Executive Summary

LINKING TAHOE
REGIONAL TRANSPORTATION PLAN

TAHOE REGIONAL PLANNING AGENCY || lake tahoe

FINAL

April 2017

EXECUTIVE SUMMARY

The Lake Tahoe Region is an area of exceptional natural beauty, with one of the world's deepest, clearest lakes surrounded by pine forests, meadows, and snow-capped mountain peaks. Mark Twain, making his first visit in the 1860s, described it as, "the fairest picture the whole earth affords." Split by the California and Nevada border, this Jewel of the Sierra is a national treasure. Protecting its sensitive environment is a top priority for TRPA and dozens of public, private, and nonprofit partners at the local, state, and federal level. The Region's exceptional natural attributes are the biggest driver of its $5 billion annual economy, which is based on outdoor recreation and tourism that also contribute to some of the Region's largest transportation challenges.

The Region covers 500 square miles and has about 55,000 full-time residents. Its largest population centers are the City of South Lake Tahoe and unincorporated communities of Meyers and Stateline on the South Shore, and unincorporated communities of Tahoe City, Kings Beach, and Incline Village on the North Shore. Newly-available data show that nearly 10 million vehicles travel to Lake Tahoe each year. This heavy visitation is in large part a result of Lake Tahoe's central location in the Northern California Megalopolis, a corridor of growing metropolitan areas that extends from the San Francisco Bay Area to Sacramento and Reno. More than 15 million people live in this corridor and many of them drive up to Lake Tahoe to enjoy its world-class summer and winter recreation opportunities.

This amount of visitation puts significant pressures on the Region's transportation system, which consists primarily of two-lane roadways leading to and around the lake. During times of peak visitation, visitor traffic causes significant congestion in community centers, at recreation areas, and at regional entry and exit points. With a large lake in the center of the Region, a rugged landscape, strong environmental protections, and nearly 90 percent of the Region in federal or state ownership, with most of it protected as state park or national forest, Lake Tahoe's roadways cannot simply be expanded in size to meet peak automobile travel demands. Meeting the transportation needs of Lake Tahoe's residents, commuters, and visitors while also protecting the Region's environment will require unique and dynamic solutions.

As the Lake Tahoe Region's federally-designated metropolitan planning organization, TRPA plays a leading role in identifying and planning solutions for its transportation challenges. Created through a Bi-State Compact between California and Nevada, TRPA leads the cooperative effort to preserve, restore, and enhance the Lake Tahoe Region, while improving local communities and visitors' interactions with its irreplaceable environment.

Every four years TRPA prepares a plan outlining the vision for developing, operating, and maintaining the Region's transportation system. This 2017 Regional Transportation Plan offers strategies to address the travel demands of residents, commuters, and the millions of people who visit Lake Tahoe each year. Projects and programs that implement the strategies will dynamically meet transportation needs and manage congestion with improved travel options, infrastructure, and information; improved non-automotive access to heavily-visited recreation areas; incentives that help disperse the times, places, and ways people travel; and safe, equitable access to all the places people want to visit to experience and enjoy this unique national treasure.

The Transportation Vision

A first-class transportation system that prioritizes bicycling, walking, and transit, and serves residents and visitors while contributing to the environmental and socioeconomic health of the Region

The highest priorities for implementation of this Regional Transportation Plan are:

TRANSIT

- Increasing frequency to 30 minute headways
- Providing free-to-the-user service
- Improving recreation access

