

CONNECTED COMMUNITIES PROJECT

Trails Master Plan



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Prepared For: Sierra Nevada Conservancy, USFS Pacific Southwest Region 5
Lassen, Plumas, Tahoe and Humboldt-Toiyabe National Forests
Bureau of Land Management, Eagle Lake Field Office
Lassen, Butte, Plumas, Sierra, Nevada and Washoe Counties

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Made in America for the benefit of Americans for generations.

SBTS acknowledges that the Lost Sierra Region is the ancestral homeland to many indigenous peoples including - Miwok, Nisenan, Maidu, Washoe, Konkow, Pit River and Paiute. These people are the original stewards of this region and they still call this place home. We acknowledge that western colonization forcibly removed these people from their homeland with no financial compensation or emotional regard for the lives and ways of these indigenous communities. We hope the trails we work on provide access, connection and appreciation for these indigenous ancestral homelands and that it inspires you to become a steward of the land.



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ACRONYMS

4WD	Four Wheel Drive
ATV	All Terrain Vehicle
BLM	Bureau of Land Management
BRD	Beckwourth Ranger District
CC	Connected Communities
CEQA	California Environmental Quality Act
CCIR	Connected Communities Identified Route
ELRD	Eagle Lake Ranger District
FRRD	Feather River Ranger District
HCD	Hat Creek District
HTNF	Humboldt Toiyabe National Forests
IDEA	Inclusion, Diversity, Equity and Access
LNF	Lassen National Forest
MHRD	Mount Hough Ranger District
NEPA	National Environmental Protection Act
ORR	Outdoor Recreation Roundtable
PCTA	Pacific Crest Trail Association
PILT	Payment In Lieu of Taxes
PNF	Plumas National Forest
SBTS	Sierra Buttes Trail Stewardship
SRD	Sierraville Ranger District
TMO	Trail Management Objectives
TMP	Trails Master Plan
TNF	Tahoe National Forest
TRD	Truckee Ranger District
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
UTV	Utility Task Vehicle
YRRD	Yuba River Ranger District

1. EXECUTIVE SUMMARY

Against the backdrop of a surging interest in outdoor recreation, the Sierra Buttes Trail Stewardship's Connected Communities Trails Master Plan (TMP) emerges as a pivotal initiative to capitalize on the growing trend of outdoor recreation and focuses on revitalizing disadvantaged mountain communities, using trails as the tool. The TMP provides the steps to create a sustainable economy for local communities by promoting tourism, new job creation and outdoor activities while preserving the natural environment and cultural heritage of northern California's Sierra Nevada and Cascade Range; a region commonly referred to as the Lost Sierra.



Participants and spectators enjoying Ron's House of Big Air River Jump during the Downieville Classic Mountain Bike Festival, held in Downieville, California.

In 2022, 168.1 million Americans engaged in outdoor recreation, marking a 2.3-percent increase since March 2021 (Outdoor Foundation, 2022). This surge in outdoor activity has had a profound economic impact, with the outdoor recreation economy contributing a staggering \$1.1 trillion to the U.S. economy in 2022, surpassing industries such as mining, utilities, farming and ranching, and chemical products manufacturing. In California, the outdoor recreation economy generates \$73.8 billion and accounts for 568,000 jobs (Outdoor Recreation Roundtable - ORR). In addition, the Bureau of Economic

Analysis found that the 2022 outdoor recreation economy grew three times faster than the U.S. economy as a whole.

The Connected Communities TMP is a visionary effort led in partnership by SBTS and community stakeholders to connect 15 mountain towns for economic prosperity through outdoor recreation. The TMP was developed in collaboration with City, County, State and Federal government staff and officials, land managers, regional stakeholders, local residents, community leaders and Main Street business owners, with input from more than 1,500 responses to an accessible online and paper survey. Connected Communities creates a vision and pathway for a recreation-focused lifestyle through community investment, shared stewardship, economic opportunity and important new local jobs, all benefiting economically disadvantaged communities in California's Plumas, Sierra, Butte, Lassen and Nevada Counties, as well as Washoe County, Nevada.

The intent of the TMP is to diversify recreation throughout the region and provide economic stability, as well as support forest health, fire recovery and prevention efforts . This project will

create a learning landscape for outdoor and environmental education programs including youth and adult training, apprenticeships and employment opportunities and volunteer participation.

The TMP will serve the needs of all recreational users by creating a new shared-use trail network capitalizing on the growing demand for singletrack trails in the Lost Sierra region. Trails included in the TMP are planned and designed around the IDEA: Inclusion, Diversity, Equity and Access for all users, with the goal of providing world-class shared-use opportunities for motorcycles, Class 1 Ebikes, mountain bikes, hiking and equine use.

The Connected Communities TMP includes four main components:

1. Identify trail corridors in the optimum location for a shared-use singletrack trail network to connect communities across the region and outline a 551-mile long signature route - dubbed the Lost Sierra Route. Maps for this can be found in **Appendix 1. Connected Communities Identified Route (CCIR) Map** and a description and discussion of feasibility can be found in **Appendix 2. Trail Feasibility Study** and **Appendix 3. Trails Feasibility Study Maps**.
2. Conceptualizing capital improvement projects that would be needed to support the trail network such as trailhead infrastructure and educational signage.
3. Highlighting Recreation Zones as areas near communities warranting additional trail and infrastructure planning and development.
4. Developing desired conditions for Fire-Hardened Trail Prescription for vegetation management corridors, with recommendations for fuels reduction and forest restoration within future project planning areas.

The TMP signifies a collaborative Pre Planning effort to create a shared-use trail system that transcends boundaries. By connecting cities, diverse landscapes, and communities, the TMP aims to be a global model for regional collaboration, economic empowerment and sustainable development, ensuring a lasting legacy for the region and its people. The Connected Communities project spans:

- 15 Towns: Susanville, Westwood, Chester, Jonesville, Greenville, Taylorsville, Quincy, Graeagle, Portola, Loyalton, Sierraville, Sierra City, Downieville, Truckee and Reno
- 6 Counties: Plumas, Sierra, Lassen, Butte, Nevada and Washoe
- 2 States: California and Nevada
- 5 Federal Land Agencies: Lassen, Plumas, Tahoe, Humboldt-Toiyabe National Forests and Bureau of Land Management

The Connected Communities project can be broken into four phases:

- Phase 1 - Pre Planning - Trails Master Plan concept and development
- Phase 2 - Environmental Review - compliance with NEPA and CEQA for project approval
- Phase 3 - Construction - trail and capital improvement development projects
- Phase 4 - Maintenance - annual and long term maintenance

Sierra Buttes Trail Stewardship's Connected Communities Trails Master Plan stands not only as a testament to the future of outdoor recreation and rural economic development, but as a global model for cultural respect, collaboration and inclusivity. By acknowledging and embracing the indigenous homelands of the Miwok, Nisenan, Maidu, Paiute, Konkow, Pit River and Washoe tribes, the Connected Communities project aspires to create trails honoring the past, celebrating the present and paving the way for a harmonious and culturally rich future for all communities involved.

draft

2. REGIONAL OVERVIEW

The Connected Communities Project is primarily located in northern California and includes all or portions of Plumas, Sierra, Lassen, Butte and Nevada Counties; a portion of Washoe County, Nevada is also included. The project includes 13 rural and economically disadvantaged communities in the state of California (Susanville, Westwood, Chester, Jonesville, Greenville, Taylorsville, Quincy, Graeagle, Portola, Loyalton, Sierraville, Sierra City and Downieville) with additional ties to both Truckee, California, and Reno, Nevada. The project includes land managed by Lassen, Plumas, Tahoe and Humboldt-Toiyabe National Forests as well as the Bureau of Land Management. The project area also includes some privately held lands. There are several complementary projects happening in the area.

2.1 Landscape and Terrain



Source: Ken Etzel

The Lost Sierra region is the convergence of the Sierra Nevada Mountains, Cascade Range, and Central Basin and Range Mountains which provides unique landscapes, terrain and ecosystems. The elevation of the region ranges from 2,943 feet at Downieville to 8,760 feet at Babbitt Peak and features gentle to steep side slopes, perennial and seasonal streams, alpine valleys and rugged

mountains. The region includes several important features such as Upper Feather River Watershed (providing nearly all the water delivered by the California State Water Project), Sierra Valley (one of the largest alpine valleys in the United States), and the iconic Sierra Buttes of the Lakes Basin Recreation Area. The Southern Cascade ecoregion, with diverse conifer forests and broad valleys, defines the northern extent of the region. The Sierra Nevada ecoregion, with more Douglas firs and Ponderosa pines defines the central and southern portions of the region. The Central Basin and Range ecoregion, with spruce-fir forests, juniper woodlands and sagebrush in the eastern extent of the region.

2.2 Economics and Demographics

The communities of the northern Sierra region have struggled economically for generations. Plumas and Sierra Counties were two of the richest counties in California during the Gold Rush and again during the Timber Boom, and like many mountain towns, those industry jobs have disappeared over time as gold and trees were harvested from the area. The recent wildfire activity in these regions has intensified economic challenges. Plumas, Sierra and Lassen are now among California's poorest counties.

In 2021, the US Median Household income was \$69,021. In Nevada County the Median Household Income was \$74,617. The Median Household Income in Lassen County was \$59,292, Sierra County was \$56,152, Plumas County was \$57,885, and Butte County \$59,863, all are well under the national average (U.S Census Bureau, 2023). In 2022, the five counties combined (Butte, Lassen, Nevada, Plumas and Sierra Counties) had a population of 375,633. From 2010 to 2022, the population decreased by 14,641 people, a 4% decrease. Natural change (births and deaths) contributed to 22% of the population change while migration contributed to 76% (U.S Census Bureau, 2023). The leading cause for migration from the region was loss of industry jobs.

The top three occupations and industries for the region in 2021 were: Non-Labor personal income 45.5%, Services employment 68.7%, and Government employment 16.3%. Nevada County had the lowest amount of government employment at 12%, and Lassen County had the highest at 49%. Government employment in Sierra County was 33%, Plumas County 24%, and Butte County 15%. From 2001 to 2022 government jobs in all 5 counties grew from 29,583 to 31,424, a 6% increase for the region. The three industries with the highest growth in the region were professional and management, transportation and utilities, and arts and recreation. (U.S Census Bureau, 2023).

2.2.1 Recreation Economy



Mountain biker coming down the second divide trail in Downieville, CA. Source: Ken Etzel

168.1 million Americans or 55 percent of the US population sixteen or older participated in outdoor recreation, growing 2.3 percent in 2022 (Outdoor Foundation, 2022) and contributing \$1.1 trillion to the U.S. economy, surpassing industries such as health care, mining, utilities, agriculture and real estate. In addition, the Bureau of Economic Analysis found that the 2022 outdoor recreation economy grew three times faster than the U.S. economy. In California, the outdoor recreation economy generated \$73.8 billion and accounted for 568,000 jobs or 10.1% of employment (Outdoor Recreation

Roundtable, 2022).

For the nation, the retail trade industry group was the largest contributor to U.S. outdoor recreation in 2022, accounting for \$153.6 billion, or 27.3%. At the state level, retail trade was the largest contributor to outdoor recreation in 28 states. The states with the largest contributions were California (\$19.1 billion), Texas (\$13.4 billion) and Florida (\$12.0 billion). Arts, entertainment, recreation, accommodation and food services was the second-largest industry group for the nation, at \$144.5 billion or 25.6%, and was the largest industry group in 18 states and the District of Columbia. The states with the largest contributions were California (\$19.3 billion), Florida

(\$18.8 billion) and New York (\$10.6 billion). Manufacturing was the third-largest industry group for the nation at \$77.6 billion or 13.8%. The states with the largest contributions were Texas (\$10.3 billion), California (\$9.8 billion) and Indiana (\$9.2 billion) (Bureau of Economic Analysis, 2023).

In the Lost Sierra region, outdoor recreation plays a significant role in economic development by attracting visitors, creating jobs, stimulating small business growth, and fostering a sense of community and environmental stewardship. The region is known for its stunning landscapes, diverse ecosystems and vast amounts of public land. The outdoor recreation economy has positively impacted the region in several ways:

Tourism and Visitor Spending: The region draws tourists who seek outdoor activities such as camping, fishing, skiing, hiking, motorcycle and ATV riding and mountain biking. Visitors often spend money on accommodations, dining, equipment rentals and other local services, providing a boost to the local economy.

Job Creation: The outdoor recreation sector has led to the creation of jobs in various fields, including hospitality, tourism services, outdoor guiding, equipment purchase and rental, and trail building and maintenance.

Small Business Development: The demand for outdoor recreation services and products has led to the growth of small businesses in the region. These include outdoor gear shops, guides, motels and bed and breakfasts, breweries and restaurants, which contribute to the local entrepreneurial ecosystem.

Real Estate and Property Values: The attractiveness of the region for outdoor enthusiasts has positively impacted real estate values. People choose to live in or near the northern Sierra region to be closer to outdoor amenities, leading to increased demand for housing and potentially higher property values. Similarly, people purchase vacation homes in areas with a variety of recreation opportunities.

Conservation and Stewardship: The outdoor recreation economy fosters a sense of appreciation for natural resources. Local communities and businesses actively engage in conservation efforts to protect the environment, contributing to the sustainable development of the region.

Community Events and Festivals: Outdoor recreation is a focal point for community events and festivals. These gatherings not only bring people together but also provide additional economic opportunities for local businesses.

Infrastructure Investment: The demand for outdoor recreation has driven investments in infrastructure such as trails, parks and recreational facilities. These developments have enhanced

the overall experience for residents and visitors and have also contributed to the region's economic growth.

Education and Training Opportunities: The outdoor recreation sector creates opportunities for education and training in fields related to environmental science, outdoor leadership, and recreation management. This has led to a more skilled and specialized workforce in the region.

While the outdoor recreation economy brings numerous benefits, there are also challenges, including environmental conservation concerns, potential strain on infrastructure, and the need for sustainable management practices to ensure the long-term health of the region. Balancing economic development with environmental preservation is crucial for the continued success of the outdoor recreation economy in the Lost Sierra.

2.3 Histories

2.3.1 Indigenous Trails and Pathways

The Miwok, Nissenan, Maidu, Paiute, Pit River, Konkow and Washoe tribes, located throughout the northern Sierra and southern Cascade region, have historically used trails and pathways to showcase traditional cultural experiences, ancient migration routes, traditional culinary practices and indigenous storytelling. These trails serve as important cultural and educational tools for preserving their heritage and sharing it with others. Here are some ways in which indigenous tribes have utilized trails for these purposes:

Ancient Migration Routes: Many indigenous tribes have established and maintained trails following ancient migration routes of their ancestors. These trails provide a tangible link to their history and culture, allowing them to share the story of their people's journey over generations. Visitors can walk these trails and learn about the challenges and triumphs of these migrations.

Traditional Cultural Experiences: Indigenous tribes often use trails to offer visitors immersive experiences in their traditional culture. These experiences can include guided walks, dances, ceremonies, and workshops showcasing traditional art, music, and crafts. These activities help preserve and transmit cultural knowledge to younger generations and promote cultural exchange.

