

# SOUTH TAHOE MIDDLE SCHOOL CONNECTIVITY PLAN

LAKE TAHOE UNIFIED SCHOOL DISTRICT  
OCTOBER 2015



FUNDED BY AN ON OUR WAY GRANT FROM  
THE TAHOE REGIONAL PLANNING AGENCY





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# CHAPTER 1: INTRODUCTION

Chapter 1 provides an overview of the Connectivity Plan. It describes the origin of the planning study and project need. In addition to stating the plan's vision, goals and objectives, the chapter summarizes the planning approach.

# INTRODUCTION

## INTRODUCTION

### CONTEXT FOR THIS PLAN

South Tahoe Middle School (STMS) is true to its name, both educationally and geographically. It is located in the mid-town area of the City of South Lake Tahoe (City) and in the center of a haphazard network of formal and informal pedestrian and bicycle trails. The areas of the City and the community-serving facilities at and around the Middle School provide an ideal opportunity to improve mobility infrastructure in a manner that promotes safer walking and biking to and from a variety of destinations. This South Tahoe Middle School Connectivity Plan (Connectivity Plan) represents a significant step forward for the goals of increased student safety and health and enhanced community connectivity.

### BACKGROUND

In early 2014, the Tahoe Regional Planning Agency (TRPA), in its role as the Tahoe Metropolitan Planning Organization (TMPO), launched the On Our Way Grant Program. The purpose of the program was “to help Lake Tahoe communities in identifying neighborhood-level transportation and community improvements to meet Region-wide sustainability goals of creating walkable, mixed use centers, encouraging biking, walking, and transit use, supporting economic vitality, and reducing impacts to the environment.” The TRPA/TMPO goal was that products of the On Our Way program would inform the Regional Transportation Plan update, Lake Tahoe Region Bicycle and Pedestrian Plan update, Area Plans and other regional and local plans and would lead to the construction of capital improvements and/or the approval of new policies and programs over the short-term.

The Lake Tahoe Unified School District, in partnership with other agencies and community mobility activists, set an ambitious goal of preparing and submitting two grant applications by the March 14 deadline. Partners included the Community Mobility Work Group of the Lake Tahoe Sustainability Collaborative and the City of South Lake Tahoe. This collaboration paid dividends with the award of two grants: a small grant for \$10,000 to develop a Safe Routes to School Master Plan and a large grant in the amount of \$153,625 for development of the South Tahoe Middle School Connectivity Plan. A key goal of preparing this Connectivity Plan was to identify a high priority project for implementation, prepare schematic drawings, and assemble an application for final design and construction funds to the California Active Transportation (ATP) grants program by the spring of 2015.

### THIS PLAN

This Connectivity Plan provides a summary of the study efforts; a description of all the potential projects identified through Middle School, school district, City, agency and community outreach; and a description of the high priority project selected for the ATP grant application. All Connectivity Plan recommendations can be incorporated into an overall Safe Routes to School Master Plan (SRTS) for the Lake Tahoe Unified School District (the Connectivity Plan is an appendix to the School District’s SRTS Master Plan) as well as into the draft update of the regional bicycle and pedestrian plan (Linking Tahoe: Active Transportation Plan for Bicycles, Pedestrians, and Safe Routes to School), updates to the Lake Tahoe Environmental Improvement Program (EIP), and updates to the City of South Lake Tahoe’s Capital Improvement Program (CIP).

### PROJECT LOCATION

The study area includes the roadways, trail corridors and intersections around the Middle School. It extends from the southwestern edge of the US 50/Trout Creek bridge crossing east to the future Greenway and north through Bijou Meadow to US 50. It includes the following roadways, intersections and meadow areas:

#### *Roadway Corridors*

- Al Tahoe Boulevard
- Johnson Boulevard
- Lyons Avenue
- Rufus Allen Boulevard

#### *Intersections*

- US 50/Al Tahoe
- Al Tahoe/Johnson
- Lyons/US 50
- Rufus Allen/US 50

#### *Meadow Areas/Open Space*

- Open space east of the STMS track and field
- Bijou Meadow
- Trout Creek/US 50 area



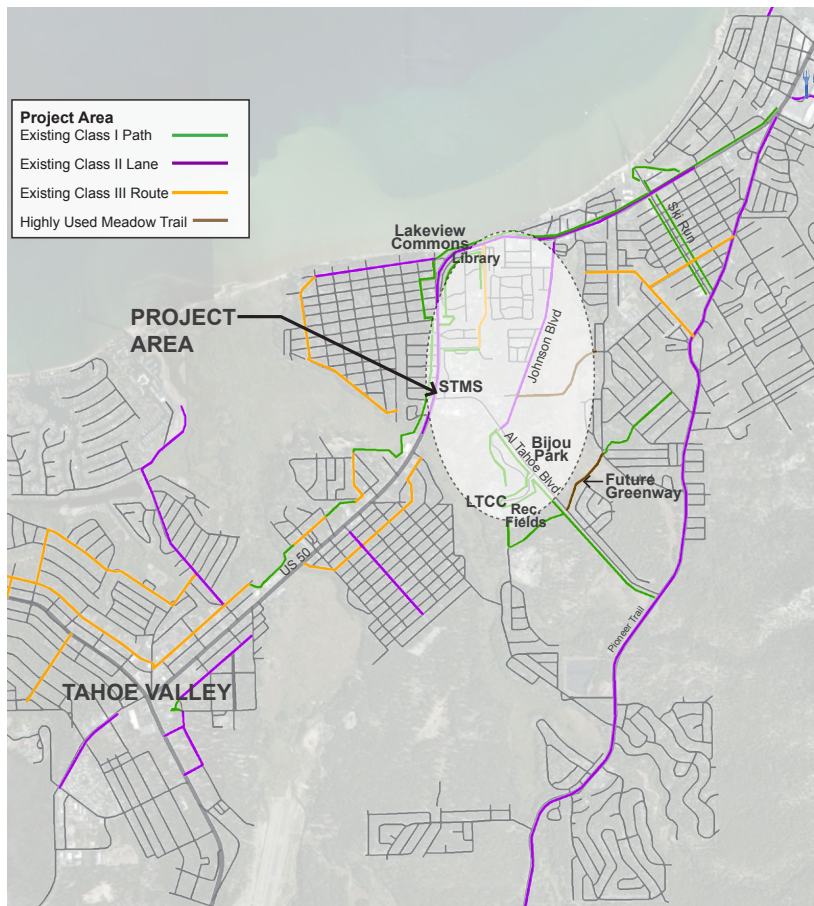
# PROJECT NEED

## PROJECT NEED

The project area was selected due to its high number of educational and public facilities and the disconnectivity of the active transportation system. A large concentration of community facilities are within walking distance from the Middle School: the Boys and Girls Club, the Recreation Center, the county library, Bijou Park and Bike Park, Lakeview Commons, the county courthouse, the South Lake Tahoe police department and the county Sheriff's department.

Currently, a Class I path parallels the south side of Al Tahoe Boulevard from Pioneer Trail to Johnson Boulevard. The route connects to the Lake Tahoe Community College (LTCC), but it terminates at the Al Tahoe/Johnson intersection and does not connect to either the Middle School or the Class I facility west of US 50. Pedestrians and cyclists continuing west from the bike path's termination at Johnson Boulevard either use a damaged sidewalk that turns into a dirt path, enter the roadway and use the narrow shoulder or cross to the north and use a narrow dirt trail.

At the US 50/Al Tahoe intersection only three of the four intersection legs provide a marked crosswalk across the five-lane roadways. Cyclists and pedestrians can arrive to the intersection via a Class I bike path on the west side of US 50 but cannot cross the southern leg of US 50 to access the shopping center, post office, community



**Figure 1:** Project Study Area



Youths crossing Al Tahoe at a mid-block location instead of crossing at the intersection crosswalk



Lack of active-transportation facilities



Cyclist riding in dirt path against traffic along Al Tahoe Boulevard headed toward Johnson Boulevard



# VISION

college or the Class I path continuing east along Al Tahoe Boulevard from the Johnson Boulevard intersection to Pioneer Trail. Rather, active transportation users wishing to cross from the southwest corner to the southeast corner must cross the intersection three times to reach their destination. This intersection, and the Lyons/US 50 intersection are both used by students walking and biking to and from school.

Connectivity gaps and safety concerns for active transportation users also exist along other road corridors. The Class I path on Rufus Allen Boulevard ends at the City's Cooperation Yard and does not reach the Boys and Girls Club. Speeding is an issue on Johnson Boulevard and on Al Tahoe Boulevard. No pedestrian facilities are provided on Johnson Boulevard and the roadway's Class II bike lanes end before the Al Tahoe Boulevard intersection and the Class I facility along Al Tahoe Boulevard from Johnson Boulevard to Pioneer Trail.

The City is investing in new recreation improvements at Bijou Park and LTCC recently passed a \$55M bond measure to enhance college facilities. These improvements will likely increase the need to provide safe active transportation facilities for residents and visitors to reach the project area's destinations.

## VISION

The Connectivity Plan aims to enhance the overall active transportation network in the City of South Lake Tahoe with an emphasis on providing those routes which may directly benefit safe access to schools in order to provide students improved active transportation routes to and from school, after school activities and nearby recreational opportunities. The design and implementation of high priority active transportation facilities will safely connect students, and the greater community, to the South Tahoe Middle School and its recreation facilities, the City of South Lake Tahoe Recreation Center and Gym, the City of South Lake Tahoe Bijou Park and Bike Park, the South Tahoe Greenway Shared Use Trail and the Lake Tahoe Community College.

## GOALS + OBJECTIVES

- Increase the safety and convenience of pedestrians and cyclists.
- Provide improvements to the existing bicycle and pedestrian network in and around the Middle School, community college and City civic and recreation facilities.
- Evaluate traffic and roadway configurations and their ability to support enhanced active transportation networks such as pedestrian and bicycling facilities.
- Coordinate alignments with potential future recreation improvements at the Middle School.
- Identify economically feasible alternatives.
- Identify opportunities to increase the safety of students walking and biking to and from school and after-school destinations in order to increase the number of walkers and cyclists.



Existing Class I bike path that currently ends at Johnson Boulevard



Bike lane along Johnson Boulevard ends before the intersection with Al Tahoe Boulevard



Bike path along Lyons Avenue north of the Middle School



# PROCESS + METHODOLOGY

- Evaluate grade-separated crossings where appropriate to reduce the conflicts between active transportation users and vehicles.
- Reduce the exposure of pedestrians and cyclists to vehicles.
- Capture existing pedestrian and cyclist use data.
- Develop schematic design level drawings of a high priority project.
- Assemble a 2015 California Active Transportation Program (ATP) grant submission.
- Identify anticipated costs, funding opportunities and potential partnerships.
- Identify short term and long term implementation opportunities.
- Improve school pick up and drop off circulation and conditions for all users.

## PROCESS + METHODOLOGY

The planning process included six primary phases:

- Existing conditions assessment
  - Traffic counts and turning movements
  - Pedestrian and cyclist counts
  - Mapping
  - Field reconnaissance/walking audits
- Alternatives formulation
- Alternatives analysis and prioritization
- Recommendations development
- Schematic plan development of the high priority project
- Grant application for the high priority project

### Community Engagement

Public outreach was incorporated into every phase of the planning process. The Connectivity Plan stems from the Safe Routes to School Study and Community Outreach conducted in 2014. Public workshops and broad community surveys provided forums for public input during the site assessment and alternatives formulation as well as during the alternatives analysis. In addition to local agency involvement, community groups and organizations were engaged to provide input and offer insights. Chapter 3 provides a more in-depth summary of the community engagement process and results.



Community participation during the existing conditions assessment and alternatives formulation

**TALLER PÚBLICO**  
 Anote las Fechas  
**A PIE Y BICI**  
 LTCC - Parque Bijou y La Escuela Intermedia

**MÉRCOLES 19 DE NOVIEMBRE**  
 TALLER PÚBLICO NO. 2  
 • REPASAR resultados de la encuesta  
 • CONVERSAR posibles alternativas  
 • ESCOGER sus alternativas favoritas  
 UBICACIÓN  
 Escuela Intermedia de South Tahoe  
 Cuarto Multi-Usos  
 HORA  
 5:30 PM - 7:30 PM  
 Para más información:  
 Contactar a Ben Fish  
 775-588-5929 o [bfish@designworkshop.com](mailto:bfish@designworkshop.com)  
 Financiado por una subvención de On Our Way a través de la Agencia de Planificación Regional de Tahoe

Dar prioridad a rutas más seguras a pie y bici alrededor de la Escuela Intermedia, el Parque Bijou, y la LTCC.

Spanish translation of workshop notifications



Community participation in the alternatives workshop





# CHAPTER 2: EXISTING CONDITIONS + OPPORTUNITIES

Chapter 2 documents the existing land uses and transportation facilities within and around the South Tahoe Middle School. This includes the land uses, active transportation trip generators, street network, bicycle facilities, pedestrian facilities, and other elements that affect walking and cycling and the ability to develop improved facilities. The analysis of the existing conditions reveals gaps in the active transportation network and highlights areas with potential for mobility improvement. The connectivity opportunities are grouped by sub-area and organized according to the type of facility improvement (e.g., intersection and linear.)

# REGIONAL CONNECTIVITY

## REGIONAL CONNECTIVITY

Two significant regional trail systems could be connected via project area bicycle infrastructure improvements. First, phase 1a of the South Tahoe Greenway Shared Use Trail (Greenway) was constructed in 2015 from Glenwood Way to Herbert Avenue. Future phases are planned to connect Van Sickle Bi-State Park in Stateline, Nevada, through South Lake Tahoe to Meyers, California to the south. The Greenway will connect to the existing Class I facility along the southwestern portion of Al Tahoe from Pioneer Trail to Johnson Boulevard.

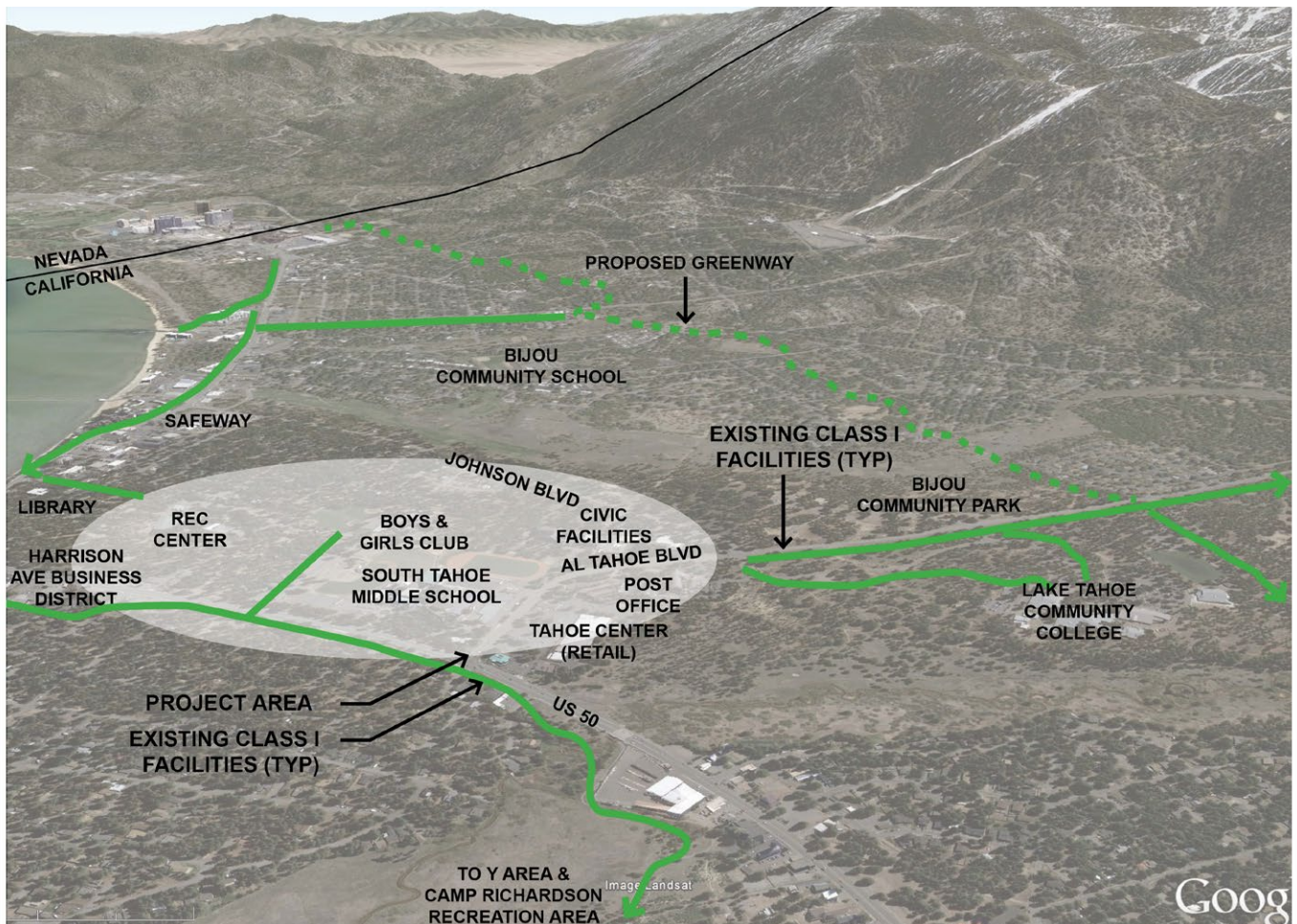
Second, a Class I facility runs west and north of US 50 from Stateline, Nevada, through South Lake Tahoe to El Dorado County and the recreation destinations in the Camp Richardson area. The majority of the Class I system is complete and the remaining section from Lakeview Commons to Ski Run Boulevard is scheduled for completion in the upcoming years.

The Project Area is central to both regional networks. The lack of a Class I facility along Al Tahoe Boulevard from Johnson Boulevard to US 50 is a significant missing link between the two networks.

Similarly, the lack of Class II facilities on Al Tahoe separates the regional Class II network along Pioneer Trail and the regional Class II network on US 50.

## DESTINATIONS SERVED BY THE PROJECT AREA

The Project Area presents a significant opportunity to improve bike and pedestrian connectivity to important community facilities by closing active transportation network gaps around the Middle School. The centralized location means that almost all of the commercial, office, housing and civic destinations within the City boundaries are within a three-mile biking distance of the project area (see Figure 3 and Table 1).



**Figure 2:** Relationship to Regional Trail Systems



# REGIONAL CONNECTIVITY

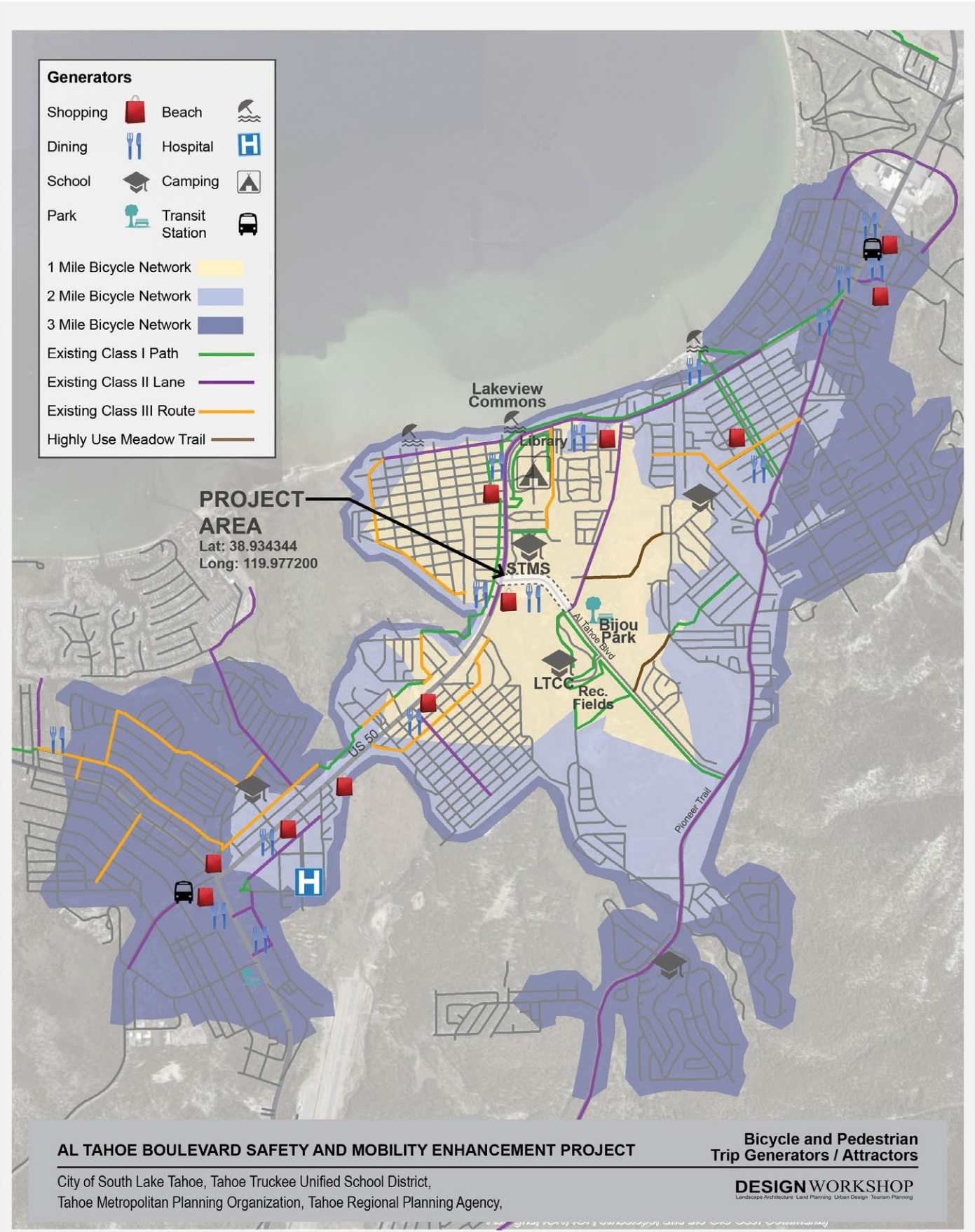


Figure 3: Relationship to Community Destinations

# REGIONAL CONNECTIVITY

**Table 1:** Destinations Served by the Project Area

CATEGORY	DESTINATIONS WITHIN IMMEDIATE PROJECT AREA	DESTINATIONS WITHIN ONE-MILE <sup>1</sup>	DESTINATIONS WITHIN TWO-MILES <sup>1</sup>	DESTINATIONS WITHIN THREE-MILES <sup>1</sup>
<b>Neighborhoods (population served)</b>	Al Tahoe	Pioneer Village	Bijou <sup>1,2</sup>	Stateline <sup>2</sup>
	Total pop. 1,870	Bijou <sup>2</sup>	Sierra Tract <sup>2</sup> (all)	Heavenly Valley <sup>2</sup>
		Sierra Tract <sup>2</sup> (part)	Highland Woods <sup>2</sup> (all)	Tahoe Island Park (all)
		Highland Woods <sup>2</sup> (part)	Y Area <sup>2</sup> (part)	Tahoe Island Drive
		Total pop. 2,478	Tahoe Island Park (part)	Gardner Mountain
			Black Bart <sup>1</sup>	Tahoe Valley
			Total pop. 7,797	Y Area <sup>2</sup> (all)
				Montgomery Estates
				Total pop. 8,223
<b>Educational and Medical Institutions</b>	South Tahoe Middle School		Bijou Elementary School	Sierra House Elementary School
	Lake Tahoe Community College		Tahoe Valley Elementary School	Barton Hospital and Medical Facilities
	Boys and Girls Club			
<b>Civic and Transit Facilities</b>	Post Office	County Library	County Assessor's Office	City Offices
	County Superior Court		DMV	South Y Transit Center
	SLT Police Department			Explore Tahoe – Stateline Transit Center
	Sheriff's Office			
	Blue Ridge School Juvenile Facility			
	County Veteran's Services			
<b>Community, Recreational &amp; Visitor Facilities</b>	Future Greenway/Class I Regional Trail System Facility	El Dorado Beach and Lakeview Commons	Regan Beach	Bonanza Park
		Bijou Golf Course	Timber Cove Marina	Ski Run Marina
	City of SLT Class I Regional Trail System Facility	Senior Center		Camp Richardson/Valhalla Class I Regional Trail System Facility
	Community Playfields			Van Sickle Bi-State Park
	Little League Fields			
	Campground by the Lake			
	Recreation Center & Ice Rink			
	Bijou Park			



# REGIONAL CONNECTIVITY

CATEGORY	DESTINATIONS WITHIN IMMEDIATE PROJECT AREA	DESTINATIONS WITHIN ONE-MILE <sup>1</sup>	DESTINATIONS WITHIN TWO-MILES <sup>1</sup>	DESTINATIONS WITHIN THREE-MILES <sup>1</sup>
Commercial/ Employment Centers	Tahoe Center Shopping Center	Harrison Avenue Business District	Ski Run Blvd. Business District	South Y Business District
		Safeway Shopping Center	3rd Street/Tahoe Keys Business District	Heavenly Village Commercial Core
		Swiss Chalet Shopping Center	Grocery Outlet	Raley's Shopping Center (Stateline & Y locations)
				Pioneer Trail Business District

<sup>1</sup>Based on a GIS network analysis of Class I, II and III facilities, low-volume roads, and two commonly-used user trails.

<sup>2</sup>Includes high density/affordable housing.

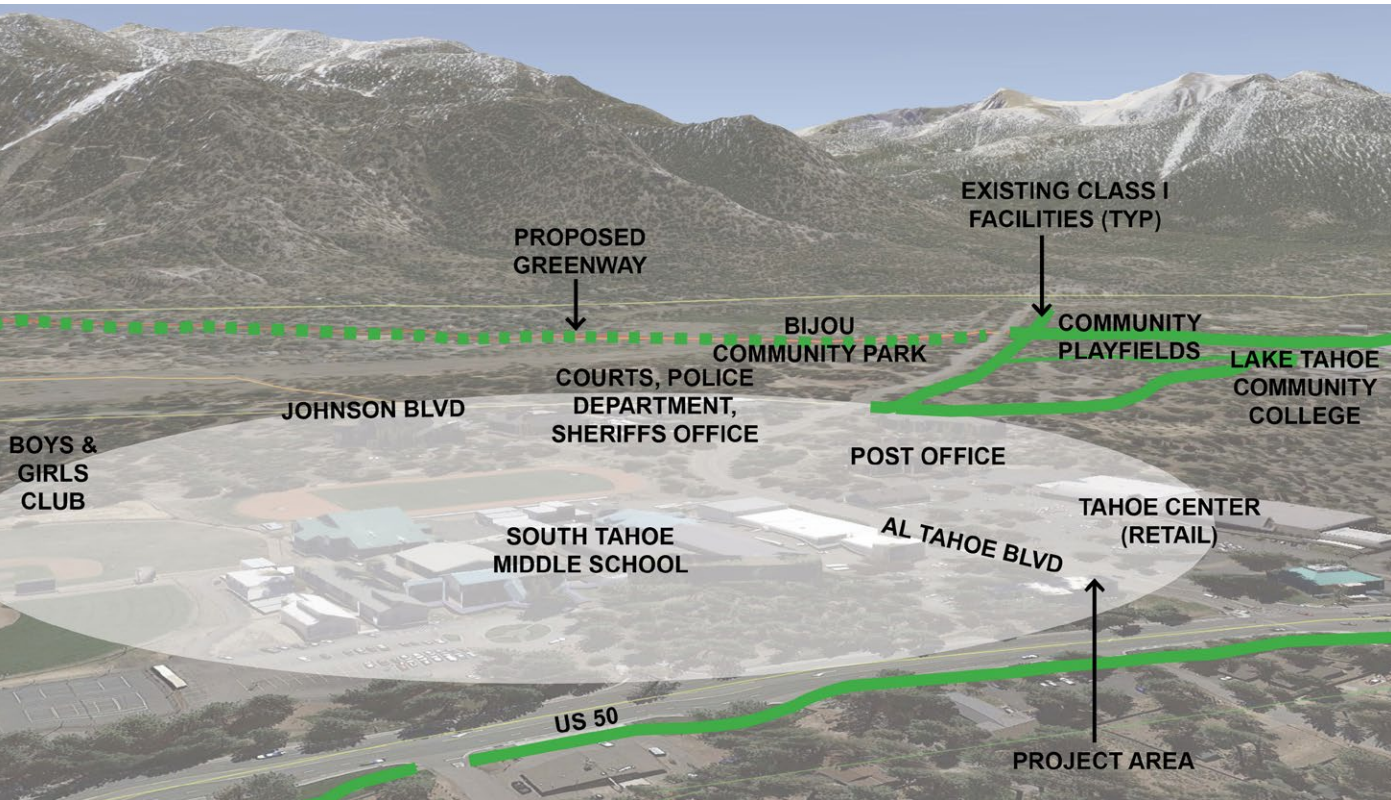


Figure 4: Destinations within the Immediate Project Area

# REGIONAL CONNECTIVITY

Significant recreation, civic and educational facilities are located within the project area:

- Middle School and Surrounding Ball Fields
- Boys and Girls Club
- Bijou Park and Bike Park
- Lake Tahoe Community College
- Recreation Center
- County Library
- South Lake Tahoe Police Department (SLTPD)
- El Dorado County Sheriff's Office (EDSO)
- County Courthouse
- US Post Office

The Tahoe Center, a commercial center with a drug store, shopping, dining, banks and post office is accessed from Al Tahoe Boulevard. The Harrison Avenue Business District lies immediately to the west of the project area and offers dining and shopping.



The Harrison Avenue Business District provides dining and shopping opportunities



The Tahoe Center offers shopping, dining and a community post office



# REGIONAL CONNECTIVITY

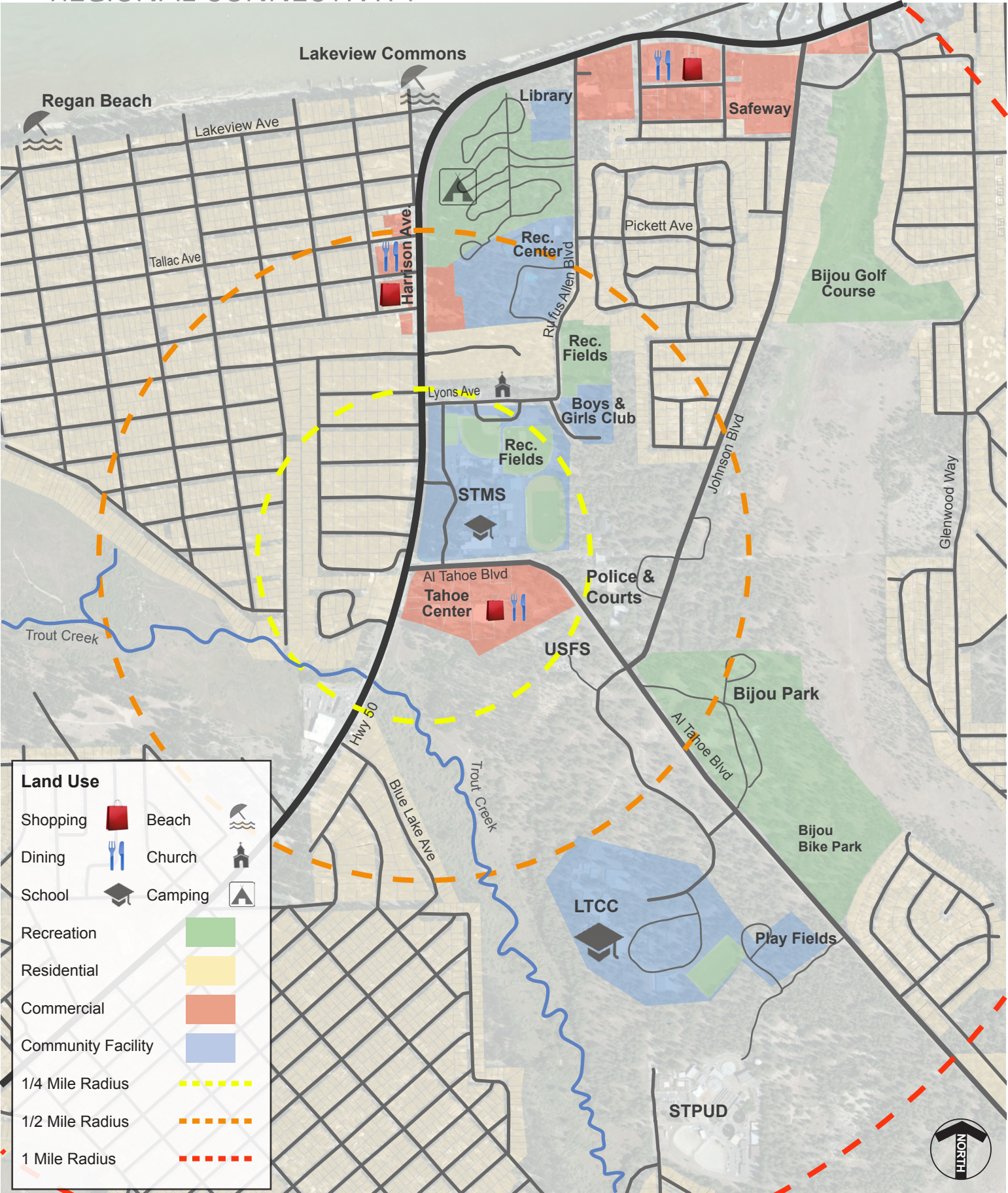


Figure 5: Land Uses and Trip Generators in Immediate Proximity



# OWNERSHIP

## OWNERSHIP

The majority of lands within the project area are publicly-owned, reducing the need for expensive easements and acquisitions. Privately-owned parcels include the lands associated with the following developments:

- Tahoe Center
- St. Theresa's Church
- Residential developments (Bijou 2 neighborhood)

Publicly-owned lands include the following entities and areas:

- City of South Tahoe: Bijou Park, Bike Park, Bijou Golf Course, police department facilities, recreation center and the cooperation yard
- Lake Tahoe Community College: College facilities and surrounding property and trails
- El Dorado County: County courthouse, Sheriff's department, juvenile center, Campground by the Lake, county library and Lakeview Commons
- Lake Tahoe Unified School District: South Tahoe Middle School facilities and surrounding recreation fields
- Happy Homestead Cemetery (owned and operated by the Happy Homestead Cemetery District, a special district whose board members are appointed by the El Dorado County Board of Supervisors)
- State/California Tahoe Conservancy: Former Highway 50 freeway right of way transferred from Caltrans to the Conservancy and is the location for segments of South Tahoe Greenway Shared Use Trail; and the Upper Truckee River and Marsh Restoration Area
- US Forest Service: Offices of the Lake Tahoe Basin Management Unit
- South Tahoe Public Utilities District: Wastewater treatment facilities
- Caltrans: US 50 right of way



LTUSD owns the school properties, including the surrounding ball fields



The City owns the lands associated with Bijou Park, the Bike Park and Bijou Golf Course



