TAHOE REGIONAL PLANNING AGENCY

Tahoe Transportation DISTRICT

FOREST SERVICE U.S. DEPARTMENT OF AGRICULTURE

# SR-89 Corridor Management Plan

## Appendices

September 2020

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## Appendices

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# CORRIDOR CHALLENGES AND STRATEGIES

# CORRIDOR CHALLENGES AND STRATEGIES

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**Corridor Challenges and Strategies**

| Item ID | Corridor Issues | Strategies | Associated Strategies and Projects (Item ID and Project ID) | Success Measurement | Does the Recommendation Require Additional Action at a County or State Level? |
|---|---|---|---|---|---|
| 1 | The Tahoe Trail ends at Spring Creek Road in the south and at Meeks Bay Resort in the north, leaving an approximate 11-mile gap in bicycle access to recreation destinations and through cyclists along the west shore of Lake Tahoe. | Complete a feasibility study for shared-use path alternatives along the west shore.<br>Continue to work with residents, property owners, and land mangers to develop the preferred alignment for the Tahoe Trail.<br>Phase implementation of the remaining segments of the Tahoe Trail so that phases are constructed from destination to destination. For example, one phase of the construction could encompass the trail from the vista point east of Eagle Falls through the Vikingsholm parking and entrance area. This approach could leverage partnerships and improve connectivity. Other phases may be associated with the restoration project at Meeks Bay, the connection of Meeks Bay to D.L. Bliss, the connection of D.L. Bliss to Emerald Bay, and the connection to the existing trail at Spring Creek Road to Emerald Bay. | Item 2, Item 15, Item 23, Item 26; CW-1.01, WS-2.01, WS-2.02, WS-2.03, WS-3-01, WS-4.01 | Tahoe Trail completion with no gaps along the West Shore.<br>Miles of trail constructed. | |
| 2 | High volumes of pedestrians walk along and in the roadway in heavily used areas such as the Pope to Baldwin and Emerald Bay Segments. 375 cars parked alongside the highway and the viaduct in Emerald Bay on an average busy summer day in 2018 forcing, pedestrians to walk in the roadway. | Implement strategies associated with Item 1 and incorporate a walkway or shared-use path around Emerald Bay in coordination with and connected to off-highway parking lots.<br>Implement strategies associated with Item 5 and restrict/relocate roadside parking. | Item 1, Item 3, Item 23, Item 26; CW-1.01, WS-2.01, WS-2.02, WS-2.03 | Miles of sidewalk or Tahoe Trail developed around Emerald Bay offering a pathway off the highway for pedestrian use.<br>Number of roadside parking spaces "relocated" or shifted to another mode.<br>Reduction in traffic incidents.<br>Decrease in emergency response times.<br>Measurable reduction in congestion levels.<br>Improved lake clarity.<br>Number of pedestrian and bikes using new trail system.<br>Number of miles of No Parking Zone implemented as alternative modes of transportation have shifted to organized parking, transit, and trail systems. | |
| 3 | Lack of consistent, frequent, and marketed transit within the corridor negatively impacts the number of people able to arrive to recreation destinations without a car. | Develop an easily accessible, frequent, fun, and consistent transit system, that provides recreation access and can carry recreation equipment, to serve corridor recreation destinations during the summer months. Consider an express transit service to Emerald Bay from a park-n-ride area south of Emerald Bay. Consider expanding transit to other peak weekends during the winter and off-season.<br>Reduce the demand for park-n-ride facilities. Coordinate transit services with mainline systems from accommodation areas. Partner with private shuttles, including those from area hotels and accommodations to service the corridor from lodging.<br>Implement and enforce no roadside parking recommendations from Item 5.<br>Develop and implement a unified branding and marketing strategy to promote no-car access options to recreation areas.<br>Implement point source congestion management strategies throughout the Pope to Baldwin Segment to reduce delays and increase transit ridership.<br>Establish a sustainable funding source that addresses varying land manager requirements while collecting revenue from parking and/or transit to subsidize transit operations and the operation of a parking management system. The administrator of the system should be an entity that can work with partner agencies to pool resources as well as pursue additional funding sources such as applying for State Transit Assistance (STA) funds and grant programs.<br>Utilize a reservation system for shuttle use to distribute peak use and provide a system that can be used to reduce visitation, if needed, with the understanding that shifting recreation use and unmet demand will need to be addressed as part of a basinwide approach.<br>Enhance the bus stops and pull-offs through Emerald Bay to improve transit operations and increase reliability.<br>Develop turnaround locations (such as a roundabout) near the north gate at Emerald Bay and as part of parking/shuttle stop improvements at Bayview Campground for buses to tunaround.<br>Incorporate visitor experience opportunities as part of the transit system to encourage use.<br>Identify a location near the Y or West Way that can be developed as a park-n-ride/bike to serve corridor users entering the corridor from the south.<br>Utilize the underutilized parking area at Sugar Pine Point State Park as a park-n-ride/bike location in the northern area of the corridor. Improvements should allow for the facility to also improve TART service and bus turnaround for the north shore.<br>Develop public/private partnerships to deliver water taxi operations and promote use of water taxi options to reach recreation destinations and create a desired recreation experience in and of itself. Water taxis should accommodate some bicycles so passengers can ride when they reach their destination. Private operations present an opportunity to help meet corridor goals and provide visitor experience benefits, but they are not a substitute for public transit.<br>Explore public/private solutions, including opportunities for micro-transit and tour companies to provide services that are compatible with the corridor vision and desired outcomes. | Item 1, Item 4, Item 5, Item 26; CW-1.02, CW-1.03, CW-1.04, CW-1.05, CW-1.06, WS-1.01, WS-1.03, WS-1.08, WS-1.09, WS-1.10, WS-1.11, WS-1.14, WS-2.04, WS-2.06, WS-2.07, WS-2.08, WS-2.11, WS-2.12, WS-2.13, WS-2.14, WS-4.03, WS-5.01, WS-5.02 | Reduction in vehicle congestion along the highway.<br>Mode share targets for each travel framework phase hits minimum of 80% of target.<br>Visitor awareness of shuttle program.<br>Results of travel surveys indicate a positive experience.<br>15% of visitors utilize a park-one strategy and access transit from their accommodations.<br>Increased operations budget for land managers.<br>Transit and parking management system have sustainable funding source. | Yes - findings for restricting roadside parking are needed per the California vehicle code<br>Increasing fine will need to be discussed at higher levels<br>Addressing increasing visitation demand needs to occur at a regional level |

# CORRIDOR CHALLENGES AND STRATEGIES

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| 4 | Bus stop and turnaround locations are limited in Emerald Bay and vehicles are often illegally parked in the bus stop. | Formalize bus stop pulloff locations in Emerald Bay so the design is integrated as part of the following areas:<br>Northbound pulloff at Inspiration Point<br>Northbound pulloff at Vikingsholm Parking lot<br>Southbound pulloff part of redesigned roadside parking area at Eagle Falls<br>Southbound pulloff part at Inspiration Point or as part of a redesign of Bayview Campground to a small off-highway parking lot and shuttle stop to meet winter and shoulder season recreation access needs when the summer shuttle is not in operation.<br>Turnarounds at Emerald Bay's northern and southern gates and as part of the Bayview transit pulloff. | Item 3; WS-2.05, WS-2.11, WS-2.12, WS-2.13, WS-2.14 | Transit reliability and ridership increased. | |
| | | Implement elements discussed in Item 3. | | | |
| 5 | Summer recreation users arriving to beach entries, trailheads, and off-highway vista points by car creates significant congestion as motorists use the highway as a defacto parking lot and search for a place to park along the side of the road. The traffic congestion, also caused by lack of real-time information, impacts emergency response operations and overall traffic flow. | Restrict/relocate roadside parking from the Pope to Baldwin Segment to D.L. Bliss and shift to off-highway parking lots or park-n-ride/bike locations or park-once strategies from lodging accommodations and/or other recreation sites. | Item 1, Item 3, Item 4, Item 26; CW-1.02, CW-1.03, CW-1.04, WS-1.03, WS-2-04, WS-2.06, WS-2.07, WS-2.14, WS-4.05, WS-5.05 | 50 percent reduction in the length of delay time to get through the corridor.<br>Mode share targets for each travel framework phase hits minimum of 80% of target.<br>Visitor awareness of shuttle program.<br>Results of travel surveys indicate a positive experience.<br>15% of visitors utilize a park-once strategy and access transit from their accommodations.<br>Transit and parking management system have a predictable andsustainable funding source.<br>Miles of No Parking Zones created | Yes - findings for restricting roadside parking are needed per the California vehicle code<br>Increasing fine will need to be discussed at higher levels |
| | | Implement an adaptive management strategy to monitor roadside parking impacts near Sugar Pine Point State Park and Meeks Bay and restrict/relocate parking when alternative access is provided. | | | |
| | | Significantly increase fine for parking along the roadside in restricted areas. | | | |
| | | Utilize barriers, striping, and No Parking Zones to provide consistency and clarification for visitors and to assist in enforcement of roadside parking restrictions. | | | |
| | | Utilize barriers, striping, and No Parking Zones to provide consistency and clarification for visitors and to assist in enforcement of roadside parking restrictions. | | | |
| | | Consider opportunities for third-party ticketing/warnings to increase enforcement. | | | |
| | | Develop and implement a unified branding and marketing strategy to promote no-car access to recreation areas. | | | |
| | | Utilize ITS to notify motorists of transit opportunities, when parking is full, and of sustainable access opportunities. | | | |
| | | Utilize real-time information (through the use of technology such as cameras, counters, ITS, and cell data) to inform the public of travel conditions and allow land managers to adapt strategies. | | | |
| | | Develop turnaround locations (such as a roundabout) near the north gate and south gates at Emerald Bay where motorists can return to park-n-ride locations or off-highway parking lots without creating congestion issues. | | | |
| | | Implement a multimodal travel system (i.e., shuttle, bike path, water taxi) to provide access to a sustainable number of visitors who would otherwise be displaced from the restriction/relocation of roadside parking. Water taxis should accommodate some bicycles. | | | |
| | | Improve bus stops to meet accessibility requirements, enforce no parking in bus stops, and connect bus stops to recreation areas by shared-use pathways. | | | |
| | | Develop a coordinated corridor parking management system that is implemented in tandem with transit and other implementation strategies and is either part of or aligned with a regional system. The management system should be designed to meet desired corridor outcomes. The parking management system should incorporate a reservation system as described in Item 6. | | | |
| | | Establish a predictable and sustainable funding source to pay for the parking management system and subsidize the transit, parking, and trails operations and maintenance. The system should address land manager requirements, such as fees for entry versus parking. The administrator of the system should be an entity that can work with partner agencies to pool resources and pursue other funding sources such as applying for State Transit Assistance (STA) funds and grant programs. | | | |
| 6 | Demand for recreation access peaks in the corridor from 10AM to 3PM creating stress on the transportation system and causing crowding and congestion. | Develop and implement a reservation system to disperse and manage demands throughout the day. | Item 3, Item 5, Item 26; CW-1.04 | Peak hour curve is flattened with more people arriving earlier or later in the day. (Similar to Muir Woods case study.)<br>Increased turnover rate in select areas, such as vista points, to enhance visitor photo opportunities. | |
| | | Reservation system should provide options for different groups (e.g., pools for locals, pools for underserved groups that can't afford peak pricing). | | | |
| 7 | Parking facilities at Eagle Falls and Bayview trailheads are used by overnight recreation users accessing Desolation Wilderness. | Develop a transit system with early morning and late evening runs that serves overnight backcountry users and include parking and transit pass as part of the backcountry permit. | Item 3, Item 5; WS-2.06, WS-2.07 | Sustained recreation access and travel experience to Desolation Wilderness access as measured by the number of backcountry users who reserve parking and/or transit passes as part of their backcountry permit.<br>Number of backcountry visitors with a positive experience accessing the backcountry under the new system. | |
| 8 | Off-highway parking areas are closed in the winter and a portion of the off-season, causing recreation users to park along the highway shoulder to access recreation sites. Mild winters and winters with low snow levels result in significant sightseeing in Emerald Bay. Changes due to climate change increase the frequency of mild winters or snow levels at higher elevations. These changes increase the need to provide parking in the corridor during the winter. | Keep strategically located parking lots open year-round. | Item 5, Item 7; WS-1.17, WS-1.18, WS-2.18, WS-3.04, WS-4.06, WS-5.06 | Number of winter parking spaces available.<br>Visitor experience rating increases due to safe available parking to their winter recreation destination. | |
| | | Coordinate management strategies to allow for snow removal of parking areas in the winter after highway snow removal efforts are completed. | | | |
| | | Adaptively manage corridor parking areas to strategically identify roadside areas that may be appropriate for recreation access in the winter and off-season when transit is not operating. | | | |

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| 9 | Roadway design, including hairpin turns and narrow shoulders, restricts transit access to Emerald Bay. Buses are restricted in capacity which impacts the cost of providing service. | Conduct a Project Study Report (PSR) of Emerald Bay and SR 89 south of Emerald Bay near Cascade Road to evaluate roadway design elements such as the following, while considering potential effects on visitation access from tour buses:<br>Striping the fog line and rebuilding the shoulder of SR 89 near Cascade Road.<br>Removing the final/tightest switchback as SR 89 enters Emerald Bay just west of Eagle Point Campground.<br>Lowering the elevation of SR 89 along the ridgeline as the roadway passes between Emerald Bay and Cascade Lake to allow for a widened shoulder and guard rails. | Item 1, Item 26; WS-2.09 | Improved frequency and reliability of transit service to Emerald Bay.<br>Reduction in cost of transit service. | |
| 10 | Roadway design and operations restrict year-round access around Emerald Bay. This impacts commuters, emergency responders, and recreation access. | Conduct a Project Study Report (PSR) of Emerald Bay to evaluate roadway design elements as discussed in Item 9 and to evaluate avalanche control features and management strategies to improve year round access. | Item 11, Item 26; WS-2.09, WS-2.18 | Minimum road closures of SR 89 in the winter. | |
| 11 | Limited access for emergency response and evacuation activities and to conduct fuels management and forest health management activities recommended by Lake Tahoe West Restoration Partnership. | Improve Fallen Leaf Road for emergency response and evacuation needs. Install access gates and fire locks, if needed.<br>Improve the Camp Richardson, Emerald Bay, and Sugar Pine Point State Park piers to have a multi-use function for lakeward emergency access.<br>With potential land use reconfigurations at Jameson Beach Road, repurpose existing structures for summer police/fire staging and administration, operations.<br>Develop emergency access and evacuation pullouts at regular intervals and sign and enforce no parking in pullouts, vehicles must not be left unattended.<br>Consider a first responder base station at Camp Richardson.<br>Designate and improve the road construction staging area west of Bayview Campground at Emerald Bay as a helipad access site.<br>Develop evacuation plan.<br>Provide strategically located turn around points along SR 89 (roundabouts, hammerheads, or pullouts) allowing emergency responders the ability to turn around and respond in the opposite direction.<br>Provide helipad access. | Item 10; WS-1.12, WS-1.13, WS-1.14, WS-2.08, WS-2.16, WS-2.17, WS-3.03, WS-4.04, WS-5.04 | Emergency pull-outs located every 1/2 to 1 mile.<br>Increased in-corridor emergency response staging locations. | |
| 12 | Motorists travel through high use recreation areas at high travel speeds, even during peak summer periods. | Implement a recreation corridor speed limit that allows for reducing the speed limit around recreation sites during the summer and other peak recreation use days. | Item 26, CW-1.11 | Implementation of recreation zone speed limit. | Yes<br>Recreation zone speed limit will need to be discussed at a state level to revise California vehicle code |
| 13 | Recreation use levels and limited operations and maintenance budgets have stretched land manager's ability to protect natural and cultural resources, address litter, and improve existing facility infrastructure from user impacts. | Identify revenue generation and cost-saving opportunities.<br>Support requests for increased budgets for operations and maintenance (annual and capital) including staffing of recreation areas and implementation of capital projects to manage user behavior, minimize impacts on natural and cultural resources, and align garbage management needs with operational resources.<br>Manage corridor access to disperse use during peak periods and establish a framework for organizing and managing visitor arrivals.<br>Develop agreements to allow revenue to stay local for reinvestment into the corridor.<br>Utilize total asset management planning for facilities to consider full life-cycle costs. | Item 3, Item 5, Item 26; CW-1.04, CW-1.07 | Increased operation budgets for land managers to meet goals for public lands (including resource protection and visitor access.)<br>Flexibility to spend dollars across jurisdictional boundaries. | |
| 14 | The need for improved piers and lack of staffing prevent the opportunity for water taxis to serve Camp Richardson, Emerald Bay, and Sugar Pine Point State Parks. The lack of improved piers impacts ADA/ABA access and prevents emergency response teams from easily accessing the water. | Improve the piers at Camp Richardson and Emerald Bay and construct a new pier at Sugar Pine Point State Park to meet water taxi requirements and to double as emergency/public safety facilities.<br>Increase staffing budgets to monitor and oversee uses at the piers. | Item 5, Item 11, Item 13, Item 26; WS-1-14, WS-2.08, WS-5.09 | Pier improvements completed and operational needs met. | |
| 15 | Lack of power and broadband and cellular infrastructure and fiber communications in the corridor impedes the ability to provide real-time travel information and implement corridor recommendations. | Improve ITS infrastructure, address needs for a traffic operations center, and utilize ITS as key element of visitor communications to provide real-time information.<br>Enhance broadband and fiber service where feasible.<br>Co-locate technology and power infrastructure with the Tahoe Trail and roadway and infrastructure improvements.<br>Evaluate opportunities for microcell technologies where other infrastructure enhancements are not feasible.<br>Evaluate opportunities for microcell technologies where other infrastructure enhancements are not feasible.<br>Evaluate opportunities with each project to co-locate or enhance existing utility infrastructure such as replacement of aging infrastructure or lack of utility infrastructure.<br>Install electric vehicle charging stations. | Item 1, Item 26; CW-1.01, CW-1.13, WS-1.07, WS-2.01, WS-2.2, WS-2.03, WS-2.10, WS-3.01, WS-3.02, WS-4.01, WS-4.02, WS-5.03 | Access to technology improved along the corridor to support operations and real-time travel information.<br>Improved utility infrastructure throughout the corridor.<br>Electrification for vehicles and transit. | |

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| 16 | Traffic congestion associated with Pope Beach entry and Eagle's Nest Campground. | Implement recommendations associated with overall congestion management (Item 5). | Item 5, Item 26; WS-1.02 | Reduced travel delays and vehicular queue along SR 89 at Pope Beach Road and Eagle's Nest Campground entry. | |
| | | Extend bike path to Pope Beach. | | | |
| | | Relocate the entry kiosk and turn-around further north along Pope Beach Road to increase the vehicle capacity for queue along Pope Beach Road and off SR 89. | | | |
| | | Add a second entry lane along Pope Beach Road to increase throughput and decrease congestion. Consider an expedited lane for visitors without watercraft. | | | |
| | | Explore legislative changes that would allow agencies an opportunity to flatten the demand curve through variable pricing (come early, come late and pay a lower rate). | | | |
| | | Consider utilizing a reservation system to distribute demand. | | | |
| | | Utilize ITS to notify motorists of transit opportunities, when parking is full, and of alternative transportation options. | | | |
| | | Install electric vehicle charging stations at Pope Beach. | | | |
| | | Analyze Eagle's Nest Campground entry for possible operational improvements which may include a left turn lane, or a two-way left turn lane, or an improvement within the campground to hold a larger queue. | | | |
| 17 | Pedestrians crossing SR 89 at Jameson Beach Road cause vehicle delay. | Utilize adaptive management to address the issue in stages and evaluate improvements. | Item 5, Item 26; WS-1.04 | Reduced travel delays and vehicular queue along SR 89 at Jameson Beach Road.<br>Reduced number of pedestrian crossings by at least 75%. | |
| | | Phase 1: Relocate the crosswalk from the eastern leg of the intersection to the western leg. Consider installing a rail barrier at the eastern leg of the intersection to enforce use of the western leg, thereby allowing a free left turn by motorists exiting Jameson Beach Road. Relocate the Pope Baldwin Bike Path to behind the General Store. | | | |
| | | Phase 2: Restrict roadside parking. This will reduce the number of pedestrian crossings associated with people parking along the highway and using the pedestrian crossing to either reach the facilities located on either side of the roadway. | | | |
| | | Phase 3: Relocate the bike rental and ice cream shop uses to the northern side of the roadway and consider creating an outdoor plaza and use area associated with the relocated facilities. The existing buildings could be repurposed for offices for administrative uses and potentially emergency responder staging. | | | |
| | | Phase 4 (if success measures aren't met through Phase 1-3 efforts): Install a signal at the intersection to further control pedestrian movement across the highway. | | | |
| | | Analyze and consider additional operational improvements such as median turn lanes and intersection improvements. | | | |
| 18 | Disconnected recreation sites and parking lots within the Pope to Baldwin segment discourages visitation of recreation areas west of Camp Richardson and increases the frequency of motorists exiting and entering the highway to find parking. | Implement recommendations associated with overall congestion management and source specific issues occurring at Pope Beach Road and Jameson Beach Road (Items 5, 16, and 17). | Item 5, Item 26; WS-1.03 | Increased dispersed use among recreation sites in the Pope to Baldwin Segment.<br>Fully utilized off-highway parking lot resources within the segment.<br>Reduced travel delay in the segment. | |
| | | Create an off-highway vehicular circulation route (with parallel shared-use pathway) that connects the use areas associated with the Tallac Historic Site and Jameson Beach Road to reduce the number of intersections along SR 89 and allow motorists to access underused parking areas (such as the Taylor Creek Visitor Center parking area) and disperse users to underutilized sites. | | | |
| | | Create shared-use path connections from the Pope to Baldwin Bike Path to beach recreation sites such as Camp Richardson and Baldwin Beach. | | | |
| | | Implement off-highway parking projects associated with the LTBMU approved projects as of 2020 (off-highway parking lot improvements for Kiva Point, Tallac, Valhalla, volunteer RV campground, Valhalla entrance, Baldwin Beach entrance, and snow play area off Fallen Leaf Road). | | | |
| 19 | The Pope to Baldwin Bike Path has high volumes of users in the summer which discourages some users from biking to recreation destinations in the Pope to Baldwin Segment. | Create a cycle track in the Pope to Baldwin Segment utilizing the previously used roadside parking location to increase the capacity for cyclists to ride to their recreation destinations. Consider the shared use of the cycle track for priority transit access to bypass congested areas. Move the existing path to behind the General Store. | WS-1.16 | Increased number of users arriving to the Pope to Baldwin segment by bicycle. | |
| | | Enhance the natural surface trails west of the highway to facilitate bike access from Gardner Mountain to the Camp Richardson area. | | | |
| | | Enhance the eixsting Pope to Baldwin Bike Path through the development of turnouts and vistas to allow slower moving users an opportunity to stop and take in the sites and move out of the way of other cyclists. | | | |
| | | Consider a left turn pocket for campground access. | | | |
| 20 | Recreation corridor lacks a gateway that announces users have transitioned into a special area, visitor information and marketing strategies that promote transit, and consistent wayfinding to enable travelers to easily locate their destinations. | Create recreation gateways at the southern and northern ends of the corridor. | CW-1.14, WS-1.19, WS-5.07 | Improved wayfinding and visitor experience. Increased place recognition for overall corridor. | |
| | | Incorporate visitor travel information into the Taylor Creek Visitor Center and potential new park-n-ride/bike locations in the corridor to share information about the recreation corridor and parking and transportation options. | | | |
| | | Implement Vikingsholm parking and visitor facility improvements per California State Park capital improvement program. | | | |
| | | Build off regional corridor branding to establish a consistent aesthetic and easy to understand wayfinding program. | | | |
| | | Promote regional marketing and communication strategies to build awareness of the proposed transportation system. | | | |

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| 21 | Special events in the corridor are an economic driver, but they are also sources of significant traffic, create additional demand for parking, and can impact traffic flow if not managed. | Create a checklist for event permits/approval so that permittees acquire all of the necessary permits and notify all of the required parties. Develop a coordinated calendar so events do not occur during the same time. | Item 26 | Coordinated permit and notification system. | |
| | | Establish a travel access framework that can be utilized during large corridor events such as Octoberfest. | | | |
| | | Enhance ability to host more special events in order to generate more revenue for corridor operations. | | | |
| 22 | Roadway presents a barrier to wildlife movement from habitat areas to the lake. | Create a wildlife crossing near West Way to facilitate wildlife movement under the roadway. | WS-1.20, WS-2.19, WS-3.05, WS-4.07, WS-5.08 | Reduced wildlife/vehicular incidents. | |
| | | Create a wildlife crossing in the Emerald Bay area to facilitate wildlife movement under the roadway. | | | |
| | | Design Meeks Creek Bridge and fish crossing structures to facilitate wildlife movement. | | | |
| 23 | Wildfire risk is increased with above ground powerlines in the corridor. | Where feasible, underground powerlines and co-locate utilities with the Tahoe Trail corridor. Include conduit for future fiber-optic upgrades. Hardening of the infrastructure may be acceptable when undergrounding is not feasible. | Item 1; CW-1.01, CW-1.13, WS-2.01, WS-2.02, WS-2.03, WS-3.01, WS-4.01 | Powerlines undergrounded. | |
| | | Consider electric vehicle charging needs as part of utility projects. | | | |
| 24 | Stormwater improvements are degraded and do not function due to vehicles parking in them. | Implement strategies associated with Item 5 and restrict/relocate roadside parking. | Item 5; WS-1.03, WS-2.04, WS-2.06, WS-2.07 | No vehicles parking in stormwater improvement areas.<br>Improved lake clarity. | |
| | | Restore disturbed areas. | | | |
| 25 | The viaduct and Vikingsholm parking area have subsiding soils which require creative engineering and improving the Vikingsholm parking lot. | Implement Vikingsholm parking and visitor facility improvements per California State Park capital improvement program. | WS-2.05 | Reconstruction and renovation of the Vikingsholm parking area with visitor facilities and placemaking. | |
| | | Encourage a multi-agency approach to the new improvements that consider leveraging partnerships and increasing grant options with by incorporating a segment of the Tahoe Trail from Vikingsholm to the wedding vista. Including Eagle Falls parking, transit pull-offs, and the Tahoe Trail as part of the project can reduce overall construction costs and interruption to traffic flow for visitors by consolidating project improvements. | | | |
| | | Consider tour bus access and management as part of parking lot planning and design. | | | |
| 26 | Implementation is tough and requires ongoing partnerships both at staff levels and at higher executive and bi-state levels to move recommendations forward and address funding issues. | Continue convening the Bi-State Working Group on Transportation and establish Executive Level conversations by lead agencies to address procedural, legislative, code, enforcement, capacity, funding, environmental review, cross jurisdictional resolution, and other high priority issues. | Implementation of plan strategies and projects is tightly connected to the partnership moving forward and establishing project leads to champion plan implementation. | Interlocal agreement signed.<br>Executive team continues and engages high level support from all lead agencies.<br>Necessary legislative changes enacted and agreements made for plan implementation and revenue.<br>Partnership formed and decision-making process established and agreed upon.<br>Regular meetings occur.<br>CMP is implemented. | |
| | | It is recognized that top-level agency support is needed for agency staff to participate and have adequate time and operational dollars to be engaged in the partnership. And executive involvement is critical to allow decision-making and conflict resolution to occur for challenging issues. | | | |
| | | Formalize agency partnerships, decision-making process, conflict resolution, and roles and responsibilities through an Interlocal Agreement modeled from the SR 28 CMP Interlocal Agreement (see appendix). The agreement, or memorandum of understanding, should document the commitment to work together and leverage joint projects to address the shared issues. | | | |
| | | Develop a Corridor Management Team (CMT) at the staff level to move forward implementation strategies. The CMT should work together to address challenges and fine tune operations and maintenance elements. Staff should coordinate project priorities and focus on finding opportunities for joint projects to leverage funding and maximize project benefits by having a corridorwide perspective. Discussion topics include, but are not limited to Tahoe Trail completion, project coordination, continued public outreach, implementation and fine-tuning of the parking management and reservation system, monitoring visitation levels and resolving corridor challenges/hot spots as they arise, congestion, creative solutions, safety, emergency access, evacuation planning, year-round access, roadway design, avalanche control, enforcement, leveraging funding, bundling projects, joint grant applications, and litter management. | | | |
| | | The CMT should consider the following to be effective:<br>-Decision-making rules should be established, i.e., deciding whether consensus is required to move forward on a given action. It should be recognized that land managers have final authority for decisions on their lands while having a goal for consistency in the overall approach for the corridor. -Projects and implementation actions should be made in consideration to how they help the overall corridor achieve its goals.<br>-Staff from a lead agency should be identified to set agendas, send meeting invites, secure meeting venues, and record meeting minutes and outcomes. The lead agency can rotate every year to two years.<br>-A partnership chair should be determined to help set agendas and run meetings.<br>-Establish a regular meeting schedule (at least quarterly and for enough time to have a rich and productive discussion where outcomes and roles and responsibilities are reviewed).<br>-Accountability is essential. Each meeting should result in specific actions assigned to individuals or agencies and a timeline for their completion.<br>-Conflict resolution should occur quickly. Engage decision-makers early to get buy-in and clear direction. | | | |

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| Item ID | Corridor Issues | Strategies | Associated Strategies and Projects (Item ID and Project ID) | Success Measurement | Does the Recommendation Require Additional Action at a County or State Level? |
|---|---|---|---|---|---|
| 27 | Private operators can help shift visitor trips from personal vehicles to higher occupancy transportation modes. Operators should work toward corridor goals and desired outcomes for the protection of natural and cultural resources and visitor travel experience. Micro-transit, tours, water taxis, and private shuttles can support visitor management and provide opportunities for interpretation and improved visitor experience, but they are not a substitute for public transit. | Explore public/private solutions, including opportunities for micro-transit and tour companies to provide services that are compatible with the corridor vision and desired outcomes. Private operations should acknowledge the need to manage visitation levels as part of the overall corridor strategy. | Reduced number of private vehicles on SR 89. | Item 3<br>Projects: CW-1.02, CW-1.03, CW-1.04, CW-1.05, CW-1.06, WS-1.01, WS-1.03, WS-1.08, WS-1.09, WS-1.10, WS-1.11, WS-1.14, WS-2.04, WS-2.06, WS-2.07, WS-2.08, WS-2.11, WS-2.12, WS-2.13, WS-2.14, WS-4.03, WS-5.01, WS-5.02 | |
| | | Designate areas for tour bus parking, private shuttles, and ride-share curb space to prevent negative impacts associated with private operators parking in bus stops and viewpoints and disrupting the parking management system. For example, the proposed Bayview parking area can be designed to accommodate a certain number of tour buses. Visitors can then explore the rest of Emerald Bay by trail connections, public transit, and/or micro-transit. This would reduce conflicts that tour buses may pose in smaller parking areas. | | | |
| | | Establish a permit system with fee for private operations where the fee is reinvested into the corridor transportation system. The permit system should consider the size and number of tour buses allowed and timing of arrivals in order to achieve desired outcomes of dispersing visitation and managing overall visitation numbers. | | | |
| | | Evaluate opportunities for public or private micro-transit or shuttles, consistent with corridor capacity and vehicle requirements, to reduce congestion and greenhouse gases within the corridor related to recreation travel. | | | |
| | | Support shuttles or tour operators with bike/gear trailers to encourage people to park their vehicles and travel the corridor without a personal vehicle. The schedule for private operations with bike trailers may not be as impacted by off-loading/on-loading time for bicycles and other recreation gear. | | | |
| 28 | Global changes to climate patterns results in vulnerabilities and impacts to environmental, economic, and social systems. | Improve access for fuels reduction and forest health management activities recommended by Lake Tahoe West Restoration Partnership. | Item 3, Item 8, Item 10, Item 11, Item 15, Item 23, Item 24<br>Projects: CW-1.02, CW-1.03, CW-1.04, CW-1.05, CW-1.06, WS-1.01, WS-1.03, WS-1.08, WS-1.09, WS-1.10, WS-1.11, WS-1.14, WS-2.04, WS-2.06, WS-2.07, WS-2.08, WS-2.11, WS-2.12, WS-2.13, WS-2.14, WS-4.03, WS-5.01, WS-5.02 | Reduced environmental impact and accelerated threshold attainment.<br>Increased number of fuels reduction projects in the corridor. | |
| | | Where feasible, underground powerlines and co-locate utilities with the Tahoe Trail corridor. Include conduit for future fiber-optic upgrades. Hardening of the infrastructure may be acceptable when undergrounding is not feasible. | | | |
| | | Install electric vehicle charging stations. | | | |
| | | Prioritize the use of electric buses and water taxis fueled by clean energy, to the extent their use is not cost prohibitive. | | | |
| | | Design facilities to reduce risks of flooding, manage runoff, and be inviting during times of climatic imbalance, such as extreme heat or drought. | | | |
| | | Implement multi-modal strategies and parking management programs and costruct associated infrastructure to reduce VMT and GHG. | | | |
| | | Establish individual project goals and metrics to reduce impacts on natural resources and provide benefits to accelerate threshold attainment. | | | |
| | | Track visitation patterns, including changes and increases associated with climate change. Adapt strategies to address changes in patterns. | | | |
| | | Coordinate with and implement strategies from climate action plans around the region. | | | |

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# RECOMMENDED PROJECTS AND PARTNERS

# RECOMMENDED PROJECTS AND PARTNERS

**SR 89 Recreation Corridor Management Plan**
**Recommended Projects and Partners Matrix**

***Operations**
**Planning**
**Design/Engineering**
**Monitoring**

| Project ID | Project Name | Description | Project Type* | | | | Phase | Project Lead | Landowner/ Management Agency(is) | Consider Coordination with Other Projects (ID's) | EIP Project Correlation | Potential Partners | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | OP | PL | D/E | MO | | | | | | TTD | USFS | CDPR | CALTRANS | CHP | EDC SHERIFF | EDC | TRPA | TRIBE | VENDOR | PC | CSLT | TART |
| **SR 89 RECREATION CORRIDOR SEGMENTS** | | | | | | | | | | | | | | | | | | | | | | | | |
| **CORRIDORWIDE PROJECTS (OR ASSOCIATED WITH THREE OR MORE CORRIDOR SEGMENTS)** | | | | | | | | | | | | | | | | | | | | | | | | |
| CW-1.01 | Tahoe Trail Feasibility Study | Conduct feasibility study and develop alternative alignments for the Tahoe Trail from Spring Creek Road to Meeks Bay Resort. | | X | | | 1 | USFS | USFS, CDPR, CALTRANS | CW-1.11, CW-1.13 | #04.01.02.0060 | X | X | X | X | | | X | X | X | | | | |
| CW-1.02 | ITS and shuttle marketing | Corridor ITS signage for realtime travel information and corridorwide shuttle marketing program | X | X | | X | 1 | TTD | USFS, CDPR, CALTRANS | CW-1.03 | #03.01.02.0115 #03.01.02.0054 | X | X | X | X | | | X | X | X | X | X | X | X |
| CW-1.03 | Realtime transit and parking app | Corridorwide realtime notification of parking availability and transit opportunities through mobile app | X | X | | X | 1 | TTD | USFS, CDPR, CALTRANS | CW-1.02 | #03.01.02.0102 | X | X | X | X | | | X | X | X | X | X | X | X |
| CW-1.04 | Reservation and parking management and revenue system framework and collection | Reservation and parking management and revenue programs for Pope to Baldwin and Emerald Bay Segment parking areas and transit. Addresses fee collection and operation of system in coordination with partner requirements. Develop and initiate revenue coordinated system and revenue collection in Phase I. | X | | | X | 1 | TTD | USFS/CDPR | CW-1.02, CW-1.03 | #03.01.02.0038 #03.01.02.0054 | X | X | X | | | | | X | | X | | | |
| CW-1.05 | Develop a South Shore transit maintenance facility | Develop a South Shore transit maintenance facility (facility likely to not be located in the corridor, but is needed to operate desired transit levels in the corridor) | | X | X | | 2 | TTD | EC/CSLT | WS-1.03, WS-2.04, WS-2.04, WS-2.06, WS-2.07 | #03.01.02.0038 #03.01.02.0136 | X | | | | | | X | X | | | | X | |
| CW-1.06 | Water taxi partnership | Subsidizing private water taxi operations to increase service levels and keep costs affordable for public access to the SR 89 Corridor. | X | | | | 2 | TTD | USFS/CDPR | WS-1.03, WS-1.14, WS-2.04, WS-2.04, WS-2.06, WS-2.07 | | X | X | X | | | | | X | | X | | | |
| CW-1.06A | South Shore water taxi partnership | Subsidies for South Shore water taxi service to Camp Richardson and Emerald Bay | X | | | | 3 | TTD | USFS/CDPR | WS-2.06, WS-2.07, WS-2.08 | #03.01.02.0121 #03.01.02.0127 | X | X | X | | | | | X | | X | | | |
| CW-1.06B | North Shore water taxi partnership | Subsidies for North Shore water taxi service to Camp Richardson and Emerald Bay | X | | | | 2 | TTD | USFS/CDPR | WS-2.06, WS-2.07 | #03.01.02.0127 | X | X | X | | | | | X | | X | | | |
| CW-1.07 | Increased operation budgets | Increase operation budgets for land managers to effectively balance visitation and natural and cultural resource protection. | X | | | | 1 | USFS/CDPR | USFS/CDPR/ CALTRANS | | | X | X | X | X | X | X | X | X | X | X | | | |
| CW-1.08 | Regional visitation study | Build upon the Linking Tahoe Corridor Connection Plan, Sustainable Recreation Planning, Forest Plan, and Corridor Planning and conduct a regional visitation study to help monitor and inform management decisions as corridor management moves forward and address displacement of increasing visitation demands. | X | | | X | 2 | TRPA/TTD | USFS/CDPR | WS-1.03, WS-2.04, WS-2.04, WS-2.06, WS-2.07 | #03.01.02.0140 | X | X | X | | | | X | X | X | X | X | X | X |
| CW-1.09 | Future transit stop development | Evaluate the potential for additional transit stops and transit system based on corridor use and meeting CMP objectives. | X | | | X | 3 | TTD | USFS/CDPR/ CALTRANS | WS-1.03, WS-2.04, WS-2.04, WS-2.06, WS-2.07 | #03.01.02.0054 | X | X | X | X | | | | | | | | | X |
| CW-1.10 | Monitoring | Monitor achievement of CMP objectives annually with responsibility scheduled quarterly. | | | | X | 1, 2, 3 | TTD | USFS/CDPR/ CALTRANS | | #01.01.03.0036 #03.01.02.0054 | X | X | X | X | X | X | X | X | X | X | X | X | X |
| CW-1.11 | Recreation zone speed limit | Develop and implement a recreation zone speed limit that can be enacted in high use recreation zones during peak use periods. | X | | | X | 1, 2, 3 | TRPA | CALTRANS | CW-1.01 | #01.01.03.0036 #03.01.02.0054 | X | X | X | X | X | X | X | X | X | X | X | X | X |
| CW-1.12 | Bike lanes or widened shoulders | Evaluate feasibility of including bike lanes or widened shoulders with removal of shoulder parking. At a minimum, in steep sections consider a bike lane in the uphill direction and corresponding sharrow in the downhill direction. | | X | | | 3 | TRPA | CALTRANS | CW-1.01 | #01.01.03.0036 | X | X | X | X | X | X | X | X | | | | | |
| CW-1.13 | Utility undergrounding | Pursue opportunities for utility undergrounding and co-locate fiber for broadband access. | | X | X | | 1, 2, 3 | TTD | USFS/CDPR | CW-1.01 | #01.01.03.0036 #03.01.02.0054 | X | X | X | X | X | X | X | X | X | X | X | X | X |
| CW-1.14 | Interpretive program and consistent, coordinated wayfinding signage | Develop a corridorwide interpretive program and theme and wayfinding signage. | X | X | X | | 1, 2, 3 | USFS | USFS/CDPR/ CALTRANS | CW-1.01, CW-1.02, CW-1.03, WS-1.19 | #01.01.03.0036 #03.01.02.0054 | X | X | X | X | X | X | X | X | X | | X | X | |
| CW-1.15 | North/South multi-use single track trail | Develop a multi-use single track trail as a mid-slope alignment for a single track trail to serve multi-use trail users. | | X | X | | 1 | USFS | USFS | | | | X | | | | | X | X | | | X | | |
| CW-1.16 | Site capacity studies throughout corridor | Assess capacity and develop desired conditions and metrics for individual corridor recreation sites | X | | | X | 1 | USFS/CDPR | USFS/CDPR | WS-1.03, WS-2.04, WS-2.04, WS-2.06, WS-2.07 | #03.01.02.0140 | X | X | X | | | | X | X | X | X | X | | |
| CS-1.17 | Funding/financing plans | Develop a funding/finance plan with each implementation phase | X | | | | 1, 2, 3 | TTD | USFS/CDPR/ CALTRANS | ` | | X | X | X | X | | | X | X | X | X | X | | |
| **1-POPE TO BALDWIN SEGMENT** | | | | | | | | | | | | | | | | | | | | | | | | |
| WS-1.01 | SnoPark parking and transit stop | Improvements to the existing SnoPark parking area to delineate parking areas and designate an area for a temporary shuttle service from SnoPark to Emerald Bay. Improvements should recognize and be designed to not impact Washoe cultural uses and events. | | | X | | 1 | TTD | USFS/TRIBE | CW-1.02, CW-1.03 | #03.01.02.0054 | X | X | | | | | | | X | | | | |
| WS-1.02 | Point source congestion management at Pope Beach Road | Relocate the entry kiosk further north along Pope Beach Road to increase the vehicle capacity for queue along Pope Beach Road and off SR 89.<br>Add a second entry lane along Pope Beach Road to increase throughput and decrease congestion. Consider an expedited lane for visitors without watercraft.<br>Consider opening entry into the recreation area earlier in the morning to shift demand.<br>Consider utilizing a reservation system to distribute demand.<br>Utilize ITS to notify motorists of transit opportunities, when parking is full, and sustainable access opportunities.<br>Add electric vehicle charging stations. | X | X | X | X | 1 & 2 | USFS | USFS | CW-1.02, CW-1.03 | #01.01.03.0036 #03.01.02.0054 | X | X | | X | | | X | X | | X | | | |
| WS-1.03 | Phase 2 and 3 transit framework , roadside parking restrictions/relocation, and parking lot and circulation improvements | Summer transit/shuttle service to segment recreation areas<br>Restrict/relocate roadside parking, increase enforcement, and utilize barriers to facilitate compliance<br>USFS LTBMU Tallac Historic Site BMP Retrofit Project<br>Internal circulator road (extend to Jameson Beach Road)<br>Shared-use path connections paralleling the internal circulator road<br>Parking area expansions<br>Consistent and cohesive signage system for recreation sites and parking areas | | | X | | 2 | TTD/USFS | USFS | CW-1.02, CW-1.03 | #01.01.04.0014 | X | X | | X | X | X | X | X | X | X | | | |
| WS-1.04 | Point source congestion management at Jameson Beach Road | Utilize adaptive management to address the issue in stages and evaluate improvements.<br>Phase 1: Relocate the crosswalk from the eastern leg of the intersection to the western leg. Consider installing a rail barrier at the eastern leg of the intersection to enforce use of the western leg, thereby allowing a free left turn by motorists exiting Jameson Beach Road. Relocate the Pope Baldwin Bike Path so it crosses Jameson Beach Road further to the north and away from the SR 89/Jameson Beach Road intersection.<br>Phase 2: Restrict roadside parking. This will reduce the number of pedestrian crossings associated with people parking along the highway and using the pedestrian crossing to either reach the uses located on either side of the roadway.<br>Phase 3: Relocate the bike rental and ice cream shop uses to the northern side of the roadway and consider creating an outdoor plaza and use area associated with the relocated facilities. The existing buildings could be repurposed for offices for administrative uses and potentially emergency responder staging.<br>Phase 4: Install a signal at the intersection to further control pedestrian movement across the highway. | X | X | X | X | 1, 2, & 3 | USFS | USFS | CW-1.02, CW-1.03 | #01.01.03.0036 #03.01.02.0054 | X | X | | X | | | X | X | | X | | | |
| WS-1.05 | Jameson Beach Road shared use path | Develop a shared use path paralleling Jameson Beach Road from SR 89 to the beach | | X | X | | 1 | USFS | USFS | | #01.01.03.0036 | X | X | | | | | | X | | X | | | |

*Project Type:
Operations, Planning, Design/Engineering, Monitoring

# RECOMMENDED PROJECTS AND PARTNERS

| Project ID | Project Name | Description | Project Type* | | | | Phase | Project Lead | Landowner/ Management Agency(is) | Consider Coordination with Other Projects (ID's) | EIP Project Correlation | Potential Partners | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | OP | PL | D/E | MO | | | | | | TTD | USFS | CDPR | CALTRANS | CHP | EDC SHERIFF | EDC | TRPA | TRIBE | VENDOR | PC | CSLT | TART |
| WS-1.06 | Baldwin Beach Road shared use path | Develop a shared use path paralleling Baldwin Beach Road from SR 89 to the beach | | X | X | | 1 | USFS | USFS | | #03.01.02.0044 | X | X | | | | | | X | | X | | | |
| WS-1.07 | Increase technology infrastructure and bandwidth in corridor segment | Increase technology infrastructure and bandwidth in corridor segment, including ability to use ITS | X | X | X | | 1 & 2 | TTD | USFS/ CALTRANS | CW-1.02, CW-1.03 | #03.01.02.0054 | X | X | | X | | | X | X | | | | | |
| WS-1.08 | Transit stop at Pope Beach Road | Transit stop at Pope Beach Road (evaluate potential for both northbound and southbound stops) | | X | X | | 2 | TTD | USFS/ CALTRANS | CW-1.02, CW-1.03, WS-1.03, WS-1.05, WS-1.06, WS-2.04, WS-2.04, WS-2.06, WS-2.07, WS-2.11, WS-2.12, WS-2.13 | #03.01.02.0054 | X | X | | X | | | | | | X | | | |
| WS-1.09 | Transit stop at Jameson Beach Road | Transit stop at Jameson Beach Road (evaluate potential for both northbound and southbound stops) | | X | X | | 2 | TTD | USFS/ CALTRANS | CW-1.02, CW-1.03, WS-1.03, WS-1.05, WS-1.06, WS-2.04, WS-2.04, WS-2.06, WS-2.07, WS-2.11, WS-2.12, WS-2.13 | #03.01.02.0054 | X | X | | X | | | | | | X | | | |
| WS-1.10 | Transit stop at Baldwin Beach Road | Transit stop at Baldwin Beach Road (evaluate potential for both northbound and southbound stops) | | X | X | | 2 | TTD | USFS/ CALTRANS | CW-1.02, CW-1.03, WS-1.03, WS-1.05, WS-1.06, WS-2.04, WS-2.04, WS-2.06, WS-2.07, WS-2.11, WS-2.12, WS-2.13 | #03.01.02.0054 | X | X | | X | | | | | | X | | | |
| WS-1.11 | Evaluate park-n-ride/bike locations at the Y and West Way | Conduct feasibility study for park-n-ride/bike location at the Y and West Way | | X | X | | 1 | USFS/TTD | USFS/EC/CSLT | CW-1.02, CW-1.03, WS-1.03, WS-1.05, WS-1.06, WS-2.04, WS-2.04, WS- | #03.01.02.0123 | X | X | | X | | | X | X | | | | X | |
| WS-1.12 | Improve Fallen Leaf Road for Emergency and Recreation Access | Improve Fallen Leaf Road for Emergency and Recreation Access | | X | X | | 1 | EDC | EDC/USFS | | #03.1.2.0141 | | X | | | | | X | | | | | | |
| WS-1.13 | Formalize emergency turnouts | Formalize emergency turnouts (design as slow vehicle turnouts if possible) | | | X | | 2 | USFS/ CALTRANS | USFS/ CALTRANS | CW-1.02, CW-1.03, WS-1.18, WS-2.09, WS-2.16, WS-3.03, WS-3.04, WS-4.06, WS-5.04 | #01.01.03.0036 | X | X | | X | X | X | X | X | | | | | |
| WS-1.14 | Camp Richardson pier - emergency access and transit access | Evaluate the opportunity to utilize the Camp Richardson pier for emergency access and water taxi access. | | X | X | | 2 & 3 | TTD | USFS | CW-1.06 | #01.01.03.0036 | X | X | | | X | X | X | X | | X | | | |
| WS-1.15 | Gardner Mountain trail access | Improve natural surface trail access from Gardner Mountain to Camp Richardson. | | X | X | | 2 | USFS | USFS | | #01.01.03.0036 | X | X | | | | | X | X | | | | | |
| WS-1.16 | Increase capacity for cyclist access to Camp Richardson | Evaluate increasing shared use path facilities or developing a seasonal cycle track along SR 89 to Camp Richardson from South Lake Tahoe. Consider opportunity for cycle track to be designed as a shared bike/transit only lane during the summer season. | | X | X | | 2 | TTD | USFS/ CALTRANS | WS-1.03, WS-2.04, WS-2.04, WS-2.06, WS-2.07 | #01.01.03.0036 | X | X | | X | | | X | X | | | | | |
| WS-1.17 | Develop snow access parking areas in the segment. | Implement USFS planned projects for parking to access winter recreation activities near Fallen Leaf Road. | | X | X | | 2 | USFS | USFS | WS-1.03, WS-1.18, WS-2.04, WS-2.04, WS-2.06, WS-2.07 | | | X | | | | | | X | | X | | | |
| WS-1.18 | Off-season and winter parking lot access. | Develop USFS operational measures to allow off-highway parking areas to remain open during the off-season and winter to provide for winter recreation access. | X | | | | 2 | USFS | USFS | CW-1.02, CW-1.03, WS-1.17, WS-2.18, WS-3.04, WS-4-06, WS-5.06 | | X | X | X | X | X | X | X | X | X | X | | | |
| WS-1.19 | Recreation Corridor Gateway Sign (near West Way) | Recreation gateway signage to communicate to visitors that they have entered into a special area. Consider incorporating ITS as part of signage system. | | | X | | 1 | USFS | USFS | CW-1.14, WS-5.07 | | X | X | X | X | | | X | X | X | X | | | |
| WS-1.20 | Incorporate wildlife crossing improvements in the segment, as appropriate | Evaluate locations for improved wildlife crossing features and separated crossing structures and implement as appropriate. | | X | X | | 2 | TRPA | USFS/ CALTRANS | CW-1.01 | #01.01.03.0036 | | X | | X | | | | X | X | | | | |
| WS-1.21 | Pope Beach Road shared use path | Develop a shared use path paralleling Pope Beach Road from SR 89 to the beach | | X | X | | 1 | USFS | USFS | | #03.01.02.0045 | X | X | | | | | | X | | X | | | |
| WS-1.22 | Fallen Leaf Lake Road and Spring Creek Road Parking Lots | Develop parking lots near the Fallen Leaf Lake Road and Spring Creek Road intersections | | X | X | | 1 | USFS | USFS | | | | X | | X | | | | X | | | | | |
| WS-1.23 | Operational improvements at Eagle's Nest Campground entry | Analyze Eagle's Nest Campground entry for possible operational improvements to hold a larger queue | X | X | X | X | 1, 2, & 3 | CALTRANS | USFS | CW-1.02, CW-1.03 | #01.01.03.0036 #03.01.02.0054 | X | X | | X | X | X | X | X | | X | | | |
| **2-EMERALD BAY SEGMENT** | | | | | | | | | | | | | | | | | | | | | | | | |
| WS-2.01 | Tahoe Trail - Spring Creek Road to Eagle Point Campground | Develop Tahoe Trail segment from Spring Creek Road to Eagle Point Campground | | X | X | | 2 | USFS | USFS/CDPR CALTRANS | CW-1.01 | #04.01.02.0060 | X | X | X | X | | | X | X | X | | | | |
| WS-2.02 | Tahoe Trail - Eagle Point Campground to Boat-in Campground Road | Develop Tahoe Trail segment from Eagle Point Campground to Boat-in Campground Road | | X | X | | 3 | USFS | USFS/CDPR CALTRANS | CW-1.01 | #04.01.02.0060 | X | X | X | X | | | X | X | X | | | | |
| WS-2.03 | Tahoe Trail - Boat-in Campground Road to DL Bliss State Park | Develop Tahoe Trail segment from Boat-in Campground Road to DL Bliss State Park | | X | X | | 2 | USFS | USFS/CDPR CALTRANS | CW-1.01 | #04.01.02.0060 | X | X | X | X | | | X | X | X | | | | |
| WS-2.04 | Phase I transit service, roadside parking restrictions/relocation, and temporary parking improvements | Summer transit/shuttle service to segment recreation areas<br>Restrict/relocate roadside parking, increase enforcement, and utilize barriers to facilitate compliance<br>Pave and install temporary meters to allow temporary roadside parking in locations that will be converted to future emergency access pull-outs or viewpoints | | X | X | | 1 | TTD/USFS | USFS/CDPR CALTRANS | CW-1.02, CW-1.03 | #01.01.04.0014 | X | X | X | X | X | X | X | X | X | X | | | |
| WS-2.05 | Vikingsholm vista parking, Eagle Falls, parking, Tahoe Trail connection and transit stops | Improve and expand Vikingsholm parking area and Eagle Falls roadside parking area to include transit stop, visitor amenities, and the Tahoe Trail alignment from the viewpoint east of Eagle Falls to Vikingsholm | | X | X | | 2 | CDPR/USFS | CDPR/ USFS/CALTRANS | CW-1.01 | #03.01.02.0115 #03.01.02.0054 | X | X | X | X | X | X | X | X | | | | | |
| WS-2.06 | Phase 2 transit and parking management framework | Refine and implement increased transit access and correlated increased restriction/relocation of roadside parking throughout segment<br>Convert Bayview Campground to small parking site with integrated transit stop and grade-separated pedestrian/bike crossing to Inspiration Point and evaluate options for relocating campsites to another location in the corridor | | X | X | | 2 | TTD/USFS | CDPR/ CALTRANS | CW-1.02, CW-1.03, WS-1.03, WS-1.05, WS-1.06, WS-2.04, WS-2.04, WS-2.06, WS-2.07, WS-2.11, WS-2.12, WS-2.13 | #01.01.03.0036 | X | X | X | X | X | X | X | X | | X | | | |
| WS-2.07 | Phase 3 transit and parking management framework | Refine and implement increased transit access and increased enforcement and barriers to restrict roadside parking | | X | X | | 2 | TTD/USFS | CDPR/ CALTRANS | CW-1.02, CW-1.03, WS-1.03, WS-1.05, WS-1.06, WS-2.04, WS-2.04, WS-2.06, WS-2.07, WS-2.11, WS-2.12, WS-2.13 | #01.01.03.0036 | X | X | X | X | X | X | X | X | | X | | | |
| WS-2.08 | Emerald Bay State Park pier | Improve Emerald Bay State Park pier and increase operational resources to facilitate water taxi service to the area | X | X | X | | 2 | CDPR | CDPR | CW-1.06 | #01.01.03.0036 | X | | X | | | | | X | | X | | | |
| WS-2.09 | Year round access and road design improvements | Project Study Report to evaluate year round access improvements through avalanche control, reduction of switchbacks, and lowering elevation of road from Eagle Point Campground entry west for approximately 1/2 mile | X | X | X | | 1 | TTD | CALTRANS/ USFS/CDPR | CW-1.01 | #01.01.03.0036 | X | X | X | X | X | X | X | X | | | X | X | |
| WS-2.10 | Increase technology infrastructure and bandwidth in corridor segment | Increase technology infrastructure and bandwidth in corridor segment, including ability to use ITS | X | X | X | | 1 & 2 | TTD | USFS/CDPR/ CALTRANS | CW-1.01 | #03.01.02.0115 | X | X | X | X | | | X | X | | | | | |
| WS-2.11 | Transit stop at Inspiration Point | Transit stop at Inspiration Point (evaluate potential for both northbound and southbound stops) | | X | X | | 2 | TTD | USFS/ CALTRANS | CW-1.02, CW-1.03, WS-1.03, WS-1.05, WS-1.06, WS-2.04, WS-2.04, WS-2.06, WS-2.07, WS-2.11, WS-2.12, WS-2.13 | #03.01.02.0115 | X | X | | X | | | | | | X | | | |