TRAILS

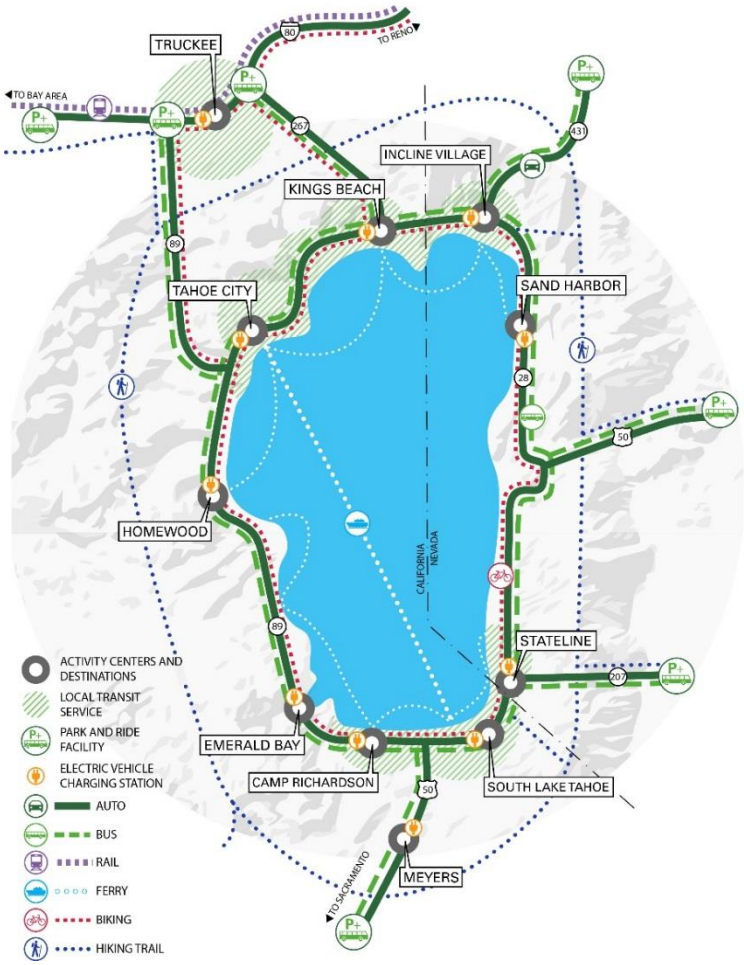
- Closing gaps in the active transportation network with a focus on shared-use paths

TECHNOLOGY

- Signal optimization
- Transit prioritization
- Real-time information
- Vehicle electrification
- Parking management

Preserving the Lake Tahoe experience and environment that residents and visitors enjoy means managing the traffic congestion that occurs during times of peak visitation. Congestion is a significant challenge, but is not a constant experience on Lake Tahoe roadways. New data show the times of peak visitation throughout the year as well as the most heavily visited destinations. The projects and programs of this regional transportation plan focus intensely on those times of peak visitation and better serving heavily-visited destinations through three broad action categories—transit, trails, and technology—that work together to ease traffic congestion and improve non-automotive travel options.

Over the next two decades, a fully interconnected, multi-modal transportation system will give



Envisioned Tahoe Region Transportation System

people real travel options to get to, from, and around the Lake Tahoe Region, and improve access to travel information so that people see and understand the costs, benefits, and impacts associated with their travel choices. To avoid congestion, travelers will choose among easy, reliable, safe, and affordable travel options that seamlessly interconnect. At the most heavily congested times and locations, non-auto options will become visitors' and residents' best choice to get to preferred locations (Chapter 1, Regional Goals and Key Concepts).

Transit: A comprehensive and coordinated bus transit system will seamlessly link the Lake Tahoe Region's communities and recreation areas and connect them to major airports, rail lines, and metropolitan areas outside the Region with frequent, reliable, and in some locations free-to-the-user transit service. Passenger ferries will connect the North and South shores, providing convenient cross-lake water transit that is linked with the bus transit system and trail networks.

Trails: Integrated with the transit system, a complete active transportation network of trails, sidewalks, and bike lanes interspersed with bike-share options will facilitate bicycle and pedestrian travel throughout the Lake Tahoe Region for recreation and daily travel needs. The network will link community centers, neighborhoods, schools, entertainment and shopping areas, employment, tourist lodging, transit centers, and recreation areas, providing a scenic trail around Lake Tahoe and connections to the famous Tahoe Rim and Pacific Crest trails.