# OWNERSHIP

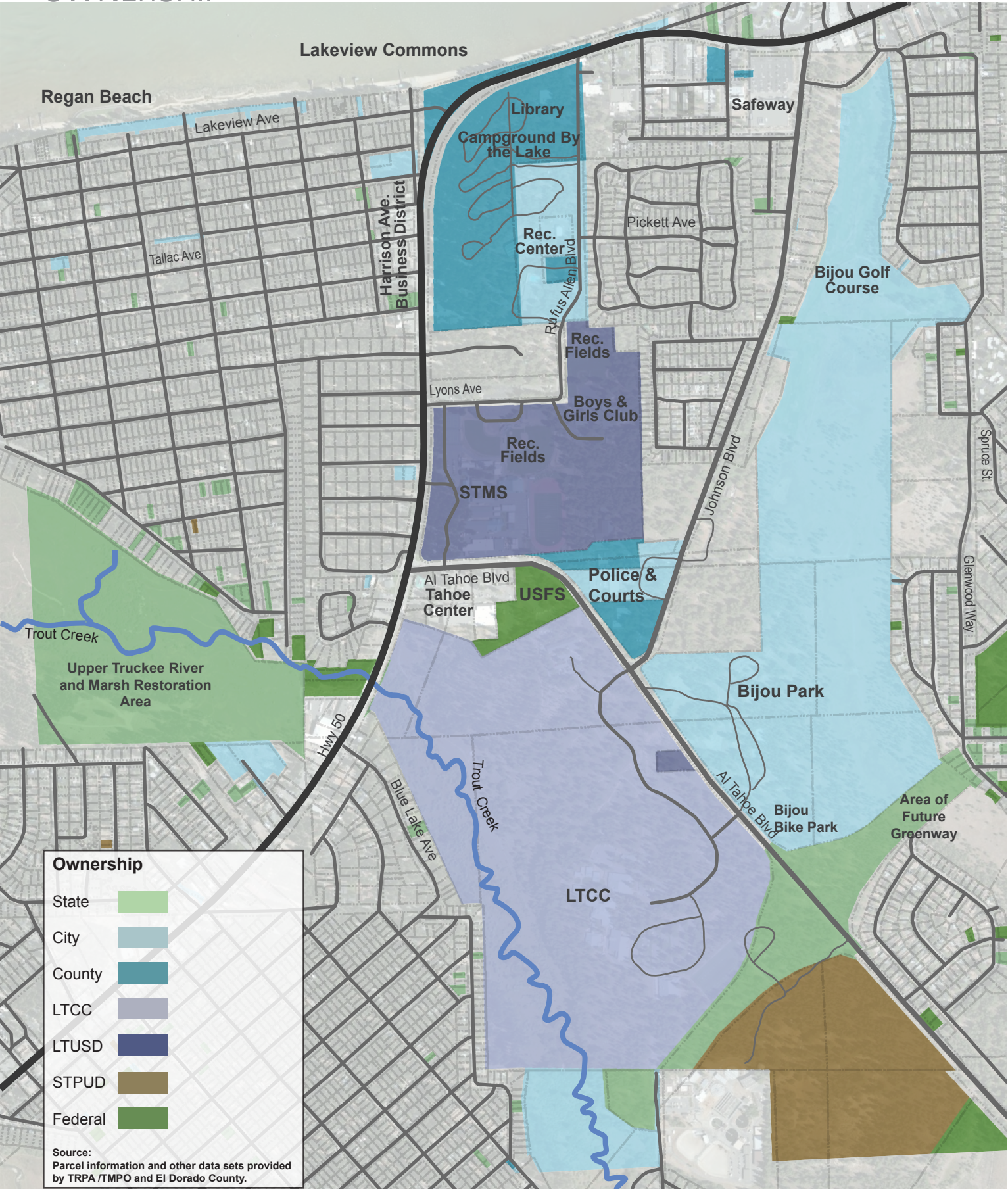


Figure 6: Ownership

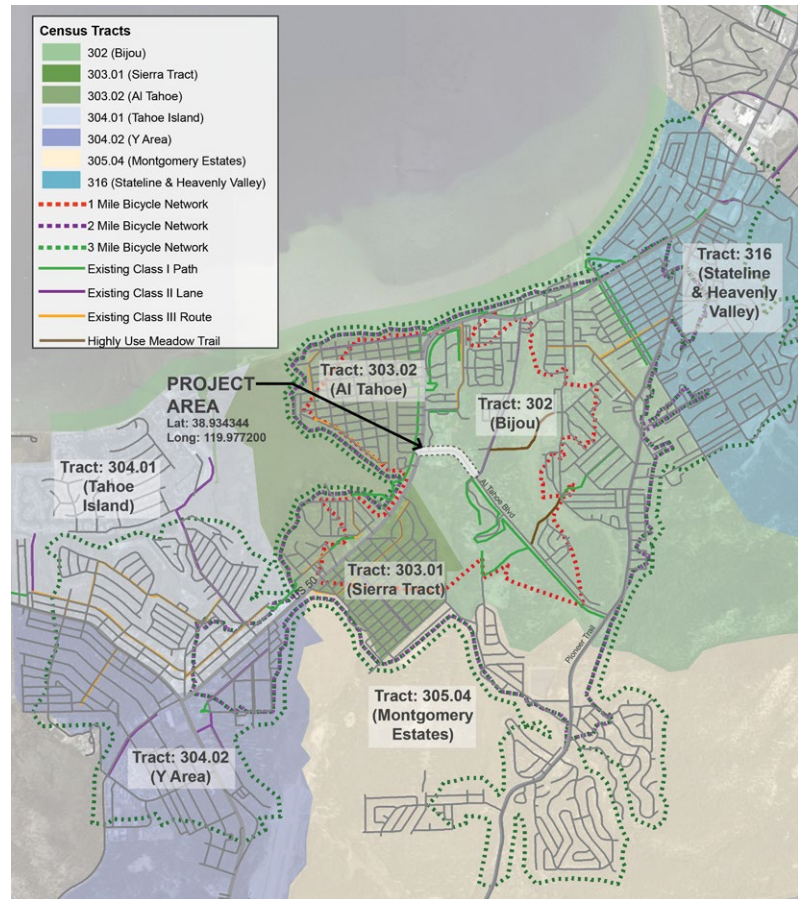


# NEIGHBORHOODS + DEMOGRAPHICS

## NEIGHBORHOODS AND DEMOGRAPHICS

Six census tracts are located within a three mile radius of the project area as shown in Table 2 and Figure 7, placing 95 percent (Table 3) of the City's residents within biking distance of the Middle School.

Although tourism marketing presents an idyllic image of South Lake Tahoe, 2010 Census data reveals the majority of the population's income is over 32 percent below the state median income (Table 2). Over 67 percent are employed in the service industry which fluctuates with weather and seasons. Centrally-located, the project area serves over 98 percent of the City's Hispanic citizens and 95 percent of its overall residents, including other diverse groups such as Asians (5.5 percent of the overall population and includes the City's Filipino residents.)



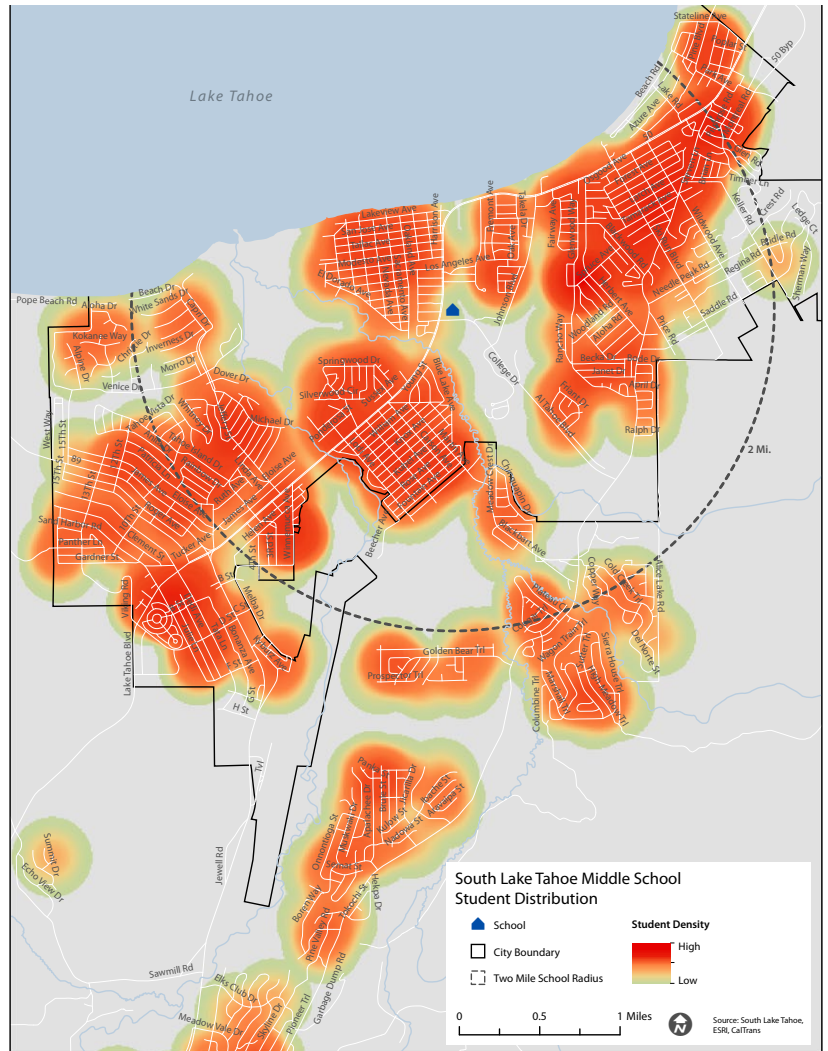
**Figure 7:** Census Tracts Located within a Three Mile Radius of the Project Area

**Table 2:** Median Household Income and Population by Census Tract

	POPULATION	HHMII	PERCENT BELOW THE STATE HHMI OF \$61,094
<b>City of South Lake Tahoe</b>	21,448	\$41,004	32.8%
<b>Census Tracts Within a 3-Mile Cycling Service Area of Project</b>			
<b>Census Tract 302: Bijou</b>	4,772	\$45,532	25%
<b>Census Tract 303.01: Sierra Tract</b>	2,469	\$35,398	42%
<b>Census Tract 303.02 :Al Tahoe</b>	2,867	\$33,310	45%
<b>Census Tract 304.01: Tahoe Island</b>	3,489	\$55,926	8%
<b>Census Tract 304.02: Y Area</b>	3,626	\$39,539	35%
<b>Census Tract 316: Stateline &amp; Heavenly Valley</b>	4,126	\$35,506	42%

# NEIGHBORHOODS + DEMOGRAPHICS

Active transportation improvements in the project area will directly benefit a recognized disadvantaged community, one in which many people use bicycles for daily transportation. Safety and mobility benefits will include facilities that reduce wrong-way travel, provide new Class I bike path infrastructure (as preferred in community surveys conducted in this area), and connectivity to important community and commercial facilities, including the Middle School, Boys and Girls Club, Lake Tahoe Community College, Bijou Community Park and the new Bijou Bike Park, post office, and the City and El Dorado County civic center. Public facilities at the civic center include the County Courthouse and emergency services.



**Figure 8:** Heat Map of 2014 South Tahoe Middle School Student Distribution

**Table 3:** Census Data of Areas within Three Miles of the Project Area

	POPULATION	HISPANIC POPULATION	POPULATION OF NON-FAMILY HOUSEHOLDS	HHMI <sup>2</sup>	PERCENTAGE BELOW STATE HHMI OF \$61,094
<b>One-Mile Network</b>	4,348	1,168	1,368	\$36,491	40%
<b>Two-Mile Network</b>	7,797	3,407	1,878	\$42,325	31%
<b>Three-Mile Network</b>	8,223	1,975	2,311	\$39,585	35%
<b>TOTAL POPULATION SERVED (21,448 total City and 6,665 total Hispanic population)</b>	20,368	6,550	5,557		
<i>Per U.S. Census Bureau, Census 2010 Summary File 1. ESRI forecasts for 2014 and 2019. ESRI converted Census 2000 data into 2010 geography.</i>					
<sup>1</sup> A small percentage of Black, American Indian, Asian and Pacific Islanders also live within the City.					
<sup>2</sup> Household Median Income					

# EXISTING TRANSPORTATION CONDITIONS

## EXISTING TRANSPORTATION CONDITIONS

Transportation conditions include both vehicular, transit, pedestrian and bicycle facilities. There are a variety of transportation features in the project area. Some facilitate active transportation movement and others inhibit walking and biking.

Vehicular and transit facilities are reviewed based on the following:

- Speed limits
- Number of travel lanes and traffic volumes
- Intersections and levels of service
- Transit routes and stops

The discussion regarding existing active transportation facilities includes the following:

- Pedestrian facilities and amenities
- Bicycle facilities and amenities
- Pedestrian and bicycle user counts

## EXISTING ROADWAY SPEED LIMITS

Speed limits vary greatly throughout the project area. A 2010 National Association of City Transportation Officials (NACTO) study found that the risk of pedestrian fatality in a collision increases between 3.5 and 5.5 times as traffic speeds increase from 30 mph to 40 mph. The study also found that although the risk of pedestrian fatality is lower at 30 mph, approximately half of pedestrian fatalities occur at or below that speed. Therefore, it is important to be aware of the vulnerability of pedestrians and the need to provide designated active transportation facilities for both higher and lower speed roadways.

### *US 50 (Lake Tahoe Boulevard):*

- 40 mph
- School zone signage does not exist

### *AI Tahoe Boulevard*

- 25 mph eastbound
- 35 mph westbound from Johnson Boulevard to approximately 700 feet west of Johnson Boulevard, where it changes to 25 mph
- 40 mph east of Johnson Boulevard
- School zone signage does not exist

### *Johnson Boulevard*

- 35 mph

### *College Way*

- 25 mph

### *Lyons Avenue*

- 25 mph: 15 mph when children are present
- School zone signage exists

### *Rufus Allen Boulevard*

- 25 mph: 15 mph when children are present



School zone signage along Lyons Avenue north of the Middle School



# EXISTING TRANSPORTATION CONDITIONS

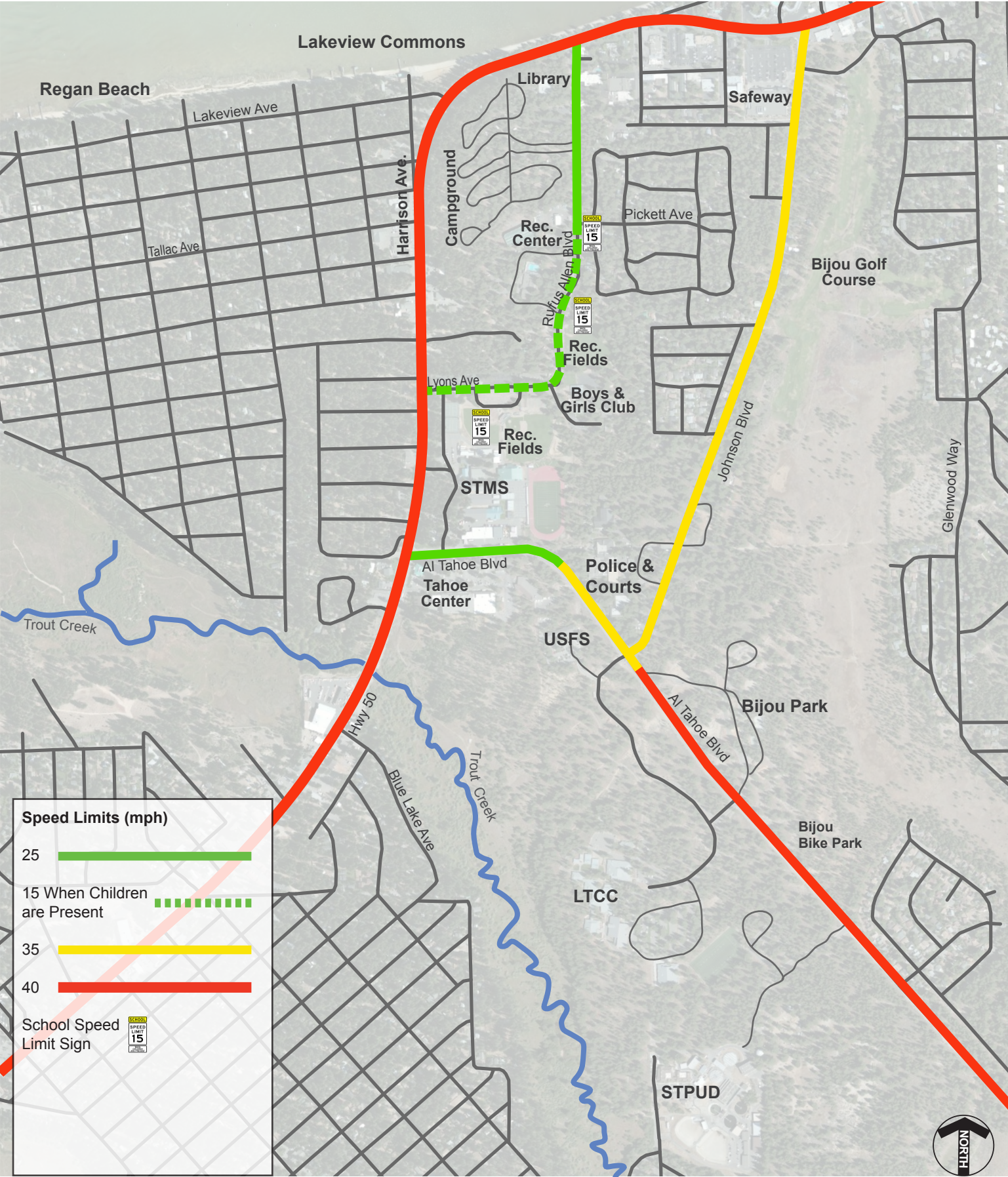


Figure 9: Existing Roadway Speed Limits



# EXISTING TRANSPORTATION CONDITIONS

## NUMBER OF TRAVEL LANES + TRAFFIC VOLUMES

Aside from US 50, the majority of other roadways in the project area are two-lane roadways. The exception is Al Tahoe Boulevard which transitions from a two-lane configuration east of Johnson Boulevard to a five-lane configuration west of the Johnson intersection. Travel lane widths vary from 16 feet to 12 feet. These conditions provide the opportunity to evaluate both lane widths and the number of travel lanes in consideration with the roadway's transportation function and traffic volumes.

### *US 50 (Lake Tahoe Boulevard):*

- Four-lane undivided principal arterial with a two-way left turn lane and bicycle lanes that generally runs north-south within the study area
- Per Caltrans historical daily traffic counts, the Annual Average Daily Traffic (AADT) on this roadway was approximately 33,000 vehicles per day (vpd) in 2013, with peak month AADT increasing to approximately 37,500 vpd (37,600 AADT south of Al Tahoe, 33,450 AADT at the Middle School entry and 32,400 AADT north of Lyons Avenue)
- The Middle School has an entrance on US 50 located halfway between Al Tahoe Boulevard and Lyons Avenue

### *Al Tahoe Boulevard*

- Four-lane undivided arterial with a two-way left turn lane (total of five lanes) from US 50 to Johnson Boulevard
- At Johnson Boulevard, Al Tahoe Boulevard transitions from the five-lane cross-section to a two-lane cross-section
- Buses access the Middle School via Al Tahoe Boulevard and the bus yard adjacent the school
- For purposes of this study, Al Tahoe Boulevard was considered as running east-west within the entire study area
- 12,400 AADT near the US 50 intersection, 10,500 eastern near Johnson Boulevard and 7,500 east of Johnson Boulevard



Two-lane configuration of Al Tahoe Boulevard east of the Johnson Boulevard intersection



Five-lane configuration of Al Tahoe Boulevard west of the Johnson Boulevard intersection



# EXISTING TRANSPORTATION CONDITIONS

## *Johnson Boulevard*

- Two-lane collector roadway with bicycle lanes and generally runs north-south
- The Middle School has a driveway located approximately 145 feet (centerline to centerline) east of the roadway's signalized intersection with US 50
- There is 80-90 feet of westbound queuing space at the signal before the school entrance is blocked

## *College Avenue*

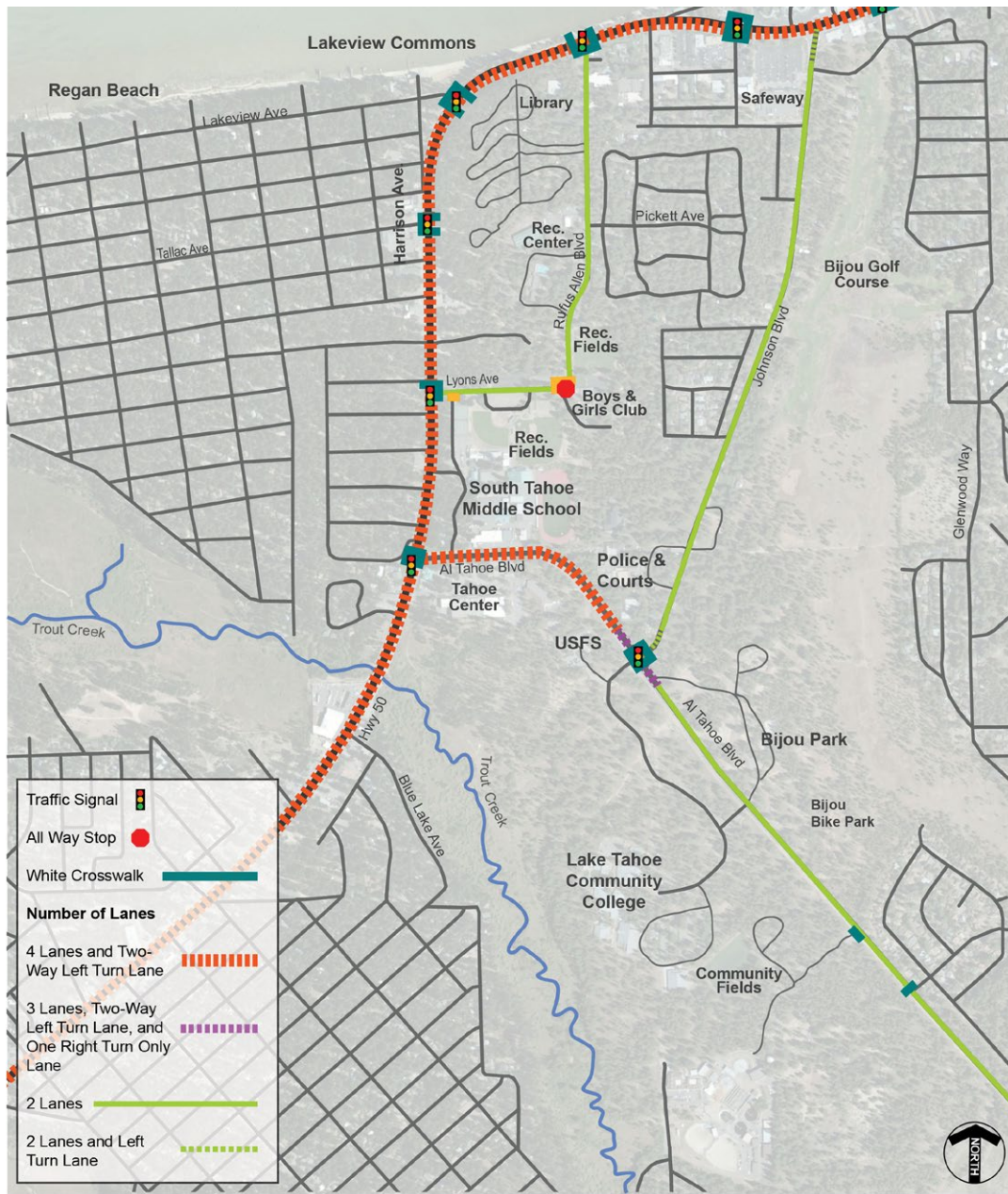
- Two-lane local roadway

## *Lyons Avenue*

- Two-lane collector roadway

## *Rufus Allen Boulevard*

- Two-lane collector roadway



**Figure 10:** Intersections and Number of Travel Lanes

# EXISTING TRANSPORTATION CONDITIONS

## EXISTING TRAFFIC COUNTS

LSC Transportation Consultants (LSC) conducted turning movement vehicle counts at the study intersections on November 6, 2014. Typically, the daily volume used for designing roadways is the 30th highest hour of the year, which for this study was assumed to be approximately the 90th percentile of the available monthly traffic provided by Caltrans Performance Measurement System (PeMS.) It was found that based on 2013 data, the design daily volume was 42 percent higher than the daily volume in November.

Therefore, all counts were seasonally adjusted and increased by 42 percent. Daily traffic volumes were estimated using the peak hour volumes and a k-factor of 0.10, which was also calculated using PeMS information. K-factor is the ratio of peak hour traffic to Annual Average Daily traffic. A lower k-factor means traffic is spread more evenly throughout the day, whereas a higher k-factor represents high peak hour traffic relative to daily traffic. Count data and seasonal adjustments can be found in the *South Tahoe Middle School Connectivity Plan Traffic Analysis*. The existing peak hour traffic volumes for each of these intersections are shown in Figure 11.



Traffic volumes within the project area are highest along US 50



Johnson Boulevard is a two-lane roadway with a three-lane intersection at Al Tahoe Boulevard



# EXISTING TRANSPORTATION CONDITIONS

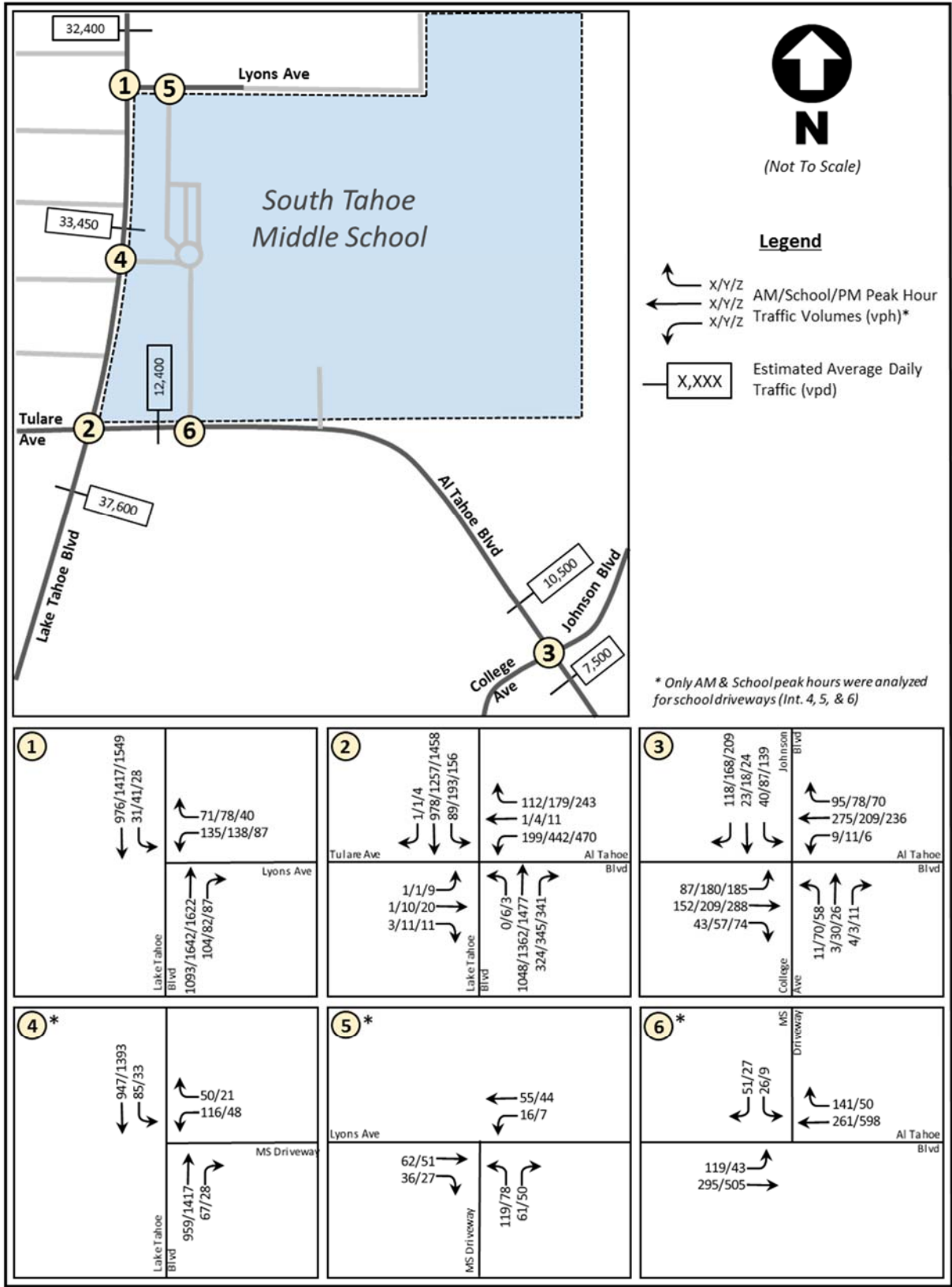


Figure 11: Existing Peak Hour Traffic Volumes (with Adjustments)

# EXISTING TRANSPORTATION CONDITIONS

## EXISTING INTERSECTIONS + LEVEL OF SERVICE

Under the existing conditions, all study intersections operate at an overall intersection level of service (LOS) C or better. All minor approaches at the two signalized US 50 intersections operate at LOS E and F. The Middle School's entrance on US 50 also operates at a LOS F during the morning peak hour. In addition, the westbound left turn from Al Tahoe Boulevard onto College Way does not operate at acceptable levels during the morning and afternoon school peak hours. However, the poor level of service for the westbound left movement is due to the signal phase gapping out and progressing to service another phase due to low vehicle demand. This can be remedied by providing protected-permitted phasing for the left turn movements instead of the protected-only phasing it currently has.

The 900-foot segment of Al Tahoe Boulevard immediately east of US 50 has four driveways on the north (Middle School) side that provide access to the bus barn. The five driveways on the south (Tahoe Center) side of the road access a retail center and post office.

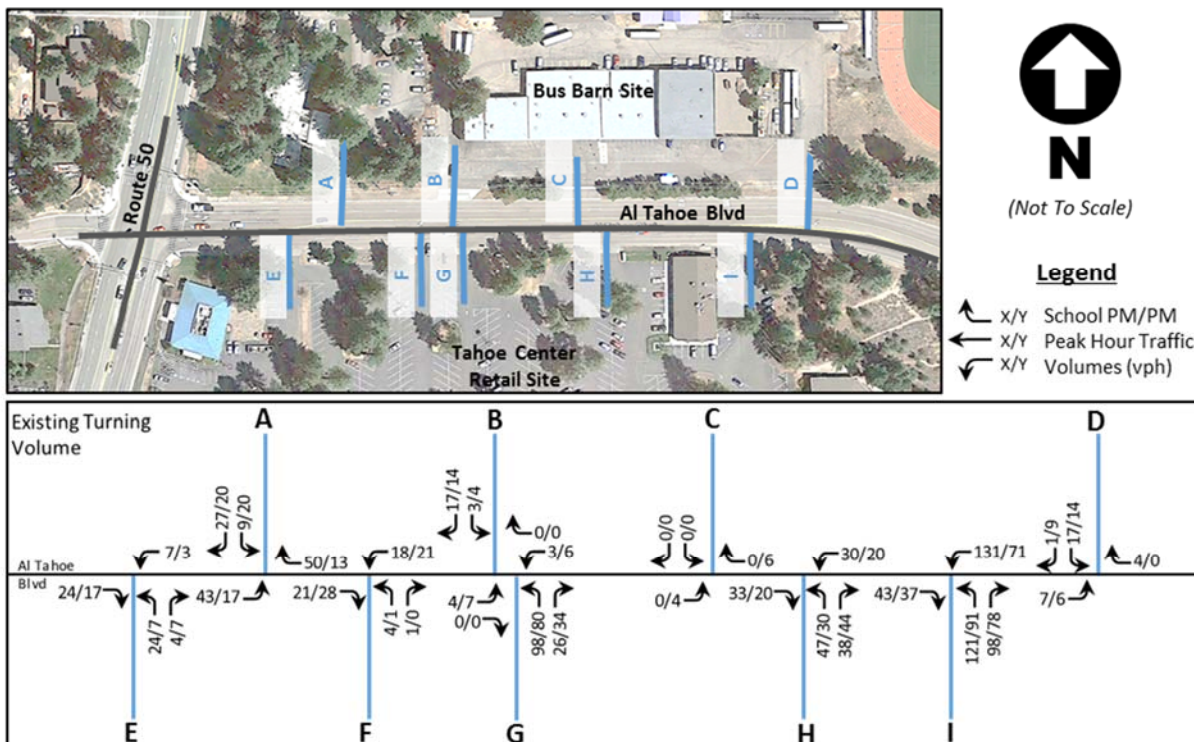
### Middle School Side Driveways

Right-turns and left-turns into driveway "A" (see Figure 13) accessing the Middle School drop-off area are almost equal during the school morning drop-off. The morning right- and left-turns are almost double the number of turning movements that occur during afternoon pick-up. Driveway "C" (the center bus barn access) has minimal turning movements during both drop-off and pick-up time periods.

### Tahoe Center Side Driveways

Along the south side of Al Tahoe Boulevard, four drives access the Tahoe Center retail area and one drive accesses the US Postal Service facility. The easternmost driveway "E" is located only 140 feet from the US 50/Al Tahoe intersection and driveways "F" and "G" are wide enough for two-way entry/exits although the parking area is striped for one-way vehicular circulation.

Consideration of driveway consolidation and/or width reduction along Al Tahoe Boulevard was evaluated as part of the alternatives to reduce exposure of bicyclists and pedestrians to turning vehicles.