Traditional Culinary Experiences: Indigenous trails often include opportunities for visitors to sample traditional indigenous foods. These culinary experiences may involve guided foraging for edible plants, fishing, hunting, or farming practices that have been passed down through generations. Sharing traditional recipes and cooking methods can also be an integral part of these experiences.

Indigenous Storytelling: Storytelling is a fundamental way in which indigenous cultures pass down their history and values. Along these trails, indigenous storytellers may share myths, legends, and

oral histories that have been part of their culture for centuries. These stories often connect the landscape with their cultural heritage, offering visitors a deeper understanding of the land and its significance.

Interpretive Centers and Exhibits: Indigenous trails often include interpretive centers and exhibits providing historical context and educational information. These centers may feature artifacts, photographs, and displays highlighting the tribe's history, traditions and contributions to the region.



Mountain Maidu Basketry
(Greenvilleraancharia.com)

Cultural Workshops and Demonstrations: Visitors to indigenous trails may have the opportunity to participate in or observe traditional craft-making, artwork, and other cultural practices. Indigenous artisans and experts can teach visitors about traditional techniques, such as pottery, weaving, beadwork and basketry.

Environmental Education: Indigenous trails can also serve as platforms for teaching about the environment and the importance of preserving natural resources. Tribes may highlight their traditional land management practices, sustainable resource use and efforts to protect their

ancestral territories.

Collaboration with Non-Indigenous Communities: Many indigenous trails have formed partnerships with non-indigenous communities, local governments, and organizations to promote cross-cultural understanding and economic development. These collaborations help support indigenous initiatives and provide educational opportunities for a wider audience.

Incorporating these elements into recreational trails not only preserves cultural traditions but also fosters a sense of respect and appreciation for indigenous cultures and their connection to the land. It allows visitors to engage with and learn from these unique and valuable perspectives, promoting cultural exchange and a deeper understanding of the land, animals and people.

The indigenous people of the Sierra Nevada region in California, historically practiced forest underburning as a land management technique. This process involves intentionally setting controlled fires to reduce the accumulation of vegetation and promote the health of the ecosystem. Trails played a crucial role in facilitating these controlled burns for the Mountain Maidu and other indigenous communities. Here's how they utilized trails for fuels management and forest health:

Access and Mobility: Trails provided convenient access to different parts of the forest, allowing the indigenous people to move easily through the landscape. This accessibility was essential for conducting controlled burns in specific areas to manage vegetation.

Strategic Planning: Trails allowed the indigenous people to plan and implement controlled burns strategically. They could use trails to define boundaries for the burn area and guide the fire in a controlled manner, preventing it from spreading uncontrollably.

Communication and Coordination: Trails served as communication pathways for different groups within the community. Effective coordination was crucial during underburning activities to ensure that the fires were controlled and did not pose a threat to inhabited areas.

Firebreaks: Trails often acted as natural firebreaks or were modified to serve this purpose. Clearing vegetation along the trail and creating wider spaces helped contain the fire within defined areas, minimizing the risk of it spreading beyond control.

Cultural Knowledge and Practices: The indigenous communities possessed extensive knowledge about their environment, including the behavior of fire. They understood how to use trails in conjunction with the natural landscape to manage fires effectively.

Ecosystem Health: By using trails to guide controlled burns, the indigenous people could promote the health of the ecosystem. Regular burning helped reduce the risk of larger, more destructive wildfires by preventing the accumulation of excess vegetation, which, in turn, allowed for the regeneration of certain plant species.

It's important to note that the traditional land management practices of indigenous communities were often sustainable and contributed to the overall health and resilience of ecosystems for thousands of years. These practices were based on a deep understanding of the local environment and a harmonious relationship with nature.

2.3.2 Community Histories

Communities across the northern Sierra region are unique with rich and diverse histories. Despite their differences there are several aspects that unite them. The northern Sierra and southern Cascade region was first explored by western immigrants in 1848 when President James K. Polk announced gold in California. Alongside the gold mining, Plumas County became the state's top copper producer, solidifying mining as the economic cornerstone. Among the Gold Rush towns that popped up were Quincy, established in 1858, Greenville in 1864, Sierra City in 1850 and Downieville in 1849 (Young, 2003).

The gentle terrain, fertile soil and abundance of water also attracted commercial ranchers, timber industry and railroad companies. As people migrated for timber and ranching opportunities, towns were established, including Loyaltown and Sierraville in 1854, Susanville in 1863 and Graeagle (originally known as Davies' Mill) in 1916. Along with the rise in timber, railroads and eventually paved roads were built to transport lumber regionally. In the early 1900s the Western Pacific Railway was founded to build a railroad from Salt Lake City to San Francisco over Beckwourth

Pass. Construction of the railway employed thousands of people, increasing the local population. The community of Portola, established in 1910, especially benefited from the railroad, becoming headquarters for the Western Pacific Railway (Western Pacific Lives, n.d).

Recreation has traditionally played a key role in northern Sierra history. Skiing grew as both a practical means of transportation and a popular outdoor recreation sport. The “Lost Sierra” (particularly the areas of Johnsville and La Porte) is home to the oldest recorded competitive skiing in the Western Hemisphere thanks to Charles Nelson, who introduced Norwegian style skis (also called longboards) around 1853. The skis allowed residents to travel in the winter months as well as receive goods, which allowed them to stay there year round. In fact, it could be argued that the world’s very first ski chair lift happened in the 1870’s on Eureka Peak, as miners sat in the ore buckets of the Plumas-Eureka Mine cable tram, getting a ride to the top of the mountain so they could ski down. This skiing popularity led to the creation of several ski clubs and races bringing communities together, attracting hundreds of spectators across the “Over North” region of the Lost Sierra (Plumas Ski Club, n.d). Today these races still occur in the Johnsville Ski Bowl, organized by the Plumas Ski Club. In the same spirit of bringing people together and spurring local economy, the Downieville Classic has become a mountain bike race and festival attracting people from all around the world to Downieville, California. More information about the histories of the communities in the Lost Sierra can be found in **Appendix 3. Lost Sierra Community Histories.**



Plumas Ski Club Longboard Race March 1906.
(plumasskiclub.org)

2.4 Federal Land Management and Use

The project includes public land managed by Lassen, Plumas, Tahoe and Humboldt-Toiyabe National Forests as well as the Bureau of Land Management. Public lands provide natural, cultural, recreational, environmental and lifestyle resources shown to stimulate economic growth and have also become increasingly important for people who can choose where to live and work. Employers now advertise public land resources to attract and retain a talented workforce. Communities are taking advantage of nearby public lands to attract new businesses, skilled labor and investment income.

The United States Forest Service (USFS) manages over 193 million acres of public lands and Bureau of Land Management (BLM) manages 245 million acres, with recreation being one of the primary uses of these lands (United States Department of Agriculture, 2024 and Bureau of Land Management, 2016). The total land acreage of the Connected Communities counties combined is 7,005,856, with private lands accounting for 44% (3,103,297 acres) and federal lands (Forest Service and BLM) accounting for 53.1% (3,722,979 acres).

Plumas County has the largest share of federal public lands (71.1%), and Butte County has the smallest (14.7%) with the national average being 8%. Federal lands in Nevada County account for 33.4%, in Lassen County 57.5%, and in Sierra County 69.8%. Butte County has the largest share of private lands (79.2%), while Sierra County has the smallest (27.4%) (U.S Department of Interior, 2024)

The limited private property tax base results in lean revenue and diminishing opportunities for the counties to have economic solvency. Across the western US, rural counties with high densities of federal lands have relied on Forest Service Revenue Sharing payments that compensate state and local governments for non-taxable federal lands within their borders. Payments are funded by federal appropriations (e.g., PILT) and from receipts received by federal agencies from activities on federal public lands (e.g., timber, grazing, and minerals).

From Fiscal Year (FY) 1986 to FY 2019, Forest Service Revenue Sharing payments in Nevada County shrank from \$1,385,200 to \$320,638, a decrease of 77%. In Plumas County payments shrank from \$19,654,507 to \$3,019,372, a decrease of 85%. In Lassen County payments shrank from \$11,931,309 to \$1,612,377, a decrease of 86%. In Sierra County payments shrank from \$3,531,444 to \$768,678, a decrease of 78%. In Butte County payments shrank from \$2,584,002 to \$372,409, a decrease of 86% (U.S Department of Interior, 2019). A federal FY begins October 1 and ends September 30.

Federal payment types include:

Forest Service Revenue Sharing: These are payments based on USFS receipts and must be used for county roads and local schools. Payments include the 25% Fund, Secure Rural Schools & Community Self-Determination Act and Bankhead-Jones Forest Grasslands.

Bureau of Land Management (BLM) Revenue Sharing: The BLM shares a portion of receipts generated on public lands with state and local governments, including grazing fees through the Taylor Grazing Act and timber receipts generated on Oregon and California (O & C) grant lands.

Federal land payments: These are federal payments that compensate state and local governments for non-taxable federal lands within their borders. Payments are funded by federal appropriations (e.g., PILT) and from receipts received by federal agencies from activities on federal public lands (e.g., timber, grazing, and minerals).

Payments in Lieu of Taxes (PILT): These payments compensate county governments for non-taxable federal lands within their borders. PILT is based on a maximum per-acre payment reduced by the sum of all revenue sharing payments and subject to a population cap.

United States Fish and Wildlife Service (USFWS) Refuge: These payments share a portion of receipts from National Wildlife Refuges and other areas managed by the USFWS directly with the counties in which they are located.

Federal Mineral Royalties: These payments are distributed to state governments by the U. S. Office of Natural Resources Revenue. States may share, at their discretion, a portion of revenues with the local governments where royalties were generated.

2.4.1 Lassen National Forest (LNF)

The Lassen National Forest's (LNF) current Land and Resource Management Plan was adopted in 1992 and intended to guide management for the next 10-15 years. The plan indicates that the Forest plays an economic role in the counties it impacts and lists recreation opportunities for tourist-related business as an indirect impact; however, the plan describes camping as the primary recreation and states trail development is "needed for dispersed non-motorized and motorized recreation." This study addresses this need for dispersed shared-user trail development (Lassen National Forest, 1992).

In the 2020 LNF National Visitor Use Report, annual visitation is estimated to be 462,000 individuals participating in recreation activities. The 2020 report includes survey data from 374 participants, of which white males under the age of 16 were the majority of survey participants and 86.9% were visiting LNF for recreation purposes. The majority of people surveyed were contacted at Day Use Developed Sites. The highest percentage of individuals reported 25-50 miles of travel with 25.5% , with 16.6% traveling 0-25 miles, 17% traveling 51-75 miles and 40.8% traveling over 75 miles to recreation on LNF. Viewing Natural Features was reported as the number one main activity individuals participated in followed by Viewing Wildlife and Hiking/Walking, Bicycling was 18th on the list, OHV use was 21st, Backpacking and Horseback riding were 23rd and 24th respectfully, and Motorized Trail Activity was 27th out of 29 listed activities. Average total trip spending per party was reported at \$372 with the median trip spending being \$100. The majority of visitors who stayed overnight stayed in National Forest Campgrounds. Of the survey participants who utilized special facilities, 2.2% use Motorized Dual Track Trails, and 1.0% use Motorized Single Track Trails. The most reported annual household income category was \$24,000-\$49,999 at 25.9% of participants, followed closely by \$50,000-\$74,999 at 25.5%. 79.5% of participants were very satisfied with the LNF visit while only 5% were very dissatisfied (Lassen National Forest, 2020b).

2.4.2 Plumas National Forest (PNF)

The Plumas National Forest's (PNF) current Land and Resource Management Plan was adopted in 1988 and intended to guide management for the next 10-15 years. The plan indicates that the Forest plays an economic role in the countries it impacts. The plan indicates that the Forest saw 2.3 million recreation visitor days in 1988 and expects the demand will increase by 1.7% annually. Forest goals as they relate to recreation include 'provide for a variety of forest-related recreation' and 'improve and expand developed facilities and trails to meet demand while reducing unit costs and protecting other resources.' This study provides trail proposals to meet current and future demands on the Forest (Plumas National Forest, 1988).

According to the 2020 National Visitor Use Report, annual visitation is estimated to be 347,000 individuals participating in recreation activities. The 2020 report includes survey data from 568 participants, of which white males ages 50-69 were the majority of survey participants and 92.3% were visiting PNF for recreation purposes. The highest percentage of individuals reported 0-25 miles of travel with 39.7%, with 19.3% traveling 26-50 miles, 12.1% traveling 51-75 miles and 28.9% traveling over 75 miles to recreation on PNF. Hiking/Walking was reported as the number one main activity individuals participated in followed by Viewing Natural Features and Fishing, Backpacking and Bicycling ranked 14th and 15th, Motorized Trail Activity and OHV Use ranked 19th and 20th and horseback riding ranked 28th out of 29 activities. Of the survey participants who used special facilities, 8% used Motorized Single Track Trails, and 6.5% used Motorized Double Track Trails. Average total trip spending per party was reported at \$184 with the median trip spending being \$40. The majority of visitors who stayed overnight stayed at National Forest Campgrounds. The most reported annual household income category was \$50,000-\$74,999 at 42.9% of participants. 76.7% of participants were very satisfied with PNF visit while only 4% were dissatisfied (Plumas National Forest, 2020).

2.4.3 Tahoe National Forest (TNF)

The Tahoe National Forest's (TNF) current Land and Resource Management Plan was adopted in 1990 and intended to guide management for the next 10-15 years. The plan indicates that the Forest plays an economic role in the counties it impacts. The plan lists increased Recreation Use as one of its top ten issues, for which a change in a management plan might be necessary. In 1986 the recorded recreational visitor days annually was 5 million with projected visitor use to grow to 6.2 million in the year 2000 and 9.1 million in 2030. The plan indicates the need to increase capacity of some recreational sites to meet expected growing demand. The Forest estimates that by 2030 recreation site capacity will "need to be increased by 52% to accommodate dispersed recreationists" (Tahoe National Forest, 1990).

According to the 2020 Tahoe National Visitor Use Report, annual visitation is estimated to be 1,875,000 individuals participating in recreation activities. The 2020 report includes survey data from 907 participants, of which white males ages 20-29 and 50-59 were the majority of survey participants and 92.2% were visiting TNF for recreation purposes. The highest percentage of

individuals reported 26-50 miles of travel with 23.8%, with 21.3% traveling 26-50 miles, 14.5% traveling 51-75 miles and 40.4% traveling over 75 miles to recreation on TNF, 21% of which is between 101-200 miles. Hiking/Walking was reported as the number one main activity individuals participated in followed by Viewing Natural Features and Relaxing, Bicycling ranked 13th and OHV use was 16th. Backpacking was 22nd and Motorized Trail Activity was 26th of 29 listed activities.