*Project Type:
Operations, Planning, Design/Engineering, Monitoring

# RECOMMENDED PROJECTS AND PARTNERS

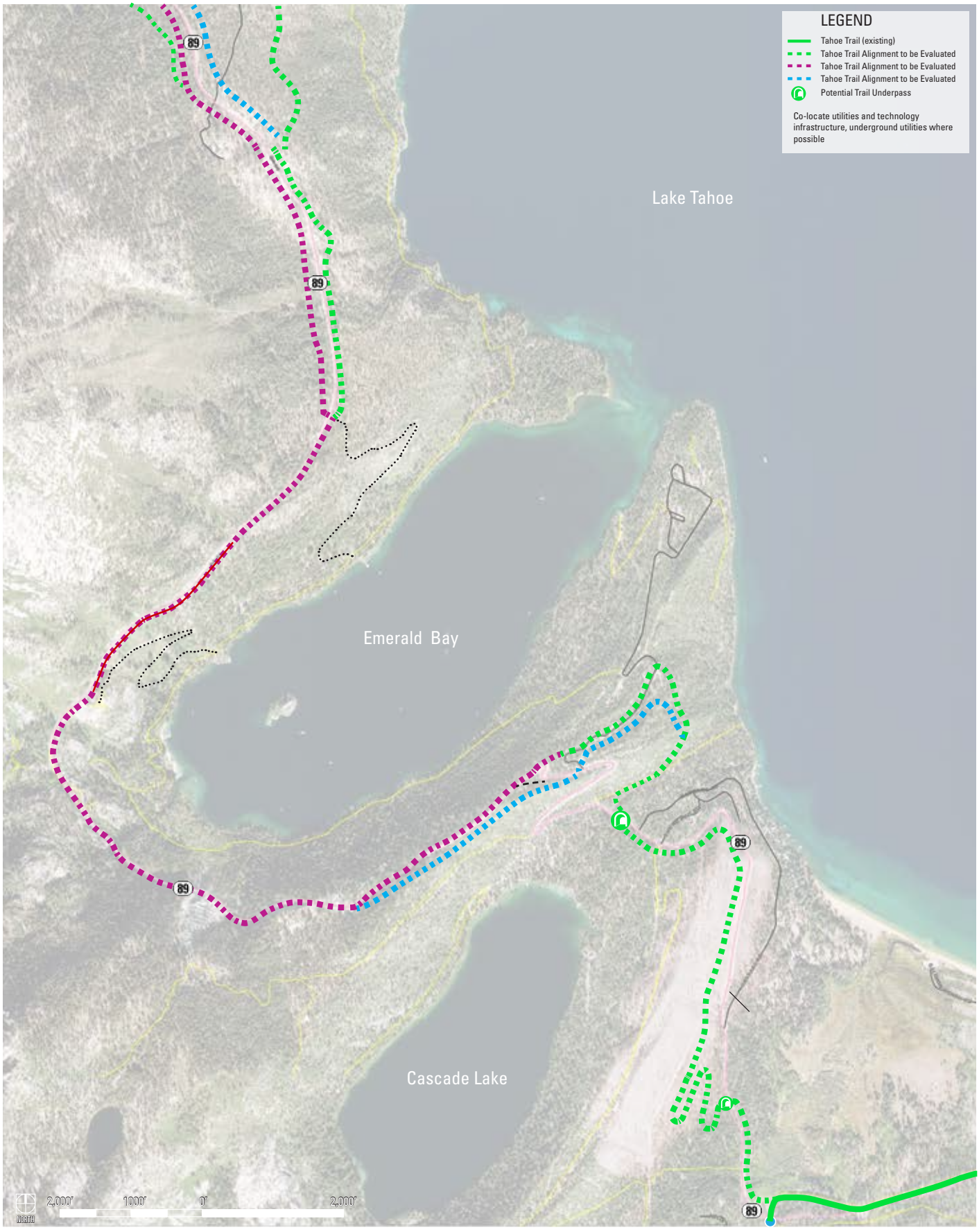
| Project ID | Project Name | Description | Project Type* | | | | Phase | Project Lead | Landowner/ Management Agency(is) | Consider Coordination with Other Projects (ID's) | EIP Project Correlation | Potential Partners | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | OP | PL | D/E | MO | | | | | | TTD | USFS | CDPR | CALTRANS | CHP | EDC SHERIFF | EDC | TRPA | TRIBE | VENDOR | PC | CSLT | TART |
| WS-2.12 | Transit stop at Eagle Point Campground | Transit stop at Eagle Point Campground (evaluate potential for both northbound and southbound stops) | | X | X | | 2 | TTD | USFS/ CALTRANS | CW-1.02, CW-1.03, WS-1.03, WS-1.05, WS-1.06, WS-2.04, WS-2.04, WS-2.06, WS-2.07, WS-2.11, WS-2.12, WS-2.13 | #03.01.02.0115 | X | X | | X | | | | | | X | | | |
| WS-2.13 | Transit stop at Eagle Falls Viewpoint | Transit stop at Eagle Falls Viewpoint (southbound) | | X | X | | 2 | TTD | USFS/ CALTRANS | CW-1.02, CW-1.03, WS-1.03, WS-1.05, WS-1.06, WS-2.04, WS-2.04, WS-2.06, WS-2.07, WS-2.11, WS-2.12, WS-2.13 | #03.01.02.0115 | X | X | | X | | | | | | X | | | |
| WS-2.14 | Vehicular and transit turnarounds | Develop transit and vehicular turnarounds, such as small roundabouts at the northern and southern ends of Emerald Bay to facilitate traffic and transit movement through Emerald Bay | | X | X | | 2 | TTD | CALTRANS/ USFS/CDPR | CW-1.01, WS-2.09 | #01.01.03.0036 #03.01.02.0115 | X | X | X | X | X | X | X | X | | | | | |
| WS-2.15 | Formalize northbound viewpoint near Eagle Falls | Formalize northbound viewpoint near Eagle Falls and existing wedding venue for short-term, paid parking | | X | X | | 2 | TTD | CALTRANS/ CDPR | WS-2.04 | #01.01.03.0036 #03.01.02.0115 | X | X | X | X | X | X | X | X | | X | | | |
| WS-2.16 | Formalize emergency turnouts | Formalize emergency turnouts (design as slow vehicle turnouts if possible) | | | X | | 2 | USFS/ CALTRANS | USFS/ CALTRANS | CW-1.02, CW-1.03, WS-1.13, WS-1.18, WS-2.09, WS-3.03, WS-3.04, WS-4.06, WS-5.04 | #01.01.03.0036 | X | X | | X | X | X | X | X | | | | | |
| WS-2.17 | Designate helipad site | Improve and designate staging area west of Bayview Campground to serve as a helipad site for emergency access | X | X | X | | 1 | USFS/ CALTRANS | USFS/ CALTRANS | | #01.01.03.0036 | | X | | X | X | X | | X | | | | | |
| WS-2.18 | Off-season and winter parking lot access | Develop USFS operational measures to allow off-highway parking areas to remain open during the off-season and winter to provide for winter recreation access. | X | | | | 2 | USFS | USFS | CW-1.02, CW-1.03, WS-1.18, WS-2.09, WS-3.04 | | X | X | X | X | X | X | X | X | X | X | | | |
| WS-2.19 | Incorporate wildlife crossing improvements in the segment, as appropriate | Evaluate locations for improved wildlife crossing features and separated crossing structures and implement as appropriate. | | X | X | | 1 | CALTRANS | CALTRANS | WS-2.01 | #01.01.03.0036 | | X | | X | | | | X | X | | | | |
| **3-RUBICON BAY SEGMENT** | | | | | | | | | | | | | | | | | | | | | | | | |
| WS-3.01 | Tahoe Trail - DL Bliss State Park to Meeks Bay | Develop Tahoe Trail segment from DL Bliss State Park to Meeks Bay (including underpasses for crossing, where needed) Underground powerlines and co-locate technology infrastructure where possible | | X | X | | 2 | USFS | USFS/CDPR CALTRANS | CW-1.01 | #04.01.02.0060 | X | X | X | X | | | X | X | X | | | | |
| WS-3.02 | Increase technology infrastructure and bandwidth in corridor segment | Increase technology infrastructure and bandwidth in corridor segment, including ability to use ITS | X | X | X | | 1 & 2 | TTD | USFS/CDPR/ CALTRANS | CW-1.01 | #03.01.02.0115 | X | X | X | X | | | X | X | | | | | |
| WS-3.03 | Formalize emergency turnouts | Formalize emergency turnouts (design as slow vehicle turnouts if possible) | | | X | | 2 | USFS/ CALTRANS | USFS/ CALTRANS | CW-1.02, CW-1.03, WS-1.13, WS-1.18, WS-2.09, WS-2.16, WS-3.04, WS-4.06, WS-5.04 | #01.01.03.0036 | X | X | | X | X | X | X | X | | | | | |
| WS-3.04 | Off-season and winter parking lot access | Develop USFS operational measures to allow off-highway parking areas to remain open during the off-season and winter to provide for winter recreation access and evaluate trail access needs and options in alignment with local plans | X | | | | 2 | USFS | USFS | CW-1.02, CW-1.03, WS-1.18, WS-2.09, WS-4-06, WS-5.06 | | X | X | X | X | X | X | X | X | X | X | | | |
| WS-3.05 | Incorporate wildlife crossing improvements in the segment, as appropriate | Evaluate locations for improved wildlife crossing features and separated crossing structures and implement as appropriate. | | X | X | | 2 | TRPA | USFS/ CALTRANS | CW-1.01 | #01.01.03.0036 | | X | | X | | | | X | X | | | | |
| WS-3.06 | Intersection improvement at SR 89 and Mountain Drive | Intersection improvement at SR 89 and Mountain Drive | | X | X | | 2 | TRPA | USFS/ CALTRANS | CW-1.01 | | | | | X | | | X | X | | | | | |
| **4-MEEKS BAY SEGMENT** | | | | | | | | | | | | | | | | | | | | | | | | |
| WS-4.01 | Tahoe Trail - Within Meeks Bay | Develop Tahoe Trail segment from DL Bliss State Park to Meeks Bay Underground powerlines and co-locate technology infrastructure where possible | | X | X | | 2 | USFS | USFS/CDPR CALTRANS | CW-1.01 | #04.01.02.0060 | X | X | X | X | | | X | X | X | | | | |
| WS-4.02 | Increase technology infrastructure and bandwidth in corridor segment | Increase technology infrastructure and bandwidth in corridor segment, including ability to use ITS | X | X | X | | 1 & 2 | TTD | USFS/CDPR/ CALTRANS | CW-1.01 | #03.01.02.0115 | X | X | X | X | | | X | X | | | | | |
| WS-4.03 | Transit stop at Meeks Bay | Transit stop at Meeks Bay (evaluate potential for both northbound and southbound stops) | | X | X | | 2 | TTD | USFS/ CALTRANS | CW-1.02, CW-1.03 | #03.01.02.0115 #03.01.02.0138 | X | X | | X | | | | | | X | | | |
| WS-4.04 | Formalize emergency turnouts | Formalize emergency turnouts (design as slow vehicle turnouts if possible) | | | X | | 2 | USFS/ CALTRANS | USFS/ CALTRANS | CW-1.02, CW-1.03, WS-1.13, WS-1.18, WS-2.09, WS-2.16, WS-3.03, WS-3.04, WS-5.04 | #01.01.03.0036 #03.01.02.0138 | X | X | | X | X | X | X | X | | | | | |
| WS-4.05 | Monitor roadside parking impacts and relocate/restrict as alternative access is provided | Adaptively manage the highway around the Meeks Bay Resort and restrict/relocate roadside parking as the recreation area becomes better served by transit. | X | | | X | 3 | USFS | USFS/ CALTRANS | | #01.01.03.0036 #03.01.02.0115 #03.01.02.0138 | X | X | | X | X | X | X | X | X | | | | |
| WS-4.06 | Off-season and winter parking lot access | Develop USFS operational measures to allow off-highway parking areas to remain open during the off-season and winter to provide for winter recreation access. | X | | | | 2 | USFS | USFS | CW-1.02, CW-1.03, WS-1.18, WS-2.09, WS-3.04, WS-5.06 | | X | X | X | X | X | X | X | X | X | X | | | |
| WS-4.07 | Incorporate wildlife crossing improvements in the segment, as appropriate | Evaluate locations for improved wildlife crossing features and separated crossing structures and implement as appropriate. | | X | X | | 2 | TRPA | USFS/ CALTRANS | CW-1.01 | #01.01.03.0036 | | X | | X | | | | X | X | | | | |
| WS-4.08 | Caltrans bridge replacement | Design bridge replacement to accommodate wildlife crossings and pedestrian/bike crossing to minimize the need for pedestrians to cross the highway at grade. | | X | X | | 2 | CALTRANS | USFS/ CALTRANS | CW-1.01 | #01.01.03.0036 #03.01.02.0138 | X | X | | X | | | X | X | X | | | | |
| **5-SUGAR PINE POINT SEGMENT** | | | | | | | | | | | | | | | | | | | | | | | | |
| WS-5.01 | Sugar Pine Point State Park summer park-n-ride/bike | Improve Sugar Pine Point State Park parking area to serve as a summer park-n-ride/bike for transit and biking and to allow for easy access and turnaround for TART transit vehicles. | | X | X | | 2 | USFS/TTD | USFS/EC/CSLT | CW-1.02, CW-1.03 | #03.01.02.0123 | X | X | | X | | | X | X | | | | X | |
| WS-5.02 | Transit stop at Sugar Pine Point State Park | Transit stop at Sugar Pine Point State Park (evaluate potential for both northbound and southbound stops) | | X | X | | 2 | TTD | CDPR | CW-1.02, CW-1.03 | #03.01.02.0115 | X | X | X | X | | | X | X | | X | X | | X |
| WS-5.03 | Increase technology infrastructure and bandwidth in corridor segment | Increase technology infrastructure and bandwidth in corridor segment, including ability to use ITS | X | X | X | | 1 & 2 | TTD | USFS/CDPR/ CALTRANS | CW-1.01 | #03.01.02.0115 | X | X | X | X | | | X | X | | | | | |
| WS-5.04 | Formalize emergency turnouts | Formalize emergency turnouts (design as slow vehicle turnouts if possible) | | | X | | 2 | USFS/ CALTRANS | USFS/ CALTRANS | CW-1.02, CW-1.03, WS-1.13, WS-1.18, WS-2.09, WS-2.16, WS-3.03, WS-3.04, WS-4.06 | #01.01.03.0036 | X | X | X | X | X | X | X | X | | | | | |
| WS-5.05 | Monitor roadside parking impacts and relocate/restrict as alternative access is provided | Adaptively manage the highway around the Sugar Pine Point State Park and restrict/relocate roadside parking as the recreation area becomes better served by transit. | X | | | X | 3 | CDPR | CDPR/CALTRANS | | #01.01.03.0036 #03.01.02.0115 | X | | X | X | X | X | X | X | X | X | X | | |
| WS-5.06 | Off-season and winter parking lot access | Develop USFS operational measures to allow off-highway parking areas to remain open during the off-season and winter to provide for winter recreation access. | X | | | | 2 | USFS | USFS | CW-1.02, CW-1.03, WS-1.18, WS-2.09, WS-3.04, WS-4-06 | | X | X | X | X | X | X | X | X | X | X | | | |
| WS-5.07 | Recreation Corridor Gateway Sign (just north of Sugar Pine Point State Park) | Recreation gateway signage to communicate to visitors that they have entered into a special area. Consider incorporating ITS as part of signage system. | | | X | | 1 | CDPR | CDPR | CW-1.14, WS-1.19 | | X | X | X | X | | | X | X | X | X | X | | |
| WS-5.08 | Incorporate wildlife crossing improvements in the segment, as appropriate | Evaluate locations for improved wildlife crossing features and separated crossing structures and implement as appropriate. | | X | X | | 2 | TRPA | USFS/ CALTRANS | CW-1.01 | #01.01.03.0036 | | X | | X | | | | X | X | | | | |
| WS-5.09 | Sugar Pine Point State Park pier | Improve Sugar Pine Point State Park pier and increase operational resources to facilitate water taxi service to the area | X | X | X | | 2 | CDPR | CDPR | CW-1.06 | #01.01.03.0036 | X | | X | | | | | X | | X | | | |

*Project Type:
Operations, Planning, Design/Engineering, Monitoring

# TAHOE TRAIL CONCEPTUAL ALIGNMENTS

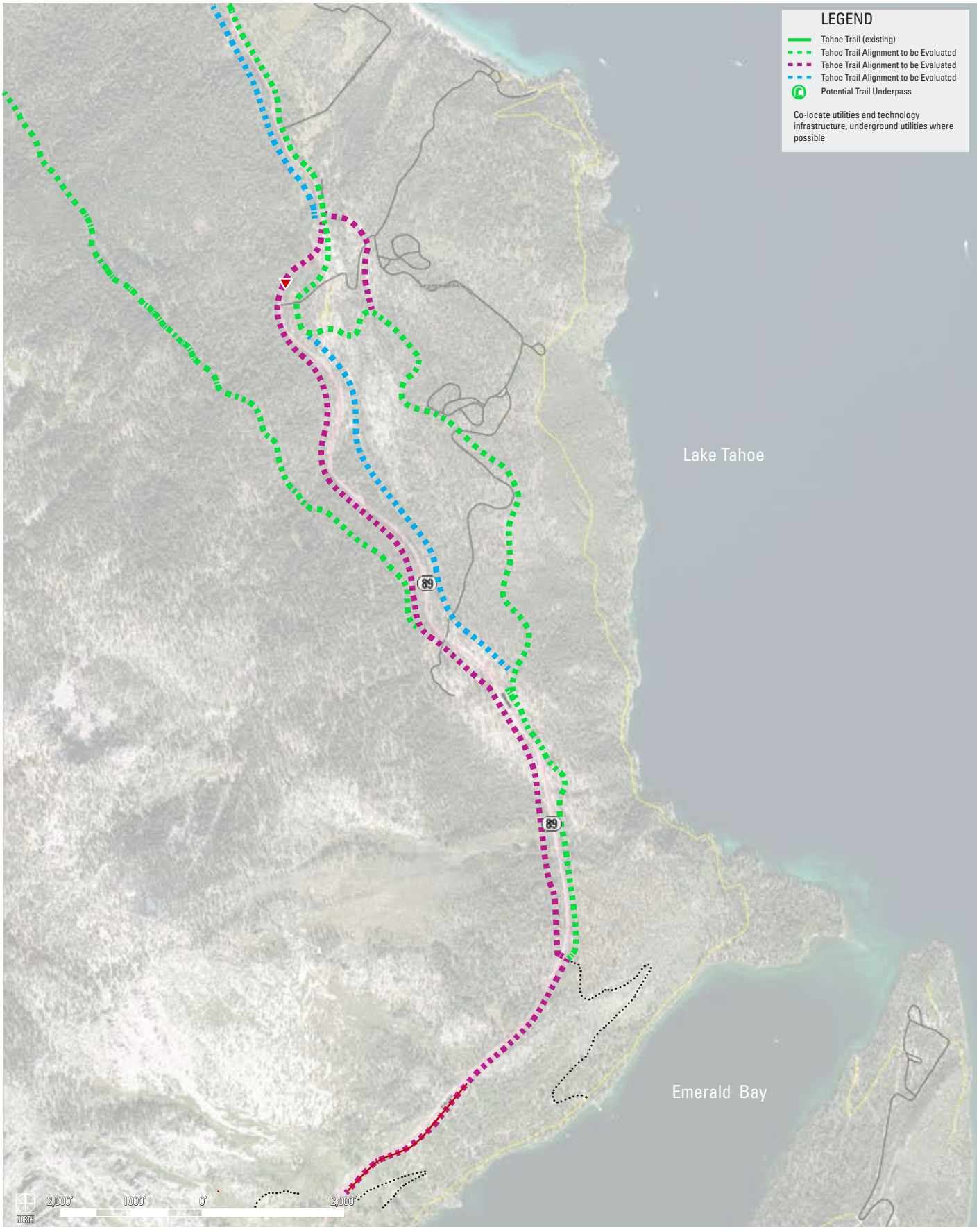
# TAHOE TRAIL CONCEPTUAL ALIGNMENTS

## TAHOE TRAIL CONCEPTUAL TRAIL ALIGNMENTS | SPRING CREEK ROAD TO D.L. BLISS



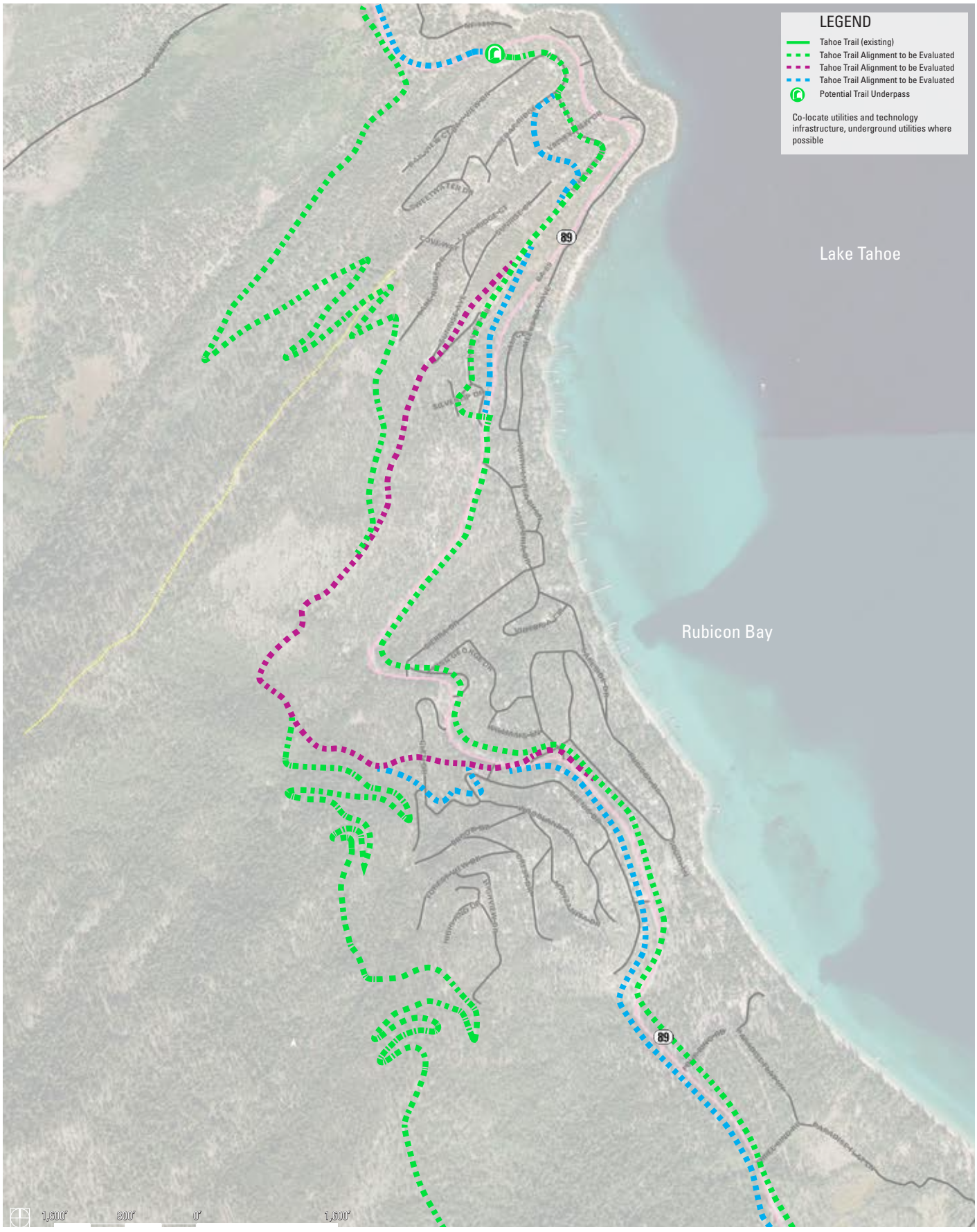
# TAHOE TRAIL CONCEPTUAL ALIGNMENTS

## TAHOE TRAIL CONCEPTUAL TRAIL ALIGNMENTS | D.L. BLISS



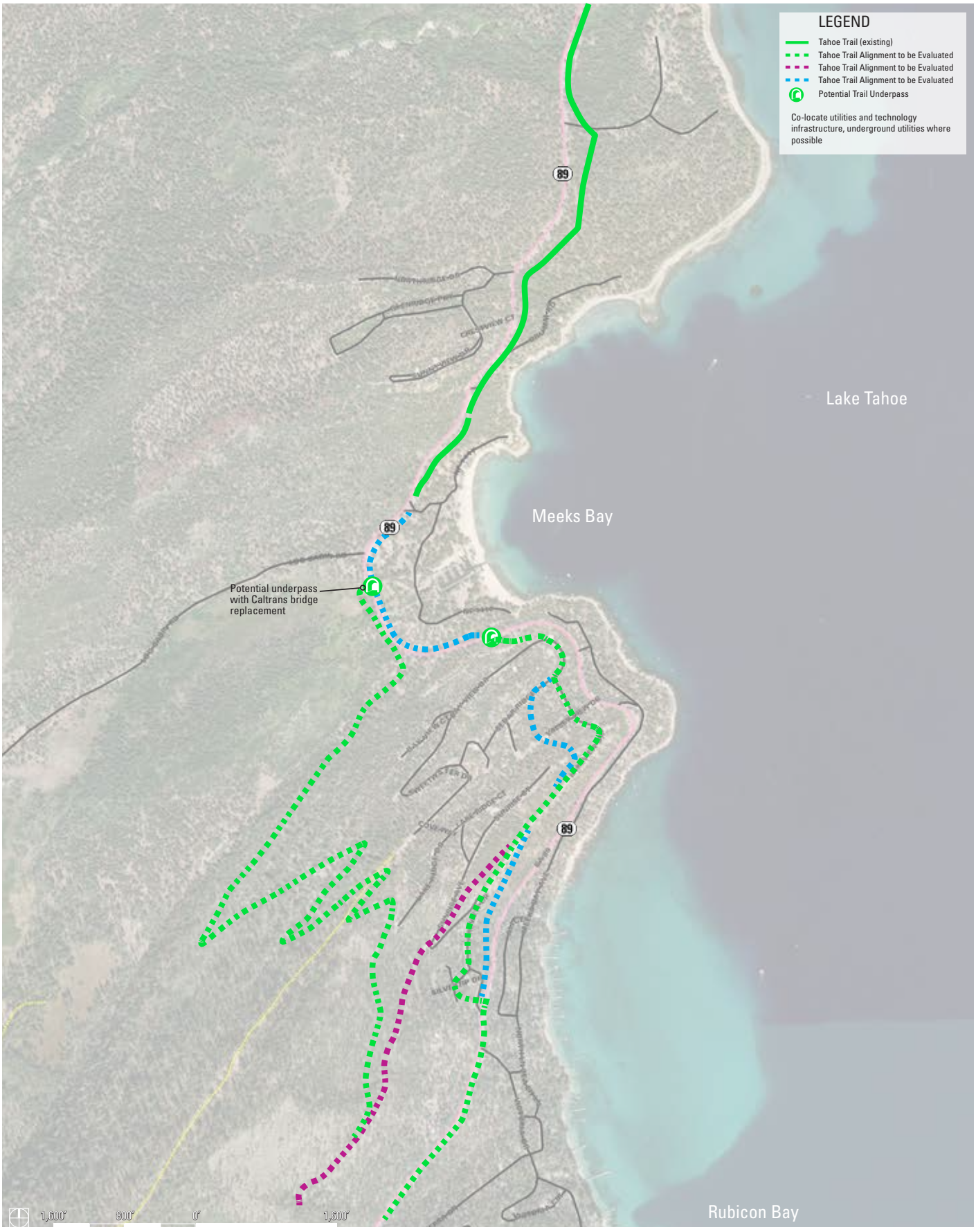
# TAHOE TRAIL CONCEPTUAL ALIGNMENTS

## TAHOE TRAIL CONCEPTUAL TRAIL ALIGNMENTS | RUBICON BAY



# TAHOE TRAIL CONCEPTUAL ALIGNMENTS

## TAHOE TRAIL CONCEPTUAL TRAIL ALIGNMENTS | MEEKS BAY



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# INTER-LOCAL AGREEMENT EXAMPLE

**SR 28 Corridor**
**Operations and Maintenance**
**Interlocal Agreement**

**Tahoe Transportation District**
and
**Nevada Department of Transportation**
and
**Nevada Division of State Parks**
and
**Nevada Division of State Lands**
and
**Nevada Department of Public Safety-Highway Patrol**
and
**Washoe County Community Services Department**
and
**Incline Village General Improvement District**
and
**Carson City Parks & Recreation Department**
and
**Douglas County Parks & Recreation Department**
and
**Tahoe Regional Planning Agency**

This Interlocal Agreement (this "Agreement") is dated and effective August 1, 2015, by and between the Tahoe Transportation District ("TTD"); the Nevada Department of Transportation ("NDOT"); the Nevada Division of State Parks ("NDSP"); the Nevada Division of State Lands ("NDSL"); the Nevada Department of Public Safety-Highway Patrol ("NHP"); Washoe County and its Community Services Department ("Washoe County"); the Incline Village General Improvement District ("IVGID"); Carson City and its Parks & Recreation Department ("Carson City"); the Douglas County and its Parks & Recreation Department ("Douglas County"); and the Tahoe Regional Planning Agency ("TRPA"). Collectively, these agencies and organizations will hereinafter be referred to as the "Parties."

**WITNESSETH:**

**WHEREAS**, the Parties are public agencies under Nevada Revised Statutes ("NRS") 277.100 and authorized to enter into cooperative agreement in accordance with NRS 277.080 to 277.110;

**WHEREAS**, NRS 277.180 authorizes any one or more public agencies to contract with any one or more other public agencies to perform any governmental service, activity or undertaking which any of the public agencies entering into the agreement is authorized by law to perform;

**WHEREAS**, the Parties recognize the need to combine the operations and maintenance approach for projects in the SR 28 corridor: the SR 28 Corridor Project, the NV Stateline to

Stateline Bikeway Project, and other individual projects (as combined, the "Corridor Project"), in the area shown in Exhibit A;

**WHEREAS**, combining the operations and maintenance approach for these projects will allow the Parties to engage in more effective and efficient efforts across jurisdictional boundaries and achieve the safety, environmental and transportation goals of the projects;

**WHEREAS**, some of the Parties entered into a Interlocal Agreement on May 11, 2007, to create a working group to develop agreements regarding planning, design and construction and management, operation and maintenance responsibilities for the bikeway;

**WHEREAS**, some of the Parties entered into the Nevada State Route 28 Corridor Management Plan Project Charter in June 2012, in which they agreed to develop the SR 28 Corridor Management Plan;

**WHEREAS**, the Corridor Management Plan was developed to define the vision, goals and objectives for the corridor and to provide a coordinated management strategy to guide the Parties, and was approved by the TTD Board of Directors on October 11, 2013;

**WHEREAS**, some of the Parties entered into a Federal Lands Access Program ("FLAP") Project Memorandum of Agreement in December 2014 to set forth responsibilities regarding development and construction of Phase 1 of the Corridor Project in order to obligate FLAP funding;

**WHEREAS**, TTD has been successful in securing approximately $23.9 million federal, state and local funding for the Corridor Project;

**WHEREAS,** The Parties each have unique roles, jurisdictions, missions, and goals, but there needs to be a coordinated approach to the operations and maintenance of existing and future facilities within the SR 28 corridor;

**WHEREAS**, an operations and maintenance agreement is required in order to receive FLAP and other funding for construction;

**WHEREAS**, this Agreement describes the operations and maintenance responsibilities for the projects identified in Exhibit B, and will be amended in the future to set forth operations and maintenance responsibilities for future projects; and

**WHEREAS**, the Parties now desire to create a Corridor Management Team (the "CMT") comprised of representatives from each of the Parties to develop specific operating procedures and maintenance plans related to the implementation of the Corridor Project.

**NOW, THEREFORE,** in consideration of the promises and mutual covenants herein contained, it is agreed as follows:

## ARTICLE I – DUTIES AND RESPONSIBILITIES

1. The Parties will perform the operations and maintenance responsibilities described in Exhibit B for the projects described therein. Exhibit B shall be amended in the future to include operations and maintenance responsibilities for future projects.
2. The Parties will continue to provide planning information, meeting space and other support as needed (and within their respective budgets) for the Parties to attain their goal of a collaborative approach to planning, constructing, operating and maintaining facilities and services within the SR 28 corridor.
3. The CMT is hereby established to assist in implementing the Corridor Project. The Parties agree to provide one staff member to serve as a CMT representative, to attend bi-annual meetings, and to make recommendations to upper level staff and their governing boards regarding CMT activities.
4. At its first meeting, the CMT shall determine processes for reaching consensus and effective and efficient decision-making.
5. The CMT will work to:
    a. Fulfill the operations and maintenance responsibilities set forth in this Agreement;
    b. Amend this Agreement as necessary with regards to operations and maintenance responsibilities for future projects;
    c. Assist in prioritizing the development and construction of projects;
    d. Form partnerships to complete development and construction of projects,
    e. Assist in submitting federal, state and local grant applications to fund projects ;
    f. Assess continued challenges within the SR 28 corridor and look for opportunities to address those challenges; and
    g. Provide recommendations to their governing bodies on how best to address those challenges;
    h. Prioritize the need for capital infrastructure maintenance funding for projects;
    i. Prepare a cumulative budget for capital maintenance funding in the SR 28 corridor and determine the appropriate Parties to submit grants and funding requests, including any requests to the Tahoe Fund; and
    j. Identify and prioritize the need for grants and funding requests for future projects.
6. The CMT will provide recommendations to the TTD Board of Directors on any matter requiring action by the TTD Board of Directors in connection with the Corridor Management Plan.
7. TTD will continue to assist in developing and seeking funding sources for the implementation of the Corridor Project.
8. TRPA, in its role as the Tahoe Metropolitan Planning Organization, will continue to assist the Parties in providing long range multi-modal transportation planning information and survey and user monitoring information, including incorporating bikeway segments into monitoring protocol, as appropriate.
9. This approach does not preclude the Parties from individually performing their duties and responsibilities in the SR 28 corridor.

## ARTICLE II - GENERAL PROVISIONS

1. This Agreement may only be terminated upon mutual written agreement of all of the Parties.
2. The Parties with operations and maintenance responsibilities described in Exhibit B may assign, transfer or delegate those responsibilities to other Parties upon written agreement of the Parties that will assume those responsibilities and written notice to all of the other Parties. Otherwise, none of the Parties shall assign, transfer or delegate any rights, obligations or duties under this Agreement without the prior written consent of all of the other Parties.
3. The Parties may agree to assume operations and maintenance responsibilities in addition to those described in Exhibit B upon written notice to all of the other Parties. Otherwise, this Agreement shall not be modified, extended or amended without the prior written consent of all of the Parties.
4. The Parties agree to work cooperatively to avoid and resolve conflicts at the lowest level possible. The Parties share the following principles in the resolution of conflicts:
   - The efficient delivery of an effective, cost efficient quality project or program is the primary goal of all partnering agencies.
   - The Parties will focus on their common goals rather than differences.
   - Win/Win solutions to conflicts will be sought.
   - Differences of opinion are acceptable but are sought to be limited.
   - Timely, open and honest communication is the key to avoiding and resolving conflicts.
5. Decisions are to be made and conflicts are to be resolved at the lowest possible level. If disagreements arise and cannot be resolved at the staff level, the Parties will follow the following process:
   - **TTD:** TTD staff elevates unresolved conflicts to the TTD District Manager.
   - **NDOT:** NDOT staff elevates unresolved conflicts to the NDOT District II District Engineer and then to the Director.
   - **NDSP:** NDSP Park Supervisor elevates unresolved conflicts to the NDSP Administrator.
   - **NDSL:** NDSL staff elevates unresolved conflicts to the NDSL Administrator.
   - **NHP:** NHP staff elevates unresolved conflicts to the NHP Chief.
   - **Washoe County:** Washoe County Community Services Department staff elevates unresolved conflicts to the Washoe Community Services Department Director and then to County Manager.
   - **IVGID:** IVGID Public Works staff elevates unresolved conflicts to the Public Works Department Director and then to IVGID General Manager.
   - **Carson City:** Carson City staff elevates unresolved conflicts to the Carson City Parks & Recreation Director and then to City Manager.
   - **Douglas County:** Douglas County staff elevates unresolved conflicts to the Douglas County Community Services Department Director and then to County Manager.
   - **TRPA:** TRPA staff elevates unresolved conflicts with recommendations to the Executive Director.

   If a solution is reached, the Parties will work to implement the solution. If a solution is not reached, it may cause delay in implementing solution(s), vendor contract(s),

program(s), construction contract(s) schedule(s) and/or jeopardize the timely use of available funding. All decisions and agreements regarding conflict resolution shall be documented fully and copies must be kept in the project files for all Parties.

6. All notices or other communications required or permitted to be given under this Agreement shall be in writing and shall be deemed to have been duly given if delivered personally in hand, by facsimile or email with simultaneous regular mailing by certified mail with return receipt requested and postage prepaid on the date posted, and addressed to the other party at the addresses set forth below:

TTD:
Carl Hasty, District Manager
Tahoe Transportation District
cc: George Fink, Transit System Program Manager
P.O. Box 499
Zephyr Cove, NV 89448
128 Market Street, Suite 3-F
Stateline, NV 89449
Phone Number: (775) 589-5500
Fax: (775) 589-5283
E-mail: chasty@tahoetransportation.org;
gfink@tahoetransportation.org

NDOT:
Rudy Malfabon, Director
Nevada Department of Transportation District 2
cc: Thor Dyson, District Engineer
310 Galletti Way
Sparks, NV 89431
Phone Number: (775) 834-8300
Fax:(775) 834-8390
E-mail: rmalfabon@dot.state.nv.us
tdyson@dot.state.nv.us

NDSP:
Eric Johnson, Administrator
Nevada Division of State Parks
cc: Bob Mergell, Deputy Administrator
Jay Howard, Park Supervisor
901 S. Stewart Street Suite 5005
Carson City, NV 89701-5248
Phone Number: (775)684-2770
Fax: (775) 684-2777
E-mail: emjohnson@parks.nv.gov
rmergell@parks.nv.gov
jayattahoe@gmail.com

# INTER-LOCAL AGREEMENT EXAMPLE



NDSL:
Charles Donohue, Administrator
Nevada Division of State Lands
cc: Elizabeth Harrison, Management Analyst
901 S. Stewart Street Suite 5003
Carson City, NV 89701-5246
Phone Number: (775)684-2720
Fax: (775)684-2721
E-mail: cdonohue@lands.nv.gov
eharrison@lands.nv.gov

NHP:
Colonel Dennis S. Osborn, Chief
Nevada Highway Patrol
cc: Chris Greb, Sargent (Tahoe)
Rob Stepien, Deputy Commander Personnel
625 Mt. Rose Hwy
Incline Village, NV 89451-9111
Phone Number: (775) 831-2404
Fax: (775) 831-1709
E-mail: dosborn@dps.state.nv.us
cgreb@dps.state.nv.us
rstepien@dps.state.nv.us

Washoe County:
John Slaughter, County Manager
Washoe County Community Services Department
cc: Dave Solaro, Director
Cheryl Surface, Parks Planner/Tahoe Team Coordinator
Adam Searcy, Roads Division Manager
PO Box 113000
Reno, NV 89520
Phone Number (775) 328-2019
E-mail: jslaughter@washoecounty.us
dsolaro@washoecounty.us
csurface@washoecounty.us
asearcy@washoecounty.us

IVGID:
Steven Pinkerton, General Manger
IVGID - Public Works Department
cc: Joe Pomroy, Public Works Director
Brad Johnson, Engineer
1220 Sweetwater Road
Incline Village, NV 89451
Phone Number (775) 832-1269
Fax: (775) 832-1260
E-mail: steven_pinkerton@ivgid.org
joe_pomroy@ivgid.org
brad_johnson@ivgid.org

Carson City:
Nick Marano, City Manager
Carson City Parks & Recreation Department
cc: Roger Moellendorf, Director
Ann Bollinger, Open Space Administrator
3303 Butti Way Building #9
Carson City, NV 89701
Phone Number (775) 887-2262
Fax: (775) 887-2145
E-mail: nmarano@carson.org
rmoellendorf@carson.org
abollinger@carson.org

Douglas County:
Jim Nichols, County Manager
Douglas County Community Services Department
cc: Scott Morgan, Director
1325 Waterloo Lane
Gardnerville, NV 89410
Phone Number: (775)782-9828
Fax: (775)782-5799
E-mail: lwerner@co.douglas.nv.us; smorgan@co.douglas.nv.us

TRPA:
Joanne S. Marchetta, Executive Director
Tahoe Regional Planning Agency
cc: Nick Haven, Transportation Planning Manager
Brian Judge, Principal Environmental Specialist
P.O. Box 5310
Stateline, NV 89449
128 Market Street
Stateline, NV 89449
Phone Number: (775)588-4547
Fax: (775)588-4527
E-mail:jmarchetta@trpa.org
nhaven@trpa.org; bjudge@trpa.org

7. This instrument in no way restricts the Parties from participating in similar activities with other public or private agencies, organizations, and individuals.
8. The Parties their respective agencies, organizations and offices will handle their own activities and utilize their own resources, including the expenditure of their own funds, in pursuing these objectives unless otherwise agreed. Each party will carry out its separate activities in a coordinated and mutually beneficial manner.
9. This Agreement is not intended to, and does not create, any right, benefit, or trust responsibility, substantive or procedural, enforceable at law or equity, by a party against the United States, the Parties, their agencies, officers, or any other persons.
10. Each party agrees to keep and maintain under generally accepted accounting principles full, true and complete records and documents (written, electronic, computer related or

otherwise) pertaining to this Agreement and present, at any reasonable time, such information for inspection, examination, review, audit and copying at any office where such records and documentation are maintained.

11. The Parties are associated with each other only for the purposes and to the extent set forth in this Agreement. Each party is and shall be a public agency separate and distinct from the other party and shall have the right to supervise, manage, operate, control and direct performance of the details incident to its duties under this Agreement. Nothing contained in this Agreement shall be deemed or construed to create a partnership or joint venture, to create relationships of an employer-employee or principal-agent, or to otherwise create any liability for one agency whatsoever with respect to the indebtedness, liabilities, and obligations of the other agency or any other party.
12. Pursuant to NRS Chapter 239, information or documents may be open to public inspection and copying. The Parties will have the duty to disclose unless a particular record is confidential by law or a common law balancing of interests. Each party shall keep confidential all information, in whatever form, produced, prepared, observed, or received by that party to the extent that such information is confidential by law or otherwise required by this Agreement.
13. This Agreement and the rights and obligations of the Parties shall be governed by, and construed according to, the laws of the State of Nevada. The Parties consent to the exclusive jurisdiction of the First Judicial District Court, Carson City, Nevada, for the enforcement of this agreement.
14. This Agreement constitutes the entire agreement of the Parties and is intended as a complete and exclusive statement of the promises, representations, negotiations, discussions, and other agreements that may have been made in connection with the subject matter hereof. Unless an integrated attachment to this Agreement specifically displays a mutual intent to amend a particular part of this Agreement, general conflicts in language between any such attachment and this Agreement shall be construed consistent with the terms of this Agreement. Unless otherwise expressly authorized by the terms of this Agreement, no modification or amendment to this Agreement shall be binding upon the Parties unless the same is in writing and signed by the respective Parties hereto.
15. The Parties do not intend by any of the provisions of this Agreement to create in the public or any member thereof a third party beneficiary status hereunder, or to authorize anyone not a party to this Agreement to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of this Agreement.
16. The illegality or invalidity of any provision or portion of this Agreement shall not affect the validity of the remainder of the Agreement and this Agreement shall be construed as if such provision did not exist. The unenforceability of such provision or provisions shall not be held to render any other provision or provisions of this Agreement unenforceable.

**IN WITNESS WHEREOF**, the Parties have executed this Agreement in counterparts on the dates written below.

**Tahoe Transportation District**

DocuSigned by:
Carl Hasty
Carl Hasty, District Manager

**Nevada Department of Transportation**

DocuSigned by:
Rudy Malfabon, Director

**Nevada Division of State Parks**

DocuSigned by:
Eric Johnson
Eric M. Johnson, Administrator

**Nevada Division of State Lands**

DocuSigned by:
Charles Donohue
Charles Donohue, Administrator

**Nevada Department of Public Safety-Highway Patrol**

DocuSigned by:
Dennis Osborn
Dennis Osborn, Chief

**Washoe County**

**ATTEST:**_____
County Clerk

DocuSigned by:
Marsha Berkbigler
Marsha Berkbigler, Chair
Board of County Commissioners

**IN WITNESS WHEREOF**, the Parties have executed this Agreement in counterparts on the dates written below.

**Tahoe Transportation District**

_____
Carl Hasty, District Manager

**Nevada Department of Transportation**

_____
Rudy Malfabon, Director

**Nevada Division of State Parks**

_____
Eric M. Johnson, Administrator

**Nevada Division of State Lands**

_____
Charles Donohue, Administrator

**Nevada Department of Public Safety-Highway Patrol**

_____
Dennis Osborn, Chief

**Washoe County**

Marsha Berkbigler

Marsha Berkbigler, Chair
Board of County Commissioners

**ATTEST:** Nancy L. Parent
County Clerk

-9-

**Incline Village General Improvement District**
Reviewed as to Form:

By_____
Steven J. Pinkerton, General Manager

By_____
Devon T. Reese, General Counsel

**Agreed to:**

By_____
Jim Smith, Chairman
Board of Trustees

By_____
Secretary

**Carson City**

**ATTEST:**_____
Clerk-recorder

_____
Robert L. Crowell, Mayor
Of Carson City

**Douglas County**

**ATTEST:** Kathy Lewis
County Clerk

Doug N. Johnson
Doug N. Johnson, Chairman
Board of County Commissioners

**Tahoe Regional Planning Agency**

Joanne S. Marchetta
Joanne S. Marchetta, Executive Director

-10-

## INTER-LOCAL AGREEMENT EXAMPLE

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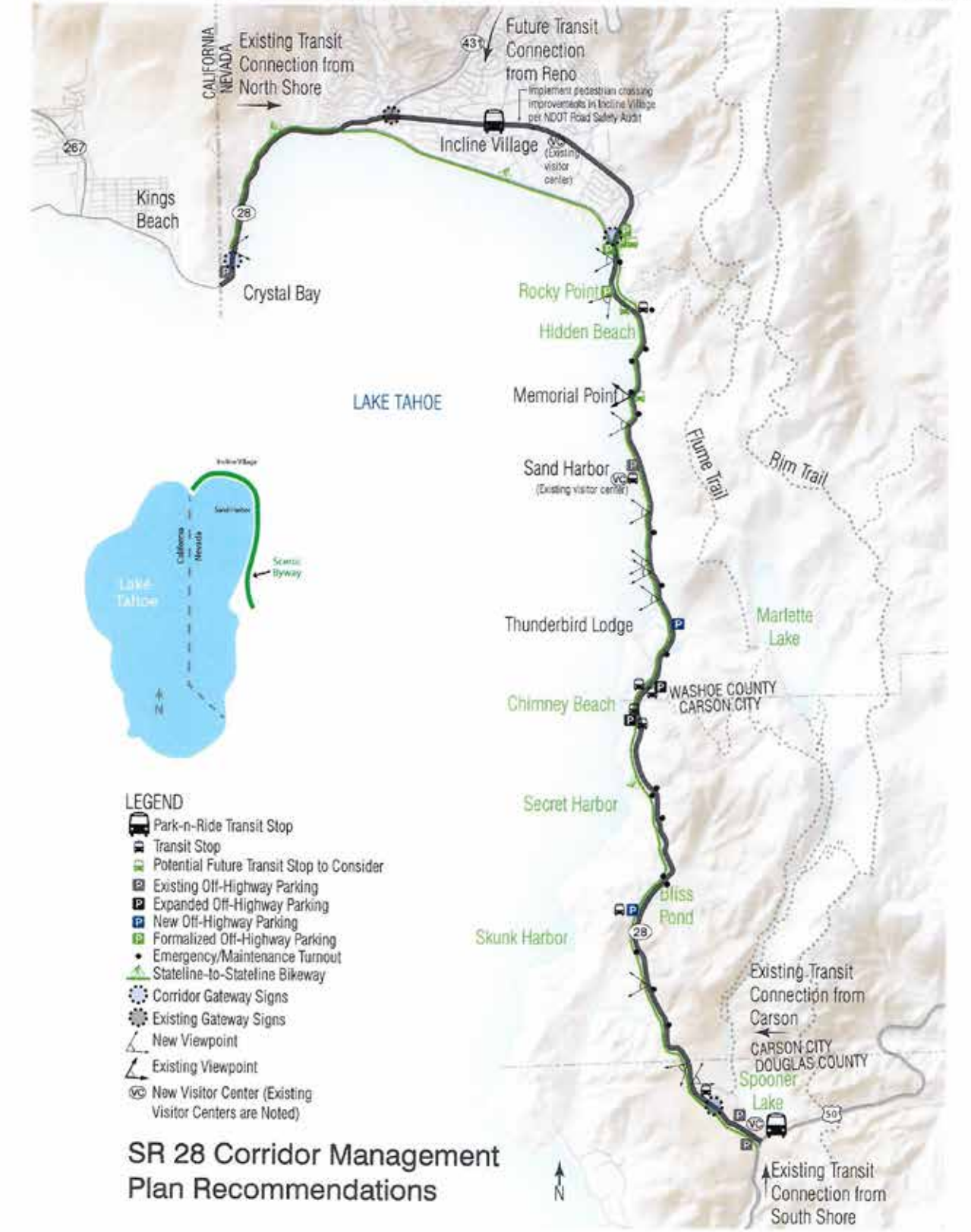
Exhibit A



## Exhibit B

### Operations and Maintenance Responsibilities

**I. Incline Village to Sand Harbor**

**A. Tahoe Transportation District**

1. TTD will continue applying for federal, state and local funding for transit services within the SR 28 corridor. Currently, 60% of the total cost of the service comes from federal funding with a required match of 40% of the total cost of the service coming from state or local sources. Transit service is critical to meet the peak-season ridership demand in the SR 28 corridor from approximately June 15 until Labor Day.
2. TTD will operate and maintain the busses, bus shelters or benches and bus information signs for the transit service as long as federal, state and local funding is available.
3. TTD will continue seeking annual agreement with Washoe County School District for intercept lots in Incline Village and will assist in the planning efforts to provide permanent intercept lots in Incline Village and near the intersection of SR 28 and US Highway 50.
4. TTD will be responsible for the management of the grants, fee collection and fiscal compliance for the transit service.
5. TTD will provide any routine survey information on transit services or visitor experience to the Parties.