Technology: With technology improvements, residents, commuters, and visitors will use personal digital devices to access real-time information about the best way to reach their destinations at Lake Tahoe. Technology upgrades will optimize traffic signalization for better traffic flow and prioritize the passage of transit and emergency response vehicles. A user-friendly network of charging stations in the Lake Tahoe Region will promote the use of zero-emission electric vehicles. Technology upgrades will also provide real-time information about traffic congestion, travel times, the availability and cost of parking in high-use areas, and help people quickly find easy-to-use transit and trail alternatives to the personal automobile. People will also be able to see information about the environmental impacts of using various travel modes.

Envisioned Mega-Region System

Phased Implementation

Achieving the Lake Tahoe Region's long-term transportation vision will take time, collaboration, dedication, and successful solutions for significant funding shortfalls. It will also require a phased approach that builds upon infrastructure and programs already in place to leverage and maximize investments. Geographic constraints and the

policy direction of the TRPA Bi-State Compact limit the expansion of roadways as a potential solution. Instead, the first need is the foundation of a seamlessly interconnected, well-functioning transportation system within the Region to assure travel options and easy movement once people arrive. The priorities of this 2017 plan's transportation infrastructure, programs, and management activities will implement this foundation. They encourage the use of multi-modal options to increase the efficiency, capacity, and flexibility of what is fundamentally a fixed regional transportation system.

The 2012 Regional Transportation Plan set the stage to achieve the long-term transportation vision. The starting point for building the seamless interconnections are the Region's community centers, designed as walkable, bikeable communities with complete streets that are the jumping off points for visitors from their places of lodging and residents from their neighborhoods. This 2017 plan builds on that ongoing work by focusing on the delivery of seamless transit systems and trail networks that will provide easy, convenient, fun, and in some locations free-to-the-user travel options to recreation and other destinations throughout the Lake Tahoe Region.

Assuming the operation of seamless, efficient, and flexible transportation options within the Lake Tahoe Region, TRPA and partners can continue working with neighboring metropolitan areas to provide added transit services to and from Lake Tahoe to further reduce visitor reliance on the private automobile. This sequenced approach—prioritizing improved travel options within the Region ahead of expanding inter-regional options—will first allow more people to travel around the Lake Tahoe Region without having to drive their personal vehicle and, ultimately, allow visitors to choose to travel to and from the Lake Tahoe Region without need for a personal vehicle because they will have convenient travel options available while they are here.

Transportation plays an essential role in the vision residents and visitors share for the future of Lake Tahoe, and for restoring and protecting the environment, strengthening the economy, and revitalizing communities. More walkable, bikeable, and transit-connected community centers and recreation destinations will improve public access, spur investment and redevelopment, create healthier communities, and ensure residents, commuters, visitors, and people with special needs have diverse mobility options. Water quality improvements packaged with transportation system upgrades will reduce stormwater pollution that harms Lake Tahoe's famous water clarity. Reducing reliance on the private automobile by providing convenient transit and trail alternatives in the Lake Tahoe Region and for visitors from neighboring metropolitan areas will improve air quality, help meet greenhouse gas reduction targets, and better manage traffic congestion.

The Plan

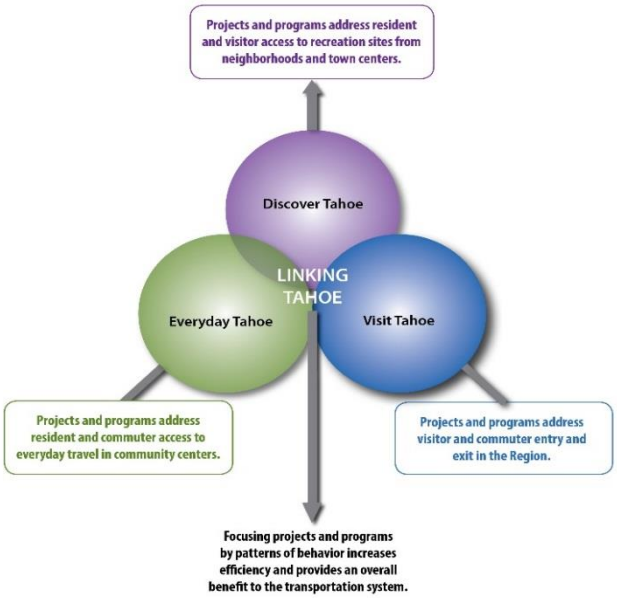
The plan is a blueprint to achieve the long-term transportation vision for Lake Tahoe. Applying its three major action categories of transit, trails, and technology at a more detailed level means addressing the needs and travel patterns of three distinct user groups: Residents, commuters, and visitors. TRPA and its partners now have much better information about the primary patterns of

travel behavior at Lake Tahoe: Visitation to recreation sites, visitors entering and exiting the Region, and daily activities of residents and employees.