Of the survey participants who used special facilities, 22.1% used Motorized Single Track Trails, and 0.4% used Motorized Double Track Trails. Average total trip spending per party was reported at \$227 with the median trip spending being \$100. The majority of visitors who stayed overnight stayed at National Forest Campgrounds. The most reported annual household income category was \$150,000 and higher at 28.9% of participants. 86.6% of participants were very satisfied with TNF visit while only 0.1% were very dissatisfied (Tahoe National Forest, 2020).

2.4.4 Humboldt-Toiyabe National Forest (HTNF)

In 1995 the Humboldt National Forest and Toiyabe National Forest were administratively joined. Currently, the Humboldt-Toiyabe National Forest (HTNF) operates under the two separate Land and Resource Management Plans, one for the Humboldt and one for the Toiyabe National Forest (Toiyabe, 1998). Both plans were adopted in 1986 and intended to guide management for the next 10-15 years. The Humboldt National Forest recorded 579,000 recreation visitor days in 1983. It describes a growing need for recreational capacity, including restoring and rehabilitating existing delapidated recreational sites (Humboldt National Forest, 1986). The Toiyabe National Forest plan similarly describes continued deterioration of recreational sites that need to be maintained, and highlights the miles of under maintained trails. The Toiyabe National Forest recorded 162,500 recreational visitor days on the 1,021 miles of trail and predicted 220,000 recreation visitor days in 50 years, 2036. The Toiyabe National Forest plan describes 2,947 MRVDS average annually, 21.2% are visitors to the Northern Sierra region (where the proposed Connected Communities trails would be). The plan also references the Nevada's Statewide Comprehensive Outdoor Recreation Plan (SCOW) which "recognizes that central Nevada has an abundance of trails which are a potentially invaluable but underused recreation resource" (Toiyabe National Forest, 1986).

According to the 2016 Humboldt-Toiyabe National Forest, annual visitation is estimated to be 1,228,000 individuals participating in recreation activities. The 2016 report includes survey data from 654 participants, of which white males ages 40-59 were the majority of survey participants and 81% were visiting HTNF for recreation purposes. The highest percentage of individuals reported 0-25 miles of travel with 65.1%, with 13.2% traveling 26-50 miles, 2.2% traveling 51-75 miles and 29.5% traveling over 75 miles to recreation on PNF. Hiking/Walking was reported as the number one main activity individuals participated in followed by Viewing Natural Features and View Wildlife, OHV and Horseback Riding ranked 7th and 8th respectively. Bicycling ranked 16th, Backpacking was 17th and Motorized Trail Activity was 20th of 29 listed activities.

Of the survey participants who used special facilities, 7.5% used Motorized Single Track Trails, and 13.5% used Motorized Double Track Trails. Average total trip spending per party was reported at

\$158 with the median trip spending being \$8. The majority of visitors who stayed overnight stayed at a Rented Private home. The most reported annual household income category was \$100,000 to \$149,999 and higher at 27.7% of participants. 85.5% of participants were very satisfied with PNF visit while 0% were very dissatisfied (Humboldt Toiyabe National Forest, 2016).

2.4.5 Bureau of Land Management (BLM)

The National Policy states in the Bureau of Land Management (BLM) Section 8300 Recreational Management that the BLM will ensure access to Public Lands for “a diversity of resource dependent outdoor recreation opportunities” while maintaining the balance of managing the lands as a natural resource with its multiple uses. Among the goals and objectives are to facilitate a variety of outdoor recreation activities, manage specific recreation opportunities, and encourage regional and landscape-level planning for management of recreational opportunities (Bureau of Land Management, 1969).

The Connected Communities projects includes land managed by the Carson City District Office and Eagle Lake Field Office (BLM Eagle Lake Field Office, 2007). The 2001 Carson City Consolidated Resource Management Plan includes a desired outcome of providing a wide range of "quality recreation opportunities on public lands under management by the Carson City Field Office". The 2007 Eagle Lake Resource Management Plan describes how population growth in metropolitan areas has increased demand for a variety of recreational uses on public lands, with emphasis on open space and low-impact recreational opportunities.

2.5 Current Recreational Trail Opportunities

2.5.1 Tahoe National Forest

Downieville Trail System, Yuba River Ranger District (YRRD): The Downieville Trail System is an important network of trails that provides an economic benefit to Sierra County through the attraction of recreational tourism and sees thousands of users per season. The Downieville Trail System (DTS) is a rugged trail system that winds through steep canyons and pristine watersheds. Given the isolated nature of these trails and their proximity to significant watersheds, drainage construction is a high priority to reduce sedimentation into streams. Routine maintenance keeps the trails open to recreational users season after season.

The DTS and the surrounding network of OHV Forest Roads provide boundless opportunities for varied levels of riding difficulty from beginner trails to more advanced riding opportunities. Additionally the trails on the DTS are open to multiple types of OHVs including motos, ATVs, UTVs and 4X4s so multiple user groups can access the area. Trails provide access for camping, birding, hiking, equestrian, fisherman, hunters, rock climbers and mountain bikers. The town of Downieville has additional trail access points linking Downieville to Goodyears Bar, Forest City and Indian Valley via the North Yuba Trail (TNF, 2024).

North Yuba Trail System, YRRD: The North Yuba River and Haskell Peak Trails are located on the northern boundaries of the Tahoe National Forest in Sierra County, CA. This steep, rugged, trail spanning 14.7 miles has resource extraction roots, but today recreation and tourism are the economic drivers for the nearby towns of Downieville, Sierra City, and Goodyears Bar. The NYRT follows historic and newly constructed pathways to link FS campgrounds and towns. Haskell Peak sits 16 miles east of the NYRT at 8,000 feet with panoramic Sierra views (TNF, 2024).

Forest City Trail System (YRRD): The Forest City shared-use trail system features 8 trails with a total distance of 19 miles. This network of trails provides access to Bald Mountain, and is a mixture of single track and fire roads (TNF, 2024).

Prosser Hill OHV System, Truckee Ranger District (TRD): This is a popular riding area for families; suitable for motorcycles and OHVs and easily accessible. The staging area is paved and has ramps for loading and unloading as well as vault restrooms. Many miles of OHV roads are accessible from the staging area and range from easy to moderately difficult. The Prosser Hill Motorcycle Trail is accessed across the dirt road directly south of the parking lot. This is a nine mile loop that takes you to the top of Prosser Hill (TNF, 2024).

Donkey Town (formerly known as Jackass), TRD: Donkey Town is a four-mile loop trail, non-motorized with intermediate mountain bike features. Users have an option to connect into additional non-motorized trails. This trail system serves the town of Truckee and the greater North Lake Tahoe area (TNF, 2024).

Badenaugh Canyon Trail, Sierraville Ranger District (SRD): Located approximately five miles southeast of Loyalton, Badenaugh Canyon Trail is a 2.7-mile out and back non-motorized trail accessed via Badenaugh Canyon Road for mountain biking, equestrian, and hiking use. This legacy trail accessing Babbitt Peak Fire Lookout (one of the highest peaks in the northern Sierra Nevada at 8,760 feet) was mostly destroyed by the Cottonwood Fire in 1994 and abandoned until 2019 when the Sierraville Ranger District deployed a Tahoe National Forest Hotshot crew to clear the trail corridor in an attempt to reopen the trail. In 2022, SBTS put the Pro Trail Crew on Badenaugh for half the summer, along with a 40-person volunteer trail day with Truckee Dirt Union, rerouting a couple sections of the trail, doing extensive finish work removing root balls and rock work to make the trail passable. Efforts are underway to evaluate building a singletrack extension connecting Badenaugh Canyon Road to Smithneck Road, then into the historic Boca Loyalton Trail, providing a continuous singletrack from Babbitt Peak all the way to Smithneck Creek County Park in the community of Sierra Brooks (TNF, 2024).

Mount Lola Trail, SRD: Connecting from the historic Henness Pass Road near Perazzo Meadows, through the lush, high elevation Cold Stream meadow over the peak of Mount Lola (the highest point in the Sierra Nevada north of Lake Tahoe at 9,147 feet elevation) to the Pacific Crest Trail, Mount Lola Trail is 9.5 miles in length with breathtaking 360 degree views of the Sierra Crest in visually stunning volcanic terrain. The northern half of the trail from Henness Pass to the peak is a popular out-and-back for hikers and mountain bikers, while the southern half from the peak down

to White Rock Lake and the PCT is seldom traveled, primitive and hard to follow with visually stunning features including a 300-foot high cliff wall off the south face of Mount Lola (TNF, 2024).

2.5.2 Plumas National Forest

Lakes Basin Recreation Area, Beckwourth Ranger District (BRD): Located nine miles southwest of Graeagle, California, this recreation area has special geological features. Many glacially carved crystal clear alpine lakes await exploration along more than 30 miles of trails. Boat launching facilities are available at Gold Lake. Five campgrounds, and three rustic Sierra Style lodges are ready to serve your needs. There is breathtaking scenery and over 20 small lakes nearby, most of which are accessible by hiking trails. This area provides a multitude of recreational activities including camping, fishing, boating, hunting, mountain biking, horseback riding, picnicking, hiking, backpacking, swimming, windsurfing and nature study. In the winter visitors can snowmobile, cross-country ski and snowshoe (PNF, 2024).

Mt Hough Trail System, Mt Hough Ranger District (MHRD): The Mount Hough Trail System (MHTS) is located in close proximity to the town of Quincy, California within the Mt. Hough Ranger District, Plumas National Forest. The Mount Hough Trail system was developed in 2015 and consisted of 35 miles of motorized trails (21.4 miles of singletrack trails, 11 miles of quad trails, and 2.6 miles open to all vehicles) and an approximate 10- acre motocross track with staging area. Currently, SBTS is in Phase Two of Mount Hough, designed to spread use throughout the system that has become increasingly popular. This is described further in 2.6 Complementary Planning Projects (PNF, 2024).

South Park Trail System, MHRD: South Park Trail System consists of 16.6 miles of non-motorized trail system. This trail system sits close to the community of Quincy and is accessible from the town for year round enjoyment. It is a popular trail system for the community and is utilized by the local high school mountain bike team, horse riders, families and more (PNF, 2024).

Bucks Lake Wilderness, MHRD: The Bucks Lake Wilderness was established by the California Wilderness Act of 1984. The wilderness encompasses 21,000 acres, and is located near the northern end of the Sierra Nevada mountain range. Elevations in the Bucks Lake Wilderness range from 2,000 ft. in the Feather River Canyon to 7,017 ft. at Spanish Peak. The top of the escarpment which the Pacific Crest Trail (PCT) crosses unfolds a spectacular view of the forest to the east and north. This wilderness area includes access to 6.5 miles of non-motorized trails close to the Bucks Lake recreation area (PNF, 2024).

Plumas National Forest Backcountry Discovery Trail: The Plumas Backcountry Discovery Trail is a 150-mile long route designed for 4x4s, ATVs and UTVs from LaPorte north to Lake Almanor, negotiating incredibly rugged, remote and historic alpine terrain through the transition from the northern Sierra Nevada to the southern Cascade mountain ranges. Users should expect very challenging and rocky roads with many down trees, especially in the early season. The route is under snow until June in typical years, later after a big winter. There are no restaurants, grocery

stores or gas stations along the main route and cell phone coverage is scarce. Travelers should be well-prepared and accustomed to remote backcountry conditions (PNF, 2024).

Taylor Lake Trail System: The Taylor Lake Trails are a non-motorized system of trails that connect Taylor Lake to Antelope Lake. This area has suffered several fires that have burned over the trail system and left it in poor condition. Hazard trees, overgrown brush and ruined tread has made this system unusable and closed by the PNF. In 2023, SBTS assessed the trail conditions and determined that to reopen the trail system the trail would essentially need to be rebuilt.

2.5.3 Lassen National Forest

Thousand Lakes Wilderness, Hat Creek Ranger District (HCRD): Located within the southern portion of the Cascade Mountain Range is 16,335 acres of contrasting topography. Thousand Lakes Wilderness is midway between the town of Burney and Lassen Volcanic National Park.

Volcanic and glacial formations, rocky ravines, mountain slopes, open meadows, and stands of lodgepole pine and red fir define the Wilderness. It is dominated by 8,677 foot Crater Peak, the highest point on the Lassen National Forest, and is a reminder of the glacial action that eroded Thousand Lakes Volcano and created the many small lakes and ponds scattered throughout. The lowest point in the Wilderness occurs at the base of the volcano at 5,546 feet.

The Eiler Lake trail is a non motorized out and back trail. Within four miles of walking users can visit small lakes and ponds. The Magee Peak trail is a 5.9 out and back that is excellent for birdwatchers and hikers alike. These trails are located near the town of Old Station and also serve the nearby town of Red Bluff (LNF, 2024).

Lassen National Forest Backcountry Discovery Trail: The Lassen Backcountry Discovery Trail is a 186.1 mile long route and was established to invite exploration of the remote areas of the Lassen backcountry. The route generally follows gravel and dirt roads and is intended for high clearance street legal vehicles. Expect rough road conditions and slow travel through remote country. Much of the route is under snow in the winter and early spring. There are no restaurants, grocery stores, or gas stations along the main route and cell phone coverage is intermittent (LNF, 2024).

2.5.4 Bureau of Land Management

Bizz Johnson, Eagle Lake Ranger District and BLM: This Rail Trail is 25.4 miles long and the majority of the trail winds its way along the rugged Susan River Canyon. A gentle 3% grade and wide gravel surface make the Bizz perfect for hiking, biking, and horseback riding, while the Southside Trail provides a more technical single-track opportunity running parallel to the Bizz from Hobo Camp to Devils' Corral, with two additional access points in between. The Bizz Johnson National Recreation Non-Motorized Trail follows the old Fernley and Lassen Branch Line of the Southern Pacific railroad, the trail winds 25.4 miles from Susanville, California to Mason Station.

For the first 16 miles, the trail follows the Susan River. As it winds through the rugged Susan River Canyon, the trail crosses the river 12 times on bridges and trestles and passes through two tunnels (BLM, 2024).

Fort Sage OHV System, BLM: The Fort Sage Off-Highway Vehicle Area is located in the high desert region of northeastern California outside the town of Doyle. The area is about 45 miles south of Susanville, California and 45 miles north of Reno, Nevada. Visitors should utilize Laver Crossing Road to access the area due to a bridge restriction off the Doyle Loop Road. The Special Recreation Management Area consists of approximately 29,000 acres of public land that is managed for off-highway vehicle use such as motorcycles, ATV's, Side by Sides, and 4WD (BLM, 2024).

Bald Mountain Trail System, BLM: The Bald Mountain Trail system is located on the eastern end of a low ridge (1,000 feet of vertical) that extends from the foothills of Diamond Mountain east out into the northwest end of Honey Lake Valley just 15 miles east of Susanville, CA. The area consists of 3,120 acres of public land and in 2018 includes 11 miles of trails open to mountain biking, horseback riding, and running. A total of 28 miles of trail is planned for the area as well as trailheads, kiosks, and supporting facilities (BLM, 2024).