**B. Nevada Department of Transportation**

1. NDOT will operate and maintain all improvements within the SR 28 right-of-way and other property owned by NDOT, with the exception of the expanded parking near Ponderosa Ranch Road and the bikeway.

**C. Washoe County**

1. Washoe County will sweep the expanded parking near Ponderosa Ranch Road once at the beginning of each summer season.
2. Washoe County will sweep the bikeway twice each summer season (once at the beginning of the season and again during peak summer season) from Sweetwater Drive to Sand Harbor.
3. Washoe County will pump the water quality vaults located at the expanded parking near Ponderosa Ranch Road.
4. Washoe County will maintain the parking lot signs at the expanded parking near Ponderosa Ranch Road.

5. Washoe County will provide dog waste bags for NDSP to stock at the expanded parking near Ponderosa Ranch Road.
6. Washoe County will operate and maintain 1-2 dumpsters at the expanded parking near Ponderosa Ranch Road from May 1st to Oct 15th of each year. The 2nd dumpster may only be needed during peak season July 1st - Labor Day. The dumpster(s) will be bear proof.
7. Washoe County will operate and maintain 1-2 ADA portable toilets at the expanded parking near Ponderosa Ranch Road from May 1st to Oct. 15th of each year. The 2nd portable toilet may only be necessary during peak season July 1st - Labor Day.
8. With the exception of the duties expressly assumed by NDSP, Washoe County will manage all routine maintenance of the expanded parking near Ponderosa Ranch Road and the bikeway from Sweetwater Drive to the southern boundary of Rocky Point Subdivision, i.e. the last subdivision in Incline Village prior to entering Lake Tahoe Nevada State Park. Funding for routine maintenance will be provided through programs such as parking meter revenues.
9. Washoe County will manage capital infrastructure maintenance for the expanded parking near Ponderosa Ranch Road and the bikeway from Sweetwater Drive to the southern boundary of Rocky Point Subdivision, i.e. the last subdivision in Incline Village prior to entering Lake Tahoe Nevada State Park. Funding for capital infrastructure maintenance will be provided through programs such as the Tahoe Fund endowment and parking meter revenues.

**D. Nevada Division of State Parks**

1. NDSP will allow transit access to Sand Harbor. Transit access is currently allowed through the south entrance gate. NDSP is responsible for operation and maintenance of the entrance gate.
2. NDSP will operate and maintain the parking area near Rocky Point and Hidden Beach.
3. NDSP will provide litter patrol at the expanded parking near Ponderosa Ranch Road and along the bikeway from Sweetwater Drive to Sand Harbor.
4. NDSP will stock dog waste bags provided by Washoe County at the expanded parking near Ponderosa Ranch Road.
5. If NDSP requests that a sign be installed on the bikeway at the expanded parking near Ponderosa Ranch Road to indicate whether or not Sand Harbor beaches are full, then NDSP will operate the sign in the same way that it currently operates its sign on the highway for motorist parking.
6. With the exception of the duties expressly assumed by Washoe County, NDSP will manage all routine maintenance of the parking lots and bikeway within Lake Tahoe Nevada State Park. Funding for routine maintenance will be provided through programs such as parking meter revenues.

7. NDSP will manage capital infrastructure maintenance for the parking lots and bikeway within Lake Tahoe Nevada State Park. Funding for capital infrastructure maintenance will be provided through programs such as the Tahoe Fund endowment and parking meter revenues.

**E. Nevada Highway Patrol**

1. NHP will continue to assist in enforcement of the "No Parking Zones" and illegal shoulder parking along SR 28, within its Lake Tahoe operating procedures, and provide feedback to the CMT on the effectiveness of implemented Corridor Project solutions such as expanded "No Parking Zones."

**II. Sand Harbor to Secret Harbor**

[To be determined]

**III. Secret Harbor to US 50 Spooner Lake**

[To be determined]

**IV. Crystal Bay to Incline Village**

[To be determined]

# SR 89 ESTIMATED PARK-N-RIDE PARKING SPACE NEEDS

# SR 89 ESTIMATED PARK-N-RIDE PARKING SPACE NEEDS

**SR 89 Estimated Park-n-Ride Parking Needs**
9/21/2020

Note: The estimated number of parking spaces shown below shows the peak average number of spaces displaced through the restriction of roadside parking and other improvements. It does not account for potential decreases in turnover from a shift to a shuttle system. It does not account for users who may access transit via the mainline transit system, from private shuttles, or from water transit, and therefore not require parking at the park-n-ride. The numbers are to be used for reference only to understand a high level need for parking at the park-n-rides.

| POPE TO BALDWIN SEGMENT | | |
|---|---|---|
| **Location** | **Number of Vehicles** | **Source** |
| Jameson Beach Road and south 4,100FT | 270 | Camp Richardson Queue Investigation, July 21 & 22, 2017, Eric Royer |
| Jameson Beach Road to Valhalla Road | 60 | PE, Caltrans District 3 Traffic Operations |
| ***Total Number of Displaced Vehicles*** | ***330*** | |
| | | |
| **Parking Expansions Within Corridor** | | |
| ***Pope to Baldwin Segment*** | ***Estimated Number of Spaces Provided*** | |
| Parking Lots in Tallac Historic Site Planning Area | 110 | 110 Historic Facilities BMP Retrofit Project (2014) |
| | ***Estimated Number of Spaces Needed*** | |
| Total displaced roadside parking spaces after in-corridor parking expansion/formalization projects are completed | 220 | 220 (Total # of displaced vehicles minus estimated number of in-corridor parking expansions) |
| | | |
| **Travel Patterns at Pope to Baldwin Segment** | | |
| Coming from the South and Returning to the South | 75% | LSC 2018 Postcard Survey |
| Coming from the North and Returning to the North | 25% | LSC 2018 Postcard Survey |
| | | |
| **Estimated Park-n-Ride Needs for Displaced Vehicles** | **Estimated Number of Spaces Needed** | |
| Y/West Way Park-n-Ride | 165 | 165 (# of vehicles X 75%) |
| Sugar Pine Point State Park Park-n-Ride | 55 | 55 (# of vehicles X 25%) |

| EMERALD BAY SEGMENT | | |
|---|---|---|
| **Location** | **Number of Vehicles** | **Source** |
| Inspiration Point to Past the Viaduct | 375 | LSC 2018 Emerald Bay Parking Counts |
| Eagle Falls Roadside Area Conversion to Transit Pull-off with Parking | 18 | Site testing to incorporate transit pull-off |
| ***Total Number of Displaced Vehicles*** | ***393*** | |
| | | |
| **Parking Expansions Within Corridor** | ***Range of Estimated Number of Spaces Provided*** | |
| ***Emerald Bay Segment*** | | |
| Vikingsholm Parking Enhancements | 10 | 15 Conceptual parking plans |
| Bayview Campround Conversion | 40 | 70 Conceptual parking plans |
| ***Total Number Spaces from In-Corridor Parking Expansions*** | ***50*** | ***85*** |
| | ***Range of Estimated Number of Spaces Needed*** | |
| Total displaced roadside parking spaces after in-corridor parking expansion/formalization projects are completed | 343 | 308 (Total # of displaced vehicles minus estimated number of in-corridor parking expansions) |
| | | |
| **Travel Patterns at Emerald Bay** | | |
| Coming from the South and Returning to the South | 65% | LSC 2018 Postcard Survey |
| Coming from the North and Returning to the North | 35% | LSC 2018 Postcard Survey |
| | | |
| **Estimated Park-n-Ride Needs for Displaced Vehicles** | **Range of Estimated Number of Spaces Needed** | |
| Y/West Way Park-n-Ride | 223 | 200 (# of vehicles X 65%) |
| Sugar Pine Point State Park Park-n-Ride | 120 | 108 (# of vehicles X 35%) |

| TOTAL | | |
|---|---|---|
| **Estimated Park-n-Ride Needs for Displaced Vehicles** | **Range of Estimated Number of Spaces Needed** | |
| Y/West Way Park-n-Ride | 388 | 365 (# of vehicles X 65%) |
| Sugar Pine Point State Park Park-n-Ride | 175 | 163 (# of vehicles X 35%) |
| | | |
| **Existing Parking at Sugar Pine Point State Park** | 126 | spaces |
| Estimated number of additional spaces needed for the park-n-ride at Sugar Pine Point State Park | 49 | 37 (# of spaces needed minus number of existing spaces) |

# EXISTING CONDITIONS SUMMARY REPORT

TAHOE REGIONAL PLANNING AGENCY

Tahoe Transportation DISTRICT

FOREST SERVICE U.S. DEPARTMENT OF AGRICULTURE

# SR-89 Corridor Management Plan

## Existing Conditions Summary Report

May 2019

Prepared By:
Design Workshop, Inc.
LSC Transportation Consultants
Karen Mullen-Ehly
Nelson\Nygaard
ORCA Consulting

# CONTENTS

## FIGURES

## TABLES

# INTRODUCTION

# INTRODUCTION

This document is a summary of the primary data sets collected and analyzed for the State Route 89 (SR 89) Corridor Management Plan (SR 89 CMP) in the Lake Tahoe Region. It pulls together relevant findings from site specific and regional studies over the past 10 years into one central document. Key issues impacting the corridor's transportation systems and visitor experience are described. Hot spots of activity are identified.

The data summary indicates what potential strategies and alternatives should be considered and it sets a baseline for monitoring the effectiveness of future implementation strategies. More detailed analyses can continue to use the data sets for future decision-making.

## Corridor Planning

Corridor planning is an organizing framework to support regional transportation policy and align and accelerate project implementation. The approach requires multi-agency collaboration, commitments, and resources to address shared issues. Corridor planning brings together land managers and stakeholders to work across jurisdictional boundaries to identify projects and work together from project initiation through implementation.

The process aligns projects to maximize funding and considers opportunities and challenges from multiple stakeholder views. As such, the SR 89 Recreation Corridor Management Plan is an umbrella document for other plans and projects within the corridor. It creates a central vision and is a mechanism through with land managers can work together to achieve common goals.

## Relationship to Linking Tahoe: Corridor Connection Plan

The Tahoe Transportation District (TTD) developed the 2017 Linking Tahoe: Corridor Connection Plan (LTCCP or Corridor Connection Plan), which collected and synthesized large amounts of data for all internal and external corridors for the Lake Tahoe Region. The SR 89 CMP uses the LTCCP as a baseline for data and high-level recommendations. The LTCCP set the stage for the more detailed data collections summarized in this document. The LTCCP also provides a foundation for the corridor's proposed recommendations. Within this existing conditions summary, data points from the LTCCP are provided alongside and in comparison to other data sets. The LTCCP describes the vision for the different corridors in Lake Tahoe. The SR 89 CMP will describe more specific action items to achieve the vision.


**Figure 1:** Corridors Identified in the 2017 Linking Tahoe: Corridor Connection Plan

### KEY TAKEAWAYS FROM THE 2017 LINKING TAHOE: CORRIDOR CONNECTION PLAN

Key takeaways related to the SR 89 corridor from the Corridor Connection Plan include the following:

- With 1.6 million annual vehicle trips or 4.9 million person trips made to the Inspiration Point/Emerald Bay area in 2014, it is the most popular attraction in the corridor and possibly the Lake Tahoe Basin.
- Congestion and parking issues through Camp Richardson and Emerald Bay are the biggest transportation issues.
- The highway runs through the middle of two major recreation areas at Camp Richardson and Emerald Bay with high volumes of vehicles, bicycles, and pedestrians creating congestion and safety issues.
- Narrow roadways and minimal shoulders are not conducive for bike and pedestrian use
- There are no bike and pedestrian facilities north of Camp Richardson and USFS beaches.
- There is limited parking at Emerald Bay/Eagle Falls, scenic overlooks, and other trailhead locations.
- There is limited transit service and infrastructure.

## THE CHALLENGE

The LTCCP states that the "single biggest transportation issue associated with the SR 89 Recreation Corridor is addressing the congestion and parking issues through Camp Richardson and Emerald Bay."

Visitor demand during peak season (Memorial Day through Labor Day) exceeds infrastructure and staffing/operational capacity for significant recreation destinations. The lack of infrastructure, operational, and enforcement strategies to address the high visitation levels results in negative impacts to visitor experience, environment, lake clarity, safety, and congestion.

The corridor is one of the most visited and most popular within the Tahoe Region. The Corridor Connection Plan reported that the corridor saw almost 1.8 million annual visitors during 2014. RRC Associates' Summer 2014 Visitor Research Summary for the North Lake Tahoe Resort Association showed 47 percent of respondents indicated spending time in Emerald Bay during their trip.

During the summer, vehicular queues begin forming between 8:00 AM and 10:00 AM at beach entries, trailheads, and off-highway vista points. The back-ups stretch into the highway and creates congestion and travel delays. Emergency responders and transit operators are often significantly impacted by the congestion.

Not enough designated off-highway parking spaces exist to meet the demand of visitors arriving by vehicle to Emerald Bay and Camp Richardson recreation areas. As a result, motorists search for places to park along narrow shoulders. The trolling for spaces increases congestion, leads to traffic incidents, increases erosion, and impacts water quality projects. Additionally, visitors must walk along the shoulder or within the roadway to reach their destination.

In the winter, SR 89 through Emerald Bay closes during and after winter storms due to avalanches and narrow shoulders. This impacts emergency responders and commuters who must travel around the East Shore to reach places of employment and meetings.

When the highway is open during the winter, it is a desirable location for backcountry ski access and for taking in the view. Because of operational requirements, most Forest Service parking lots generally close mid-October through mid-May. People must park along the roadway to access winter recreation sites. Therefore, during the shoulder season and winters with little to no snowfall, vehicles park on the shoulder because the USFS parking lots are closed even though they are empty.

## THE VISION

*Provide a safe and seamless travel experience that inspires every visitor and resident to walk, bike, or use transit to access the corridor's diverse recreation offerings to better manage congestion, enhance environmental resiliency, and allow people to focus on enjoying the special nature of Lake Tahoe's southwest shoreline.*

*Figure S5-48: SR 89 Recreation Corridor Transit Vision*

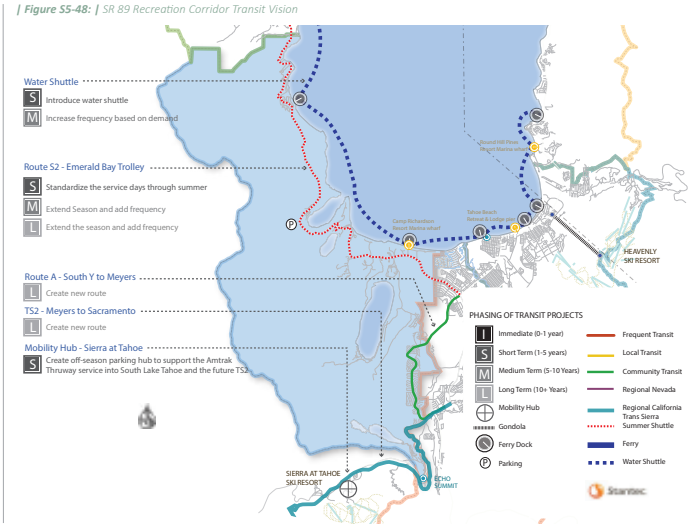



**Figure 2:** Transit Vision Diagrammed for the SR 89 Corridor in the Corridor Connection Plan

The LTCCP describes the vision for the SR 89 corridor's future. Transit and active transportation facilities are at the heart of how people are envisioned to access recreation areas. Convenient, frequent transit services with an interconnected system of walking and biking paths connect people to the places they want to visit. Technology is used both as part of parking management systems and for visitor information.

This vision continues forward through the SR 89 Corridor Management Plan. The intent of this data summary is to consolidate key data sets into one place where they can be referenced and used to make the vision a reality.

# DATA SOURCES

## Related Documents

Previously, planning efforts focused primarily on developing strategies and projects within individual jurisdictions. The corridor planning process looks across those land management boundaries to coordinate strategies and projects and address the shared issues facing the corridor.

The planning team reviewed over 30 previous planning documents, projects, and studies related to the corridor. Recommendations were captured and common goals and objectives were identified. Some of the

- 1969 Sugar Pine Point State Park General Development Plan
- 2005 Draft TRPA Regional Recreation Plan
- 2007 USFS Recreation Facility Improvements List
- 2008 Caltrans Water Quality Project Eagle Falls Viaduct to Meeks Creek
- 2009 Camp Richardson Resort Vision Plan
- 2010 Replacement of Taylor Creek Education Center
- 2011 LTBMU South Shore Corridor: An Approach to Sustainable Recreation
- 2011 City of South Lake Tahoe General Plan
- 2011 Meeks Bay BMP Retrofit
- 2012 Caltrans SR 89 Transportation Corridor Concept Report
- 2012 Meeks to Sugar Pine Class 1 Bike Path Study
- 2012 North-South Transit Connection Alternatives Analysis
- 2012 TRPA Regional Plan Update
- 2013 Camp Richardson Resort Campground and Vehicle Circulation BMP Retrofit
- 2013 USFS Fallen Leaf Lake Trail Access and Travel Management Plan
- 2014 Tallac Historic Facilities BMP Retrofit
- 2015 & 2018 Tahoe Prosperity Center Measuring for Prosperity: Community and Economic Indicators for the Lake Tahoe Basin
- 2015 Meeks Bay Resort Conceptual Design
- 2015 North Lake Tahoe Tourism Master Plan
- 2015 Tahoe Valley Area Plan
- 2015 USFS Integrated Management and Use of Roads, Trails and Facilities
- 2016 Linking Tahoe: Active Transportation Plan
- 2016 Regional Transportation Improvement Plan
- 2016 TART Short Range Transit Plan
- 2016 USFS Land Management Plan
- 2017 Linking Tahoe: Corridor Connection Plan
- 2017 Linking Tahoe: Regional Transportation Plan
- 2017 Long Range Transit Master Plan
- 2017 TTD Short Range Transit Plan
- 2017 USFS Integrated Management and Use of Roads, Trails and Facilities
- Over 40 Corridor Environmental Improvement Projects
- Final Alternatives Memo for Meeks Bay Resort to Sugar Pine Point SP Class 1 Bike Path
- Plan Area Statements
- Tahoe-Truckee Plug-In Electric Vehicle Readiness Program

Meeks Bay Resort includes a stretch of sandy beach that provides public access to the shores of Lake Tahoe.

## Data Sets Referenced

The data sets listed below represent existing data sources and studies referenced as part of the corridor plan process. Not every data set is referenced in the existing conditions summary. Rather, those data points which are central to developing recommendations and strategies are summarized.

- 2010 TRPA Summer Travel Intercept Surveys
- 2012 UC Davis Draft Final Report: Influence of Boat Traffic and Other Physical Factors on the Test Benthic Barrier for Control of Asian Clam in Emerald Bay, Lake Tahoe
- 2013-2017 California Highway Patrol Statewide Integrated Traffic Records System
- 2014 (Summer) North Lake Tahoe Resort Association Visitor Research Summary
- 2014 TRPA Summer Travel Intercept Surveys
- 2015/2016 Lake Tahoe Visitors Authority Four Season Visitor Profile Study
- 2015 TTD Trolley Annual Ridership
- 2018 TRPA Summer Travel Intercept Surveys
- 2016 Tahoe Rim Trail: Trail Counter Data Report
- 2016-2017 Visitation Numbers from State Parks, USFS, and Concessionaires
- 2017 Caltrans Summer Traffic Count Data
- 2017 Caltrans Camp Richardson Queue Investigation
- 2017 Inrix Congestion Scan Data
- 2017 LSC Emerald Bay Parking Counts
- 2017 Linking Tahoe: Corridor Connection Plan Data Summaries, Including AirSage Cellular Data
- 2017 North Lake Tahoe Resort Association 2006-2016 Detailed Visitor Impact Estimates for The Economic Significance of Travel to the North Lake Tahoe Area
- 2017 TRPA Bicycle and Pedestrian Counters on the Pope-Baldwin Bicycle Path and the West Shore Trail

### Studies and Data Collected Specifically for the SR 89 Corridor Management Plan

- 2018 Camp Richardson, Emerald Bay, and Meeks Bay Parking Counts
- 2018 Emergency Response Times Tracking Logs
- 2018 SR 89 Corridor Online Survey
- 2018 SR 89 Corridor Travel Time Survey Analysis
- 2018 SR 89 Visitor Windshield Postcard Survey
- 2018 SR 89/Jameson Beach Road Intersection Pedestrian Movement Survey
- 2018 Visitor Entries to Pope Beach, Baldwin Beach, Vikingsholm, and D.L. Bliss Tracking Logs
- 2018 SR 89 Visitor Intercept Survey
- Strava Recreational Activity Data


The Pope-Baldwin Bicycle Trail is a popular and highly used trail in the corridor.

# CORRIDOR OVERVIEW

## SR 89 CORRIDOR OVERVIEW

State Route Highway 89 (SR 89) is a two-lane mountain roadway running from Meyers, California north along the West Shore of Lake Tahoe to North Lake Tahoe and beyond. It is the only access route to many of Lake Tahoe's popular recreation areas and serves almost 1.8 million visitors annually. The SR 89 corridor includes 17.5 miles of highway and adjacent recreation uses from West Way in El Dorado County north to the El Dorado/Placer County line at Sugar Pine Point State Park.

### Defining Physical and Natural Resource Elements

Eighty-eight percent of the SR 89 corridor has a land use designation of conservation or open space. The public lands are primarily owned or managed by the United States Forest Service Lake Tahoe Basin Management Unit (USFS-LTMBU or LTBMU) and California State Parks (CSP or State Parks). Due to the high percentage of public lands, only 2,784 residential units are located in the corridor. Of these units, 93.5 percent are single family and 83 percent of the total units are vacant. Eighty-three percent of the vacant units are for seasonal/recreational use. Compared to other corridors in the Tahoe Region, the SR 89 corridor has the highest percentage of seasonal ownership and the lowest land use density (13 persons per square mile).

Gently sloping lands are located in the southern and northern areas of the corridor. The terrain begins to slope steeply around Cascade Lake and through Emerald Bay and D.L. Bliss. The steep escarpments of Emerald Bay are the result of glaciers carving out the bay. Avalanche chutes and landslide remnants speak to the steepness of the terrain. The upland areas west of Rubicon Bay also begin to quickly steepen through the residential neighborhoods and LTBMU lands.

Ospreys and Bald Eagle nests occur throughout portions of the corridor. Significant clusters of Osprey nests are found in Emerald Bay.


**Figure 3:** SR 89 Corridor

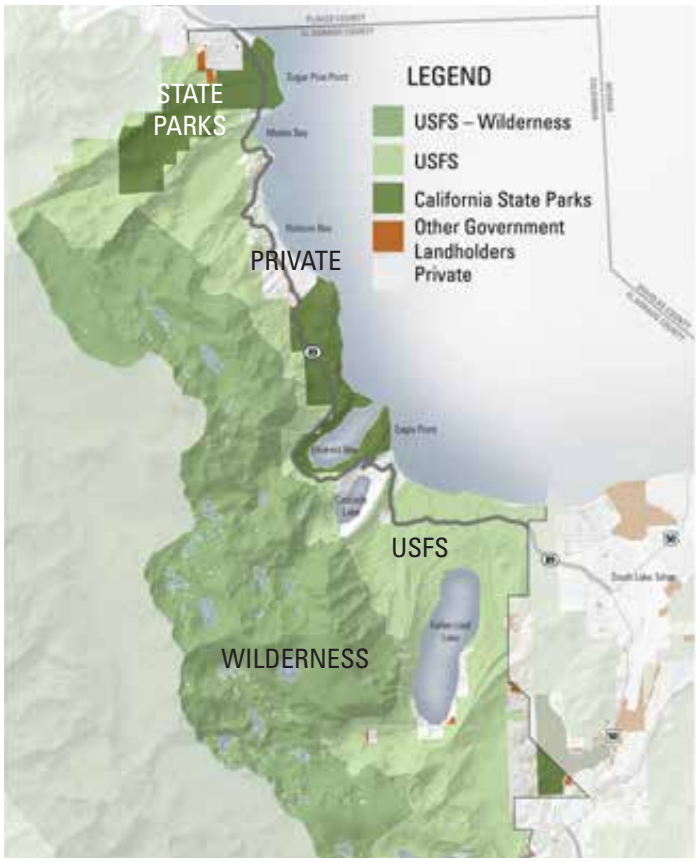



**Figure 4:** Ownership | SR 89 Corridor

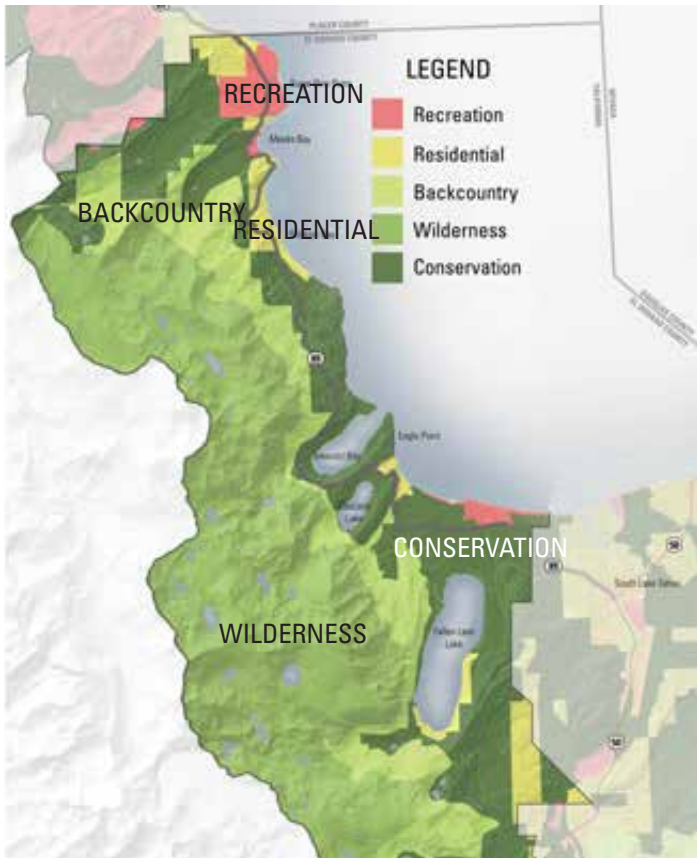



**Figure 5:** Land Use | SR 89 Corridor

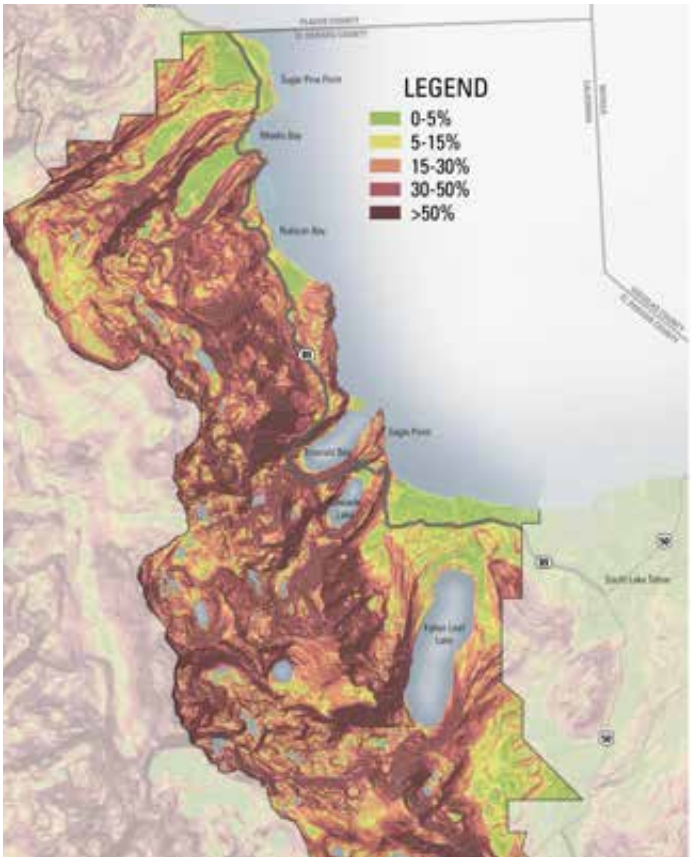



**Figure 6:** Terrain or Slope Analysis | SR 89 Corridor

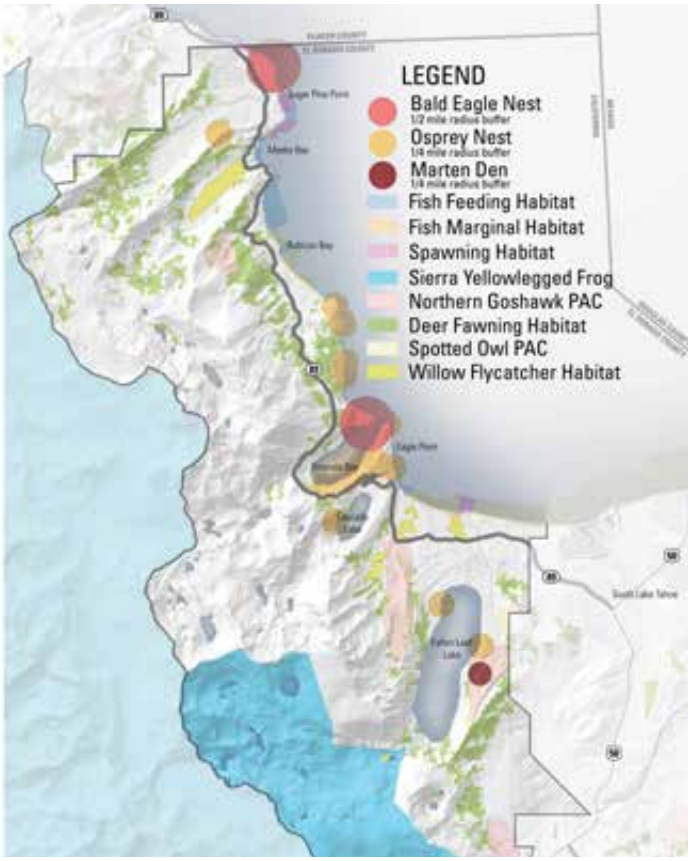



**Figure 7:** Natural Resources | SR 89 Corridor

## Recreation Destinations and Use

The SR 89 corridor has a variety of both summer and winter recreation opportunities. Second to the east shore of Lake Tahoe, it offers the longest stretch of continuous, undeveloped publicly accessible shoreline which makes beach-going a popular activity. Day hikes, sight-seeing, and camping are also high demand activities. Distinct to this corridor, the area has a mix of both short vista stops, longer day use activities, and even longer overnight backcountry activities. The number of different activities and the well-publicized and highly-recognized Emerald Bay landscape combine to create one of Lake Tahoe's most visited locations.

The LTCCP used cell phone data to identify destination hot spots in Lake Tahoe. The area around Emerald Bay has high volumes of activity in the summer and winter. Camp Richardson, was identified as a minor destination hot spot.

The LTCCP estimated the corridor hosted 1,782,648 annual visitors in 2014. A third of the visitors likely recreated on beaches and in campsites from Pope Beach to Baldwin Beach. Records for Pope Beach, Camp Richardson, and Baldwin Beach accounted for 637,938 visitors who paid for parking in the summer of 2017.

Emerald Bay (which includes Inspiration Point; Bayview campground and trailhead; Eagle Falls trailhead; and Emerald Bay State Park with Vikingsholm, Eagle Point campground, and a boat-in campground) likely accounts for the highest volume of visitors. State Park record keeping shows a discrepancy in tracking accurate visitation volumes, but throughout the 1980's through early 2000's, annual attendance ranged from 500,000 to 600,000 just for the State Park facilities. Day hikers, sightseers, and people traveling around the Lake are not included in those counts.

The majority of visitors to the SR 89 corridor are overnight visitors, meaning they stay in Tahoe at least one night. The LTCCP found that 90 percent of visitors in the corridor were overnight visitors. 2018 intercept survey results showed a similar breakdown: 89 percent overnight visitors and 11 percent day visitor.

The Tahoe Prosperity Center's 2018 Measuring for Prosperity Report showed that summer lodging revenues have consistently grown since the 2009/2010 season. From 2009/2010 to 2016/2017, revenues grew by 84 percent in Zephyr Cove and Stateline, Nevada; by 83 percent for South Lake Tahoe; and by 36 percent for the North Shore. These numbers reflect the growing demand for visitation in Lake Tahoe and the subsequent desire for recreation access.

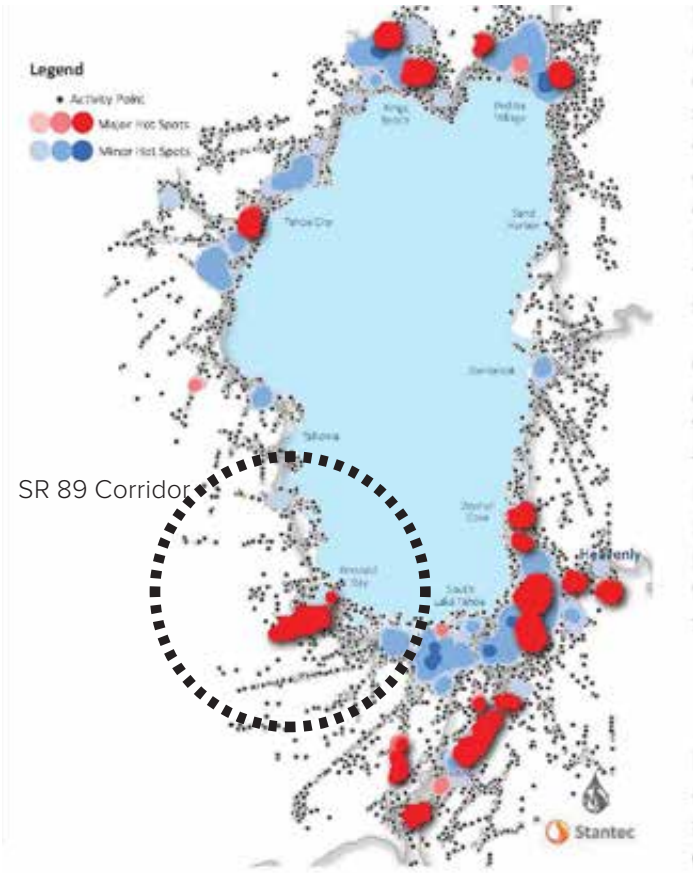



**Figure 8:** Hot Spot Destinations, July 2014, per the LTCC

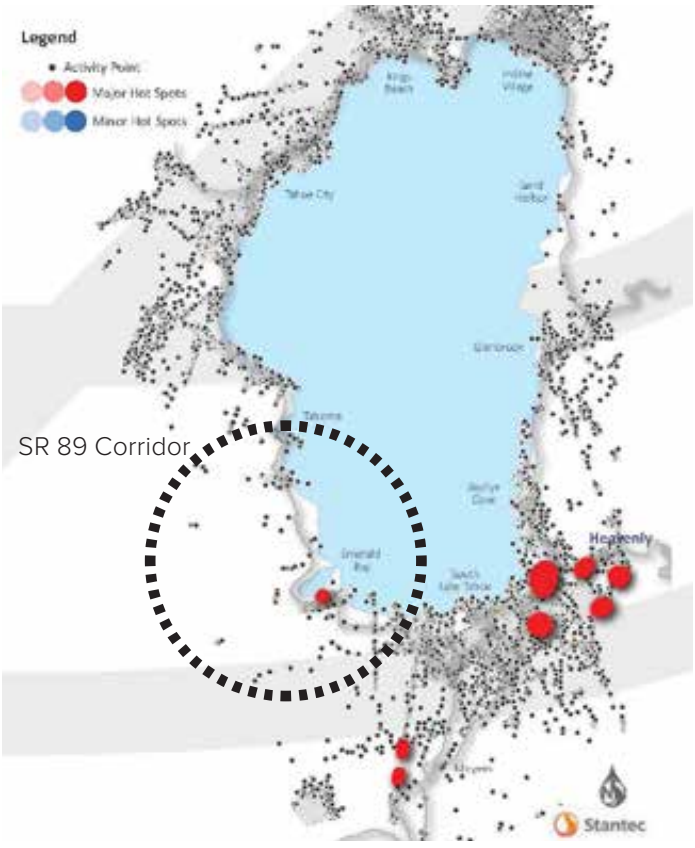



**Figure 9:** Hot Spot Destinations, Feb 2014, per the LTCC

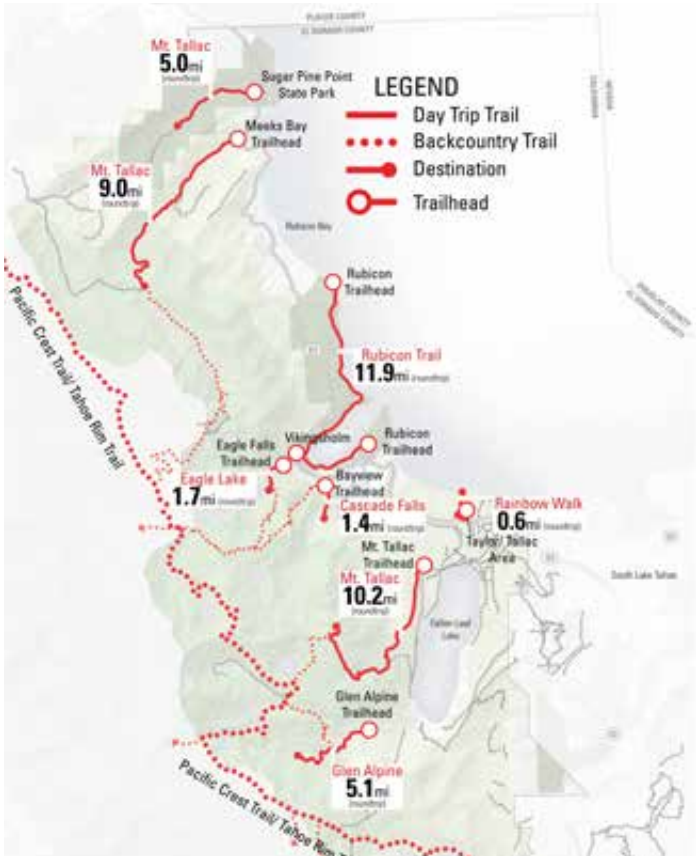



**Figure 10:** Trails and Trailheads | SR 89 Corridor


**Figure 11:** Undeveloped, Publicly Accessible Shoreline

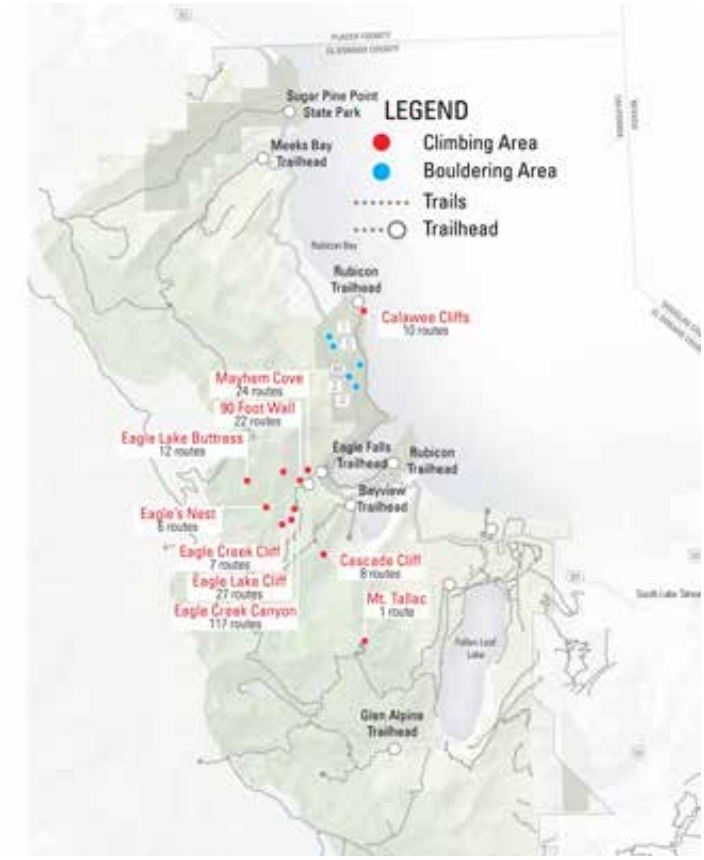



**Figure 12:** Climbing and Bouldering Locations | SR 89 Corridor


**Figure 13:** Winter Recreation Access | SR 89 Corridor

### Geographic Origin and Future Growth Pressures

Lake Tahoe Visitors Authority's 2015/2016 Four Season Visitor Profile (LTVA Visitor Profile) identified 37 percent of South Shore 2015/2016 visitors originated from Northern California, 10 percent came from Southern California, and 10 percent came from Nevada. Sixty percent of respondents to the LTVA Visitor Profile survey stated they arrived to Lake Tahoe by a private vehicle. The anticipated growth for the Sacramento Valley, Bay Area, and Reno regions will result in continued increase in visitation volumes.

California's Department of Finance (DoF) population projections prepared January, 2018 estimated that by 2040, 2.25 million additional people would live in the Northern California counties that make up the Sacramento Area Council of Governments (SACOG) and the Association of Bay Area Governments (ABAG). Projections for 2060 are for an increase of 3.8 million people for a total of 10.4 million people living in those Northern California counties.

Northern Nevada is also projecting population growth. The 2019 Northern Nevada Economic Planning Indicators Committee (EPIC) Report update prepared for the Economic Development Authority of Western Nevada (EDAWN), forecasts an 8.6 percent population growth over the next five years. This is an increase of almost 55,000 people in the five-county region of Washoe County, Carson City, Douglas County, Lyon County, and Storey County. The Nevada State Demographer's 2018 population projections for 2037 also show significant increases. The Reno Carson City, Fernley Combined Statistical Area is projected to have a 12 percent population increase by 2037, equating to over 71,000 additional residents. This growth will create added demand for recreation access in Lake Tahoe.

### Changing Demographic Trends

California is not only growing. It is diversifying and it is aging. In 2018, the DoF estimated that by 2060, 37 percent of the Northern California population areas previously described will identify as white, 23 percent as Asian, and 29 percent as Hispanic (any race). This is a change from 2018 which had an ethnicity composition of 43 percent white, 22 percent Asian, and 24 percent Hispanic (any race). Expectations for recreation access and types of use are likely to change with demographics. Communications, facilities, and management strategies will need to adjust accordingly.

DoF projections also indicate an aging population. By 2060, 23 percent of the population is estimated to be age 60 and above. That is an increase of 43 percent from the 2018 age distribution in which 15 percent of the population is age 60 and above. Facilities will need to allow for ease of mobility.

## Transportation Facilities

SR 89 is a two-lane mountain highway throughout all of the study corridor. Traffic volumes, crash data, and transit use at a corridorwide level is summarized in the following section. More detailed information is presented by segment in the following chapters.

### Traffic Volumes

Caltrans periodically collects traffic counts at various points along the SR 89 corridor. Counts extrapolated to peak month (summer) average daily counts are shown in Figure 14. As traffic volumes within a specific season can vary substantially day-to-day, some of the changes in volumes may be a result of differences in specific count days. This data is used to understand long-term trends and to give an overall idea of traffic levels at different points in the corridor.

Daily summer traffic volumes are highest at the south end of the corridor with 26,000 vehicles per day near the U.S. Highway 50/South Tahoe "Y" intersection and lowest at the north end of the corridor with 5,900 vehicles per day at Tahoma in 2016.

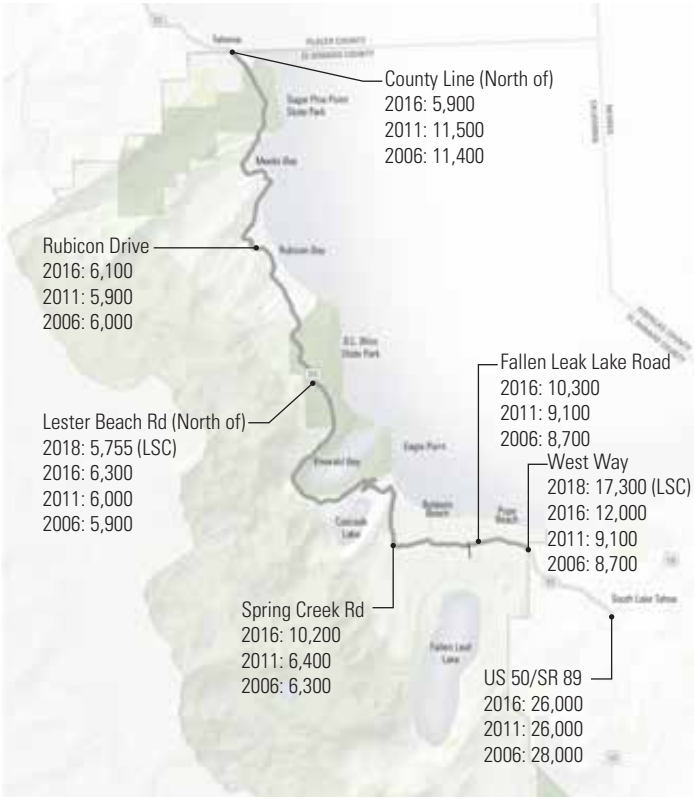



**Figure 14:** Peak Month Average Daily Traffic Volumes per Caltrans Counts, 2006, 2011, and 2016; Additional Peak Daily Count for West Way and Lester Beach Road Locations are per 2018 LSC Counts

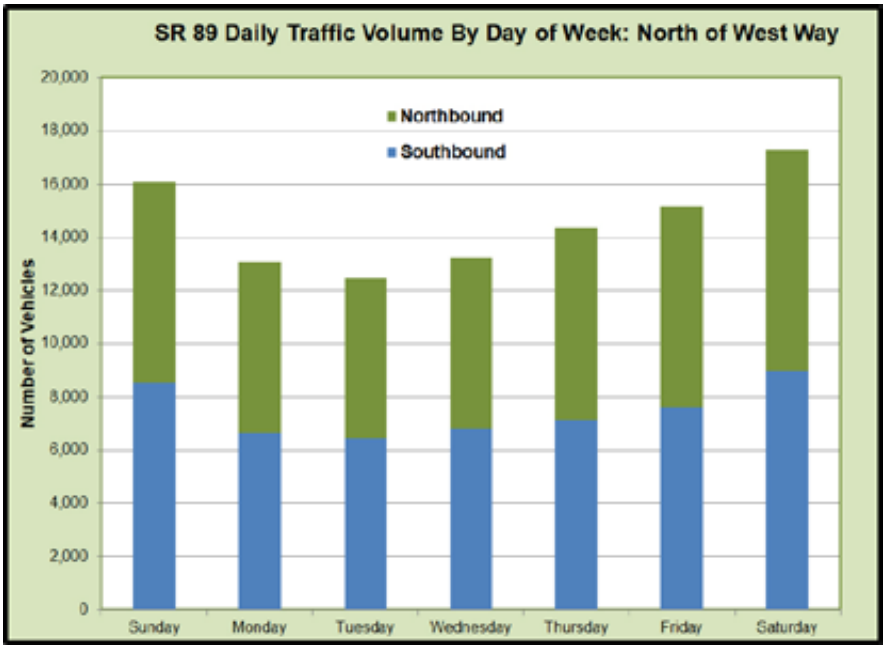



**Figure 15:** Daily Traffic Volumes By Day of Week North of West Way per LSC Summer 2018 Counts

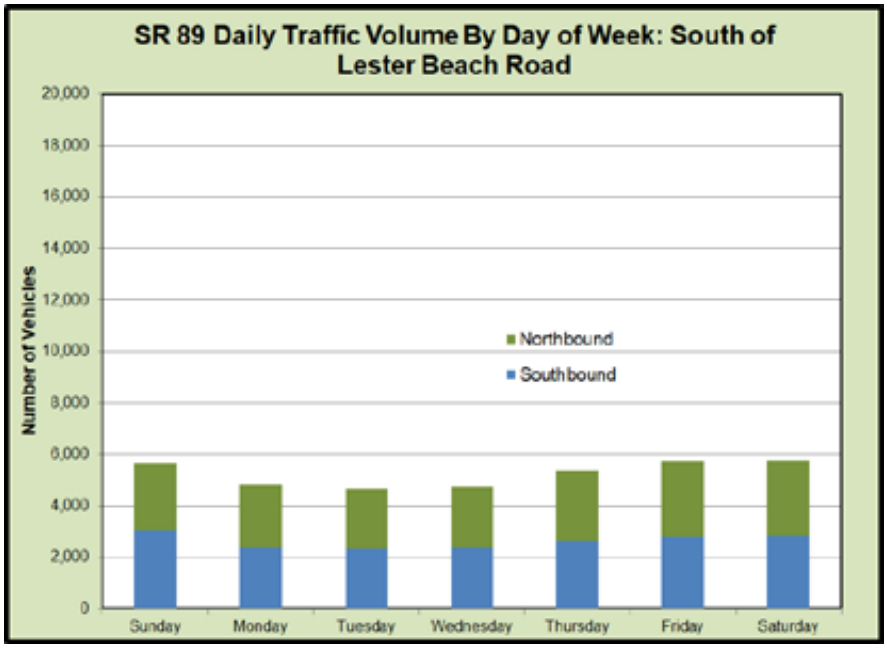



**Figure 16:** Daily Traffic Volumes By Day of Week South of Lester Beach Road per LSC Summer 2018 Counts

To obtain more current traffic counts within the study area, LSC installed radar-based traffic counters from Wednesday, August 1st to Wednesday, August 8th, 2018. The traffic counters were positioned along SR 89 just north of West Way and just south of Lester Beach Road. The Saturday peak daily counts are included in Figures 15 and 16.

Summer traffic volumes have been relatively flat over the last 20 years. However, the last few years of available counts show an increase in traffic levels south of Emerald Bay starting in 2014.

### Distribution by Day of Week

Traffic volumes throughout the SR 89 corridor are highest on Saturdays and lowest on Tuesdays. The ratio of weekend to weekday traffic is higher south of Emerald Bay than it is north of Emerald Bay. This indicates frequent weekend shuttles to Emerald Bay from the South would have a high chance of success if implemented, in combination with additional management strategies.

## Distribution by Hour

Saturday hourly directional volumes at the southern end of the corridor show a strong northbound flow in mid-morning with a corresponding strong southbound flow in late afternoon. In comparison, traffic volumes north of Emerald Bay are relatively flat from 10 AM to 4 PM and equal in both directions. This data confirms the survey data, that most visitors are entering and exiting the SR 89 corridor from the south. It also corresponds with parking observations at Pope Beach, Baldwin Beach, Emerald Bay, and D.L. Bliss which document that parking areas fill in the early morning.

