	TTP	Allocation	Roads
Tribal Safety Funds	TTPSF	Application	Studies, guardrail, hazard reduction
Tribal Bridge Program Funds	TTBP	Application	Bridges
Tribal Equitable Compensation Act	TECA	Application	Road construction and improvement, hazard reduction
Transportation Alternatives Funding	TA	Application	Sidewalks and shared use paths, lighting
Better Utilizing Investments to Leverage Development Funds	BUILD	Application	Variety, tied to economic development
Congestion Mitigation and Air Quality Funds	CMAQ	Application	Maintenance equipment
Federal Transit Administration	FTA	Application	Transit buses, transit shelters
Federal Aviation Administration Airport Improvement Program	AIP	Application	Airport improvements
Nationally Significant Federal Lands and Tribal Projects	NSFLTP	Application	Highways, roads, bridges, trails, transit on or adjacent to Tribal or Federal land

Strategic decisions on where to use available funds must recognize that use of funds to address one need often impacts the ability to resolve another need.

Figure 50 provides an example of how the annual budget of about \$1.0 million of TTP funds could be spread between new construction and reconstruction, major rehabilitation, pavement preservation and maintenance. This table is intended to serve as a guide, so that when, for example, decisions are made to spend more on one type of project, additional decisions are



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needed to spend less on another type of project. Alternative funding covering shared use paths, bridges and transit are not shown as these will generally be dependent upon success in submitting applications and competition against other submittals.

FIGURE 50 – EXAMPLE USE OF ANNUAL TTP FUNDS

New Construction and Reconstruction	Cost/Mile	Priority Miles	Miles/Year	Annual Cost
Street Construction/Reconstruction	\$1,700,000.00	0	0	\$0.00
Lighting (TA Match)	\$315,000.00	7	0.50	\$31,500.00
Sidewalks (TA Match)	\$300,000.00		0.00	\$0.00
Shared Use Paths (TA Match)	\$200,000.00	7	0.50	\$20,000.00
			Subtotal	\$51,500.00
<u>Major Rehabilitation</u>				
Major Surface Rehabilitation	\$500,000.00	176	0	\$0.00
Gravel Rehabilitation	\$105,000.00	25	0.5	\$52,500.00
			Subtotal	\$52,500.00
<u>Pavement Preservation</u>				
Chip Seal	\$75,000.00	16	2	\$150,000.00
Crack filling and sealing	\$19,000.00	16	2	\$38,000.00
4-Inch Structural Overlay	\$600,000.00	16	0	\$0.00
1-1/2 Inch Non-Structural Overlay	\$220,000.00	16	0.33	\$72,600.00
			Subtotal	\$260,600.00
<u>Maintenance</u>				
Patching (In Square Yards)	\$90.00	100	50	\$4,500.00
Gravel Blading & Maintenance	\$14,000.00	23	23	\$322,000.00
Conversion of Primitive to Gravel	\$70,000.00	0	0	\$0.00
Multi-Route Pavement Striping	\$3,000.00	16	16	\$48,000.00
Bridge and Culvert Maintenance	\$38,000.00	1 LS	1	\$38,000.00
Equipment Acquisition and Repairs	\$50,000.00	1 LS	1	\$50,000.00
Dust Control	\$11,000.00	0	0	\$0.00
			Subtotal	\$462,500.00
			Project Improvements	\$827,100.00



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CHAPTER 8 – PROJECT PRIORITIZATION

Projects were prioritized in line with available funding, anticipated success in applying for competitive funding, Tribal Council policies and identified project needs.

State and County highway improvements will be implemented based upon state, county, and federal funding availability and based upon their own prioritization methodology. Project prioritization may vary based upon other infrastructure needs. For example, if a major water main is to be installed under a roadway, it is more cost effective to improve this roadway in combination with the underground utility improvements rather than restoring the road and improving it in subsequent years. At the time this report was completed, a utility implementation strategy was unavailable.

SHORT- AND LONG-RANGE PROJECT RECOMMENDATIONS

Short range projects are those anticipated to be started by the end of the year 2026. For projects to use TTP funding, they must be included in the TTIP. Therefore, at the completion of this LRTP, the Southern Ute Indian Tribe should update the TTIP to include identified short range projects.