2.5.5 Lassen County and Modoc County

The Susanville Ranch Park, Lassen County: Susanville Ranch Park is a 1,100-acre park property in northeast California owned and managed by Lassen County as a shared use recreation area. It is an exciting and diverse area that offers a multitude of leisure time activities for visitors. The 14 miles of trails in the northern portion of the park were constructed in the summer/fall of 2008 and offer a very exciting experience for more advanced trail users. There are challenging climbs, bermed turns, many loop options, and spectacular views (Lassen Land and Trails Trust, n.d).

The Modoc Line Rail Trail, Modoc County: An 85-mile rail trail, which runs from Wendel Road in eastern Lassen County to Likely in southern Modoc County. The trail traverses over 2,000 acres of some of northeastern California's most dramatic rangeland, views of the Skedaddle and Warner mountain ranges and opportunities to see wildlife, including herds of pronghorn antelope. The trail corridor connects BLM lands from Biscar Reservoir to the Tule Mountain Wildlife Study Area. Three segments of the trail are currently open to the public for use. The Sage Hen segment, the Snowstorm Canyon segment and Viewland. The trail is open to high-clearance road vehicles, and shared use with bikes and equestrians. The surface is gravel with sections of remnant railroad ballast (Lassen Land and Trails Trust, n.d).

2.5.6 Other

Pacific Crest Trail: The Pacific Crest Trail (PCT), officially designated as the Pacific Crest National Scenic Trail, is a 2,653 mi (4,270 km) long-distance hiking and equestrian trail closely aligned with the highest portion of the Cascade and Sierra Nevada mountain ranges. The trail's southern

terminus is next to the Mexico–United States border, just south of Campo, California, and its northern terminus is on the Canada–US border. It passes through the states of California, Oregon, and Washington. The route passes through 25 national forests and 7 national parks. Its midpoint is near Chester, California (near Mt. Lassen), where the Sierra and Cascade mountain ranges meet (PCTA, 2024).

Backcountry Discovery Route: Backcountry Discovery Routes® (BDR®) is a non-profit advocacy organization that creates off-highway routes for dual-sport and adventure motorcycle travel. They have introduced a new route with free GPS tracks for the community every year since 2010. Their work includes rider education, safety campaigns and promoting responsible travel for motorcyclists traveling in the backcountry. Each route generates new tourism that delivers sustainable economic relief to less-advantaged rural communities.

After years in development and numerous re-routes due to devastating forest fires, the Northern California Backcountry Discovery Route is finally completed. The NorCal route features flowing two track roads and gravel tracks through dense pine forests and burned sections that are eerily majestic. Motorcycle riders can explore relics of mining towns of the past, delve into California history and geologic wonders and ascend countless peaks to fire lookouts with endless views of the route below.

The route affords the BDR rider the ability to camp at the end of every day or bed down for the night at historic Inns and Hotels — some dating back to the 1880's, yet still in operation today. The towns are quaint and scenic, tucked away between the folds of the High Sierra (Backcountry Discovery Route, 2023).

Plumas-Eureka State Park: Keeping Eureka Peak's frontier gold mining heritage alive, Plumas-Eureka State Park in the quaint community of Johnsville offers visitors well-preserved Gold Rush-era buildings and a fascinating museum documenting the town's mining history, adventurous multi-use trails accessing pristine alpine lakes in summer, a historic ski hill and Intorf Lodge for skiing and sledding in winter and is home to the beloved Historic Longboard Race Revival Series put on each winter by the Plumas Ski Club. The state park also features Jamison Campground set along Jamison Creek in the shadow of the mighty Eureka Peak.

2.5.10 Camping and Accommodation



Family spending quality time around the fire at one of the many Lost Sierra Campgrounds

Across the Lost Sierra region, visitors have a wide range of accommodation options based on budget and style. Ranging from high-end hotel experiences like The Chalet View Lodge and Nakoma Resort in Portola to private rooms for rent in remodeled historic buildings like The Gilded Drifter Inn in Loyalton to alpine lodges in the Lakes Basin region like Gray Eagle Lodge, traveling with nothing more than basic gear and a credit card is easy. For more

adventurous types who prefer to sleep under the stars, campgrounds can be found almost everywhere in the Lost Sierra, from free primitive dispersed camping and pay-use developed campsites on U.S. Forest Service land to county park assets like Taylorsville Campground and private establishments like Webber Lake Campground. Within 5 miles of the CCIR there are 104 Forest Service campgrounds, 30 picnic areas and 17 Trailheads. Thanks to new recreation opportunities like Beckwourth Peak Trail in Portola, new businesses are popping up to support increased visitation. An example of this is High Camp at Beckwourth Peak with glamping, well appointed bunkhouses and yurts for rent, walking distance from the trailhead and downtown Portola.

2.6 Complementary Recreation Planning and Projects

Lassen County Comprehensive Economic Development Strategy: In 2012 The Lassen County Board of Supervisors adopted the Comprehensive Economic Development Strategy (CEDS) and updated Appendix A in 2016. The purpose behind the CEDS was to connect public and private sectors, non-profits, community based organizations and individuals through one plan that will have a consensus of actions and priorities with the ultimate goal of improving the local economy.

Among its many goals and aspirational visions are to make the Lassen area one of the nations top outdoor recreation destinations, specifically making it “one of the top 15 mountain bike destinations” through a comprehensive trail system (Lassen County, 2012).

Sierra Economic Development District CEDS: The Sierra Business Council recently published the 2018-2022 CEDS for the four counties of El Dorado, Nevada, Placer and Sierra. The goal of the creation of a combined CEDS is to help the prosperity of these communities through the responsible mobilization of human, financial, physical and natural capital to generate a healthy and collaborative local economy. The plan will be used to increase regional economic capacity, diversify local economies, promote broadband and guide prosperity and resiliency of the area. The plan mentions promoting recreation as part of the general plan economic goals (Sierra Business Council, 2022)

Quincy Recreational Economy for Rural Communities (RERC) Community Action Plan: SBTS received planning assistance to help Quincy develop a community action plan to strengthen their outdoor recreation sectors and revitalize the downtown community. This plan included five goals - supporting recreation infrastructure, tribal collaboration, downtown quincy revitalization, business and economic, and workforce housing and lodging (Plumas County, 2022).

Orogenesis: The Orogenesis Collective aims to establish the longest mountain bike trail in the world at 5,000 miles stretching from the southern tip of Baja to the Canadian Border. The trail will be a combination of existing singletrack trails, dirt roads, some paved routes and will also require new trail construction. Within the Northern Sierra Nevada region, the Orogenesis trail proposes to use existing trails as well as Connected Communities' identified trail segments. This is a project being led by the Orogenesis Collective (Orogenesis Collective, 2023).

Lassen/Lake Almanor Basin Regional Trails System Concept Plan: The Lassen/Lake Almanor Basin Regional Trails System Concept Plan was developed by the Almanor Basin Trails Coalition and outlines a vision of future recreation in and around the Lake Almanor Basin. The plan grew out of the community's desire to have a system of trails around Lake Almanor and includes non-motorized connections between the Pacific Crest Trail, Bizz Johnson National Recreation Trail and Lake Almanor Recreation Trail, as well as connecting the communities of Chester, Prattville, Almanor, Lake Almanor West, Canyon Dam, East Shore, Lake Almanor Peninsula, Lake Almanor Country Club, Hamilton Branch, Clear Creek and Westwood. The plan proposes the development of more than 50 miles of non-motorized trails varying from single-lane dirt trails to roadside biking and walking paths and includes a Rails-to-Trails project connecting Chester to Westwood. A portion of these conceptual trails are included into the vision for the Stover Mountain Recreation Zone, with additional discussion in section 4.3.1 (Almanor Parks and Recreation District, 2020).

Claremont Project: The Claremont Project proposes approximately 62 miles of shared-use motorized single-track trails around Claremont Peak. This project began in 2021 in an effort to increase recreational opportunities in the Quincy and Meadow Valley communities. This project includes the use of two staging areas, one at Lowell Bader Memorial Park in Meadow Valley, and another on Quincy-La Porte Road near Quincy. The trail system includes variable difficulty levels designed to attract different trail users. A Decision Memo for this project is expected in 2024. The project is being led by Plumas County and Sierra Buttes Trail Stewardship on Plumas National Forest managed lands.

Fredonyer Butte Trails Project: This project is 10 miles outside of Susanville, California and will develop approximately 24.5 miles of shared-use, non-motorized loop trails as well as trailheads near Fredonyer Crest and Goumaz Campground. These trailheads would include parking, information kiosks and restrooms. These trails would provide non-motorized trail connections between Fredonyer Pass, Fredonyer Butte and Bizz Johnson trails. The project is being led by the Eagle Lake Ranger District on the LNF (LNF, 2020a).

Colby Mountain Project: The Colby Mountain Project is located on the southwestern edge of LNF near the community of Jonesville and is currently under environmental review to comply with both National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA). The project proposal consists of approximately 40 miles of non-motorized singletrack trail designed for shared-use biking, hiking and equestrian use. LNF and Butte County Resource Conservation district have partnered on this planning project and anticipate the project to be approved and shovel-ready in 2023. This project will provide excellent non-motorized recreation opportunities close to Jonesville and complement the proposed long-distance Lost Sierra Route by providing increased and diverse recreation opportunities in the region.

Modoc Line Rail Trail: Significant work is underway on the Modoc Line Rail Trail project providing shared-use recreation opportunities between the towns of Wendel in Lassen County and Likely in Modoc County. Together with the BLM, Lassen Land and Trail Trust is working to open the entire 85 miles of decommissioned railroad grade. Currently approximately 40 miles of the trail is open

for use in three different areas, and 45.6 additional miles are entering environmental review in 2023. This project will provide excellent shared-use recreation opportunities north of the Connected Communities Project (Lassen Land and Trails Trust, n.d).

North Fork Forest Recovery: This project is led by Sierra Institute, a non-profit organization based in Taylorsville, California. The project aims to restore over 160,000 acres of public lands damaged by the Dixie Fire (2021), the Walker Fire (2019) and the Moonlight Fire (2007). The project is on both Plumas and Lassen National Forest and can include reforestation, fuels reduction, road improvisations, stream restoration, forest health management and approximately 51 miles of trails near Taylorsville and Greenville. The project is currently in the NEPA phase with an expected Decision Memo September 2024 (Sierra Daily News, 2023).

Peavine Maze Trails: Funded for planning and environmental review by the Nevada Off-Highway Vehicles Program for \$224,419 in July 2023, the Peavine Maze project proposes up to 20 miles of new motorized, shared-use singletrack trail and the adoption of up to 25 miles of existing user-built singletrack. The Maze area on the west side of Peavine Peak near the California border is a popular zone for riding motorcycles, but is difficult to access without very good signage to direct riders. The goal of this project is to provide new legal singletrack access from the communities of Verdi, Cold Springs and Stead while also providing connectivity into the greater Connected Communities Lost Sierra Route. Considering Reno is a major population center, having public access from Nevada will be important to the success of Connected Communities. This project is led by Sierra Buttes Trail Stewardship on Humboldt-Toiyabe National Forest Land.

East Zone Connectivity Project: The East Zone Connectivity Project is a joint effort between the Tahoe National Forest (TNF) and Sierra Buttes Trail Stewardship (SBTS) in the greater Truckee area. This project will build 71 miles of new shared-use singletrack trail in the area east of Boca and Stampede Reservoirs, and will be another important component to the Connected Communities Lost Sierra Route, providing a direct link into Truckee from Reno and the Lost Sierra region. The first phase of construction on the 20-mile Boca trail network began in Summer 2023, with SBTS completing 5 miles of new trail and the TNF completing approximately 3.5 miles. Summer 2024 will see construction resume on Boca, along with an additional 15-mile section on Verdi Ridge built by SBTS, funded by Sierra Nevada Conservancy for \$747,445, eventually linking the Boca trail network into the Sierra Valley Recreation Project.

Mt Hough Phase 2: Construction on the project began in 2019 to develop 37 miles of motorized shared use trail on Mount Hough in Quincy, California. Approximately 20 miles have been built to date with expected completion in 2025. The project will add significant recreational opportunities to the nearby town of Quincy, while also encouraging visitors to come enjoy the area. Mount Hough Phase 1 was completed in 2015 and has made Quincy a popular destination for visitors. Adding miles to the trail system will reduce trail congestion and encourage visitors to return. This project is led by Plumas County and Sierra Buttes Trail Stewardship on Plumas National Forest Managed land.

Mexican Mine: Building a singletrack connection between Downieville and Forest City has been in the works since 2007. Recently funded for construction thanks to a \$422,400 RTP grant awarded to Tahoe National Forest, the Mexican Mine trail will feature 10 new miles of singletrack along the Rock Creek drainage connecting North Yuba Trail to Truckee Ditch Trail in the Forest City trail network. The Mexican Mine will provide an important connection south to Pliocene Ridge and Henness Pass road, as well as another potential shuttle option for mountain bikers to start in Forest City, descending 2,500 vertical feet back to Downieville (TNF, 2023).

Pines to Mines: This is another important trail connectivity project linking Nevada City to Truckee via non-motorized singletrack, a project that recently completed environmental review. Incorporating existing trails like Donner Lake Rim, Hole in the Ground, Grouse Ridge, Spaulding Lake and Pioneer, Pines to Mines will feature 23.5 miles of new trail linking all the above trails together. This will provide an important east to west connection across the Sierra Nevada, and will enhance the multi-day ride opportunities when combined with Connected Communities (TNF, 2023).

Trapper Trails: The Trapper Trails Project is 21 miles of non-motorized shared use trails in the Yuba River Ranger District of the TNF. These trails will connect Forest City, California to Camptonville, California, two rural mountain communities near the Yuba River. The trail alignment has been assessed through an EA that was signed in December, 2020. Currently the TNF is seeking to allow Class 1 eBike designation use on these trails. Partnered with the Mexican Mines trails, this will allow for a connection from Downieville to Camptonville (TNF, 2023).

Caltrans and County Road Improvement Projects: The Quincy Junction project aims to implement a bike lane along Quincy Junction Road from Bell Lane to Chandler Road, as reported by the Plumas Daily News in 2021. Additionally, the Smithneck Road Bikeway project will introduce a bike lane along Smithneck Road in Sierra County. The Plumas County Transportation Commission's 2018 Active Transportation Program Pedestrian/Bicycle Plan outlines a comprehensive, long-term vision for establishing a bikeway network (Plumas County Transportation Commission, 2018).