**Figure 12:** Existing Turning Volumes along Al Tahoe Boulevard



# EXISTING TRANSPORTATION CONDITIONS

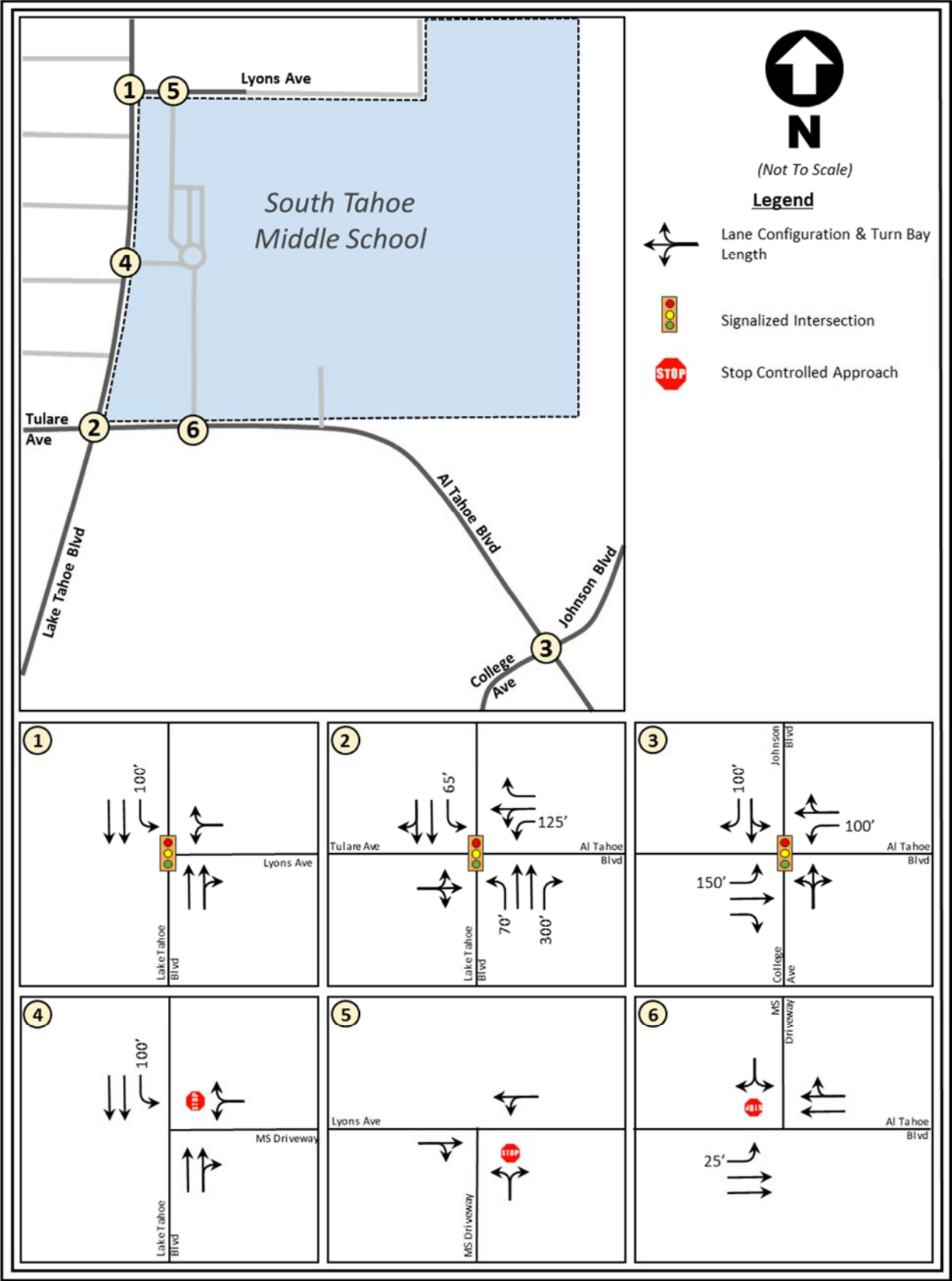


Figure 13: Existing Lane Configurations and Traffic Control

# EXISTING TRANSPORTATION CONDITIONS

## EXISTING TRANSIT ROUTES + STOPS

BlueGo provides local fixed-route bus service within the project area. Two routes service the area year round. The mainline route along US 50 connects from the transit center at the Y to the transit center at Kingsbury Grade. The second route also begins at the Y, but it circulates through the neighborhood and college areas via Al Tahoe Boulevard, Johnson Boulevard, Glenwood Way, Spruce Avenue, Tamarack Avenue and Pioneer Trail. The secondary route also has an additional late night service route. It does not service the community college on Sundays and holidays.

In South Lake Tahoe bus stop facilities may include just a sign, a sign with a bench or a transit shelter. Locations with only a sign are not shown on the BlueGo schedule as a regular stop, but buses will pick-up/drop-off at those locations if a rider is present. The Tahoe Transportation District (TTD) oversees the BlueGo operations and is in the process of upgrading scheduled bus stops to include shelters. The TTD's protocol includes constructing a transit shelter when bus stops are improved with active transportation access, such as a sidewalk or shared use path. Active transportation enhancements along Al Tahoe Boulevard would therefore trigger the installation of a transit shelter at the bus stop along the roadway.



A bus stop with a bench just south of the Middle School along Al Tahoe Boulevard – active transportation improvements such as sidewalks or shared use path facilities next to the bus stop would trigger the addition of a transit shelter at the bus stop



# EXISTING TRANSPORTATION CONDITIONS

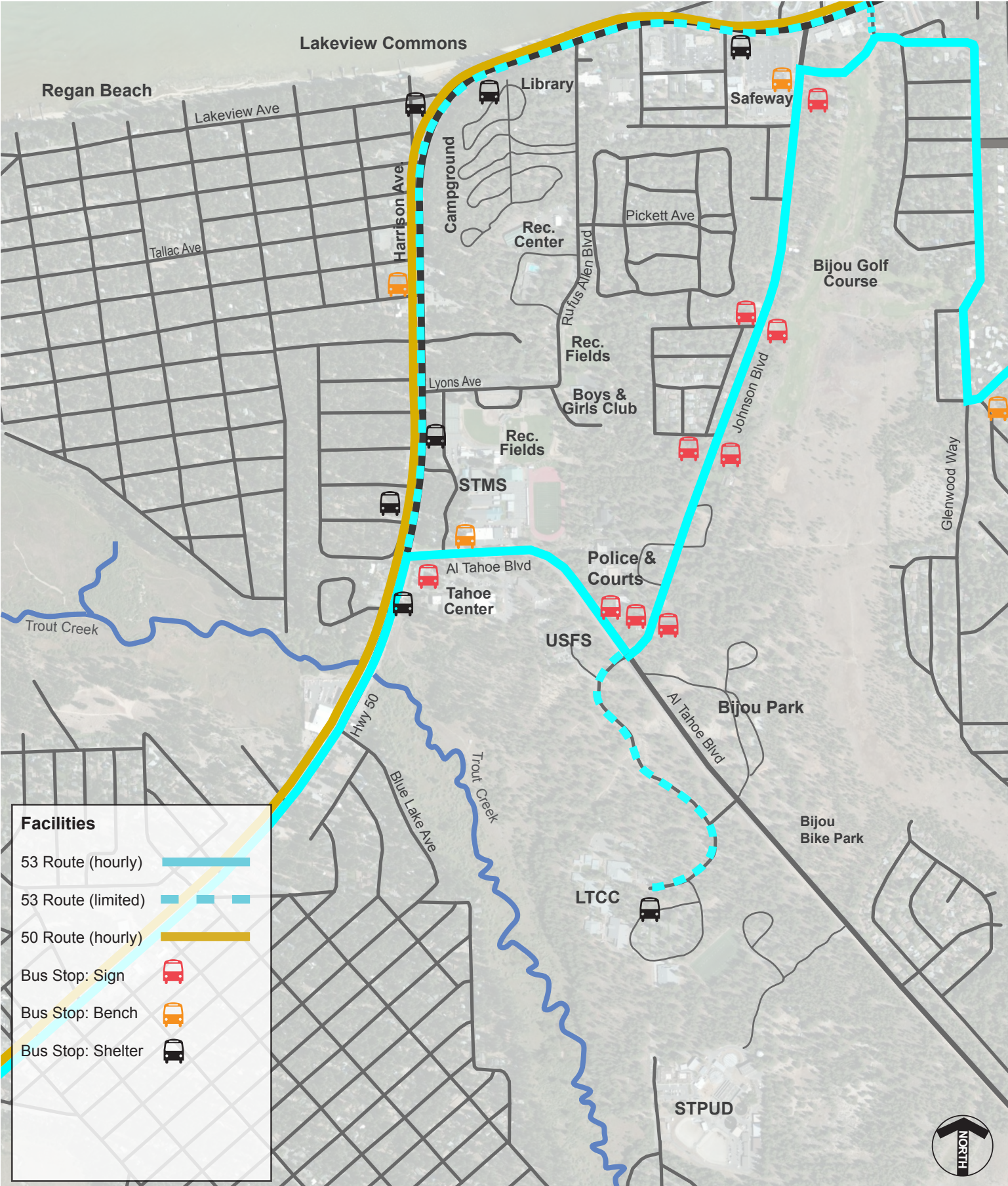


Figure 14: Existing Transit Routes and Stops



# EXISTING TRANSPORTATION CONDITIONS

## EXISTING PEDESTRIAN FACILITIES + AMENITIES

Sidewalks, crosswalks and curb ramps are primarily found along US 50. New sidewalks, signals and curb ramps have been installed along US 50 in recent years as Caltrans has been completing stormwater quality treatment projects.

A damaged and aging sidewalk also exists on the south side of Al Tahoe Boulevard and a sidewalk on Rufus Allen Boulevard extends from Lyons Avenue north to Pickett Avenue. A series of dirt paths have been formed along roadways in locations where no sidewalk exists.

Crosswalks are provided at signalized intersections, but along US 50 only two or three legs of the intersection are marked in an effort to prioritize traffic movement along US 50. This creates delays for pedestrians and increases their exposure to vehicles. The US 50/Al Tahoe intersection has high visibility crosswalks and curb ramps for the western, northern and eastern legs. The southern leg is not marked.

Lyons Avenue has high visibility crosswalks and curb ramps for the northern and eastern legs. The southern leg is not marked and crossing is prohibited. The Al Tahoe/Johnson intersection has high visibility markings but no curb ramps.



Crosswalks and curb ramps at the US 50/Al Tahoe intersection on three of the four legs



Lack of curb ramps at the Al Tahoe/Johnson intersection



# EXISTING TRANSPORTATION CONDITIONS



Figure 15: Existing Pedestrian Facilities and Amenities



# EXISTING TRANSPORTATION CONDITIONS

## EXISTING BICYCLE FACILITIES + AMENITIES

As previously mentioned, a series of Class I and Class II facilities exist in the project area. These facilities are primarily along US 50, a portion of Al Tahoe Boulevard and Lyons Avenue. A planned regional Class I facility (the Greenway) is located to the southeast of the project area and will serve to connect the project area to surrounding neighborhoods and the greater community and region.

Gaps in the Class I facilities exist on Al Tahoe Boulevard between US 50 and Johnson Boulevard and on Rufus Allen Boulevard between Lyons Avenue and Pickett Avenue. Gaps in the Class II facilities also exist on Al Tahoe Boulevard between US 50 and Pioneer Trail to the east.

A series of informal use trails provide connectivity for a number of users. These use trails are mostly seen within the Bijou Meadow area, Trout Creek area and just east of the Middle School between Lyons Avenue and Al Tahoe Boulevard. Study of the trails indicates the routes community members use to connect from the surrounding neighborhoods to the project area and recreation facilities.

Bike racks are commonly found at civic, educational and recreational destinations. Commercial areas vary with the provision of bike racks. No racks exist at the Tahoe Center, but bike racks are available at the Harrison Avenue Business District.



Class I bike path parallels the west side of US 50 and connects to a regional trail system to the county



Cyclist using a dirt path along Al Tahoe Boulevard



# EXISTING TRANSPORTATION CONDITIONS

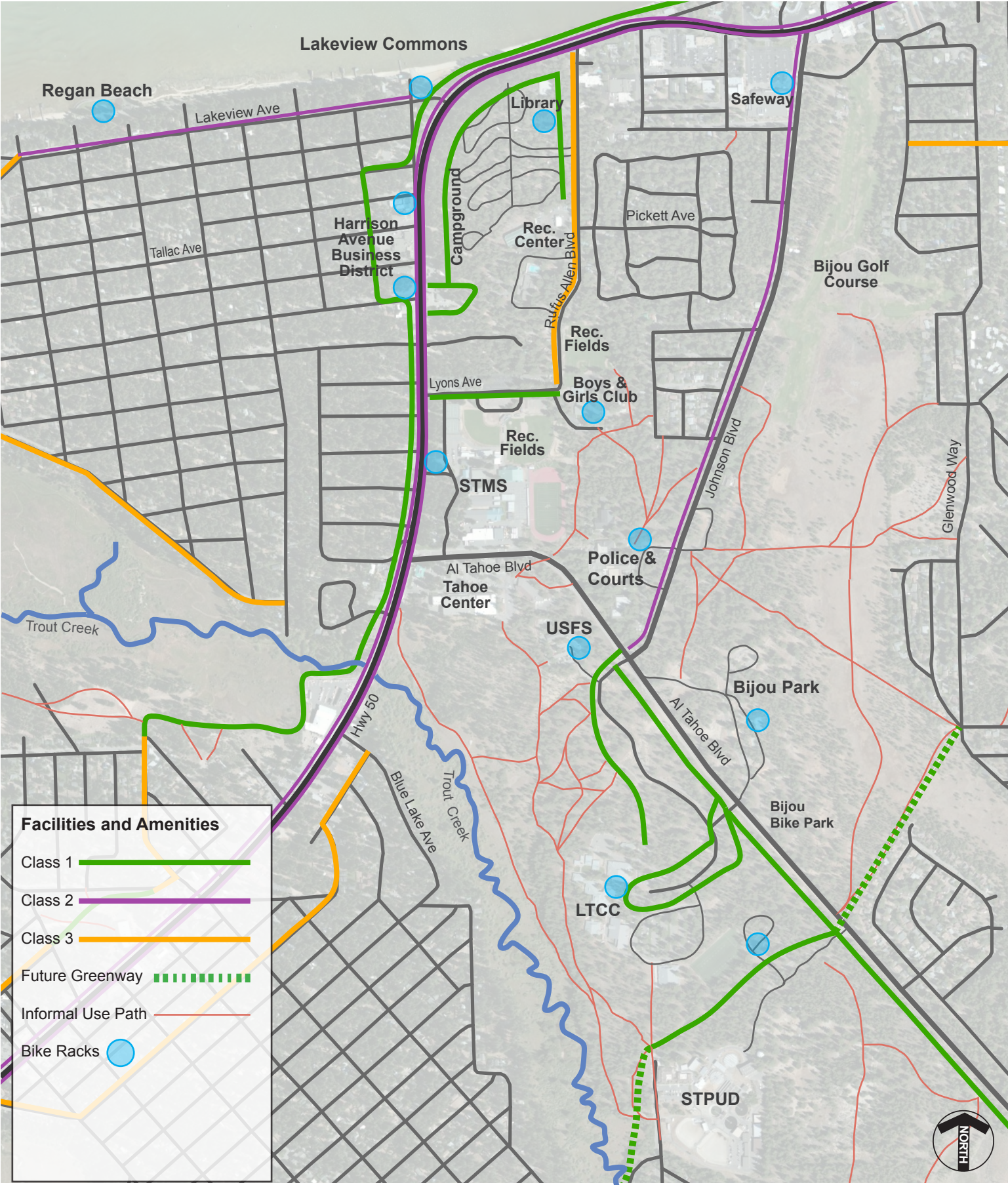


Figure 16: Existing Bicycle Facilities and Amenities

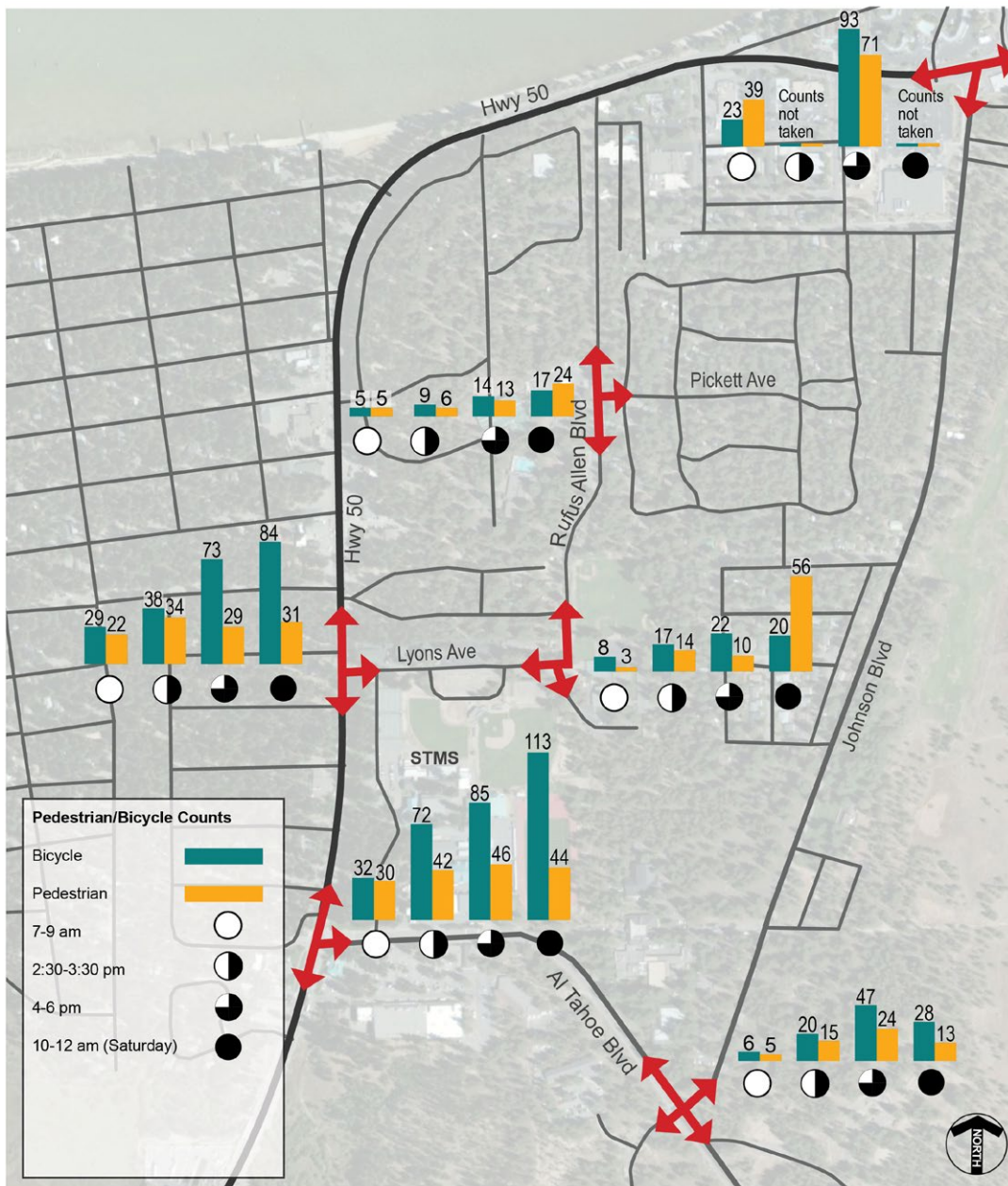


# EXISTING TRANSPORTATION CONDITIONS

## EXISTING PEDESTRIAN + BICYCLE COUNTS

### VOLUNTEER COUNTS

Volunteer groups manually conducted informal bicycle and pedestrian counts during three time periods on October 2 and 4, 2014. The counts were conducted at seven intersections during the following time periods: school drop-off (7:00-9:00 AM), afternoon pick-up (1:30-2:30 PM) and evening peak traffic (4:00-6:00 PM.) Counts showed an increase in activity during the afternoon and evening time periods, a reflection of the time of year the counts were conducted.



**Figure 17:** Volunteer Pedestrian and Bicycle Counts October 2 and October 4, 2014

# EXISTING TRANSPORTATION CONDITIONS

## TRAFFIC ENGINEER COUNTS

LSC manually collected bicycle and pedestrian count data within the project area November 2014. Because they were conducted in the off-season, counts were adjusted based on seasonal data from similar communities.

**Table 4:** Existing Estimated Average Corridor Bicyclists/Pedestrians Along Al Tahoe Boulevard

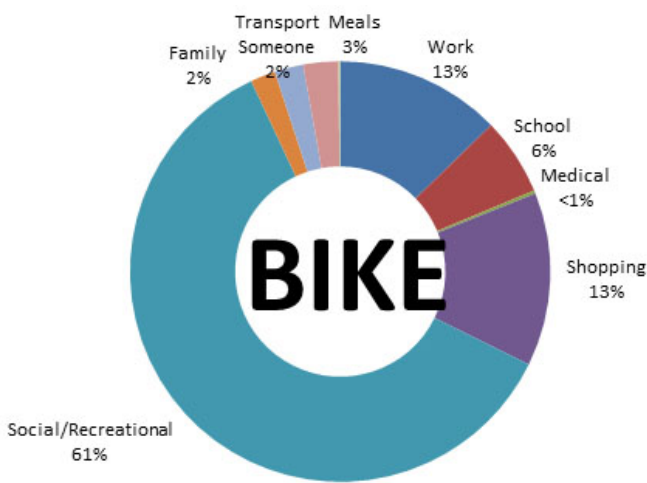
EXISTING	WEEKDAY <sup>1</sup>	MONTHLY <sup>2</sup>	ANNUAL <sup>2</sup>
Bicycle	150	2,200	26,000
Pedestrian	190	2,700	33,000
Total	340	4,900	59,000

<sup>1</sup> Based on peak period manual turning movement counts at Al Tahoe/ US-50 and Al Tahoe/Johnson intersections, Thursday, November 6, 2014 (6:00-9:00am, 1:00-3:30pm, 4:00-7:00pm). Counts were adjusted to estimate average weekday bicycle and pedestrian volumes.

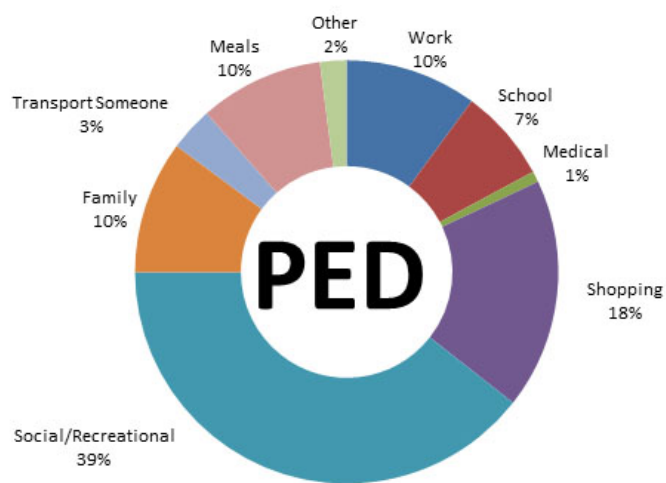
<sup>2</sup> Monthly and annual counts extrapolated from weekday counts using average monthly counts from Boulder, CO; Carmel, IN; and Indianapolis, IN (similar socio-demographic information and population density and had relevant bicycle and pedestrian data).

A more detailed breakdown of trip purpose was estimated by applying National Household Travel Survey (2009) derived ratios to existing count data. Depicted in Figures 18 and 19, this analysis shows the majority of bicycle and pedestrian trips are for social/recreational purposes with shopping and work comprising the next highest reasons.

Annually, an estimated 59,000 cycling/walking trips occurs along Al Tahoe Boulevard without any dedicated bicycle facilities or continuous sidewalk. Charts listing the LSC adjusted bicycle and pedestrian count data can be found in the *South Tahoe Middle School Connectivity Plan Traffic Analysis*.



**Figure 18:** Purpose of Existing Study Area Bicycle Trips



**Figure 19:** Purpose of Existing Study Area Pedestrian Trips



# ACCIDENT HISTORY 2008-2013

## ACCIDENT HISTORY 2008-2013

California Statewide Integrated Traffic Reporting System (SWITRS) data for 2008-2013 reports nine pedestrian and bicycle collisions within the immediate project area and 27 within a one-mile radius of the Middle School (Table 6 and Figure 20.) After active transportation network enhancements, trips may be diverted from those more dangerous routes to the project area facilities.

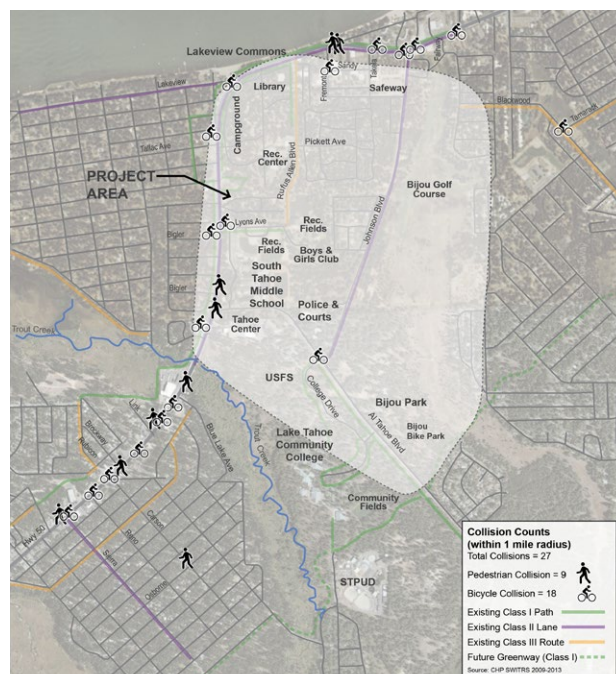
Under-reporting of collisions involving non-motorized users occurs in the City and has been discussed between local bicycle advocacy groups and law enforcement. Subsequently, law enforcement is currently implementing more comprehensive recording procedures.

TRPA/TMPO sought to collect qualitative crash data that can supplement recorded police data over the four year period of 2010 – 2014 (the 2015 Community Outreach Report will be released November 2015.) Table 5 summarizes crash data recorded from SWITRS, the Nevada Crash Database and the ATP survey between 2010 and 2014. In some cases data from 2014 may not be complete. Survey respondents were asked whether or not they had experienced a bicycle or pedestrian related crash between 2010 and 2014. In total, 22 respondents noted they had experienced a crash between those years, of which 14 were unreported. These results support the reasoning that additional, unreported collisions likely occurred within the project area. Specifically, of the respondents who indicated being in a non-reported collision, two incidents had occurred directly within the project area.

**Table 5:** Regional Active Transportation Crash Data

REGIONAL ACTIVE TRANSPORTATION CRASH DATA						
Reported By	2010	2011	2012	2013	2014	Total Collisions
SWITRS	17	16	23	19	18	93
Nevada Highway Patrol	1	3	4	4	0	12
TRPA/TMPO Active Transportation Plan Survey	Collected for consolidated 4 year period, indicates only non-reported collisions					14
<b>Total Collisions</b>	<b>25</b>	<b>21</b>	<b>27</b>	<b>31</b>	<b>21</b>	<b>119</b>

Sources: SWITRS, NHP, 2015 Active Transportation Plan Survey



**Figure 20:** Accident History 2008-2013

# ACCIDENT HISTORY 2008-2013

**Table 6:** Project Area Non-Motorized Collisions

PRIMARY ROAD	SEC. ROAD	FEET FROM INT.	DIR. FROM INT.	DATE	TIME	PCF CATEGORY	PED. ACTION	PED. INJURED	BIC. INJURED
<b>1AI Tahoe</b>	College Dr.	150		1/2009	2:05				
<b>PM</b>	Bike hit bus			1					
<b>AI Tahoe</b>	US-50	1	S	7/2010	9:44 AM	Ped ROW	Crossing in crosswalk	1	
<b>US-50</b>	AI Tahoe	302	E	2/2009	5:37 PM	Improper passing			1
<b>US-50</b>	Bigler	18	W	6/2009	6:13 PM	Ped violation	Crossing not in crosswalk	1	
<b>US-50</b>	Blue Lake	204	W	7/2010	8:30 AM	Wrong side of road			1
<b>US-50</b>	Blue Lake	198	E	2/2008	2:16 AM	DUI	Not in road	1	
<b>US-50</b>	Brockway	400	E	8/2008	1:03 PM	Wrong side of road			1
<b>US-50</b>	Brockway	57	E	3/2010	10:19 PM	Other than driver	Crossing not in crosswalk	1	
<b>US-50</b>	Fairway	150	E	8/2010	1:51 PM	Improper turning			1
<b>US-50</b>	Johnson	0	E	8/2011	5:46 PM	-			1
<b>US-50</b>	Johnson	0	-	7/2012	2:54 PM	Unsafe speed			1
<b>US-50</b>	Link	232	E	10/2011	12:00 PM	Improper turning	Crossing not in crosswalk	1	
<b>US-50</b>	Lyons	0	-	6/2009	7:04 PM	Traffic signals/sign			1
<b>US-50</b>	Lyons	0	-	5/2012	2:05 PM	Traffic signals/sign			1
<b>US-50</b>	Reno	0	-	9/2010	2:14 PM	Auto ROW			1
<b>US-50</b>	Sierra	0	-	7/2010	1:47 PM	-			1
<b>US-50</b>	Sierra	3	W	10/2009	4:43 PM	Other hazardous violation	Crossing in crosswalk	1	
<b>US-50</b>	Takela	144	E	1/2012	3:19 PM	Other hazardous violation			1
<b>US-50</b>	Takela	500	W	9/2011	6:27 AM	Ped violation	Crossing not in crosswalk	1	
<b>US-50</b>	Tallac	100	E	6/2012	12:31 PM	Improper passing			1
<b>US-50</b>	Blue Lake	528	W	7/2010	12:59 PM	Unsafe lane change			1
<b>US-50</b>	Lakeview	0	-	10/2011	11:30 AM	Unsafe speed			1
<b>Blackwood</b>	Tamarack	0	-	6/2012	11:47 AM	-			1
<b>Carson</b>	Osborne	75	N	9/2009	11:45 PM	Unsafe speed	In road/ shoulder	1	
<b>Rubicon</b>	US-50	0	-	9/2008	5:05 PM	Auto ROW			1
<b>Sandy</b>	Fremont	99	E	8/2008	4:08 PM	Auto ROW			1

<sup>1</sup>Per 4/24/2015 Conversation with Officer Jeff Gartner of CHP, bicyclist ran into a bus and fled scene.

SWITRS information from 2009-2013

PCF: Primary Collision Factor

# CONNECTIVITY OPPORTUNITIES

## CONNECTIVITY OPPORTUNITIES

The planning process evaluated the existing transportation infrastructure and surrounding context to identify a series of mobility challenges and opportunities.

Challenges generally included:

- Active transportation network gaps
- Exposure of pedestrians and cyclists to vehicles
- Intersections that prioritize vehicular movement
- Speeding
- Circulation and drop-off/pick-up concerns at the Middle School

Opportunities generally included:

- Narrowing travel lanes to provide additional active transportation facilities within the roadway footprint and to slow traffic
- Roadway reconfigurations to incorporate active transportation facilities within the roadway footprint and to slow traffic
- Completing active transportation network gaps
- Formalizing significant use trails to enhance connectivity to residential areas
- Adding crosswalks
- Adjusting signal timing
- Incorporating striping, green paint and bike boxes to highlight the position of cyclists in the roadway and to enhance their turning movements
- Identifying long term vision opportunities to minimize vehicle/active transportation user conflicts

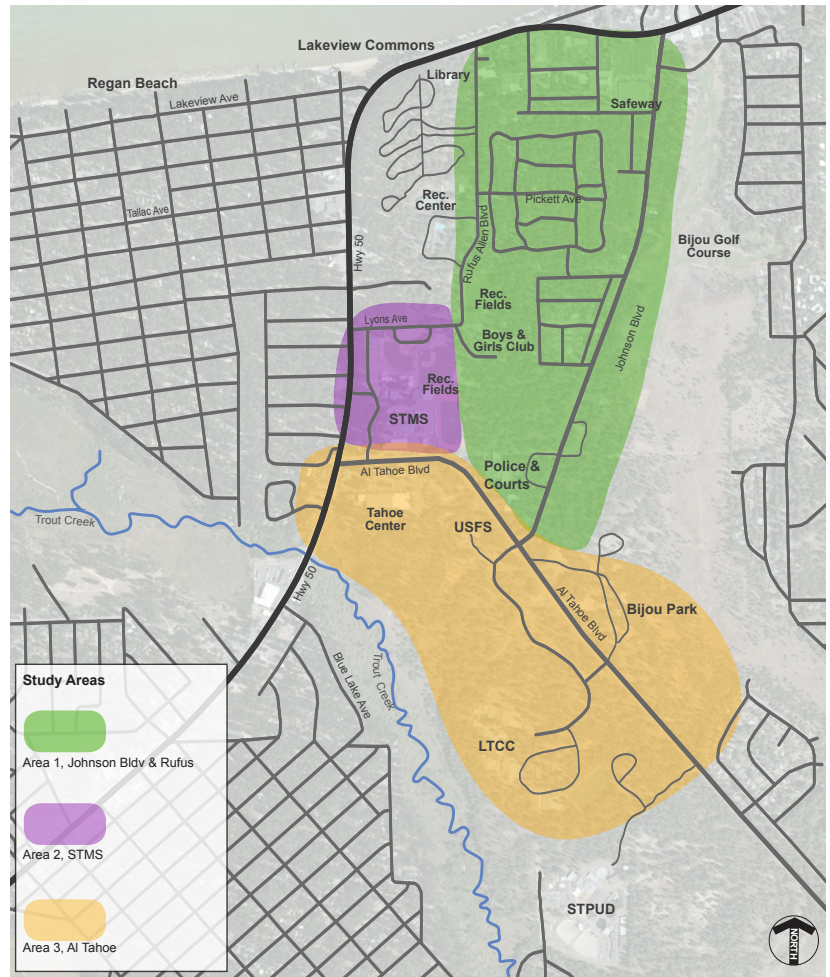


Figure 21: Study Areas

## STUDY AREAS AND MOBILITY OPPORTUNITIES

The project area was subdivided into three study areas in order to organize the alternatives and present them to stakeholders and the public. Locations included the Johnson Boulevard and Rufus Allen Boulevard area, the Middle School area and the Al Tahoe Boulevard area. Potential mobility enhancements for each of the study areas are shown in Figure 22. Opportunities exist for intersection improvements and for linear facility improvements and connections as shown in the diagram. Further description of the alternatives developed for each of the mobility opportunity sites and the final recommendations for each site is presented in Chapter 5. A Class I bike path was considered along the northeast side of Al Tahoe Boulevard from Johnson Boulevard to the Greenway. Although the route was supported by bicycle advocates, it duplicated the existing facility south of Al Tahoe Boulevard. Alternatively, connectivity improvements along that segment of Al Tahoe Boulevard were proposed to include the development of internal circulation enhancements within Bijou Park which would subsequently link Johnson Boulevard to the Greenway.



# CONNECTIVITY OPPORTUNITIES

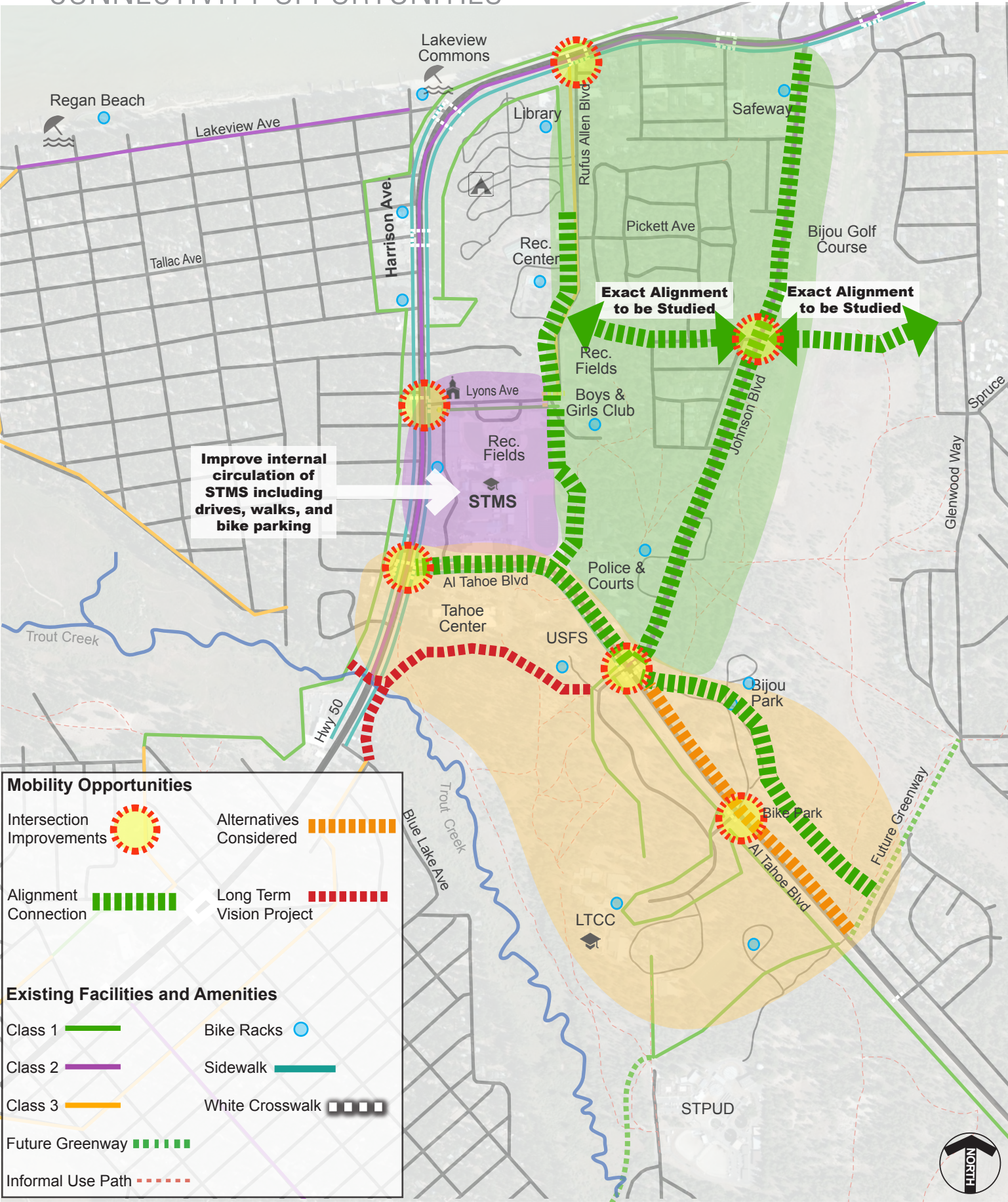


Figure 22: Diagram of Mobility Opportunity Sites





# CHAPTER 3: COMMUNITY OUTREACH

Chapter 3 describes the community based public participation process that shaped and informed the development of alternatives and project recommendations.