The short-range projects listed in the Tribe's TTIP must be financially constrained to fit within the amount of TTP funds allocated to the Tribe each fiscal year. It is expected that the Tribe will receive about \$1,011,000 annually from which the general Tribal maintenance fund is proposed to use up to \$250,000.00 (\$50,000 for equipment), leaving about \$750,000.00 annually for construction. These monies may be banked for more expensive projects or banked as needed to wait for project development and design to be completed.

In past TTIP submittals, it was not possible to include all the Tribal project needs because they must be included in the LRTP first and the 2016 LRTP did not have the projects listed that the Tribe wishes to complete. Therefore, it is going to take some time for projects to proceed through design for the projects to be bid for construction. The project estimates that have been prepared include a 12% contingency for survey and design added to the construction cost.

Since survey and design has not been completed to address current project construction needs, it may be beneficial for the Southern Ute Indian Tribe to put out an RFP to get one or more consulting engineering firms on board with a general engineering agreement so they may be contracted to assist with these efforts if desired. This would not require the Southern Ute Indian Tribe to use consulting services for project development, but it would allow the Southern Ute Indian Tribe to contract with preferred consultants moving forward without having to go through a separate RFP process each time assistance is desired.

To maintain the Tribe's economic sustainability, funding must be carefully distributed to the most critical projects. Proposed short range projects are listed in **Table 16**. When additional funding is received, the Tribe will be able to prioritize a long-range project to move into the short-range element of the LRTP.



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TABLE 16: SHORT RANGE PROJECTS

Project Name	Description	Route(s)	Area	Length (Miles)	Estimated Cost
Cedar Point Roads Rehabilitation	Crack seal and seal coat all 12 roads in Cedar Point subdivision	All routes in Cedar Point Subdivision	Cedar Point Subdivision	3.82	\$359,000
La Boca Cemetery Road Gravel Reconstruction	Improve Cemetery Road from Hwy 172 to Cemetery entrance	Cemetery Rd	Cemetery, La Boca Canyon Area	1.38	\$270,000
Campus North Parking Rehabilitation	Parking lot upgrades	Parking lots	Campus	NA	\$600,000
Campus Mid Parking Rehabilitation	Parking lot upgrades	Parking lots	Campus	NA	\$850,000
Campus South Parking Rehabilitation	Parking lot upgrades	Parking lots	Campus	NA	\$650,000
Campus Interconnecting Street Upgrades	Street Reconstruction	Ouray Dr	Campus	NA	\$850,000
Museum parking and roundabout reconstruction	Create true roundabout east of Museum	Ouray Dr	Campus	NA	\$250,000
Ignacio Hwy 172 Shared Use Path	New Shared Use Path	Hwy 172	Ignacio	0.6	\$225,000
Cedar Point East Shared Use Path	New Shared Use Path	Hwy 172		0.9	\$168,000
Northridge Shared Use Path	New Shared Use Path	Co Rd 314	Ignacio	0.9	\$188,000
Ute Road Shared Use Path	New Shared Use Path	Ute Road	Ignacio	0.9	\$175,000



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In addition to the short-range projects listed in **Table 16**, there are a number of safety related studies and efforts recommended to be undertaken during the next 5 years. These are highlighted in the Crash and Safety Analysis section of the LRTP.

Long range projects are those anticipated to be started after the year 2026. While many of these projects are desired sooner, funding limitations indicate that it may not be possible to complete them during the short-range element of the plan. Some of these projects may become short range projects if the Tribe is able to pull from alternative funding sources described earlier. Long range projects are shown in **Tables 17, 18, and 19**.