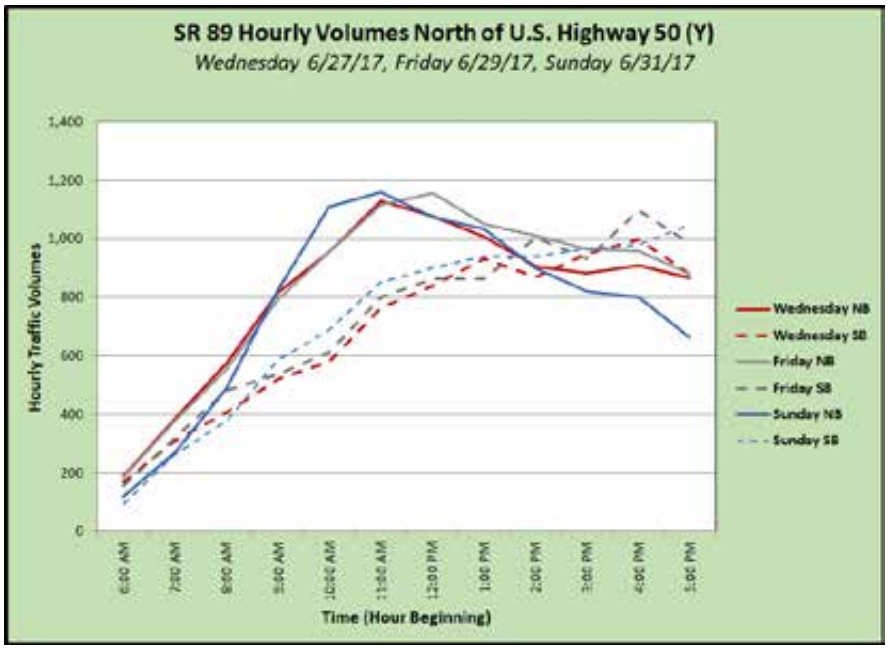



**Figure 17:** Hourly Volumes North of US 50 Intersection (Caltrans July 2017)

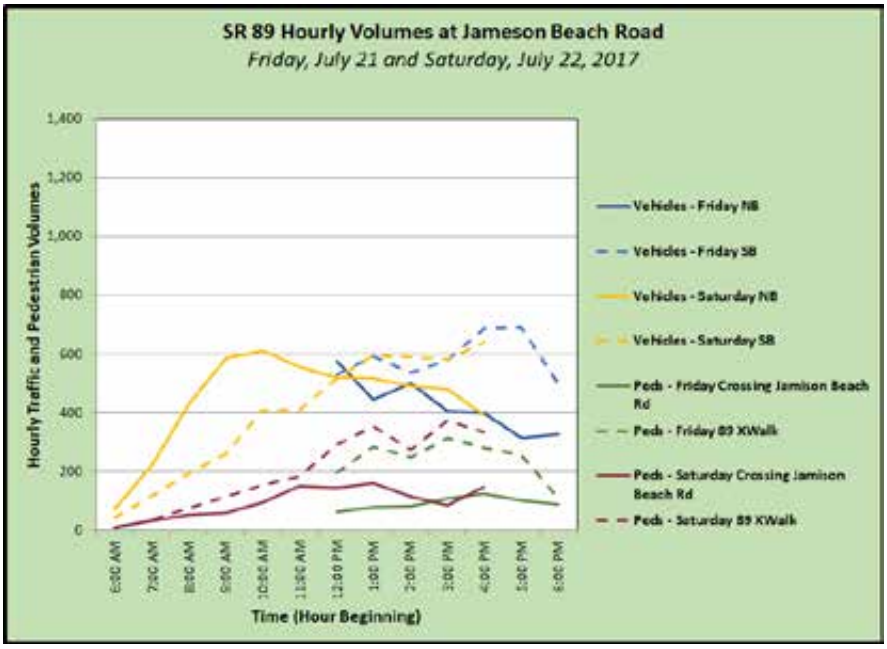



**Figure 18:** Hourly Volumes at Jameson Beach Road (Caltrans July 2017)

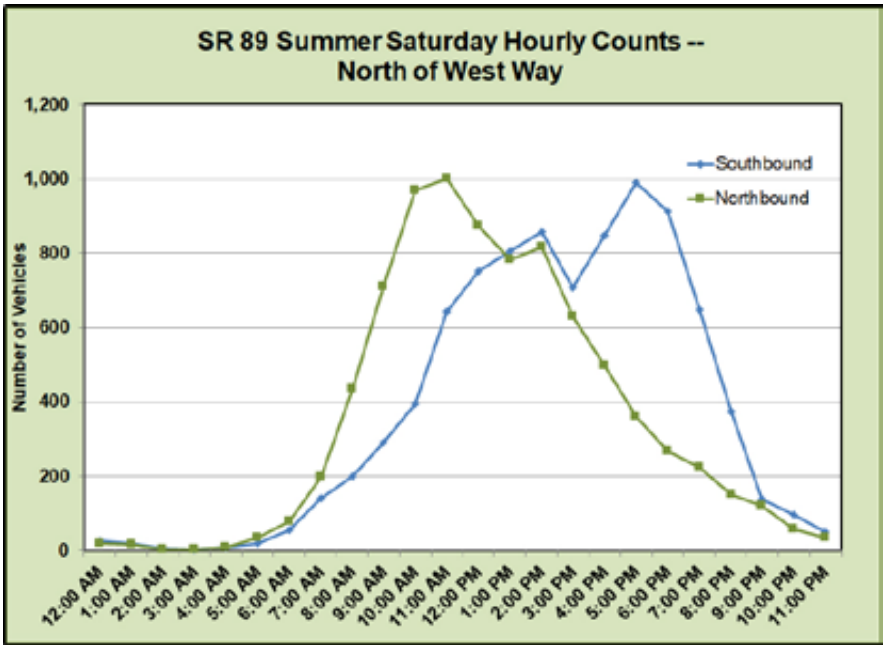



**Figure 19:** Hourly Traffic Volumes North of West Way (LSC Summer 2018)

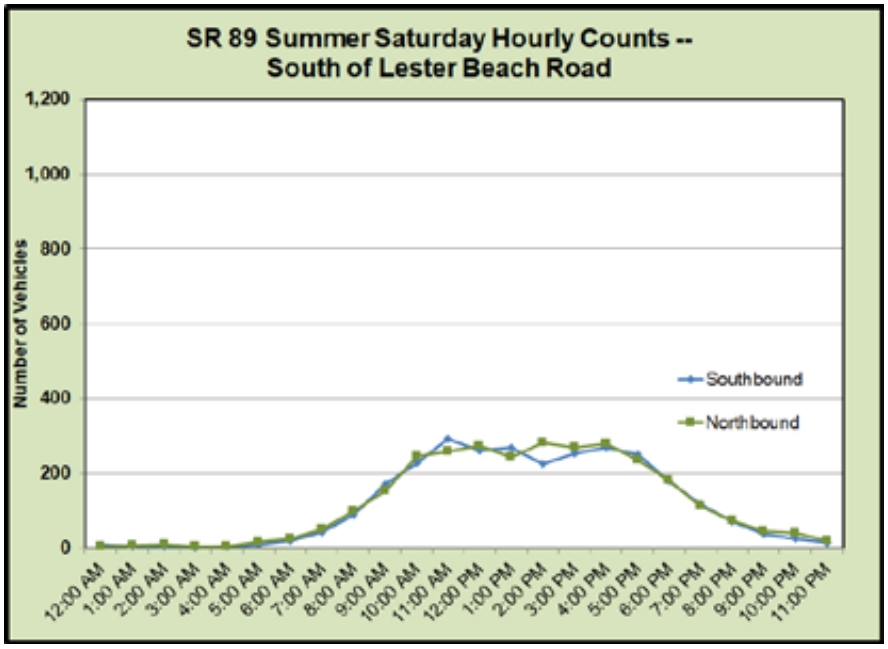



**Figure 20:** Hourly Traffic South of Lester Beach Road (LSC Summer 2018)

## Traffic Delays

Substantial traffic delays can occur from May through October, but are most severe during July and August. Observed delays were up to a full 75 minutes (though average delays are lower). Delays are particularly concentrated between the Vikingsholm lot and Baldwin Beach Road (in both directions) and southbound south of Pope Beach Road. Overall, travel speed through the corridor was observed as low as 10 MPH in the northbound direction and 6 MPH in the southbound direction. Although there are safety benefits to this slow of a travel speed, this travel speed may be excessively slow, creating frustration and in turn can actually reduce safety by creating unpredictable driving behavior.

Delays were reported by the traffic analysis surveyor to be generated by pedestrian/bicycle crossing activity in the Camp Richardson, Inspiration Point, and Eagle Falls areas. Parked vehicles partially blocking travel lanes also created delays (including the need for oncoming vehicles to take turns using the available roadway width). Drivers simply stopping in the travel lanes to take pictures also created delays. Note that no construction was occurring on any of the travel time survey days.

Traffic congestion seriously impacts emergency response times in the corridor, with an estimated average of 12 minutes of delay for trips through the corridor and a maximum delay of 30 minutes.

### *INRIX Cellphone Delay Data*

INRIX, a company that specializes in connected car services and transportation analytics, collects data streams from local transportation authorities, sensors on roadways, fleet vehicles, long haul trucks, taxis, and consumer users of the INRIX Traffic App. The INRIX data has been used to estimate the average vehicle speed and vehicle delay within the study area on an hourly basis throughout the calendar year. The smallest segment of analysis available through the INRIX dataset is the segment from the Y intersection with U.S. Highway 50 to Meeks Bay Avenue. Travel speeds and delay in the individual sub-corridors are therefore not available. INRIX data does not provide detailed information on the cause of delay, but the data is useful to review patterns in delay by day or time of day.

As shown in Table 1, the number of days with substantial traffic delays, peaks in July and August, is relatively high from May through October, and substantially lower in the winter months.

June through August experience the greatest number of days with substantial delay, with 25-28 days each month showing delay in the northbound direction and 16-18 days each month showing delay in the southbound direction. October also experienced significant delay on 25 days in the northbound direction and 10 days in the southbound direction, likely due to construction impacting traffic.

**CORRIDORWIDE DELAYS**

| | Percent of Month (by Days) with Substantial Traffic Delays | | Total Number of Hours of Substantial Delay | |
|---|---|---|---|---|
| | Southbound | Northbound | Southbound | Northbound |
| January | 16% | 26% | 7 | 16 |
| February | 7% | 11% | 3 | 3 |
| March | 6% | 10% | 2 | 3 |
| April | 10% | 7% | 3 | 2 |
| May | 23% | 58% | 18 | 43 |
| June | 53% | 83% | 35 | 100 |
| July | 61% | 90% | 53 | 92 |
| August | 58% | 90% | 47 | 100 |
| September | 27% | 63% | 17 | 57 |
| October | 32% | 81% | 20 | 91 |
| November | 30% | 20% | 12 | 7 |
| December | 13% | 29% | 6 | 11 |

**Table 1:** Corridorwide Delays

Source: LSC 2018 Traffic Delay Analysis

### Caltrans Truck Count Data

Caltrans currently designates all of the SR 89 corridor as a "KPRA (King Pin to Real Axle) Advisory" Route. Specifically, the 21.1 miles of roadway from U.S. Highway 50 on the south to Fawn Street in Homewood on the north is designated "A <30", indicating that trucks with a length between the king pin and rear axle exceeding 30 feet are not advised.

Although a truck having a longer KRPA than the "advised" length, is not illegal, driving such a truck in the switchback area may violate other laws, such as driving left of double yellow lines.

The highway's hairpin turns constrain the size and type of vehicle that can travel the highway year-round. In the winter especially, the switchbacks, narrow shoulders, and icy roads create conditions that can be unsafe for large tractor trailer trucks.

The proportion of traffic that is comprised of large trucks is much lower in the SR 89 corridor than for typical California state highways, reflecting general awareness and adherence to the advisory truck length restrictions.

Larger trucks noted by number of axles are also a smaller proportion than statewide: 4 or 5 axle trucks comprise only 0.2 percent of total traffic in the southern portion of the corridor, with as few as 9 total trucks per day reported in the Caltrans counts.

| SR 89 CALTRANS 2016 TRUCK COUNTS[1] | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Average Annual Daily Traffic | | Percent Trucks | Percent Trucks by Number of Axles | | | |
| | TOTAL | Truck | | 2 | 3 | 4 | 5+ |
| North of US 50 | 16,900 | 273 | 1.6% | 1.2% | 0.2% | 0.1% | 0.1% |
| South of Fallen Leaf Road | 5,100 | 78 | 1.5% | 1.1% | 0.2% | 0.1% | 0.1% |
| North of Bliss State Park | 3,700 | 152 | 4.1% | 3.3% | 0.4% | 0.3% | 0.1% |
| South of Ward Creek | 7,500 | 300 | 4.0% | 1.4% | 1.3% | 1.0% | 0.3% |
| South of SR 28 | 12,100 | 760 | 6.3% | 4.4% | 0.9% | 0.4% | 0.5% |
| Statewide Average | | | 10.3% | 4.5% | 1.2% | 0.4% | 4.1% |

**Table 2:** SR 89 Caltrans 2016 Truck Counts

Source: www.dot.ca.gov/trafficops/census

A tractor-trailer truck ignored the Caltrans KPRA designation for SR 89 and became stuck and completely blocked the highway at Emerald Bay. The driver was cited for being over length and for failing to install chains on his vehicle.

## Crash Data

Vehicle, pedestrian, and bicycle crashes are reported and stored in the California Highway Patrol Statewide Integrated Traffic Records System (SWITRS) and available through LTinfo.org, managed by TRPA. The dataset was compared for consistency with data in the draft Lake Tahoe Region Safety Strategy. Collision records for the previous five years (2013-2017) were reviewed for the corridor, and broken down by the following sub-corridors:

- Camp Richardson – U.S. Highway 50 to North of Spring Creek Road
- Emerald Bay – South of Cascade Creek Road to north of Two Ring Road
- Meeks Bay – South of Four Ring Road to El Dorado/ Placer County Line

Crash rates (per million vehicle-miles of travel) are higher in the Emerald Bay area than elsewhere in the SR 89 corridor. However, all segments of the corridor have overall crash rates lower than the statewide average for similar roadways. They are also in line with other crash rates around the Tahoe Region. For example, the rate on the SR 28 corridor on the East Shore is 1.23 and the rate on U.S. Highway 50 in the central portion of South Lake Tahoe is 0.65. The highest rate in the Tahoe Region is along SR 28 in Tahoe City with a rate of 2.03.

### Crash Data Highlights

- There were no fatalities in the corridor between 2013 and 2017.
- There is an average of 29 reported crashes per year in the study corridor, of which, 11 resulted in injuries.
- Most crashes are a result of a combination of unsafe travel speeds, improper turning movements, and drivers hitting objects.
- Crashes involving bicyclists were five percent of crashes while those involving a pedestrian were one percent.
- The most common type of crash in the Camp Richardson area is rear-end and “hit object.” Camp Richardson also has the highest proportion of rear-end crashes of all three sub-corridors. This could be due to stop-and-go traffic in this area as drivers slow for pedestrians or look for parking.
- At Emerald Bay, the most common type of crash is “hit object,” which includes crashes with wildlife and rocks in the roadway. The next most common type of crash is sideswipe. Both of these factors indicate that the narrow roadway, on-highway parking, and lack of shoulder contribute to crashes.
- In winter, avalanches can be a cause of crashes in Emerald Bay. Between 2013 and 2017, 12 crashes occurred in Emerald Bay during snowy/icy road conditions. Vehicles caught in avalanches are included in those counts.
- Most violations are attributed to unsafe speed in all three sub-corridors.

**TRAFFIC CRASH SUMMARY BY TYPE OF COLLISION AND VIOLATION CATEGORY[1]**

| | Total Crashes | Type of Collision | | | | | | Violation Category | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Head-On | Side-swipe | Rear End | Broadside | Hit Object | Other | DUI | Unsafe Speed | Improper Turning | Other |
| Camp Richardson | 35 | 2 | 4 | 11 | 3 | 11 | 4 | 2 | 12 | 10 | 11 |
| Emerald Ba | 72 | 6 | 16 | 6 | 4 | 29 | 11 | 8 | 28 | 23 | 13 |
| Meeks Bay | 35 | 3 | 6 | 2 | 3 | 18 | 3 | 1 | 14 | 10 | 10 |
| Total | 142 | 11 | 26 | 19 | 10 | 58 | 18 | 11 | 24 | 43 | 34 |
| Average Annual | 28.4 | 2.2 | 5.2 | 3.8 | 2.0 | 11.6 | 3.6 | 2.2 | 10.8 | 8.6 | 6.8 |
| Percent of Total | | 8% | 18% | 13% | 7% | 41% | 13% | 8% | 38% | 30% | 24% |

**Table 3:** SR 89 Traffic Crash Summary by Type of Collision and Violation

Source: www.dot.ca.gov/trafficops/census

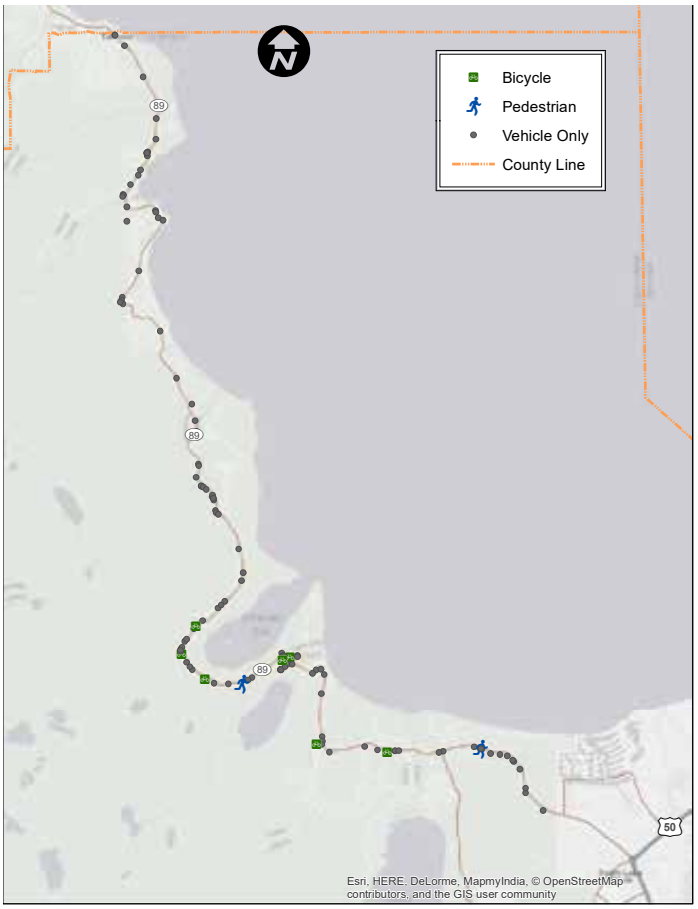



**Figure 21:** SR 89 Corridor Bicycle, Pedestrian, and Vehicle Only Crashes 2013-2017

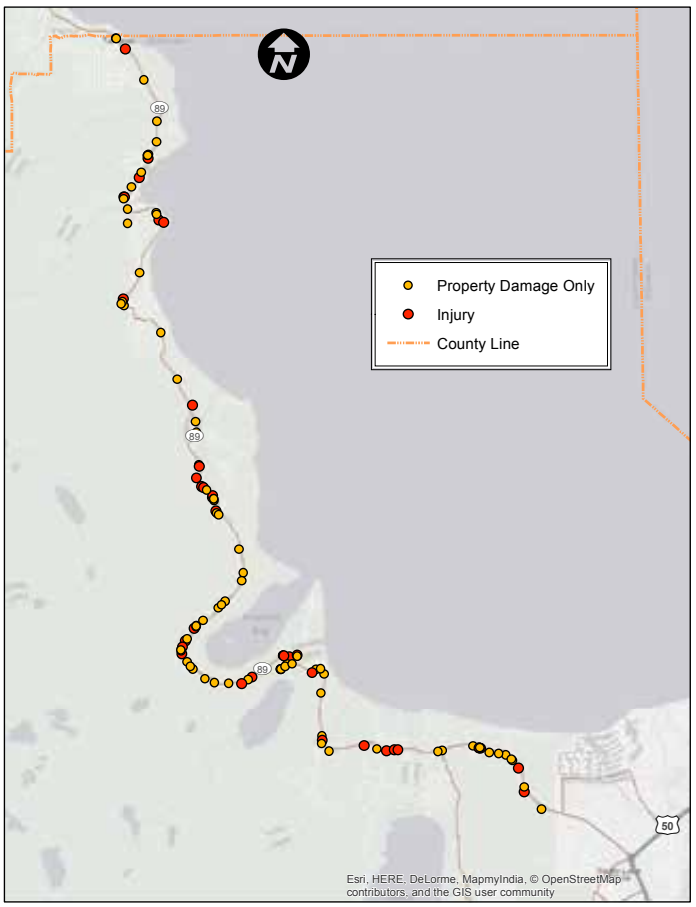



**Figure 22:** SR 89 Corridor Crash Severity 2013-2017

| NUMBER OF CRASHES BY ROAD CONDITION[1] | | | | | |
|---|---|---|---|---|---|
| | Camp Richardson | Emerald Bay | Meeks Bay | Total | % of Total |
| Dry | 32 | 58 | 20 | 110 | 77% |
| Wet | 2 | 2 | 5 | 9 | 6% |
| Snowy/Icy | 1 | 12 | 10 | 23 | 16% |

**Table 4:** Number of Crashes by Road Condition 1/2013-12/2017

| NUMBER OF CRASHES BY SEVERITY[1] | | | | | |
|---|---|---|---|---|---|
| | Camp Richardson | Emerald Bay | Meeks Bay | Total | % of Total |
| Total | 35 | 72 | 35 | 142 | |
| Injury | 14 | 27 | 16 | 57 | 40% |
| Fatality | 0 | 0 | 0 | 0 | 0% |
| Property Damage | 21 | 45 | 19 | 85 | 60% |

**Table 5:** Number of Crashes by Severity 1/2013-12/2017

| NUMBER OF CRASHES INVOLVING A BICYCLIST OR A PEDESTRIAN[1] | | | | |
|---|---|---|---|---|
| | Camp Richardson | Emerald Bay | Meeks Bay | Total |
| Total # of Persons Injured | 16 | 33 | 27 | 76 |
| Total # of Peds Injured | 1 | 1 | 0 | 2 |
| Total # of Cyclists Injured | 2 | 5 | 0 | 7 |

**Table 6:** Number of Crashes Involving a Bicyclist or Pedestrian 1/2013-12/2017

[1]Source: California Highway Patrol Statewide Integrated Traffic Records System (SWITRS)

## Transit Ridership

Due to funding constraints and low ridership, the last year transit serviced the SR 89 corridor was 2018. Previously the Tahoe Transportation District (TTD) operated the Emerald Bay Trolley. The service plan has varied over the years depending on funding availability. The route typically extended from the South Tahoe Y to the Tahoe City Transit Center, except in 2014 when it only extended from the Y to Vikingsholm. The Trolley generally operated from late June to the first week in October. It typically operated daily for the week surrounding the July 4th holiday, on Friday through Monday from the 4th of July week to Labor Day, and then weekends only through the first weekend in October. Service was operated either hourly or every two hours from 8:30 AM to 5:30 PM or 6:30 PM, depending on the time of day and the year. The operation of the Trolley was impacted by the same traffic congestion that affects all travel through the corridor, as well as by the lack of shoulder space for bus stops.

Ridership in general tracked with service hours, as shown in Figure 23. In years with more service hours, ridership was higher, with the exception of 2017 when vehicle service hours increased over the previous year but ridership decreased slightly. Over the past five years, passengers per vehicle-hour averaged 10.3. Passengers per vehicle-hour were highest in 2013 at 11.5, when the trolley provided the most service hours. Ridership per vehicle-hour was also slightly higher than average in 2016 at 10.9, even though the bus ran less frequently (every 1.5 hours as opposed to every 1 hour and only from 8:30 AM to 5:00 PM).

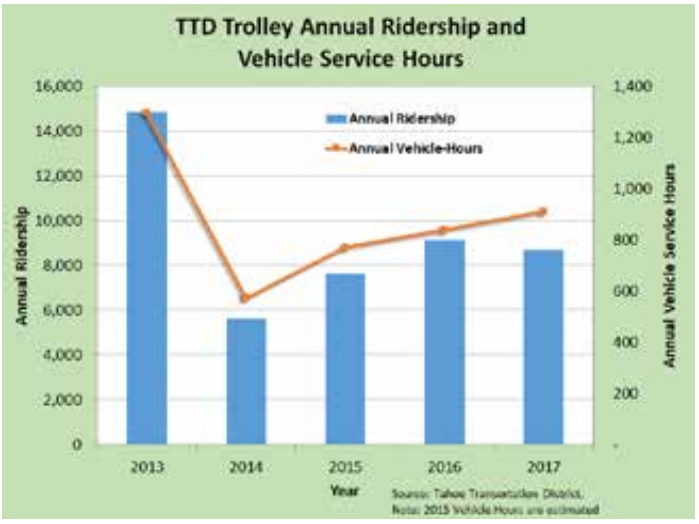



**Figure 23:** Trolley Ridership Compared to Service Hours

### Transit Data Highlights

- The Emerald Bay Trolley hours, frequency, and route have varied over the years, due to funding limitations. While it has generated ridership up to 14,800 boardings per year and ridership per vehicle-hour of service levels that are common for transit services in rural areas, it did not reach the full potential for transit service in the SR 89 corridor.
- Ridership was higher in years when the route extended the full length from South Lake Tahoe to Tahoe City.
- Transit operations were impacted by traffic congestion and the lack of designated transit stops. This impacts the reliability of transit service for passengers and increases the costs of service.

### Corridor Connection Plan Transit Vision

The LTCCP sets forth a vision for transit in Lake Tahoe. For the SR 89 corridor, the vision includes more frequent and convenient transit which would be implemented in tandem with parking management and strategies to incentivize the use of transit. This includes both in-corridor mobility hubs and connections to transit at bed bases, such as the Stateline casino core area. Local ferry shuttle is also envisioned as part of a holistic strategy for the corridor.

### Short-Range Transit Plan

The TTD's 2017 Short-Range Transit Plan (SRT) provides policy and financial direction to guide transit planning. The SRT includes the following recommendations relevant to the corridor.

- Create a high-frequency (every 30-minutes) express route to move people from Stateline to Emerald Bay with continuing, lower frequency service to Tahoe City.
- Construct a safe, off-highway transit center at Emerald Bay.
- Provide areas for buses to safely turn around after Emerald Bay.
- Address road design issues around Emerald Bay to allow for improved transit service.
- Address avalanche control and road closures to improve consistency and allow for year-round service along the West Shore.
- Upgrade existing and install new infrastructure to support technological connectivity and address network gaps in the corridor.

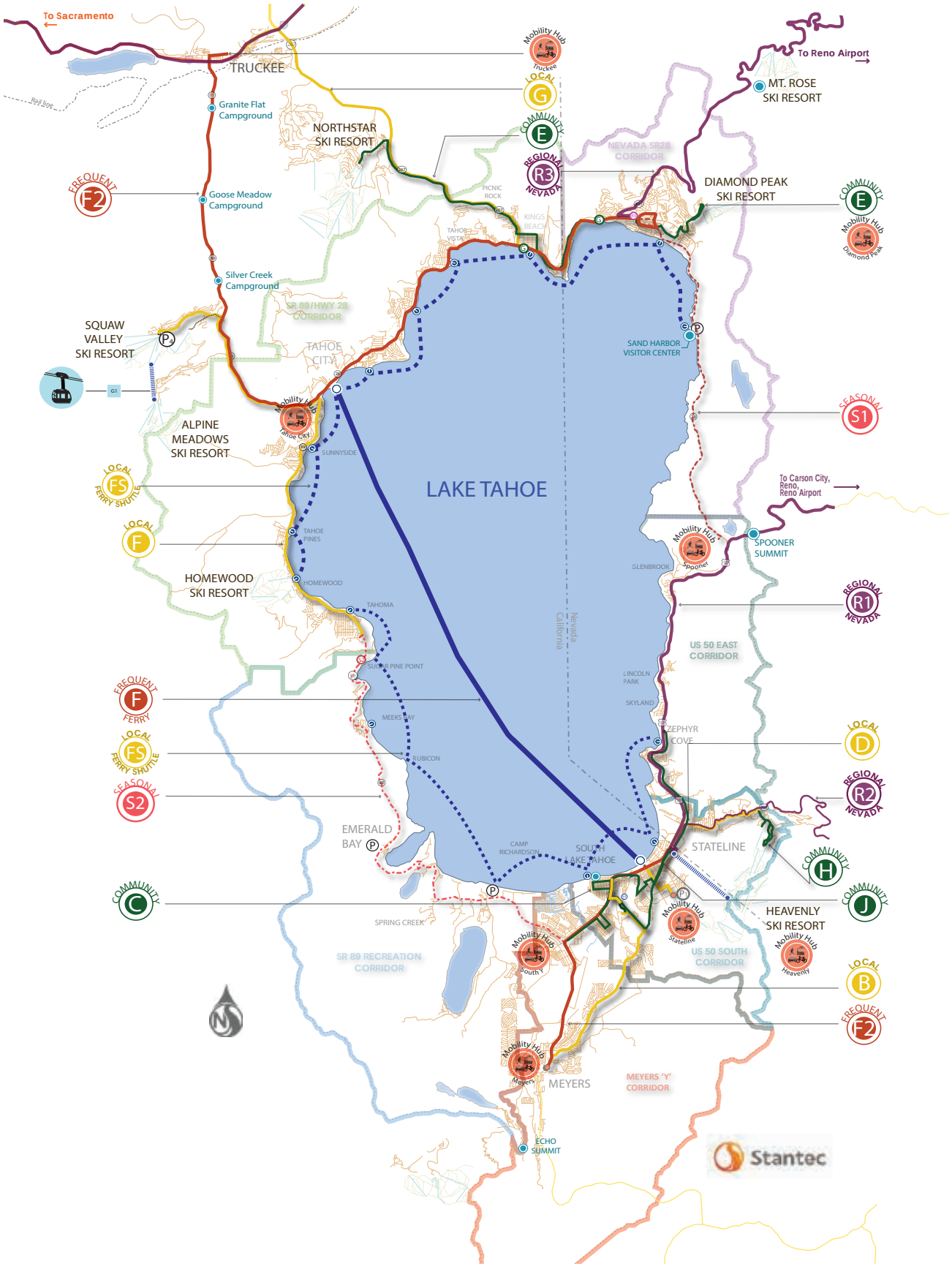



**Figure 24:** Corridor Connection Plan Transit System Recommendations

## ORGANIZATION OF THE CORRIDOR

The corridor is organized into five segments. Each segment has defining physical characteristics, land uses, recreation opportunities, transportation, and visitor use patterns. As such, the challenges and potential strategies for each segment vary. Although opportunities for each segment are related to one another, the organization of the corridor into the different segments allows for greater focus on individual zones while also recognizing the need to address the issues and potential impacts to adjacent segments.

The five segments of the SR 89 corridor include:

- Pope to Baldwin
- Emerald Bay
- Rubicon Bay
- Meeks Bay
- Sugar Pine Point

The following chapters describe each segment in greater detail. Where available, and central to the development of transportation and visitor management strategies, information is presented regarding visitor use, parking, traffic delays, transit, land use, and bicycle facilities. An overview of each segment is summarized below.

### Pope to Baldwin Segment

*Defining Elements*

- Popular recreation segment with multiple concessionaires operating on USFS lands with a visitor center and a historic site. Beach access and camping are top recreation activities. The LTCCP identified it as a hot spot for summer recreation.

*Key Issues*

- Congestion associated with beach access, pedestrian movement, and motorists searching for roadside parking after off-highway beach parking fills.

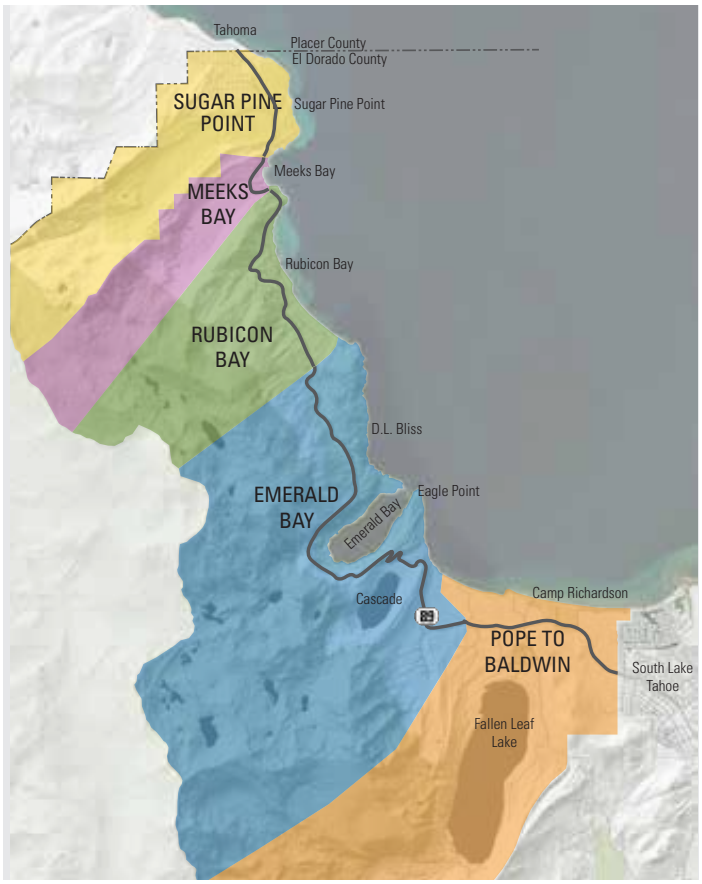



**Figure 25:** Segments of the SR 89 Corridor

### Emerald Bay Segment

*Defining Elements*

- The most visited recreation segment in the corridor with a range of user activities that require different management strategies. Uses include visiting a beach, taking a day hike, camping, backpacking overnight in Desolation Wilderness, just stopping for a quick picture or to appreciate the view, and winter backcountry access. LTBMU and State Parks both have public lands in this segment. The roadway steeply climbs and winds its way from the Spring Creek Road to Emerald Bay.

*Key Issues*

- Congestion, roadside parking, and pedestrians walking in the roadway or on narrow shoulders due to insufficient off-highway parking to meet visitor demand. Illegal parking creates delays, impedes enforcement, reduces the visitor experience, increases erosion, and impacts stormwater quality projects. Topography, sensitive resources, and scenic impacts constrain the ability to build large amounts of new off-highway parking. Emergency access and year-round access are challenged by winter road closures due to rock slides and avalanches.

### Rubicon Bay Segment

*Defining Elements*

- Highest percentage of privately-owned lands in comparison to other corridor segments, with a significant number of seasonal residences. Recreation Beach access is primarily private access or home owner association access. Neighborhood connectors to upland trails provide resident access to hiking trails and to backcountry ski opportunities.

*Key Issues*

- Narrow roadways, difficult terrain, and private lands constrain the opportunities to route the Tahoe Trail (a shared use, off-highway bike path) and provide trail connectivity between recreation destinations to encourage walking and biking to activities.

### Meeks Bay Segment

*Defining Elements*

- Recreation area associated with Meeks Bay Resort, Meeks Bay Campground, and Meeks Bay Trailhead. The resort is operated by the Washoe Tribe and includes day use beach and picnic access and a variety of overnight lodging facilities. The Meeks Bay Trail parallels Meeks Creek, passes by several alpine lakes, and provides access to Desolation Wilderness.

*Key Issues*

- Transit facilities and continuation of the Tahoe Trail through the recreation area are needed. An extension of the West Shore shared-use path was built in 2018 and connects Sugar Pine Point State Park to Meeks Bay. Completion of the segment illustrates the need for shared-use path connectivity between recreation sites. Travel speeds and short sight distances make at-grade pedestrian crossings less desirable. Shoulder parking and trailhead use could increase as recreation use continues to increase for the Lake Tahoe Region. Winter recreation access needs to be accommodated.

### Sugar Pine Point Segment

*Defining Elements*

- Mix of recreation and residential land uses. Sugar Pine Point State Park and its facilities are the primary recreation destinations along with access to LTBMU trails. Recreation areas transition to residential and commercial land uses in Tahoma.

*Key Issues*

- Roadside parking in Tahoma, which is north of the study area, creates congestion for the corridor to the north. Visitors to the State Park often park along the highway and cross the highway to avoid an entry fee.

Recreation activities in the corridor occur year-round. Winter recreation includes activities such as cross-country skiing, snow play, sight seeing, and backcountry access.

# POPE TO BALDWIN SEGMENT

# POPE TO BALDWIN SEGMENT

The Pope to Baldwin Segment extends from West Way in El Dorado County north to Baldwin Beach Road.

## Defining Elements

This segment serves as the southern gateway to recreation destinations along SR 89 to the north. The roadway transitions from five-lanes to two-lanes near the intersection with West Way. Federal lands flank the roadway, providing access to beaches, trails, equestrian facilities, historic and interpretive sites, a restaurant, lodging, and more.

## Visitor Activities

Access to public beaches is a primary driver of recreation activity in this segment. All of the beach areas are highly visited from Memorial Day to Labor Day, with Pope Beach and Camp Richardson Resort seeing the highest concentration of visitors. This corresponds with being located close to the population center and bed base in South Lake Tahoe, Meyers, and Stateline and the level of development associated with these beaches. Trailhead access, historic tours, equestrian facilities, and the Taylor Creek Visitor Center are additional attractions. Weddings, music, theatre, and art events are also hosted throughout the summer at the Valhalla Estate of the Tallac Historic Site.

The Pope-Baldwin Bicycle Trail connects to the City of South Lake Tahoe to the south and provides a popular bike route for visitors and residents traveling to beaches, exploring the historic site, and enjoying the outdoors. Bike rental facilities are located just south of the corridor boundary along SR 89 and within the Camp Richardson Resort.

Key recreation sites include:

- Pope Beach
- Camp Richardson Resort
- Camp Richardson Corral
- Tallac Historic Site
- Fallen Leaf Campground
- Kiva Picnic Area
- Kiva Point
- Taylor Creek Visitor Center
- Taylor Creek Sno-Park
- Mt. Tallac Trailhead
- Baldwin Beach
- Desolation Wilderness Access

### KEY ISSUES

Challenges within the Pope to Baldwin Segment are associated with the demand for beach access and high levels of pedestrian activity along the highway. Key issues to be addressed through the CMP include:

- Traffic congestion, especially near the SR 89/ Jameson Beach Road and the SR 89/Pope Beach Road intersections, as visitors arrive to beach facilities and as drivers stop for pedestrians.
- Parking along the highway and traffic congestion associated with drivers turning around and searching for shoulder parking.
- Multiple ingresses and egresses off SR 89 serve individual recreation areas with few off-highway vehicular linkages between sites.
- Lack of dedicated transit infrastructure which would allow transit to bypass congested areas.
- Gaps in the multi-use trail network to connect to some of the recreation sites.
- Use of unimproved Fallen Leaf road as a bypass.
- Events in the corridor are sources of significant traffic, create additional demand for parking, and can impact traffic flow.


**Figure 26:** Pope to Baldwin Segment


**Figure 27:** Ownership | Pope to Baldwin Segment

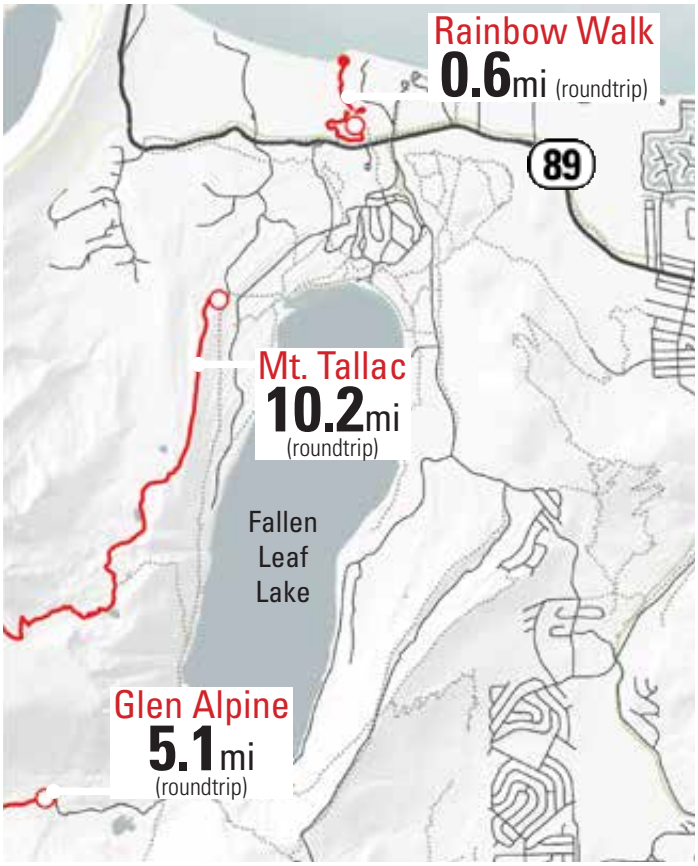



**Figure 28:** Trail Access | Pope to Baldwin Segment

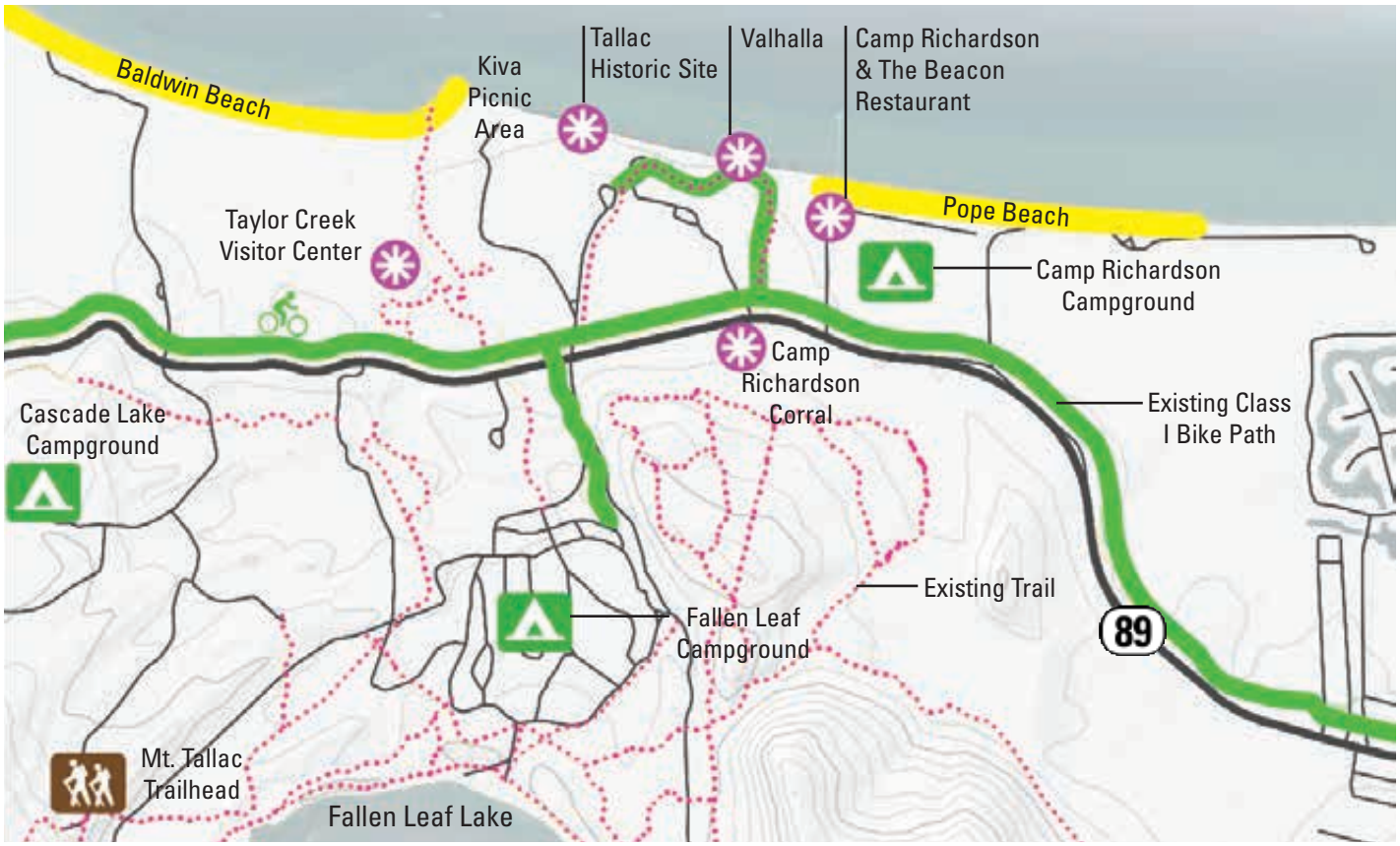



**Figure 29:** Recreation Areas | Pope to Baldwin Segment

## VISITATION DATA

The proximity of the segment's public beaches to the communities in the South Shore makes it a highly popular destination for beach-goers. The mix of residents to visitors and overnight visitors to day visitors is similar to overall corridor averages. Eighty-three percent of survey respondents identified themselves as visitors, and 86 percent of those visitors stayed at least one night in the Lake Tahoe area.

Lodging types were fairly consistent with overall survey results, with the exception of an increase in the number of people staying at a campground. Consistent with other segments, the primary mode of travel to recreation sites was by personal vehicle. However, almost twice the percentage of respondents said they arrived to the site by bicycle than the corridorwide average. This finding is also supported by the high trail use numbers.

Length of stay is an average of 5.5 to 5.6 hours. This is longer than the corridor average, but consistent with survey responses of "spending the day at the beach". For comparison, visitor duration at Sand Harbor is about 4 hours.

Seventy-five percent of postcard survey respondents[2] arrived to the segment from the south and indicated they would return to the south. Twenty-five percent arrived and returned from the north. The responses indicate a transit shuttle program with a mobility hub south of the segment is likely to intercept users. It also shows that the majority of visitors to the location are likely arriving from the South Shore communities. Transit programs that originate from significant bed bases should be considered as a component of a transit solution for the segment.

A high percentage of summer visitors to the Pope to Baldwin segment are either visiting a beach or camping. Because of the concessionaires and more developed facilities in this segment, respondents (18 percent) also indicated that they visited the area to attend an event.

Comparing attendance record data to the LTCCP's estimated number of overall corridor users, almost 36 percent of the corridor visitors are visiting the recreation areas in the Pope to Baldwin segment. This is a bi-product of the variety of activities available and the proximity of the recreation to the South Shore communities and lodging areas. It should be noted that many of the sites in the segment do not track attendance or it was not provided to the analysis team. Therefore, the volume of visitors to the segment could be even higher. As shown in the visitation numbers, the highest volume of visitors visit Pope Beach and Camp Richardson Resort. This is consistent with parking and traffic patterns.

### IMPLICATIONS FOR MANAGEMENT STRATEGIES

- Developing a mobility hub with a transit system could be effective given the high percentage of overnight users and percentage of people returning from the direction from which they came.
- Providing transit can serve the recreation areas because the primary uses (camping and visiting a beach) are centrally located.
- Providing shared-use path access to the beaches can encourage walking and biking. Especially since campers are likely to walk and bike to destinations within the segment.
- Dispersing use and providing transit can help manage demand. The highest concentration of visitor demand is around Pope Beach and Camp Richardson Resort.


The Ice Cream Parlor at Camp Richardson is a popular stop for visitors.

Sources for Table 7: Visitation Statistics | Pope to Baldwin Segment:

1 TRPA 2014 and 2018 Travel Mode Surveys

2 LSC 2018 Postcard Survey (Pre-paid survey postcards were placed under windshield wipers of vehicles parked along the corridor in late July. Of the 2000 surveys distributed, 138 were returned.)

3 2018 SR 89 Corridor Intercept Survey

4 USFS Visitation Logs and Camp Richardson Summary

5 2018 SR 89 Online Recreation Survey

6 TRPA 2010 and 2014 Travel Mode Surveys

| VISITATION STATISTICS | POPE TO BALDWIN SEGMENT | | |
|---|---|---|---|
| | Pope to Baldwin Segment Information Only | Overall Corridor Comparison 2017 LTCCP | Overall Corridor Average |
| Resident Versus Visitor | | | |
| Full-Time or Seasonal Resident | 17%[1] | 13% | 19%[1] |
| Visitor | 83%[1] | 87% | 81%[1] |
| Visitor Type | | | |
| Overnight Visitors | 86%[1] | 90% | 89%[1] |
| Day Visitors | 14%[1] | 10% | 11%[1] |
| Lodging Type | | | |
| Vacation Rental | 20.5%[1] | | 21.2%[1] |
| Second Home | 5.4%[1] | | 7.4%[1] |
| Friend's Residence | 10.1%[1] | | 8.5%[1] |
| Timeshare | 10.4%[1] | | 8.3%[1] |
| Motel/Hotel | 34.2%[1] | | 36.9%[1] |
| Campground | 19.5%[1] | | 17.6%[1] |
| Length of Day Use Stay | 5.5 hours[2] / 5.6 hours[3] | | 4.7 hours[2] / 3.6 hours[3] |
| Number of People in Trip Party | 2.9 people[2] / 4.2 people[3] | | 3.7 people[2] / 3.6 people[3] |
| Travel Modes[6] | | | |
| Car/Truck/Van | 82% | | 86% |
| Motorcycle/Moped | 1% | | 2% |
| Transit | 0% | | 1% |
| Ferry or Boat | 3% | | 2% |
| Bicycle | 9% | | 5% |
| Walk | 4% | | 5% |
| Trip Pattern[2] | | | |
| Arrive from and Return to South | 75% | | 52% |
| Arrive from and Return to North | 25% | | 39% |
| Traveling Through | 0% | | 9% |
| Primary Recreation Activity | | | |
| Visit a Beach | 45%[2] / 36%[3] | 82%[5] | 25%[2] / 40%[3] |
| Day Hike | 18%[2] / 0%[3] | 87%[5] | 46%[2] / 31%[3] |
| Quick Stop to See the View | 0%[2] / 5%[3] | 36%[5] | 5%[2] / 5%[3] |
| Drive Around the Lake | 0%[2] / 0%[3] | 38%[5] | 4%[2] / 1%[3] |
| Take a Bike Ride | 9%[2] /5%[3] | 51%[5] | 1%[2] / 2%[3] |
| Overnight Backpack Trip | 0%[2] / 0%[3] | 34%[5] | 9%[2] / 5%[3] |
| Camping | N/A / 45%[3] | | N/A / 15%[3] |
| Visit a Historic Site | 0%[2] / N/A | | 4%[2] / 4%[3] |
| Attend an Event | 18%[2] / N/A | | 1%[2] / N/A |
| Other | 9%[2] / 9%[3] | | 4%[2] / 4%[3] |
| Number of 2017 Visitors at Paid Parking Areas (637,938 Total for Parking Areas Listed Below)[4] | | | |
| Pope Beach and Camp Richardson Resort | 513,013 | Estimated 1.8 Million in 2014 for Entire Corridor | |
| Baldwin Beach | 124,925 | | |

**Table 7:** Visitation Statistics for the Pope to Baldwin Segment

## TRAFFIC DELAY

Traffic delays at the SR 89 intersections with Pope Beach Road and Jameson Beach Road are a critical issue for this segment. Travel time delays and their origins have been studied by Caltrans and transportation engineers. In addition to the delays discussed below, special events impact traffic flow. Commuters often use SR 28 along the East Shore to avoid traffic during events.

### Travel Time Delays

Surveyors who drove the corridor on multiple peak weekends and weekdays reported that delays were generated by pedestrian/bicycle crossing activity, queuing for beach entries, parked vehicles partially blocking travel lanes, motorists stopping to park along the highway, and drivers needing to stop to allow oncoming vehicles to take turns using the available roadway width. No construction was occurring on any of the travel time survey days.

Data points for the analysis showed the following:

- The peak delay for northbound traffic occurred at 12:00 PM. The delay was for 23 minutes and occurred between West Way and Pope Beach Road. A shorter, 4-minute, delay occurred during the same trip between Pope Beach Road and Jameson Beach Road.
- The peak delay for southbound traffic occurred at 10:30 AM for 14 minutes between Pope Beach Road.

### Intersection and Queuing Studies

Caltrans staff monitored traffic queuing at SR 89 north and south of Jameson Beach Road. Traffic engineering consultants worked with the California Highway Patrol (CHP) to assess traffic flow patterns associated with pedestrians crossing the SR 89/Jameson Beach Road intersection. They also conducted surveys for pedestrian crossing the intersection to determine the potential for reducing the number of pedestrian crossings by reorganizing or relocating land uses at the intersection.

#### Queue Lengths

The queue length study documented northbound vehicles backed up 9,400 linear feet, or almost two miles (approximately 210 cars), from the SR 89/Jameson Beach Road intersection at 12:00 PM on a peak Saturday in July, 2017. On a Friday in July, 2017, traffic queued for 5,800 linear feet, or just over a mile (approximately 127 cars), in the northbound direction at 2:01 PM.

### IMPLICATIONS FOR MANAGEMENT STRATEGIES

- Developing parking management strategies can reduce the queue for visitors entering Pope Beach via personal vehicle, such as:
  - Moving the check-in kiosk closer to Pope Beach could increase the off-highway queuing area.
  - Shifting to automated ticketing systems would allow visitors to park and then pay at a kiosk with a roving ranger to provide oversight and user information.
  - Utilizing a reservation system with congestion-based pricing for parking could distribute arrival times and encourage turn over.
- Moving land uses at the SR 89/Jameson Beach Road intersection and adjusting intersection design could reduce delays associated with pedestrian crossings.
  - The Mountain Sports Center, Ice Cream Shop, Coffee Shop, and mountainside shoulder parking could shift to the lakeside of SR 89.
  - Moving the pedestrian crossing from the eastern leg of the intersection to the western leg would allow vehicles exiting Jameson Beach Road to turn left while pedestrians cross.
  - Conditions can be monitored and when triggered, a signalized intersection could be installed with timing to hold pedestrians for at least 60 seconds.
- Relocating roadside parking to off-highway locations and creating a no-shoulder parking zone can reduce vehicles searching for parking and reduce the number of pedestrian crossings at Jameson Beach Road.