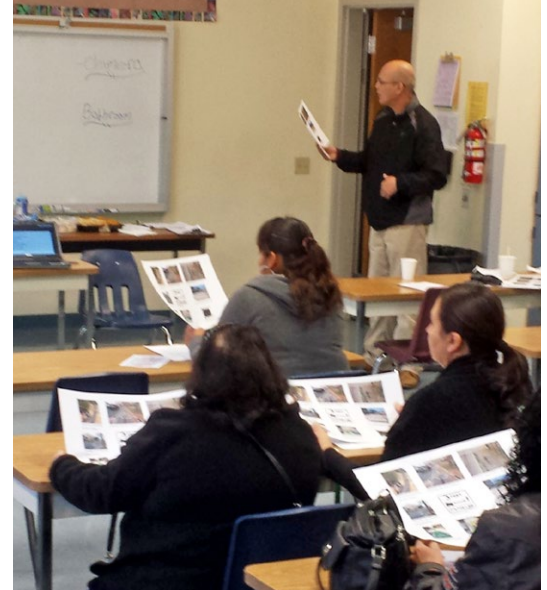
# OVERVIEW

## OVERVIEW

The Connectivity Plan effort originated from community outreach associated with a prior safe routes to school study. LTUSD, in partnership with the Mobility Group and the City, initially identified the need for the Connectivity Plan effort through the Safe Routes to School Study and Community Outreach, conducted April 2014, funded by the TRPA/TMPO On Our Way Grant Program.

Those early efforts continued throughout development of the Connectivity Plan. The public participation process engaged public and government stakeholders as part of an effort to gain feedback and invite collaboration. Both public and agency stakeholders shaped the alternatives and determined project priorities. Table 6 identifies the stakeholder groups engaged through the process.

Outreach was geared towards engaging the Hispanic community by attending weekly morning Cafecitos (local Hispanic parent teacher association (PTA)) meetings at Tahoe Valley Elementary, Sierra House Elementary and the Middle School. Children were welcomed at the meetings and translators assisted in presentations and feedback. Flyers and surveys were translated into Spanish.



Outreach efforts were conducted during Cafecitos meetings to gain more input from the Hispanic community

**Table 7:** Stakeholder Involvement

<b>PUBLIC STAKEHOLDERS</b>	<b>GOVERNMENTAL STAKEHOLDERS (TECHNICAL ADVISORY COMMITTEE/TAC)</b>	<b>DECISION-MAKING TEAM (PROJECT DELIVERY TEAM (PDT))</b>
<b>Inform and Consult to Gain Feedback:</b>  <b>Event Type: One-on-one meetings and group meetings</b>	<b>Consult and Involve in the Outcome:</b>  <b>Event Type: Individual and group stakeholder meetings</b>	<b>Involve, Collaborate and Empower to Partner in Outcomes and Identify/ Formulate Solutions:</b>  <b>Event Type: Team meetings</b>
Community members (residents, targeted and vulnerable users)	Barton Hospital	City of South Lake Tahoe
Elected officials	Caltrans	Lake Tahoe Unified School District
Hispanic parent groups (Cafecitos)	California Tahoe Conservancy	Tahoe Regional Planning Agency/Tahoe Metropolitan Planning Organization
Middle School staff	California Highway Patrol	Tahoe Transportation District
Middle School students	City of South Lake Tahoe Bicycle Advisory Committee	Community Mobility Group
Lake Tahoe Bicycle Coalition	City of South Lake Tahoe Fire Department	
Property owners of Tahoe Retail Center	City of South Lake Tahoe Police Department	
South Shore Transportation Management Association	City of South Lake Tahoe Recreation and Parks Commission	
	El Dorado County Law Enforcement	
	Tahoe Regional Planning Agency/ Tahoe Metropolitan Planning Organization	
	Tahoe Transportation District	
	US Forest Service	



# OVERVIEW

Highlights of the event types and outreach methods are summarized in Table 7. Table 8 presents the number of meetings conducted with the different stakeholders. As shown in Table 6, the PDT was comprised of representatives from implementing agencies and the Mobility Group. They met often to review and provide direction, organize the outreach and make final decisions about the high priority project.

**Table 8:** Outreach Methods, Accessibility and Facilitation Tools for Meetings/Events

EVENT/MEETING TYPE (NUMBER)	OUTREACH METHODS									ACCESSIBILITY			FACILITATION TOOLS	
	Newspaper	Flyers <sup>1</sup>	E-Mail Blasts <sup>2</sup>	Student Handouts	Facebook	Community Events Calendars	Agency Websites	Project Websites <sup>3</sup>	Personal Invitations	Held During Regular Meeting Time	Accessible Via Transit	Spanish Translation	Questionnaires/ Surveys	Keypad Polling
Walkabout (2)	√	√	√	√	√	√	√	√	√	√	√			
Public Workshops (2)	√	√	√	√	√	√	√	√	√	√	√		√	√
Community Surveys (2)	√	√	√	√	√		√	√				√	√	
Student Survey (1)		√	√	√								√	√	
Cafecitos Meetings/Surveys (6)									√	√	√	√	√	√
One-on-one Meetings/														
Phone Calls (12)									√	√				
Updates to Community Groups (9)			√			√			√	√	√			
Updates to Recreation Commission and Joint Powers of Authority (4)						√			√	√	√			
<sup>1</sup> Posted at local businesses, post offices, recreation centers and Community College.														
<sup>2</sup> Through community groups, LTUSD, the City, TRPA/TMPO, and TTD email lists.														
<sup>3</sup> <a href="http://sustainabilitycollaborative.org/how-we-work/community-mobility-cm/stms-connectivity/">http://sustainabilitycollaborative.org/how-we-work/community-mobility-cm/stms-connectivity/</a>														

**Table 9:** Meeting/Event Types, Number and Attendance

	ATTENDANCE/SURVEY RESPONDENTS	NUMBER OF MEETINGS/ EVENTS
PDT/TAC Walkabout	12	1
Public Walkabout & Debrief	13	1
Public Workshop 1	20	1
Community Survey 1	292	1
Student Survey	474	1
Cafecitos Survey 1 (at 3 separate meetings)	30	3
Public Workshop 2	19	1
Community Survey 2	144	1
Cafecitos Survey 2 (at 3 separate meetings)	19	3
One-on-one Meetings/Phone Discussions	1-2 each meeting	12
Community Group Meetings	6-10 each meeting	13
PDT Meetings	5-6 each meeting	12
Agency/TAC Stakeholder Meetings	6-10 each meeting	2

# PROCESS + OUTCOMES

## PROCESS AND OUTCOMES

In addition to PDT and stakeholder meetings, the primary outreach events and activities included the following:

- Stakeholder Walkabout
- Student, Parent + Teacher Walkabout
- Student Survey
- Public Workshop One
  - Face-to-face Meeting
    - Keypad Polling
    - Map Exercise
  - On-line Outreach
    - Community Survey
  - Disadvantaged Community Outreach
    - Cafecitos Meetings (Translated Keypad Polling)
    - Translated On-line Surveys
- Public Workshop Two
  - Face-to-face Meeting
    - Survey Cards
  - On-line Outreach
    - Community Survey
  - Disadvantaged Community Outreach
    - Cafecitos Meetings (Translated Survey Cards)
    - Translated On-line Surveys

## WALKABOUTS

A preliminary walkabout was conducted with agency and community group stakeholders at the project onset. During Middle School drop-off time, a “walkabout” or “walking audit” was conducted with parents October 16, 2015. A survey and follow-up discussion was conducted immediately afterward with attendees and the LTUSD superintendent and principal. Concerns included street crossings and traffic speed creating fear for students and parents. During the walking audit, observers noted high traffic speeds within the school drop-off area and students crossing Al Tahoe Boulevard outside the controlled US-50/Al Tahoe crosswalk.

### South Tahoe Middle School Connectivity Plan Public Workshop Questionnaire/Comment Card

November 19, 2014; 5:30pm – 7:30pm

Name & Email: Charles Nelson / charles@ksc.edu

- Out of the options shown today for Al Tahoe Blvd. from US 50 to Johnson Boulevard, which is your most preferred?  
☐ AT 1: No road diet with sharrows  
☒ AT 2: 4-lane road diet with Class II bike lanes (2 w/b, 1 B.D. + 2 w/b)  
☐ AT 3: 3-lane road diet with Class I path  
Comments:  

---
- Out of the options shown today for Johnson Blvd. which is your most preferred?  
☒ JL 1: Widen Class II bike lanes (+ buffer eat)  
☐ JL 2: Class I path  
Comments:  
Need separate path route on both sides (all options) + enforce "no  

---
- Out of the options shown today for Rufus Allen Blvd. which is your most preferred?  
☐ RA 1: Class II bike lanes  
☒ RA 2: Class I path + bike lane on east side (or both sides)  
Comments:  
garbage cans, etc. in bike/ped area  

---
- Out of the options shown today for the Al Tahoe/US 50 intersection which is your most preferred?  
☐ AT/US 50 Baseline  
☒ AT/US 50 Enhanced  
Comments:  
Bike bus should in right-most left-turn lane  

---
- Out of the options shown today for Lyons/US 50 which is your most preferred?  
☐ LY/US 50 Baseline  
☒ LY/US 50 Enhanced  
Comments:  

---
- Rank your top three priority projects for bike and pedestrian improvements? (label 1-3)  

<input type="checkbox"/> Lyons Avenue recommendations	<input checked="" type="checkbox"/> E/W Connector through Bijou Meadow to Rufus Allen
<input type="checkbox"/> Middle School circulation recommendations	<input checked="" type="checkbox"/> E/W Connector behind USFS & UPS and Crossing
<input checked="" type="checkbox"/> Al Tahoe Blvd. from US 50 to Johnson Avenue (your preferred option (AT 1, AT 2, or AT 3) as selected above)	<input type="checkbox"/> US 50 at Trout Creek recommendations
<input type="checkbox"/> Johnson Blvd. (your preferred option (JB 1 or JB 2) option as selected above)	<input checked="" type="checkbox"/> Al Tahoe/US 50 Intersection (your preferred option (AT/US 50 Baseline or AT/US 50 Enhanced) as selected above)
<input type="checkbox"/> Rufus Allen Blvd. (your preferred option (RA 1 or RA 2) as selected above)	<input type="checkbox"/> Lyons/US 50 Intersection (your preferred option (LY/US 50 Baseline or LY/US 50 Enhanced) as selected above)
<input type="checkbox"/> Al Tahoe Blvd. from Johnson Blvd. to the future Greenway recommendations	<input type="checkbox"/> Rufus Allen/US 50 Intersection recommendations

Please continue on the back.

Survey cards used during the second public workshop.

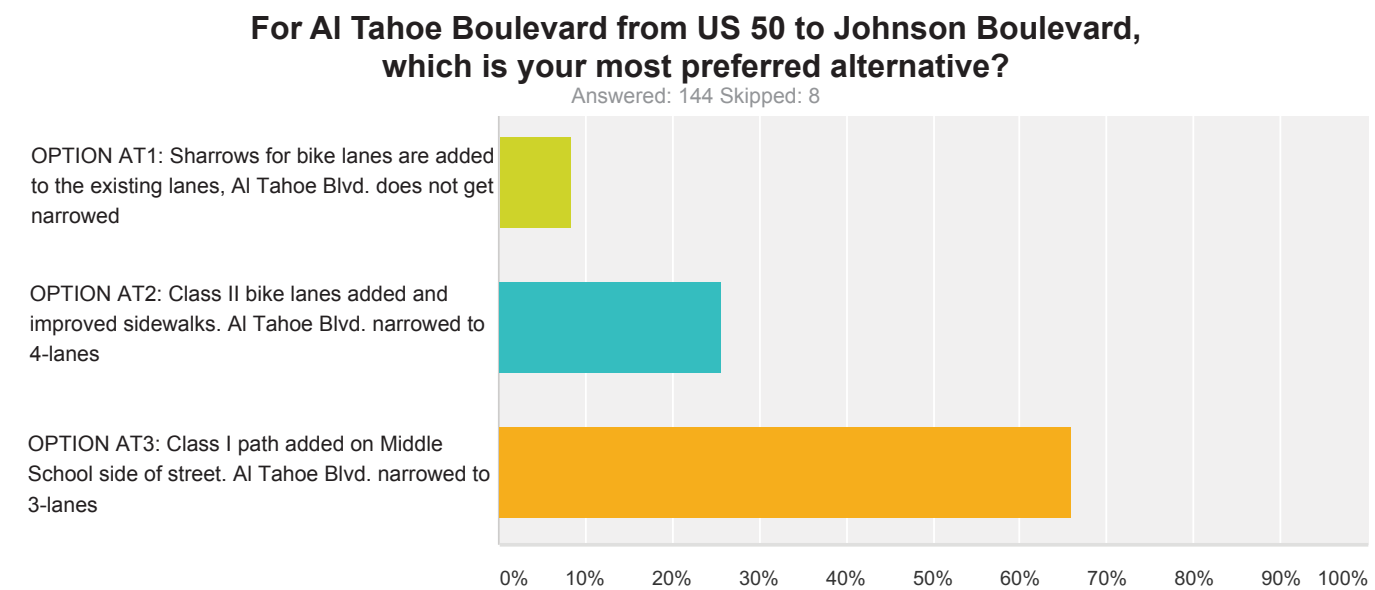




# PROCESS + OUTCOMES

Stakeholder and public feedback guided the project vision, alternatives and prioritization. Feedback revealed current and potential users, mode types, common social paths, barriers to connectivity and safety concerns. Community input emphasized reduced vehicular speeds along Al Tahoe Boulevard to enable comfortable riding/walking, a desire for Class I facilities and intersection enhancements and support for reduced travel lane widths.

Governmental stakeholders felt the mobility network along Al Tahoe Boulevard needed to accommodate all users and requested Class II bike lanes on both sides of Al Tahoe. The Al Tahoe Boulevard project recommendations and schematic design package were modified to include both Class I and Class II facilities to meet the ATP goal of “providing a spectrum of projects to benefit many types of active transportation users”.



**Figure 25:** 2014/2015 Middle School Connectivity Plan Survey Results – Preferred Alternative



# CHAPTER 4: ALTERNATIVES ANALYSIS

A range of alternatives were developed to enhance active transportation facilities throughout the study area. Those alternatives are described in greater detail in Chapter 5 along with the final recommendations. Chapter 4 summarizes the analysis process used to evaluate the alternatives and select a high priority project to move forward through grant funding and further design and implementation.

# ALTERNATIVES ANALYSIS

## ALTERNATIVES ANALYSIS

The PDT (see page 40) reviewed and evaluated the alternatives described in Chapter 5 based on the criterion listed below. Except for “Traffic,” the elements were primarily selected in consideration of California’s Active Transportation System (ATP) grant program and were scored in accordance with the 2015 ATP point system.

### ANALYSIS CRITERION

The criterion used to evaluate the various alternatives can be grouped into the following categories:

#### CRITERION

- Project Feasibility (weighted multiplier of 3)
- Plan Consistency (weighted multiplier of 3)
- Safety (weighted multiplier of 5.4)
- Increased Walking/Biking (weighted multiplier of 1)
- Community Outreach (weighted multiplier of 1.25)
- Impacts to Traffic (weighted multiplier of 1)

The PDT utilized quantitative data wherever possible to rank each alternative on a scale from 0 to 3 utilizing the above criterion. A higher ranking score indicated a preferred alternative. Following is a summary of the criterion and the ranking categories:

#### ***PROJECT FEASIBILITY (status of ROW clearance & Environmental Clearance required for ATP)***

##### ***Feasibility – ROW***

Can the improvements be completed within the existing ROW (3 points) or will they require land acquisition and ROW adjustments (0 points)? Yes or no.

- Based on whether improvements require ROW or acquisition:
  - » 3: Project does not require ROW or acquisition
  - » 0: Project requires ROW acquisition

##### ***Feasibility - Environmental Documentation Required***

What is the level of environmental documentation anticipated?

- Based on the type of environmental document/mitigation anticipated:
  - » 3: Project does not have significant environmental impacts (Neg. Dec.)
  - » 1: Project has environmental impacts that can be easily mitigated (MND)
  - » 0: Project has environmental impacts that can be mitigated (EIS/EIR mitigation)

#### ***PLAN CONSISTENCY (ATP screening criteria for project eligibility)***

Is the project listed in the 2010 Regional Bicycle & Pedestrian Plan or Regional Transportation Plan (2035 Mobility Plan)

- Based on whether the project is included in the regional plans and listed as a Tier 1 project in the RTP:
  - » 3: Project listed in the 2010 Regional Bicycle & Pedestrian Plan & the RTP and listed as a Tier 1 project in the RTP
  - » 1.5: Project listed in either the 2010 Regional Bicycle & Pedestrian Plan & the RTP
  - » 0: Project not listed in either the 2010 Regional Bicycle & Pedestrian Plan or the RTP



# ALTERNATIVES ANALYSIS

## ***SAFETY (worth 26% of overall ATP score)***

### ***Safety***

Does the Alternative improve safety for pedestrians and bicyclists?

- Based on SWITRS collision data 2008-2012:
  - » 3: Project is located in an area of 5 or more vehicular incidents caused by unsafe speeds or one or more incidents involving a pedestrian or a bicyclist
  - » 2: Project is located in an area of 3 or more vehicular incidents caused by unsafe speeds
  - » 1: Project is located in an area of 1 or more vehicular incidents caused by unsafe speeds
  - » 0: No incidents occurred in area of treatment

## ***INCREASED WALKING & BIKING (worth 22% of overall ATP score)***

### ***Potential for Increased Walking***

Will there be increased pedestrian use from the alternative's improvements?

- Based on the provision of a pedestrian facility:
  - » 3: Project provides a pedestrian facility where there is none
  - » 1.5: Project improves existing pedestrian facility
  - » 0: Project does not include pedestrian improvements

### ***Potential for Increased Biking***

Will there be increased bicycle use from the alternative's improvements?

- Based on the provision of a bicycle facility:
  - » 3: Project provides a bikeway facility where there is none
  - » 1.5: Project improves existing bikeway facility
  - » 0: Project does not include bikeway improvements

### ***Range of Bicycle Users***

Does the bicycle facility serve a broad range of users?

- Based on the type of bicycle facility and how comfortable its use is to a range of users:
  - » 3: Project provides a Class I path, and/or intersection improvements specific for bikes
  - » 2: Project provides a Class II bike lane
  - » 1: Project provides a Class III bike route, and or baseline intersection improvements
  - » 0: Project does not provide any bicycle facility

# ALTERNATIVES ANALYSIS

## ***Connectivity to Area Destinations (from ATP list)***

Does the project create or improve walking and/or bicycling route connections to one or more of the following destinations?

- Based on how many destinations the project provides connectivity to within ½-mile walking/biking distance of the project area, with a focus on school connectivity to neighborhoods:
  - School or School Facility
    - » STMS: 1 point
    - » LTCC: .5 points
  - Recreation Centers (Recreation Center, Bijou Park, Sports Fields, Lakeview Commons) (.2 points each)
  - Employment Center (Tahoe Center, Harrison Avenue Business District) (.1 points each)
  - Neighborhoods
    - » Al Tahoe: .5 point (34% rec/vac, 24% Hispanic, 2075 pop)
    - » Sierra Tract: .5 points (21% rec/vac, 28% Hispanic, 2010 pop)
    - » Pioneer Village: .1 points (28% rec/vac, 32% Hispanic, pop 170)
    - » Bijou: 1 point (25% rec/vac, 54% Hispanic, total pop. 3214)
    - » Bijou Pines: .1 points (40% rec/vac, 21% Hispanic, 873 pop)
  - » 3: Project connects to 3 or more destinations or connects to both a neighborhood and a school or school facility
  - » 2: Project connects to 2 area destinations
  - » 1: Project connects to 1 area destinations
  - » 0: Project does not connect to any destinations

## ***Gap Closure or Barrier Removal***

Does the project remove a barrier to mobility and/or close a gap in the non-motorized facility or connect to an existing or planned regional non-motorized facility (connects from the City to the County) to provide better overall regional bike and ped connectivity?

- Based on how the project removes a barrier or closes a gap or connects to an existing or planned regional non-motorized facility:
  - » 3: Project closes a gap or removes a barrier through one of the following methods:
    - Connects two existing non-motorized facilities of the same type or better (e.g. Class I facility connecting to a Class I facility, a Class II facility connecting to a Class II facility, or a sidewalk to a sidewalk)
    - Connects to an existing or planned regional non-motorized facility (e.g. connects to the Class I facility west of US 50 or to the planned Greenway)
    - Project reduces the number of intersection legs a pedestrian/bicyclist must cross to connect two non-motorized facilities
  - » 1.5: Project closes a gap or removes a barrier by connecting two existing or planned non-motorized facilities of the same type with a non-motorized facility of a different type (e.g. connecting two Class I facilities with a Class II facility)
  - » 0: Project does not close a gap between two existing non-motorized facilities

## ***COMMUNITY OUTREACH (worth 13% of overall ATP score)***

### ***Public Feedback Regarding Specific Alternatives***

How did the public rank the project alternative?

- Based on the percentage of public support the alternative received:
  - » 3: Project scored 50% or above on surveys: alternative selection (or did not have an alternative)
  - » 2: Project scored between 30%-49% on surveys: alternative selection
  - » 1: Project scored between 10%-29% on surveys: alternative selection
  - » 0: Project scored below 10% on surveys: alternative selection



# OUTCOMES

## Public Feedback Regarding Priorities

How did the public prioritize the project corridor?

- Based on the priority ranking the project corridor received:
  - » 3: Project scored 30% or above on surveys: priorities selection
  - » 2: Project scored between 15%-29% on surveys: priorities selection
  - » 1: Project scored between 5%-14% on surveys: priorities selection
  - » 0: Project scored below 5% on surveys: priorities selection

## TRAFFIC

How does the project affect traffic movement?

- Based on the impact to LOS:
  - » 3: Project does not change LOS
  - » 2: Project changes LOS one letter grade down but is still above F
  - » 1: Project changes LOS more than one letter grade down but is still above F
  - » 0: Project changes LOS to F

## OUTCOMES

The final ratings are illustrated in the Alternatives Analysis Evaluation Matrix shown in Table 9. The AI Tahoe/Johnson intersection was not evaluated as part of the matrix since its recommendations resulted from the selection of preferred alternatives along AI Tahoe Boulevard and Johnson Boulevard.

The AI Tahoe Boulevard Class I bike path with associated road configuration ranked over 17 percent higher than the next highest project – a clear priority for connectivity enhancements in the AI Tahoe Boulevard area. Intersection improvements for US 50/AI Tahoe and AI Tahoe/Johnson were also included in the high priority project due to their connection to the AI Tahoe Boulevard recommendations. More detailed engineering and design will determine the final project details and will provide refined analysis of the project’s impacts and costs.

## Overall Prioritization

The analysis criteria focused on ATP funding, but many other considerations were incorporated. The PDT evaluated the list of recommended projects based on the outcome of the alternatives analysis and prioritized them into three broad categories: high, medium and low. Those categories and the total score of the recommended improvements from the alternatives analysis are provided below. Note that the broad categorization of priorities considers more factors than just the final score of the alternatives analysis.

### High Priority

- AI Tahoe Boulevard (US 50 to Johnson) Class I bike path, Class II bike lanes and intersection improvements
  - AI Tahoe Blvd – Class I Bike Path: 56.9
  - US 50/AI Tahoe Intersection – Enhanced Improvements: 45.45
- Lyons/US 50 Intersection – Enhanced Improvements: 43.05
- Johnson Blvd – Class I Bike Path: 44.75
- AI Tahoe Blvd from Johnson thru Bijou Park: 38.45
- Bijou Park/AI Tahoe Intersection: 33.95

### Medium Priority

- Bijou Meadow East-West Connectivity Multi-use Path: 26
- South Tahoe Middle School Circulation Improvements: 28.8
- Lyons Ave to AI Tahoe Blvd N/S Connector – Class I Path: 33.25
- Rufus Allen Blvd – Class I Bike Path: 41.15
- Rufus Allen/US 50 Intersection – Widen Crosswalk: 33.25

### Low Priority

- Trout Creek/US 50 E/W Connectivity – Underpass: 37.65

# OUTCOMES

**Table 10:** Alternatives Analysis Evaluation Matrix

CATEGORY	US 50/AL TAHOE INTERSECTION ALT 1: BASELINE IMPROVEMENTS	US 50/AL TAHOE INTERSECTION ALT 2: ENHANCED IMPROVEMENTS
<b>PROJECT FEASIBILITY (status of ROW clearance &amp; Environmental Clearance required for ATP) (18 possible points in matrix)</b>		
Feasibility - ROW	0	0
	Pot. ROW to widen ped landing areas	Pot. ROW to widen ped landing areas
Feasibility - Environmental Documentation	3	3
	Neg. Dec.	Neg. Dec.
Subtotal	3	3
<b>PLAN CONSISTENCY (screening criteria for project eligibility) (9 possible points in matrix)</b>		
Plan Consistency	0	0
	Not listed	Not listed
<b>SAFETY (worth 26% of overall ATP score) (16.2 possible points in matrix)</b>		
Safety	3	3
	4 collisions (1 involving a ped (hit in crosswalk))	4 collisions (1 involving a ped (hit in crosswalk))
<b>INCREASED WALKING &amp; BIKING (worth 22% of overall ATP score) (15 potential points in matrix)</b>		
Potential for Increased Walking	1.5	1.5
	Project improves existing facility	Project improves existing facility
Potential for Increased Biking	1.5	1.5
	Project improves existing facility	Project improves existing facility
Range of Bicycle Users	1	3
	Project provides baseline intersection improvements	Project provides intersection improvements for cyclists
Connectivity to Area Destinations	2.2	3
	Al Tahoe (.5) & Sierra Tract (.5) neighborhoods and STMS (1) Tahoe Center, Harrison Avenue Business District (.1) (.1) w/in 1/2 mile	Al Tahoe (.5) & Sierra Tract (.5) neighborhoods and STMS (1) Tahoe Center, Harrison Avenue Business District (.1) (.1) w/in 1/2 mile
Gap Closure	3	3
	Improves crossing & connects to Class I path to the County	Improves crossing & connects to Class I path to the County
Subtotal	9.2	12
<b>COMMUNITY OUTREACH (worth 13% of overall ATP score) (7.5 potential points in matrix)</b>		
Public Feedback Regarding Specific Alternative	2	3
	Received 33% of votes	Received 66% of votes
Public Feedback Regarding Priorities	2	2
	Received 15% of votes	Received 15% of votes
Subtotal	4	5
<b>TRAFFIC (not listed in ATP) (3 points in matrix)</b>		
Traffic	2	2
	Project changes overall LOS from C to D in PM	Project changes overall LOS from C to D in PM
<b>TOTAL</b>	41.4	<b>45.45</b>

# OUTCOMES

CATEGORY	AL TAHOE BLVD. FROM US 50 TO JOHNSON ALT 1: SHARROWS	AL TAHOE BLVD. FROM US 50 TO JOHNSON ALT 2: FOUR-LANE ROAD W/ CLASS II BIKE LANES	AL TAHOE BLVD. FROM US 50 TO JOHNSON ALT 3: THREE-LANE ROAD W/ CLASS I PATH
<b>PROJECT FEASIBILITY (status of ROW clearance &amp; Environmental Clearance required for ATP) (18 possible points in matrix)</b>			
Feasibility - ROW	3	3	3
	No ROW needed	No ROW needed	No ROW needed
Feasibility - Environmental Doc	3	3	3
	Neg. Dec.	Neg. Dec.	Neg. Dec.
Subtotal	6	6	6
<b>PLAN CONSISTENCY (screening criteria for project eligibility) (9 possible points in matrix)</b>			
Plan Consistency	0	0	3
	Not listed	Not listed	Listed in Bike/Ped Plan and RTP
<b>SAFETY (worth 26% of overall ATP score) (16.2 possible points in matrix)</b>			
Safety	1	1	1
	2 collisions with unsafe speeds(none involving ped/bike)	2 collisions with unsafe speeds(none involving ped/bike)	2 collisions with unsafe speeds(none involving ped/bike)
<b>INCREASED WALKING &amp; BIKING (worth 22% of overall ATP score) (15 potential points in matrix)</b>			
Potential for Increased Walking	1.5	1.5	3
	Project improves existing sidewalk	Project improves existing sidewalk	Project provides Class I facility where no sidewalk exists
Potential for Increased Biking	1.5	3	3
	Project improves bike mobility but does not provide designated facility	Project provides bikeway facility where none exists	Project provides bikeway facility where none exists
Range of Bicycle Users	1	2	3
	Project provides a Class III bike route	Project provides a Class II bike lane	Project provides a Class I bike path
Connectivity to Area Destinations	2.9	2.9	3
	Al Tahoe (.5) & Sierra Tract (.5) neighborhoods, STMS (1) and LTCC (.5), Tahoe Center (.1), Harrison Avenue Business District (.1), Bijou Park (.2) within 1/2 mile route	Al Tahoe (.5) & Sierra Tract (.5) neighborhoods, STMS (1) and LTCC (.5), Tahoe Center (.1), Harrison Avenue Business District (.1), Bijou Park (.2) within 1/2 mile route	Al Tahoe (.5) & Sierra Tract (.5) neighborhoods, STMS (1) and LTCC (.5), Tahoe Center (.1), Harrison Avenue Business District (.1), Bijou Park (.2) within 1/2 mile route
Gap Closure	0	1.5	3
	Does not connect existing Class I facilities with a Class II or Class I facility	Connects existing Class I facilities with a Class II facility	Connects existing Class I facilities with a Class I facility
Subtotal	6.9	10.9	15
<b>COMMUNITY OUTREACH (worth 13% of overall ATP score) (7.5 potential points in matrix)</b>			
Public Feedback Regarding Specific Alternative	0	1	3
	Received 8% of votes	Received 25% of votes	Received 65% of votes
Public Feedback Regarding Priorities	3	3	3
	Received 33% of votes	Received 33% of votes	Received 33% of votes
Subtotal	3	4	6
<b>TRAFFIC (not listed in ATP) (3 points in matrix)</b>			
Traffic	3	2	2
	Project does not change overall LOS	Project changes overall LOS from C to D in PM	Project changes overall LOS from C to D in PM
<b>TOTAL</b>	37.05	41.3	<b>56.9</b>



# OUTCOMES

CATEGORY	JOHNSON BLVD. ALT 1: BIKE LANES AND SIDEWALK	JOHNSON BLVD. ALT 2: CLASS I PATH
<b>PROJECT FEASIBILITY (status of ROW clearance &amp; Environmental Clearance required for ATP) (18 possible points in matrix)</b>		
Feasibility - ROW	3	3
	No ROW needed	No ROW needed
Feasibility - Environmental Documentation	3	3
	Neg. Dec.	Neg. Dec.
Subtotal	6	6
<b>PLAN CONSISTENCY (screening criteria for project eligibility) (9 possible points in matrix)</b>		
Plan Consistency	0	0
	Not listed	Not listed
<b>SAFETY (worth 26% of overall ATP score) (16.2 possible points in matrix)</b>		
Safety	1	1
	3 collisions (1 with unsafe speeds) (none involving ped/bike)	3 collisions (1 with unsafe speeds) (none involving ped/bike)
<b>INCREASED WALKING &amp; BIKING (worth 22% of overall ATP score) (15 potential points in matrix)</b>		
Potential for Increased Walking	3	3
	Project provides sidewalk where none exists	Project provides Class I facility where no sidewalk exists
Potential for Increased Biking	1.5	1.5
	Project improves existing bike facilities	Project improves existing bike facilities
Range of Bicycle Users	2	3
	Project provides a Class II bike lane	Project provides a Class I bike path
Connectivity to Area Destinations	1.6	1.6
	Bijou Pines (.1) neighborhood, STMS (1), LTCC (.5) and Bijou Park (.2) within 1/2 mile route	Bijou Pines (.1) neighborhood, STMS (1), LTCC (.5) and Bijou Park (.2) within 1/2 mile route
Gap Closure	3	3
	Connects existing Class II facilities with a Class II facility	Connects existing Class I facilities with a Class I facility
Subtotal	11.1	12.1
<b>COMMUNITY OUTREACH (worth 13% of overall ATP score) (7.5 potential points in matrix)</b>		
Public Feedback Regarding Specific Alternative	2	3
	Received 36% of votes	Received 63% of votes
Public Feedback Regarding Priorities	2	2
	Received 15% of votes	Received 15% of votes
Subtotal	4	5
<b>TRAFFIC (not listed in ATP) (3 points in matrix)</b>		
Traffic	3	3
	Project does not change overall LOS	Project does not change overall LOS
<b>TOTAL</b>	<b>42.5</b>	<b>44.75</b>