TABLE 17: LONG RANGE GRAVEL SURFACING MAINTENANCE PROJECTS

Road Name	Surface Type	Miles	Est. Cost
Payan Canyon Rd	Earth/Unimproved	12.94	\$1,060,000
Middle Sandoval Rd	Earth/Unimproved	6.85	\$562,000
Archuleta Mesa Rd	Earth/Unimproved	8.31	\$682,000
East Archuleta Mesa Rd	Earth/Unimproved	2.98	\$244,000
Madrid Canyon Rd	Earth/Unimproved	7.55	\$619,000
East Sandoval Canyon Rd	Earth/Unimproved	10.74	\$880,000
Dipping Vat Rd	Earth/Unimproved	5.19	\$426,000
Jefferson Canyon Rd	Earth/Unimproved	2.80	\$230,000
Escondido Creek	Earth/Unimproved	10.32	\$846,000
Rancho Durango	Earth/Unimproved	11.80	\$968,000
Hondo-Vega Rd	Earth/Unimproved	5.39	\$442,000
FS 842/Hondo-Vega Rd	Earth/Unimproved	5.43	\$445,000
Herion Canyon Rd	Earth/Unimproved	4.63	\$380,000
Quintana Canyon Rd	Earth/Unimproved	2.55	\$209,000
Trail Canyon Rd	Earth/Unimproved	4.86	\$400,000
Youth Camp Rd	Gravel	0.33	\$1,650
Sambrito Creek Rd	Gravel	3.20	\$16,000
Sambrito Creek Rd	Gravel	0.31	\$1,550
M511	Gravel	0.02	\$500
Sambrito Creek Rd	Gravel	4.39	\$22,000
Youth Camp Rd	Gravel	0.06	\$500
M509	Gravel	0.02	\$500
BIA172	Earth/Unimproved	0.40	\$33,000
BIA173	Earth/Unimproved	0.51	\$42,000
BIA111	Earth/Unimproved	0.83	\$68,000
BIA111	Earth/Unimproved	7.92	\$650,000
BIA113 (Soda Springs Gulch)	Earth/Unimproved	6.97	\$572,000
BIA114 (Gore Road)	Earth/Unimproved	3.26	\$267,000



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BIA150	Earth/Unimproved	7.69	\$630,000
BIA112 (Canyon 44 Road)	Earth/Unimproved	6.77	\$555,000
BIA151 (Pump Canyon)	Earth/Unimproved	9.87	\$809,000
BIA111	Earth/Unimproved	14.77	\$1,211,000
BIA114	Earth/Unimproved	9.42	\$772,000
BIA150 (Trail Canyon Road)	Earth/Unimproved	3.37	\$276,000
BIA150	Earth/Unimproved	5.28	\$433,000
BIA171	Earth/Unimproved	0.81	\$66,000
BIA111	Earth/Unimproved	2.69	\$220,000
BIA150	Earth/Unimproved	7.69	\$630,000
Total		206.61	\$15,669,700

TABLE 18: LONG RANGE PAVED ROAD/OTHER PROJECTS

Project Name	Description	Route(s)	Area	Length (Miles)	Cost
New County Rd 314/Hwy 172 Intersection	Construct new road to connect County 314 and County 517 and create 4-way Highway 172 intersection	County Roads 314 & 517	Campus	0.25	\$425,000
Becker Street Connection to Hwy 172	Construct new paved road to extend Becker St and Ute Rd until they meet at a new intersection.	Becker St, Ute Rd	Ignacio	0.25	\$425,000
Becker Street Connection to County Rd 314	Construct new street to connect County Rd 314 to new intersection of Becker St and Ute Rd	New Connection	Northridge subdivision, Ignacio	0.6	\$1,020,000
Archuleta County Rd 500 erosion control	Shore up road with rip-rap or other means to prevent further erosion from San Juan River	Archuleta County Rd 500	North of Montezuma Mesa along San Juan River	1.24*	\$2,108,000
Procure new gravel source	Study, environmental work, and ROW acquisition	NA	Reservation-wide	NA	\$50,000
Lighting	Install street lighting in Southern Ute Indian Tribe subdivisions	Varied	Southern Ute Indian Tribe subdivisions	NA	NA
Ignacio Peak Pavement Rehabilitation	Rehabilitate or streets in Ignacio Peak subdivision	Ignacio Peak Dr, Jefferson Dr	Ignacio Peak Subdivision	1.13	678,000



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TABLE 19: LONG RANGE PEDESTRIAN/BICYCLE PROJECTS

Proposed Shared Use Path Projects - Linear Feet by Location			
Subdivision or Geographic Area	Project ID	Linear Feet	Estimated Project Cost
Rainbow Meadows	1	1,141	\$44,000
Pow Wow Housing	2	1,364	\$52,000
Sunset Meadows	3	1,970	\$75,000
Sunset Circle	5	3,600	\$136,000
Hwy 314 Connect to 172	7	520	\$20,000
South Campus Gap Fills	8	308	\$12,000
Becker St. Ext. to 314	10	3,167	\$120,000
Ignacio	11	2,950	\$112,000
	12	1,672	\$64,000
	13	745	\$28,000
	14	307	\$12,000
	15	1,245	\$47,000
	16	194	\$8,000
Ignacio Peak	18	4,716	\$179,000
Total		38,356	\$1,085,000