Sources for Table 8: Traffic Delay Statistics | Pope to Baldwin Segment:

1 LSC SR 89 Travel Time Survey Analysis

2 Camp Richardson Queue Investigation, July 21 & 22, 2017, Eric Royer, PE, Caltrans District 3 Traffic Operations

3 LSC SR 89/Jameson Beach Road Intersection Pedestrian Crossing Control Demonstration July 7, 2018

4 LSC SR 89/Jameson Beach Road Intersection Pedestrian Movement Survey August 2, 2018

| TRAFFIC DELAY STATISTICS | POPE TO BALDWIN SEGMENT | | | |
|---|---|---|---|---|
| Length of Delay[1] | | | | |
| Segment | Northbound Traffic Peak Minutes of Delay | Northbound Traffic Peak Time of Delay | Southbound Traffic Peak Minutes of Delay | Southbound Traffic Peak Time of Delay |
| West Way to Pope Beach Road | 23 minutes | 12:00PM | 14 minutes | 10:30AM |
| Pope Beach Road to Jameson Beach Road | 4 minutes | 12:00PM | 4 minutes | 12:54PM |
| Jameson Beach Road to Baldwin Beach Road | 6 minutes | 1:30PM | 5 minutes | 2:30PM |
| Queue Lengths at Camp Richardson \| SR 89/Jameson Beach Road Intersection[2] | | | | |
| Date of Caltrans Investigations | Time of Queue | Direction | Max. Length | Time in Queue |
| Friday, July 21, 2017 | 2:01PM | NB | 5,800FT | 12 minutes |
| | 4:23PM | SB | 5,700FT | 13 minutes |
| Saturday, July 22, 2017 | 10:00AM | NB | 7,100FT | 9 minutes |
| | 12:00PM | NB | 9,400FT | 28 minutes |
| | 4:30PM | SB | 7,700FT | 30 minutes |
| Traffic Stopped for Pedestrians at SR 89/Jameson Beach Road Intersection[2] | | | | |
| Saturday Hour | Percent of Time Stopped for Pedestrians | Average/ Maximum Time Stopped for Pedestrians | Average/Maximum Time Traffic Moving | |
| 11:00AM - 1:00PM | 24.7% | 15 sec/45 sec | 39 sec/5 min 1 sec | |
| 3:00PM - 4:00PM | 29.9% | 16 sec/30 sec | 30 sec/1 min 57 sec | |
| Traffic Flow with Varied Pedestrian Hold Times[3] | | | | |
| Vehicles per Hour without Traffic Control | 728 (baseline traffic flow) | | | |
| Vehicles per Hour with 30 Seconds Ped Hold Time | 694 | 5% decrease in capacity | | |
| Vehicles per Hour with 60 Seconds Ped Hold Time | 807 | 8% increase in capacity | | |
| Pedestrian Patterns at Camp Richardson \| SR 89/Jameson Beach Road Intersection[4] | | | | |
| | Groups | | Persons | |
| | Number | Percentage | Number | Percentage |
| Crossings to Mountain Sports Center (Mountainside) | | | | |
| Crossings to/from Lakeside | 20 | 56% | 75 | 57% |
| Crossings to/from Mountainside | 16 | 44% | 56 | 43% |
| Crossings to Ice Cream Shop (Mountainside) | | | | |
| Crossings to/from Lakeside | 102 | 48% | 439 | 51% |
| Crossings to/from Mountainside | 112 | 52% | 423 | 49% |
| Crossings to Coffee Shop (Mountainside) | | | | |
| Crossings to/from Lakeside | 19 | 63% | 40 | 65% |
| Crossings to/from Mountainside | 11 | 37% | 22 | 35% |
| Potential Reduction of Highway Crossings with Land Use Changes[4] | | | | |
| | Net Reduction or Increase of Highway Crossings | | | |
| Moving Mountain Sports Center to the Lakeside | 25% (100% minus 43%/57%) | | | |
| Moving Ice Cream Shop to the Lakeside | 4% (100% minus 49%/51%) | | | |
| Moving Coffee Shop to the Lakeside | 46% (100% minus 35%/65%) | | | |

**Table 8:** Traffic Delay Statistics for the Pope to Baldwin Segment

Peak queues for southbound traffic at the SR 89/Jameson Beach Road occurred later in the day. On a peak Saturday, traffic was backed up for 7,700 linear feet, or almost one and a half miles, at 4:30 PM. On Friday, the length of vehicles was 5,700 linear feet, or over mile of slow moving cars, at 4:23 PM.

The sources of the queues were found to be as follows:

- The inability of the Pope Beach facility to admit visitors as fast as they arrive. Beach-going traffic begins to back up along the highway. The gap in the queue between Pope Beach Road and Jameson Beach Road supports this assessment. This is the first cause of congestion. Additional sources of queuing occur northbound of this location.
- Queuing starts at Jameson Beach Road when the Pope Beach lot is full and visitors shift to search for parking further to the north.
- Drivers stop to ask questions of the attendant at Jameson Beach Road which causes motorists wanting to enter the Camp Richardson area to back up on the highway.
- Drivers slow throughout the area to look for shoulder parking.
- Drivers stop at the beacon at Jameson Beach Road, even when inactive, to unload passengers.

Caltrans reported that once the Pope Beach parking lot fills up, SR 89 becomes a de-facto parking lot. The report states "drivers behave as if they are in a parking lot," creating congestion on the highway as drivers slow for parking activity, pedestrians, and to find their own parking space. This is corroborated by the shoulder parking counts collected and analyzed as part of the SR 89 corridor data collection efforts.

## Pedestrian Crossings at Jameson Beach Road Intersection

### *Holding Pedestrians at Longer Wait Intervals*

As described previously, a source of the traffic congestion in this segment is generated by pedestrians crossing SR 89 at Jameson Beach Road. Two studies were conducted to evaluate potential strategies to address the issues created by pedestrian crossings.

The first study assessed the improvement in traffic flow by controlling the length of time pedestrians had to wait before having an opportunity to cross the highway. A baseline was established to document how many cars could pass through the intersection without any pedestrian hold times (drivers yielded to pedestrians as they arrived at the crosswalk). Then, California Highway Patrol staff worked with traffic engineers to hold pedestrians for 30-second and 60-second intervals and evaluate the number of cars that were able to move through the intersection.

Traffic can back up for two miles south of the SR 89/Jameson Beach Road intersection during a peak summer weekend.

When pedestrians were stopped and not able to cross until 30-seconds after the first pedestrian arrived at the intersection, traffic flow capacity decreased by 5 percent. When pedestrians were stopped and not able to cross until 60-seconds after the first pedestrian arrived at the intersection, traffic capacity increased by 8 percent.

This indicates congestion at the intersection would be improved by providing a 60-second hold time as part of any future signal timing.

### *Reorganizing Land Uses*

Pedestrian surveys were conducted at the three key activity generators on the south side of the SR 89 crosswalk adjacent to Jameson Beach Road. The striped pedestrian crossing is located on the eastern leg of the intersection, north of the ice cream shop. The data is useful to assess whether relocating activity centers to the lakeside of the highway could reduce pedestrian crossing activity and reduce traffic delays and conflicts. Customers at the coffee shop, mountain sports bike rental store, and the ice cream shop were asked where they were coming from and going to within the Camp Richardson area. The locations were organized into northern (lakeside) destinations and southern (mountainside) destinations and analyzed to determine pedestrian crossing patterns across SR 89.

Pedestrians cross to the lakeside of the SR 89/Jameson Beach Road intersection.

Findings were as follows:

- 65 percent of the one-way pedestrian trips generated by the Coffee Shop customers were to/from locations on the lakeside of SR 89 and the remaining 35 percent were to/from mountainside locations. Moving the Coffee Shop to a location on the lakeside of SR 89 would reduce highway crossings by 45 percent.
- 57 percent of the Mountain Sports bike rental center pedestrian trips are to/from locations on the lakeside of SR 89 and 43 percent are to/from mountainside locations. Shifting the location of this store to the lakeside would reduce overall customer pedestrian crossings by 25 percent.
- The customer pattern for the Ice Cream Store was found to be more equal. Shifting this establishment to the lakeside would only reduce customer crossing activity by 4 percent.
- 39 percent of the people surveyed at the Ice Cream Store survey location indicated their next destination was shoulder parking along the mountainside of the highway. This accounts for 80 percent of the people who were walking to/from a mountainside location. Relocating both the Ice Cream Shop and mountainside shoulder parking to a lakeside location would reduce pedestrian crossings by 90 percent.
- The data indicates that relocating Camp Richardson's Coffee Shop, the Mountain Sports Center Rental, and mountainside shoulder parking to the lakeside of SR 89 would significantly reduce pedestrian crossings.


Parking queues to get to the beach and other facilities located at the end of Jameson Beach Road.

Beach-goers park along the highway when off-highway parking areas fill. Traffic slows as motorists search for available spaces.

## PARKING DATA

As discussed in the travel delay section, roadside parking is a cause of congestion. It also reduces visitor experience, creates erosion, and impacts lake clarity. There are 921 off-highway parking spots to serve the recreation area, but the majority of people want to park near Pope Beach or Camp Richardson Resort. Parking areas such as Baldwin Beach and Kiva Picnic Area fill later in the day. These facilities are not as well known to visitors even though they are only a mile and a half away from Pope Beach. As previously stated, shoulder parking transforms SR 89 into a de-facto parking lot where drivers create congestion as they troll for spaces along the road.

### Parking Data

LSC conducted parking counts along SR 89 in the Camp Richardson area in August of 2018. Counts were also conducted as part of Caltrans' evaluation of the SR 89/Jameson Beach Road intersection and as part of the USFS project planning for circulation improvements in Camp Richardson.

State Park and USFS management logs reflect that the queue to Pope Beach starts at 8:00 AM. At that time traffic begins to back up into the highway and congestion begins. The Pope Beach parking is full by 11:30 AM and turnover doesn't begin until 3:00 PM.

Baldwin Beach parking doesn't fill until later in the afternoon. The queue begins at 11:30 AM just as the Pope Beach parking typically closes. The kiosk for Baldwin Beach is farther from the highway than the Pope Beach kiosk. Therefore, traffic congestion along the highway that is associated with Baldwin Beach is not as significant as it is for Pope Beach because more vehicles can queue before reaching SR 89.

LSC monitored shoulder parking along SR 89 between the southernmost point of observed shoulder parking activity south of Pope Beach Road (about 0.2 miles to the south) and the Valhalla access drive to the north of Jameson Beach Road. The area was divided into three sections: Valhalla to Jameson Beach Road, Jameson Beach Road to Pope Beach access drive, and Pope Beach access drive to a point 0.2 miles to the south. Shoulder parking activity was relatively low until the 12:00 PM hour when the beach parking lots filled. From noon to 2:00 PM cars continued to find spaces to park along the shoulder, until it reached a peak of 232 vehicles. The average duration of all parking observed was 2.7 hours

### IMPLICATIONS FOR MANAGEMENT STRATEGIES

- Establishing a no parking zone could provide clarity and consistency in parking strategies.
- Relocating an appropriate number of shoulder parked cars to new off-highway parking facilities near Camp Richardson Resort would help accommodate demand.
- Relocating the demand for shoulder parking to a mobility hub and providing transit for beach access would help manage congestion.
- Improving wayfinding and vehicular circulation by linking off-highway parking areas and reducing the number of intersections with SR 89 would improve utilization of existing parking area and manage congestion.
- Using parking management strategies, including reservations and congestion-based pricing, would help manage visitor demands and create capacity by encouraging parking turnover.
- Considering opportunities for temporary off-highway parking locations to accommodate special event parking would manage peak congestion.
- Addressing the lack of broadband infrastructure would facilitate real-time parking management strategies and transit connectivity.

Shoulder parking occurs on both the mountainside and lakeside of the highway.

Sources Table 9: Parking Data Statistics | Pope to Baldwin Segment:

1 LSC 2018 Camp Richardson Parking Counts

2 Camp Richardson Queue Investigation, July 21 & 22, 2017, Eric Royer, PE, Caltrans District 3 Traffic Operations

3 USFS Camp Richardson 2013 Campground and Vehicle Circulation BMP Retrofit

4 LSC Assessment of USFS and CSP 2018 Parking Management Logs

| PARKING DATA STATISTICS \| POPE TO BALDWIN SEGMENT | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Number of Existing Off-Highway Parking Spaces Available (921 total) | | | | | | | | |
| Pope Beach & Camp Richardson Parking Lot Spaces | 445 | | | | | | | |
| Tallac Historic Site to Taylor Creek Parking Lot Spaces | 302 (not including lots marked as private) | | | | | | | |
| Baldwin Beach Parking Lot Spaces | 174 | | | | | | | |
| Sno-Park Parking Lot Spaces | 127 | | | | | | | |
| Observed Shoulder Parking | | | | | | | | |
| | Aug. 18, 2018 Counts[1] | | July 21 & 22, 2017[2] | | USFS Camp Richardson 2013 Campground and Vehicle Circulation BMP Retrofit[3] | | | |
| Total Observed Number of Cars at Peak Time | 232 | | Up to 270 cars from Jameson Beach Road south 4,100FT, number of cars observed to the north was not recorded | | Identified 90 cars parked along SR 89 and 75 cars parked along Jameson Beach Road | | | |
| Pope Beach Road to 0.2 Miles South | 48 | | | | | | | |
| Pope Beach Road to Jameson Beach Road | 124 | | | | | | | |
| Jameson Beach Road to Valhalla Road | 60 | | | | | | | |
| Shoulder Parking Accumulation Times[1] | | | | | | | | |
| | 10:00AM | 11:00AM | 12:00PM | 1:00PM | 2:00PM | 3:00PM | 4:00PM | 5:00PM |
| Total Number of Cars | 8 | 18 | 112 | 203 | 232 | 185 | 182 | 82 |
| Average Time of Parking Lot Closures[4] | | | | | | | | |
| | Time Entry Queue Starts | | Time Parking is Full | | Time Turn Over Starts | | Average Check-in Time | |
| Pope Beach Parking | 8:00AM | | 11:30AM | | 3:00 | | 1 minute | |
| Baldwin Beach Parking | 11:30AM | | 12:15PM | | 4:30P | | N/A | |

**Table 9:** Parking Data Statistics for the Pope to Baldwin Segment

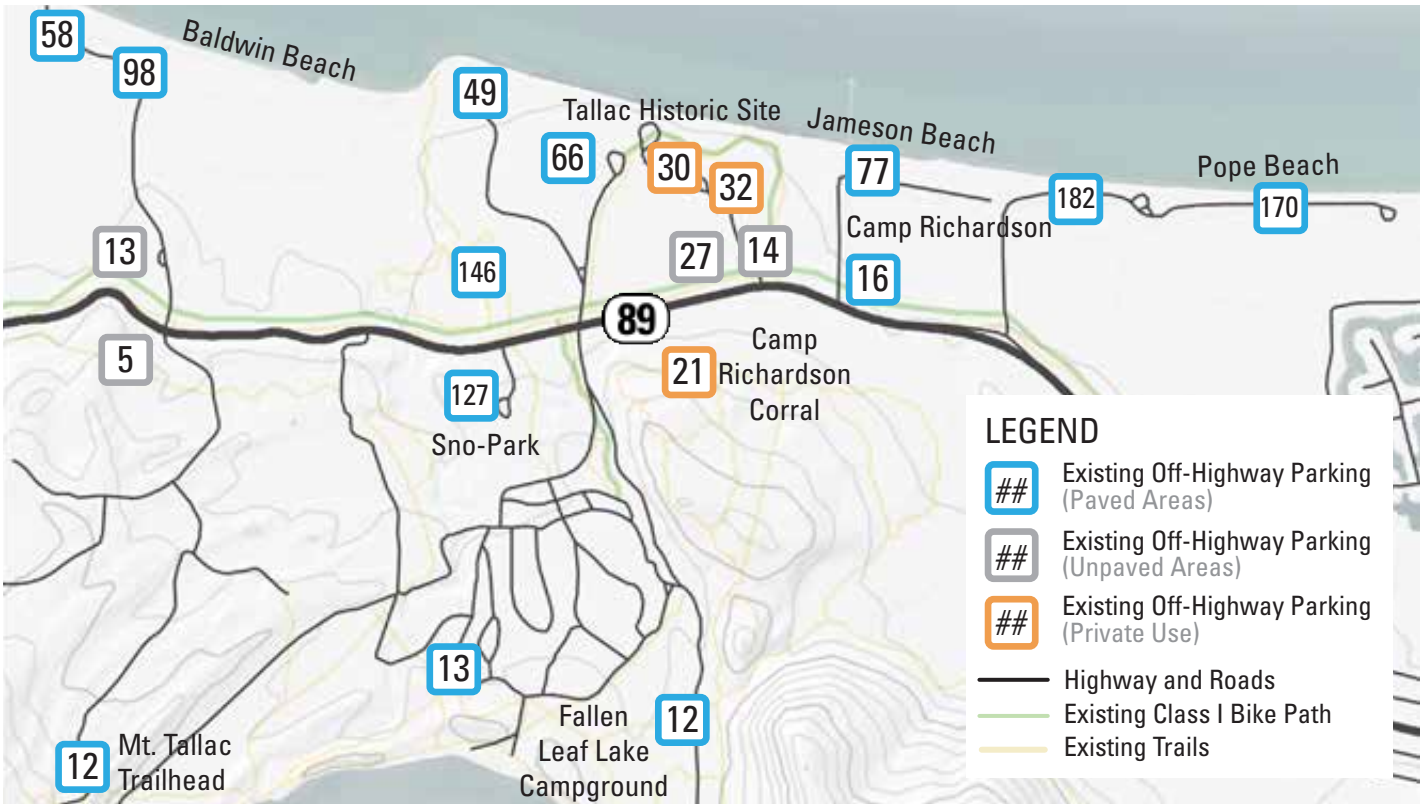



**Figure 30:** Off-Highway Parking Locations and Numbers | Pope to Baldwin Segment

## TRANSIT FACILITIES AND RIDERSHIP

Transit stops serving the Pope to Baldwin Segment either have been or are currently located at Pope Beach Road, Lester Beach Road, near the Camp Richardson Corral, near the Taylor Creek Visitor Center, and at Baldwin Beach Road.

Transit to the segment is constrained by traffic congestion. Transit buses experience the same delays as other motorists. Congestion is created by queuing for beach access, pedestrian crossings, and trolling for parking. Because beach-goers will be sitting in the same traffic in a bus or a personal vehicle and they have a range of gear and equipment that they want to bring along, many would prefer the convenience of a personal vehicle and do not use transit. Communicating to travelers that parking is full, restricting roadside parking, and providing a convenient and frequent bus service could increase future use.

The lack of fiber and broadband infrastructure technology constrains the ability for land managers, transit service providers, and concessionaires to communicate with and connect visitors with real-time parking and transit information.

### IMPLICATIONS FOR MANAGEMENT STRATEGIES

- Accommodating beach gear and equipment such as coolers and uninflated beach toys can make transit more attractive for beach-goers.
- Provide drop-offs and pick-ups at beach sites can service recreation destinations.
- Designing transit stops so buses can pull off the highway to load and unload passengers can increase the comfort of passengers.
- Managing congestion can make transit a desirable option for visitors. A transit bypass route is likely not a feasible alternative.
- Providing infrastructure for improved technology and access to fiber communications can create the stage for successful real-time transit and parking management programs.

A northbound bus stop along SR 89 was located south of the corridor study area near 15th Street.

The southbound bus stop near Jameson Beach Road was located off the highway near the bike shop.

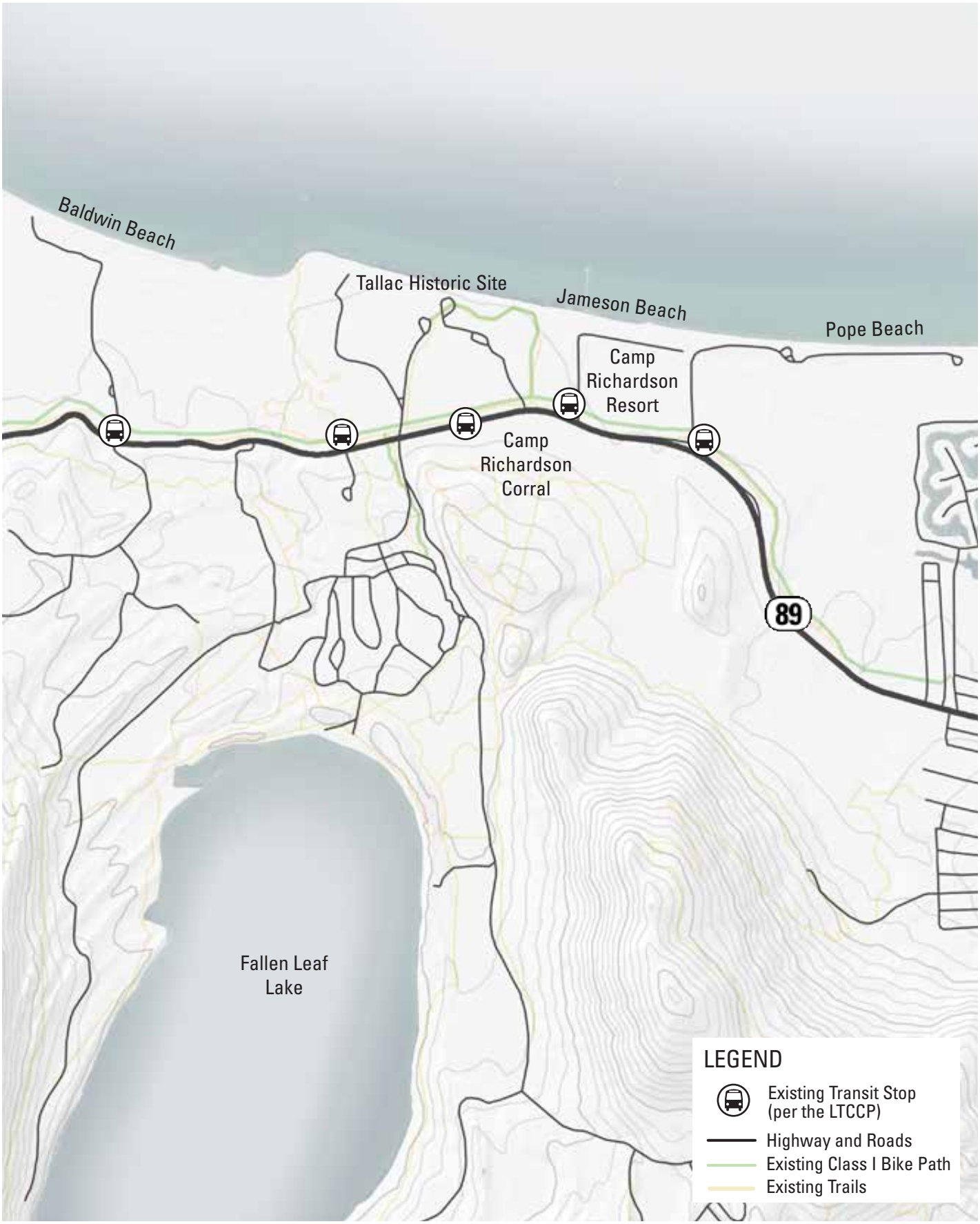



**Figure 31:** 2018 Transit Stop Locations | Pope to Baldwin Segment

## BICYCLE AND PEDESTRIAN FACILITIES

The Pope-Baldwin Bicycle Trail is a shared use, Class I facility connecting the recreation areas around Camp Richardson to the community of South Lake Tahoe. The trail is highly used both for access to recreation areas and as a recreation activity itself for campers and visitors of the area.

### Use Data

Count data shows high use volumes along the bike path. The count station south of Pope Beach recorded the highest levels of use. That portion of the trail is three to four times busier than the trail at Baldwin Beach. Overall, at both stations, use is highest in July and on Saturdays.

Use data at the Camp Richardson location includes hourly counts and a split between pedestrians and bicyclists. Total path activity occurs between noon and the 3 PM hour, with up to 235 path users in an hour. The data also indicates that 17 percent of total path use is by pedestrians and 83 percent by bicyclists.

#### Existing Facilities

The Pope-Baldwin Bicycle Trail extends from the residential neighborhoods of South Lake Tahoe to the south to Spring Creek Road to the north. The 3.4-mile path is a central spine through the segment. Additional Class I facilities connect to the backbone trail and provide user access to the Tallac Historic Site and to Fallen Leaf Lake. Future Class I facilities are planned to further connect users to their recreation destination via a bike path. Routes are planned along Jameson Beach Road, Baldwin Beach Road, and as part of future roadway circulation improvements in the Tallac Historic Site area.

Sources Table 10: Shared-Use Path Statistics | Pope to Baldwin Segment:

1 2018 TRPA Monitoring Data

2 TRPA Bicycle and Pedestrian Counter at Camp Richardson, Thursday, July 27, 2017

### IMPLICATIONS FOR MANAGEMENT STRATEGIES

- Building upon the success and use of the Pope-Baldwin Bicycle Trail can continue to promote walking and biking to destinations.
- Adjusting the alignment of the shared-use path would reduce the conflict with vehicles at the SR 89/Jameson Beach Road intersection.
- Providing trail segments to beach destinations and connecting trail systems to future mobility hubs and parking areas could reduce vehicular use. This includes shared-use paths along Jameson Beach Road and Baldwin Beach Road.
- Minimizing at-grade trail crossings reduces conflicts.
- Prioritizing the use of public lands for future alternative trail alignments can increase trail feasibility.
- Utilizing shared-use path systems to provide visitor access to recreation areas can reduce vehicular use.
- Formalizing the trail corridor and connection from the Gardner Mountain neighborhood to Camp Richardson Resort with an unpaved, but improved trail can provide erosion control and increase multi-modal access.

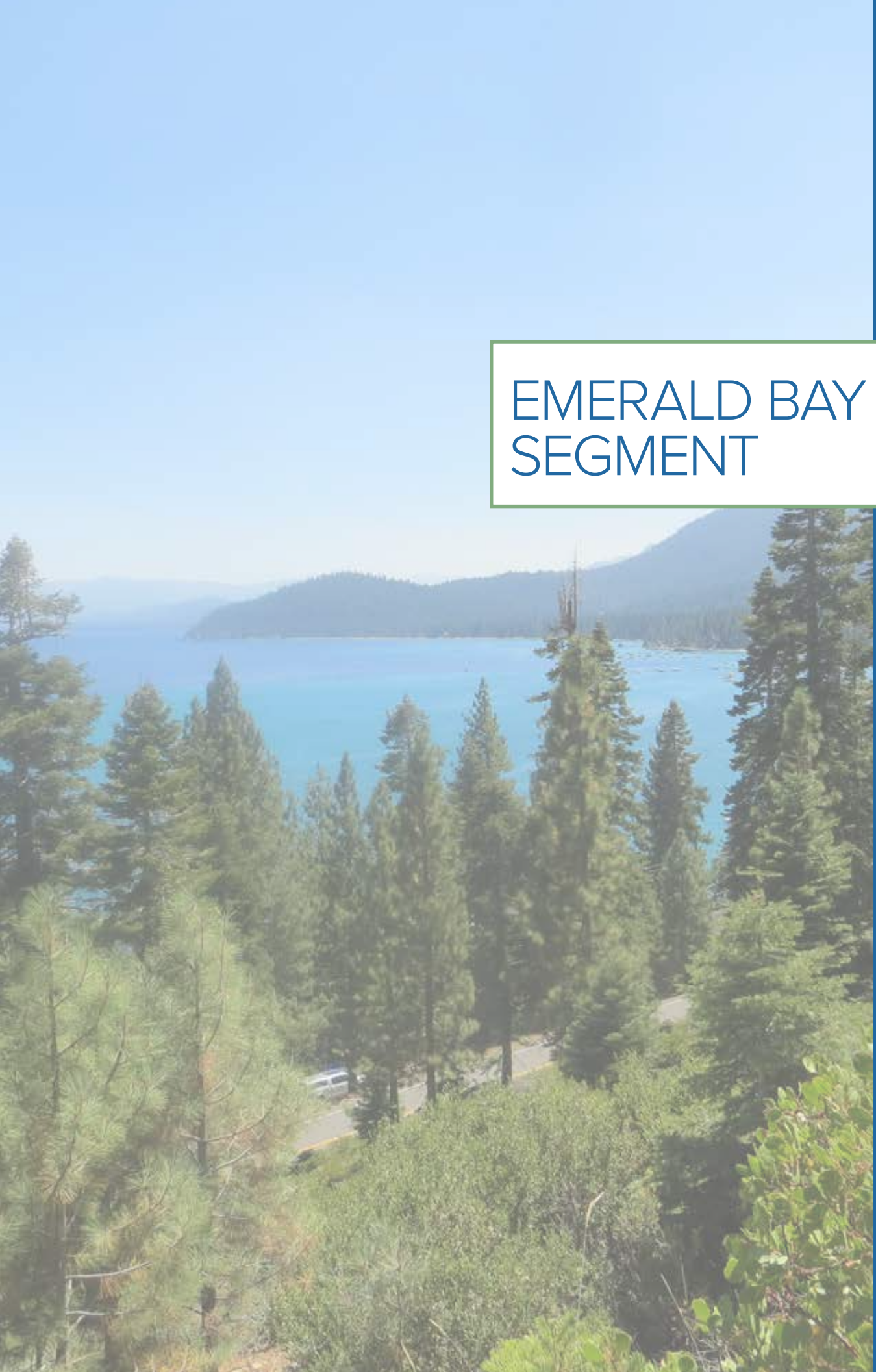
The Pope-Baldwin Bicycle Trail has high volumes of use. The path crosses Jameson Beach Road near the SR 89 intersection which contributes to the vehicular queues at the intersection.

The Pope-Baldwin Bicycle Trail connects the neighborhoods south of the corridor to recreation destinations.

| SHARED-USE PATH STATISTICS | POPE TO BALDWIN SEGMENT | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Pope-Baldwin Bicycle Trail User 2018 Monthly Counts[1] | | | | | | | | | | |
| | May 2018 | | June 2018 | | July 2018 | | August 2018 | | September 2018 | |
| South of Pope Beach | 17,085 | | 42,262 | | 62,397 | | 41,437 | | 24,586 | |
| Baldwin Beach | 5,437 | | 13,094 | | 15,672 | | 11,321 | | 8,020 | |
| Pope-Baldwin Bicycle Trail User 2018 Typical Daily Counts[1] | | | | | | | | | | |
| | Sun | | Mon | | Tue | | Wed | Thur | Fri | Sat |
| South of Pope Beach | 1,961 | | 1,545 | | 1,612 | | 1,612 | 1,620 | 1,636 | 2,228 |
| Baldwin Beach | 419 | | 449 | | 414 | | 465 | 437 | 406 | 510 |
| | | | | | | | | | | |
| Bicyclist and Pedestrian Users per Hour on Pope-Baldwin Bicycle Trail (Thursday, July 27, 2017)[2] | | | | | | | | | | |
| | 5 AM | 6 AM | 7 AM | 8 AM | 9 AM | 10 AM | 11 AM | 12 PM | 1 PM | 2 PM |
| Bicycle | 1 | 10 | 9 | 26 | 72 | 107 | 121 | 215 | 129 | 199 |
| Pedestrian | 0 | 0 | 12 | 13 | 16 | 9 | 11 | 20 | 23 | 18 |
| | 3 PM | 4 PM | 5 PM | 6 PM | 7 PM | 8 PM | 9 PM | 10 PM | 11 PM | |
| Bicycle | 206 | 146 | 107 | 38 | 31 | 30 | 4 | 2 | 1 | |
| Pedestrian | 16 | 13 | 9 | 6 | 2 | 0 | 2 | 0 | 0 | |

**Table 10:** Shared-Use Path Statistics for the Pope to Baldwin Segment


**Figure 32:** Existing and Planned Shared-Use Paths | Pope to Baldwin Segment



# EMERALD BAY SEGMENT

# EMERALD BAY SEGMENT

The Emerald Bay Segment extends from Baldwin Beach Road, wraps around Emerald Bay, and includes D.L. Bliss State Park.

## Defining Elements

Emerald Bay, one of California's 36 National Natural Landmark sites, is one of Lake Tahoe's most popular and photographed locations and is the corridor's most heavily used segment. The Lake Tahoe Visitor Authority's 2015 Visitor Profile Study reported that 7 percent of summer visitors and 5 percent of fall visitors chose Tahoe South as their destination because of access to Emerald Bay. The North Lake Tahoe Resort Association's Visitor Research from the summer of 2014 found that 47 percent of survey respondents indicated spending time at Emerald Bay during their visit. This data reinforces the importance of Emerald Bay as a destination for visitors.

D.L. Bliss State Park and Emerald Bay State Park neighbor each other. The adjacency means that although Emerald Bay may receive the majority of visitors, the impacts of the visitation are also felt at D.L. Bliss. Parking at D.L. Bliss also fills quickly on a peak summer day. The two state parks are connected by the Rubicon Trail, which can be a recreation destination in and of itself. Hikers can either start to the north at the D.L. Bliss Rubicon Trailhead or to the south at the Emerald Bay Rubicon Trailhead near Eagle Point Campground. The 7.3-mile trail wraps around the edge of Lake Tahoe's cliffs and coves, has pristine views of the lake and the bay, and provides access to Vikingsholm.

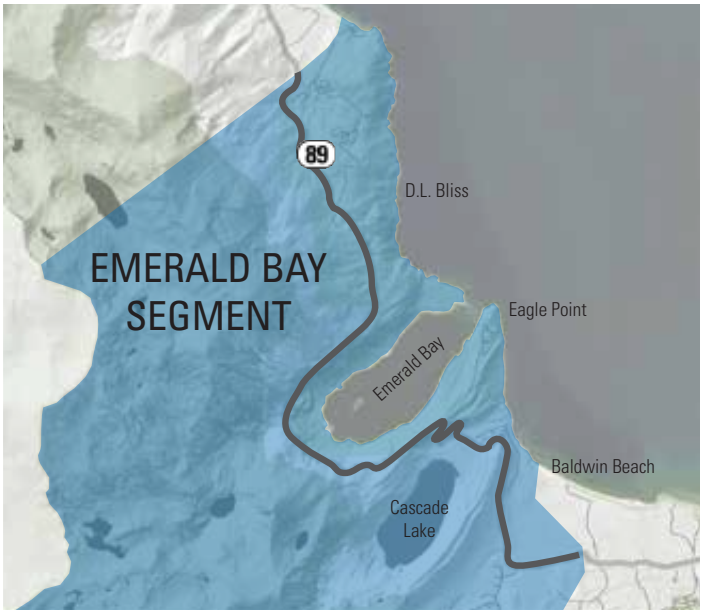



**Figure 33:** Emerald Bay Segment

### KEY ISSUES

Challenges within the Emerald Bay Segment are tied to the site's popularity and the variety of activities which include from a quick photo, short day hikes, rock climbing, beach access, and overnight backcountry access. Visitor demand during peak season exceeds off-highway parking capacity, resulting in significant roadside parking and pedestrians walking in and along the highway. Key issues to address include:

- Parking along the highway and traffic congestion associated with drivers turning around and searching for shoulder parking.
- High volumes of pedestrians walking along and in the roadway.
- Narrow roadway design with steep shoulders and hairpin turns that impact transit access.
- Lack of avalanche control impacts year-round access for emergency responders and residents.
- Lack of designated facilities for transit pull-offs.
- Lack of shared-use path facilities for off-highway bicycle and pedestrian circulation and access.
- High volumes of visitors with limited facilities, funding, and staff resources.
- Difficulty enforcing no-parking areas. Enforcement of illegal roadside parking is constrained by lack of funding, consistent strategies, technology, ticket pricing, and operational requirements (such as an officer being present to tow a ticketed vehicle).
- A need for wildlife crossings to be assessed and accommodated for, especially at the viaduct.
- Stormwater impacts from vehicles parking on the viaduct and other shoulder areas.
- Physical constraints of the area. The viaduct and Vikingsholm parking area have subsiding soils which require creative engineering. The need for improvements also provides an opportunity to address multiple corridor issues.
- Lack of technology infrastructure to implement new strategies for parking management, transit, and enforcement.
- Off-highway parking areas are closed in the winter and a part of the off-season and snow is not removed. Therefore, people park along the highway shoulder to access the backcountry.


**Figure 34:** Ownership | Emerald Bay Segment


**Figure 35:** Trail Access | Emerald Bay Segment

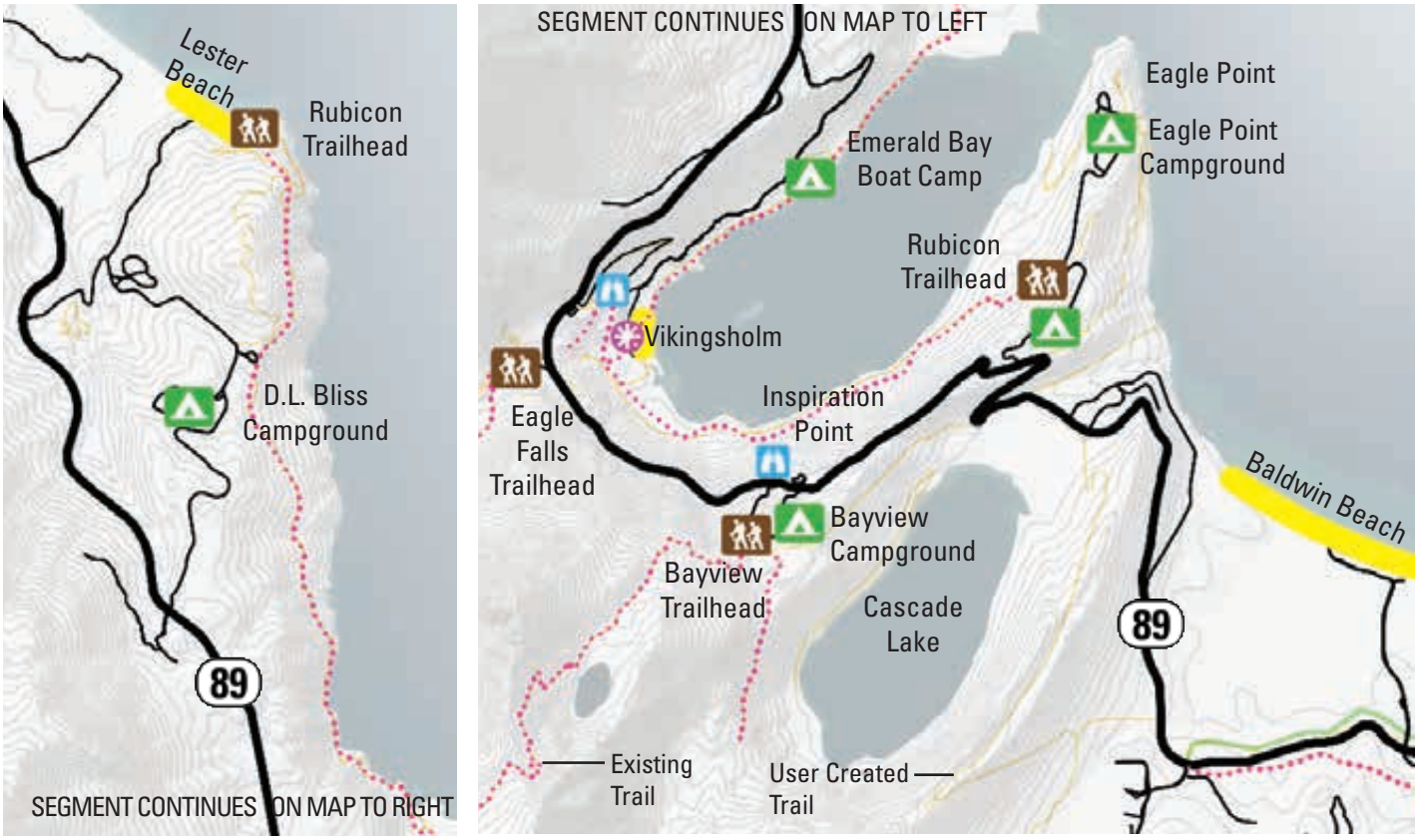



**Figure 36:** Recreation Areas | Emerald Bay Segment (Map to the left is the northern section and map to the right continues south through Emerald Bay)

Extending north from the Pope to Baldwin Segment, the two-lane highway climbs and winds its way through a series of switchbacks before it traverses the ridge line between Cascade Lake and Emerald Bay. The hairpin turns, narrow profile, steep adjacent slopes, magnificent views, and high levels of visitor activity slow motorists. The tight turns limit the size of vehicles that can reach Emerald Bay from the south. For example, large tour buses cannot navigate the turns and Caltrans designates the highway as a "KPRA (King Pin to Real Axle) Advisory" Route. Trucks with that have more than 30 feet between the king pin and rear axles are note advised, The steep roadway and curves also restricts the type of transit vehicles that can serve this segment.

Although the majority of the segment is comprised of public lands, there are areas of private lands around Cascade Lake and Cascade Road. Recreation residence tracts are on some USFS lands in Emerald Bay and in Spring Creek.

## Visitor Activities

Public lands in this segment are primarily managed by the USFS, specifically the Lake Tahoe Basin Management Unit (LTBMU), and by California State Parks (CSP). USFS lands include facilities that support sightseeing, hiking, beach-going, boating, backpacking, and camping. Key recreation sites include:

- Eagle Point Campground
- Inspiration Point Vista
- Bayview Campground
- Bayview Trailhead (day hikes and wilderness access)
- Eagle Falls Trailhead (day hikes and wilderness access)
- Emerald Bay State Park
- Emerald Bay Boat Camp
- Vikingsholm
- Fannette Island
- D.L. Bliss State Park
- D.L. Bliss Campground
- Rubicon Trail
- Beach areas in Emerald Bay State Park and D.L. Bliss State Park

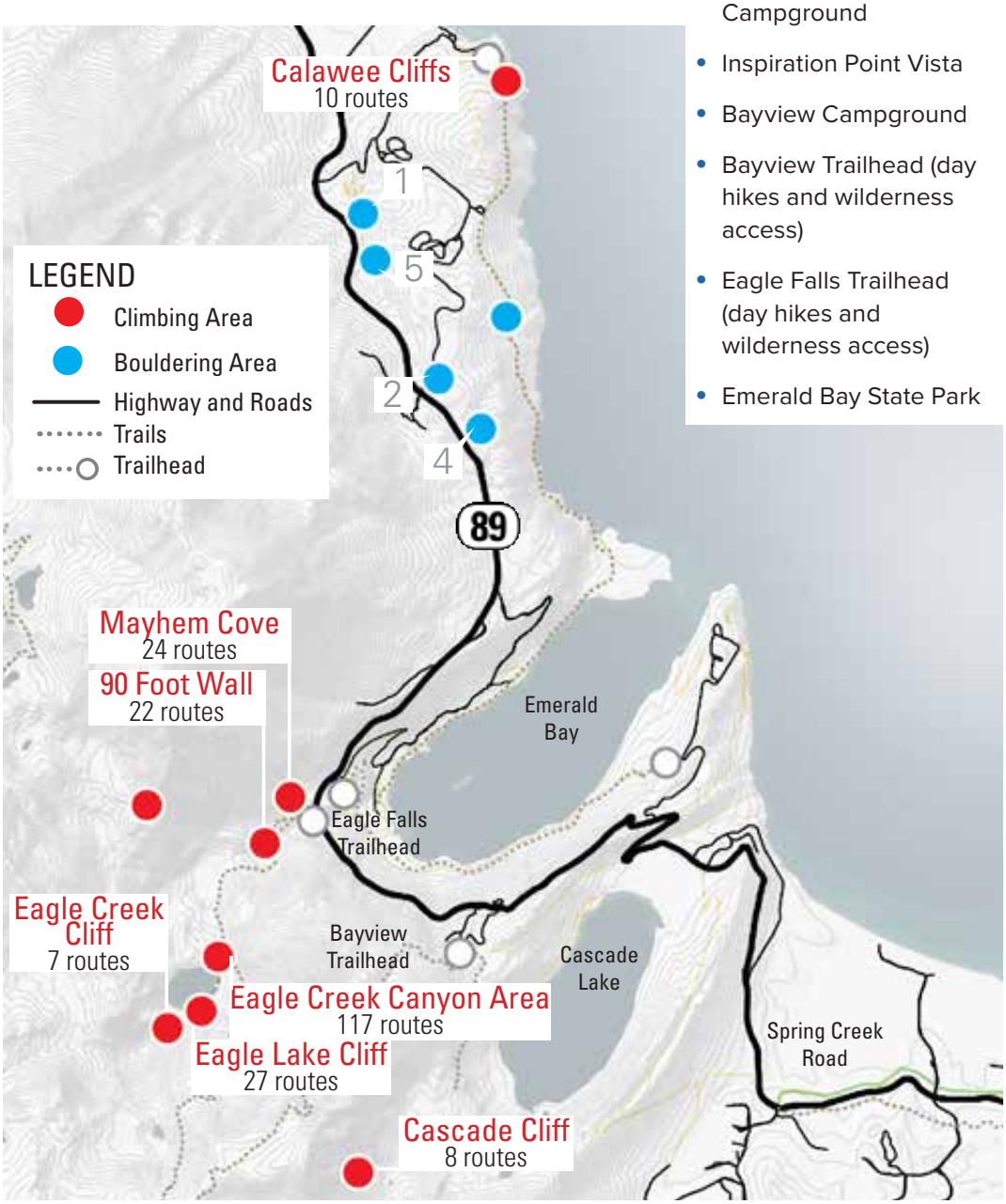



**Figure 37:** Rock Climbing Access | Emerald Bay Segment (Source: REI Mountain Project)

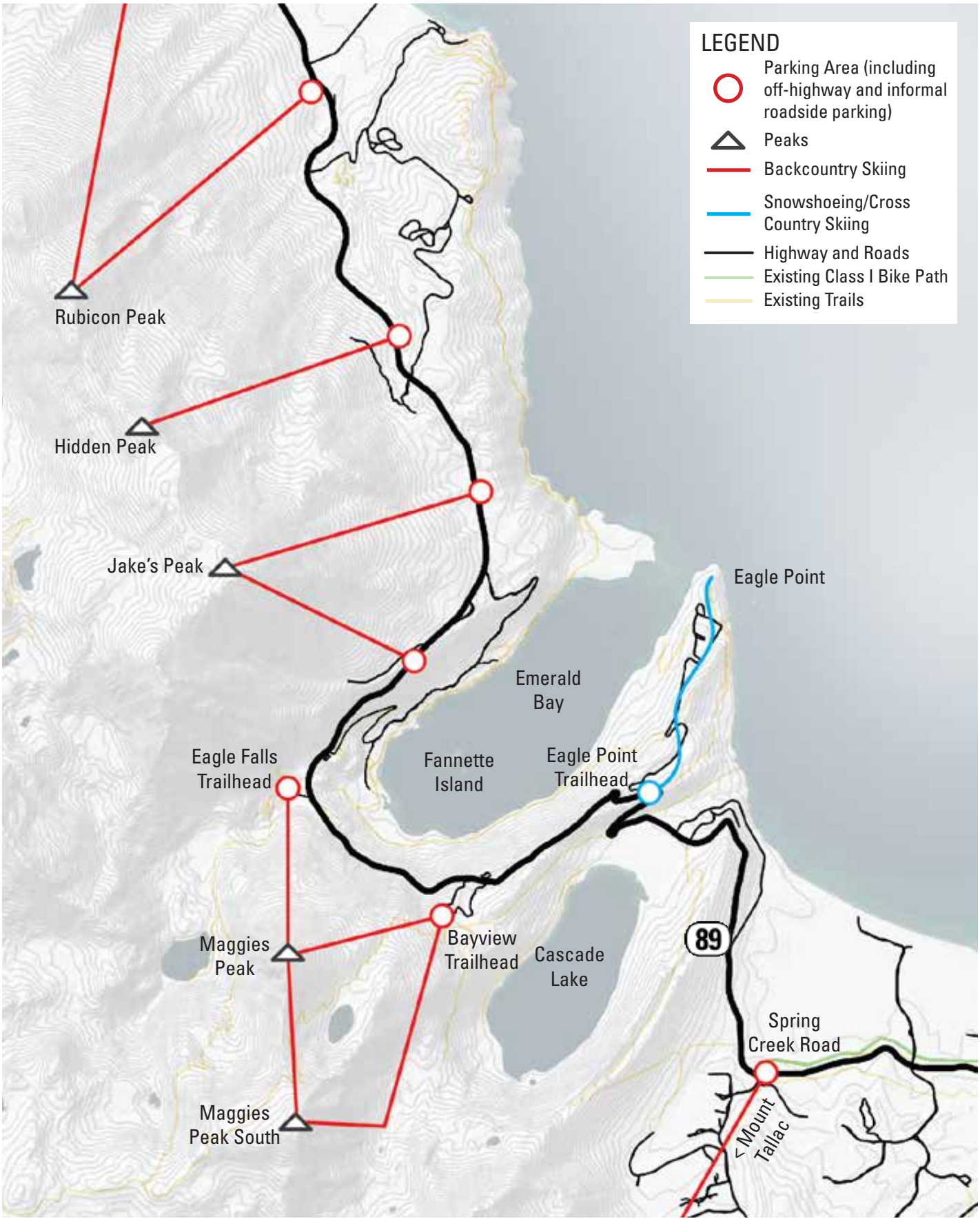



**Figure 38:** Winter Recreation Access | Emerald Bay Segment

## VISITATION DATA

Emerald Bay has long been identified as the most photographed and visited location in Lake Tahoe. The Corridor Connection Plan hotspot data supports this theory and visitor, transportation, and parking data also reinforce its validity. USFS and State Parks attendance logs indicate the segment attracts over 750,000 visitors a year. As a qualifier, California State Park's record tracking was noted to be inconsistent and could be higher. The numbers also do not capture visitors to non-paid sites or people parking along the highway and walking to their destination.

The mix of residents to visitors and overnight visitors to day visitors is similar to overall corridor averages. Eighty percent of survey respondents identified themselves as visitors, and 93 percent of those visitors stayed at least one night in the Lake Tahoe area.

Lodging types were fairly consistent with overall survey results, with the exception of an increase in the number of people staying in a second home and at a motel/hotel. This indicates that transit programs originating from significant bed bases could reduce the number of people arriving by their personal vehicle. Consistent with other segments, the primary mode of travel to recreation sites was by personal vehicle.

Length of stay is an average of 2.9 to 3.0 hours, on par with the corridor average.

With regard to trip pattern, the majority of postcard respondents arrived from and returned to the south. Indicating the potential viability for an intercept transit program. Respondents who parked at Vikingsholm and the viaduct areas were most likely to be traveling through the segment. Respondents who parked at Eagle Falls trailhead and Vikingsholm had a higher percentage of people who arrived from and returned to the south, in comparison to other survey locations around Emerald Bay.

Emerald Bay provides a wide variety of potential recreation activities. A high percentage of summer visitors to the Emerald Bay indicated their primary recreation activity was day hiking (76 percent of intercept survey respondents and 60 percent of postcard survey respondents).

Comparing differences between recreation activities and the location of where the person parked or were surveyed, a few significant trends emerge. They include the following:

- 50 percent of people parking on the viaduct visit a beach as their primary activity (compared to 16 percent overall for the Emerald Bay area).

### IMPLICATIONS FOR MANAGEMENT STRATEGIES

- The high percentage of overnight users and percentage of people returning from the direction they came from indicates that a mobility hub with a transit system can be effective for this segment.
- Day hiking and visiting a beach are significant recreation activities. Access to the segment's trailheads and beach access can be improved by providing transit.
- The volume of visitors, different land managers, and dispersed parking areas can confuse visitors who are not sure where they can park and for how long. Developing a consistent, system and providing docents to answer questions and direct users can improve the visitor experience.
- Overnight backpackers are parking in areas in and around Inspiration Point and Vikingsholm parking lots which are intended to serve as vista points and day use access. Providing for overnight backcountry users by designating select parking areas or developing operational approaches that meet access needs while not impacting day use parking areas can give greater clarity to the purpose and function to the segment's different parking areas.
- Over 50 percent of visitors are not planning their visit to Emerald Bay more than a day in advance. Visitor and travel information must be easy to find and understand.

Sources for Table 11: Visitation Statistics | Emerald Bay Segment:

1 TRPA 2014 and 2018 Travel Mode Surveys

2 LSC 2018 Postcard Survey (Pre-paid survey postcards were placed under windshield wipers of vehicles parked along the corridor in late July. Of the 2000 surveys distributed, 138 were returned.)