This plan organizes these primary patterns of travel behavior into three focus areas: **Discover Tahoe** (recreational travel), **Visit Tahoe** (regional entry and exit travel), and **Everyday Tahoe** (residential and workforce travel). Coupled with a transportation corridor planning process that identifies the primary role of the transportation system in specific geographic areas around the Lake Tahoe Region and bundles projects and programs to address the primary goals for each corridor and maximize investment and benefit, these three focus areas are used to create tailored strategies that will spread travel over different modes, times, and destinations (Chapter 3, The Plan).

The priorities of the 2012 Regional Transportation Plan began by creating walkable, bikeable community centers to better address Everyday Tahoe travel needs. Today, as a result, more residents, visitors, and commuters are using trails and transit to travel in Lake Tahoe's community centers. This 2017 plan's priorities now focus most intensely on the Discover Tahoe travel behavior because recreational travel makes up the majority of daily vehicle trips by both residents and visitors to areas that are especially prone to heavy traffic and parking congestion because of high use and visitation.

Lake Tahoe Travel Behavior Pattern Focus Areas



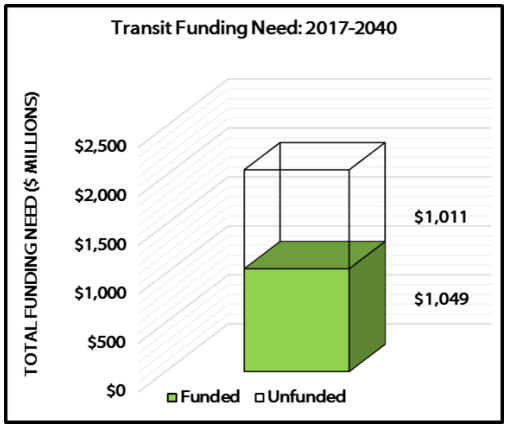
Funding

Federal law requires regional transportation plans to be "fiscally constrained," which means including only projects and programs that have reasonably foreseeable funding sources. The 2017 Regional Transportation Plan's constrained project list estimates about $2.055 billion of local, state, and federal revenue will be available for transportation investments in the Lake Tahoe Region over the next 23 years (Chapter 4, Funding the Plan). The plan also includes a "fiscally unconstrained" list. It identifies projects and programs that are considered important and necessary to achieve Lake Tahoe's long-term transportation vision, but will require additional, unidentified funding for implementation. The amount of funding needed to deliver both the constrained and unconstrained projects over the next 23 years is estimated below for each of the priority actions of transit, trails, and technology. Implementing the fiscally constrained list will accomplish many of Lake Tahoe's goals for the transportation system and deliver significant transit, trail, and technology improvements for residents, commuters, and visitors. Reasonably foreseeable revenues will provide incremental progress toward the achievement of Lake Tahoe's long-term transportation vision. Building out the full vision to meet regional needs and demands will come from regional partners working together to find new funding sources.

Projects and programs on the constrained list will reduce vehicle miles traveled and make it possible for the Lake Tahoe Region to reduce its greenhouse gas emissions from 2005 levels 8.8 percent by 2020 and 5 percent by 2035. A smaller greenhouse gas reduction is forecast for 2035 based on the projections of increased population growth in metropolitan areas surrounding Lake Tahoe and the related increases in visitation from those areas.