Plumas County 2021 Wildfire Long-Term Recovery Plan: Plumas County's Long Term plan to recover from the disastrous Dixie Fire in 2021, This is a comprehensive plan that includes efforts to restore the local economy. This includes efforts to improve recreation infrastructure. The Connected Communities Project is included in the draft plan of the Economic Recovery Support Function (Plumas County, 2021)

3. CONNECTED COMMUNITIES PROJECT OVERVIEW

The Connected Communities Project is a Pre Planning effort that aims to stimulate the economies of rural communities by improving trail access and connectivity, and encouraging diverse user types to explore and recreate on public lands by linking 15 mountain towns by trails. To date the Connected Communities Project has been primarily funded by Sierra Nevada Conservancy's Resilient Sierra Nevada Communities and Vibrant Recreation and Tourism programs, but growing awareness across the region has generated financial support from private foundations, Outdoor Industry partners and matching funds brought by SBTS volunteers and donors. This funding has supported Pre Planning efforts to collaborate and partner with land managers, government agencies and local organizations, and to conduct community outreach and engagement, public surveys, mapping, ground truthing, alignment flagging and trail-feasibility reporting. This report is the culmination of Pre Planning efforts within the Connected Communities Project area.

Through the Pre Planning process goals and objectives for the Connected Communities Project were further refined and are summarized in four main categories:

1. Identify ideal trail corridors for a single-track trail network to connect communities across the region and outline a signature route through the region - dubbed the Lost Sierra Route
2. Conceptualizing ancillary improvement projects needed to support the trail network such as trailhead infrastructure and overnight accommodations
3. Highlighting Recreation Zones as areas near communities that warrant additional planning and development
4. Developing desired conditions for fuels reduction and restoration within future project planning areas

The responses from the community outreach and engagement project component outlined the public desire for a more extensive trail system connecting towns and providing more recreational opportunities throughout the region. The outreach and survey efforts were used to guide preliminary mapping of the trail corridors, in addition to input from land managers and community organizations. This regional expertise allowed for identification of ideal trail corridors for single-track trails seeking to avoid known natural and cultural resources. Once preliminary corridors were established, Sierra Buttes Trail Stewardship employees conducted field work to ground truth and flag the identified trail corridors. Through this process, the trail corridors were further refined in order to avoid and protect resources, while creating desirable and world-class recreational opportunities.

3.1 Community Outreach and Engagement

The community engagement component of the project included outreach and meetings with community members, business owners, tribal entities, government agencies, land managers and local organizations. As of December 2023, 153 community meetings occurred with

approximately 2,465 people attending across the region and through the planning process. Due to the onset of Covid-19 at the beginning of the outreach campaign, town hall style meetings were



September 2022 Trails Symposium at Sierra Nevada Brewery. From left to right Mandi Mckay, Greg Williams, Chris Ruedy, Yuri Hauswald, Thad Walker

not possible; however, in-person outdoor and distanced meetings still occurred. In addition to in-person outreach, a significant online and social media presence has encouraged public engagement with the Connected Communities Project. During the planning process, approximately 742,515 individuals were reached online with information about the project, meeting dates and how to participate in the survey. On September 21, 2022, a panel discussion and Q&A was held at Sierra Nevada Brewing Company, providing community members another opportunity to ask questions and provide feedback on the project. Approximately 200 people attended this event. SBTS plans to

continue to seek outreach and engagement for this TMP.

From September 2020 to March 2021, Sierra Buttes Trail Stewardship completed a survey process to gather public input on the Connected Communities Project through two methods: digital outreach and paper surveys. The paper surveys were distributed through essential businesses across the planning region and were set up for a two week period in each community. In total, 1,179 survey responses received were from respondents ranging in age from <18-65+ with a diverse range of preferred outdoor recreation activities. The majority of respondents, 85%, recreate via walking/hiking, while 71% participate in mountain biking. Tent Camping, Canoe/Kayak/Paddle, and Creek/Lake Swim account for ~50% of outdoor recreation types identified by respondents. A resounding 94% of respondents would like more recreation trails near their town and 96% want trails that connect to other nearby towns. 73% of respondents prefer non-motorized, shared use trails, 39% prefer motorized shared use trails. 80% of respondents use recreation trails on a weekly basis, 39% use them 3-5 times per week. When asked how Main Street trailheads would change respondents' trail use, 85% of respondents said they would use trails weekly, with 43% saying they would use them 3-5 times per week. Over 800 people wrote in their ideas for specific new trail routes. 88% of respondents said they would volunteer to help build and maintain recreational trails near their town. The report is included in **Appendix 5. Connected Communities Survey Report.**

3.2 Land Manager Engagement

Additional meetings occurred with Plumas and Lassen National Forest staff members to discuss the overall project and trail corridors. A desktop review meeting of the proposed routes with the Plumas National Forest (PNF) occurred on April 4, 2022, during which the PNF compared the

proposed route corridors with known natural and cultural resources. Several route modifications were made as a result of this review. A desktop review meeting of the proposed routes with the Lassen National Forest (LNF) occurred on December 8, 2022, during which the LNF compared the proposed route corridors with known natural and cultural resources. Additionally, several meetings were held with the USFS and Pacific Crest Trail Association to determine the best crossing location along the Pacific Crest Trail as well as signage and infrastructure needs at the Humboldt Summit Crossing. An updated meeting occurred with the PNF on January 26, 2023 and January 22, 2024 and with the LNF on November 27, 2023 and with the TNF on January 10, 2023.

In April 2023, SBTS partnered with Outdoor Alliance California to bring a group of federal, state and local leaders in recreation, land management and natural resource protection to Plumas County to discuss how to advance goals around conservation, equitable outdoor access and protection of valuable natural resources. At the center of this conversation was the Connected Communities Project, and how to use this project as a tool to meet the ambitious goals of California's 30x30 initiative. Among the attendees was Wade Crowfoot (Secretary of Natural Resources), Katherine Toy (Deputy Secretary for Access), Dr. Jennifer Norris, Deputy Secretary of Biodiversity and Habitat, U.S. Forest Service, Pacific Southwest Region 5, as well as the Plumas, Lassen and Tahoe National Forests, and representatives from the Outdoor Industry Association, Sierra Nevada Conservancy and Congressman Kiley's office.

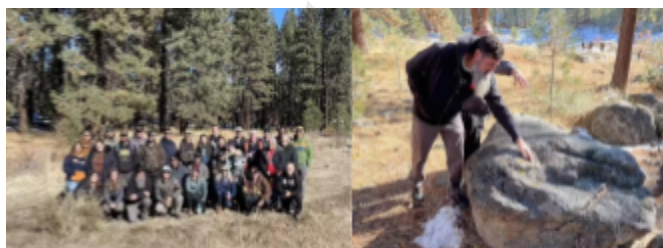
SBTS has worked closely with the USFS Region 5 Trails Program Lead, Garret Villanueva to incorporate sustainable criteria into ongoing trail development as well as trail alignment design. This included a Stream Crossing Training held at the MHRD with SBTS and PNF staff to discuss stream crossing designs that would be long lasting and not impact watersheds or nearby resources. In October, Garret Villanueva and Chris Orr from Trail Solutions at International Mountain Bike Association met with SBTS and PNF staff for a week-long immersive workshop to incorporate sustainable criteria into the proposed Connected Communities Identified Routes.

3.3 Tribal Engagement

As an indigenous led organization, SBTS recognizes the Lost Sierra region as the ancestral homeland to many indigenous peoples that still call this place home. Our Executive Director, Greg Williams, is of Miwok descent and other tribes of the area include Maidu, Washoe, Paiute, Nisenan, Konkow and Pit River. These indigenous populations were the original stewards of this land and while we acknowledge that western colonization forcibly removed them from their homeland with no financial compensation or emotional regard for their lives, we hope that the work that we do and the trails we maintain provide access and connection for the local indigenous communities that are here and present in our communities. We want to promote and support better access, connection, education and appreciation for these indigenous ancestral homelands with hopes that it inspires us all to become better human beings and stewards of this land.

Engaging with tribes during all stages of the Connected Communities project will help SBTS ensure there are no unnecessary impacts to invaluable tribal resources. SBTS also hopes, with tribal participation, that together we can improve access to areas of cultural significance and assist in getting tribal members, especially the youth, more engaged and intimate with their ancestral homelands.

In 2022 SBTS co-hosted a Cultural Monitoring Workshop with Southern Sierra Miwuk Nation with support from Sierra Nevada Conservancy and Fresno State University. More than 20 Native American tribes from as far away as southern California, Oregon and western Nevada were represented with over 50 individuals in attendance to get experience and training in Cultural Monitoring and to receive certificates of completion. Several SBTS staff and Trail Crew Leaders participated in the workshop, and while our crew members won't serve as official Cultural Monitors on our projects, the workshop provided them with the basic knowledge and tools to help protect and avoid Pre historic, historic and current cultural sites. As part of the Connected Communities project, SBTS recommends hosting additional Tribal Monitoring workshops in order to grow tribal capacity and expertise.



Cultural Monitoring Workshop held in November, 2022 in Portola, CA. Left: Workshop attendees, Right: SBTS Executive Director, Greg Williams, getting some hands on experience.

3.3 Public Benefits

Recreational trails on public lands in the United States offer a multifaceted range of benefits, spanning economic, health, cultural and environmental elements. These trails play a crucial role in promoting sustainable and healthy communities. Here are some of the key advantages:

3.3.1 Economic Benefits:

Tourism: Trails attract tourists and outdoor enthusiasts, contributing to the local economy through spending on accommodations, restaurants, guide services, and equipment and supplies. A study done on Mt. Helena and Mt. Ascension trail networks showed that despite the fact that 78% of recorded trail users were local residents, tourists using the trails spent \$ 4 million in the area over a summer season (Headwaters Economics, 2019).

Job Creation: The development and maintenance of trails create employment opportunities in areas such as trail construction and maintenance, guiding services, outdoor education, food service and hospitality and retail sales. The study in Helena estimated that the funds brought in by tourism result in 60 jobs annually, 1.5 million in income, and over 185,211 in local taxes (Headwaters Economics, 2019).

Increased Property Values: Proximity to recreational trails can enhance property values, leading to increased property tax revenues for local governments. Headwaters Economics evaluated the impacts of trails on property values and found several studies across the United States that demonstrated up to a 10% increase in price premium related to trails (Headwaters Economics, 2016c)

Business Opportunities: Local businesses, such as outdoor gear shops, gear rental and repair services, shuttles services, breweries and restaurants and more can thrive in areas with popular recreational trails and Main Street trailheads (Headwaters Economics, 2016b)

3.3.2 Health Benefits

Physical Health: Recreational trails encourage physical activity such as walking, running, biking, and hiking, contributing to improved cardiovascular health and overall fitness. A study done in the United Kingdom showed that establishing new trails increased activity and use by nearby residents at an average of 15.3 minutes a week. This study also showed that in the long term (over two years), new and local trails attracted new trail users, rather than displaces regular trail users, demonstrating how this increase in activity reached people who were otherwise more sedentary and indoors (Goodman, 2014).

Mental Health: Outdoor activities on trails have been linked to reduced stress, anxiety, and depression. Natural environments provide a therapeutic setting for mental well-being. Research in the field continues to grow, with a recent study showing that spending two hours a week in nature improves well being (White, 2019).

Enhanced Quality of Life: A network of trails contributes to the overall quality of life, attracting residents and businesses to the region. Headwaters Economics describes several studies across the United States that describe the value of trails to the residents. In some cases, up to 95% of local residents surveyed included trails as an important part of their decision to live there (Headwaters Economics, 2016a).

Community Well-being: Trails provide a space for social interactions and community engagement, promoting a culture of healthy living, and fostering a sense of belonging and connectedness.

Preventive Healthcare Benefits: Regular physical activity on trails can contribute to preventing chronic diseases, reducing the burden on healthcare systems. A cost-benefit analysis was done in Lincoln, Nebraska to compare use of trails and health care costs associated with inactivity. The results showed that every dollar invested in trails was worth three dollars in medical care, meaning “building trails is cost beneficial from a public health perspective” (Wang, 2005)

3.3.3 Environmental Benefits:

Conservation and Stewardship: Trails can raise awareness about the value of public lands, promoting conservation efforts and responsible outdoor recreation practices.

Wildlife Habitat Preservation: Comprehensive and thoughtful trail planning and management can help minimize the impact on wildlife habitats, supporting biodiversity and ecological health.

Sustainable Built Trail: Trails built to sustainable standards will decrease soil erosion and water runoff that will protect valuable watersheds

FireHardened Trails (Vegetation Management Corridors): Building trails with vegetation management corridors reduce chances of wildfires as well as provide safe access for first responders. See section 4.4 for more information.

3.3.4 Main Street Trailhead Benefits:

The connection between Main Street and a recreational trailhead can create a positive economic and social impact, fostering community engagement, attracting visitors, and providing new business opportunities. Connecting Main Street to a recreational trailhead can offer several benefits to local businesses and communities, including:

Business Visibility and Increased Foot traffic: The proximity of Main Street to a recreational trailhead makes trail users more likely to explore the nearby area, leading to more exposure for local shops, restaurants, and services.

Diverse Customer Base: The trailhead may attract a diverse group of people, including locals and tourists, creating a broader customer base for Main Street businesses. This diversity can lead to increased sales and support for a variety of products and services.

Recreation-Related Services: Businesses on Main Street can cater to the needs of outdoor enthusiasts by offering recreation-related services, such as gear rentals, bike repairs, or outdoor-themed merchandise. This can create new business opportunities and niches.

Community Engagement: Connecting Main Street to a recreational trailhead fosters a sense of community. Local residents may find a shared interest in outdoor activities, leading to community events, collaborations and a stronger sense of belonging.

Collaborative Opportunities: Businesses on Main Street and recreational trail organizers can collaborate to organize events, promotions or activities attracting more people to the area. Such collaborations can create a symbiotic relationship between the trailhead and local businesses.

Enhanced Community Infrastructure: The connection between Main Street and a recreational trailhead may encourage local governments to invest in infrastructure improvements, such as better sidewalks, signage, and parking facilities, benefiting both residents and businesses.

3.3.5 Recreation Economy for Rural Communities(RERC): Community Action Plan

In 2022, local leaders from Quincy teamed up to address regional economic challenges and leverage its unmatched natural amenities to support renewed community vitality. The steering committee included members of the Sierra Buttes Trail Stewardship, Plumas County, Feather River Tourism Association, Quincy Chamber of Commerce, Plumas Arts, Plumas Corporation, Feather River College and local businesses. The Planning Assistance Team included members from Plumas National Forest, USFS Region 5, FEMA Region 9, US Small Business Administration, US EPA Office of Community Revitalization, USDA Rural Development, US Economic Development, National Park Service, State of California Governor's Office of Business and Economic Development, SNC, and The Explore Kentucky Initiative and Together Outdoors Coalition.

The planning process was supported by the U.S. EPA Office of Community Revitalization and consisted of three major parts: Plan, Convene and Act. During the Plan stage, a two day workshop was held with over 80 Plumas County residents in attendance. There were five goals that resulted from the workshop: Recreation, Tribal Collaboration, Downtown Quincy Revitalization and Connectivity, Business and Economic Development, Workforce Housing and Lodging. After this workshop, the RERC team Convened and developed an action plan that outlines specific actions that would support each of these five goals.