3 2018 SR 89 Corridor Intercept Survey

4 USFS and CSP Sierra District Visitation Logs

5 2018 SR 89 Online Recreation Survey

6 TRPA 2010 and 2014 Travel Mode Surveys

*Acronyms: IP (Inspiration Point)
EF (Eagle Falls)
Vik (Vikingsholm)
Via (Viaduct)

| VISITATION STATISTICS | EMERALD BAY SEGMENT | | | | | |
|---|---|---|---|---|---|---|
| | Emerald Bay Segment Information Only | | | | Overall Corridor Comparison 2017 LTCCP | Overall Corridor Average |
| Resident Versus Visitor | | | | | | |
| Full-Time or Seasonal Resident | 20%[1] | | | | 13% | 19%[1] |
| Visitor | 80%[1] | | | | 87% | 81%[1] |
| Visitor Type | | | | | | |
| Overnight Visitors | 93%[1] | | | | 90% | 89%[1] |
| Day Visitors | 7%[1] | | | | 10% | 11%[1] |
| Lodging Type | | | | | | |
| Vacation Rental | 21.9%[1] | | | | | 21.2%[1] |
| Second Home | 15.8%[1] | | | | | 7.4%[1] |
| Friend's Residence | 5.7%[1] | | | | | 8.5%[1] |
| Timeshare | 6.8%[1] | | | | | 8.3%[1] |
| Motel/Hotel | 44.8%[1] | | | | | 36.9%[1] |
| Campground | 12.0%[1] | | | | | 17.6%[1] |
| Length of Stay at Recreation Site | 3.0 hours[3] / 2.9 hours[2] | | | | | 3.6[3] / 4.7 hours[2] |
| Number of People in Trip Party | 3.3 people[3] / 3.6 people[2] | | | | | 3.6 people[3] / 3.7 people[2] |
| Travel Modes[6] | | | | | | |
| Car/Truck/Van | 89% | | | | | 86% |
| Motorcycle/Moped | 2% | | | | | 2% |
| Transit | 2% | | | | | 1% |
| Ferry or Boat | 0% | | | | | 2% |
| Bicycle | 2% | | | | | 5% |
| Walk | 5% | | | | | 5% |
| Trip Pattern[2] | IP* | EF* | Vik* | Via* | | |
| Arrive from and Return to South | 76% | 59% | 52% | 75% | | 52% |
| Arrive from and Return to North | 24% | 37% | 33% | 13% | | 39% |
| Traveling Through | 0% | 4% | 15% | 13% | | 9% |
| Primary Recreation Activity | | | | | | |
| Visit a Beach | 16% (50% at Via)[2] / 2%[3] | | | | 82%[5] | 25%[2] / 40%[3] |
| Day Hike | 58% (47% at Via)[20]/ 76%[3] | | | | 87%[5] | 46%[2] / 31%[3] |
| Quick Stop to See the View | 7% (18% at IP)[2] / 10%[3] | | | | 36%[5] | 5%[2] / 5%[3] |
| Drive Around the Lake | 1% (4% at Vik)[2] / 2%[3] | | | | 38%[5] | 4%[2] / 1%[3] |
| Take a Bike Ride | 0%[2] / 0%[3] | | | | 51%[5] | 1%[2] / 2%[3] |
| Overnight Backpack Trip | 8% (18% at IP)[2] / 9%[3] | | | | 34%[5] | 9%[2] / 5%[3] |
| Camping | N/A / 0%[3] | | | | | N/A / 15%[3] |
| Other | 5% (13% at Via)[2] / 2%[3] | | | | | 4%[2] / 4%[3] |
| Number of Visitors at Paid Parking Areas (759,088 Total for Parking Areas Listed Below)[4] | | | | | | |
| Eagle Falls Trailhead (6/30/17-10/10/17) (day permit tabs) | 32,724 | | | | Estimated 1.8 Million in 2014 for Entire Corridor | |
| Bayview Trailhead (2017) | 10,696 | | | | | |
| Bayview Campground (2017) | 1,653 | | | | | |
| D.L. Bliss State Park (2017) | 117,466 | | | | | |
| Emerald Bay State Park (2001) | 596,549 (State Park reporting has not been consistent, number from highest attendance in the past 10 years is provided as a reference) | | | | | |

**Table 11:** Visitation Statistics for the Emerald Bay Segment

- Only 38 percent of people parking at the viaduct are taking a day hike, in comparison to an average of 60 percent for the segment.
- 18 percent of people parking around the Inspiration Point area are making a quick stop to see the view, versus a segment average of 7 percent.
- 4 percent of people parking in or around the Vikingsholm lot are driving around the Lake, four times the segment average of 1 percent. It is noted that the postcard survey may not connect with people making a quick stop and driving around the lake. A visual survey of visitor parking patterns was also conducted and is described on pages 55 and 56.
- 18 percent of people parking in or around the Inspiration Point lot are taking an overnight backpack trip, twice the segment average of 9 percent.

The last statistic indicates a number of people park near or in the viewpoint parking area and stay for more than a day. The vista was intended to have a short turnover to allow people to stop, take in the view, and engage in an interpretive walk. The limited parking could be used by people staying for longer periods of time.

The variety of recreation activities creates different user needs and expectations. Strategies will need to consider the mix and determine how a consistent, easy-to-understand approach can be applied to meet the varying needs.

Of the different corridor segments, Emerald Bay visitors indicated a significant difference in their trip planning habits. Only 27 percent of respondents planned their trip more than a week or a month before arriving to Emerald Bay. In contrast in comparison to the corridor average, 34 percent more respondents planned their trip "yesterday" and 19 percent more planned their trip "Sometime Today".

These trip planning statistics indicate people visiting Emerald Bay are making their plans more impulsively or with less of a set itinerary. Communication and marketing is key to help those travelers identify transit opportunities and to more fully understand what alternatives they have for their trip planning.

Many of the visitors may be traveling to Emerald Bay because it is the most high profile location and they are not aware of alternatives or the challenges of finding parking. These visitors may also be less prepared to know where to park and how to access their desired recreation activity.

## Winter Recreation Activities

Corridorwide, respondents to the 2018 online recreation activity survey for the SR 89 corridor, indicated their primary winter recreation activities include enjoying the views (22%), commuting/driving through (17%), and backcountry skiing (17%). Cross-tabulating responses from survey respondents who indicated they visit the Emerald Bay area, the primary winter activities are not significantly different than the corridorwide responses.

This indicates a desire for people to be able to visit Emerald Bay in the winter for backcountry access, sightseeing, and to commute or travel through. However, the roadway is often closed during the winter due to avalanches and the narrow road profile. Opportunities to manage the highway to increase the number of days it is open in the winter would improve the ability for many people to travel to and from their place of work and to participate in winter outdoor activities. USFS off-highway parking areas are closed in the winter and parking areas are generally not plowed. Winter and shoulder season recreation activities would be better supported by opening and plowing off-highway parking, when possible. LTBMU is working on addressing parking closures through a Trails Access Management Plan. Observational support of this takeaway is the image on page 49. It was taken only a few hours after the highway through Emerald Bay was reopened after being closed for snow removal and avalanche watch.

**TRIP PLANNING STATISTICS | EMERALD BAY SEGMENT[1]**

| When Survey Respondents Planned their Trip to Emerald Bay Compared to the Corridorwide Average | | | |
|---|---|---|---|
| | Emerald Bay | Corridorwide | Percent Difference |
| A Month or More Before Today | 20% | 31% | -55% |
| More than a Week Ago, but Less than a Month Ago | 7% | 11% | -57% |
| In the Last Week | 20% | 20% | 0% |
| Yesterday | 32% | 21% | 34% |
| Sometime Today | 21% | 17% | 19% |

**Table 12:** Trip Planning Statistics for the Emerald Bay Segment

Source for Table 12: Trip Planning Statistics | Emerald Bay Segment:

1 2018 SR 89 Corridor Intercept Survey

Vikingsholm and Emerald Bay are visited by beach-goers, boaters, and groups on commercially-operated paddleboats.

Visitors make their way to see Eagle Falls on the lakeside of the highway even though no formal path exists.

Winter access to the corridor is popular for backcountry access and for those just wanting to enjoy the view. The above picture was taken just a few hours after the road was reopened after a snowstorm.

Eagle Falls Trailhead is popular with hikers, backpackers, and climbers.

Inspiration Point is a popular area for viewing Emerald Bay.

Eagle Falls Trailhead serves overnight and day use hikers.

## TRAFFIC DELAY

Although traffic delays occur throughout the corridor, delays are particularly concentrated between the Vikingsholm lot and Baldwin Beach Road (in both directions). The delays were reported by the surveyor to be generated by pedestrian/bicycle crossing activity in the Inspiration Point area and Eagle Falls area. Parked vehicles partially blocking travel lanes also created delays (including the need for oncoming vehicles to take turns using the available roadway width) . Drivers also simply stopping in the travel lanes to take pictures which delayed traffic. Note that no construction was occurring on any of the travel time survey days.

Data points showed the following:

- The peak delay for northbound traffic occurred at 3:45 PM. The delay was for 29 minutes and occurred for northbound traffic between Eagle Point Camp Road and Inspiration Point.
- A similar delay for northbound traffic occurred at 9:30 AM between Inspiration Point and Lester Beach Road. The delay was 19 minutes.
- The peak delay for southbound traffic occurred at 10:30 AM between Vikingsholm and Inspiration Point. The delay was for 23 minutes.
- At the 10:30 AM hour southbound travelers also experienced an 8-minute delay between Inspiration Point and Eagle Point Camp Road and an 18-minute delay between Eagle Point Camp Road and Baldwin Beach Road. In total, southbound travelers at 10:30 AM on July 21, 2018 had 49 minutes of delay between D.L. Bliss and Baldwin Beach Road.

Congestion not only affects visitors, but it also impacts emergency responders. In the Emerald Bay, the average delay to emergency responders from June to August was 5 minutes. The maximum delay was 12 minutes.

### IMPLICATIONS FOR MANAGEMENT STRATEGIES

- Relocating roadside parking to off-highway locations and creating a no-shoulder parking zone can reduce vehicles turning around and searching for parking.
- Parking management strategies could reduce the queue for visitors coming to Emerald Bay recreation areas, such as:
  - Automated ticketing systems could allow visitors to park and then pay at a kiosk with a roving ranger to provide oversight and user information.
  - A reservation system with demand-based pricing for parking can help distribute arrival times and encourage turn over.

| TRAFFIC DELAY STATISTICS | EMERALD BAY SEGMENT | | | |
|---|---|---|---|---|
| Length of Delay (From Day with Highest Delays Recorded, July 21, 2018)[1] | | | | |
| Segment | Northbound Traffic Peak Minutes of Delay | Northbound Traffic Peak Time of Delay | Southbound Traffic Peak Minutes of Delay | Southbound Traffic Peak Time of Delay |
| Baldwin Beach Road to Eagle Point Camp Road | 5 minutes | 1:30PM | 18 minutes | 10:30AM |
| Eagle Point Camp Road to Inspiration Point | 29 minutes | 3:45PM | 18 minutes | 9:16AM |
| Inspiration Point to Vikingsholm | 8 minutes | 9:30AM | 23 minutes | 10:30AM |
| Vikingsholm to Lester Beach Road | 11 minutes | 9:30AM | 7 minutes | 9:16AM |
| Corridor Delays [1] | | | | |
| Peak Delay Recorded for Corridor Trip Runs July 21, 2018 | | | | |
| Northbound | 30 to 38 Minutes of Peak Southbound Delay per Northbound Trip | | | |
| Southbound | 18 to 75 Minutes of Peak Southbound Delay per Southbound Trip | | | |
| Average Delay Average for Three Weekends of Corridor Travel Time (July 21, Aug. 4, and Aug. 18, 2018; 22 Total Trips) | | | | |
| Northbound | 11 Minutes of Average Delay per Trip from West Way to Lester Beach Road | | | |
| Southbound | 10 Minutes of Average Delay per Trip from Lester Beach Road to West Way | | | |
| Emergency Response Delays[2] | | | | |
| Increase to Response Times | Average | Median | Maximum | |
| Summer (June to August) | 5 minutes | 3 minutes | 12 minutes | |
| Non-Summer (September to May) | 3 minutes | 3 minutes | 7 minutes | |

**Table 13:** Traffic Delay Statistics for the Emerald Bay Segment

Sources Table 13: Traffic Delay Statistics | Emerald Bay Segment:

1 Length of Delay and Corridor Delays
LSC SR 89 Travel Time Survey Analysis

2 Emergency Response Delays
- Data provided by CalFire for 2012-2017
- Includes response times from Fire Departments and Law Enforcement
- Data categorized as response types FIRE, DEBRI/CAMPFIRE and FIRE, OTHER/MISC were omitted as response times reflected non-urgent events.
- LSC Transportation Consultants, Inc.

## PARKING DATA

Roadside parking in the Emerald Bay segment is a critical issue for this segment. There are 221 off-highway parking spots that serve the popular visitor destination. The demand is shown in that more than twice the number of people park along the highway shoulder than can be accommodated by the off-highway parking areas. On a peak summer day, 488 cars were counted along the roadway shoulders and the parking lots were full.

### Parking Data

LSC conducted parking counts along SR 89 in the Emerald Bay area in July and August of 2017 and 2018. The study area included on and off-street parking areas between Lester Beach Road (the D.L. Bliss State Park access road) on the north end of Emerald Bay and the first switchback south of Inspiration Point on the south end. The parking counts were conducted a total of eight times each, two weekdays and two Saturdays in each year, between 10:00 AM and 6:00 PM each day. These dates and time periods were selected to best capture the normal busy summer recreation activity which occurs in late July and early August. The counts were intentionally not conducted during the busy 4th of July weekend to avoid sampling on an abnormally high usage day.

The study revealed the following:

- The busiest time during the day on a peak Saturday was between 1:00 PM and 2:00 PM, when there were 687 cars parked in both on- and off-street areas.
- Motorists park illegally along the roadway shoulder and in off-highway parking lots. At the busiest time, 11:00 AM, there were 20 cars parked illegally in off-street lots.
- Most people want to park at shoulder parking locations close to their recreation destination, such as near Eagle Falls, Vikingsholm, and Inspiration Point. Along the viaduct there are no legal spaces. However, over the course of a peak Saturday the number of cars parked in that area averaged 32 with a maximum of 41.
- On average and on peak days, shoulder parking exceeds the number of "legal spaces" Inspiration Point through the viaduct. On average there are 185 percent more cars parked along the shoulders than legal parking spots. On a peak day there are 227 percent more cars parked along the shoulders than legal parking spots.

### IMPLICATIONS FOR MANAGEMENT STRATEGIES

- Establishing a no parking zone to provide clarity and consistency in parking strategies would simplify enforcement and communications.
- Relocating an appropriate number of shoulder parked cars to new off-highway parking facilities and/or a mobility hub and providing transit allows for access while addressing the issues associated with shoulder parking.
- Using parking management strategies can distribute the arrival and departure times of visitors and increase turnover in parking lots.
- Relocating vehicles associated with overnight backcountry parking access to designated locations or developing other operational methods to restrict overnight parking in day use lots can allow parking to better serve the activities the spaces were designed for.

CHP tows illegally parked vehicles. But often another car will be ready to take their spot, even thought it is illegal and they saw someone else being towed.

Sources Table 14: Parking Data Statistics | Emerald Bay Segment:

1 LSC 2017 Emerald Bay Parking Counts

2 LSC 2018 Parking Duration Observations

3 LSC 2018 Emerald Bay Parking Counts

4 LSC Assessment of USFS and CSP 2018 Parking Management Logs

Note: The capacity of unstriped shoulder parking was determined based on the length of shoulder with a minimum of 6.5 feet of width. This width is sufficient for a sufficient proportion of vehicles to park without overhanging the white "fog" line. A length of 22 feet per vehicle was used to define the number of spaces, based upon observed average spacing per parallel parked vehicle in the corridor. For shoulder locations where drivers typically angle park, a length of 10 feet per space was applied.

| PARKING DATA STATISTICS | EMERALD BAY SEGMENT | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Number of Existing Off-Highway Parking Spaces Available (221 total) | | | | | | | | |
| Eagle Point Trailhead Parking Lot Spaces | 39 | | | | | | | |
| Inspiration Point Parking Lot Spaces | 20 | | | | | | | |
| Bayview Trailhead Parking Lot Spaces | 37 | | | | | | | |
| Eagle Falls Trailhead Parking Lot Spaces | 32 off-highway, 30 organized next to the highway | | | | | | | |
| Vikingsholm Parking Lot Spaces | 60 | | | | | | | |
| D.L. Bliss Parking Lot Spaces | 15 (+3 authorized vehicles only) | | | | | | | |
| Observed Shoulder Parking "Legal" Versus "Illegally" Parked Vehicles (July and August 2017)[1] | | | | | | | | |
| | "Legal" Spaces | Number of Cars Parked on a Peak Day (Average/Peak) | Percent Parking Utilization (Ave/Peak) | | | | | |
| First Switchback to Inspiration Point | 63 | 7/12 | 11%/19% | | | | | |
| Inspiration Point Zone | 69 | 45/56 | 65%/81% | | | | | |
| Inspiration Point to "The Slide" | 25 | 30/43 | 120%/172% | | | | | |
| "The Slide" to Eagle Falls | 88 | 124/151 | 141%/172% | | | | | |
| Eagle Falls to Viaduct | 28 | 75/85 | 268%/304% | | | | | |
| Viaduct | 0 | 32/41 | All illegally parked | | | | | |
| Viaduct to Boat-in Campground Access | 114 | 38/58 | 33%/51% | | | | | |
| Boat-in Campground Access to Lester Beach | 113 | 24/42 | 21%/37% | | | | | |
| Total (For All Shoulder Parking) | 50 | 375/488 | 75%/98% | | | | | |
| Total 685 on and off-highway available spaces | | | | | | | | |
| Time of Paid Parking Lot Closures (Summer 2018)[4] | | | | | | | | |
| | Time Entry Queue Starts | Time Parking is Full | Time Turn Over Starts | Average Check-in Time | | | | |
| Vikingsholm Parking Lot | 9:24AM | 9:36AM | 4:04PM | 1.2 Minutes | | | | |
| D.L. Bliss Parking Lot | 9:48AM | 10:13AM | 3:33PM | 2.5 Minutes | | | | |
| Parking Accumulation Times (Saturday, July 28, 2018)[3] | | | | | | | | |
| | 10:00AM | 11:00AM | 12:00PM | 1:00PM | 2:00PM | 3:00PM | 4:00PM | 5:00PM |
| Total Number of Cars | 451 | 607 | 677 | 687 | 646 | 576 | 544 | 466 |
| Cars in Parking Lots | 168 | 170 | 175 | 169 | 166 | 165 | 160 | 158 |
| Cars Parked on Highway Shoulder | 283 | 437 | 502 | 518 | 480 | 411 | 384 | 308 |
| "Legal" Shoulder Parking Accumulation Times on Saturday July 29, 2017[1] | | | | | | | | |
| | Time "Legal" Parking is 100% Full | Time "Legal" Parking Returns to <80% Capacity | | | | | | |
| Inspiration Point Shoulder Parking Zone | Filled to 71% capacity by noon | Was 60% full on average throughout the day | | | | | | |
| Inspiration Point to "The Slide" | Before 10:00AM | 4:00PM | | | | | | |
| "The Slide" to Eagle Falls | Before 10:00AM | 5:00PM | | | | | | |
| Eagle Falls to Viaduct | Before 10:00AM | Did not dip below 161% utilization | | | | | | |
| Observed Parking Duration (August 2018)[2] | | | | | | | | |
| | 0-5 min | 5-15 min | 15-30 min | 30-60 min | 60-90 min | +90 min | | |
| Inspiration Point Shoulder Parking Zone | 4% | 38% | 32% | 20% | 4% | 4% | | |
| Inspiration Point Parking Lot | 30% | 23% | 18% | 27% | 0% | 2% | | |
| Eagle Falls Pull-off on Northbound Lane | 24% | 10% | 2% | 29% | 29% | 7% | | |
| Eagle Falls Parking Lots | 25% | 5% | 18% | 15% | 12% | 26% | | |
| Vikingsholm Shoulder Parking | 22% | 17% | 8% | 17% | 14% | 22% | | |
| Vikingsholm Parking Lot | 21% | 15% | 7% | 9% | 7% | 41% | | |

**Table 14:** Parking Data Statistics for the Emerald Bay Segment

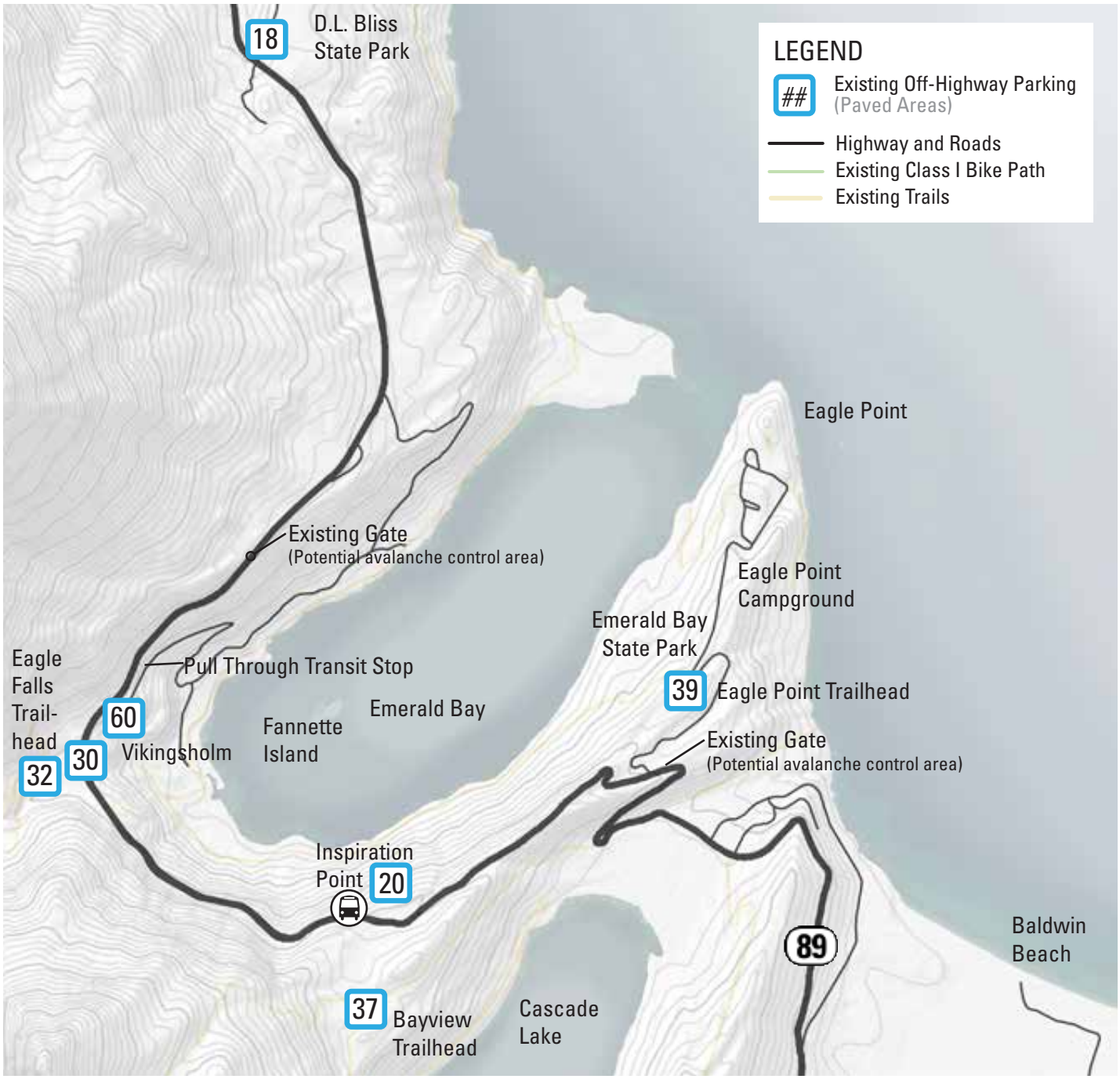



**Figure 39:** Off-Highway Parking Locations and Numbers | Emerald Bay Segment

## Parking Accumulation and Duration

### Accumulation

State Park and USFS management logs reflect that desirable parking lots typically fill throughout busy summer days between approximately 9:00 AM and 4:00 PM at Vikingsholm and D.L. Bliss. This creates congestion as drivers wait for available spaces.

The accumulation of shoulder parking is consistent with the management logs. At 10:00 AM the number of cars parked along the shoulder is almost twice the capacity of the parking lots. And by 11:00 AM the number is more than 250 percent higher. The total number of shoulder parked cars peaks at 1:00 PM and slowly declines for the remainder of the day.

The Vikingsholm parking lot fills around 9:30 AM on Saturdays during the summer.

### Duration

Parking duration and turnover was captured through the 2018 Intercept Survey and the 2018 Windshield Postcard Survey. The different duration averages for each data set are as follows:

- 2018 Intercept Survey: 3.9 hours
- 2018 Postcard Survey: 2.9 hours

The visitor survey data above does not capture visitors who only stop for a short period, such as those taking a quick picture and not leaving their vehicle. To provide information about this activity period, parking turnover was directly monitored in the Emerald Bay area over two weekends in August.

Observation points were as follows:

- ***Eagle Falls Parking Lots:*** The USFS pay lot, the head-in shoulder parking along the west side of SR 89 and the shoulder parking on the east side of SR 89.
- ***Shoulder Parking South of Eagle Falls***: The pullout area approximately 700 feet south of the Eagle Falls lot driveway.
- ***Vikingsholm Lot:*** The State Park lot and access driveway.
- ***Vikingsholm – Shoulder Parking:*** Shoulder parking on both sides of SR 89 adjacent to the State Park lot and to approximately 250 to the west of the lot driveway.
- ***Inspiration Point Lot:*** The USFS lot on the north side of SR 89.
- ***Inspiration Point – Shoulder Parking:*** Shoulder parking on both sides of SR 89 from the Inspiration Point Lot Driveway to the start of the guardrail to the west.

Overall, observed parking duration in Emerald Bay varied dramatically. This diversity indicates the need for a range of parking and transit management strategies. Key data points of the parking durations were as follows:

*Eagle Falls Parking Lots*

- 25 percent of vehicles were observed to be parked for 5 minutes or less
- 6 percent parked in the area between 5 and 15 minutes
- 26 percent parked for at least 90 minutes or more

*Shoulder Parking South of Eagle Falls*

- 23 percent parked for less than 5 minutes
- 57 percent parked for 30 to 90 minutes

*Inspiration Point Parking Lot*

- 53 percent parked for 15 minutes or less
- 2 percent parked for more than 60 minutes

*Inspiration Point Shoulder Parking*

- 4 percent were parked for less than 5 minutes
- 70 percent parked between 5 and 30 minutes
- 8 percent parked for more than 60 minutes

*Vikingsholm Parking Lot*

- 20 percent parked for 5 minutes or less
- 41 percent parked for over 90 minutes or more

*Vikingsholm - Shoulder Parking*

- 22 percent parked for less than 5 minutes
- 22 percent parked for more than 90 minutes

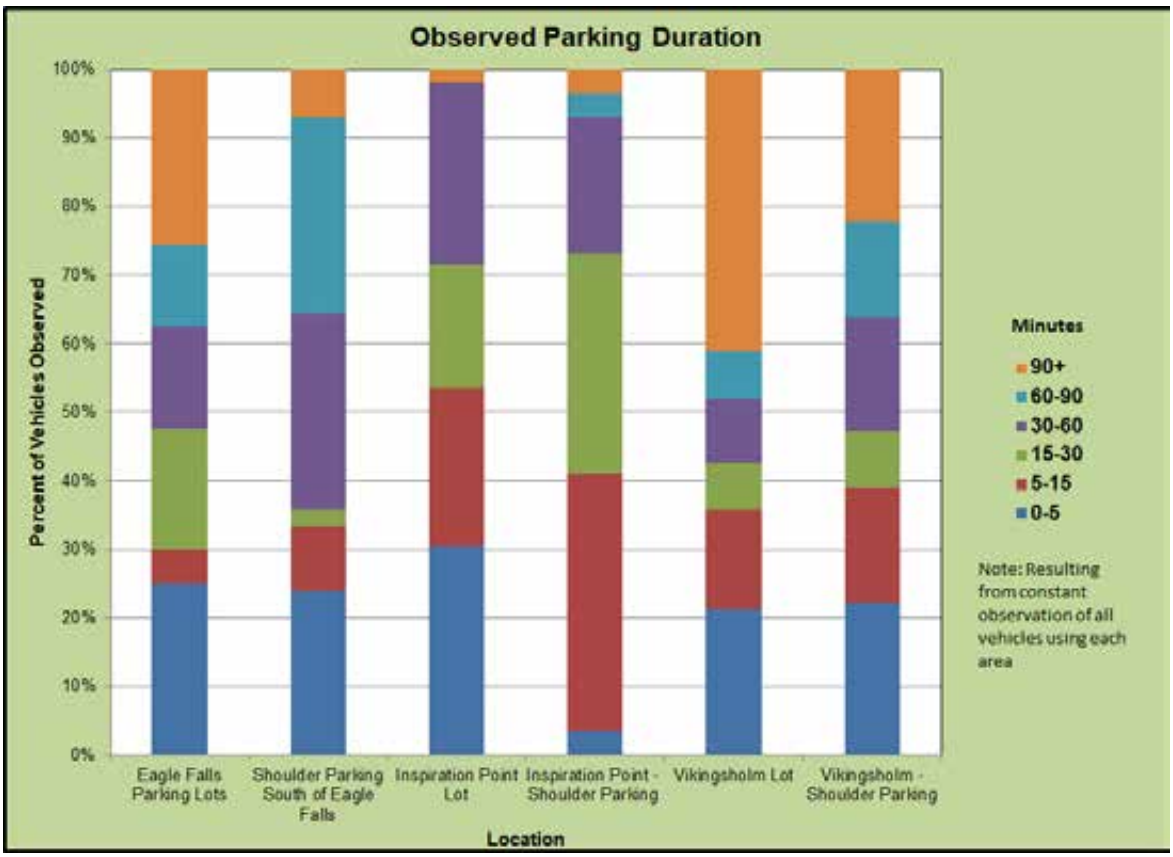
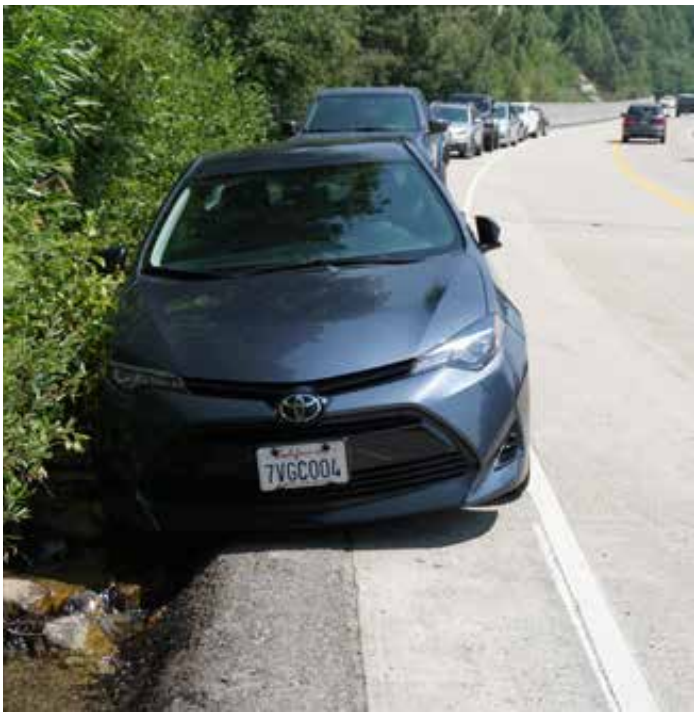



**Figure 40:** Observed Parking Duration in Emerald Bay




Vehicles park along the viaduct and in stormwater improvement projects.


Motorists illegally park in no parking areas and block bus stops.

Cars park over the white fog line and pedestrians regularly walk in the travel lanes to get to their destination.

## TRANSIT FACILITIES

Transit services to Emerald Bay have been reduced over the past few years due to funding constraints. The last service year was 2018. The route has been canceled due to lack of funding and low ridership. Transit stops either have been previously located at Eagle Point Campground, Inspiration Point, Eagle Falls, Vikingsholm, and D.L. Bliss. As discussed in the corridorwide transit discussion, ridership was highest with increased frequency.

Roadside parking creates issues with transit stops. Motorists often illegally park in transit locations, forcing the bus to stop in the roadway or block an intersection or driveway.

Awareness of transit facilities and improved traveler communications can also be improved. Seventy-four percent of respondents to the 2018 Intercept Survey conducted in the corridor did not know there was transit. Factors that were extremely important for future use of transit to the SR 89 corridor included the amount of time to wait for the shuttle to pick them up (42% of respondents) and knowing in advance that the parking is full at the location (47% of respondents).

### IMPLICATIONS FOR MANAGEMENT STRATEGIES

- Addressing roadway design issues can enhance transit access. The Short-Range Transit Plan identifies many of these issues and recommendations for improvement, including the need for improved technology, guard rails, constraints created by hair pin turns, and required bus sizes.
- Designing transit stops so buses can pull off the highway to load and unload passengers reduces traffic flow impacts and addresses accessibility requirements.
- Managing congestion can make transit a desirable option for visitors, a transit bypass route is likely not a feasible alternative.
- Improving awareness and frequency of transit can increase ridership.
- Providing infrastructure for improved technology and access to communications is an important component for successful, real-time transit and parking management programs. For the Emerald Bay Segment, this could include adding broadband access including cellular infrastructure.


The bus stop at Eagle Falls Trailhead is regularly blocked by vehicles parked on the shoulder. The bus loads and unloads in the intersection.

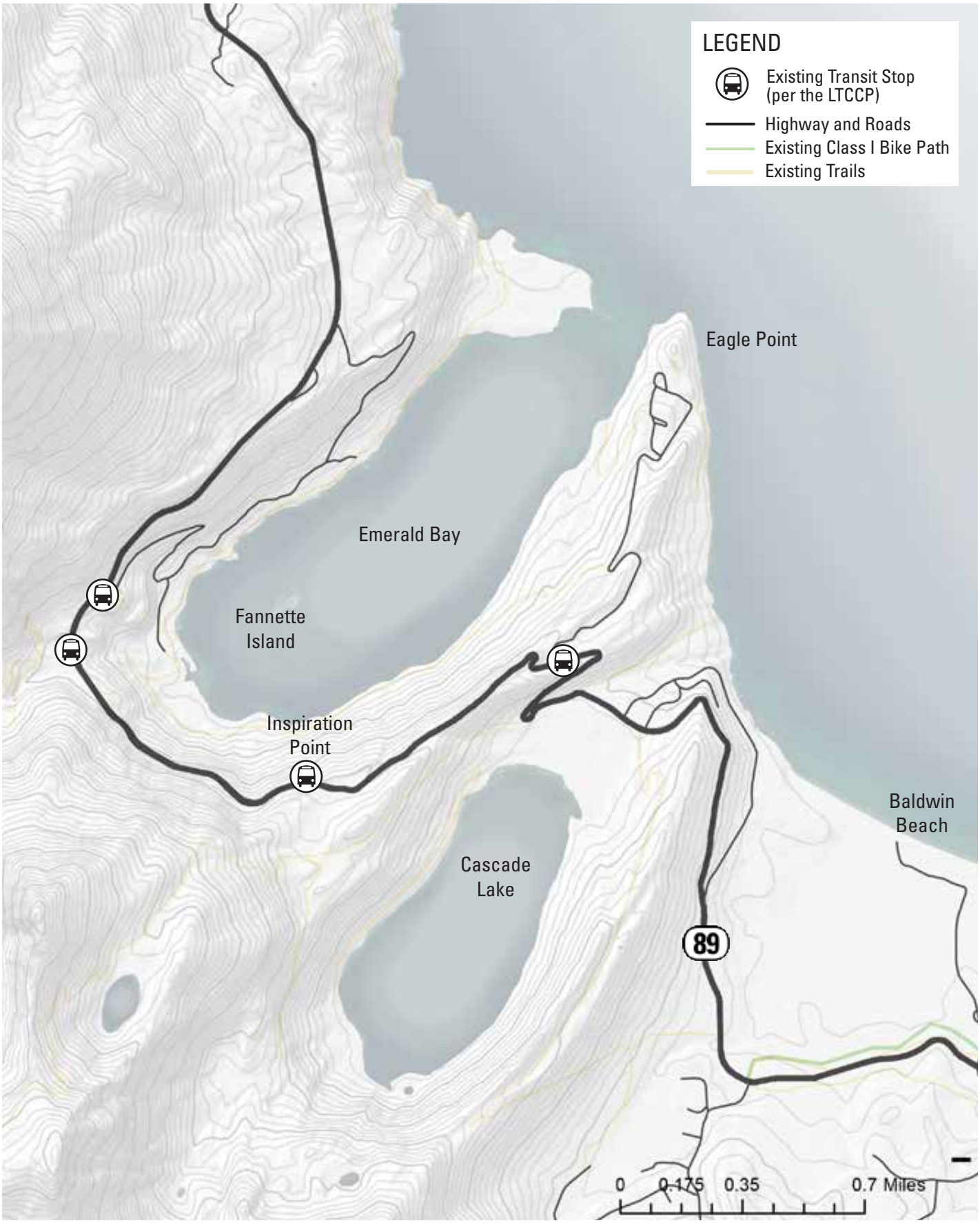



**Figure 41:** 2018 Transit Stop Locations | Emerald Bay Segment

## PEDESTRIAN AND BICYCLE FACILITIES

Pedestrian facilities such as sidewalks and connector paths are located at some of the recreation destinations in Emerald Bay. Inspiration Point has an interpretive walkway at the vista point. The high volume of visitors can fill the walkways in the summer as people wait to take their turn for a picture or to read the interpretive panel.

Eagle Falls trailhead has improved walkways and boardwalks to connect parking areas to the natural surface trails leading to the backcountry. The boardwalk connecting SR 89 to the kiosk and trailhead winds through a riparian zone. It is an attractive path, but pedestrians still walk in the roadway because it is not sized to accommodate the volume of people in the area.

A natural surface path connects the Vikingsholm parking area to an overlook to the south. The path is separated from the highway, but sections should be evaluated for ease of mobility and accessibility.

In the summer people are regularly seen walking in the roadway or just to the right of the fog line. Visitors park along the shoulder and then walk to their destination. This situation occurs around most of Emerald Bay, including the viaduct. The viaduct does not allow for shoulder parking, yet motorists park and then walk down the highway to Vikingsholm vista point.

LSC conducted pedestrian counts to document the number of people walking on the viaduct. On a peak summer day in 2017, up to 67 people were seen in one hour along the narrow viaduct.

### IMPLICATIONS FOR MANAGEMENT STRATEGIES

- Developing a shared-use path that connects to the Pope-Baldwin Bicycle Trail to the south and the Tahoe Trail/West Shore Trail to the north would encourage biking to Emerald Bay.
- Developing a shared-use path near the highway corridor would provide a place off the roadway for pedestrians to walk in Emerald Bay.
- Minimizing at-grade trail crossings reduces conflicts.
- Prioritizing the use of public lands for future alternative trail alignments can increase trail feasibility.
- Utilizing shared-use path systems to provide visitor access to recreation areas can reduce vehicular use.
- Utilizing utility corridors and previous road and trail corridors reduces new disturbance and provides opportunities to underground utilities which can reduce wildfire risk.

Inspiration Point is so popular, people queue to take their turn for a picture or to read the interpretive panels.

Pedestrians walking along cars parked on the viaduct have little to no shoulder area to walk out of the travel lane.

A dirt trail provides one off-highway pedestrian connection from Vikingsholm to a viewpoint south of the parking lot.

| PEDESTRIAN STATISTICS | EMERALD BAY SEGMENT[1] | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Pedestrians Observed Walking on the Viaduct (No Sidewalks or Shoulder Available) (Peak/Average) in 2017 | | | | | | | | |
| | 10:00AM | 11:00AM | 12:00PM | 1:00PM | 2:00PM | 3:00PM | 4:00PM | 5:00PM |
| Peak Number of Pedestrians | 27 | 39 | 67 | 48 | 54 | 31 | 28 | 22 |
| Average Number of Pedestrians | 23 | 21 | 31 | 24 | 25 | 19 | 15 | 11 |

**Table 15:** Pedestrian Statistics for the Emerald Bay Segment

Source:

1 LSC 2017 Emerald Bay Pedestrian Counts

The boardwalk pathway at Eagle Falls Trailhead is often not used because of the volumes of visitors to the area.

Pedestrians hug the viaduct's guardrail and walk in a 12- to 18-inch shoulder as they walk from their car to their destination.

Pedestrians often walk in the travel lane, with traffic, to access their recreation destination.

The Pope-Baldwin Bicycle Trail ends at Spring Creek Road. No other designated bike facilities exist. Road cyclists ride in the highway and can be seen working their way up the switchbacks in the summer. In many locations near Emerald Bay, the narrow roadway and lack of shoulders cause cyclists to share travel lanes with vehicles. Motorists slow and often need to shift into another lane to share the road with the cyclist.

Previous studies have considered options for a shared use path alignment through the Emerald Bay segment but a preferred or final alignment has not been identified. Figures 42-47 show many of the elements for consideration when identifying potential trail corridors and alignments. A compilation map (Resource Overlay Analysis) diagrams significant opportunities and constraints. The mapped elements include:

- Slope
- Ownership
- Existing trails
- User trails
- Utility corridors
- Natural resources
- Osprey nests and buffer
- Bald Eagle nest and buffer
- Northern Goshawk protected activity centers (PAC)
- Stream environment zones

Additional features, such as cultural resources are not mapped. Coordination should occur to understand and identify potential constraints due to cultural resources. Detailed engineering and geotech studies will be conducted in future phases of trail evaluation and development.

Road cyclists ride along the highway's narrow shoulders.

Road cyclists make their way through the hairpin turns as they climb to Emerald Bay.

Inspiration Point and other viewpoints offer a place for a break and a view for both pedestrians and cyclists.