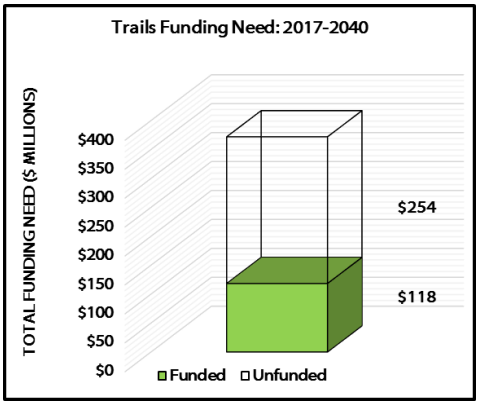
Transit

Constrained list projects will increase transit frequency from 60-minute to 30-minute intervals on all main routes; provide free-to-the-user transit throughout the Lake Tahoe Region; link North Shore and South Shore transit systems for around-the-lake service; provide new transit services to heavily-visited recreation sites at Echo Summit, Emerald Bay, and Zephyr Cove; provide new or enhanced transit services to Meyers and Truckee; improve and install transit shelters; launch passenger ferry service for cross-lake water transit linking the North and South shores; and enhance limited inter-regional transit services to Sacramento and Reno for travel to and from Lake Tahoe.



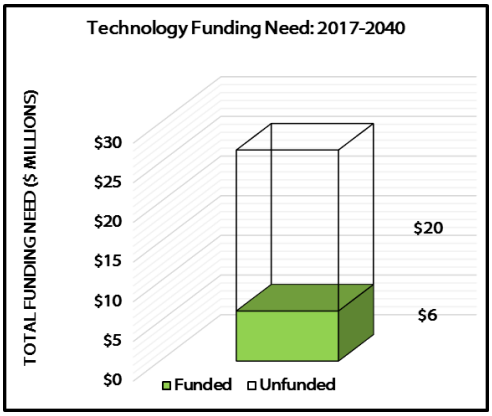
Trails

Projects on the constrained list will continue to close critical gaps in Lake Tahoe's existing 127-mile active transportation network, building about 20 miles of new shared-use path by 2021 to improve safety, access, and convenience. They will also complete corridor revitalization projects such as state Route 89 improvements between Camp Richardson and Emerald Bay to encourage the use of trails and transit to recreation areas through parking management systems, adaptive roadway management, and targeted advertising campaigns that encourage visitors to seek out less visited but equally scenic and enjoyable areas. The constrained list also includes funding for operations and maintenance by local and state agencies.



Technology

Technology enhancements on the constrained project list will provide real-time information about bus arrival times through personal digital devices and at major transit stops; provide real-time information about parking availability at high-use recreation sites; and optimize signalization on U.S. Highway 50 to improve traffic flow and prioritize the passage of transit and emergency response vehicles.



Major projects and services needed to more thoroughly address congestion associated with visitor travel cannot be achieved through reasonably foreseeable funding sources. Such projects include frequent transit from neighboring metropolitan areas with mobility hubs that provide park and ride options, adaptively managed roadways that prioritize transit passage through transit-only zones or transit-only lanes, increased local transit service with 15-minute intervals, and necessary but deferred maintenance. Projects and programs on the unconstrained list will be needed to achieve Lake Tahoe's long-term transportation vision. Over the next four years, it is critical for TRPA and its partners to identify and establish new

funding sources, including regional revenue, to move into planning and implementation of these projects and programs to further address congestion at the Lake Tahoe Region's entry and exit points.

Implementing The Plan

The backbone of transportation planning and implementation to achieve the vision of a well-connected, multi-modal transportation system that meets the needs of all users at Lake Tahoe are overarching goals, data, and implementation strategies. These elements of the plan will continue to guide the design of future projects and programs, the allocation of funding, and measurement of system performance and progress (Chapter 1, Regional Goals and Key Concepts).

Regional Goals

Regional goals set the organizing framework for transportation planning and desired outcomes at Lake Tahoe. The goals of the plan carry forward and update the concepts of previous regional transportation plans with public and stakeholder feedback received from hundreds of people at public meetings and workshops. Each goal has specific policies to guide the actions of project planners, implementers, and funders.

GOAL 1: ENVIRONMENT
Protect and enhance the environment, promote energy conservation, and reduce greenhouse gas emissions.

GOAL 2: CONNECTIVITY

Enhance the connectivity and accessibility of the Tahoe transportation system, across and between modes, communities, and neighboring regions, for people and goods.