Following the finalization of the plan it was brought to the local Board of Supervisors for support. The plan found resounding support throughout the board and in the year following the goal champions continued to take action to implement the goals they are responsible for. SBTS championed two of the goals: recreation and downtown Quincy revitalization. Through the guidance and support of SBTS these two goals made strong headway towards completing their action items. Most notably the Quincy Pocket Park is expected to break ground in Summer of 2024. This is a major milestone of the recreation goal - which will bring local trail information to the mainstreet of the community.

4.0 CONNECTED COMMUNITIES PROJECT PROPOSAL

The goal of the Connected Communities Pre Planning effort is to connect 15 mountain towns with sustainably built trails, improving recreational opportunities, boosting local economies and supporting our communities.

4.1 Identified Trail System

A map and trails feasibility report was completed for all identified trail corridors and are included in **Appendix 1, 2 and 3**.

4.1.1 Proposed Trail Design

Forest Service EM-7720-103 specification, adapted to local conditions, would guide trail design and construction. The proposed trail corridor would be for single lane standard/terra trail type with intended development to Trail Class 2 Moderately Developed standard, which includes continuous and discernible, but narrow and rough tread constructed of native materials. The trails would be constructed to accommodate multiple uses and managed for all allowable use types. Trail Management Objectives (TMO) would be developed in accordance with USFS standards and with Forest Service partners. The guidelines are described in the Trail Fundamentals and Trail Management Objectives prepared by the Forest Service (USFS, 2016). Designated use would be determined based on environmental review and land manager approval. Alternative designations are discussed in the Environmental Review section.

Trail construction will utilize both mechanized and non-mechanized tools and incorporate sustainable construction methods and best management practices. Mechanized trail construction includes the use of both gas powered and electric motorcycles to access project sites, chainsaws, trail dozer (30" wide and < 5,000lbs) mini-excavator (36" to 54" wide and < 5,000 lbs), pionjar and in limited instances explosives such as Magnum Buster and Micro Blaster charges.

Non-mechanized finish work includes the use of hand tools such as McLeods, Pulaskis, picks, shovels, pry bars, hand saws and loppers.

Sustainable construction methods do not mean "sanitized" or "dumbed down." The goal is for the trail system to maximize fun for the user, protect and blend in with the landscape, taking into account watershed, flora and fauna, keeping erosion to a minimum and facilitating management strategies that reflect appreciation and support for public lands. After the initial concept, design and ground truthing have been achieved, then layout, clearing of the corridor, full bench cut, finish work and revegetation will occur. This can be achieved through a hybrid method of professional, volunteer and youth crews. The hybrid method encourages both the building of trails and community participation. Costs and timelines will vary based on soil types, hydrology, topography, seasons, site access, trail character and classification. Characteristics of the sustainable trail design and build will include:

- Rolling contour trail: traverse slope in an undulating manner to help resist erosion
- Full bench: full width of tread is cut into the hillside
- Positive and negative control points
- Considerable sight lines and speed control
- Intuitive layout and signage
- Progression: allows users to build and improve skills
- Road to trail conversion where beneficial
- Utilize natural terrain to add in technical trail features
- Utilize trail structures to harden wet areas, gain or lose elevation, resist erosion, and navigate through challenging terrain
- Insloped turns with appropriate drainage
- Multi-Season use (Summer/Winter) if applicable
- Mixed terrain providing open and flowy to tight and technical experiences

Proposed Trail Specifications

The entire trail system is proposed as a Class 2 single-lane non-wilderness route with a native tread surface. The design specifications use the most constraining trail attributes from each recreation type; taking design attributes from Pack & Saddle, Hiker & Pedestrian, Bicycle and Motorcycle design parameters. These parameters provide the baseline for construction and are adapted to local conditions when necessary. The following design parameters have been selected from the FSH 2309.18 Trails Management Handbook to best accommodate all user types. Proper trail design will ensure that designated trail specifications, determined by appropriate land managers are met.

- Design Tread Width - pack & saddle specifications of 12-24 inches, 48 inches along steep side slopes, and 48-60 inches or greater along precipices
- Design Tread Surface - bicycle and motorcycle specifications of native, limited grading, may be continuously rough with sections of soft or unstable tread on grades <5 percent may be common
 - Protrusions - meet all user specifications, ≤6 inches may be common and continuous
- Design Grade - bicycle specifications of 5-12 percent with short pitch maximums of 25 percent and maximum pitch density of 10-20 percent to meet both pack and saddle and bicycle specifications
- Design Cross Slope - bicycle specifications of 5-8 percent with a maximum of 10 percent
- Design Clearing - pack & saddle specifications of 8-10 feet high and 72 inches wide with a shoulder clearance of 6-12 inches
- Designed Turn Radius - bicycle specifications of 3-6 feet minimum, SBTS has found that local conditions often warrant a 12 foot minimum radius

A matrix comparing all managed use design parameters as well as the adapted design parameters for the Lost Sierra Route are included in **Appendix 2. Trail Feasibility Study.**

4.1.2 Proposed Trail Signage

All trail signage would follow Sign and Poster Guidelines for the Forest Service, EM7100-15. The following sign types would be utilized to support the proposed trail segments:

- Trailhead signage including user education and trail map(s)
- Junction signage at trail and road crossings
 - Major junctions would include wooden signs
 - Minor crossings would include route marker signs
- Reassurance markers/tour route signs

Additionally, information signs along National Forest Service roads that cross private lands would be appropriate: “Private land next 1/2 mile, stay on road.” These signs along easement roads would help educate the public in regards to their ability to use the road to cross private lands and access public lands.

4.1.3 Identified Trailheads

With increased recreation trail opportunity, strategic trailhead planning is necessary in order to provide access points with parking, trailhead signage and amenities. In total 24 trailhead locations were identified as part of this project, when possible strategic locations with existing amenities were chosen. Trailhead (TH) infrastructure varies depending on the style of trailhead suggested (existing, downtown, remote or info center), suggested trailhead mock up is shown above and additional trailhead details are shown in the below table.



TH Name	TH Category	Land Manager	Lat/Long	Amenities Existing	Additional Suggested Amenities
Beckwourth Pass	remote	CalTrans ROW or UPRR	39.791587, -120.110406	Paved shoulder for pullout from HWY 70, and gravel parking area.	CC signage, parking, pit toilet, picnic table, and trash cans.
Cal-Ida	existing	TNF	39.519805, -120.995967	Gravel parking, campground and pit toilet with seasonal closures in place during the winter months. Seasonal Pit Toilet	CC Signage, year round pit toilet, and picnic tables.

Canyon Dam	remote	PNF	40.173598, -121.099547	None	CC signage, parking, restrooms, picnic table, and trash cans.
Chester Park	downtown	Plumas County	40.310553, -121.230129	Seasonal restrooms, water, parking, picnic tables, and barbeques.	CC signage, and bike rack(s.)
Crocker Meadow	remote	PNF	39.892178, -120.421818	Limited parking, campground, and a single vault toilet.	CC signage, and parking.
Downieville North Yuba	downtown & existing	TNF	39.557618, -120.830604	Restrooms, water, paved parking, seating areas with picnic tables, one interpretive sign, and trash.	CC signage
Frenchman	remote	PNF	39.822664, -120.137316	None	CC signage, parking, restrooms, picnic table, and trash cans.
Greenville Park	downtown	AVCSD	40.13784, -120.932759	Parking, bathrooms, trash and recycling, picnic and pavilion area, barbeques, and shade structures.	CC signage
Hobo Camp	downtown	BLM	40.415661, -120.673316	Gravel parking, campground and pit toilet with closures in place for the winter months.	CC signage
Jackson Creek 23N11	remote	PNF	39.84813, -120.68022	Double pit toilet, pull through area, parking, and a picnic table.	CC signage
Jonesville	existing	LNf	40.113709,-12 1.479404	Paved parking, and pit toilet.	CC signage, and picnic tables.
Little Truckee Summit	existing	TNF	39.505403, -120.283037	Paved parking, pit toilet, barbeques, and picnic tables.	CC signage
Mabie 24N12	remote	PNF	39.79732, -120.53052	None	CC signage, parking, pit toilet, picnic table, trash can.
Mt. Hough	remote	PNF	40.048841, -120.888683	Pit toilet	CC signage, and picnic tables.
Mt. Hough 4-Corners	remote	PNF	39.975674, -120.877911	Dirt parking with pull through availability, picnic tables, and a moto pump track.	CC signage, and restrooms. Adding road base/gravel on access roads and parking areas to harden tread and make area better suited for wet season use and minimize potential impacts from vehicle use

Pioneer Park	downtown	Plumas County	39.936443, -120.914846	Restrooms, parking, picnic tables, and water.	CC signage, bike rack(s), bike tuning station, and water filling station.
Portola City Park	downtown	City of Portola	39.80559, -120.46534	Restrooms, parking, picnic tables, water, electricity, and a bike washing station.	CC signage, E Bike charging station, bike rack(s), and additional/replacement parts for washing station.
Quincy Pocket Park	info center	Caltrans	39.93805, -120.938129	Bus stop	Two panel CC signage, landscaping, drinking fountain and refill station, benches, and art.
Sierra City Park	downtown	Sierra County	39.565906, -120.631664	Limited gravel parking, picnic tables, barbeques, trash, and playground equipment.	Restrooms (are available elsewhere in town), designated parking, bike racks, water (is available elsewhere in town), and CC signage.
Sierraville: Lemmon Canyon	remote	TNF	39.57989, -120.306412	None	CC signage, parking, pit toilet, picnic table, and trash cans.
Smithneck Creek County Park	remote	Sierra County	39.62639, -120.193992	Parking, bathrooms, trash and recycling, picnic and pavilion area, barbeques, shade, and the Boca-Loyalton trailhead.	CC Signage
Taylorville Campground	downtown	Plumas County	40.074371, -120.828872	Campground, parking, and restrooms.	CC Signage
Westwood Museum	downtown	Lassen County	40.301847, -121.000000	Restrooms available in the museum when open on Fridays and Saturdays,, water on site, parking, pull through parking area.	CC signage, bike rack(s), bike tuning station, picnic area, water fountain and filling station.
Yuba Pass	existing	TNF	39.616586, -120.489917	Paved parking, double pit toilet, interpretive signs, three panel signs (mostly empty), and a campground.	CC signage, and picnic tables.

4.1.4 Identified Amenities Gaps

Part of the Connected Communities concept draws inspiration from other parts of the country - and the world - when it comes to providing amenities to backcountry travelers. In the United States, the Aquarius Trail in Utah offers a developed network of huts for rent, enabling bikepackers and other point-to-point adventurers overnight stay accommodations along the trail

(Aquaris Trail, 2024). Over the last three decades, the San Juan Huts have not only offered summer adventurers a well-established hut system connecting Telluride, Colorado to Ouray and Moab, Utah, but the system is also set up to accommodate winter guests for cross-country skiing (San Juan Huts, n.d).

A similar structure could exist in the Lost Sierra region for Connected Communities. Adventurers can currently explore from town to town, staying in local establishments including new businesses like Beckwourth Peak High Camp, but in more remote areas between communities, gaps in amenities exist (High Camp, 2024). The most apparent gap in the region is in the expansive zone between the Sierra Valley and Susanville, including the Diamond Mountains west of Highway 395, Lake Davis, Frenchman's Reservoir and Antelope Lake. While campgrounds exist, there are very few options for overnight, hut-style accommodations.

Despite there being few existing accommodations, underutilized public assets like abandoned fire lookouts and bunkers can be found in the zone between Sierra Valley and Susanville. Taking advantage of these underutilized assets could not only provide unique overnight stay experiences, but would also significantly help promote and grow international awareness of Connected Communities with travelers and adventurers.

By following the lead of other fire lookouts like Sardine Peak, Calpine, Black Mountain and Argentine (currently under restoration) that are available for overnight rental to the public, currently abandoned or unused fire lookouts like Verdi Peak, Red Rock or empty buildings like the one adjacent to Thompson Peak lookout could be repurposed, as well as any old guard stations or other public assets with ability to accommodate overnight stays.

4.3 Identified Recreation Zones

The term Recreation Zones are being used for areas where community meetings and survey results indicate additional trails would be desirable, or that social trail networks are known to exist, demonstrating a need for development and maintenance of a sustainable trail system. Specific trail proposals were not developed as part of the Connected Communities Project, but rather the areas are being highlighted for potential future planning and development. Additionally, Recreation Zone boundaries are approximate and would be refined during future planning efforts. During future planning efforts, Recreation Zones should also be evaluated for potential conservation consideration to facilitate regional, state and federal efforts to protect 30 percent of lands and waters by 2030. In general the following principles should be utilized to develop future trail proposals:

- Public engagement during the Pre Planning process to guide community recreation needs
- Evaluation of stacked loop system trails with easier and shorter trails close to trailheads and longer, harder trails progressing further away from the trailhead
- Stacked loop systems allow users to choose variety and distance
- Utilize positive control points to take users to vistas, intersections, and other points of interest

- Utilize negative control points to avoid areas of sensitivity or special issue
- Design and build trails with skill progression in mind. Progression keeps locals engaged and visitors returning. Provides a spectrum of opportunity, challenge, and exploration
- Possibly design and build the trail system so it can be used for winter recreation like Nordic skis, fat bikes, snowshoes and snowmobiles
- Consider purpose-built and directional trail including but not limited to ADA trails, adaptive mountain bike trails, downhill-traffic-only trails and quad trails
- Strategic alignment of trails to complement fuels-reduction projects to reduce risk of wildfire and fire-safe nearby communities
- Restoration of non-system user created roads and trails
- Rerouting, reclassification or obliteration of Forest Service system roads and trails that are causing impacts to forest resources
- Trailhead facility planning to include parking/staging, restrooms and signage

Below is a discussion of the Recreation Zones within the Connected Communities Project with ideal development conditions based on survey results and regional trail development and maintenance expertise. SBTS evaluated trail density of existing and proposed recreation opportunity areas within and adjacent to the Connected Communities footprint such as Colby Mountain, Lakes Basin National Recreation Area, Mount Hough Trail System, South Park Trail System, East Zone Connectivity and Restoration Project, Claremont Trail Project, Sierra Valley Project and local Wilderness areas to calculate a regional average trail density that is approximated to one mile of trail per 427 acres.

4.3.1 Stover Mountain Recreation Zone

The Stover Mountain Recreation Zone is not a new concept; community members, businesses and Almanor Park and Recreation District have been envisioning trails in this area for many years. The community envisions a non-motorized stacked loop trail system with a tie to the PCT that would allow annual PCT hikers to easily walk into town for resupply and allow Chester to be strongly positioned as a jumping off point to long-distance PCT adventures. Additionally, a stacked loop trail system would allow the community and visitors alike a close-to-town recreation opportunity with Main Street connectivity. Current trails around Chester are generally flat, whereas the Stover Mountain area has significant topography creating diversity in the recreation opportunity around Chester. The concept routes are further discussed in the Lassen/Lake Almanor Basin Regional Trail System Concept Plan, and the specific segments of that plan that would be included in the Stover Mountain Recreation Zone planning are Chester to PCT and Stover Mountain. The Chester to PCT connection would be approximately 5 miles and connect the PCT to the existing Collins Pine Nature Trail. The Stover Mountain segment would be approximately 12 miles with connections to the Chester to PCT.