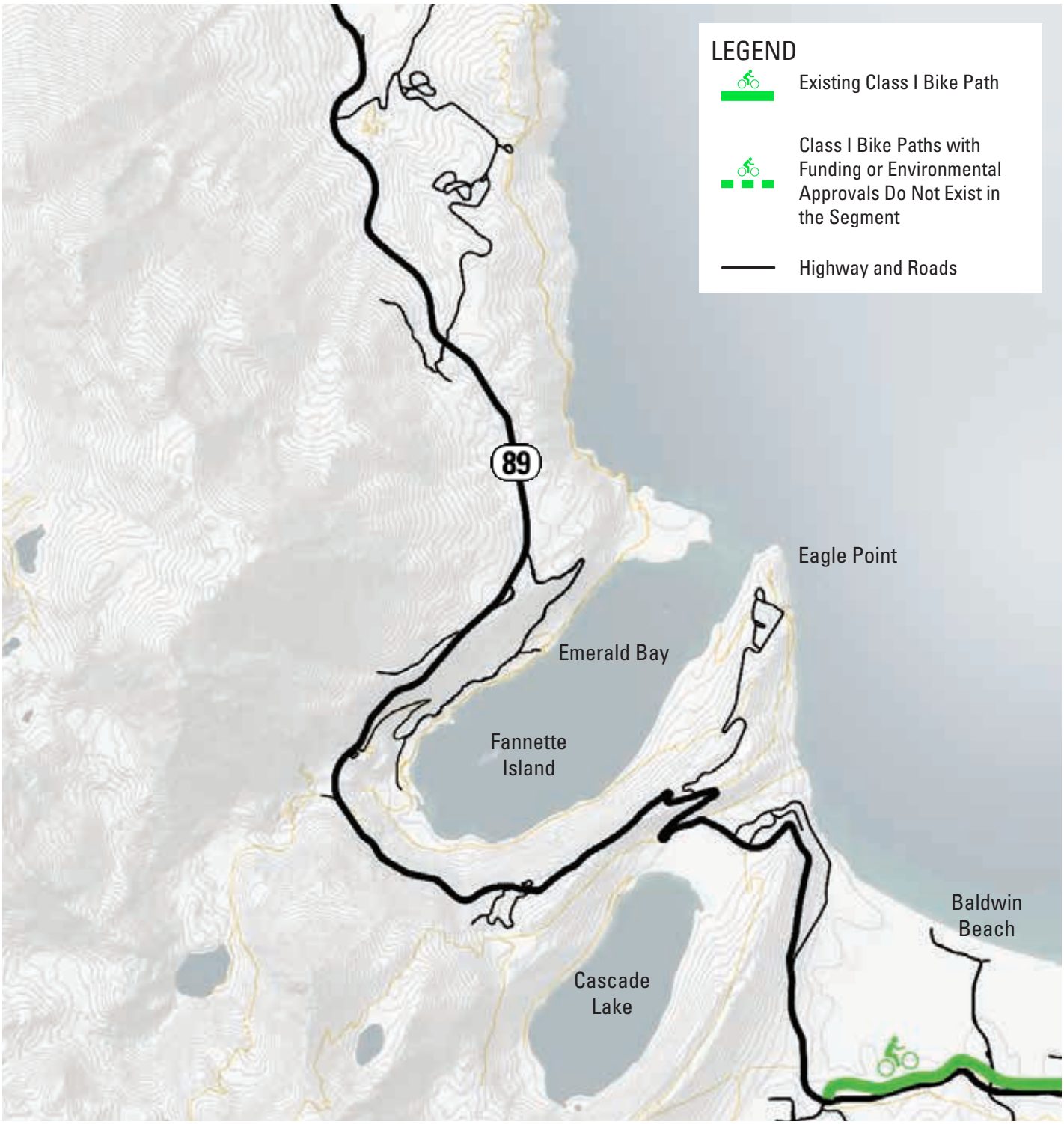



**Figure 42:** Existing and Funded Shared-Use Paths | Emerald Bay Segment

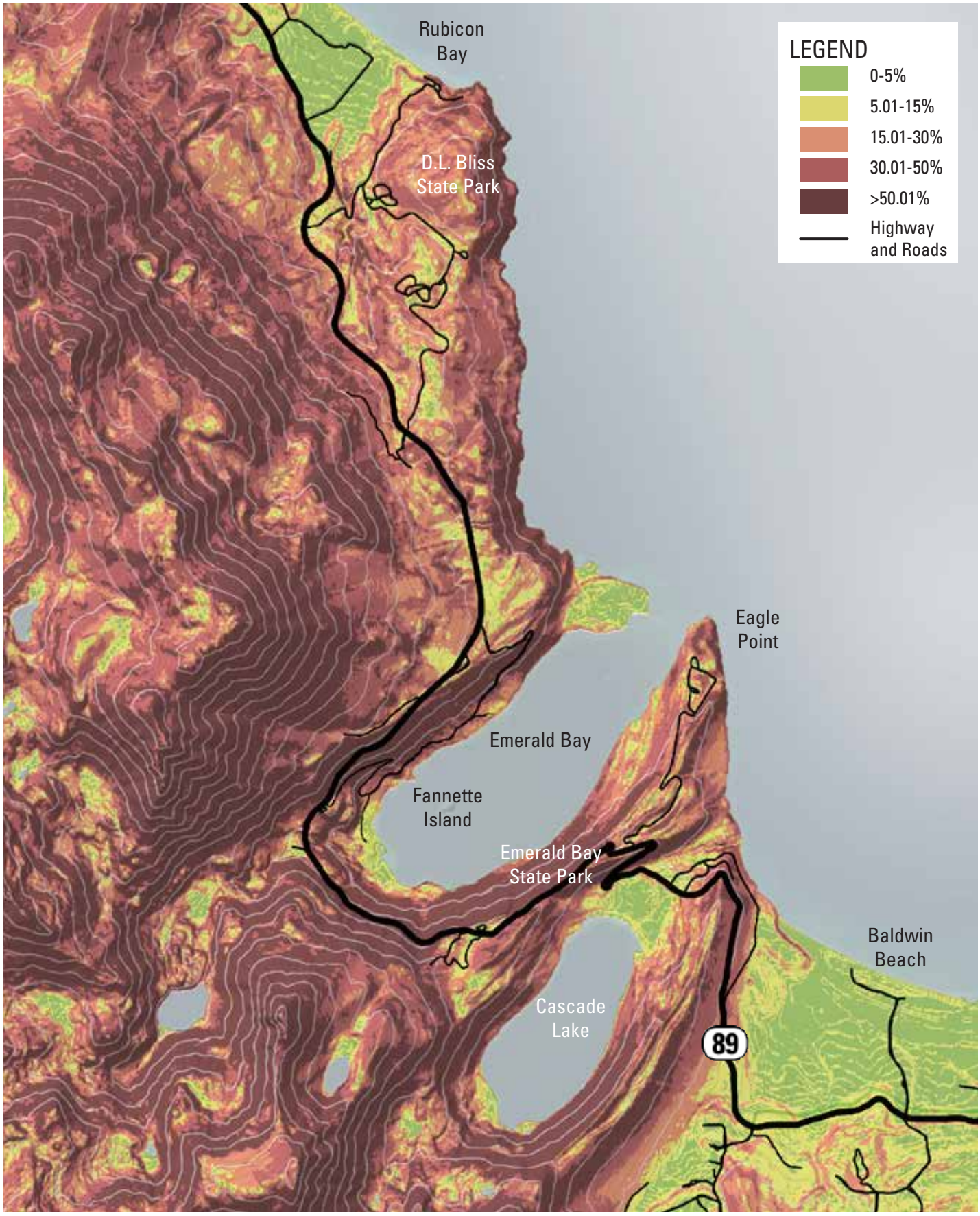



**Figure 43:** Slope Analysis | Emerald Bay Segment

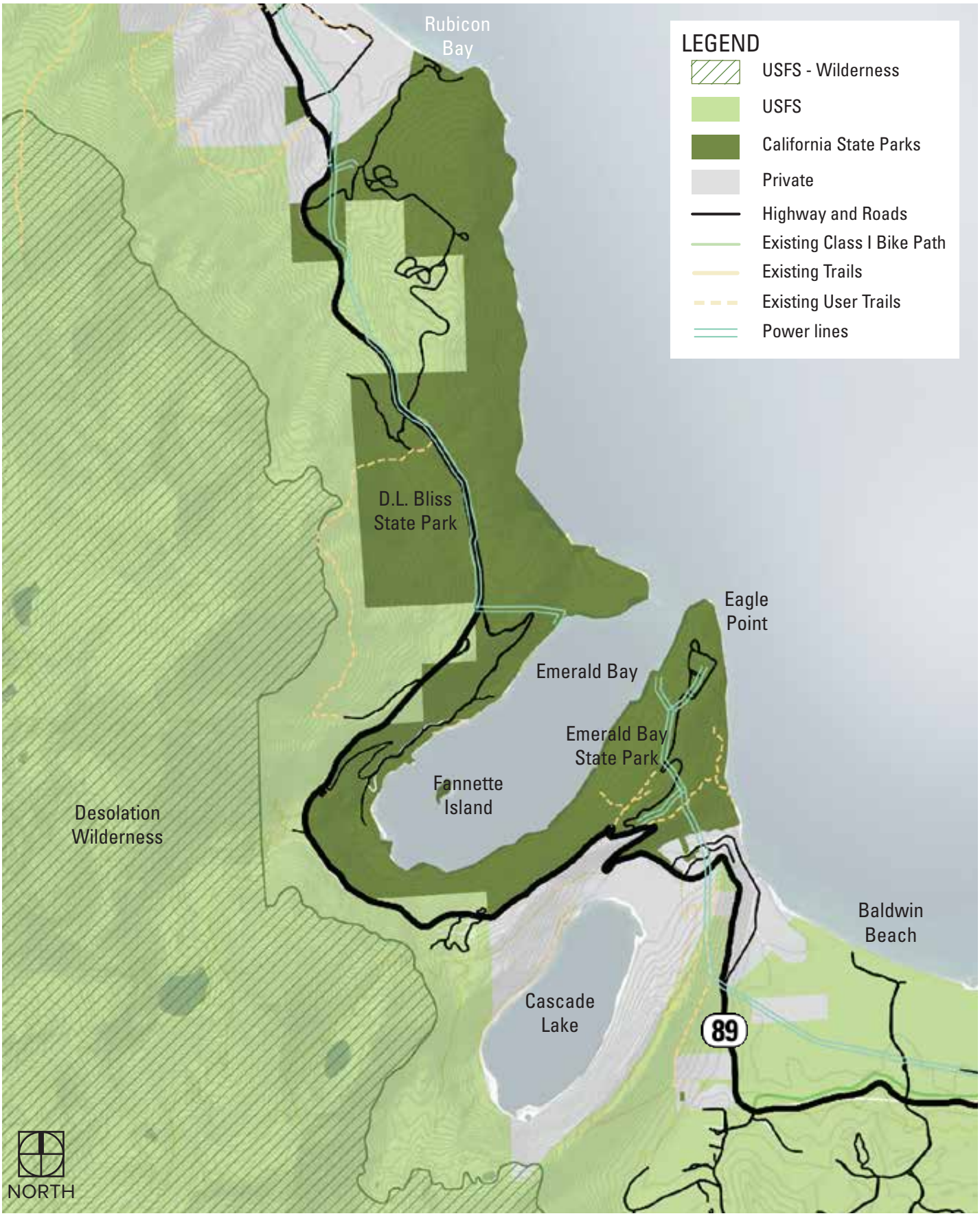



**Figure 44:** Ownership, User Trails, and Utility Corridors | Emerald Bay Segment

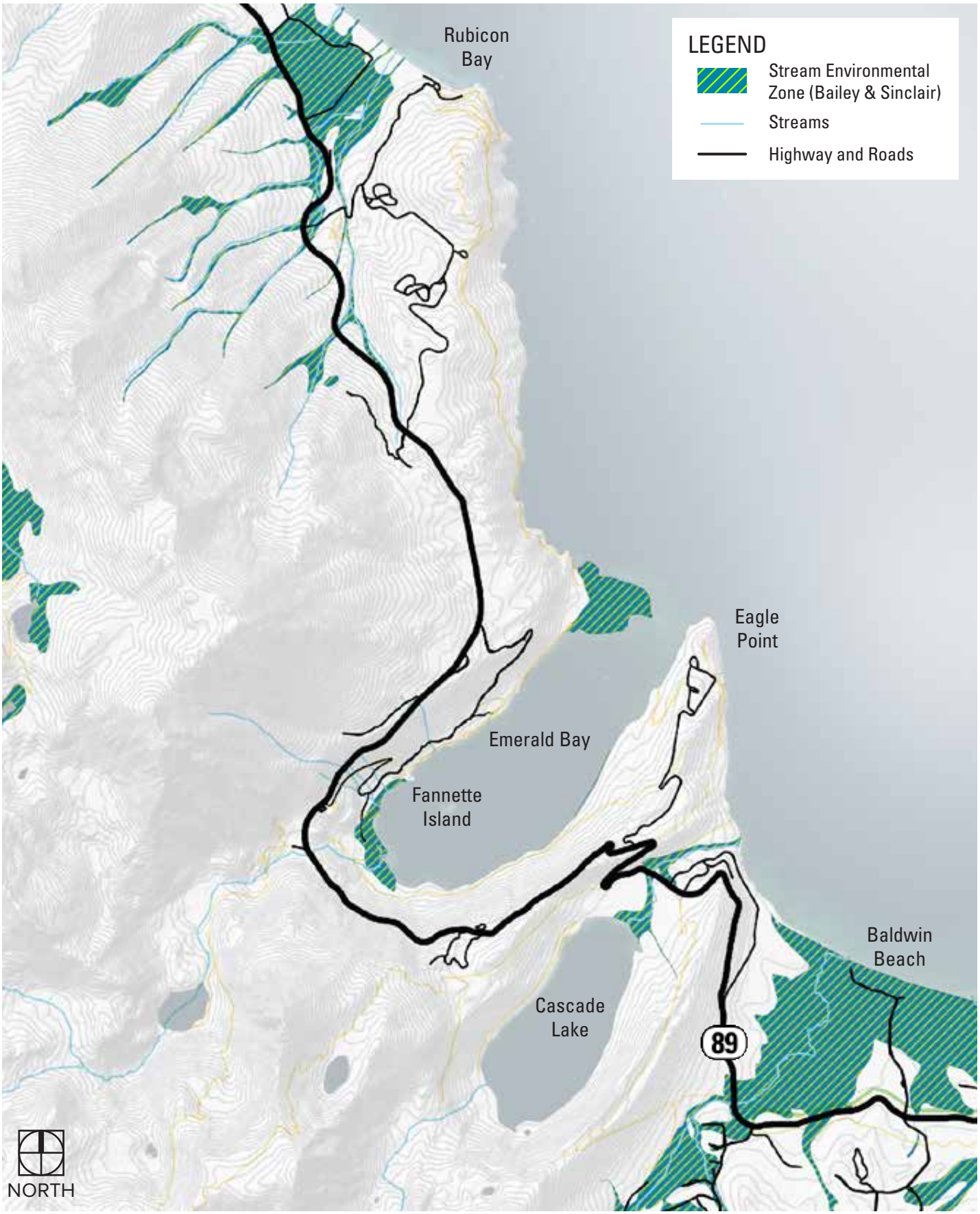



**Figure 45:** Stream Environment Zones and Hydrology | Emerald Bay Segment

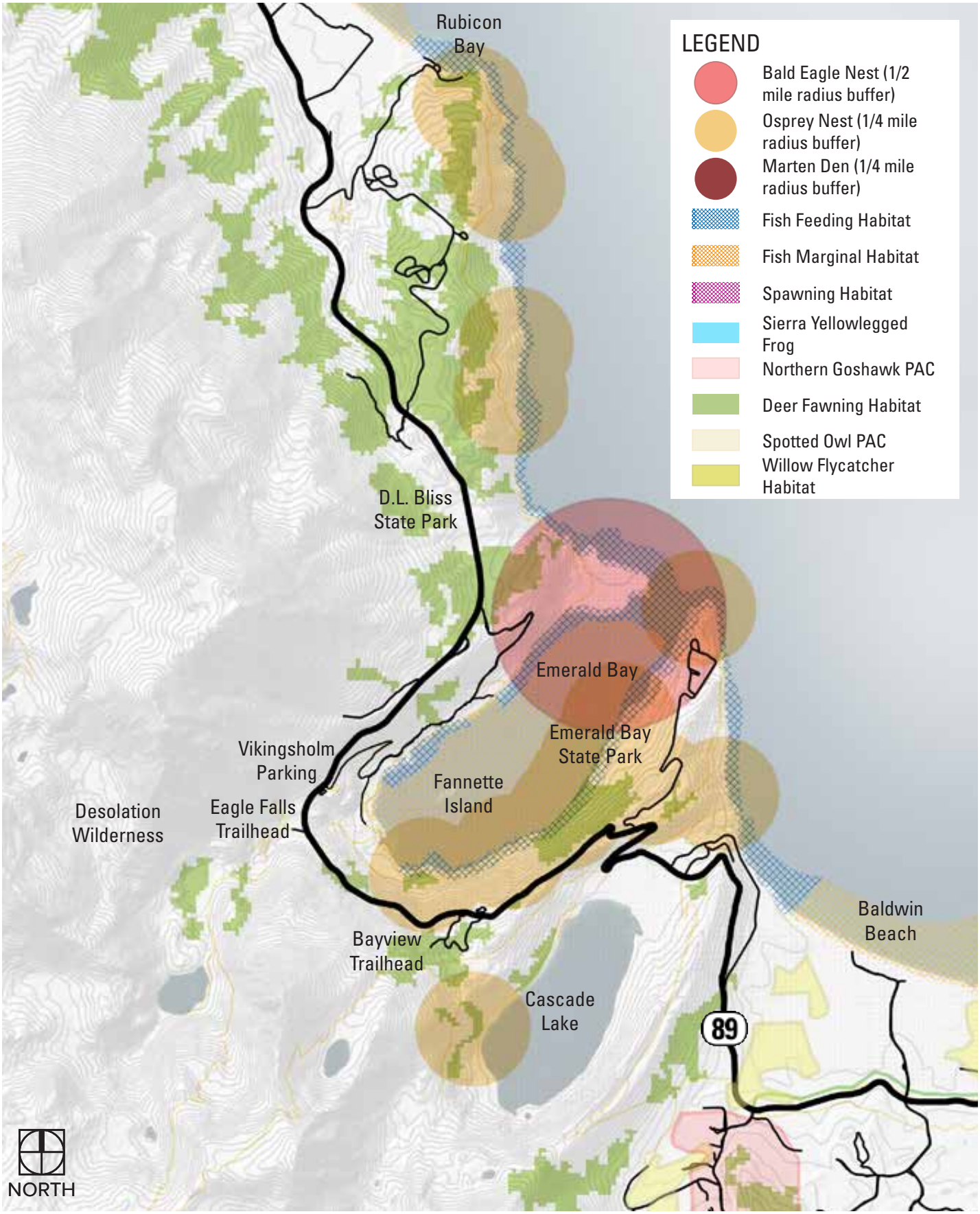



**Figure 46:** Natural Resources | Emerald Bay Segment

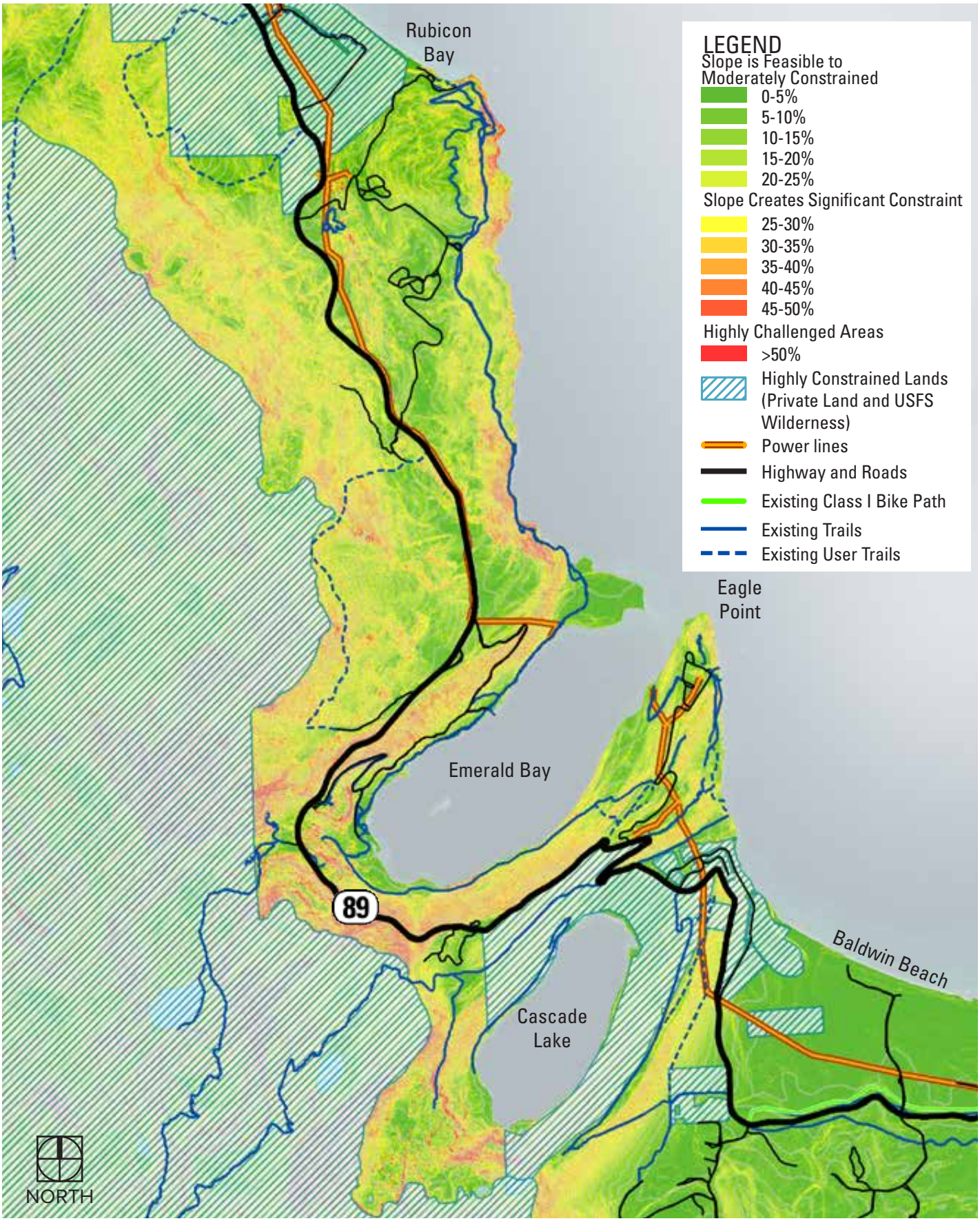



**Figure 47:** Resource Overlay Analysis | Emerald Bay Segment

## IMPLICATIONS FOR THE TAHOE TRAIL IN THE EMERALD BAY SEGMENT

- The steep terrain and avalanche chutes around Emerald Bay mean a future trail alignment will require creative engineering solutions.
- Private ownership around Cascade Lake is a constraint. However, the majority of the Emerald Bay segment consists of public lands where a trail alignment could be feasible.
- An old roadbed alignment is located near the Eagle Point Campground road. South of the roadway, the disturbed area could provide a potential connection from Eagle Point Campground area to Bayview Campground and Inspiration Point or it could be used to reroute a portion of the highway and reduce one of the highway's hairpin turns.
- Locating a shared-use path near the roadway around Emerald Bay would provide a place for people to walk and bike that is off the highway and out of traffic.
- The terrain of public lands north of Emerald Bay is generally less steep. A shared-use path alignment could be accommodated either through Forest Service lands to the west of SR 89, through D.L. Bliss State Park to the east of SR 89, or within the vicinity of the highway. The pathway should be set back from the roadway for user comfort and a better recreational experience.
- If the pathway was routed through D.L. Bliss it should be designed to also enhance pedestrian and cyclist movement through the State Park and to the recreation destinations.
- Under-grounding electric utilities can reduce wildfire risk. Co-locating utilities with a trail corridor allows for improved maintenance access and leverages funding dollars. Adding cellular will improve communications for responding to wildfire and other emergencies.

The road corridor around Emerald Bay has constraints for trail development, but innovative solutions are possible.

The Rubicon Trail works it way around Emerald Bay. The path is narrow and aligned on a steep slope with known Osprey nests. Widening could create scenic and natural resource impacts.

North of Emerald Bay, gentler terrain offers greater opportunities for potential trail alignments

# RUBICON BAY SEGMENT

# RUBICON BAY SEGMENT

The Rubicon Bay Segment extends from D.L. Bliss State Park to just south of Meeks Bay. It includes the longest lakefront section of contiguous privately-owned residential lands within the corridor.

## Defining Elements

Rubicon Bay, also known as Tahoe's Gold Coast, is home to lakefront and mountainside residential properties. The highway travels north from D.L. Bliss State Park toward Meeks Bay. Private lands border the Caltrans right-of-way for the majority of the segment. Forest Service and California Tahoe Conservancy lands are interspersed in the neighborhoods and USFS lands are located upland of the residential areas.

The highway and adjacent lands have relatively gentle grades around the Four Ring Road properties. The road grades steepen as it enters Rubicon Bay and creates a bench between the lakefront properties to the east and upland properties to the west. The terrain slopes away from the highway to the east and the west. Therefore, neighborhood roads intersecting with SR 89 typically have grades steeper than 5 percent.

There are few informal pull-offs and shoulder parking areas throughout this segment. This is due in large part to the narrow shoulders, adjacent private lands that slope away from the highway, and the lack of direct access to public recreation sites.

## Visitor Activities

This segment is characterized by the high percentage of private lands bordering the highway. There is no public beach access. Upland trails are accessible through the neighborhoods, but no formal trails or trailhead facilities are present. Trails are primarily intended to be accessed by walking or biking from the local neighborhoods.

### KEY ISSUES

The CMP seeks to minimize visitor impacts to residential areas while providing dedicated active transportation facilities to allow people to walk or bike to recreation destinations in the adjacent Meeks Bay and Emerald Bay segments. Key issues to be addressed include:

- Lack of a shared-use path to connect people to recreation areas by an off-highway bike path.
- Lack of broadband.


**Figure 48:** Rubicon Bay Segment


**Figure 49:** Ownership | Rubicon Bay Segment


**Figure 50:** Land Use | Rubicon Bay Segment

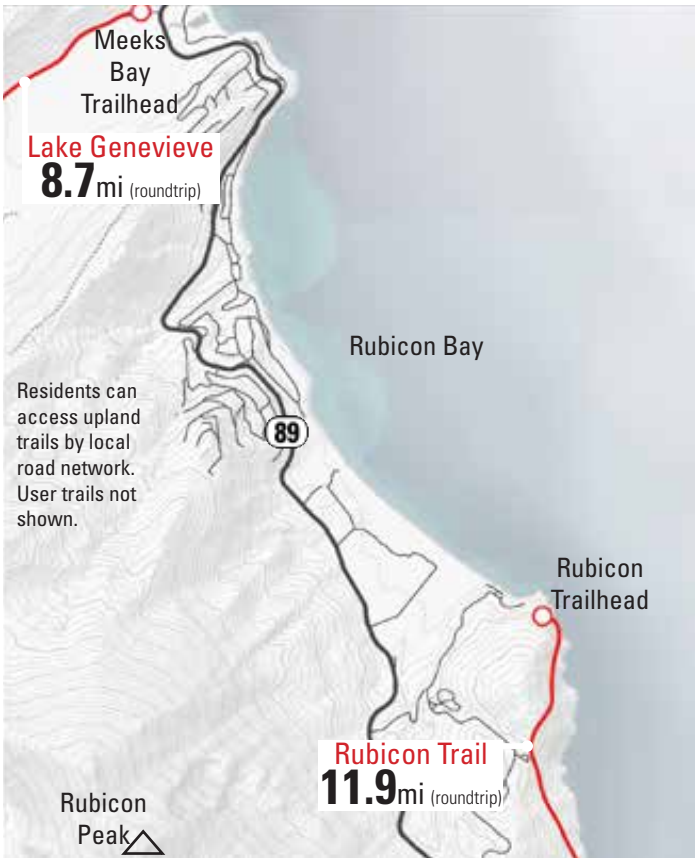



**Figure 51:** Trail Access | Rubicon Bay Segment

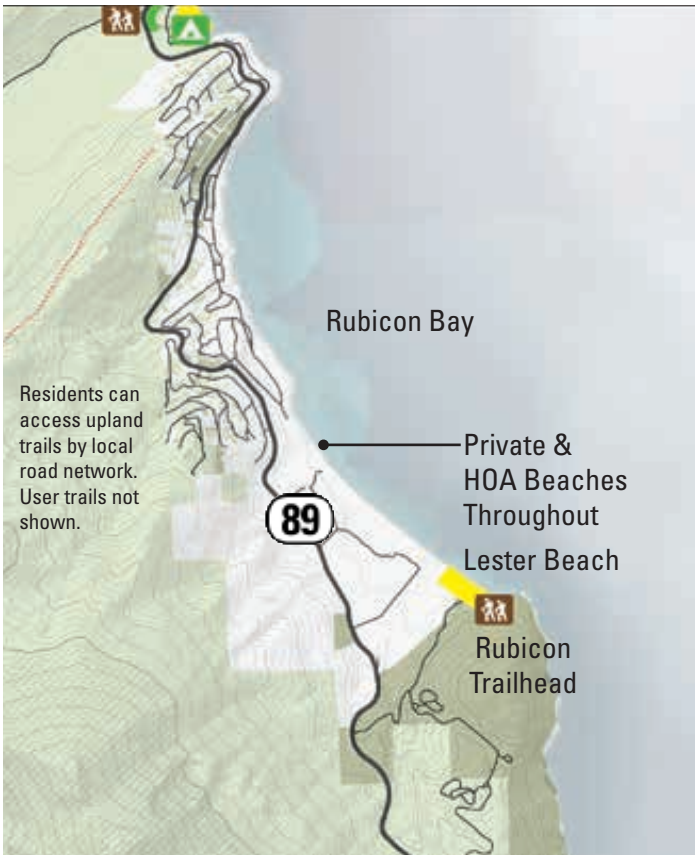



**Figure 52:** Recreation Areas | Rubicon Bay Segment

## LAND USE AND OWNERSHIP DATA

There are no publicly accessible recreation areas in the Rubicon Bay segment. Therefore, visitation data is not included. Residents, second homeowners, and vacation rental users may use the beach facilities offered by the different home owner associations in the segment or they may visit other recreation areas not in the segment.

Overall, the SR 89 corridor has a relatively low percentage of residential units and land that is zoned for residential use. The Rubicon Bay segment has the highest concentration of residences in the corridor.

### IMPLICATIONS FOR MANAGEMENT STRATEGIES

- Working with residents and property owners to understand and address transportation needs can enhance planning and implementation strategies.
- Working with residents, property owners, and land managers could help build ownership and support for the Tahoe Trail.

| LAND USE AND OWNERSHIP STATISTICS | RUBICON BAY SEGMENT | |
|---|---|---|
| | ESRI Business Analyst Census Data, April 2019, ACS 2012-2016 Estimate and Community Profile | Overall Corridor Comparison 2017 LTCCP |
| Social Demographics | | |
| Resident Population | 54 | 1,015 |
| Median Age | 57.2 | 45.4 |
| Median Household Income | $109,954 | $42,500 |
| Housing/Land Use | | |
| Number of Residential Units | 561 | 2,784 |
| Resident Population/Units Ratio | 0.10:1 | 0.36:1 |
| % Single Family Units | 100% | 93.5% |
| % Multi-Family Less than 20 du/bldg | 0% | 4.3% |
| % Multi-Family 20+ du/bldg | 0% | 2.0% |
| % Seasonal Resident Units | 92.3% vacant (97.8% of the vacant units are identified as being for seasonal/ recreational/occasional use) | 80.0% |
| % Owner Occupied | 5.9% | 49.7% |
| % Renter Occupied | 1.8% | 50.3% |
| Median Value (Owner Occupied) | $660,714 | $546,900 |

**Table 16:** Land Use and Ownership Statistics for the Rubicon Bay Segment

## TRANSIT FACILITIES

There are no transit stops in the Rubicon Bay Segment. Transit routes may connect to destinations north and south, but they do not stop in the Rubicon Bay Segment.

## BICYCLE AND PEDESTRIAN FACILITIES

There are no bike lanes or Class I bike paths in the Rubicon Bay segment. Previous studies have considered options for a shared use path alignment through the segment but a preferred or final alignment has not been identified.

Figures 54-57 map many of the elements for consideration when identifying potential trail corridors and alignments. A compilation map, Figure 58, (Resource Overlay Analysis) diagrams significant opportunities and constraints. The mapped elements Include:

- Slope
- Ownership
- Existing trails
- User trails
- Utility corridors
- Natural resources
- Osprey nests and buffer
- Northern Goshawk protected activity centers (PAC)
- Stream environment zones

Additional features, such as cultural resources are not mapped. Coordination should occur to understand and identify potential constraints due to cultural resources. Detailed engineering and geotech studies will be conducted in future phases of trail evaluation and development.

### IMPLICATIONS FOR MANAGEMENT STRATEGIES

- Developing a shared-use path that connects to the West Shore Trail/Tahoe Trail to the north in Meeks Bay and a future segment of the Tahoe Trail to the south around Emerald Bay can encourage biking to Emerald Bay and Meeks Bay.
- Minimizing at-grade trail crossings reduces conflicts.
- Prioritizing the use of public lands for future alternative trail alignments can increase trail feasibility.
- Maintaining grades below five percent where possible for shared-use paths maximizes the number of people able to easily use the facility.
- Utilizing utility corridors and previous road and trail corridors reduces new disturbance and provides opportunities to underground utilities and co-locate fiber conduit. Under-grounding utilities also decreases risk of wildfire and provides scenic improvements.
- Improving access to technology, such as adding fiber conduit and adding cellular, will improve communications for responding to wildlife and other emergencies.

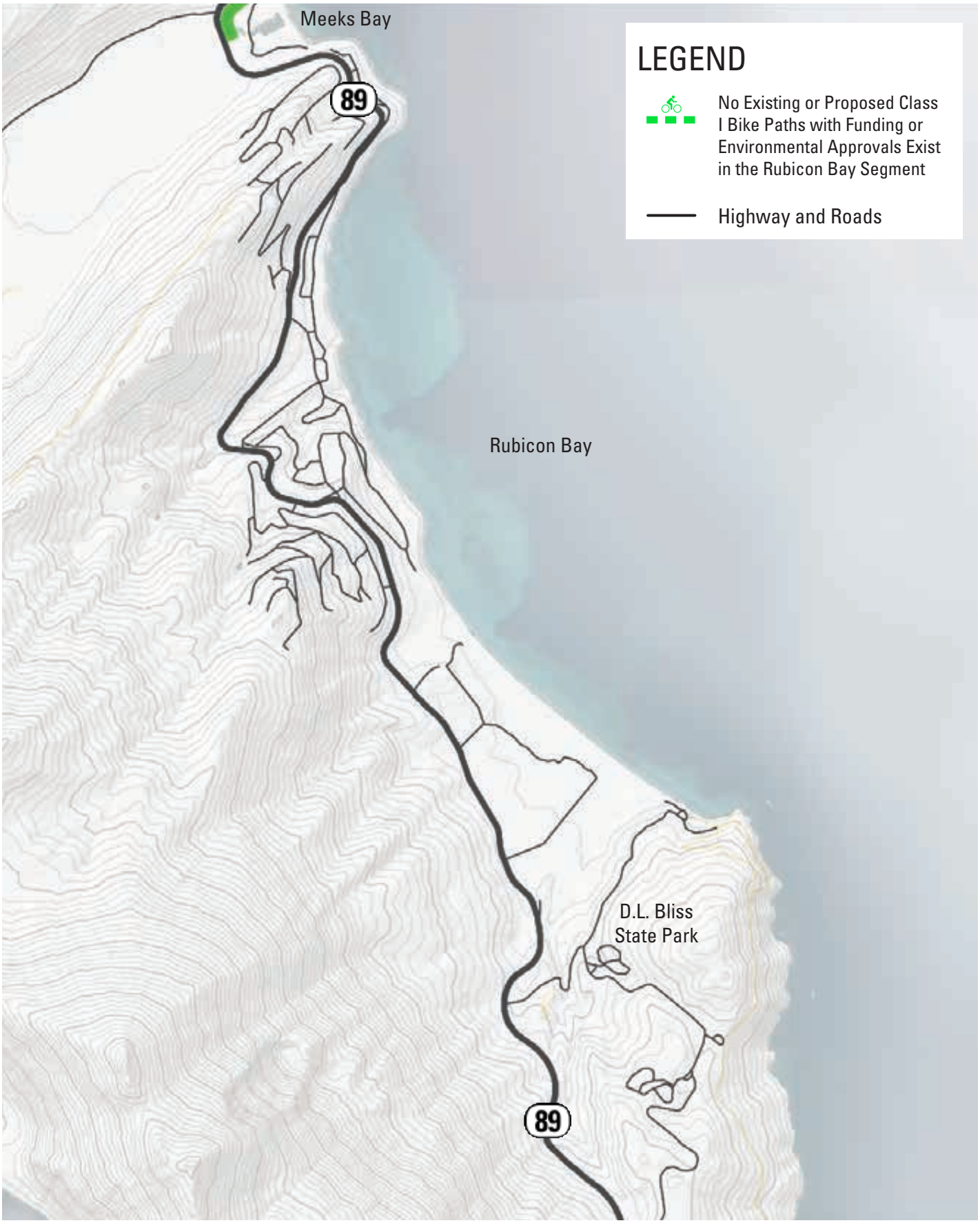



**Figure 53:** Existing and Funded Shared-Use Paths | Rubicon Bay Segment

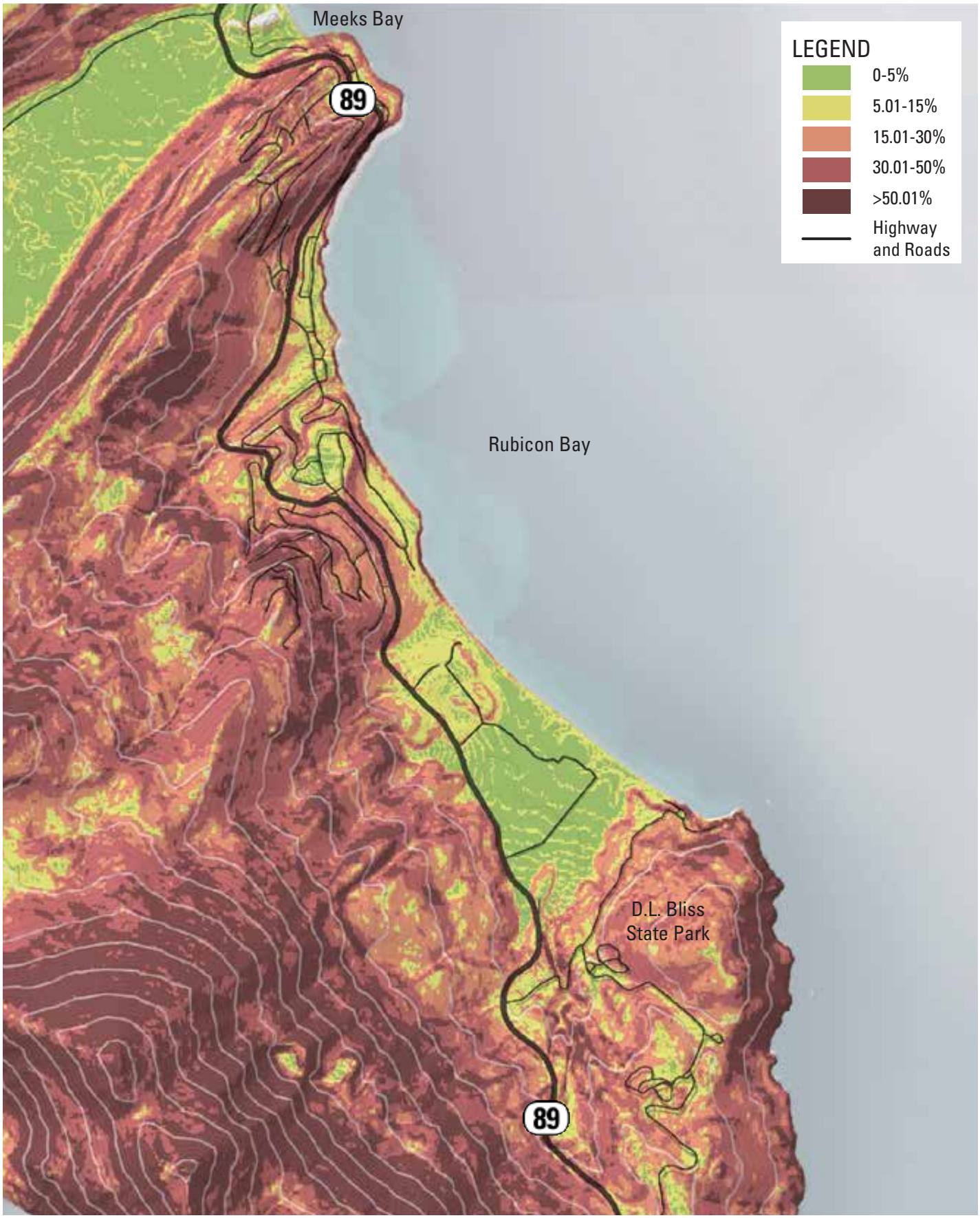



**Figure 54:** Slope Analysis | Rubicon Bay Segment

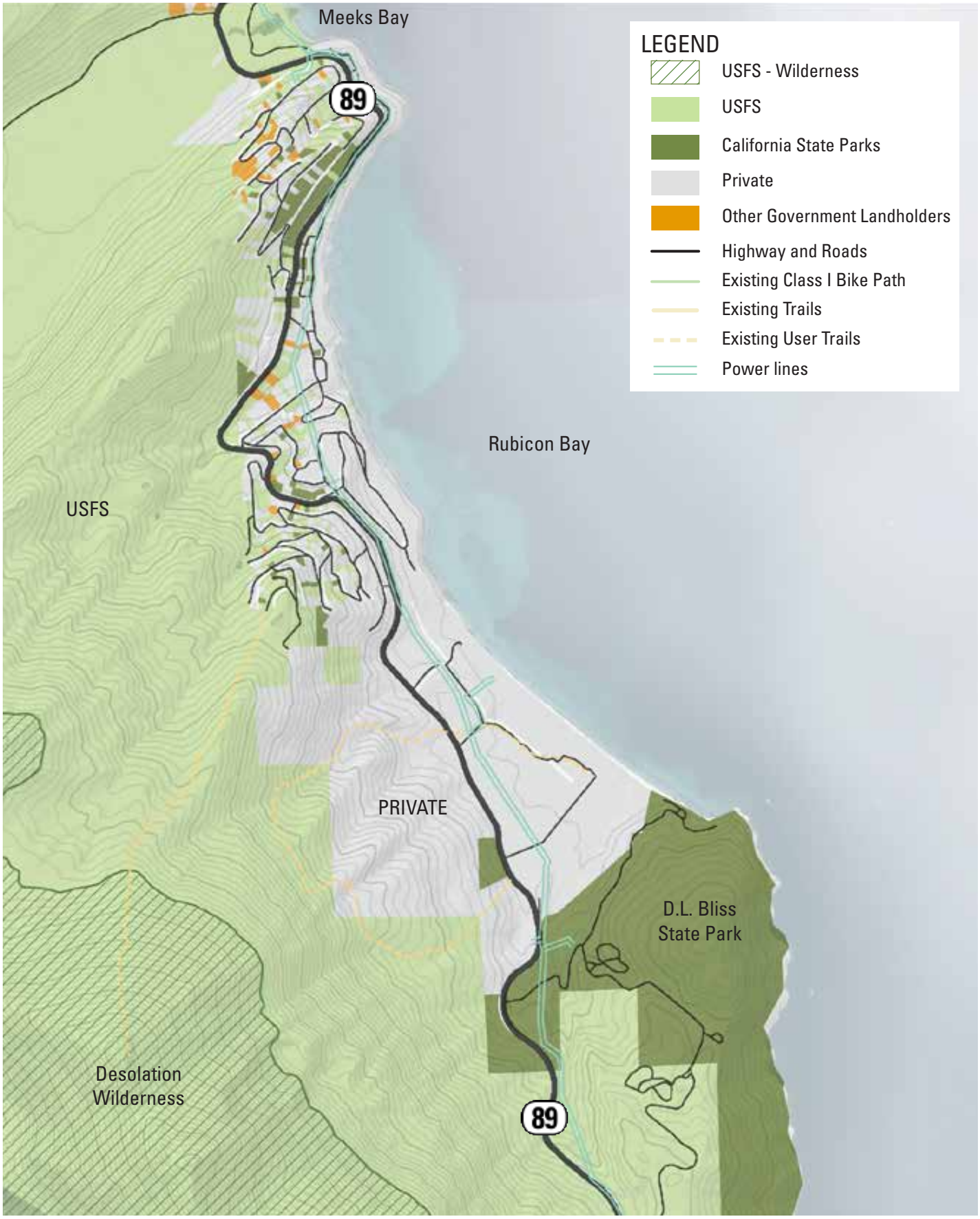



**Figure 55:** Ownership, User Trails, and Utility Corridors | Rubicon Bay Segment

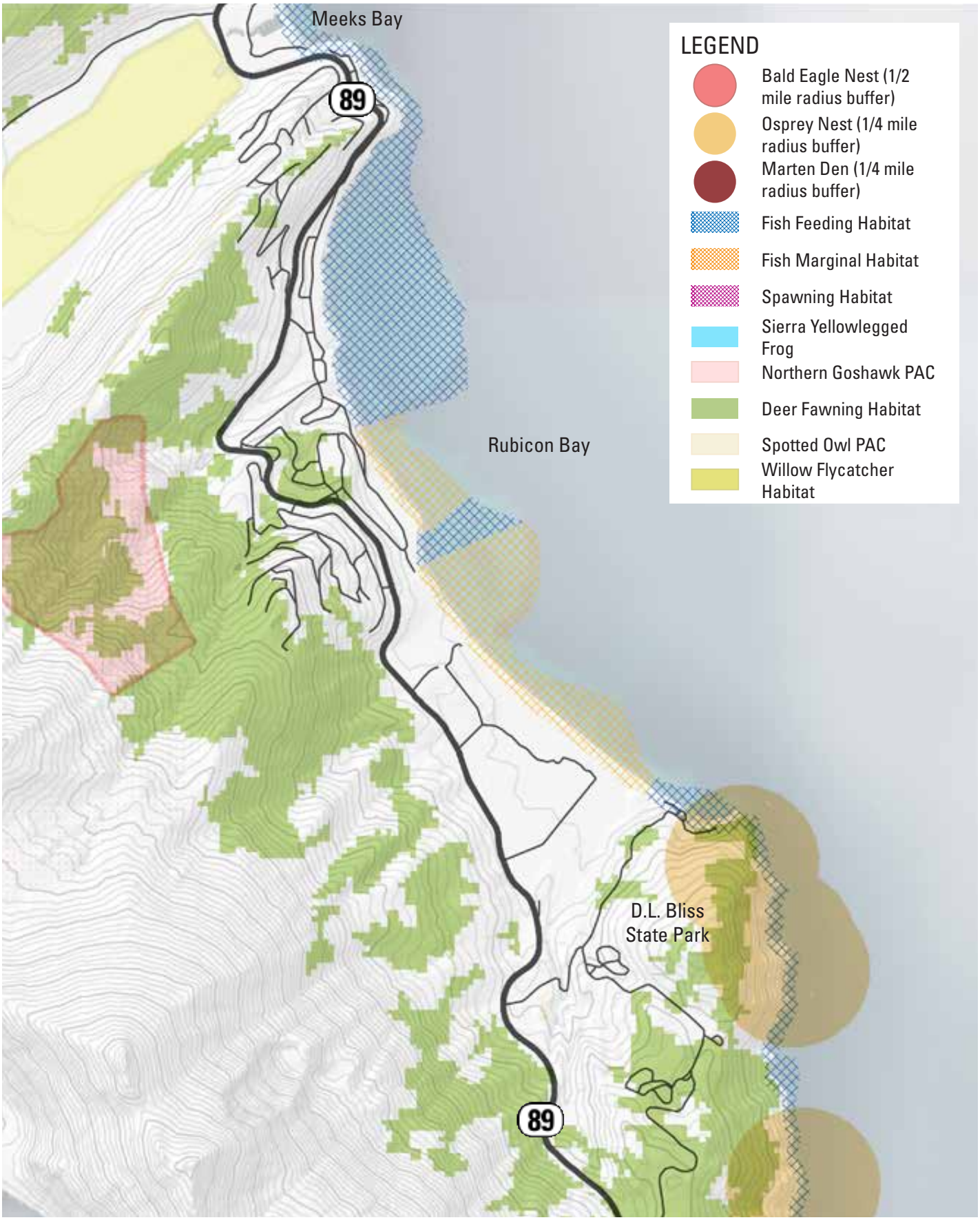



**Figure 56:** Natural Resources | Rubicon Bay Segment

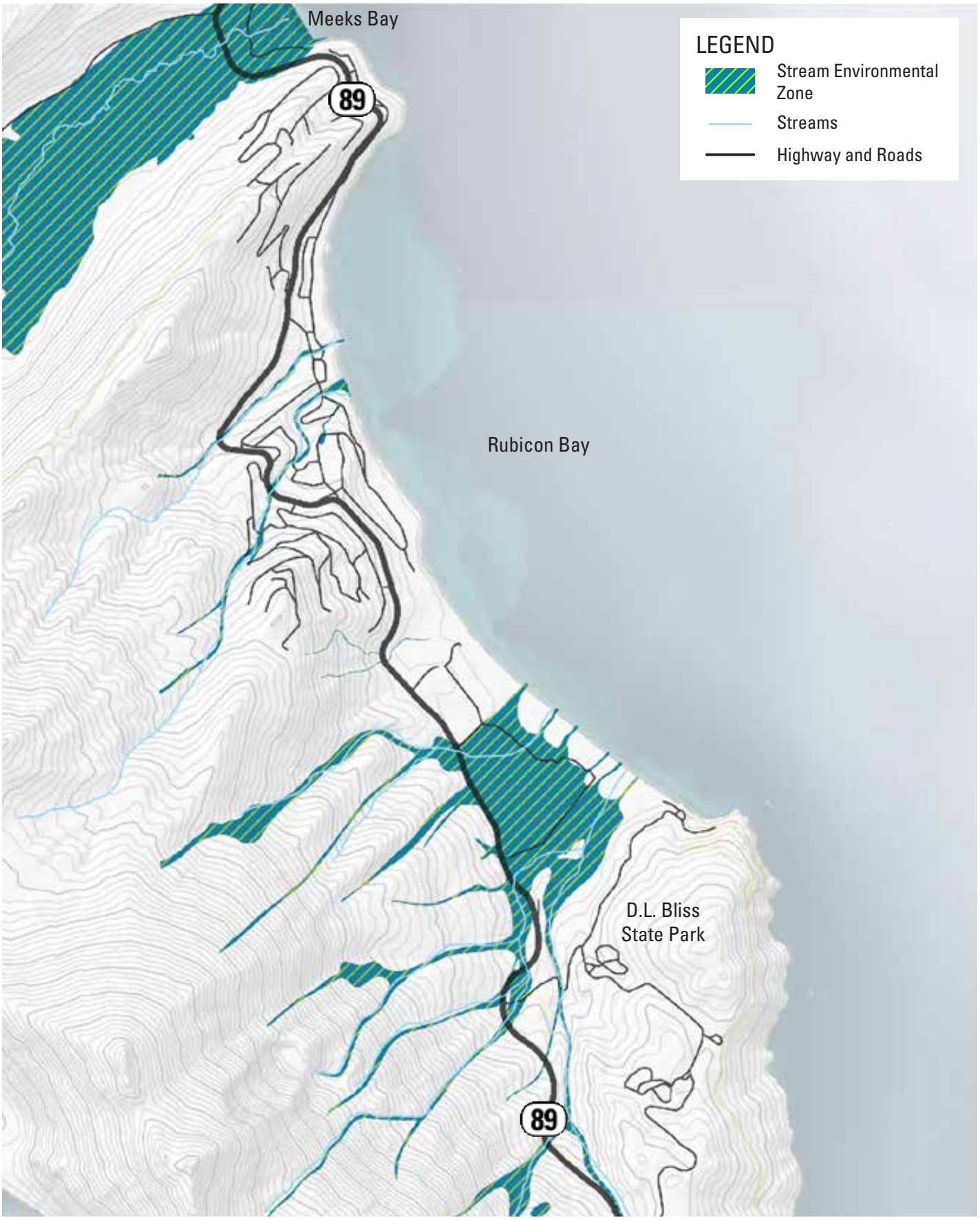



**Figure 57:** Stream Environment Zones and Hydrology | Rubicon Bay Segment

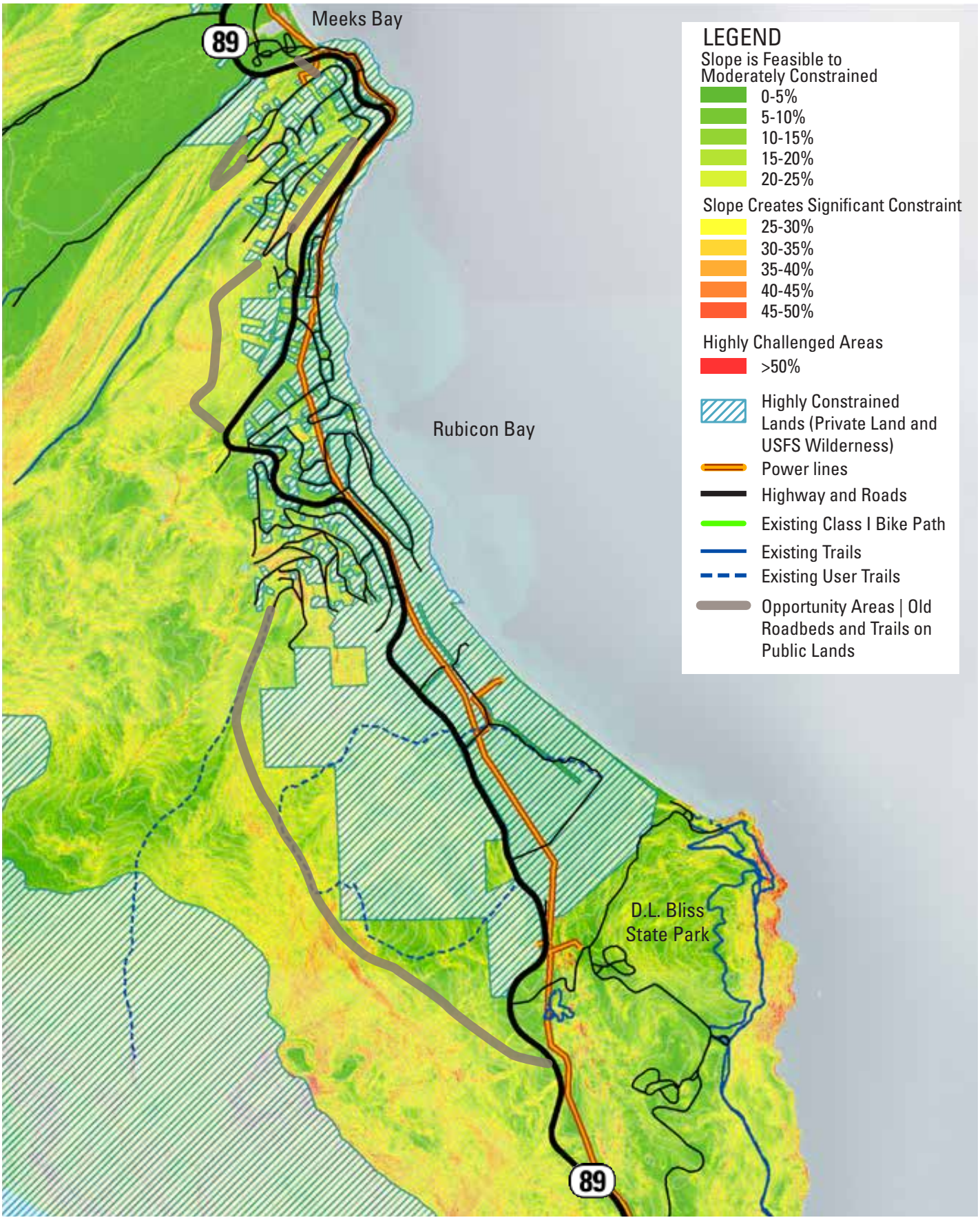



**Figure 58:** Resource Overlay Analysis | Rubicon Bay Segment

## IMPLICATIONS FOR THE TAHOE TRAIL IN THE RUBICON BAY SEGMENT

- Slopes, private lands, a narrow roadway with steep shoulders, and sensitive resources are elements that constrain development of a separated, shared use bike path from Meeks Bay to D.L. Bliss State Park.
- Steep terrain and private properties are the most significant constraints.
- The segment includes USFS lands with old roadbeds and trail corridors that could meet accessibility requirements for Class I bike paths.
- Some of the local neighborhood roads are too narrow and steep to be considered to be part of a trail alignment. However, local roads that have adequate width and appropriate grades could be considered, pending neighborhood outreach.
- The grade separation between Meeks Bay and the roadway elevation provides an ideal layout for an underpass where users would more easily to cross the highway via the underpass instead of at-grade.
- Utility corridors and the highway right-of-way should be explored for potential alignment opportunities.
- Under-grounding electric utilities can reduce wildfire risk. Co-locating utilities with a trail corridor allows for improved maintenance access and leverages funding dollars. Adding fiber conduit will improve communications for responding to wildfire and other emergencies. Opportunities to co-locate and underground fiber broadband should be considered where possible because under-grounding fiber broadband allows communications to remain online.

Old roadbed on USFS lands provides trail opportunity

Scenic views are provided along the USFS old roadbed.

The grade difference from Meeks Bay and SR 89 provides an opportunity for an underpass that would be part of a natural circulation path.

# MEEKS BAY SEGMENT

# MEEKS BAY SEGMENT

The Meeks Bay Segment includes the highway corridor as it wraps around Meeks Bay from south to north.

## Defining Elements

SR 89 curves around Meeks Bay Resort and Campground. Meeks Bay Resort and Campground are on Forest Service lands with residential areas located to the north and south. The Washoe Tribe operates Meeks Bay Resort and California Land Management, a concessionaire, operates the Campground.

During the summer, pedestrians often cross the highway as they walk from their car parked along the highway to the beaches and recreation areas to the west. Because the road bends around the recreation site, pedestrians often have short sight distance to see oncoming traffic. The posted speed limit is 40 miles per hour which can create a conflict with pedestrians and the recreation activity during the busy summer months.

## Visitor Activities

LTBMU owns and manages the public lands in the Meeks Bay Segment. The Washoe Tribe operates Meeks Bay Resort Facilities and a concessionaire operates the campground. There is an existing marina, but there are plans for removal of the marina for environmental restoration and site improvements.

Meeks Bay trailhead is located on the west side of SR 89. The dirt parking area provides access to Lake Genevieve and Desolation Wilderness. It is a popular trailhead in the summer and winter for trail and recreation access.

Recreation activities in the summer include the following:

- Visiting the beach and swimming
- Camping
- Biking
- Boating
- Hiking
- Picnicking

### KEY ISSUES

Although the Meeks Bay Segment does not have the traffic congestion and high volumes of visitation seen at other recreation sites in the corridor, there is opportunity for improvement. As visitation to Lake Tahoe increases, the pressures currently affecting the Meeks Bay area could increase. Key issues to be addressed include:

- The need to continue the Tahoe Trail and connect it to Rubicon Bay neighborhoods and other recreation destinations to the south.
- Lack of pedestrian crossing facilities to cross SR 89.
- Vehicles traveling at speeds not conducive for pedestrian crossings and volumes during peak season and roadway curves with short sight distance.
- Unmanaged roadside parking and unorganized trailhead parking.
- The need for winter access.

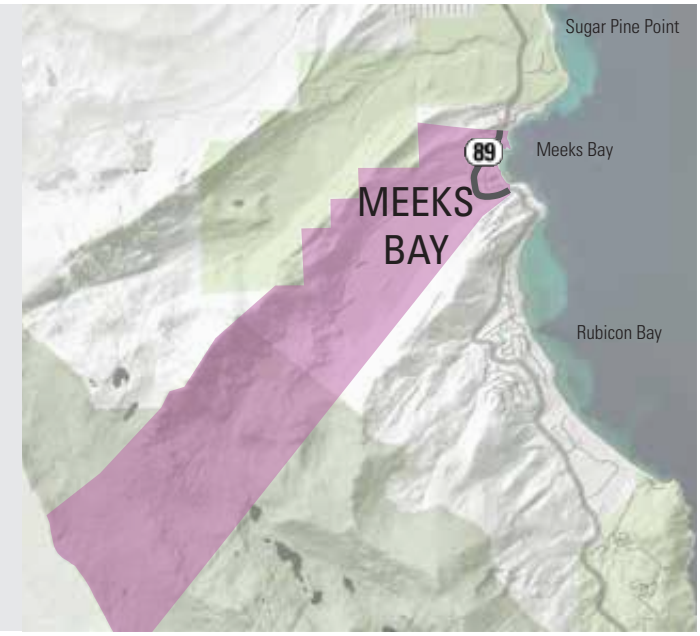



**Figure 59:** Meeks Bay Segment


**Figure 60:** Ownership | Meeks Bay Segment

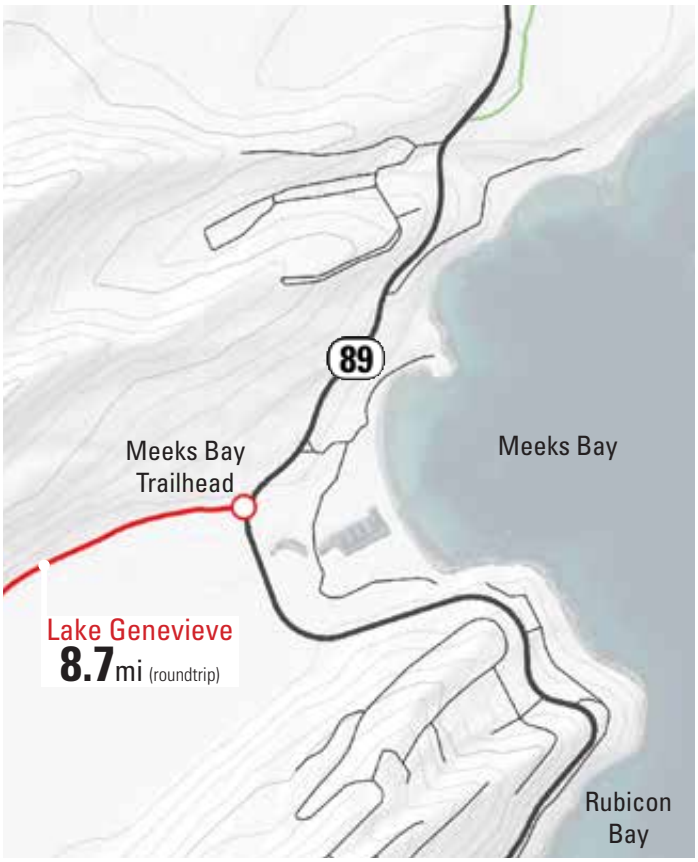



**Figure 61:** Trail Access | Meeks Bay Segment


**Figure 62:** Winter Use | Meeks Bay Segment

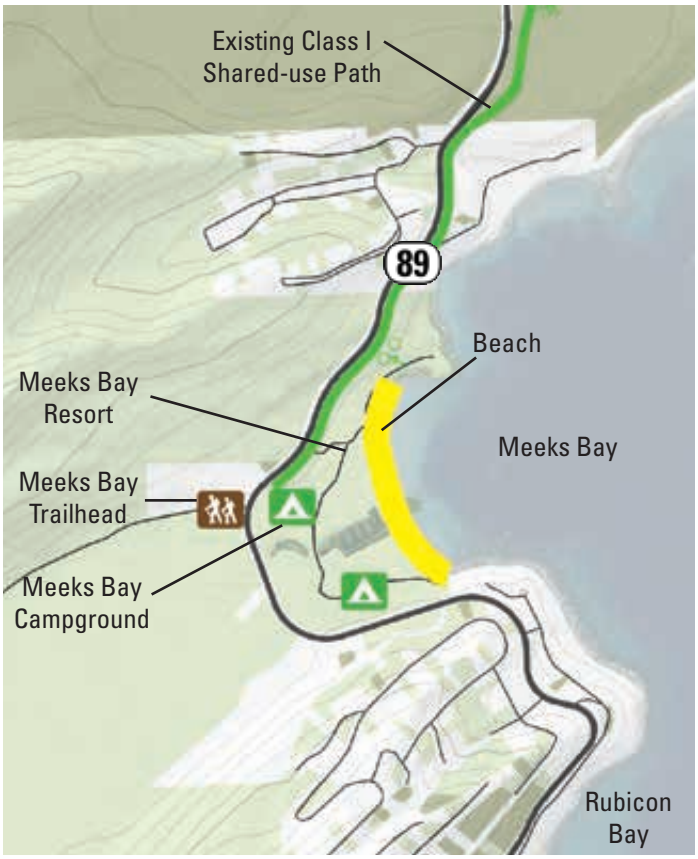



**Figure 63:** Recreation Areas | Meeks Bay Segment

## VISITATION DATA

Meeks Bay's proximity to West Shore residences makes it an attractive destination for visitors and residents in the area. The mix of residents versus visitor recreating at Meeks Bay differs from the overall corridor. Travel mode surveys and postcard survey results indicate full-time or seasonal residents visiting Meeks Bay make up a higher percentage of guests than in other recreation areas. Thirty-four percent of Meeks Bay visitors identified themselves as residents versus the overall corridor average of 19 percent. This is an increase of almost 80 percent.

Similarly, the Meeks Bay segment has a higher percentage of people who stay in a second home and at a campground. This data aligns with the high percentage of seasonally-occupied homes in the adjacent neighborhoods and the central location of the Meeks Bay Campground.

Length of stay was also longer for travel mode survey respondents. This is likely influenced by the number of campers at the site.

Sixty-eight percent of postcard survey respondents arrived to Meeks Bay from the north and indicated that they would return to the north. Twenty-six percent arrived and returned from the south and only 5 percent indicated that they were traveling through. Meeks Bay is more of a recreation destination for neighboring residents and visitors and people traveling from the north.

Primary recreation activities tend to be visiting the beach, taking a day hike, and going on an overnight backpacking trip. The TRPA travel mode surveys intercepted visitors using the campground, whereas it appears that either the 2018 intercept survey and postcard survey did not connect with campers or that the campers identified another activity as their primary recreation activity.