GOAL 3: SAFETY

Increase safety and security for all users of Tahoe's transportation system.

GOAL 4: OPERATIONS AND CONGESTION MANAGEMENT

Provide an efficient transportation network through coordinated operations, system management, technology, monitoring, and targeted investments.

GOAL 5: ECONOMIC VITALITY & QUALITY OF LIFE

Support the economic vitality of the Tahoe Region to enable a diverse workforce, sustainable environment, and quality experience for both residents and visitors.

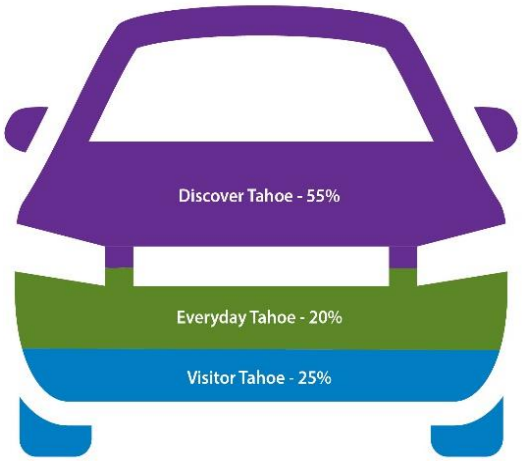
GOAL 6: SYSTEM PRESERVATION

Provide for the preservation of the existing transportation system through maintenance activities that support climate resiliency, water quality, and safety.

User Groups and Patterns of Behavior

Vastly improved data and analysis since 2012 has improved the 2017 plan's approach and strategies. We now have better estimates to understand the often-differing needs of three distinct user groups: Residents, commuters, and visitors. Recognizing these user groups is especially pertinent to addressing the seasonal roadway congestion that occurs during times of peak visitation. Lake Tahoe's residential population of 55,000 people accounts for about 55 percent of estimated daily vehicle trips in the Lake Tahoe Region. Commuters from outside the Region account for about 3 percent of estimated daily vehicle trips, while the Region's visitors account for about 42 percent of estimated daily vehicle trips.

Daily Trips by Travel Behavior



Source: TRPA, 2016

Users' needs are generalized into different strategies to address Lake Tahoe's primary patterns of travel behavior: Visitation to recreation sites, visitors entering and exiting the Region, and the daily activities of residents and employees. This plan organizes these travel behavior patterns into three focus areas—Discover Tahoe, Visit Tahoe, and Everyday Tahoe—to group projects and incentive programs for tailored strategies that spread travel over different modes, times of day or month, and destinations, particularly in regard to the recreational travel that makes up the majority of trips by both residents and visitors.

- **Discover Tahoe, Recreational Travel (55 percent of daily trips):** To better manage congestion and improve safety at recreation areas, parking management systems coupled with new trails and frequent, free-to-the-user transit service work together to encourage people to use transit to get to recreation areas and reduce dangerous parking on roadway shoulders.

- **Visit Tahoe, Regional Entry and Exit Travel (25 percent of daily trips):** To better manage congestion for people entering and exiting the Region, adaptively managing roadways to prioritize transit passage, offering park and ride facilities with frequent and reservable transit services, dynamic signalization, and incentives encouraging the spread of travel times are strategies that work together to improve travel options and maximize the capacity and efficiency of the existing transportation system.

- **Everyday Tahoe, Residential and Workforce Travel (20 percent of daily trips):** To encourage residents and commuters to use multi-modal options, transit services will be frequent and reliable and connect to the trails and locations where people need and want to go.