# OUTCOMES

CATEGORY	BIJOU MEADOW E/W CONNECTIVITY MULTI-USE PATH	AL TAHOE BLVD. FROM JOHNSON BLVD. THRU BIJOU PARK – PATH
<b>PROJECT FEASIBILITY (status of ROW clearance &amp; Environmental Clearance required for ATP) (18 possible points in matrix)</b>		
Feasibility - ROW	0	3
	Pot. ROW/parcel acquisition for connection	No ROW needed
Feasibility - Environmental Documentation	0	3
	EIR for SEZ impacts and other	Neg. Dec.
Subtotal	0	6
<b>PLAN CONSISTENCY (screening criteria for project eligibility) (9 possible points in matrix)</b>		
Plan Consistency	1.5	1.5
	Listed in the Bike/Ped plan & RTP as another Bijou meadow crossing	Listed in the Bike/Ped Pan and the RTP
<b>SAFETY (worth 26% of overall ATP score) (16.2 possible points in matrix)</b>		
Safety	0	0
	2 collisions along Glenwood (0 to unsafe speeds)	0 collisions
<b>INCREASED WALKING &amp; BIKING (worth 22% of overall ATP score) (15 potential points in matrix)</b>		
Potential for Increased Walking	3	1.5
	Project provides Class I facility where no sidewalk exists	Project improves existing Class I access to Bijou Park
Potential for Increased Biking	3	1.5
	Project provides Class I facility where no bike facilities exist	Project provides additional bike facility in area of existing Class I facility
Range of Bicycle Users	3	3
	Project provides a Class I bike path	Project provides a Class I bike path
Connectivity to Area Destinations	3	1.7
	STMS (1), Bijou (1), Bijou Pines (.1) and Al Tahoe (.5) neighborhoods, Rec Center (.2) & library (.2) within 1/2 mile route	STMS (1), LTCC (.5) and Bijou Park (.2) within 1/2 mile route
Gap Closure	1.5	1.5
	Connects existing Class I facility on Rufus with Class III facilities on Glenwood & Spruce	Connects Class II facility with proposed Greenway, but duplicates existing Class I along LTCC side of Al Tahoe
Subtotal	13.5	9.2
<b>COMMUNITY OUTREACH (worth 13% of overall ATP score) (7.5 potential points in matrix)</b>		
Public Feedback Regarding Specific Alternative	3	3
	No Alternative Presented	No Alternative Presented
Public Feedback Regarding Priorities	1	0
	Received 10% of votes	Received 4% of votes
Subtotal	4	3
<b>TRAFFIC (not listed in ATP) (3 points in matrix)</b>		
Traffic	3	3
	Project does not change overall LOS	Project does not change overall LOS
<b>TOTAL</b>	<b>26</b>	<b>38.45</b>

# OUTCOMES

CATEGORY	BIJOU PARK/AL TAHOE INTERSECTION	LYONS/US 50 INTERSECTION BASELINE IMPROVEMENTS	LYONS/US 50 INTERSECTION ENHANCED IMPROVEMENTS
<b>PROJECT FEASIBILITY (status of ROW clearance &amp; Environmental Clearance required for ATP) (18 possible points in matrix)</b>			
Feasibility - ROW	3	0	0
	No ROW needed	Pot. ROW to widen ped landing areas	Pot. ROW to widen ped landing areas
Feasibility - Environmental Documentation	3	3	3
	Neg. Dec.	Neg. Dec.	Neg. Dec.
Subtotal	6	3	3
<b>PLAN CONSISTENCY (screening criteria for project eligibility) (9 possible points in matrix)</b>			
Plan Consistency	0	0	0
	Not listed	Not listed	Not listed
<b>SAFETY (worth 26% of overall ATP score) (16.2 possible points in matrix)</b>			
Safety	0	3	3
	0 collisions	5 collisions (2 involving bike (traffic signal violations by vehicle))	5 collisions (2 involving bike (traffic signal violations by vehicle))
<b>INCREASED WALKING &amp; BIKING (worth 22% of overall ATP score) (15 potential points in matrix)</b>			
Potential for Increased Walking	3	1.5	1.5
	Project provides pedestrian crossing where none exists	Project improves existing facility	Project improves existing facility
Potential for Increased Biking	3	1.5	1.5
	Project provides crossing where none exists	Project improves existing facility	Project improves existing facility
Range of Bicycle Users	1	1	3
	Project provides baseline intersection improvements	Project provides baseline intersection improvements	Project provides intersection improvements for cyclists
Connectivity to Area Destinations	0.7	2.1	2.1
	LTCC (.5) and Bijou Park (.2) within 1/2 mile route	Al Tahoe (.5) and Bijou Pines (.1) neighborhoods, STMS (1) and rec center (.2) and Lakeview Commons (.2) and Harrison Avenue Business District (.1) within 1/2 mile route	Al Tahoe and Bijou Pines neighborhoods, STMS and rec center within 1/2 mile route
Gap Closure	1.5	3	3
	Connects existing Class I near LTCC to Bijou Park	Improves crossing & connects to Class I path to the County	Improves crossing & connects to Class I path to the County
Subtotal	9.2	9.1	11.1
<b>COMMUNITY OUTREACH (worth 13% of overall ATP score) (7.5 potential points in matrix)</b>			
Public Feedback Regarding Specific Alternative	3	2	3
	No Alternative Presented	Received 38% of votes	Received 61% of votes
Public Feedback Regarding Priorities	0	0	0
	Received 4% of votes	Received 3% of votes	Received 3% of votes
Subtotal	3	2	3
<b>TRAFFIC (not listed in ATP) (3 points in matrix)</b>			
Traffic	3	3	3
	Project does not change overall LOS	Project does not change overall LOS	Project does not change overall LOS
<b>TOTAL</b>	<b>33.95</b>	<b>39.8</b>	<b>43.05</b>



# OUTCOMES

CATEGORY	RUFUS ALLEN/US 50 INT. – WIDEN CROSSWALK	RUFUS ALLEN BLVD. ALT. 1: CLASS II BIKE LANES	RUFUS ALLEN BLVD. ALT. 2: CLASS I BIKE PATH
<b>PROJECT FEASIBILITY (status of ROW clearance &amp; Environmental Clearance required for ATP) (18 possible points in matrix)</b>			
Feasibility - ROW	3	3	3
	No ROW needed	No ROW needed	No ROW needed
Feasibility - Environmental Documentation	3	3	3
	Neg. Dec.	Neg. Dec.	Neg. Dec.
Subtotal	6	6	6
<b>PLAN CONSISTENCY (screening criteria for project eligibility) (9 possible points in matrix)</b>			
Plan Consistency	0	0	0
	Not listed	Not listed	Not listed
<b>SAFETY (worth 26% of overall ATP score) (16.2 possible points in matrix)</b>			
Safety	0	1	1
	1 collision with unsafe speed (none involving bike/ped)	1 collision with unsafe speed (none involving bike/ped)	1 collision with unsafe speed (none involving bike/ped)
<b>INCREASED WALKING &amp; BIKING (worth 22% of overall ATP score) (15 potential points in matrix)</b>			
Potential for Increased Walking	1.5	1.5	1.5
	Project improves existing facility	Project continues and complete existing sidewalk access	Project improves and completes ped access
Potential for Increased Biking	1.5	3	3
	Project improves existing facility	Project provides bike facility where none exists	Project provides bike facility where none exists
Range of Bicycle Users	3	2	3
	Project provides intersection improvements for cyclists	Project provides a Class II bike lane	Project provides a Class I bike path
Connectivity to Area Destinations	1	2	2
	Rec Center (.2), Bijou Pines (.1) neighborhood, Lakeview commons (.2) recreation center (.2) library (.2) and commercial centers (.1) within 1/2 mile route	Library (.2), Rec center (.2), STMS (1), and Al Tahoe (.5) and Bijou Pines (.1) neighborhoods within 1/2 mile route	Library (.2), Rec center (.2), STMS (1), and Al Tahoe (.5) and Bijou Pines (.1) neighborhoods within 1/2 mile route
Gap Closure	1.5	1.5	1.5
	Improves existing crossing	Connects two existing Class I facilities with a Class II facility	Connects two existing Class I facilities with a Class I facility
Subtotal	8.5	10	11
<b>COMMUNITY OUTREACH (worth 13% of overall ATP score) (7.5 potential points in matrix)</b>			
Public Feedback Regarding Specific Alternative	3	2	3
	No Alternative Presented	Received 35% of votes	Received 65% of votes
Public Feedback Regarding Priorities	0	0	0
	Received 2% of votes	Received 4% of votes	Received 4% of votes
Subtotal	3	2	3
<b>TRAFFIC (not listed in ATP) (3 points in matrix)</b>			
Traffic	3	3	3
	Project does not change overall LOS	Project does not change overall LOS	Project does not change overall LOS
<b>TOTAL</b>	<b>33.25</b>	<b>38.9</b>	<b>41.15</b>

# OUTCOMES

CATEGORY	LYONS AVE TO AL TAHOE BLVD N/S CONNECTOR – CLASS I PATH	SOUTH TAHOE MIDDLE SCHOOL CIRCULATION IMPROVEMENTS
<b>PROJECT FEASIBILITY (status of ROW clearance &amp; Environmental Clearance required for ATP) (18 possible points in matrix)</b>		
Feasibility - ROW	0	3
	ROW through STMS parcel	No ROW needed
Feasibility - Environmental Documentation	3	1
	Neg. Dec.	Mit. Neg Dec for traffic impacts
Subtotal	3	4
<b>PLAN CONSISTENCY (screening criteria for project eligibility) (9 possible points in matrix)</b>		
Plan Consistency	1.5	0
	Listed in the Bike/Ped Plan and the RTP	Not listed
<b>SAFETY (worth 26% of overall ATP score) (16.2 possible points in matrix)</b>		
Safety	0	0
	0 collisions	0 collisions
<b>INCREASED WALKING &amp; BIKING (worth 22% of overall ATP score) (15 potential points in matrix)</b>		
Potential for Increased Walking	3	1.5
	Project provides Class I facility where none exists	Project improves pedestrian access through school facility
Potential for Increased Biking	3	3
	Project provides Class I facility where none exists	Project provides Class I facility where none exists
Range of Bicycle Users	3	3
	Project provides a Class I bike path	Project provides a Class I bike path
Connectivity to Area Destinations	2.5	1.8
	STMS (.1), Al Tahoe (.5) & Bijou Pines (.1) neighborhood, LTCC (.5), Bijou Park (.2) and rec center (.2) within 1/2 mile route	STMS (.1), Al Tahoe (.5) & Bijou Pines (.1) neighborhoods, Harrison Avenue Business District (.1) & Tahoe Center (.1) commercial centers within 1/2 mile
Gap Closure	1.5	1.5
	Connects a Class I facility to a sidewalk	Improves the existing facilities
Subtotal	13	10.8
<b>COMMUNITY OUTREACH (worth 13% of overall ATP score) (7.5 potential points in matrix)</b>		
Public Feedback Regarding Specific Alternative	3	3
	No Alternative Presented	No Alternative Presented
Public Feedback Regarding Priorities	0	1
	Received 4% of votes	Received 9% of votes
Subtotal	3	4
<b>TRAFFIC (not listed in ATP) (3 points in matrix)</b>		
Traffic	3	1
	Project does not change overall LOS	Project reduces LOS at school drive on Lyons from overall B to E
<b>TOTAL</b>	<b>33.25</b>	<b>28.8</b>

# OUTCOMES

CATEGORY	TROUT CREEK/US 50 E/W CONNECTIVITY – UNDERPASS	TROUT CREEK/US 50 E/W CONNECTIVITY – BRIDGE WITH PATH TO BLUE BLUE
<b>PROJECT FEASIBILITY (status of ROW clearance &amp; Environmental Clearance required for ATP) (18 possible points in matrix)</b>		
Feasibility - ROW	0	0
	Pot ROW through LTCC parcels	Pot ROW through LTCC parcels
Feasibility - Environmental Documentation	0	0
	EIR for SEZ impacts and other	EIR for SEZ impacts and other
Subtotal	0	0
<b>PLAN CONSISTENCY (screening criteria for project eligibility) (9 possible points in matrix)</b>		
Plan Consistency	0	0
	Not listed	Not listed
<b>SAFETY (worth 26% of overall ATP score) (16.2 possible points in matrix)</b>		
Safety	3	3
	(US 50/Al Tahoe intersection) 4 collisions (1 involving a ped hit in crosswalk)	(US 50/Al Tahoe intersection) 4 collisions (1 involving a ped hit in crosswalk)
<b>INCREASED WALKING &amp; BIKING (worth 22% of overall ATP score) (15 potential points in matrix)</b>		
Potential for Increased Walking	3	3
	Project provides Class I facility where none exists	Project provides Class I facility where no facility exists
Potential for Increased Biking	3	3
	Project provides Class I facility where none exists	Project provides Class I facility where no facility exists
Range of Bicycle Users	3	3
	Project provides a Class I bike path	Project provides a Class I bike path
Connectivity to Area Destinations	2.7	2.7
	LTCC (.5), STMS (1), Bijou Park (.2), Al Tahoe (.5) and Sierra Tract (.5) neighborhoods within 1/2 mile route	LTCC (.5), STMS (1), Bijou Park (.2), Al Tahoe (.5) and Sierra Tract (.5) neighborhoods within 1/2 mile route
Gap Closure	3	3
	Connects two existing Class I facilities with a Class I facility	Connects two existing Class I facilities with a Class I facility
Subtotal	14.7	14.7
<b>COMMUNITY OUTREACH (worth 13% of overall ATP score) (7.5 potential points in matrix)</b>		
Public Feedback Regarding Specific Alternative	3	3
	No Alternative presented	No Alternative Presented
Public Feedback Regarding Priorities	0	0
	Received 2% of votes	Received 2% of votes
Subtotal	3	3
<b>TRAFFIC (not listed in ATP) (3 points in matrix)</b>		
Traffic	3	3
	Project does not change overall LOS	Project does not change overall LOS
<b>TOTAL</b>	<b>37.65</b>	<b>37.65</b>





# CHAPTER 5: ALTERNATIVES + RECOMMENDATIONS

Chapter 5 presents a summary of the different alternatives developed for each opportunity area, including both linear facilities and intersection enhancements. The existing conditions for each location are described in conjunction the site's mobility challenges and opportunities. The final recommendations are defined and diagrammed to illustrate mobility enhancements. Supporting information regarding project benefits, constraints and opportunities, cost considerations, short and long term implementation steps, funding sources, and implementing and partnering organizations is provided. It should be noted that planning and design/engineering costs are preliminary and based on a percentage of the estimated construction costs.

# ALTERNATIVES + RECOMMENDATIONS

## ALTERNATIVES AND RECOMMENDATIONS

Evaluation of the alternatives and public feedback clearly indicated a priority need for mobility enhancements along Al Tahoe Boulevard, including the intersections with US 50 and Johnson Boulevard. Additional projects are also recommended to move forward as funding and opportunities arise. The existing conditions, alternatives evaluated and Connectivity Plan recommendations are generally presented according to their geographical proximity to the highest priority project (Al Tahoe Boulevard from US 50 to Johnson Boulevard, including the intersections.)

## RECOMMENDED PROJECTS

- Al Tahoe Boulevard (US 50 to Johnson): Road reconfiguration, Class I path and Class II bike lanes
- US 50/Al Tahoe Intersection: Enhanced intersection improvements
- Al Tahoe/Johnson Intersection: Intersection improvements
- Al Tahoe Boulevard (Johnson Boulevard thru Bijou Park): Multi-use path through Bijou Park
- Bijou Park/Al Tahoe intersection improvements
- Johnson Boulevard: Class I path
- Bijou Meadow East-West Connectivity: Multi-use path connection
- Lyons/US 50 Intersection: Enhanced intersection improvements
- South Tahoe Middle School Circulation Improvements
- Lyons Avenue to Al Tahoe Boulevard North-South Connectivity: Class I path
- Rufus Allen Boulevard: Class I path
- Rufus Allen/US 50 Intersection: Intersection improvements
- Trout Creek/US 50 East-West Connectivity: Underpass connection to Class I path west of US 50

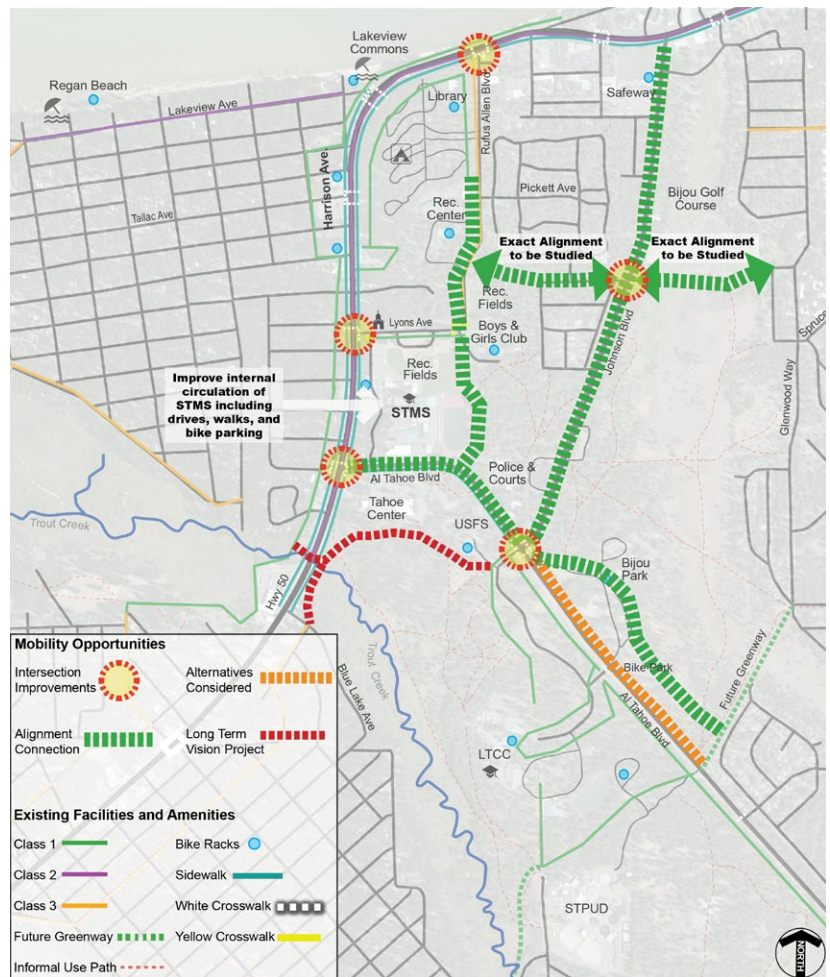


Diagram of mobility opportunity sites



# AL TAHOE BLVD (US 50 TO JOHNSON) EXISTING CONDITIONS

## AL TAHOE BOULEVARD (US 50 TO JOHNSON)

### PROJECT AREA

Al Tahoe Boulevard from US 50 to Johnson Boulevard

### EXISTING MOBILITY FEATURES

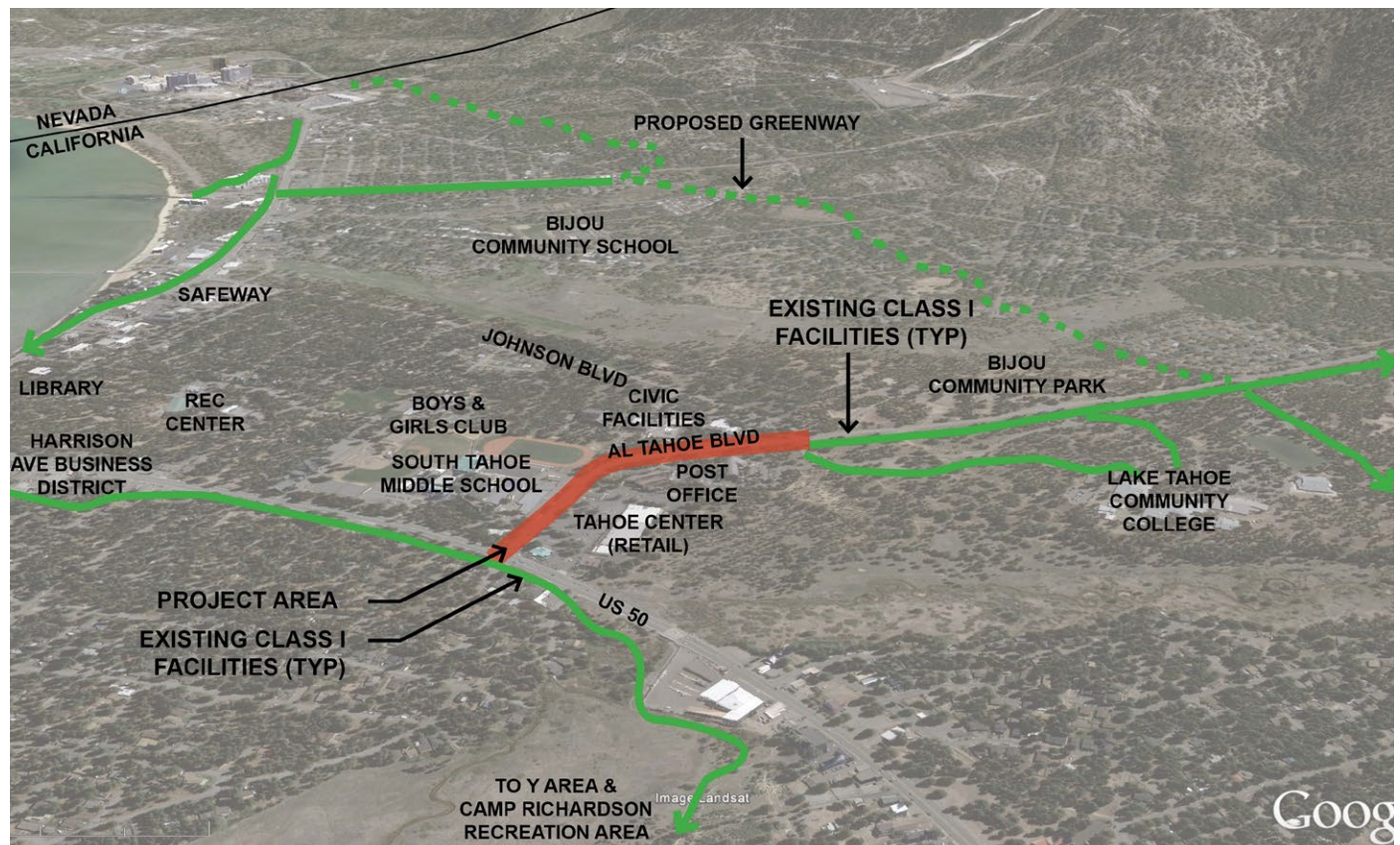
- Damaged and discontinuous sidewalk along the south side of Al Tahoe Boulevard
- No bike lanes or bike facilities
- No pedestrian lighting
- Five-lane roadway (2) eastbound lanes, (2) westbound lanes and (1) center turn lane

### KEY ISSUES + OPPORTUNITIES

- Lack of bicycle and pedestrian facilities
- Lack of school zone signage
- Disconnectivity between adjacent Class I facilities
- Speeding
- Proximity to school facilities
- Multiple driveway intersections
- No bus shelter at the transit stop



Five driveways provide access to one shopping center



Disconnectivity of Class I facilities through this section of Al Tahoe Boulevard



# AL TAHOE BLVD (US 50 TO JOHNSON) ALTERNATIVES

## ALTERNATIVES EVALUATED

### ENHANCEMENTS INCLUDED IN ALL ALTERNATIVES (BASELINE ENHANCEMENTS)

- 1 • Add school zone signage
- 2 • Add a bus shelter at the bus stop
- 3 • Remove center bus barn drive
- 4 • Remove or allow only right-turn in/out at Denny's entrance
- 5 • Narrow the two, one-way drive entries or consolidate to one, two-way drive entry and revise parking layout for commercial center
- Create consistent speed limit

## BASELINE ENHANCEMENTS



Al Tahoe Boulevard Baseline Enhancements

## AL TAHOE BOULEVARD ALTERNATIVE 1

- Create sharrows on eastbound and westbound right travel lanes
- Improve existing sidewalk
- Provide all baseline enhancements

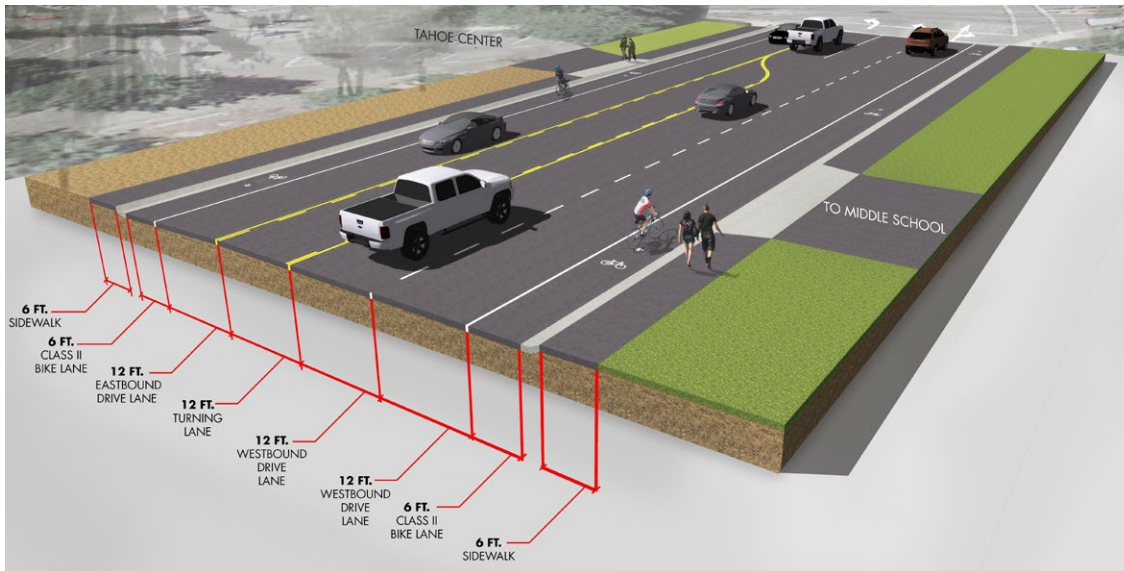


Al Tahoe Boulevard Alternative 1

# AL TAHOE BLVD (US 50 TO JOHNSON) ALTERNATIVES

## AL TAHOE BOULEVARD ALTERNATIVE 2

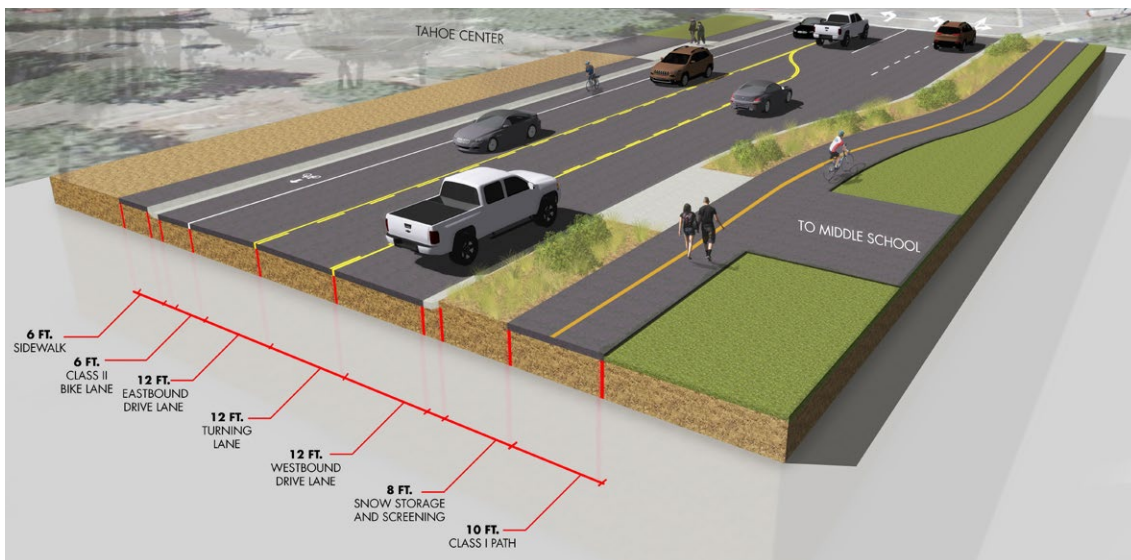
- Reconfigure road to four lanes (remove eastbound travel lane)
  - Provide (1) 12-foot eastbound travel lane, (2) 12-foot westbound travel lanes and (1) 12-foot center turn lane
- Add (2) 6-foot Class II bike lanes
- Improve sidewalks on the south side
- Add a sidewalk on the north side
- Provide all baseline improvements



Al Tahoe Boulevard Alternative 2

## AL TAHOE BOULEVARD ALTERNATIVE 3

- Reconfigure road to three lanes
  - Provide (1) 12-foot eastbound travel lane, (1) 12-foot westbound travel lane and (1) 12-foot center turn lane
- Add a 6-foot Class II eastbound bike lane
- Add a 10-foot Class I path on north side with 8-foot landscape buffer for snow storage/screening
- Improve sidewalk on south side in front of the commercial center
- Provide all baseline improvements



Al Tahoe Boulevard Alternative 3



# AL TAHOE BLVD (US 50 TO JOHNSON) RECOMMENDATIONS

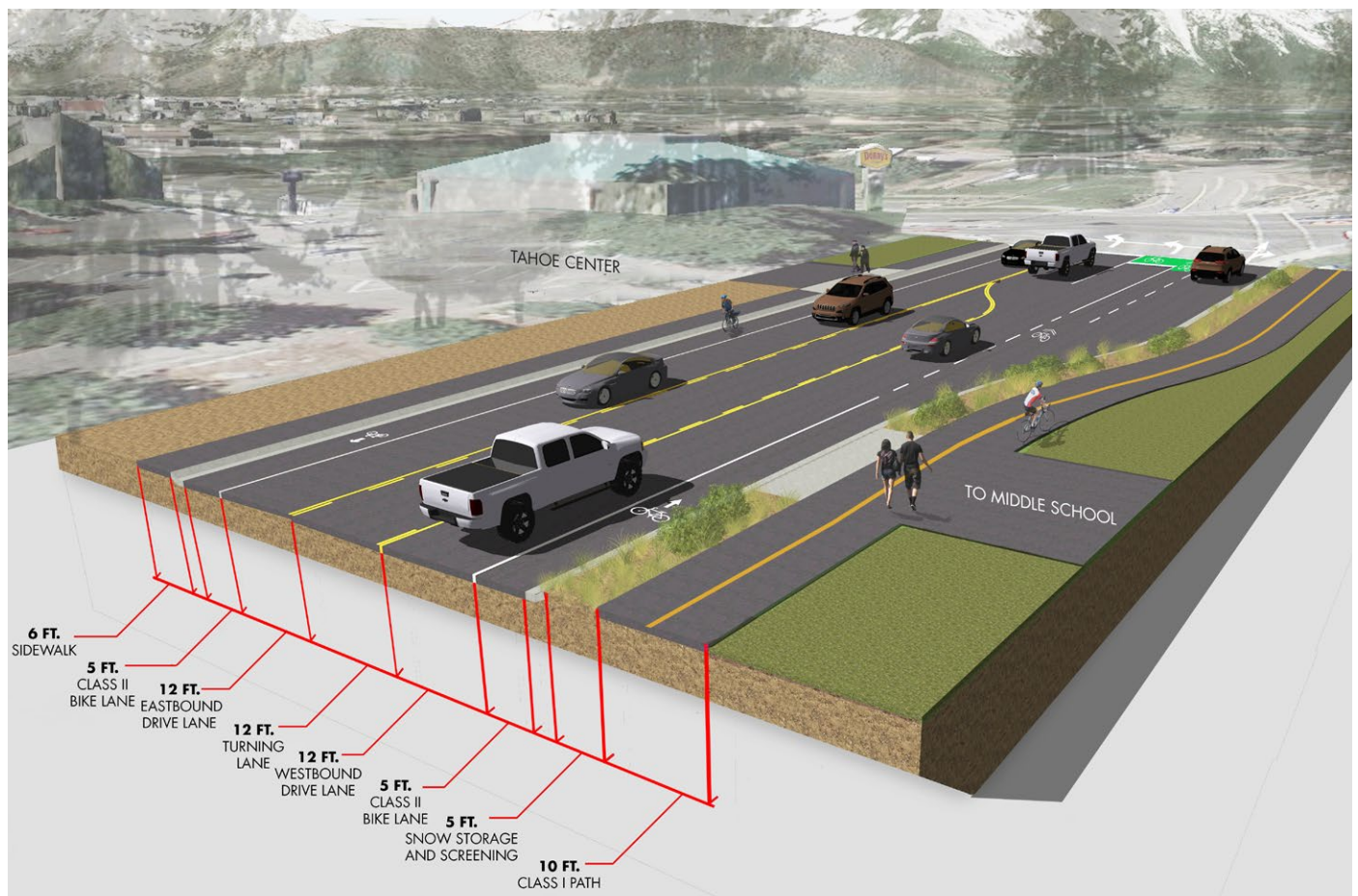
## RECOMMENDATIONS: AL TAHOE BOULEVARD

- Narrow and reconfigure road to three lanes
  - Provide (1) 12-foot eastbound travel lane, (1) 12-foot westbound travel lane and (1) 12-foot center turn lane
- Add (2) 5-foot Class II bike lane striping with no parking signs
- Add a 10-foot Class I HMA path on north side with 5-foot bioswale for snow storage/screening
- Improve sidewalk on south side in front of the commercial center
- Add school zone signage
- Add a bus shelter at the existing bus stop
- Remove center bus barn driveway access
- Allow only right-turn in/out at Denny's entrance
- Narrow the two, one-way drive entries or consolidate to one, two-way drive entry and improve parking lot circulation
- Create consistent speed limit



Class I bike path example

## RECOMMENDATION FOR AL TAHOE BOULEVARD FROM US 50 TO JOHNSON



Al Tahoe Boulevard mobility recommendations

# AL TAHOE BLVD (US 50 TO JOHNSON) RECOMMENDATIONS

## PROJECT BENEFITS

### *Safety*

- Reduces vehicle conflicts with active transportation users by reducing access drives
- Separates bike path users from vehicles and road cyclists
- Reduces vehicle speeds
- Increases motorists' awareness of active transportation users and the need to share the roadway
- Reduces crash risk (crossing three lanes versus five)
- Positions users on Al Tahoe's north side for easy Middle School access and the fewest driveway conflicts
- Fills a gap in the Class I bike path network

### *Public Health*

- Improved access for students to and from the Middle School and after-school activities
- Improved access for students to and from the community college
- Increased physical activity (especially for students) to decrease obesity and corresponding blood pressure

### *Connectivity: Destinations within 1/2-Mile*

- STMS
- Boys and Girls Club
- Class I regional facility west of US 50
- Class I facility (existing and planned) along Al Tahoe Boulevard
- Future Class I regional facility (the Greenway)
- Bijou Park and Bike Park
- LTCC
- Community Playfields
- SLTPD, EDSO and county courthouse
- St Theresa's Catholic Church
- Lakeview Commons
- Harrison Avenue Business District
- Tahoe Center

## POTENTIAL CONSTRAINTS/OPPORTUNITIES

### *Ownership*

- City of South Lake Tahoe right of way
- Properties to the north are publicly-owned:
  - LTUSD
  - SLTPD
  - El Dorado County

### *Environmental*

- No significant impacts anticipated

### *Traffic*

- Removing a lane in each direction on Al Tahoe Boulevard, creating a three-lane cross-section, will have a minimal impact on vehicle capacity
- The westbound approach to US 50 should remain a three-lane approach for approximately 300 feet upstream of the westbound stop bar so queued vehicles do not block driveways on the north and south sides of Al Tahoe Boulevard
- The center bus barn access drive can be removed without significant impacts
- The one-way access drives to the Tahoe Center can be narrowed or combined to one, two-way access drive without significant traffic impacts
- The westernmost access drive to the Tahoe Center can be restricted to left-in/right-in/right-out movements during peak hours due to westbound queued vehicles at the traffic signal limiting sightlines of exiting southbound vehicles

## COST CONSIDERATIONS

- Construction Cost: \$1,500,000
- Non-Construction Cost: \$285,000
- Total Cost: \$1,785,000

## IMPLEMENTATION

### *Short Term*

- Reconfigure road to three lanes
  - Provide (1) 12-foot eastbound travel lane, (1) 12-foot westbound travel lane and (1) 12-foot center turn lane
- Add (2) 6-foot Class II bike lanes
- Add a 10-foot Class I path on north side
- Improve sidewalk on south side
- Add school zone signage
- Add a bus shelter at the bus stop
- Remove center bus barn drive
- Allow only right-turn in/out at Denny's entrance
- Narrow the two, one-way drive entries
- Create consistent speed limit