The Stover Mountain Recreation Zone is 5,603 acres, with zero existing singletrack trails currently and zero Connected Communities Identified Route trails. An additional 13 -17 miles of trail would bring this area to the regional average trail density. Additionally, a trailhead facility in close proximity to trail access would also be desirable. The Stover Mountain Ski Area parking

facility would be a strong candidate, as some amenities exist at that location and it is also an underutilized facility during the non-winter months.

4.3.2 Butt Lake Recreation Zone

The Butt Lake Recreation Zone was identified during the Connected Communities planning process and is based on community meetings, survey results and social trail locations within the Zone. The Zone is 14,531 acres with zero existing singletrack trails and 9.5 miles of proposed Connected Communities Identified Route. An additional 23-28 miles of trail would bring this up to regional average trail density.

Significant motorcycle use occurring on social trails in this area suggests a need to provide sustainable, safe and legal recreation trail opportunities to motorized trail users. As discussed above, motorcycle riders are an underserved user group, and therefore SBTS is recommending that the Butt Lake Recreation Zone be assessed by the land manager for motorized shared-use trails. Modifications to the Canyon Dam TH as proposed could be utilized for additional development of trails within the Butt Lake Recreation Zone. Depending on proposed trail corridors within the Zone an additional trailhead/staging area might be appropriate adjacent to Butt Lake.

4.3.3 Round Valley Recreation Zone

The Round Valley Recreation Zone was identified following the Dixie Fire by Dixie Fire Collaborative, and replaced the two previously identified recreation zones (Mt Jura and Greenville) that were identified during the Connected Communities planning process. The area encompassed by the Zone includes the area identified as the 'Hillside Project' by Dixie Fire Collaborative and was included in the Plumas County 2021 Wildfire Long-Term Recovery Plan. The Round Valley Recreation Zone covers 8,652 acres with zero existing trail miles and no current recreational opportunities.

In 2023, SBTS and Plumas National Forest, Mt Hough Ranger District staff spent time conducting desktop review of potential trail corridors in this zone to be included for consideration within the North Fork Forest Recovery Project NEPA decision. In total 21.88 miles of trail within this recreation zone were included in the North Fork Forest Recovery Project for consideration as a non-motorized shared use trail system.

4.3.4 Lake Davis Recreation Zone

SBTS is recommending that the Lake Davis Recreation Zone be assessed by the land manager for shared-use trails. The Zone covers 34,822 acres, with 6.7 miles of existing trails and 26 miles of proposed CCIR. An additional 47-52 miles would bring this up to the regional average trail density. The area surrounds Lake Davis near Portola, California and extends over Smith Peak towards the community of Cromberg, California. This area is at the intersection of the Great Basin and the Sierra Nevada Mountains and includes unique terrain with rolling hills, steep descents, geological features with sandy soils. At 7,657 feet, Smith Peak is a rocky summit with an active fire lookout

that offers incredible views of the Lost Sierra. Lake Davis hosts 32 miles of shoreline and is popular for fishermen, boaters, hunters and more.

Within the Lake Davis Recreation Zone there is significant Bald Eagle habitat, and a Smith Peak State Game Refuge with important mule deer migration routes. All trails proposed will avoid any areas or resource concerns.

4.3.5 Beckwourth Peak Recreation Zone

SBTS is recommending that the Beckwourth Peak Recreation Zone be assessed by the land manager for non-motorized shared-use trails. SBTS received funding from SNC to build the Beckwourth Peak Trail. The trail is an approximately 20 mile trail that starts from the City Park of Portola, California and heads up towards Carmen Saddle and then loops around Beckwourth Peak. This trail offers spectacular views of the Sierra and Humbug Valley and includes unique geological features. As of December 2023, 11 miles have been built with the remainder expected to be built by the end of 2024.

This Recreational Zone is 24,230 acres with 13.4 miles of existing trails and 12.7 miles of proposed CCIR, 11 of which has been developed as part of the Beckwourth Peak Trail described above. An additional 29 - 34 miles would bring this zone to the regional average trail density.

4.3.6 Mohawk Valley Recreation Zone

The Mohawk Valley Recreation Zone is located on land managed by the Plumas and Tahoe National Forests. The area was first identified in 2015 as part of an extensive multi-year public outreach campaign led by SBTS, Plumas National Forest, Beckwourth Ranger District and Trails for Recreation and Community (TRAC). The is 13,692 acres within this recreation zone with 13.26 miles of existing trails and 0.77 miles of proposed CCIR. An additional 17-22 miles will bring this area to the regional average trail density.

Trails within the Mohawk Valley Recreation Zone were recognized as a high priority by members of the community, business owners, the land manager and non-motorized recreational users. The Zone features mountainous terrain with dense forests, valley and mountain top views, alpine meadows, creeks and streams, historic mining sites, and is adjacent to the Lakes Basin Recreation Area. The Zone includes the popular Mills Peak Trail, which Sierra Buttes Trail Stewardship constructed over a ten year period in partnership with Plumas National Forest, connecting the Mills Peak fire lookout with the community of Graeagle. SBTS is recommending that the Mohawk Valley Recreation Zone be assessed by the land manager for non-motorized shared-use trails.

4.3.7 Frenchman Recreation Zone

The Frenchman Lake Recreation Zone is located on land managed by Plumas National Forest and the Bureau of Land Management. It includes 35,288 acres with zero existing singletrack trails and 23 miles of proposed CCIR. An additional 58-63 miles of trail would bring this up to the regional average trail density. The area features high desert and mixed conifer forests, with views of the

Sierra Valley to the west and the Highway 395 corridor to the east, and is made up of decomposed granitic soil with numerous granite boulders scattered across the landscape. The Zone was identified during the Connected Communities planning process and is based on community meetings, survey results, and social trails located within the Zone. Significant unsanctioned motorcycle use is occurring, and has occurred for generations, on the social trails in this area, demonstrating a need to provide sustainable, safe and legal recreation trail opportunities to motorized trail users. Trails in this region should be constructed at running grades of no more than 5-7% to avoid erosion and rutting in the decomposed granitic soil. Motorcycle riders are an underserved user group, however they are the most active recreational users in the region. SBTS is recommending that the Frenchman Recreation Zone be assessed by the land manager for motorized shared-use trails.

4.3.8 Sierra Valley Recreation Zone

This Recreation Zone will connect Loyalton with the motorized East Zone trails and the motorized Peavine Maze trails. This Zone includes 82,181 acres with 36 miles of existing trails and 63 miles of proposed CCIR. An additional 92-97 miles of trail will bring this zone up to the regional average trail density. SBTS is recommending that the Sierra Valley Recreation Zone be assessed by the land manager for a mix of motorized and non-motorized shared-use trails.

The 63 miles of CCIR in this zone is currently in Environmental Review, being led by SBTS and TNF. Summer of 2023 the SBTS trail crew ground truthed the 63-mile loop from Loyalton to Henness Pass, over to Sardine Peak and Little Truckee Summit, north to Sierraville and back to Loyalton, finding it to be incredibly diverse in its vistas and landscapes, geology and vegetation. Everything from aspen groves, mountain mahogany, towering cedars and junipers to firs, pines, cottonwoods, flower-lined meadows and stunning rock formations exist in this zone. Both the actively manned Babbitt Peak fire lookout and Sardine Peak fire lookout, rentable for overnight stays, are along this proposed loop, with new singletrack reaching both peaks, and will surely be a popular backcountry trail network in close proximity to Truckee, Loyalton and Sierraville.

4.4 Fire-Hardened Trail (Desired Conditions for Fuels Reduction and Recreation Trails)

A Fire-Hardened Trail is a designated and managed corridor that combines both vegetation management and recreational trails. It is a planned corridor where the preservation and enhancement of the forest plays a significant role in forest restoration and fuels reduction work, and is integrated with the creation of trails for recreational use.





Fire-Hardened Trails serve as multi-functional spaces that cater to both environmental conservation and community well-being. They are designed to provide a harmonious blend of nature and recreation, promoting a healthier lifestyle while preserving and enhancing the natural environment.

The Fire-Hardened Trail Prescription utilizes forest management techniques to create a resilient forest that supports healthy ecosystems, recreational benefits and wildfire resiliency. The community and forest benefits of a Fire-Hardened Trail can be accomplished by creating fuel conditions that pose low wildfire risk to communities while fostering a pattern of forest fuels that slow wildfire spread and intensity when wildfire encounters the trail corridors. The Prescription is a concept consistent with the goals and aims to implement actions identified in California's Joint

Strategy for Sustainable Outdoor Recreation and Wildfire Resilience. Specifically, these desired conditions would implement Goal #1 of the Strategy: Integrate Forest Health and Sustainable Outdoor Recreation. Additionally, Fire-Hardened Corridors embrace the essence of Shared Stewardship by considering 'using all available tools for active management.' (California Wildlife and Forest Resilience Task Force, 2022).

During the Dixie Fire and North Complex Fire, trails were used as firelines for containment, anchor points, and strategic firing operations. Removing fuels along trail corridors allows for the protection of the investment in the trail systems, accounts for wildfire prevention from trail users, and provides strategically placed and tactically feasible trails for wildland fire operations.

The Fire-Hardened Trail Prescription for vegetation management corridors can be accomplished through generally accepted fuels reduction practices and non-commercial thinning (i.e., mechanical thinning, mechanical piling, mastication, towed and tracked chipping, hand cutting, hand piling, pruning, pile burning and underburning). The site specific Prescription for a Fire-Hardened Trail will be created in partnership with the local land managers, applicable fire control agencies and the Natural Resources Conservation Service, Conservation Practice Specification Fuel Break – Forestland (Code 383).

Below is a sample Fire-Hardened Trail Prescription that would maximize the 100-foot trail corridor as a fuel break that is conducive for trails as fireline:

Reduced Ignition Zone - Within 15 feet of both sides of centerline of the trail:

- Remove all dead standing or downed trees and brush.

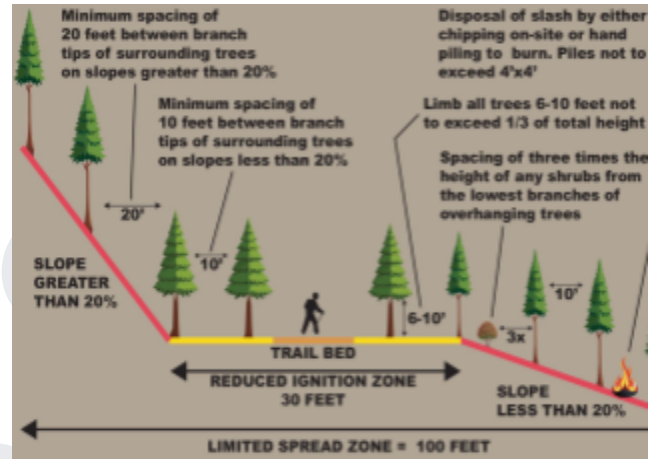


Reduced Ignition Zone diagram designed for SBTS by Ryan McCarthy, Abandoned Mine Lands Division Manager - Environmental Protection Services

- Remove all trees less than 6 inch DBH.
- Limb all trees to a height of 8 feet, not to exceed $\frac{1}{3}$ the total height of the tree.

Limited Spread Zone - Within 50 feet of both sides of the centerline of the trail:

- Thin 40 percent of trees less than 6 inch DBH and reduce brush components by 50 percent.
- Remove all dead standing trees less than 12" DBH.
- Leave trees will have a minimum spacing of 10 feet between branch tips of surrounding trees on slopes less than 20% and will have 20 feet of spacing on slopes greater than 20%.
- Keep at least three times the height of any shrubs between the shrubs and the lowest branches of overhanging trees.
- Disposal of slash will be accomplished either through chipping on site or hand piling not to exceed 4x4 piles to be burned by the US Forest Service.



Limited Spread Zone diagram prepared for SBTS by Ryan McCarthy, Abandoned Mine Lands Division Manager - Environmental Protection Services

Implementation of the Fire-Hardened Trail Prescription on all 551 miles of Connected Communities Identified Routes would result in 6,679 acres of healthy forest with only 267 acres of permanent infrastructure. In collaboration with regional stakeholders, land managers, emergency services personnel, wildland firefighters and Department of Forestry and Fire Protection staff, SBTS drafted the Fire-Hardened Trail Prescription, which is included in **Appendix 7. Fire-Hardened Trails (Vegetation Management Corridors) Prescription.**

4.5 Restoration Goals

Heavy demand for motorized and non-motorized recreation opportunities is evidenced by the existing inventory of social trails located throughout the Connected Communities project footprint. Social trails are also referred to as unauthorized or user-created trails and identify trail systems that were not built with land managers knowledge or review of environmental and resource impacts. There is a need for thoughtfully planned, sustainably constructed and sufficiently signed trail systems to serve users and to prevent future natural and cultural resource damage.

The intent of the Connected Communities Project is to reduce impacts to natural and cultural resources, to maintain and enhance the quantity, quality and diversity of recreational opportunities on trails, to improve overall access and connectivity for the public to enjoy the

surrounding National Forest and Bureau of Land Management lands, and to promote tourism and patronage of local businesses in the featured communities.

Actions are needed due to increased demand for trail riding opportunities, erosion and sedimentation, impacts to natural and cultural resources, ongoing trail maintenance requirements, poor trail drainage, fragmented trails and public safety concerns. Actions are needed to implement a long-term approach to the successful management of National Forest Trail Systems while simultaneously meeting land manager responsibilities to protect and preserve public resources as well as promote safe and sustainable recreational opportunities on public lands.

The Verdi Ridge, Frenchman Lake and Butt Lake areas all attract large numbers of motorized vehicle users. Among these areas there are few places where motorized recreation is permitted. Increased demand has led to the creation of social trail segments with poor alignments that are negatively impacting habitat, natural and cultural resources, and threatening the integrity of watersheds and riparian corridors, including wetland/meadow complexes. Many of these social trails were created by utilizing old roads, logging skid trails, historic fire lines, or other existing landscape features.

Many of these alignments were not designed for heavy, long-term sustainable recreational use. Action is needed to mitigate negative impacts to natural and cultural resource concerns due to the effects of poorly aligned social trails. Decommissioning of social trails is needed where they are redundant or causing extensive resource damage. Repair, maintenance, re-alignment, or decommissioning of existing social trails is needed to reduce future resource damage. Decommissioning and realignment activities are designed to promote natural recovery of the trail surface by restoring the natural hydrologic function of the soil and reducing runoff and erosion.

5. IMPLEMENTATION AND ACTION STEPS

Implementation of the Connected Communities Project will require widespread coordination and commitment from regional partners and stakeholders. Implementation will also require aggressive, creative and opportunistic approaches to funding and implementation which may limit stakeholder's ability to implement the project in one linear fashion.