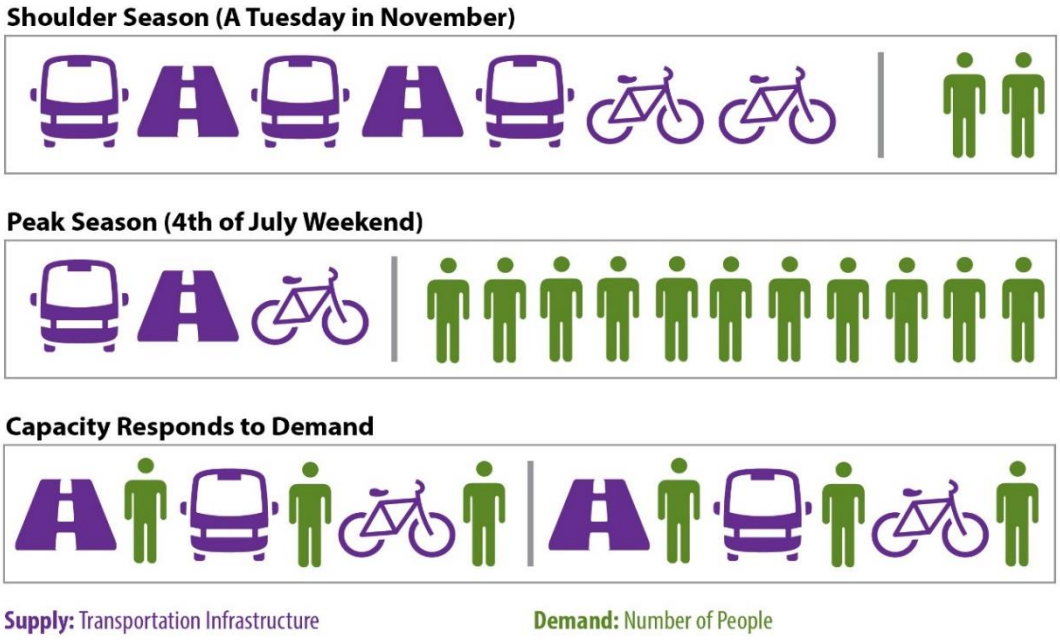
Planning a Flexible Transportation System

The Lake Tahoe Region's travel patterns are more variable than fixed. Roadways become congested only during times of high visitation or periodic events. The Region experiences some common and recurring daily commute patterns. And the renowned, year-round recreation destination and its snow-prone mountain location creates a travel environment with intense seasonal peaks in visitation and periodic events such as chain controls and road closures that can queue or hold traffic for extended periods of time.

Tahoe's limits on development to protect the sensitive environment mean that building new or bigger roads is not a solution. Instead, the strategy is having systems that can rapidly respond to

changing seasonal travel demands with multi-modal travel options, including frequent and in some locations free-to-the-user transit, especially when heavy visitation threatens to cause congestion. Transportation system operators can respond with dynamic traffic and parking management actions, diverse seasonal public transit services, real-time travel information, and incentives for people to use public transit, mobility hubs, bicycling and walking trails, and zero-emission electric vehicles. A new congestion management process will be used to evaluate and direct funding to projects and programs with the greatest benefit.

Dynamic Transportation System



Transportation System Management looks at how parts of the transportation system work together to address the needs of users and operators. It considers the movement of goods, aviation, maintenance, emergency response, evacuation, and the overall functioning of transit, trails, and technology. Services such as emergency response, maintenance, and roadway alignment and design can be improved for safety and efficiency. This plan focuses on: Preserving the environment with equipment upgrades and planning for climate change resiliency; improving emergency response times with signal preemption; and improving traffic flow and safety by reducing conflicts through corridor revitalization. This approach will increase public health and safety and more effectively manage congestion for residents, commuters, and visitors.

Residents: Signal preemption for emergency response vehicles and resiliency planning focused on climate change impacts and reducing wildfire risk will improve safety and public health.

Commuters: Upgraded maintenance equipment will provide safer travel conditions while preserving the environment through up-to-date technologies that more quickly clear roads and reduce greenhouse gas emissions and stormwater runoff.

Visitors: Corridor revitalization projects will provide multi-modal travel options for visitors to access lodging, commercial services, and recreation sites while reducing traffic conflicts and improving traffic flow in town centers.

Measuring Performance

The 2017 Regional Transportation Plan is a performance-based plan and progress and success will be continuously monitored, measured, and reported. Outcomes will be used to direct funding as it becomes available to the projects and programs most directed at meeting the priority goals and desired outcomes. Existing performance measures are identified in Chapter 5, Measuring Performance. These measures are being updated following state and federal processes as required by Congress's current transportation funding bill, Fixing America's Surface Transportation (FAST) Act. A congestion management process is also being developed as required by the FAST Act and will become part of the regional transportation plan's implementation procedures.