### *Long Term*

- Add lighting

## FUNDING OPPORTUNITIES/SOURCES

- California Active Transportation Program

## IMPLEMENTING ORGANIZATION

- City of South Lake Tahoe

## PARTNERSHIP OPPORTUNITIES

- Caltrans



# US 50/AL TAHOE INTERSECTION EXISTING CONDITIONS

## US 50/AL TAHOE INTERSECTION

### PROJECT AREA

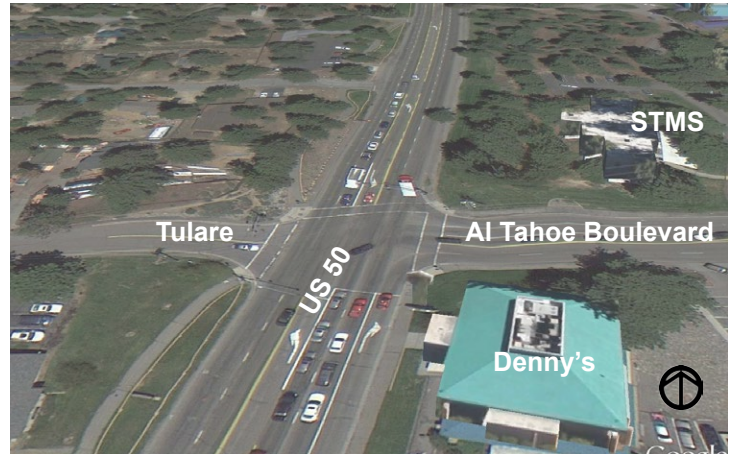
US 50/Al Tahoe Boulevard intersection

### EXISTING MOBILITY FEATURES

- Crosswalks are striped for three of the four intersection legs (lacking a crosswalk along the southern US 50 intersection leg)
- Video detection exists for three of the four intersection legs (video detection for Tulare Avenue approach does not detect cyclists)
- High visibility crosswalk markings with advance stop bar
- Accessible curb ramps
- Pedestrian actuated signals
- Intersection lighting

### KEY ISSUES + OPPORTUNITIES

- Proximity to school facilities
- Lack of crosswalk along the southern US 50 intersection leg
- Signal timing not adjusted for school children
- Crossing time for pedestrians and bicyclists



Aerial view of US 50/Al Tahoe intersection



Intersection of US 50 and Al Tahoe



Intersection of US 50 and Al Tahoe looking at the northwest corner from the northeast corner



The northeast corner of the US 50 and Al Tahoe intersection



Northwest corner of US 50 and Al Tahoe, looking north on US 50



The northeast corner of the US 50 and Al Tahoe intersection looking south towards Denny's

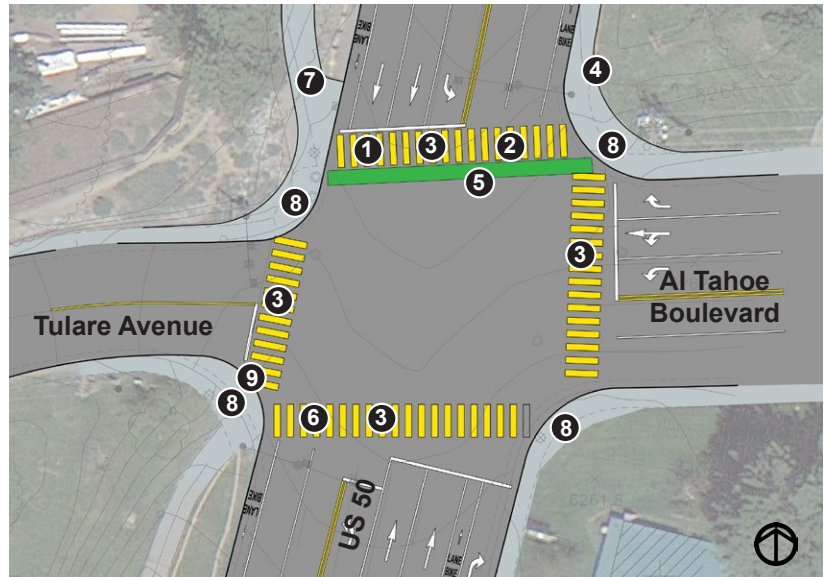


# US 50/AL TAHOE INTERSECTION ALTERNATIVES

## ALTERNATIVES EVALUATED

### US 50/AL TAHOE INTERSECTION BASELINE ALTERNATIVE

- 1 • Provide high visibility crossing improvements
- 2 • Widen crossing at north leg
- 3 • Add school zone yellow striping
- 4 • Add school zone signage
- 5 • Create a bike crossing across US 50
  - Adjust signal timing (ideally 3 feet per second for school arrival and dismissal)
- 6 • Add widened crosswalk to southern leg of intersection
- 7 • Revise existing Class I bike path at northwest corner
  - Lay back slope and combine bike path and sidewalk
- 8 • Increase landing zone for bicyclists to cue
- 9 • Reduce turn radius to slow traffic and provide space for pedestrians and bicyclists



US 50/Al Tahoe Intersection Baseline Alternative



Crossbike example: bike crossing lanes adjacent to the pedestrian crosswalk

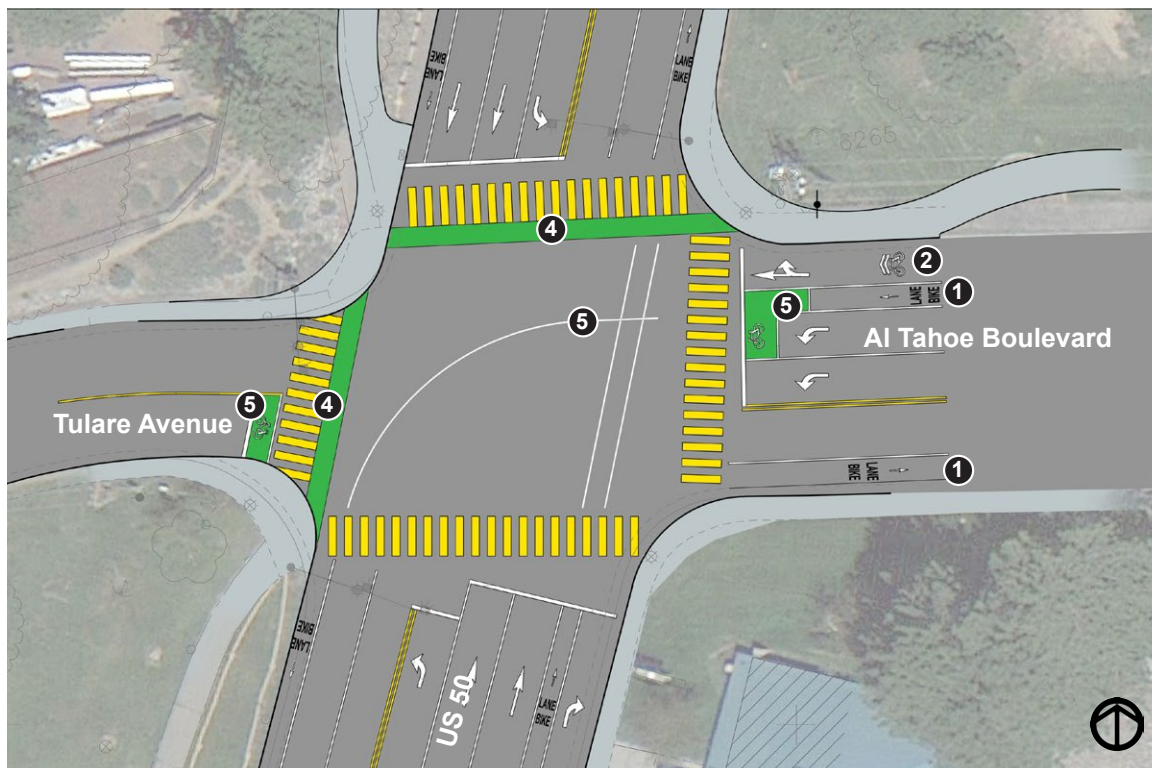


School zone signage example

# US 50/AL TAHOE INTERSECTION ALTERNATIVES

## US 50/AL TAHOE INTERSECTION ENHANCED ALTERNATIVE

- 1 • Add bike lanes on Al Tahoe Boulevard
- 2 • Add bike pocket/mixing zone
- 3 • Provide bike intersection markings to direct left turns from Al Tahoe to US 50
- 4 • Add bike crossing on US 50 north intersection leg and on Tulare Avenue
- 5 • Provide bike box on Al Tahoe Boulevard and on Tulare Avenue
  - Provide all baseline alternative improvements

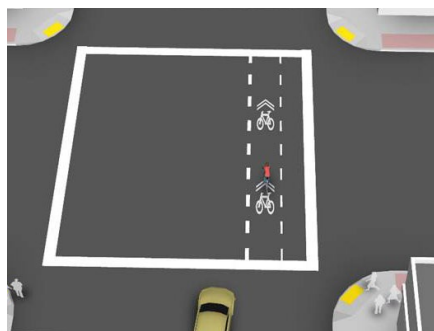


US 50/Al Tahoe intersection Enhanced Alternative diagram

### Examples of Improvements



Bike lane to the left of the right turning lane



Bike lane intersection markings example



Bike box example



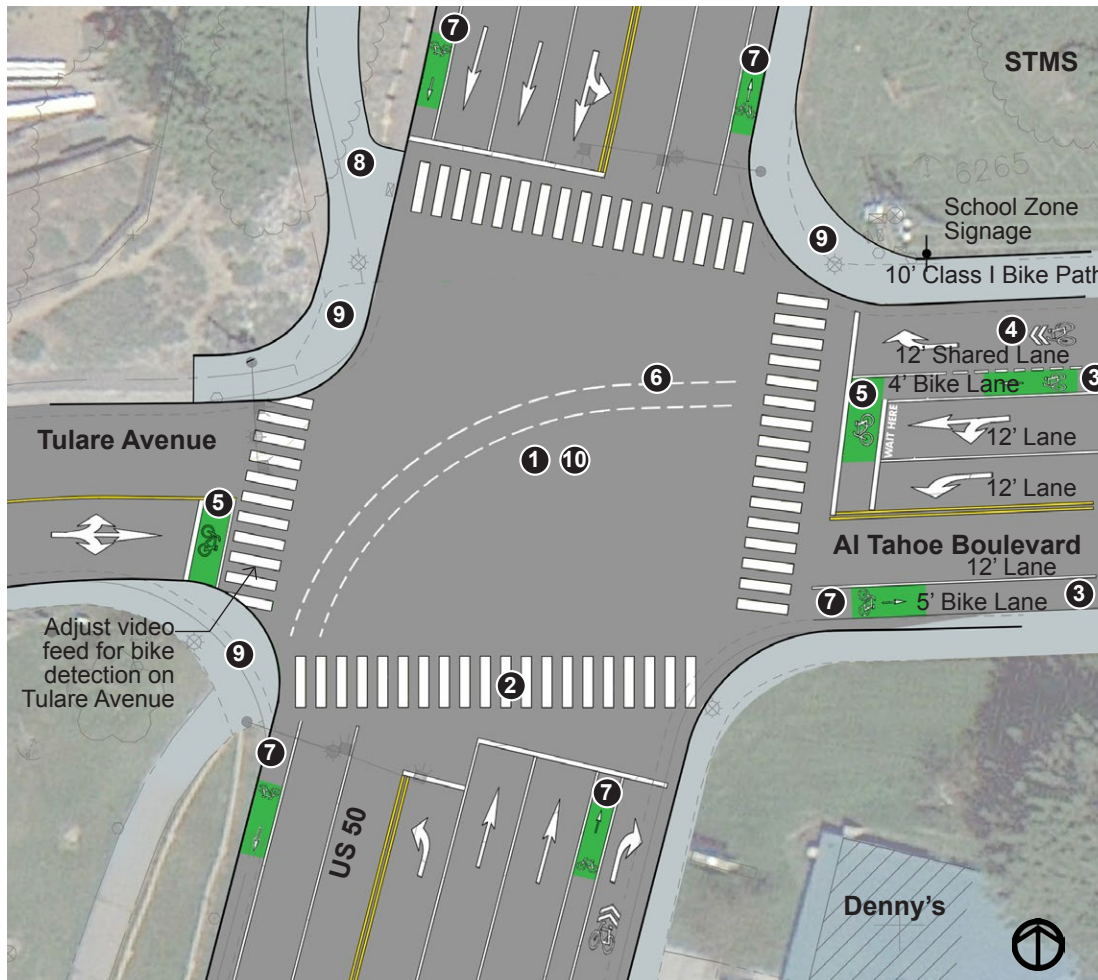
# US 50/AL TAHOE INTERSECTION RECOMMENDATIONS

## RECOMMENDATIONS: US 50/AL TAHOE INTERSECTION

- 1 • Adjust signal timing (3 feet per second during school arrival and dismissal)
- 2 • Add crosswalk to southern leg of intersection of US 50
- 3 • Add Class II bike lanes on Al Tahoe Boulevard north and south
- 4 • Add bike pocket/mixing zone on Al Tahoe Boulevard leg
- 5 • Provide bike box on Al Tahoe Boulevard and on Tulare Avenue
- 6 • Provide bike intersection markings to direct left turns from Al Tahoe Boulevard
- 7 • Provide green bike lane markings at the intersections
- 8 • Revise existing Class I bike path at northwest corner by laying back slope and combing the path and sidewalk
- 9 • Increase landing zone for bike lane users to cue on the northwest, northeast and southwest corners
- 10 • Add emergency detection equipment at signals to allow for emergency signalization override



Bike box example



US 50/Al Tahoe intersection recommendations



# US 50/AL TAHOE INTERSECTION RECOMMENDATIONS

## PROJECT BENEFITS

### *Safety*

- Reduces exposure (time (by two minutes) and distance) of pedestrians and bicyclists (especially students) to vehicles
- Reduces illegal mid-block crossing and bicyclists riding against traffic by improving the function of the intersection for active transportation users
- Increased staging areas/landings allow active transportation users to fully move off the highway before making the next crossing movement
- Signal timing optimization allows pedestrians and bicyclists (especially students) to clear the intersection during the signal phase
- Allows bicyclists to have a safe, visible way to get ahead of queuing traffic and depart safely in front of motorists
- Increases motorists' awareness of active transportation users and the need to share the roadway
- Increases bicyclists' recognition of lawful, safe bicyclist behavior
- Emergency signalization override improves emergency response time

### *Public Health*

- Improved access for students to and from the Middle School and after-school activities
- Increased physical activity (especially for students) to decrease obesity and corresponding blood pressure

### *Connectivity: Destinations within 1/2-Mile*

- STMS
- Boys and Girls Club
- Class I regional facility west of US 50
- Class I facility (existing and planned) along Al Tahoe Boulevard
- Future Class I regional facility (the Greenway)
- Bijou Park and Bike Park
- LTCC
- Community Playfields
- SLTPD, EDSO and county courthouse
- St Theresa's Catholic Church
- Lakeview Commons
- Harrison Avenue Business District
- Tahoe Center

## POTENTIAL CONSTRAINTS/OPPORTUNITIES

### *Ownership*

- Caltrans right of way

### *Environmental*

- No significant impacts anticipated

### *Traffic*

- Improved capacity for minor vehicle movements (during the additional clearance time for pedestrians to cross the street)
- Delay for US 50 thru movements increases, but the increase is not significant and the intersection remains in the acceptable LOS range

## COST CONSIDERATIONS

- Construction Cost: \$180,000
- Non-Construction Cost: \$35,000
- Total Cost: \$215,000

## IMPLEMENTATION

### SHORT TERM

- Signal timing enhancement
- Intersection markings, bike boxes and green paint at intersection bike lanes
- Widen staging areas
- Add crosswalk to southern leg of intersection
- Add bike lanes on Al Tahoe Boulevard
- Add bike pocket/mixing zone
- Revise existing Class I bike path at northwest corner
- Lay back slope at northwest corner and combine path and sidewalk
- Increase landing zone for bike lane users to cue
- Add emergency detection equipment to allow for emergency signalization override

### LONG TERM INVESTMENTS

- N/A (project funded through California Active Transportation Program)

## FUNDING OPPORTUNITIES/SOURCES

- California Active Transportation Program

## IMPLEMENTING ORGANIZATION

- City of South Lake Tahoe

## PARTNERSHIP OPPORTUNITIES

- Caltrans

# AL TAHOE/JOHNSON INTERSECTION EXISTING CONDITIONS

## AL TAHOE/JOHNSON INTERSECTION

### PROJECT AREA

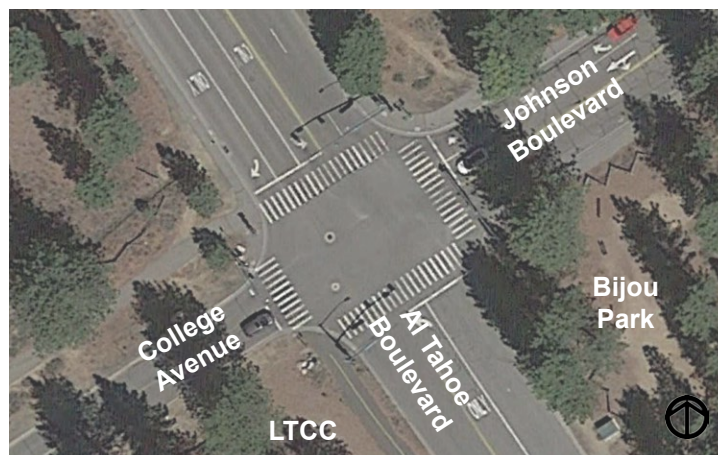
Al Tahoe/Johnson Boulevard intersection

### EXISTING RIGHT OF WAY + MOBILITY FEATURES

- High visibility crosswalk markings with advance stop bar
- Accessible curb ramps
- Pedestrian actuated signals
- Intersection lighting

### KEY ISSUES + OPPORTUNITIES

- Existing bike lanes terminate prior to intersection on Johnson Boulevard
- Lack of accessible curb ramps



Aerial view of Al Tahoe/Johnson intersection



Project area location of Al Tahoe/Johnson intersection



Northwest corner of Al Tahoe/Johnson intersection looking east



Northwest corner of Al Tahoe/Johnson intersection looking south



# AL TAHOE/JOHNSON INTERSECTION RECOMMENDATIONS

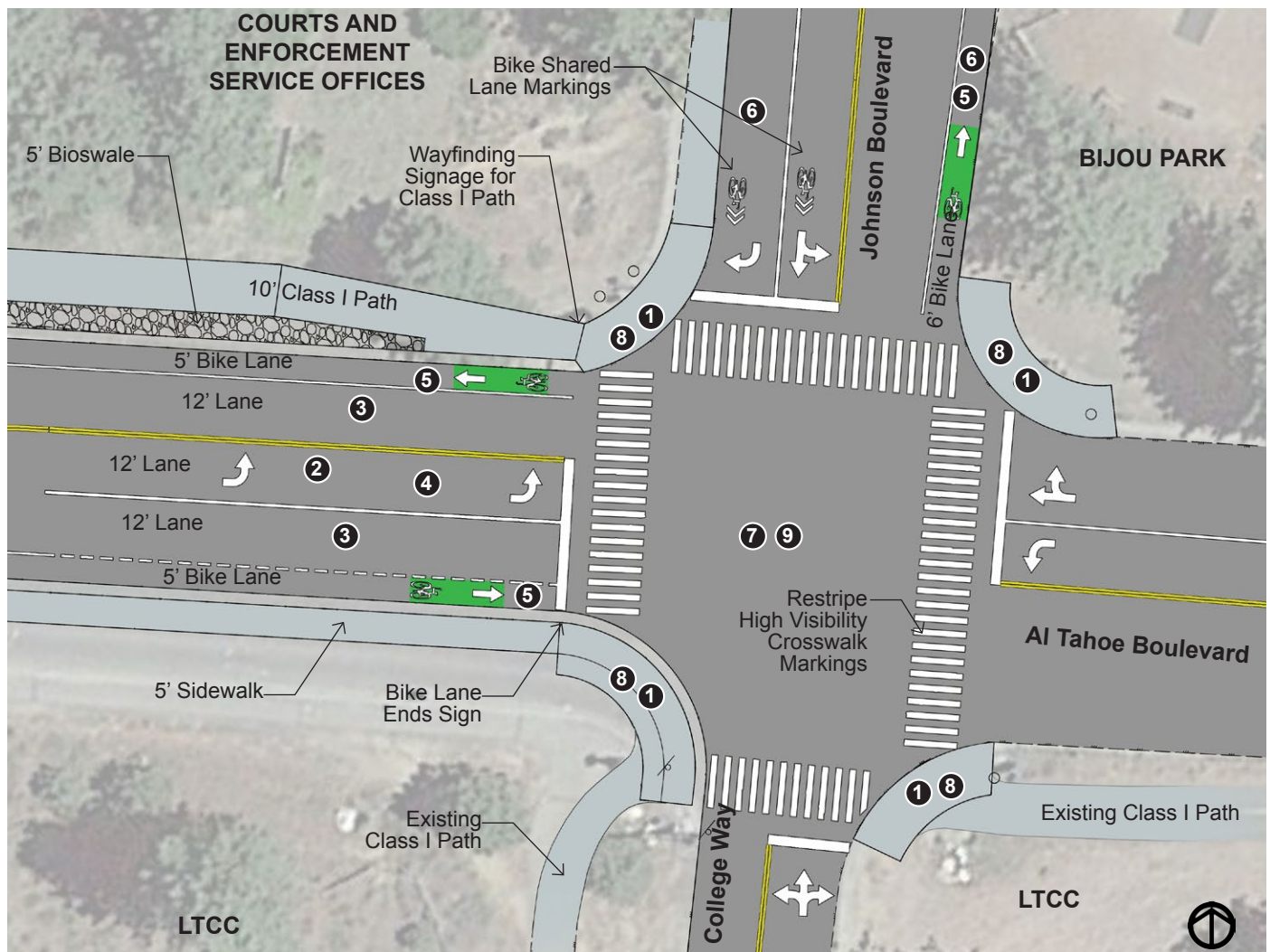
## RECOMMENDATIONS: AL TAHOE/JOHNSON INTERSECTION

- 1 • Provide accessible curb ramps at all four legs of the intersection
- 2 • Reconfigure western leg of Al Tahoe Boulevard from five lanes to three lanes
  - 3 • Provide eastbound and westbound travel lanes
  - 4 • Provide a center left turn lane
- 5 • Provide green bike lane markings at the intersections
- 6 • Extend bike lanes to the intersection along Johnson Boulevard
- 7 • Add emergency detection equipment at signals to allow for emergency signalization override
- 8 • Upgrade pedestrian actuated signals
- 9 • Add video detection for bicyclists



Bike lane marking example

NOTE: Intersection improvements should consider recommended improvements for Johnson Boulevard and be adaptive to those future enhancements.



Al Tahoe/Johnson intersection recommendations



# AL TAHOE/JOHNSON INTERSECTION RECOMMENDATIONS

## PROJECT BENEFITS

### ***Safety***

- Reconfigured travel lanes reduces exposure (time and distance) of pedestrians and bicyclists to vehicles
- Reduces illegal mid-block crossing and bicyclists riding against traffic by improving the function of the intersection for active transportation users
- Accessible curb ramps enhance safety for all users
- Signal timing optimization allows pedestrians and bicyclists to clear the intersection during the signal phase
- Increases motorists' awareness of active transportation users and the need to share the roadway
- Increases bicyclists' recognition of lawful, safe bicyclist behavior
- Emergency signalization override improves emergency response time

### ***Public Health***

- Improved access for students to and from the Middle School and after-school activities
- Improved access for students to and from the community college
- Increased physical activity (especially for students) to decrease obesity and corresponding blood pressure

### ***Connectivity: Destinations within 1/2-Mile***

- STMS
- LTCC
- Class I regional facility west of US 50
- Class I facility along Al Tahoe Boulevard
- Future Class I regional facility (the Greenway)
- Bijou Park and Bike Park
- Community Playfields
- SLTPD, EDSO and county courthouse
- Boys and Girls Club
- Tahoe Center

## POTENTIAL CONSTRAINTS/OPPORTUNITIES

### ***Ownership***

- City of South Lake Tahoe right of way

### ***Environmental***

- No significant impacts anticipated

### ***Traffic***

- Recommended vehicle lane reductions remove the eastbound right turn and southbound right turn bays, and has a negligible impact on vehicular traffic

## COST CONSIDERATIONS

- Construction Cost: \$190,000
- Non-Construction Cost: \$40,000
- Total Cost: \$230,000

## IMPLEMENTATION

### ***Short Term***

- Provide accessible curb ramps
- Reconfigure western leg of Al Tahoe Boulevard from five lanes to three lanes
  - Provide eastbound and westbound travel lanes
  - Provide a center left turn lane
- Provide green bike lane markings at the intersections
- Extend bike lanes to the intersection along Johnson Boulevard
- Add emergency detection equipment to allow for emergency signalization override
- Upgrade pedestrian actuated signals
- Add video detection for bicyclists

### ***Long Term***

- N/A (project funded through California Active Transportation Program)

## FUNDING OPPORTUNITIES/SOURCES

- California Active Transportation Program

## IMPLEMENTING ORGANIZATION

- City of South Lake Tahoe

## PARTNERSHIP OPPORTUNITIES

- City of South Lake Tahoe Police Department
- Lake Tahoe Community College
- El Dorado County Sheriff's Department

# AL TAHOE BLVD (JOHNSON THRU BIJOU PARK) EXISTING CONDITIONS

## AL TAHOE BOULEVARD (JOHNSON BOULEVARD TO BIJOU PARK)

### PROJECT AREA

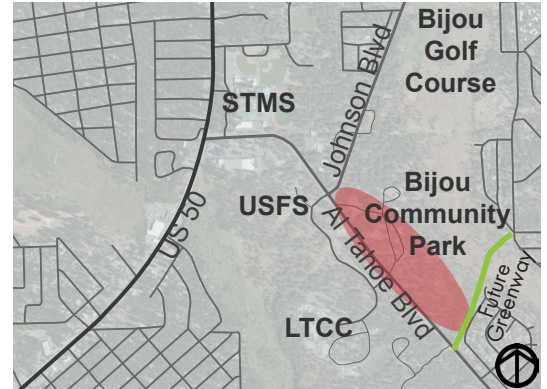
Al Tahoe Boulevard from the Johnson Boulevard intersection thru Bijou Park to the Greenway

### EXISTING RIGHT OF WAY + MOBILITY FEATURES

- Two travel lanes
- Class I bike path along southern/western side of Al Tahoe Boulevard
- Planned Class I bike path (the Greenway) at southeastern edge of Bijou Park

### KEY ISSUES + OPPORTUNITIES

- No crosswalk connecting mobility facilities from the community college side of Al Tahoe Boulevard to Bijou Park on the north/east side of the roadway
- Lack of sidewalks or bike paths at the Bijou Park entry drive
- Lack of internal sidewalk or bike path connectivity within Bijou Park from Johnson Boulevard to the future Greenway



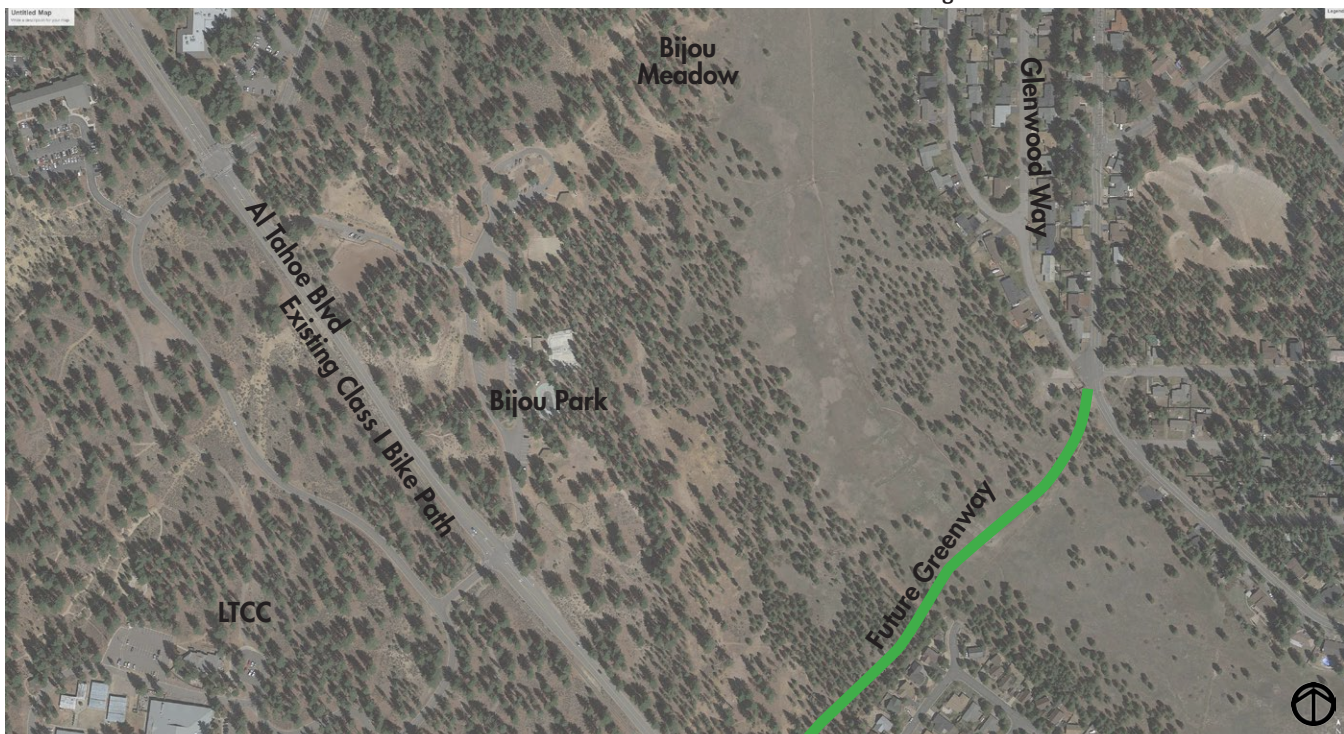
Project location



Looking south from Bijou Park entry drive to LTCC and College Way



Bijou Park entry drive off Al Tahoe Boulevard looking east



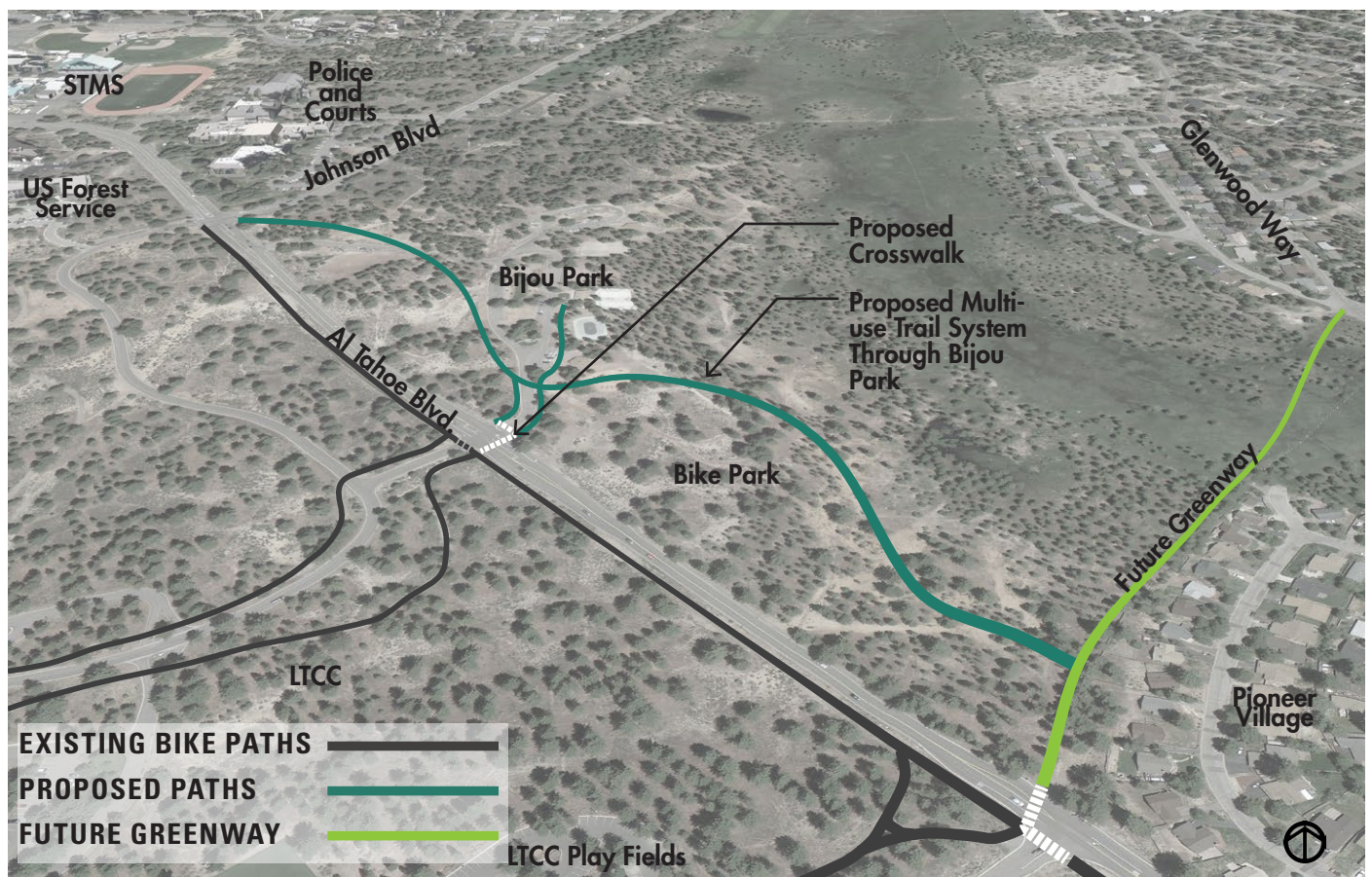
Aerial view of Bijou Park (prior to 2015 construction of the Bike Park)



# AL TAHOE BLVD (JOHNSON THRU BIJOU PARK) RECOMMENDATIONS

## RECOMMENDATIONS: AL TAHOE BOULEVARD (JOHNSON BOULEVARD THRU BIJOU PARK)

- Create a multi-use trail connection through Bijou Park
- Provide the trail connection from the Johnson/Al Tahoe intersection southeast to the future Greenway
- Design trail to serve both through bicyclists and pedestrians and park users
- Develop sidewalk connections from Bijou Park facilities to the Bijou Park entry



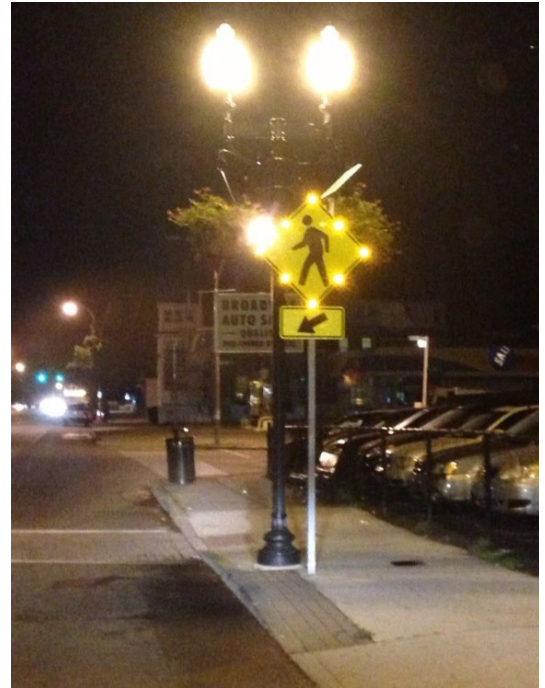
Looking north from Lake Tahoe Community College toward the Bijou Park entry