5.1 Pre Planning

To improve efficiency of subsequent steps of Environmental Review and Construction, SBTS has completed thorough, inclusive and comprehensive Pre Planning for all proposed trail projects. This includes a desktop review of environmental and cultural resource data and terrain considerations. Once the desktop review process is complete, an initial groundtruthing of alignments will be performed to ensure that the proposed trails are feasible and that they meet Forest Service standards and sustainable trail criteria. This two-step Pre Planning process allows SBTS to share accurate GIS data and boots on the ground information for proposed trail alignments with land managers, tribes and interested groups to ensure all potential factors are considered prior to the NEPA/CEQA process.

During the Pre Planning phase, SBTS will pursue meaningful Tribal Engagement efforts. As part of meaningful engagement, SBTS will perform outreach through phone calls, email and in-person meetings to share proposed trail alignments, maps and scope of work with the appropriate tribes and tribal members, and will organize site visits to walk proposed trail alignments, address any concerns and make any necessary changes/realignments to the proposed project. In order to make this tribal engagement process possible and meaningful, SBTS plans on obtaining the necessary funding to reimburse tribes for their time, so that they can carefully and thoughtfully consider any future proposed projects on their ancestral homelands.

5.2 Environmental Review

As the Connected Communities Project involves predominantly federal land (United States Forest Service and Bureau of Land management), any and all project components will require compliance with the National Environmental Policy Act (NEPA) and final approval by the land manager would be in the form of a Decision Memo(s). It is the opinion of SBTS and key project partners that a Forest-wide environmental review would best account for cumulative project effects as well as help to ensure regional project cohesion. Through the NEPA process, formal scoping would occur, including tribal notifications allowing further public engagement and comment on the proposed project. Additionally, USFS Travel Management Rule and minimization criteria would be established as required for motorized trail components, using the USFS Trails Fundamentals and applying Sustainable Criteria, **Appendix 6. Connected Communities Sustainable Trail Management Objectives**. SBTS recommends the formation of regional advisory committees to

participate in the environmental review process in order to better engage project stakeholders in the environmental review process. Proposed trail corridors, trailhead locations and infrastructure, fuels-reduction components, and restoration measures would necessitate that project-specific resource surveys be conducted. These surveys would occur at the direction of the land manager and include but not be limited to: wildlife, heritage, botany, hydrology and recreation. In addition to working with land managers, SBTS will work with the appropriate tribes to make sure Tribal Monitors are available to ensure there is no damage or negative impacts to cultural sites.

Any engineered features (bridge, puncheon, armored creek crossings, rock wall, etc.) or mitigation measures would be determined as part of the environmental review process. Final trail corridor, trailhead infrastructure, fuels-reduction prescription, and restoration measures will rely on the comprehensive environmental review process and land manager decision.

Although the Connected Communities Project focuses primarily on federal lands and requires only NEPA for environmental review, SBTS recommends that the Project comply with California Environmental Quality Act (CEQA) in order to allow for state funding sources. The CEQA compliance would lean heavily on the surveys and analysis completed under NEPA.

The NEPA and CEQA process and land manager approval will determine the designated use of the trail corridors proposed by the Connected Communities Project. SBTS has envisioned a few alternative outcomes to the environmental review process for trail designation, including:

Alternative A - all trail segments designated for motorized shared use built to Motorcycle Trail Class 2 standards

Alternative B - select trail segments designated for motorized (motorcycle) shared use built to Trail Class 2 standards, select trail segments designated for non-motorized shared use to include class 1 e-bikes built to Bike Trail Class 2 standards

Alternative C - all trail segments designated for non-motorized shared use to include class 1 e-bikes built to Bike Trail Class 2 standards

Alternative D - no trail corridors are approved by land managers and no action is taken on the proposed Connected Communities Project

5.2 Construction

Construction of the Connected Communities Identified Trail Segments will not occur until Environmental Review (Phase 2) is complete and the segments are approved for construction. Once approved and funding has been secured construction methods will follow the methodology described in section 4.1.1 Proposed Trail Design. Construction of capital improvement projects such as trailheads will be a large undertaking. The scale of construction varies depending on if the site requires full development or upgrades to existing facilities. Additionally, the extent of development also depends on the site location and desired amenities, in town locations would

have more amenities than remote trail head locations. A more detailed discussion of suggested amenities for each proposed trailhead location is included in section 6.1.4 Trailhead Infrastructure Projects.

Implementation of the desired fuels conditions along the trail will be considered where the trails provide logical fuel breaks. In those scenarios a 100 foot corridor (50 feet on either side of the trail) would be established by initial vegetation clearing activities by hand or mechanical measures, such as controlled burns, pruning, masticating, cutting and piling. Further detail is provided in **Appendix 7. Fire-Hardened Trail (Vegetation Management Corridors) Prescription.**

5.3 Maintenance

Maintenance of the Connected Communities Project will vary depending on the scale, pace and extent of implementation. Each element of the project (trails, infrastructure and fuels reduction) will require differing levels of maintenance.

With the implementation of sustainable travel management objectives, maintenance along the trail segments should be minimal when compared to the style of trails (historic) that occur throughout the region. Specifically, designing trails in a sustainable manner decreases the tread surface repair and erosion issues generally observed on steep historic trails which are common across the Connected Communities region. With a decrease in tread and drainage repair needs, maintenance of trails becomes less of a burden only requiring annual tree clearing, brush clearing at a 3-5 year interval and tread repair as needed following significant and concentrated precipitation events.

Managing Fire-Hardened Trail corridors for long-term maintenance and monitoring involves a combination of planning, execution, and ongoing assessment to ensure the corridors serve their intended purpose while minimizing negative environmental impacts. Implementing regular maintenance activities, such as controlled burns, pruning, or selective herbicide application, depending on the corridor's purpose and design. Using eco-friendly and sustainable vegetation removal techniques to minimize the impact on the environment. Scheduling maintenance activities at appropriate intervals to prevent overgrowth. These intervals can be landscape specific, however typically thinning and clearing corridors will be on a 10-20 year cycle. SBTS expects to perform trail corridor maintenance annually, including deadfall log out, clearing brush and monitoring conditions of Fire-Hardened Trail corridors.

The Adopt-A-Trail Program is SBTS supported program in partnership with the USFS that provides a way for businesses and individuals to partner with SBTS and our National Forests by sponsoring trail maintenance on specific trails. Trails are National Forest System Trails, and the Adopt-A-Trail Program is operated under Volunteer Agreements with the Plumas and Tahoe National Forests. Philanthropic contributions toward the maintenance and upkeep of National Forest System Trails instills pride for individuals and companies, and company employees, and it provides much needed trail maintenance that currently has no Federal funding or labor source. Sierra Buttes Trail

Stewardship (SBTS) staff works with the “Sponsor” to provide necessary trail supervision, tools and training during hosted trail work days.

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6. COST ESTIMATES

The Cost estimates are broken into two major categories: Identified Trail Segment Cost Estimates and Recreation Zone Cost Estimates. The estimates included in this Trails Master Plan are for discussion purposes only, estimates and projection numbers were gathered in 2023 and may not adequately represent future costs. Additionally, estimates are based on SBTS' prior experience with trail-specific projects and may not fully encompass environmental review costs for the fuels-reduction and restoration components.

6.1 Identified Trail Segment Cost Estimates

The overall cost to establish the 551 miles of identified trail segments discussed in this report is \$51,121,979. This includes Pre Planning costs at \$465,000 environmental review costs at \$4,326,581 construction costs at \$37,624,445 including infrastructure costs. Long-term maintenance costs are estimated to be \$2,037,870 annually. Additional cost breakdown and explanation are provided below and in **Appendix 8. Connected Communities Cost Estimates.**

Mechanisms for funding will depend on the designated use of the trail segments. If the trails are open to motorized use, OHV and RTP funds can be used for those costs. Regardless of designated use, SBTS will leverage its vast network of volunteers and philanthropic donations to bring matching funds toward the implementation and maintenance of the Connected Communities identified trail segments.

6.1.1 Environmental Review Projections

Environmental review costs are estimated to be \$4,326,581 these are based on a \$1.49/foot projection for the trail segments. The estimates include: third-party consultant survey expenses for a 100-foot-wide corridor along proposed trail corridors and at proposed trailhead locations as well as third-party consultant drafting of NEPA and CEQA documents to be filed with lead agencies. The projections assume trail segments and trailheads will be assessed as large-scale projects and does not account for trailheads or trail segments as stand-alone projects. A breakdown is included in **Appendix 8.**

6.1.2 Construction Projections

Trail construction cost is estimated to be \$28,119,480 using a \$9.67/foot projection. The estimate assumes SBTS would complete the work under an agreement with each land manager and not operate as an independent contractor. This cost estimate includes expenses such as employee wages and burden for project management time as well as crew member time, equipment daily rates, equipment fuel, and travel expenses. Travel expenses are limited to vehicle mileage and does not include per diem rates for crew members.

Infrastructure to support the identified trails is expected to cost \$9,504,965 and includes the installation of informational kiosks at all proposed trailhead locations and bridges across stream crossings. There is a conservative estimate of 50 bridges that could be needed and 24 trailheads. Additional development is needed at varying levels for each identified trailhead as described in the Identified Trailhead section above, trailhead infrastructure costs were tabulated accordingly.

The total cost for trail construction and infrastructure is \$37,624,445 at an estimated \$12.93 per foot. A breakdown per is included in **Appendix 8**.

6.1.5 Maintenance Projections

Annual maintenance is estimated to cost \$2,037,870 using a \$0.70/foot projection. The estimate assumes SBTS would complete the work under agreement with each land manager and not operate as an independent contractor. This cost estimate is based on SBTS maintenance experience and includes annual trail assessment, annual log out of fallen trees, as needed brushing, tread and drainage repairs. Given the variability in annual maintenance needs, true annual maintenance costs will depend on seasonal storm severity. A breakdown per is included in **Appendix 8**.

In addition to the funding mechanisms discussed above the Adopt-A-Trail Program can support trail maintenance needs. The Adopt-A-Trail Program provides a way for businesses and individuals to partner with our National Forests by sponsoring trail maintenance on specific trails within the National Forest System Trails. SBTS currently operates the Adopt-A-Trail Program under Volunteer Agreements with the Plumas, Lassen and Tahoe National Forests. This SBTS program would be expanded to include new segments of Lost Sierra Route as they are constructed.

6.2 Recreation Zone Cost Estimates

Recreation Zone cost estimates include trail Pre Planning and environmental review costs using the mileage projections discussed for each Zone. Project Management costs include staff time required for grant management and general project management tasks. Outreach and fieldwork includes Pre Planning, hosting and follow up from public meetings, travel expenses, facilitation materials, reconnaissance of the Recreation Zone, establishing proposed trail corridors through public input, reviewing proposed trail corridors with land managers and tribes, ground truthing trail corridors and finalization of trail corridors. Environmental review includes third-party consultant survey expenses for a 100-foot-wide corridor along proposed trail corridors, and at proposed trailhead locations as well as third-party consultant document drafting of NEPA and CEQA to be finalized and considered by lead agencies. A cost breakdown was estimated using the mileage needed to bring each Recreation Zone up to the regional average trail density of 1 mile of trail for 427 acres.

The estimated cost for all eight recreation zones for environmental review is \$2,457,749, for construction and infrastructure its \$21,087,686 and for annual maintenance is \$1,157,629. A detailed breakdown by recreation zone can be found in **Appendix 8**.

Actual proposed mileage is expected to change due to the public input planning process, ground truthing and environmental review process, and therefore construction and maintenance costs for specific Recreation Zones are not included.

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7. LETTERS OF SUPPORT

Letters of Support			
Category	Organization	Category	Organization
Business Council	Sierra Business Council	Local Business	Lambert & Lambert Insurance Services
Chamber	Lost Sierra Chamber	Local Business	High Sierra Pack Goats
Chamber	Lassen County Chamber of Commerce	Local Business	Crescent Hotel
Chamber	Truckee Chamber of Commerce	Local Business	Feather River Foods Co-Op
County Agency	Sierra County Board of Supervisors	Local Business	Truckee Overhead Door
County Agency	Plumas County Board of Supervisors	Local Business	The Gilded Drifter Inn
County Agency	Plumas County Public Works	Local Non Profit	Friends of Plumas Wilderness
County Agency	Lassen County Board of Supervisors	Local Non Profit	Mountain Meadows Conservancy
County Agency	Butte County Board of Supervisors	Local Non Profit	Plumas Corporation
County Agency	Plumas Sierra County Fairgrounds	Local Non Profit	Plumas Audubon Society
County Agency	Nevada County Board of Supervisors	Municipality	City of Susanville
County Agency	Washoe County Parks and Open Space CSD	Municipality	City of Portola
Education	Center for Economic Development at CSU Chico	Municipality	City of Loyalton
Education	Feather River College	NGO	People 4 Bikes
Education	Plumas Unified School District	Recreation Association	707 Trail Riders
Education	Plumas Charter School	Recreation Association	Nevada County Woods Riders
Fed Agency	Tahoe NF	Recreation Association	Truckee Dirt Riders
Fed Agency	FS Pacific Southwest Regional Office	Recreation Association	Chico Velo

Fed Agency	Lassen NF	Recreation Association	International Mountain Bicycling Association
Fed Agency	Plumas NF	Recreation Association	Susanville Area Bicycle Association
Land Trust	Sierra County Land Trust	Recreation Association	Truckee Meadows Bicycle Alliance of Washoe County
Land Trust	Feather River Land Trust	Recreation Association	Reno Area Dirt Riders
Land Trust	Truckee Donner Land Trust	Recreation Association	Tahoe Area Mountain Biking Association
Land Trust	Northern California Regional Land Trust	Rotary	Quincy Rotary
Land Trust	Lassen Land and Trails Trust	Rotary	Greenville Rotary
Local Business	Youngs Market	Rotary	Portola Rotary
Local Business	Downieville River Inn	Rotary	Susanville Sunrise Rotary Club
Local Business	The Coffee Station	State Agency	State of Nevada Off Highway Vehicles Program
Local Business	Quincy Feather Bed	State RePresentative	Senator Brian Dahle and Assemblywoman Megan Dahle
Local Business	Carriage House Inn	Tourism Association	Feather River Tourism Association
Local Business	Riverside Mountain Lodge	Trail Association	Pacific Crest Trail Association
Local Business	Sierra County Store	Trail Association	Plumas Sierra Trails for Recreation and Community
Local Business	Cocina DeOro	Trails Association	Truckee Trails Foundation
Local Business	Carey Candy & Quincy Provisions	US RePresentative	Congressman Doug LaMalfa (District 1)
Local Business	Midtown Coffee	US RePresentative	Congressman Tom McClintock
Local Business	Sierra Pines Resort	Visitors Bureau	Sierra County Visitor Bureau

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9. APPENDICES

1. Connected Communities Map
2. Trails Feasibility Study
3. Trails Feasibility Study Maps
4. Lost Sierra Community Histories
5. Connected Communities Survey Report
6. Fire-Hardened Trail (Vegetation Management Corridors) Prescription
7. Connected Communities Sustainable Trail Management Objectives
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