### IMPLICATIONS FOR MANAGEMENT STRATEGIES

- Continuing to enhance trail connectivity can promote walking and biking to the recreation facilities. The proportion of full-time or seasonal residents visiting the recreation area could walk or bike from their residence or place of stay.
- Developing a shared-use path that connects the West Shore Trail to a future shared-use trail to the south would continue to encourage trail use and connectivity between recreation areas.
- Organizing day use parking would provide erosion control and clarify parking areas. Enhancements should be considered in coordination with the number of people desired on the trails.

Meeks Bay Resort has opportunities for water activities, camping, picnicking, and overnight lodging.

Sources for Tables 17 and 18: Trip Planning and Visitation Statistics for Meeks Bay

1 TRPA Travel Mode Surveys (Average of 2014 and 2018)

2 LSC 2018 Postcard Survey (Pre-paid survey postcards were placed under windshield wipers of vehicles parked along the corridor in late July. Of the 2000 surveys distributed, 138 were returned.)

3 Corridor Intercept Survey (2018)

4 Corridor On-line Survey (2018)

5 USFS Visitor Counts

6 TRPA Travel Mode Survey 2018 Only

| TRIP PLANNING[6] | | |
|---|---|---|
| | Meeks Bay | Overall Corridor Average |
| A Month or More Before | 50% | 31% |
| More than a Week, But Less than a Month | 17% | 11% |
| In the Last Week | 25% | 20% |
| Yesterday | 0% | 21% |
| Sometime Today | 8% | 17% |

**Table 17:** When Survey Respondents Planned Trip to Meeks Bay

| VISITATION STATISTICS | MEEKS BAY SEGMENT | | |
|---|---|---|---|
| | Meeks Bay Segment Information Only | Overall Corridor Comparison 2017 LTCCP | Overall Corridor Average |
| Resident Versus Visitor | | | |
| Full-Time or Seasonal Resident | 34%[1] | 13% | 19%[3] |
| Visitor | 66%[1] | 87% | 81%[3] |
| Visitor Type | | | |
| Overnight Visitors | 86%[1] | 90% | 89%[3] |
| Day Visitors | 14%[1] | 10% | 11%[3] |
| Lodging Type | | | |
| Vacation Rental | 23.7%[1] | | 21.2%[3] |
| Second Home | 15.8%[1] | | 7.4%[3] |
| Friend's Residence | 10.5%[1] | | 8.5%[3] |
| Timeshare | 0%[1] | | 8.3%[3] |
| Motel/Hotel | 18.4%[1] | | 36.9%[3] |
| Campground | 31.6%[1] | | 17.6%[3] |
| Length of Stay at Recreation Site | 9.8 hours[1] | | 3.6 hours[3] / 4.7 hours[2] |
| Number of People in Trip Party | 3.6[2] | | 3.6 people[3] / 3.7 people[2] |
| Travel Modes (2018 Travel Mode Surveys) | | | |
| Car/Truck/Van | 86%[6] | | 86%[3] |
| Motorcycle/Moped | 0%[6] | | 2%[3] |
| Transit | 0%[6] | | 1%[3] |
| Ferry or Boat | 0%[6] | | 2%[3] |
| Private Shuttle | 3%[6] | | |
| Scooter | 3%[6] | | |
| Bicycle | 2%[6] | | 5%[3] |
| Walk | 8%[6] | | 5%[3] |
| Trip Pattern | | | |
| Arrive from and Return to South | 26%[2] | | 52%[3] |
| Arrive from and Return to North | 68%[2] | | 39%[3] |
| Traveling Through | 5%[2] | | 9%[3] |
| Primary Recreation Activity | | | |
| Visit a Beach | 44%[2] / 83%[3] | 82[4] | 25%[2] / 40%[3] |
| Day Hike | 39%[2] / 17%[3] | 87[4] | 46%[2] / 31%[3] |
| Quick Stop to See the View | 0%[2] / 0%[3] | 36[4] | 5%[2] / 5%[3] |
| Drive Around the Lake | 0%[2] / 0%[3] | 38[4] | 4%[2] / 1%[3] |
| Take a Bike Ride | 0%[2] / 0%[3] | 51[4] | 1%[2] / 2%[3] |
| Overnight Backpack Trip | 17%[2] / 0%[3] | 34[4] | 9%[2] / 5%[3] |
| Camping | 0%[2] / 0%[3] | 0[4] | N/A / 15%[3] |
| Other | 0%[2] / 0%[3] | N/A | 4%[2] / 4%[3] |
| Average Number of Annual Visitors at Meeks Bay[5] | | | |
| 2018 Meeks Bay Day Use Season Total | 27,684 | Estimated 1.8 Million in 2014 for Entire Corridor | |
| 2015-2017 Meeks Bay Campground Annual Average Number of People | 13,133 | | |

**Table 18:** Visitation Statistics for the Meeks Bay Segment

## TRAFFIC DELAY

Traffic delay is not a typical issue in the Meeks Bay segment. Delays can be associated with roadside parking and queuing into Meeks Bay Resort, but it is not reported to be significant at this time.

## PARKING DATA

Circulation and parking within Meeks Bay Resort could be enhanced. Vehicles currently park in unpaved areas within the recreation area. A conceptual plan has been previously developed illustrating potential circulation improvements. The plan has not gone through environmental review. Therefore, it should only be considered as informational.

LSC conducted a parking study of the shoulder parking and trailhead parking during the summer of 2018. The areas south of Meeks Bay Trailhead consistently had the most cars parked along the highway. Parking accumulation peaked at 1:00 PM and remained consistent through the afternoon until 3:30 PM.

The Meeks Bay Trailhead filled by 9:00 AM and remained full throughout the day. The trailhead is unpaved and is a popular access point to Desolation Wilderness.

Because Meeks Bay does not see the high volume of visitors typical for Emerald Bay and the Pope to Baldwin areas, the challenges associated with shoulder parking are not as acute. As visitation demands increase, the area should be monitored and parking management strategies should be reviewed to address changing conditions.

## TRANSIT FACILITIES

There are no active transit stops at Meeks Bay. The LTCCP identifies previous stops being located at the recreation area. Facilities should be located off the highway near the entry of the recreation area. Private lands are located on the southwestern portion of the segment. Reinvestments in now vacant properties could create an opportunity to coordinate with a southbound transit stop.

### IMPLICATIONS FOR MANAGEMENT STRATEGIES

- Organizing day use parking would provide erosion control and clarify parking areas.
- Monitoring use will enable land mangers to identify if management strategies should change in response to increased use of the recreation facilities.
- Designing transit stops so buses can pull off the highway to load and unload passengers reduces traffic flow impacts.
- Connecting transit to Meeks Bay from North Lake Tahoe would provide for the high percentage of people traveling from the north to the recreation area.
- Improving access to technology, such as adding fiber conduit, will improve communications for responding to wildlife and other emergencies and enhance connectivity for parking management strategies and real-time transit communications.

The highway makes an almost 90 degree bend as it enters Meeks Bay which reduces the sight distance for pedestrians crossing the road.

Source for Tables 19: Parking Data Statistics | Meeks Bay Segment

1 LSC Meeks Bay Parking Study, Summer 2018

| PARKING DATA STATISTICS | MEEKS BAY SEGMENT | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Number of Existing Off-Highway Parking Spaces Available (228 total) | | | | | | | | | | |
| Trailhead Parking Spaces | 11 (unpaved) | | | | | | | | | |
| Meeks Bay Resort Parking Lot Spaces | 141 | | | | | | | | | |
| Meeks Bay Day Use Parking Lot Spaces | 76 | | | | | | | | | |
| Observed Shoulder Parking (Number of Vehicles Parked Saturday, July 21, 2018)[1] | | | | | | | | | | |
| | Peak Number of Cars Parked along Highway | | | | | | | | | |
| North of Trailhead \| Mountainside | 8 | | | | | | | | | |
| North of Trailhead \| Lakeside | 19 | | | | | | | | | |
| South of Trailhead \| Mountainside | 32 | | | | | | | | | |
| South of Trailhead \| Lakeside | 25 | | | | | | | | | |
| Total On-Highway Parking | 84 | | | | | | | | | |
| Trailhead and Shoulder Parking Accumulation Times (Saturday, July 21, 2018)[1] | | | | | | | | | | |
| | 8:00AM | 9:00AM | 10:00AM | 11:00AM | 12:00PM | 1:00PM | 2:00PM | 2:30PM | 3:00PM | 3:30PM |
| **Total Number of Cars** | **24** | **30** | **35** | **42** | **68** | **85** | **84** | **85** | **85** | **79** |
| Trailhead | 9 | 11 | 11 | 11 | 10 | 10 | 10 | 10 | 10 | 10 |
| **Total On-Highway** | **15** | **19** | **24** | **31** | **58** | **75** | **74** | **75** | **75** | **69** |
| North of Trailhead \| Mountainside | 6 | 7 | 8 | 7 | 7 | 7 | 7 | 7 | 8 | 7 |
| North of Trailhead \| Lakeside | 0 | 0 | 0 | 4 | 10 | 17 | 19 | 18 | 19 | 17 |
| South of Trailhead \| Mountainside | 7 | 9 | 10 | 11 | 22 | 26 | 30 | 32 | 29 | 26 |
| South of Trailhead \| Lakeside | 2 | 3 | 6 | 9 | 19 | 25 | 18 | 18 | 19 | 19 |

**Table 19:** Parking Data Statistics for the Meeks Bay Segment

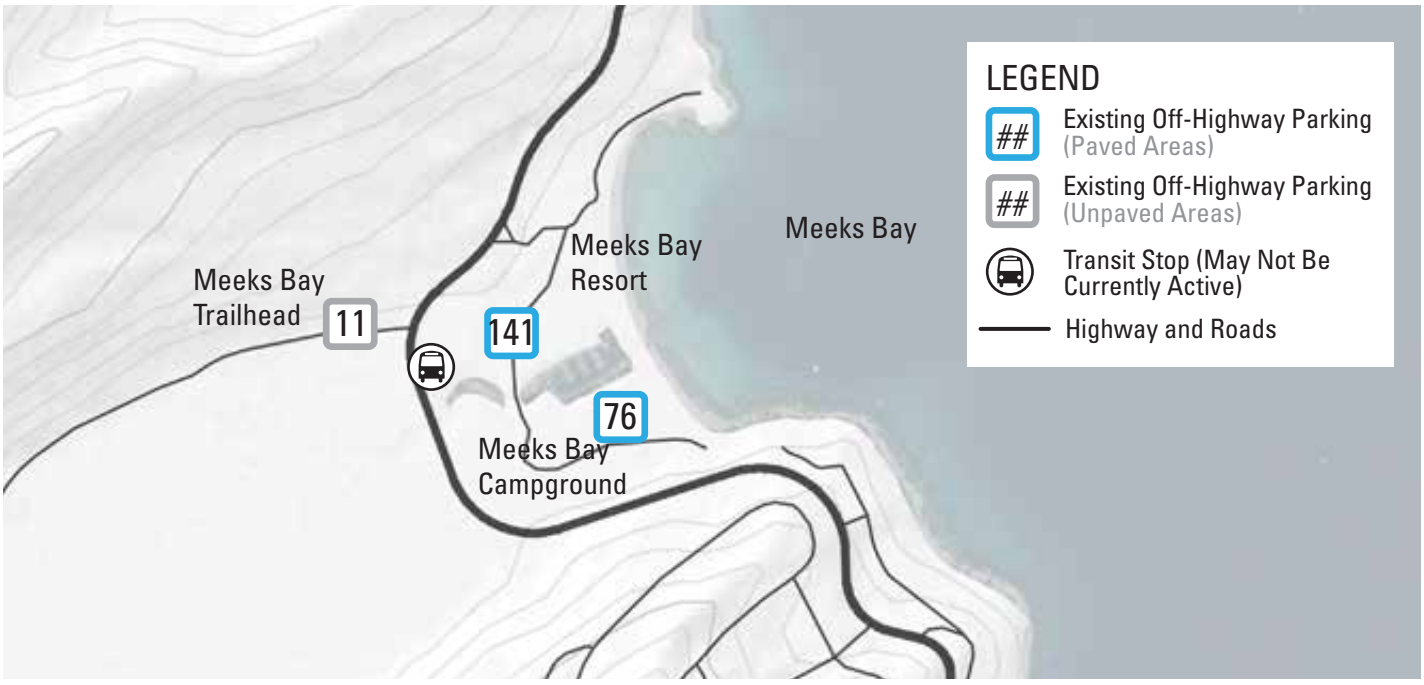



**Figure 64:** Off-Highway Parking Locations and Numbers and Transit Stops in Meeks Bay

## BICYCLE AND PEDESTRIAN FACILITIES

A Class I shared use path runs north from Meeks Bay to Sugar Pine State Park. The pathway is part of the larger West Shore Trail network for North Lake Tahoe. It also serves as a portion of the envisioned bikeway around Lake Tahoe, otherwise known as the Tahoe Trail.

### Gaps, Opportunities, and Constraints

The bike path terminates at the northern Meeks Bay Resort entry. Neighborhoods and recreation areas to the south can be connected via the trail network. The trail segment through Meeks Bay will be part of the overall trail to connect to Emerald Bay and promote walking and biking.

Alignment considerations include providing access to recreation areas while minimizing pathway disruptions to the campground. The highway's posted speed limit and road alignment make at-grade crossings undesirable. Therefore, as the path continues to the south, at-grade crossings should be minimized. A bridge replacement project is planned and is an opportunity to provide a grade-separated underpass. Within Meeks Bay recreation area, lands are owned by the USFS. This provides flexibility in routing the future pathway and providing separation from the highway.

### IMPLICATIONS FOR MANAGEMENT STRATEGIES

- Developing a shared-use path that connects the West Shore Trail to a future shared-use trail to the south would continue to encourage trail use and connectivity between recreation areas. The path would also provide a place off the roadway for pedestrians to walk.
- Connect trail systems to future mobility hubs and parking areas encourages transit use.
- Minimizing at-grade trail crossings reduces conflicts.
- Prioritizing the use of public lands for future alternative trail alignments can increase trail feasibility.
- Utilizing shared-use path systems to provide visitor access to recreation areas can reduce vehicular use.
- Reducing the speed limit during peak recreation days would enhance pedestrian crossing opportunities.

An unpaved trail through Meeks Bay Resort connects users to the different facilities.

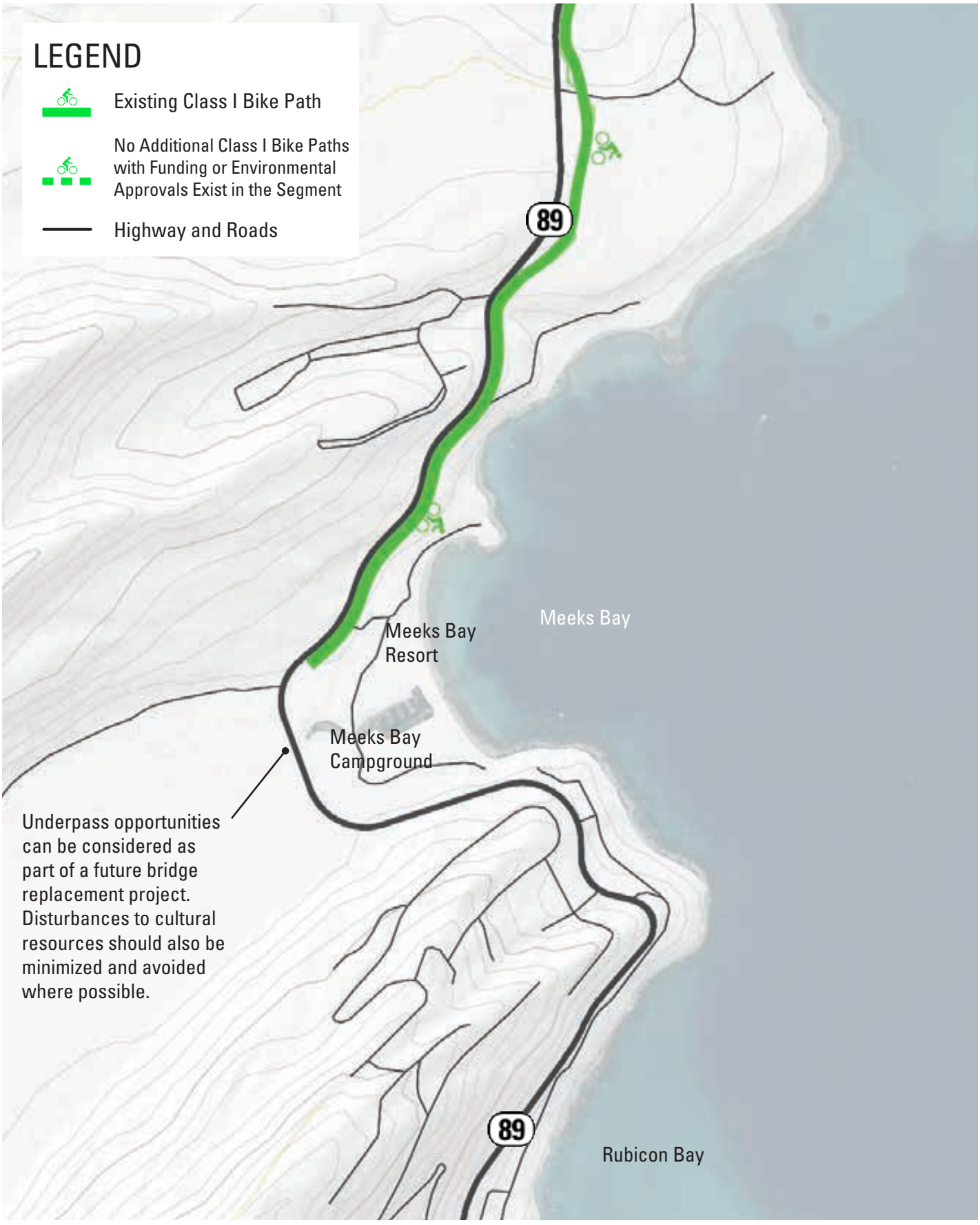



**Figure 65:** Existing and Funded Shared-Use Path Facilities | Meeks Bay Segment

# SUGAR PINE POINT SEGMENT

## SUGAR PINE POINT SEGMENT

The Sugar Pine Point Segment extends from the northern edge of Meeks Bay to the Placer County/El Dorado County line in Tahoma and includes Sugar Pine Point State Park.

### Defining Elements

This segment is the northern gateway to the recreation corridor to the south. The highway is bordered by both residential and public lands. Small neighborhoods are located north of Meeks Bay. Tahoma, a census designated place, includes residential and small commercial areas in both El Dorado County and Placer County. The West Shore Trail (or Tahoe Trail) extends from the Placer County line south to Meeks Bay. Within this segment, the shared-use path mostly parallels the roadway.

### Visitor Activities

California State Parks is the primary public land manager within the segment. Additional public lands are owned and managed by the USFS and CTC. In this northern segment of the corridor, the highway runs between private lands and also provides access to public recreation areas. Sugar Pine Point State Park does not see the visitor volumes associated with Emerald Bay, but visitation continues to increase.

Tahoma and Homewood areas create a northern gateway to the corridor and offer a small number of food and beverage opportunities. These are the last commercial areas before a traveler heads south through the recreation corridor. Most of the other food and beverage offerings in the corridor, such as those at Meeks Bay Resort and Camp Richardson Resort, are provided as part of concessionaire facilities on public lands.

Sugar Pine Point State Park provides opportunities to hike, swim, fish, camp, and explore a nature center and historic site. In the winter, cross-country skiing is available. Key recreation sites in the segment include:

- Sugar Pine Point State Park
- Sugar Pine Point Campground
- Beach areas in Sugar Pine Point State Park
- Hellman-Ehrman Estate picnic area, beach, and pier

Additional recreation sites, such as Homewood Resort, are located north of the corridor in Placer County.

### KEY ISSUES

The Sugar Pine Point Segment includes a mix of both residential development and public recreation areas, including Sugar Pine Point State Park. Although the segment does not have the traffic congestion and high volumes of visitation seen at other recreation sites in the corridor, there is opportunity for improvement. As visitation to Lake Tahoe increases, the pressures currently affecting the Sugar Pine Point State Park could increase. Key issues to be addressed include:

- Roadside parking in Tahoma, which is north of the study area, creates congestion for the corridor to the north.
- Visitors to the State Park often park along the highway and cross the highway to avoid an entry fee.

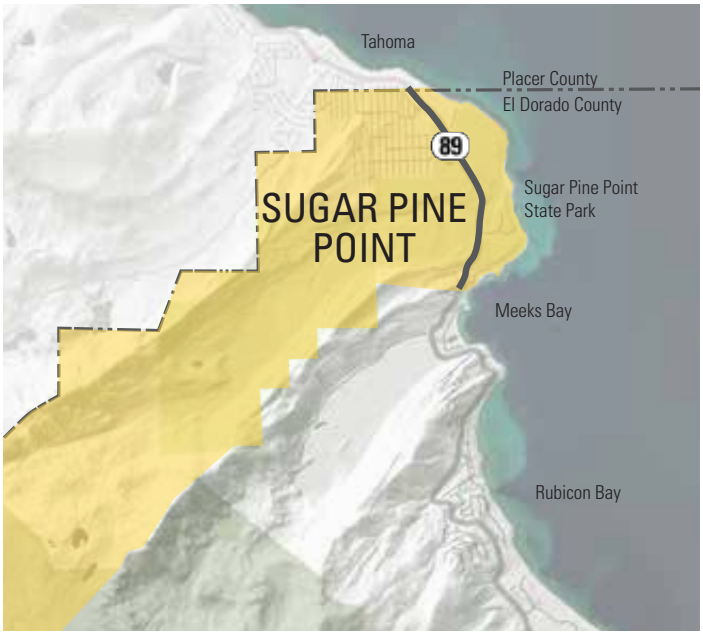



**Figure 66:** Sugar Pine Point Segment

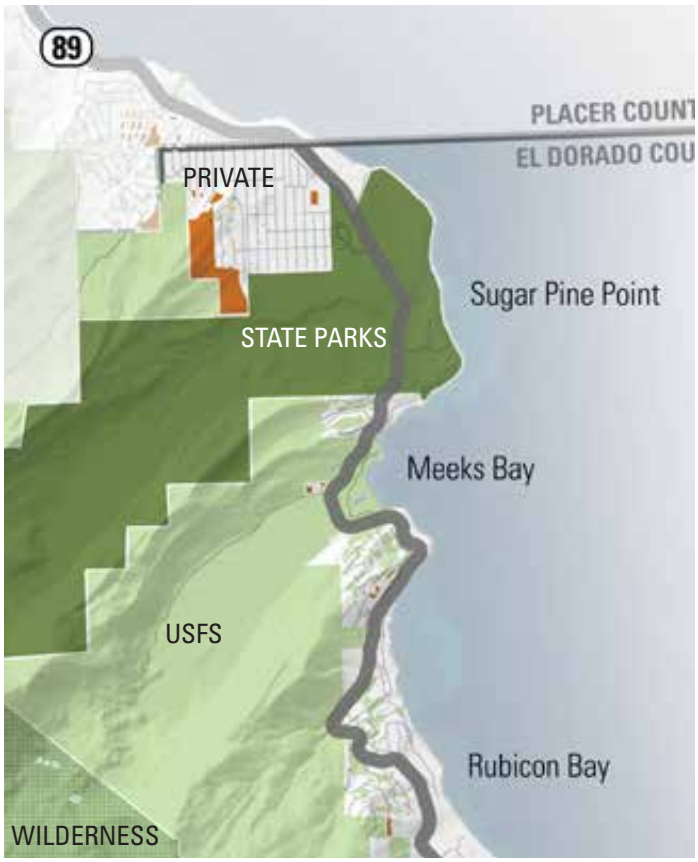



**Figure 67:** Ownership | Sugar Pine Point Segment


**Figure 68:** Land Use | Sugar Pine Point Segment


**Figure 69:** Trail Access | Sugar Pine Point Segment


**Figure 70:** Recreation Areas | Sugar Pine Point Segment

## VISITATION DATA

Sugar Pine Point segment does not experience the same levels of high visitor use and transportation issues as other corridor segments. Therefore, site specific surveys and data collection efforts did not occur for the segment.

State Parks' annual attendance counts for Sugar Pine Point State Park recorded 162,520 visitors during the 2015/2016 season. Additional visitation may have occurred from people parking along the roadway and walking in or people walking or biking in from adjacent neighborhoods and lodging. The 2015/2016 saw an 31 percent increase in attendance over the previous year. This aligns with the local trend of increased summer recreation activity and visitation.

### IMPLICATIONS FOR MANAGEMENT STRATEGIES

- Monitoring use will enable land mangers to identify if management strategies should change in response to increased use of the recreation facilities.
- Evaluating opportunities for using some of the State Park parking as a mobility hub could be considered as part of a transit program. There is currently underutilized parking.

Hellman-Erhman Mansion, a historic building called Pine Lodge, establishes a strong cultural sense of place for the state park.

Trails and short hikes offer a popular activity in the state park.

The pier at Sugar Pine Point State Park provides access to Lake Tahoe.

| VISITATION STATISTICS | SUGAR PINE POINT SEGMENT | |
|---|---|---|
| Number of 2016 Visitors | | |
| Sugar Pine Point State Park 2016 Annual Attendance | 162,520[1] | Estimated 1.8 Million in 2014 for Entire Corridor |

**Table 20:** Visitation Statistics for the Sugar Pine Point Segment

Source:

1 California State Park Sierra District Visitation Numbers

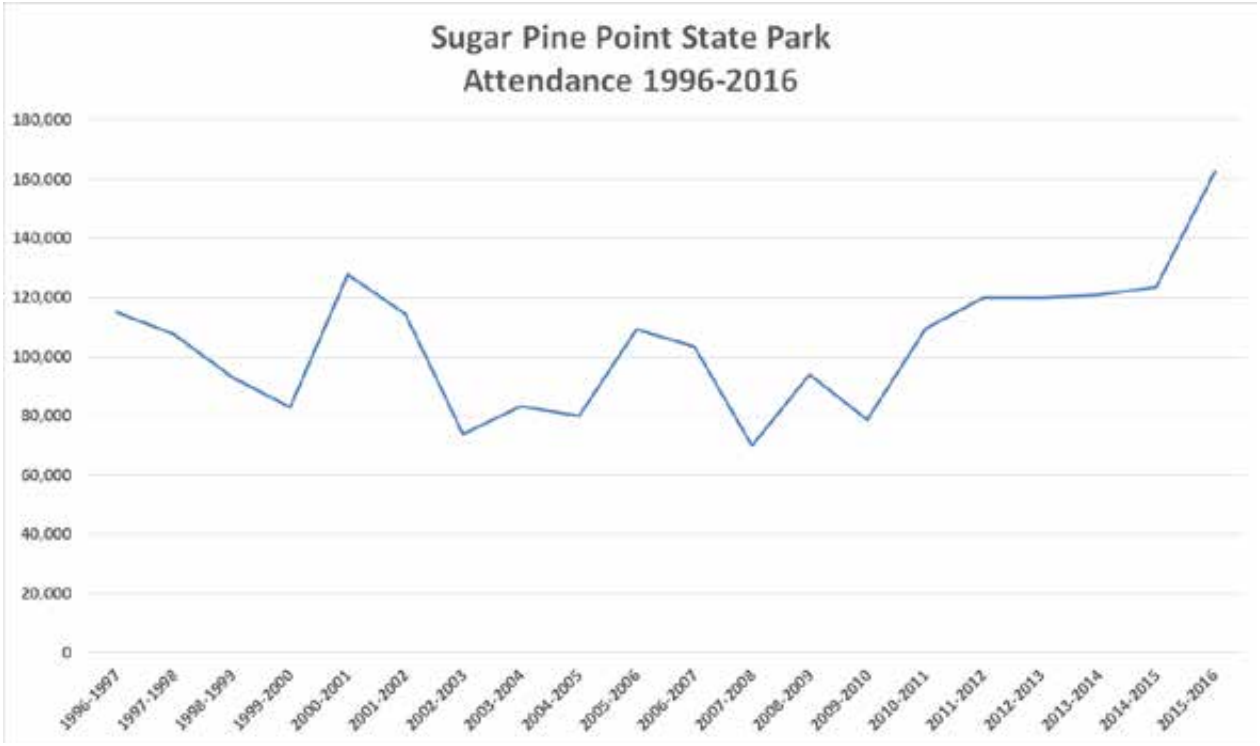



**Figure 71:** Sugar Pine Point State Park Annual Attendance

## TRAFFIC DELAY

Traffic delay is not a typical issue in the Sugar Pine Point segment. Delays can be associated with construction projects, but are not typically associated with recreation access.

## PARKING

Shoulder parking is not a typical issue in the Sugar Pine Point segment. State Park guests may park along the highway in order to not pay entrance fees, but it has not become a priority management concern. State Park staff note that off-highway parking areas do not typically fill, even on peak weekends in the summer. Sugar Pine Point State Park visitation is increasing annually, but not to the volumes experienced in the other recreation areas of the corridor.

## TRANSIT FACILITIES

The Tahoe Truckee Area Regional Transit (TART) has a Mainline transit stop location at Sugar Pine Point State Park. It is the southernmost transit stop listed as part of its 2018 route.

### IMPLICATIONS FOR MANAGEMENT STRATEGIES

- Monitoring use will enable land mangers to identify if management strategies should change in response to increased use of the recreation facilities.
- Evaluating opportunities for using some of the State Park parking as a mobility hub could be considered as part of a transit program. There is currently underutilized parking.
- Coordinating with the SR 89/28 Corridor Management Plan will help ensure strategies applied in Tahoma don't impact Sugar Pine Point State Park.

| PARKING DATA STATISTICS | SUGAR PINE POINT SEGMENT | |
|---|---|---|
| Number of Existing Off-Highway Parking Spaces Available (185 total) | | |
| Sugar Pine Point State Park Parking Lot Spaces (West of SR 89) | | 20 |
| Sugar Pine Point State Park Parking Lot Spaces (East of SR 89) | | 34 |

**Table 21:** Parking Data Statistics for the Sugar Pine Point Segment

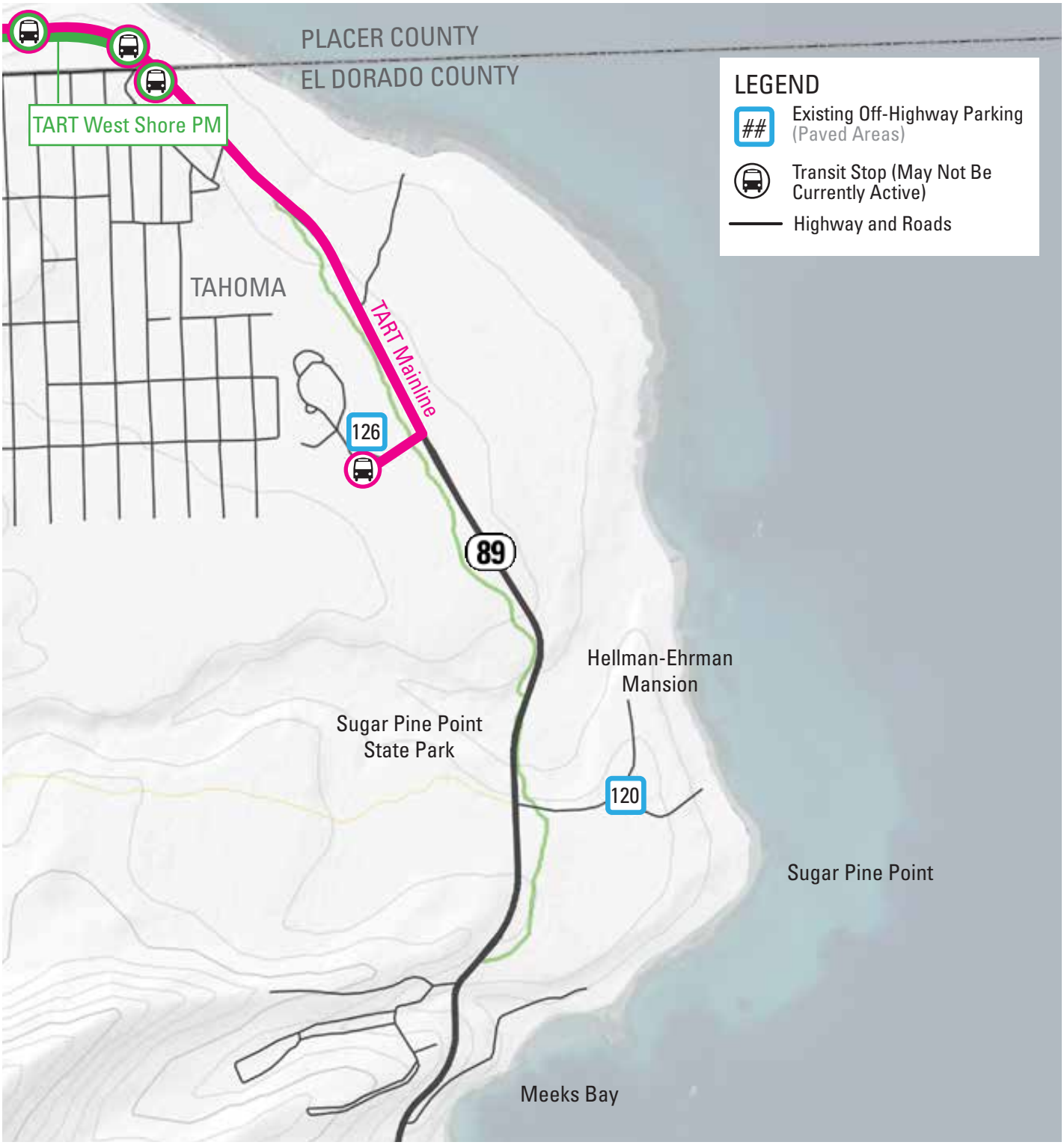



**Figure 72:** 2018 Transit and Parking | Sugar Pine Point Segment

## BICYCLE AND PEDESTRIAN FACILITIES

In 2018, the West Shore bike trail system was extended from Sugar Pine Point State Park to Meeks Bay Resort. The trail system connects north to Tahoe City and the resort area of Squaw Valley in Olympic Valley, California. The trail will connect with the planned Resort Triangle trail system that will link North Lake Tahoe communities to Olympic Valley, Truckee, and Northstar. As part of a backbone system of trails, the path alignment through Sugar Pine Point State Park and south to Meeks Bay will encourage more people to walk or bike to their destination.

Although trail use numbers in Sugar Pine Point State Park are lower than those for the Pope to Baldwin Bike Path in the southern section of the corridor, monthly and daily counts show it is well used by North Shore residents and visitors. As future trail connections are made, user numbers are anticipated to increase and the trail could become a recreation activity in and of itself.

### IMPLICATIONS FOR MANAGEMENT STRATEGIES

- Monitoring use of the Tahoe Trail segment will help land managers identify a need for new trailhead parking or for Sugar Pine Point Park to provide trailhead parking for the Tahoe Trail.

A newly constructed Class I shared-use path connects Sugar Pine Point State Park to Meeks Bay. The use of off-highway bike facilities shows the need and desire for shared-use path connectivity between recreation areas.

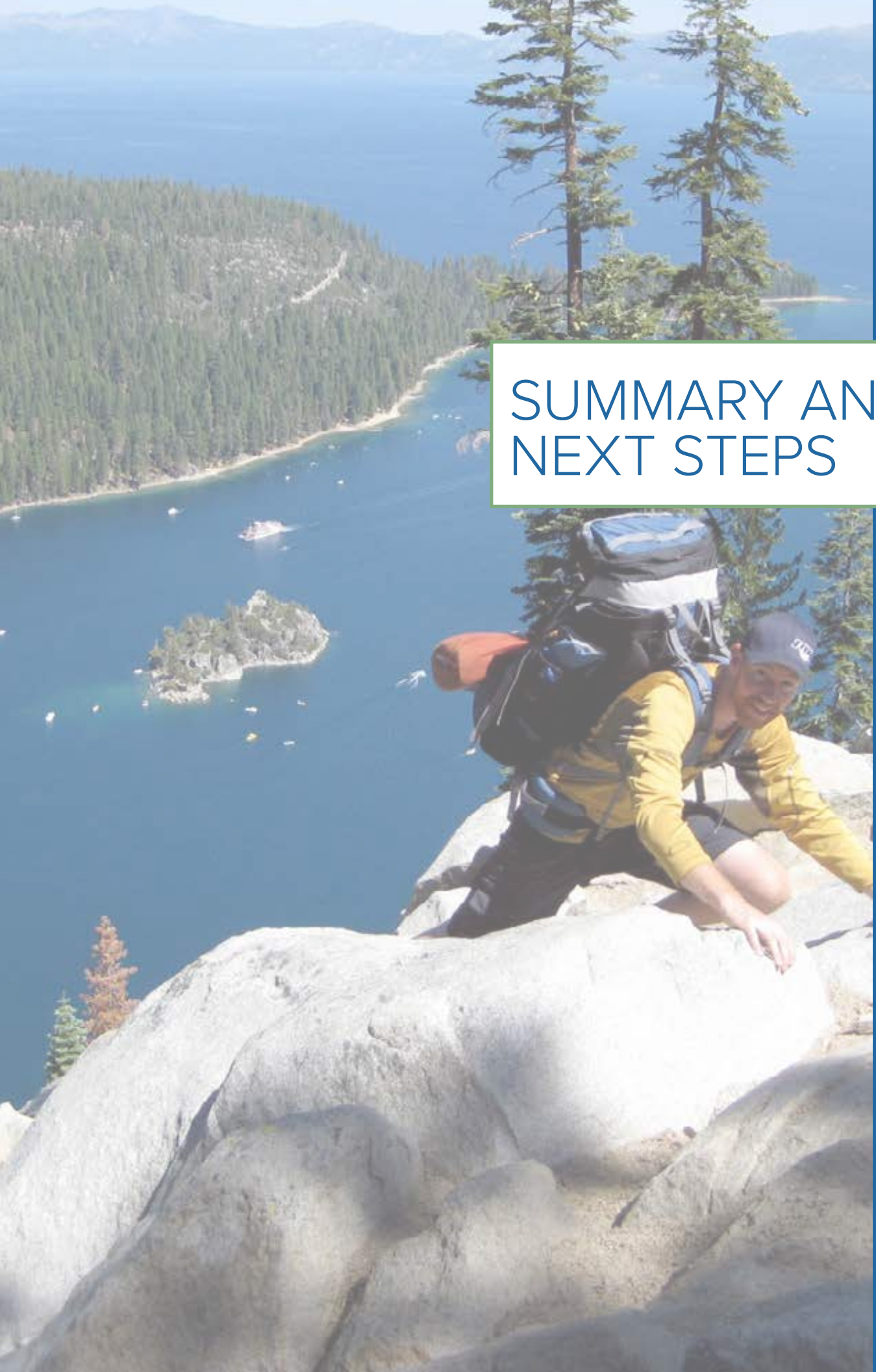
| SHARED-USE PATH STATISTICS \| HOMEWOOD[1] | | | | | | | |
|---|---|---|---|---|---|---|---|
| Tahoe Trail Shared-use Path User 2018 Monthly Counts | | | | | | | |
| | May 2018 | June 2018 | July 2018 | August 2018 | | September 2018 | |
| Sugar Pine Point Shared-use Path | 659 | 1,267 | 2,074 | 1,911 | | N/A | |
| Tahoe Trail Shared-use Path User 2018 Typical Daily Counts | | | | | | | |
| | Sun | Mon | Tue | Wed | Thur | Fri | Sat |
| Sugar Pine Point Shared-use Path | 70 | 53 | 48 | 49 | 55 | 49 | 71 |

**Table 22:** Shared-Use Path Statistics at Sugar Pine Point State Park

Source:

1 2018 TRPA Monitoring Data


**Figure 73:** Existing and Funded Shared-Use Path Facilities | Sugar Pine Point Segment



# SUMMARY AND NEXT STEPS

## SUMMARY

As described in the 2017 Linking Tahoe: Corridor Connection Plan, congestion and parking issues through Camp Richardson and Emerald Bay are the most significant transportation issues in the SR 89 Corridor. The limited parking, lack of consistent transit service, roadway design, and lack of technology infrastructure create congestion, degrade visitor experience, and impact the environment and lake clarity. A cohesive and consistent set of strategies are needed to address the issues.

In addition to the findings of the Corridor Connection Plan, key takeaways from the review and collection of transportation and visitor data include the following, organized by segment:

### Pope to Baldwin Segment

*Key Issues*

- Congestion is associated with beach access, pedestrian movement, and motorists searching for roadside parking after off-highway beach parking fills.

*Key Implications for Management Strategies*

- Establishing a no parking zone while providing access through off-highway parking lots and mobility hubs could provide clarity and consistency in parking strategies.
- Relocating roadside parking to off-highway locations and creating a no-shoulder parking zone can reduce vehicles searching for parking and reduce the number of pedestrians crossing at Jameson Beach Road.
- Using parking management strategies, including reservations and congestion-based pricing, would help manage visitor demands and create capacity by encouraging parking turnover.
- Improving wayfinding and vehicular circulation by linking off-highway parking areas and reducing the number of intersections with SR 89 would improve utilization of existing parking area and manage congestion.
- Reconfiguring land uses, improving intersection function, and relocating roadside parking at the Jameson Beach Road/SR 89 intersection could reduce delays associated with pedestrian crossings.
- Considering opportunities for temporary off-highway parking locations to accommodate special event parking would manage peak congestion.
- Addressing the lack of technology access and providing fiber communications infrastructure would facilitate real-time parking management strategies and transit connectivity.
- Managing congestion is necessary to make transit a desirable option for visitors.
- Completing trail segments to beach destinations and connecting trail systems to future mobility hubs and parking areas could reduce vehicular use. This includes shared-use paths along Jameson Beach Road and Baldwin Beach Road.
- Formalizing the trail corridor and connection from the Gardner Mountain neighborhood to Camp Richardson Resort with an unpaved, but improved trail can provide erosion control and increase multi-modal access.

### Emerald Bay Segment

*Key Issues*

- Congestion, roadside parking, and pedestrians walking in the roadway or on narrow shoulders due to insufficient off-highway parking to meet visitor demand. Illegal parking creates delays, impedes enforcement, reduces the visitor experience, increases erosion, and impacts stormwater quality projects. Topography, sensitive resources, and scenic impacts constrain the ability to build large amounts of new off-highway parking. Emergency access and year-round access are challenged by winter road closures due to rock slides and avalanches.

*Key Implications for Management Strategies*

- Establishing a no parking zone while providing access through off-highway parking lots and mobility hubs could provide clarity and consistency in parking strategies and simplify enforcement.
- Relocating roadside parking to off-highway locations and creating a no-shoulder parking zone can reduce vehicles searching for parking and reduce the number of pedestrians walking along the roadway.
- Using parking management strategies, including reservations and congestion-based pricing, would help manage visitor demands, distribute arrival and departure times, and create capacity by encouraging parking turnover.
- Providing infrastructure for improved technology and access to communications is an important component for successful, real-time transit and parking

management programs. For the Emerald Bay Segment, this could include adding broadband access including cellular infrastructure.

- Improved awareness and frequency of transit can increase ridership.
- Designing transit stops so buses can pull off the highway to load and unload passengers reduces traffic flow impacts and addresses accessibility requirements.
- Addressing roadway design issues can enhance transit access. The Short-Range Transit Plan identifies many of these issues and recommendations for improvement, including the need for improved technology, guard rails, constraints created by hair pin turns, and required bus sizes.
- Developing a consistent, easy to understand system and providing docents to answer questions and direct users can improve the visitor experience. The volume of visitors, different land managers, and dispersed parking areas can confuse visitors who are not sure where they can park and for how long. Over 50 percent of visitors plan their visit to Emerald Bay a day, or less than a day, in advance. Visitor and travel information must be easy to find and understand.
- Developing a shared-use path that connects to the Pope-Baldwin Bicycle Trail to the south and the Tahoe Trail/West Shore Trail to the north would encourage biking to Emerald Bay.
- Developing a shared-use path near the highway corridor would provide a place off the roadway for pedestrians to walk in Emerald Bay.
- Addressing roadside parking can eliminate the impacts to stormwater improvements. Addressing road design elements at the viaduct, such as subsidence, can create opportunities to provide wildlife crossings.
- Improving year-round access would improve emergency services and connectivity for commuters and visitors along the West Shore.

### Rubicon Bay Segment

*Key Issues*

- Narrow roadways, difficult terrain, and private lands constrain the opportunities to route the Tahoe Trail (a shared use, off-highway bike path) and provide trail connectivity between recreation destinations to encourage walking and biking to activities. The area also lacks broadband access for enhanced communication for transportation systems.

*Key Implications for Management Strategies*

- Developing a shared-use path that connects to the West Shore Trail/Tahoe Trail to the north in Meeks Bay and a future segment of the Tahoe Trail to the south around Emerald Bay can encourage biking to Emerald Bay and Meeks Bay.
- Utilizing utility corridors and previous road and trail corridors reduces new disturbance and provides opportunities to underground utilities and co-locate fiber conduit. Under-grounding utilities also decreases risk of wildfire and provides scenic improvements.
- Working with residents and property owners to understand and address transportation needs can enhance planning and implementation strategies.
- Working with residents, property owners, and land managers could help build ownership and support for the Tahoe Trail.
- Improving access to technology, such as adding fiber conduit and/or adding cellular, will improve communications for responding to wildlife and other emergencies.

## Meeks Bay Segment

*Key Issues*

- Transit facilities and continuation of the Tahoe Trail through the recreation area are needed. An extension of the West Shore shared-use path was built in 2018 and connects Sugar Pine Point State Park to Meeks Bay. Completion of the segment illustrates the need for shared-use path connectivity between recreation sites. Travel speeds and short sight distances make at-grade pedestrian crossings less desirable. Shoulder parking and trailhead use could increase as recreation use continues to increase for the Lake Tahoe Region. Winter recreation access needs to be accommodated.

*Key Implications for Management Strategies*

- Developing a shared-use path that connects the West Shore Trail to a future shared-use trail to the south would continue to encourage trail use and connectivity between recreation areas.
- Reducing the speed limit during peak recreation days would enhance pedestrian crossing opportunities.
- Organizing day use parking would provide erosion control and clarify parking areas. Enhancements should be considered in coordination with the number of people desired on the trails.
- Monitoring use will enable land mangers to identify if management strategies should change in response to increased use of the recreation facilities.
- Designing transit stops so buses can pull off the highway to load and unload passengers reduces traffic flow impacts.
- Connecting transit to Meeks Bay from North Lake Tahoe would provide for the high percentage of people traveling from the north to the recreation area.
- Improving access to technology, such as adding fiber conduit, will improve communications for responding to wildlife and other emergencies and enhance connectivity for parking management strategies and real-time transit communications.

## Sugar Pine Point Segment

*Key Issues*

- Roadside parking in Tahoma, which is north of the study area, creates congestion for the corridor to the north. Visitors to the State Park often park along the highway and cross the highway to avoid an entry fee.

*Key Implications for Management Strategies*

- Monitoring use will enable land mangers to identify if management strategies should change in response to increased use of the recreation facilities.
- Monitoring use of the Tahoe Trail segment will help land managers identify a need for new trailhead parking or for Sugar Pine Point Park to provide trailhead parking for the Tahoe Trail.
- Evaluating opportunities for using some of the State Park parking as a mobility hub could be considered as part of a transit program. There is currently underutilized parking.
- Coordinating with the SR 89/28 Corridor Management Plan will help ensure strategies applied in Tahoma don't impact Sugar Pine Point State Park.

## RELEVANT THRESHOLDS

In 1982, TRPA adopted nine environmental threshold carrying capacities (thresholds), which set environmental standards for the Lake Tahoe Basin and indirectly define the capacity of the Region to accommodate additional land development.

There are nine threshold areas:

- Air Quality
- Water Quality
- Soil Conservation
- Vegetation
- Fisheries
- Wildlife
- Scenic Resources
- Noise
- Recreation

Moving forward, the SR 89 Corridor Management Plan will establish metrics by which progress can be tracked and success measured. These metrics will align with the TRPA thresholds and be coordinated with elements already being regularly evaluated.

While future projects and programs will consider how they impact or benefit the thresholds, several key thresholds could be used as guiding metrics to assess recommendations. Using TRPA's 2015 Threshold Evaluation Report as a guide, below is a summary of relevant thresholds that can be used to develop benchmarks to evaluate future projects and programs.

### Air Quality

Reducing vehicle miles traveled (VMT), managing congestion, and minimizing wildfire risk all benefit improved air quality. In 2015, the threshold report recommended public transit, intersection improvements, and bicycle trail infrastructure improvements as programs and actions to continue improving conditions.

Policies and strategies to support attainment of water quality thresholds that are relevant to the SR 89 Corridor include the following:

- Managing congestion through parking management strategies and providing transit will improve air quality.
- Under-grounding electric utilities and improving emergency access will reduce the risk of wildfire and increase the ability for responders to quickly address wildfires.

### Water Quality

Policies and strategies to support attainment of water quality thresholds that are relevant to the SR 89 Corridor include the following:

- Reducing private automobile use through improvements to public transit and alternative transportation modes with the goal of reducing air pollution and the subsequent deposition of nitrogen and fine sediment.
- Ongoing allocation of water quality mitigation funds to support erosion control and stormwater pollution control projects.
- Ensuring road conditions are consistent with the road operations plan and road operations scenarios for reduction of pollutants.

### Soil Conservation

Policies and strategies to support attainment of soil conservation thresholds that are relevant to the SR 89 Corridor include the following:

- Utilizing disturbed areas will minimize new disturbance and the addition of impervious materials.

### Vegetation Preservation

Policies and strategies to support attainment of vegetation thresholds that are relevant to the SR 89 Corridor include the following:

- Supporting and providing access for forest treatment programs and wetland and meadow conservation.

### Fisheries

Policies and strategies to support attainment of fisheries thresholds that are relevant to the SR 89 Corridor include the following:

- Supporting and providing access for improving fish habitat and stream flows. Bridge designs should enhance stream flows and reduce unnatural blockages for fish movement, where appropriate.

## Wildlife

Policies and strategies to support attainment of wildlife thresholds that are relevant to the SR 89 Corridor include the following:

- Enhancing the connectivity of wildlife habitat areas and providing improved wildlife crossings, where appropriate.

## Scenic Resources

The SR 89 highway is a scenic unit and the shoreline it parallels is a scenic unit. Items that affect scenic quality of roadway travel units include the following:

- Man-made features along the roadway.
- Physical distractions to driving along the roadways.
- Roadway characteristics.
- View of the lake from the roadways.
- General landscape views from the roadways.
- Variety of scenery from the roadways.

Except for Units 7 and 9 around Meeks Bay and Tahoma, respectively, the Scenic Roadway Units within the SR 89 Corridor are in attainment.

The 2015 Threshold Report states that "unauthorized roadway parking is occurring along a number of roadway units and in some cases is extensive. This is causing visual distraction and blocking views to Lake Tahoe and has put a number of roadway units at risk of scores dropping." Relocating roadside parking and developing parking management strategies can help roadway units move toward attainment.

Items that affect scenic quality of shoreline travel units include the following:

- Man-made features along the shoreline.
- General landscape views within the shoreline unit.
- Variety of scenery within the shoreline unit.

Except for the Rubicon Bay and Meeks Bay Shoreline Unit 9, the Scenic Shoreline Units within the SR 89 Corridor are in attainment. Private piers and residential development along the shoreline are visual disruptions in Unit 9 and are not under the purview of the Corridor Management Plan.

As new projects such as parking areas, mobility hubs, and the Tahoe Trail are developed, consideration should be given to scenic impacts as viewed from both the highway and the shoreline.

## Noise

Vehicular travel is one of the predominant noise sources in the basin. Based on available status and trend information, the 2015 Threshold Report stated that existing programs by USFS, TRPA, and CHP are "mostly effective in reducing noise in rural outdoor recreation areas". Reducing private automobile use and improving public transit and access to bike trails will further reduce noise impacts from personal vehicles.

## Recreation

Policies and strategies to support attainment of recreation thresholds that are relevant to the SR 89 Corridor include the following:

- Evaluating recreation user surveys to determine user satisfaction.
- Reviewing public land acquisitions and the development of public access amenities.
- Developing new trails and closing the gap between or addressing conflict areas on existing trails.
    - Increased connectivity of non-motorized trails to recreation sites.
    - Increased transit service to recreation sites.
    - Increased outdoor recreation opportunities within walking distance of tourist accommodation and residential areas.
    - Targeted parking expansions or increased trail or transit connections between off-site parking areas and recreation sites.
    - Information targeted at better distribution of visitors across a wider range of available recreation sites.
- Coordinating with TRPA's Sustainable Recreation Program and LTBMU's Forest Plan in regards to capacity and access.
- Developing General Management Plans for State Park Facilities and addressing visitor use management and demands.

## NEXT STEPS

The existing conditions data and summary and stakeholder input will be used to guide the development of a set of alternatives. Recommendations will address key issues of each segment while considering the needs of the whole corridor. Review and analysis of the recommendations will be conducted and feedback will be obtained from stakeholders, the Project Development Team, and the general public.

The final set of recommendations is anticipated to include defined projects and grouping of projects and areas of additional study and feasibility analysis. Operational and funding considerations and sources will be discussed along with land manger roles and responsibilities.