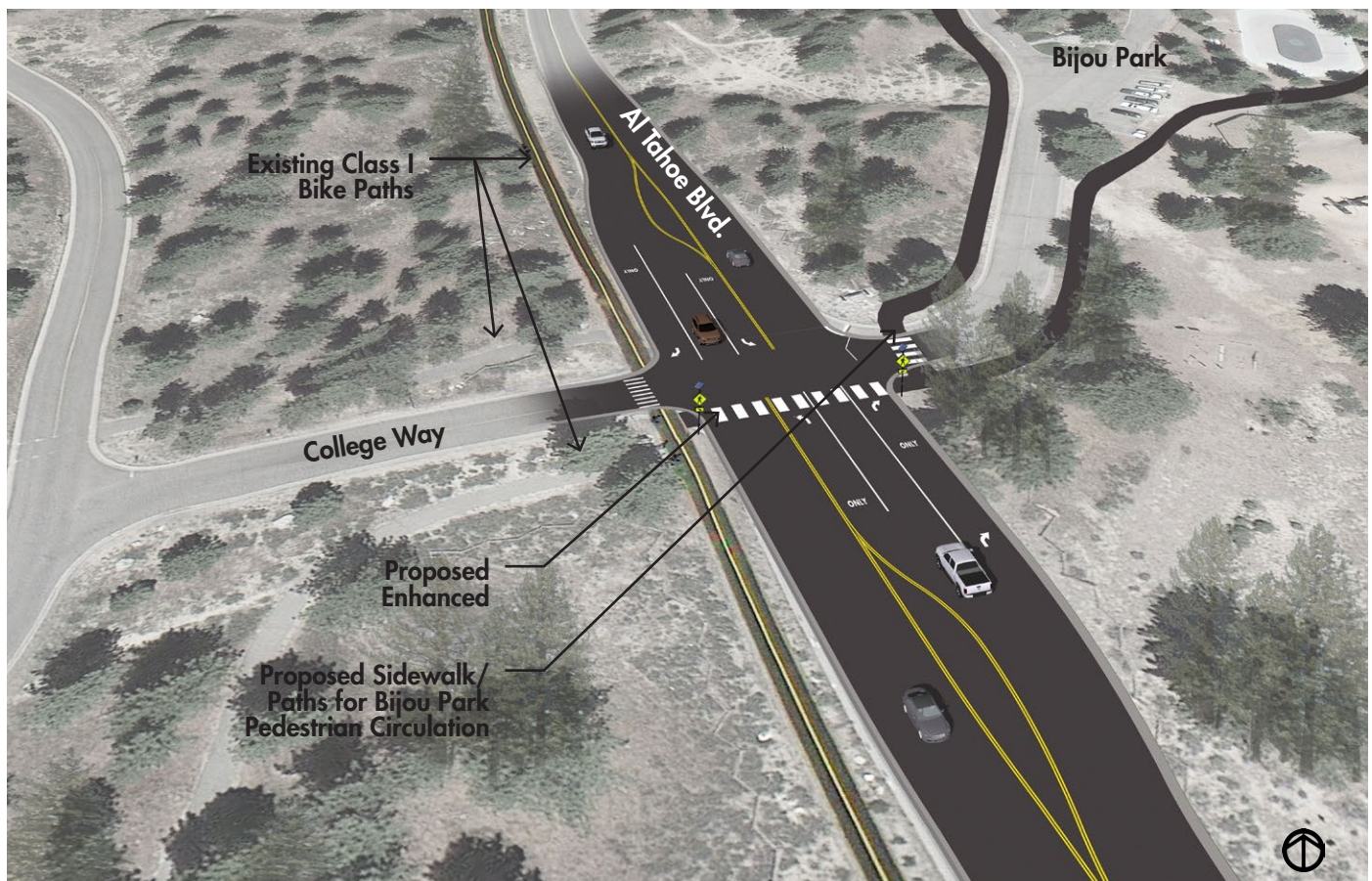
# AL TAHOE BLVD (JOHNSON THRU BIJOU PARK) RECOMMENDATIONS

## RECOMMENDATIONS: AL TAHOE BOULEVARD/BIJOU PARK INTERSECTION

- Provide an enhanced crosswalk at Bijou Park entry
  - Create a high visibility crosswalk from Bijou Park to the bike path paralleling the south (LTCC) side of Al Tahoe Boulevard
  - Provide a pedestrian actuated crossing sign



Example of a pedestrian actuated crossing sign



Looking north from Lake Tahoe Community College toward the Bijou Park entry

# AL TAHOE BLVD (JOHNSON THRU BIJOU PARK) RECOMMENDATIONS

## PROJECT BENEFITS

### **Safety**

- Provides separated path facility for Bijou Park users
- Eliminates the need for active transportation users traveling from north and east of Al Tahoe Boulevard to cross Al Tahoe twice in order to reach Bijou Park via a dedicated active transportation facility
- Enhances the active transportation crossing and connectivity between Bijou Park and LTCC

### **Public Health**

- Connectivity to schools, active transportation systems and parks improves physical activity to decrease youth and adult obesity and corresponding blood pressure

### **Connectivity: Destinations within 1/2-Mile**

- LTCC
- SLTPD, EDSO and county courthouse
- Class I facility along Al Tahoe
- Community Playfields
- Future Greenway (Class I regional connection)
- STMS
- Boys and Girls Club

## POTENTIAL CONSTRAINTS/OPPORTUNITIES

### **Ownership**

- Land is publicly-owned
  - City of South Lake Tahoe
  - CTC (future Greenway)

### **Environmental**

- High capability lands parallel Al Tahoe Boulevard
- Lower capability lands exist in Bijou Meadow

### **Traffic**

- Potential traffic impacts are minor with the enhanced active transportation crossing at the Bijou Park entry

## COST CONSIDERATIONS

### **Multi-use Path Facilities**

- Construction Cost: \$640,000
- Planning Cost: \$415,000
- Total Cost: \$1,055,000

### **Intersection Facilities**

- Construction Cost: \$74,000
- Planning Cost: \$55,000
- Total Cost: \$129,000

## IMPLEMENTATION

### **Short Term**

- Develop Bijou Park internal circulation plan
- Develop a decomposed granite path as a multi-use path from Johnson Boulevard to the Bike Park
- Provide wayfinding signage to direct users through Bijou Park
- Provide a pedestrian crossing sign at the Bijou Park entrance

### **Long Term**

- Construct a Class I facility from Johnson Boulevard through Bijou Park to the Greenway
- Construct sidewalks from Bijou Park facilities to the entry
- Construct an enhanced active transportation crossing at the Bijou Park entry

## FUNDING OPPORTUNITIES/SOURCES

- City of South Lake Tahoe Capital Improvement Funds (the project is not currently programmed in the adopted City CIP)
- California Active Transportation Program
- California Recreational Trails Program
- Measure R/S

## IMPLEMENTING ORGANIZATION

- City of South Lake Tahoe

## PARTNERSHIP OPPORTUNITIES

- California Tahoe Conservancy
- Tahoe Area Mountain Biking Association (TAMBA)
- Lake Tahoe Community College
- South Lake Tahoe Recreation Facilities Joint Powers Authority (JPA)



# JOHNSON BOULEVARD EXISTING CONDITIONS

## JOHNSON BOULEVARD

### PROJECT AREA

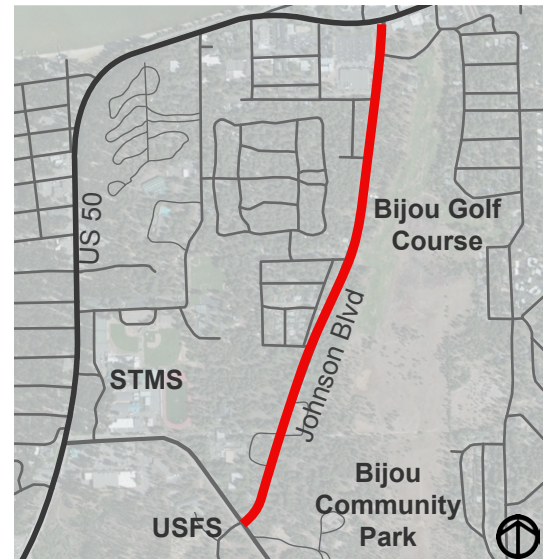
Johnson Boulevard from US 50 south to Al Tahoe Boulevard

### EXISTING RIGHT OF WAY + MOBILITY FEATURES

- Two-lane roadway
- (2) 14-foot travel lanes
- (2) 5-foot Class II bike lanes
- No sidewalks or bike paths

### KEY ISSUES + OPPORTUNITIES

- Bike lanes do not extend to the Al Tahoe/Johnson intersection
- Speeding
- Shoulder parked vehicles – spillover from court parking, funeral parking and beach parking
- Lack of pedestrian facilities



Project location



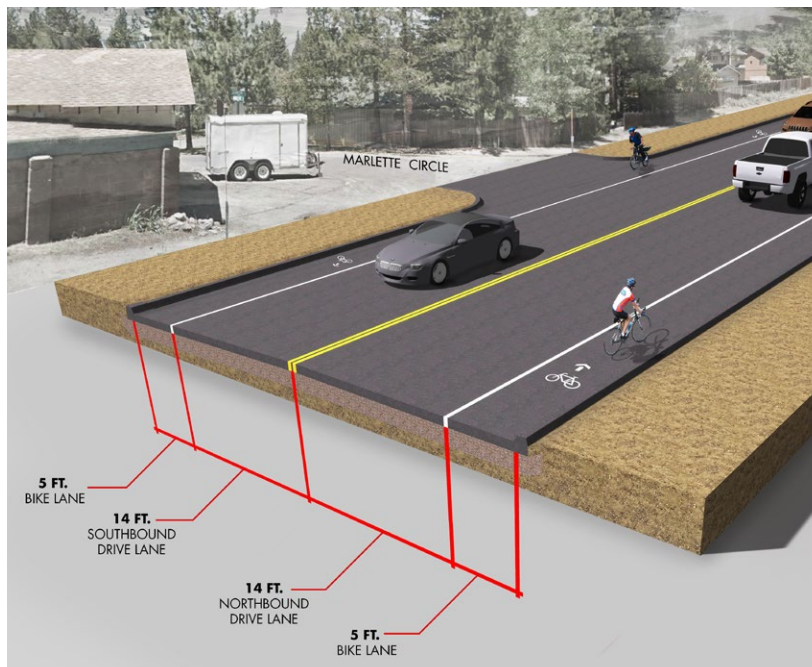
Johnson Boulevard near US 50 looking north



Intersection of Johnson Boulevard and Marlette Circle looking north



Johnson Boulevard near the Police Station looking north



Existing section of Johnson Boulevard



# JOHNSON BOULEVARD ALTERNATIVES

## ALTERNATIVES EVALUATED

### JOHNSON BLVD. ALTERNATIVE 1

- Reduce travel lanes to 11 feet
- Add a Class I bike path along the east (Bijou Park) side of Johnson Boulevard
- Add high visibility crosswalk and pedestrian actuated crossing sign at Marlette Circle intersection
- Remove bike lanes
- Add lighting



Example of Class I separated bike path



Aerial diagram of Johnson Boulevard Alternative 1 mobility improvements: Class I bike path and narrowed travel lanes

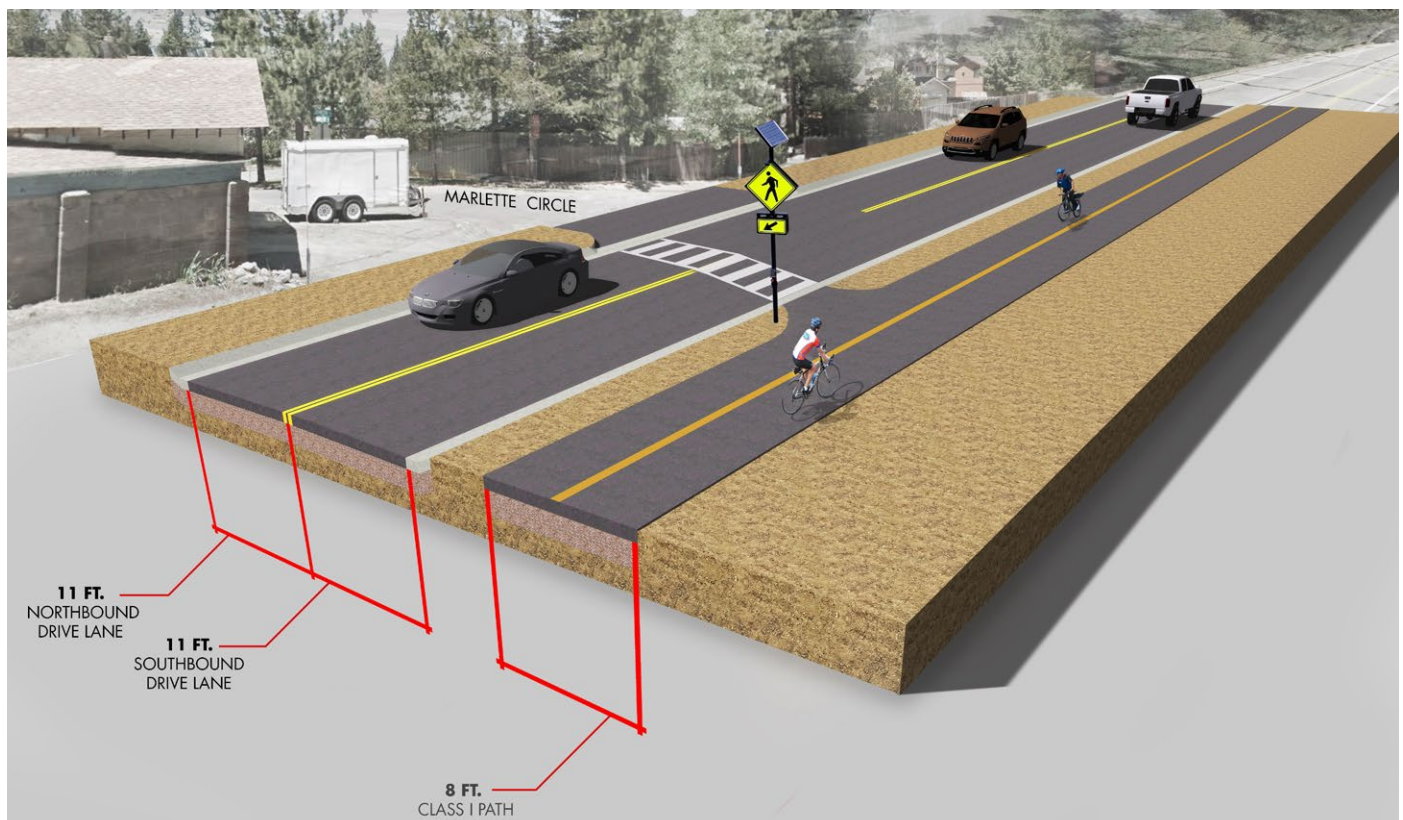


Diagram of Johnson Boulevard Alternative 1 mobility improvements: Class I bike path and narrowed travel lanes



# JOHNSON BOULEVARD ALTERNATIVES

## JOHNSON BLVD. ALTERNATIVE 2

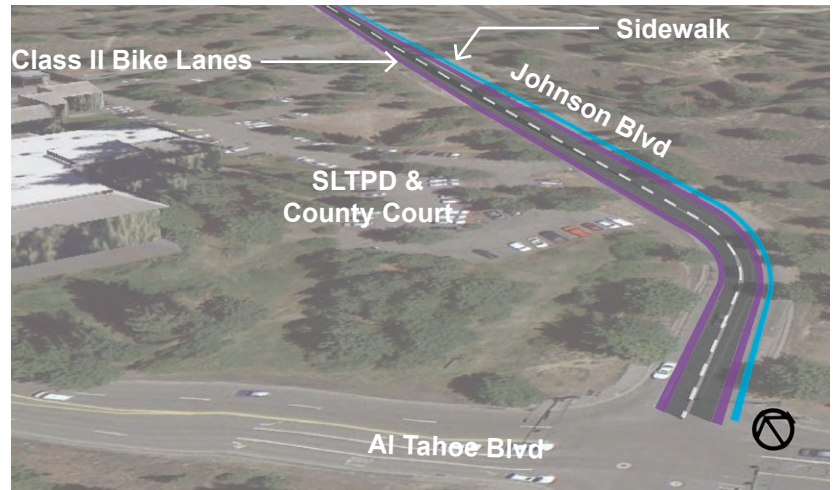
- Reduce travel lanes to 11 feet
- Widen Class II bike lanes to 6 feet
- Add 6-foot sidewalk along east (Bijou Park) side
- Add high visibility crosswalk and pedestrian actuated crossing sign at Marlette Circle intersection
- Add lighting



Bike lane example



Sidewalk example



Aerial diagram of Johnson Boulevard Alternative 2 mobility improvements: Widened Class II bike lanes and sidewalk

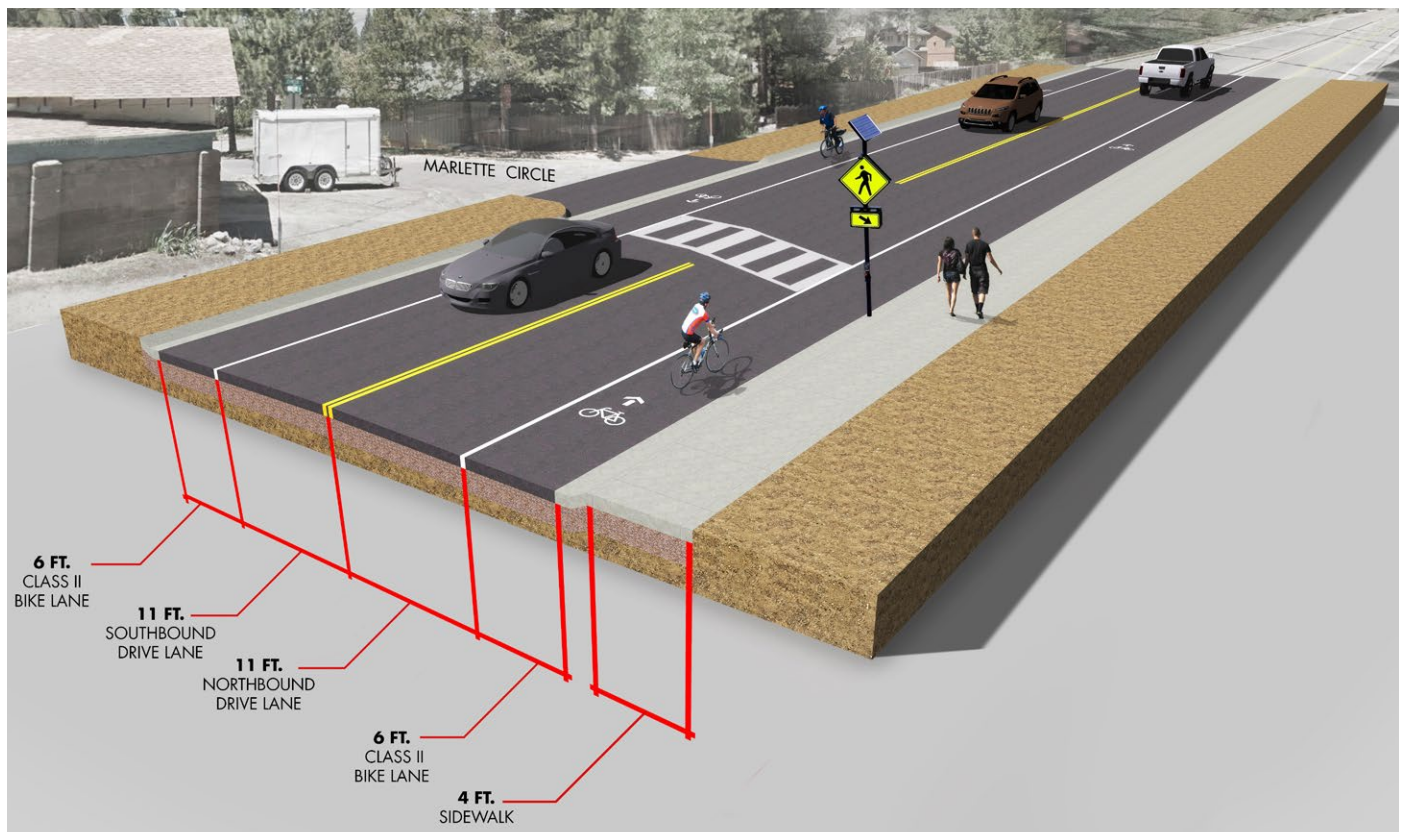


Diagram of Johnson Boulevard Alternative 2 mobility improvements: Widened Class II bike lanes and sidewalk



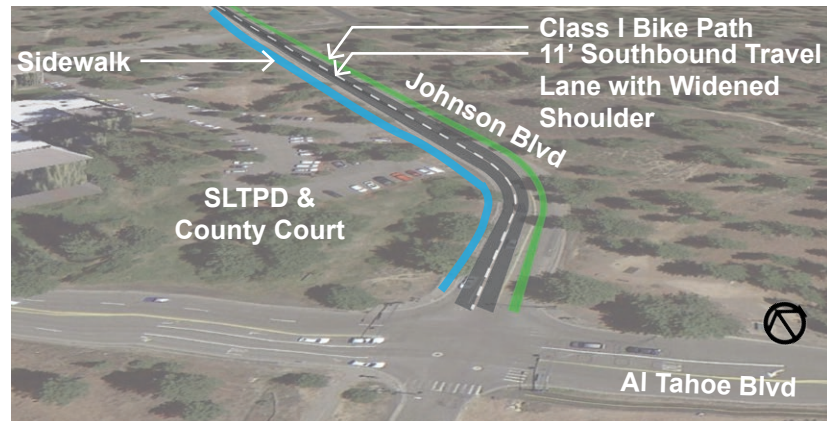
# JOHNSON BOULEVARD RECOMMENDATIONS

## RECOMMENDATIONS: JOHNSON BOULEVARD

- Narrow travel lanes to 11 feet
- Add Class I bike path on east (Bijou Park) side
- Add 7 - 8-foot widened shoulder on west side of roadway to accommodate shoulder parking
- Add 6-foot sidewalk on west side
- Develop intersection improvements at Marlette Circle (bulb-outs, high visibility crosswalk and pedestrian actuated crossing sign)
- Encourage nearby business and agencies to consider opportunities for increasing on-site parking capacity to reduce need for shoulder parking



Example of Class I separated bike path



Aerial diagram of recommended mobility improvements on Johnson Boulevard

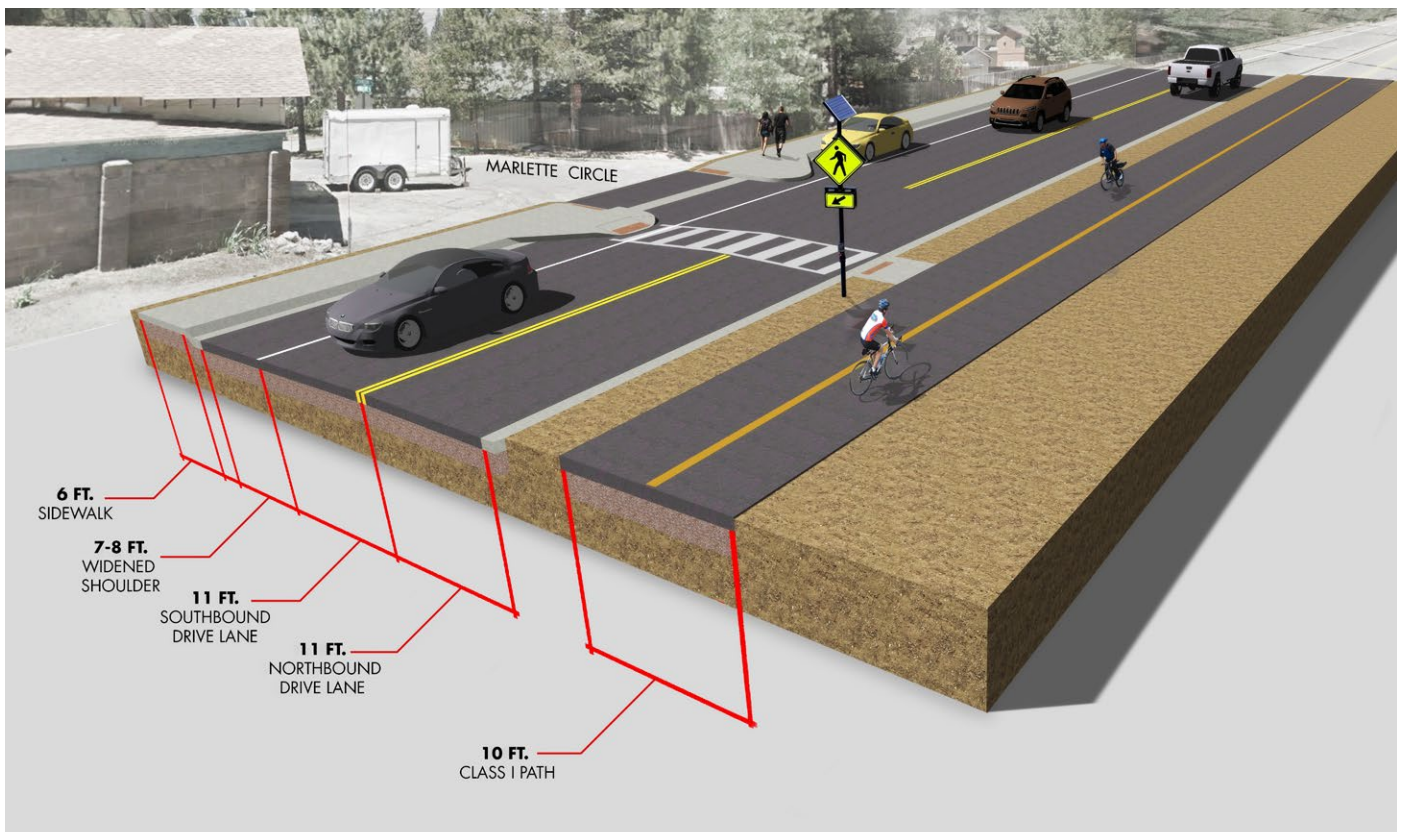


Diagram of recommended mobility improvements on Johnson Boulevard



# JOHNSON BOULEVARD RECOMMENDATIONS

## PROJECT BENEFITS

### ***Safety***

- Provides fully separated path
- Provides enhanced pedestrian crossing for east-west connectivity
- Includes traffic calming measures at Marlette Circle

### ***Public Health***

- Improves physical activity to decrease youth and adult obesity and corresponding blood pressure – connects youths and adults to Lakeview Commons, ballfields, the recreation center and track and field at the Middle School

### ***Connectivity: Destinations within 1/2-Mile***

- Lakeview Commons
- STMS
- Safeway Shopping Center
- Class I regional facility north of US 50
- Class I facility on Al Tahoe Boulevard
- Community Playfields
- Bijou Park and Bike Park
- LTCC
- Tahoe Center
- Future Class I regional facility (the Greenway)

## POTENTIAL CONSTRAINTS/OPPORTUNITIES

### ***Ownership***

- Improvements anticipated to fit within existing right of way

### ***Environmental***

- No significant impacts anticipated

### ***Traffic***

- No significant impacts anticipated

## COST CONSIDERATIONS

- Construction Costs: \$2,230,000
- Non-Construction Costs: \$1,060,000
- Total Costs: \$3,290,000

## IMPLEMENTATION

### ***Short Term***

- Narrow travel lanes
- Widen bike lanes to provide buffered bike lanes
- Work with property owners to expand on-site parking to minimize roadside parking needs

### ***Long Term***

- Shift eastern curb
- Create a 10-foot Class I bike path on east side of roadway
- Create a 6-foot sidewalk on the west side of the roadway

## FUNDING OPPORTUNITIES/SOURCES

- City of South Lake Tahoe Capital Improvement Funds (the project is not currently programmed in the adopted City CIP)
- California Active Transportation Program
- Highway Safety Improvement Program
- CMAQ
- TRPA/TMPO Air Quality Mitigation Fees
- Measure R/S

## IMPLEMENTING ORGANIZATION

- City of South Lake Tahoe

## PARTNERSHIP OPPORTUNITIES

- City of South Lake Tahoe Police Department
- Lake Tahoe Community College
- Happy Homestead Cemetery District
- South Lake Tahoe Recreation Facilities Joint Powers Authority (JPA)

# BIJOU MEADOW EAST-WEST CONNECTIVITY EXISTING CONDITIONS

## BIJOU MEADOW EAST-WEST CONNECTIVITY

### PROJECT AREA

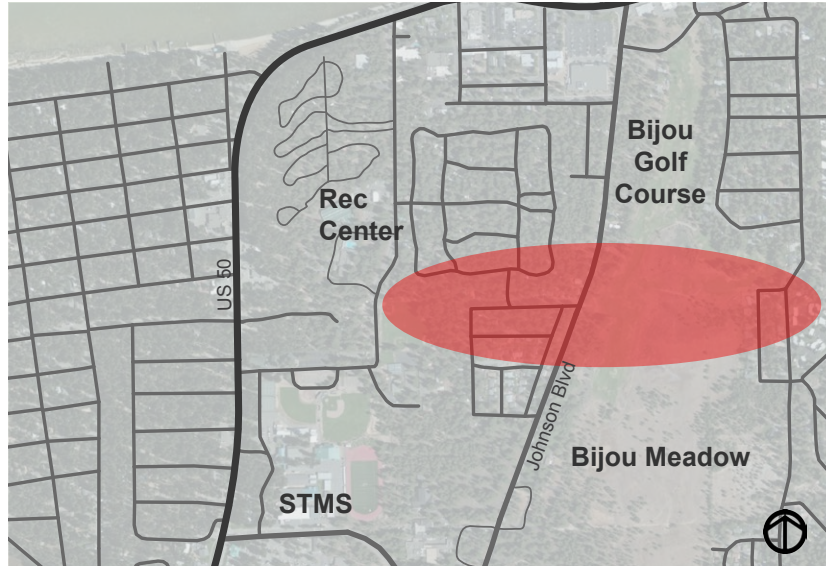
Glenwood Avenue and Spruce Avenue area west to Rufus Allen Boulevard across Bijou Meadow

### EXISTING RIGHT OF WAY + MOBILITY FEATURES

- Informal use trails

### KEY ISSUES + OPPORTUNITIES

- The Bijou Meadow separates the Bijou neighborhoods and Bijou Community School from the Middle School and community facilities such as the library, Boys and Girls Club and Recreation Center
- Numerous use trails across the meadow indicate a strong desire to cross the meadow to access facilities and destinations
- Private parcels separate Johnson Boulevard from the community centers and active transportation facilities to the west
- No formal pedestrian or bicycle facilities exist



Project location



Looking east across Bijou Meadow near Marlette Circle on Johnson Boulevard



Looking northeast toward US 50 and the Bijou Golf Course near Marlette Circle on Johnson Boulevard



Informal use trail in the Bijou Meadow



# BIJOU MEADOW EAST-WEST CONNECTIVITY RECOMMENDATIONS

## RECOMMENDATIONS: BIJOU MEADOW EAST-WEST CONNECTIVITY

- Create a multi-use path connection across Bijou Meadow
- Connect the Bijou Community School and northern Bijou neighborhoods to the South Tahoe Middle School and recreation center community centers area
- Connect the Spruce Avenue/Blackwood Avenue area to Rufus Allen Boulevard
- Create an enhanced pedestrian crossing (signage and striping) at Johnson Boulevard/Marlette Circle

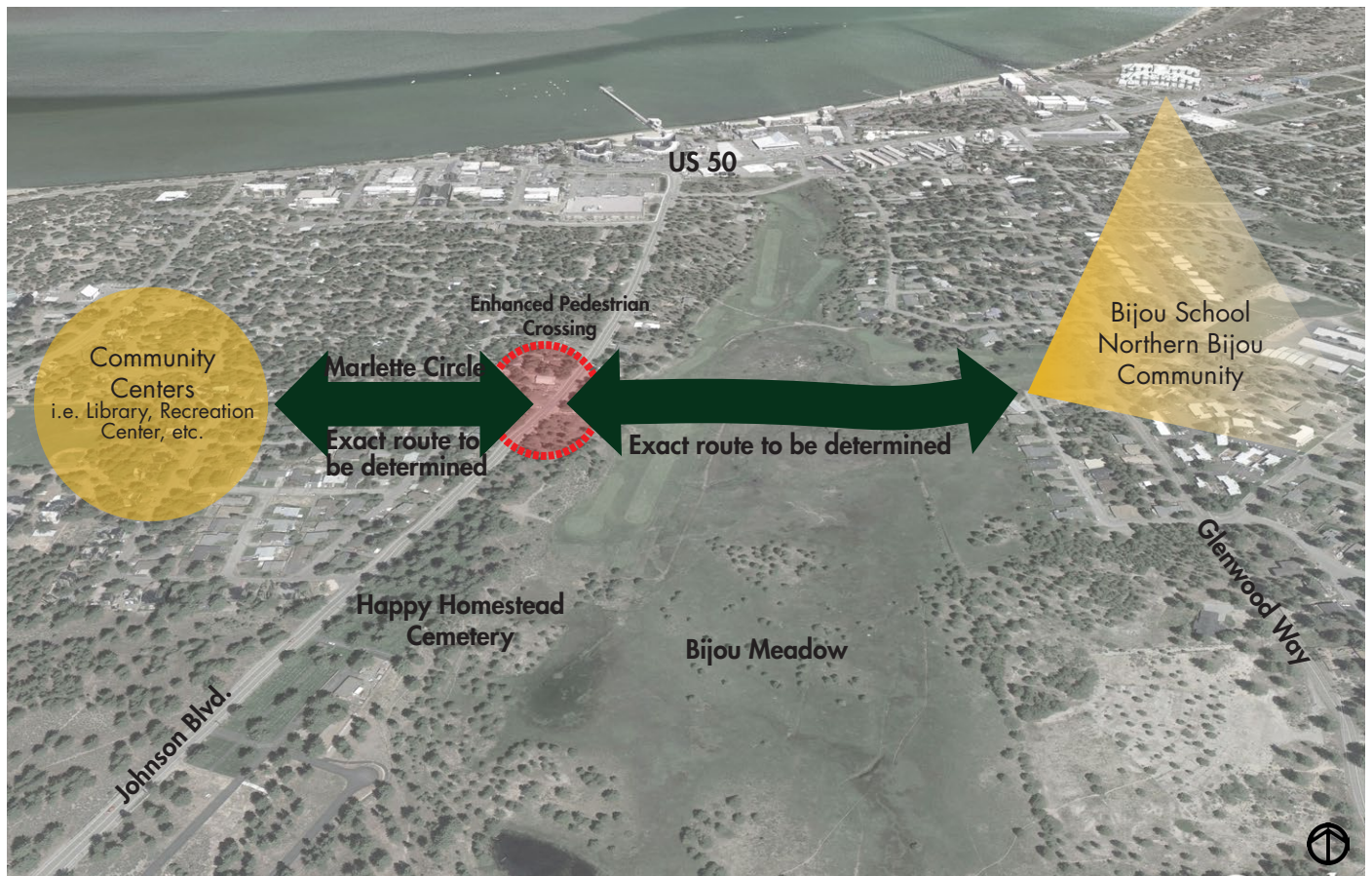


Diagram of east-west connectivity opportunities across Bijou Meadow



# BIJOU MEADOW EAST-WEST CONNECTIVITY RECOMMENDATIONS

## PROJECT BENEFITS

### **Safety**

- Provides fully separated path alternative to using US 50, the route where a majority of incidents occurs
- Provides fully separated path alternative to using Glenwood Way
- Reduces overall trip by 1.25 miles (when compared to using designated bike routes and bike lanes)
- Provide facility for users with a wide range of skills, including young children