Leveraging Implementation

Detailed transportation corridor planning by the Tahoe Transportation District, TRPA, and local, state, and federal agencies will maximize the delivery and effectiveness of projects and reduce their cost by enhancing partnerships and implementation alignment. More specific planning is underway on six transportation corridors at Lake Tahoe and the north and south entry corridors. This next level of planning keys in on the primary transportation roles in each corridor and links that clearer understanding of people's needs in each area with projects and programs to better meet those needs. This corridor-level approach facilitates the bundling of multi-modal projects and incentive programs with environmental improvements, enhances coordination among partners, achieves multiple project benefits, and maximizes cost savings to extend investment dollars. For more information about the corridor planning process, visit www.LinkingTahoe.com.

Partner Roles and Responsibilities

TRPA's primary role is to plan the Lake Tahoe Region's transportation system and direct funding to projects that help meet regional goals. TRPA is active in the implementation of certain policies, such as working with partners to incorporate active transportation and transit infrastructure into projects. TRPA also encourages and guides collaboration among partner agencies. The primary responsibility for building and maintaining Lake Tahoe's transportation system lies with transportation partners, including El Dorado, Placer, Douglas, and Washoe counties; the City of South Lake Tahoe; public utility districts; state transportation agencies; regional transportation districts; and public lands management agencies. Private partners play an important role by providing easements, building and maintaining trails, and offering transportation services for their employees and customers. Regular input from the public, advocacy groups, and other associations is also an essential part of project planning, design, and implementation.

Planning Context: This 2017 Regional Transportation Plan fulfills multiple statutory requirements, integrates existing land use patterns and forecasts, incorporates public input, and recognizes other federal, state, and local plans.

Compact: The Tahoe Regional Planning Compact requires TRPA to develop a long-range transportation plan designed to reduce dependency on the private automobile by providing alternative travel options.

Federal: As a federally-designated metropolitan planning organization, TRPA developed this plan to meet transportation planning requirements under federal law, including the development of a long-range transportation plan.

California: As a metropolitan planning organization in California, this Regional Transportation Plan is required by state law and includes a Sustainable Communities Strategy required by California Senate Bill 375 to demonstrate how the Lake Tahoe Region will meet regional greenhouse gas emission reduction targets for 2020 and 2035.

Moving Forward

The impacts of continued population growth in metropolitan areas surrounding the Lake Tahoe Region and increased visitation from those areas will take time to address with incremental improvements. The constrained project list for this 2017 Regional Transportation Plan makes significant progress but more will be needed. As the Region pushes forward to deliver the constrained list with seamless and frequent free-to-the-user transit services, a significantly improved active transportation network, and technology improvements, TRPA and transportation partners must take concerted action to find ways to pay for the projects and programs needed to more fully address congestion associated with visitor travel to Lake Tahoe.

Funding Focus: Transit
A Bi-State Priority

This plan identifies transit as a priority investment area for new funding. This plan will guide alignment around near-term transportation needs and guide the pursuit of new funding to implement them.

Near-term transit investments include:

- High frequency transit (30 minute headways)
- "Free to the user" transit
- Increased recreation access

Fully exploring options for a regional revenue source dedicated to completing a first-class transportation system for Lake Tahoe, including transit connections between Lake Tahoe and surrounding metropolitan areas, is needed to achieve the long-term transportation vision. Such funding policy debates have been ongoing since the 1990s without resolution. With a clearer understanding of the number and types of users and their travel needs and patterns, the time is ripe to raise and resolve the issue of regional funding so the Lake Tahoe Region is well-positioned in 2021 to chart a clear path to buildout of the transportation system that assures continued preservation of the environment, quality of life for residents, and a high-quality experience for the millions of people who travel to Lake Tahoe each year.

Photo: Aurora Photos / Rachid Dahnoun

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View the plan online at: trpa.org/regionaltransportationplan

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