### **Public Health**

- Improves physical activity to decrease youth and adult obesity and corresponding blood pressure – connects youths and adults from neighborhoods to community facilities

### **Connectivity: Destinations within 1/2-Mile**

- Bijou Park and Bike Park
- Boys and Girls Club
- STMS
- Bijou Community School
- SLTPD, EDSO and county courthouse
- County library
- Recreation Center
- Tahoe Center
- Lakeview Commons
- Ballfields
- Safeway Shopping Center
- Lower income neighborhoods and multi-family housing
- Senior housing

## POTENTIAL OPPORTUNITIES/CONSTRAINTS

### **Ownership**

- Bijou Meadow is owned by the City
- Bijou Golf Course uses a portion of Bijou Meadow
- Requires easements or acquisition of private properties to make full connection from Glenwood/Spruce area to Rufus Allen Boulevard area

### **Environmental**

- Bijou Meadow is a stream environment zone

### **Traffic**

- Active transportation crossings of Johnson Boulevard and Glenwood Way would need to be studied and enhanced

## COST CONSIDERATIONS

- Construction Cost: \$950,000
- Planning Cost: \$570,000
- Total Cost: \$1,520,000

## IMPLEMENTATION

### **Short Term**

- Identify trail corridor through Bijou Meadow, publicly-owned land
- Develop a multi-use path through Bijou Meadow
- Provide signage
- Provide signage at Johnson Boulevard and Glenwood Way
- Identify opportunities for easements and acquisition

### **Long Term**

- Acquire easements and acquisitions
- Develop full Class I facility connecting from South Tahoe Middle School across Bijou Meadow to Bijou Community School

## FUNDING OPPORTUNITIES/SOURCES

- City of South Lake Tahoe Capital Improvement funds or grant funds (the project is not currently programmed in the adopted City CIP)
- California Tahoe Conservancy funds
- California Recreational Trails Program
- TRPA/TMPO Air Quality Mitigation Fees
- Measure R/S

## IMPLEMENTING ORGANIZATION

- City of South Lake Tahoe

## PARTNERSHIP OPPORTUNITIES

- California Tahoe Conservancy
- South Lake Tahoe Recreation Facilities Joint Powers Authority (JPA)

# LYONS/US 50 INTERSECTION EXISTING CONDITIONS

## LYONS/US 50 INTERSECTION

### PROJECT AREA

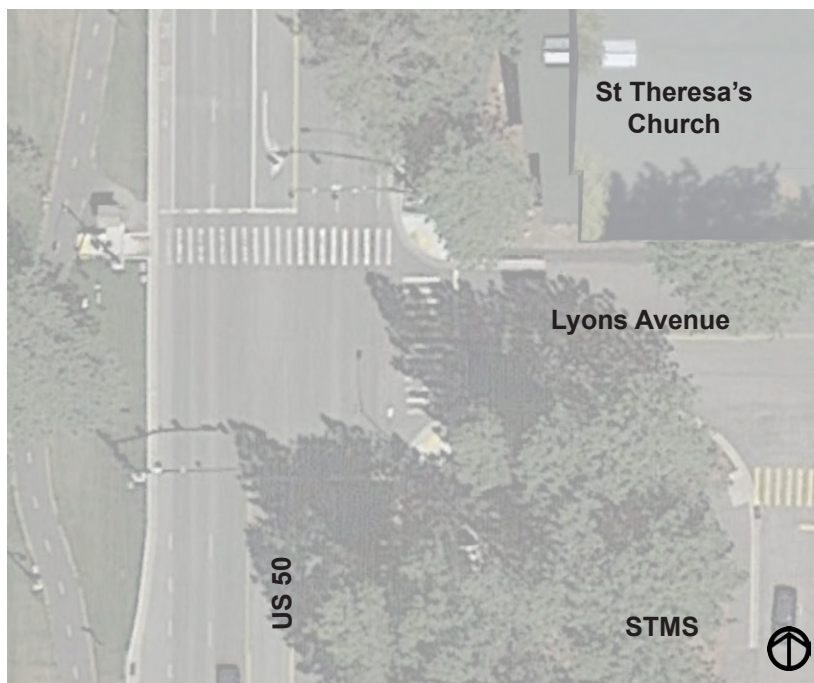
Lyons/US 50 intersection

### EXISTING RIGHT OF WAY + MOBILITY FEATURES

- High visibility crosswalk markings with advance stop bar
- Accessible curb ramps on the northeast, northwest and southeast corners
- Pedestrian actuated signals
- Intersection lighting

### KEY ISSUES + OPPORTUNITIES

- Northwest curb ramp is not flared
- Traffic backs up along Lyons Avenue during school drop off and pick up
- Students walking and biking to the school from the Al Tahoe neighborhood cross US 50 during the proper signal phase and then cut across Lyons Avenue when they notice a gap in traffic
- Lack of a designated crosswalk on the southern leg of the intersection
- Small staging areas at the intersection corners
- Long waiting time to cross US 50



Intersection of Lyons Avenue and US 50



Project location



Northeast corner of US 50 and Lyons looking west



Middle School students cross US 50 at Lyons Avenue on their way to school in the morning

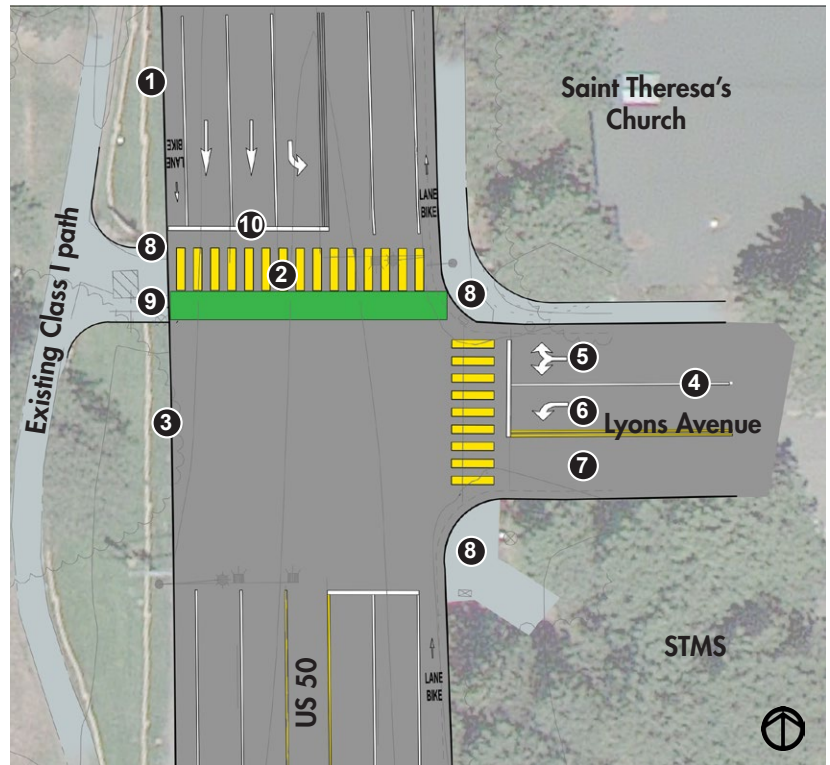


# LYONS/US 50 INTERSECTION ALTERNATIVES

## ALTERNATIVES EVALUATED

### LYONS/US 50 INTERSECTION BASELINE ALTERNATIVE

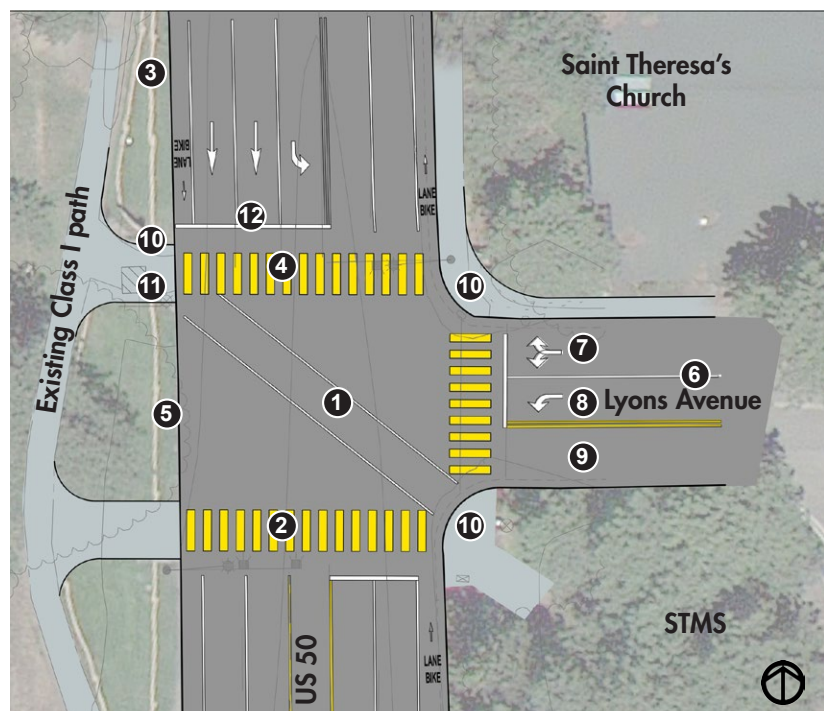
- 1 • Add school zone signage
- 2 • Add school zone yellow striping
- 3 • Adjust signal timing
- 4 • Restripe Lyons Avenue for center turn lane/two holding lanes
- 5 • 14-foot right/left turn lane
- 6 • 12-foot left only turn lane
- 7 • 14-foot eastbound lane
- 8 • Create larger landing area at northeast and northwest corner
- 9 • Widen crossing with flared ramp
- 10 • Add advance stop bars on US 50 southbound intersection leg



Lyons/US 50 intersection Baseline Alternative diagram

### LYONS/US 50 INTERSECTION ENHANCED ALTERNATIVE

- 1 • Create an all-way scramble signal phase
- 2 • Add striped crossing on south leg
- 3 • Add school zone signage
- 4 • Add school zone yellow striping
- 5 • Adjust signal timing
- 6 • Restripe Lyons Avenue for center turn lane/two holding lanes
- 7 • 14-foot right/left turn lane
- 8 • 12-foot left only turn lane
- 9 • 14-foot eastbound lane
- 10 • Create larger landing area at northeast and northwest corner
- 11 • Widen crossing with flared ramp
- 12 • Add advance stop bars on US 50 southbound intersection leg



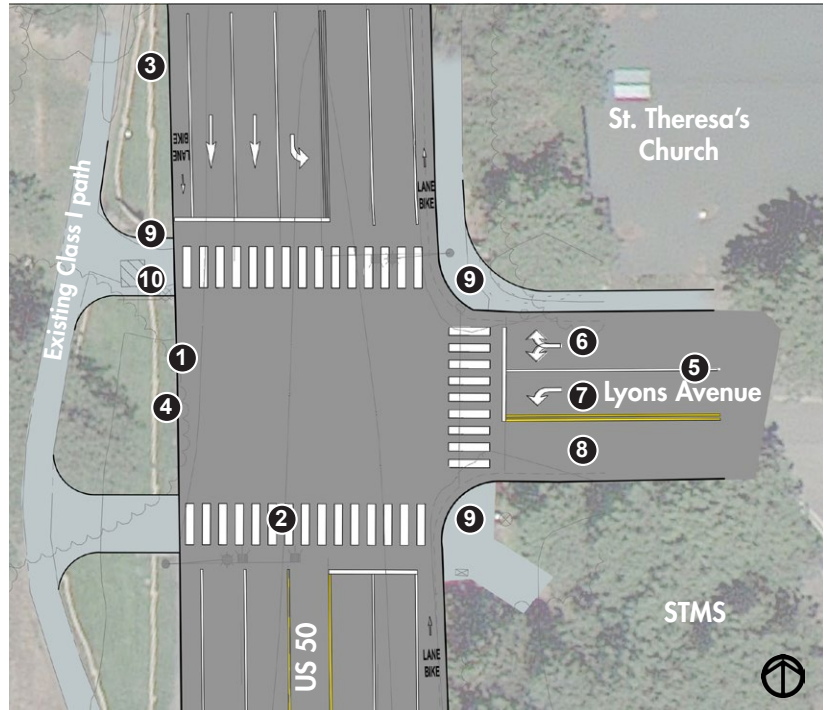
Lyons/US 50 intersection Enhanced Alternative diagram



# LYONS/US 50 INTERSECTION RECOMMENDATIONS

## RECOMMENDATIONS: LYONS /US 50 INTERSECTION

- 1 • Create flexible signal phasing that includes a scramble phase during peak school start and end hours
- 2 • Add a high visibility crossing on south leg and connect existing Class I to new crosswalk/landing area
- 3 • Add school zone signage
- 4 • Adjust signal timing
- 5 • Restripe Lyons Avenue for center turn lane/two holding lanes
- 6 • 14-foot right/left turn lane
- 7 • 12-foot left only turn lane
- 8 • 14-foot eastbound lane
- 9 • Create larger landing area at northeast and northwest corner
- 10 • Widen crossing with flared ramp for Class I ramp access



Recommendations for Lyons/US 50 Intersection



Example of advance stop bars



Example of flared curb ramp



Example of scramble pedestrian crossing in Stateline, Nevada

# LYONS/US 50 INTERSECTION RECOMMENDATIONS

## PROJECT BENEFITS

### **Safety**

- Reduces exposure (time and distance) of pedestrians and bicyclists (especially students) to vehicles
- Increased staging areas/landings allow active transportation users to fully move off the highway before making the next crossing movement
- Flared curb ramp enhances maneuverability of bicyclists crossing US 50 westbound from Lyons Avenue
- Signal timing optimization can ensure the westbound queue clears during the school morning and afternoon pick-up/drop-off

### **Public Health**

- Improves physical activity to decrease youth and adult obesity and corresponding blood pressure
- Regional connection improves access to healthy food

### **Connectivity: Destinations within 1/2-Mile**

- Lakeview Commons
- County library
- Recreation Center
- Boys and Girls Club
- STMS
- Harrison Avenue Business District
- Class I regional facility west of US 50
- Ballfields
- St Theresa's Catholic Church

## POTENTIAL CONSTRAINTS/OPPORTUNITIES

### **Ownership**

- Caltrans right of way
- Expansion of staging areas may require coordination with the following entities:
  - St Theresa's Church
  - Lake Tahoe Unified School District

### **Environmental**

- No significant impacts anticipated

### **Traffic**

- Addition of a combined right/left turn lane increases capacity and improves the level of service
- Initial traffic analysis showed a scramble phase could be implemented with a negligible impact on vehicle traffic

## COST CONSIDERATIONS

- Construction Cost: \$100,000
- Non-Construction Cost: \$95,000
- Total Cost: \$195,000

## IMPLEMENTATION

### **Short Term**

- Restripe Lyons Avenue for center turn lane/two holding lanes
  - 14-foot right/left turn lane
  - 12-foot left only turn lane
  - 14-foot eastbound lane
- Optimize signal timing during the school morning and afternoon pick-up/drop-off
- Increase the landing/staging areas near St Theresa's Church and STMS
- Conduct required traffic analysis studies
- Widen northeast landing area and install a flared curb ramp
- Add school zone signage
- Conduct emission reduction findings for application to CMAQ funds

### **Long Term**

- Add a high visibility crossing on the intersection's southern leg
- Create flexible signal phasing that includes a scramble phase during peak hours

## FUNDING OPPORTUNITIES/SOURCES

- Highway Safety Improvement Program, including the Systemic Safety Analysis Report Program
- CMAQ
- TRPA/TMPO Air Quality Mitigation Fees

## IMPLEMENTING ORGANIZATION

- Caltrans with the City of South Lake Tahoe

## PARTNERSHIP OPPORTUNITIES

- Lake Tahoe Unified School District
- St Theresa's Catholic Church



# MIDDLE SCHOOL CIRCULATION EXISTING CONDITIONS

## SOUTH TAHOE MIDDLE SCHOOL CIRCULATION

### PROJECT AREA

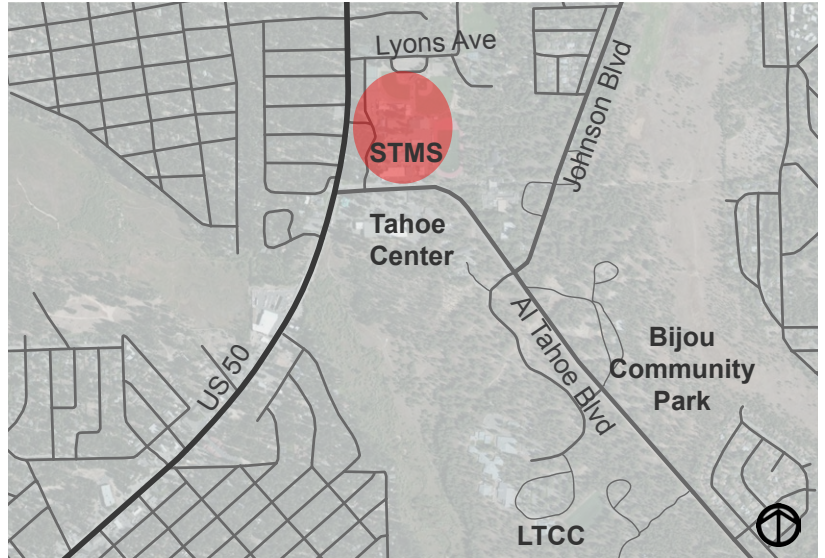
South Tahoe Middle School

### EXISTING RIGHT OF WAY + MOBILITY FEATURES

- Bike racks located near the north parking area
- Sidewalk along the north side of the entry drive off US 50
- Central vehicular drop-off area
- Three entry/exit drives (off US 50, off Lyons Avenue and off Al Tahoe Boulevard)

### KEY ISSUES + OPPORTUNITIES

- Bicyclists and pedestrians are not separated from motorists
- Morning drop-off creates vehicle queues and Superintendent must direct traffic and requires students to cross pick-up/drop-off traffic, increasing possible conflicts and congestion
- Bike racks are difficult to use to lock bikes
- Bike racks are separated from the school entry
- Parents drop students off at the Tahoe Center south of the school and the students must cross Al Tahoe to reach the school



Project location



Bike racks near north parking area



Area between the ballfields and tennis courts



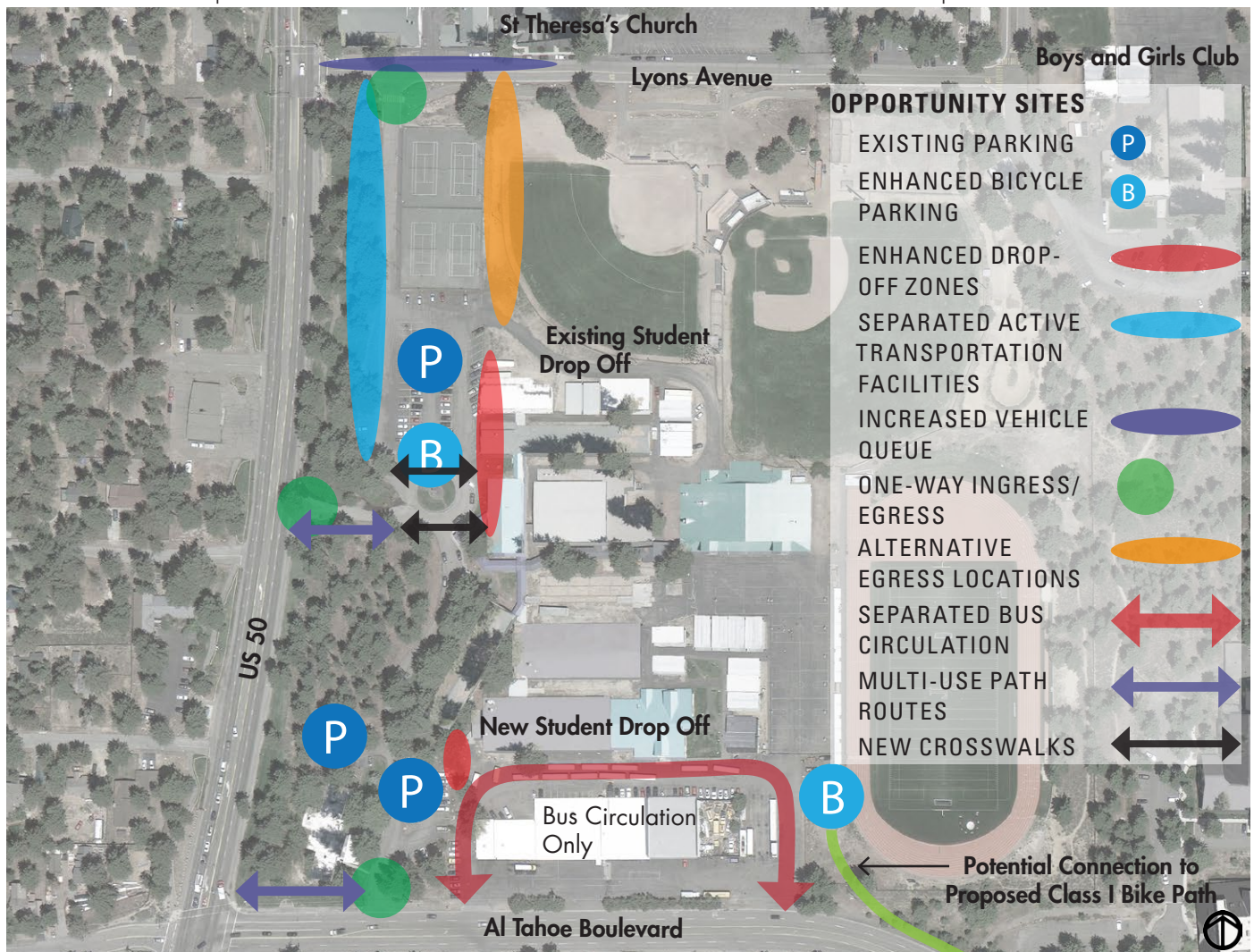
Middle School entry drive off US 50 looking east at the school



# MIDDLE SCHOOL CIRCULATION RECOMMENDATIONS

## RECOMMENDATIONS: SOUTH TAHOE MIDDLE SCHOOL CIRCULATION

- Add multi-use path to school at US 50 entry
- Add multi-use path from US 50 to school entry along north side of Al Tahoe Boulevard
- Add a crosswalk for student to cross from the multi-use path to the school building between the traffic circle and northbound drop-off traffic
- Provide a crosswalk to the front office
- Increase protected, accessible bicycle parking
- Add Class I connection from proposed Class I path along Al Tahoe Boulevard
- Enhance drop-off areas to discourage parents from dropping students off at the Tahoe Center
- Evaluate opportunity sites to modify drop-off and pick-up vehicular circulation to minimize conflicts with bicyclists and pedestrians
  - Provide an additional morning student drop-off location between the bus garage and STMS building/entry fence
  - Create one-way ingress/egress at various locations
  - Create designated active transportation (walking and bicycling) facilities
  - Evaluate opportunity sites to revise egress locations
  - Evaluate opportunity sites to modify and disperse vehicular drop-off areas
  - Increase the available stacking area at Lyons/US 50 intersection
  - Maintain separation between bus circulation areas and vehicular and active transportation facilities



Opportunity sites for active transportation and vehicular circulation at the South Tahoe Middle School

# MIDDLE SCHOOL CIRCULATION RECOMMENDATIONS

## PROJECT BENEFITS

### **Safety**

- Provides a designated, separated facility for students walking and bicycling to school
- Maintains separation of bus circulation from student drop-off areas
- Enhances bicycle parking/locking facilities
- Reduces vehicular left-turn movements
- Eliminates illegal left-turns across Al Tahoe Boulevard center turn lane's double, double yellow stripe

### **Public Health**

- Encourages student walking and biking to school to increase physical activity and decrease youth and obesity and corresponding blood pressure

### **Connectivity: Destinations within 1/2-Mile**

- Bijou Park and Bike Park
- Boys and Girls Club
- Surrounding neighborhoods and multi-family housing
- Harrison Avenue Business District
- Tahoe Center
- Lakeview Commons
- Recreation Center
- County library
- SLTPD, EDSO and county courthouse
- Class I facility west of US 50

## POTENTIAL CONSTRAINTS/OPPORTUNITIES

### **Ownership**

- Facilities are owned by Lake Tahoe Unified School District

### **Environmental**

- High capability lands

### **Traffic**

- Requires traffic and parking study to evaluate desired turning movements and drop-off recommendations



Example of stacked secure bike area

## COST CONSIDERATIONS

- Construction Cost: \$400,000
- Planning Cost: \$240,000
- Total Cost: \$640,000

## IMPLEMENTATION

### **Short Term**

- Enhance bike parking facilities
- Restripe parking/drive areas to provide a designated route for bicyclists
- Conduct work session and traffic study to develop final circulation improvements recommendation
- Determine feasibility to relocate the bus barn in order to modify vehicular and active transportation circulation
- Increased bus ridership
- Safe riding education – wear helmets

### **Long Term**

- Construct new/modified drop-off and roadway circulation areas
- Construct separated active transportation facilities

## FUNDING OPPORTUNITIES/SOURCES

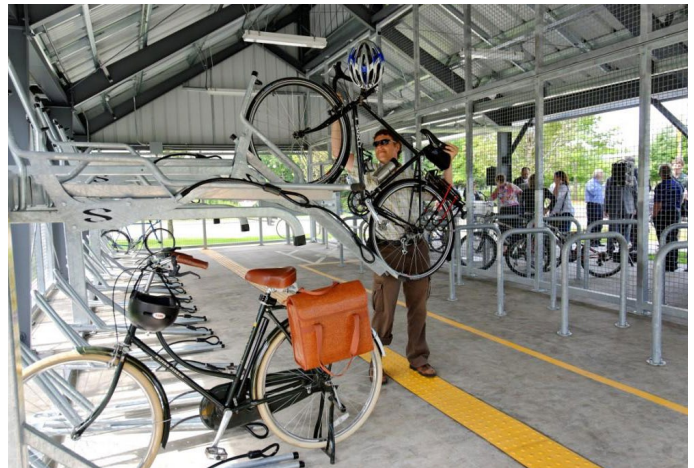
- Lake Tahoe Unified School District Capital Improvement Funds
- California Active Transportation Program, including Safe Routes to School

## IMPLEMENTING ORGANIZATION

- Lake Tahoe Unified School District

## PARTNERSHIP OPPORTUNITIES

- City of South Lake Tahoe
- Caltrans



Example of covered, secure bike area



# LYONS AVE TO AL TAHOE BLVD NORTH-SOUTH CONNECTIVITY EXISTING CONDITION

## LYONS AVENUE TO AL TAHOE BOULEVARD NORTH-SOUTH CONNECTIVITY

### PROJECT AREA

Lyons Avenue near Rufus Allen Boulevard south to Al Tahoe Boulevard, east of the Middle School

### EXISTING RIGHT OF WAY + MOBILITY FEATURES

- Informal user trails
- Class I bike path along the south side of Lyons Avenue
- Class I bike path proposed along the north side of Al Tahoe Boulevard

### KEY ISSUES + OPPORTUNITIES

- Active transportation users currently use informal trails in the area to reach civic, recreation and educational destinations along Lyons Avenue and Rufus Allen Boulevard to avoid US 50
- Property ownership in the area is primarily public



Project location



An informal use trail shows the level of use in the area



The project area is adjacent to the Middle School's track and field



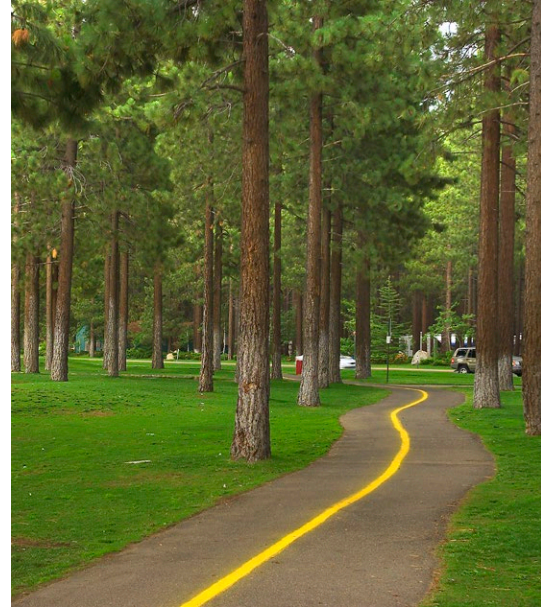
The project area connects to the existing Class I facility along Lyons Avenue



# LYONS AVE TO AL TAHOE BLVD NORTH-SOUTH CONNECTIVITY RECOMMENDATIONS

## RECOMMENDATIONS: LYONS AVENUE TO AL TAHOE BOULEVARD NORTH-SOUTH CONNECTIVITY

- Develop a Class I bike path connecting the Class I bike path on Lyons Avenue south to the proposed bike path on Al Tahoe Boulevard
- Provide lighting
- Design route to provide opportunity for future ballfield expansion by the Lake Tahoe Unified School District



Bike path example

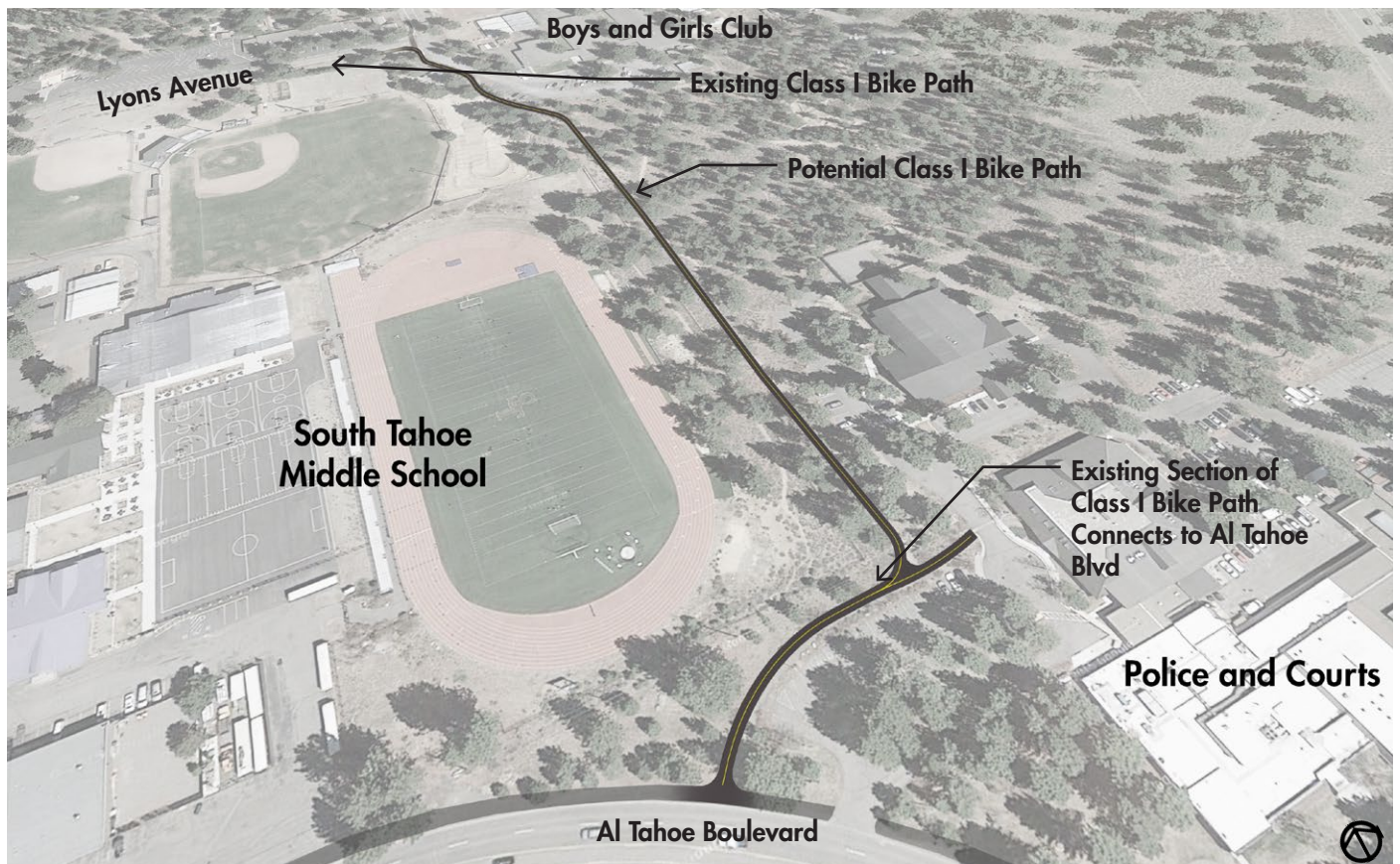


Diagram of north-south connectivity opportunity from Lyons Avenue to Al Tahoe Boulevard east of the Middle School track and field

# LYONS AVE TO AL TAHOE BLVD NORTH-SOUTH CONNECTIVITY RECOMMENDATIONS

## PROJECT BENEFITS

### **Safety**

- Provides fully separated path alternative to using US 50, the route where a majority of incidents occur
- Provides a facility for users with a wide range of skills, including young children
- Completes a gap between the Class I facility along Al Tahoe Boulevard and the Class I facility along Lyons Avenue

### **Public Health**

- Improves direct access to recreation facilities for children and adults – increasing physical activity to decrease youth and adult obesity and corresponding blood pressure

### **Connectivity: Destinations within 1/2-Mile**

- LTCC
- Bijou Park and Bike Park
- Boys and Girls Club
- STMS
- SLTPD, EDSO and county courthouse
- County library
- Recreation Center
- Tahoe Center
- Lakeview Commons
- St Theresa's Church
- Ballfields

## POTENTIAL OPPORTUNITIES/CONSTRAINTS

### **Ownership**

- LTUSD owns the land
- Address concerns by neighboring property owners (e.g., private, County, SLTPD)

### **Environmental**

- High capability lands

### **Traffic**

- Identify connectivity to other trail systems and potential road crossing needs at Al Tahoe Boulevard – site distances need to be confirmed

## COST CONSIDERATIONS

- Construction Cost: \$500,000
- Planning Cost: \$115,000
- Total Cost: \$615,000

## IMPLEMENTATION

### **Short Term**

- Identify path location
- Signage
- Collaboration with potential partners
- Active transportation education at Boys and Girls Club and LTUSD

### **Long Term**

- Construction of pathway

## FUNDING OPPORTUNITIES/SOURCES

- City of South Lake Tahoe Capital Improvement Funds or grant funds (no currently programmed in adopted City CIP)
- California Active Transportation Program, including Safe Routes to School
- Measure R/S

## IMPLEMENTING ORGANIZATION

- City of South Lake Tahoe

## PARTNERSHIP OPPORTUNITIES

- Boys and Girls Club (through potential private contributions)
- Soroptimist International of South Lake Tahoe (private contributions to benefit women and children)
- Lake Tahoe Unified School District
- City of South Lake Tahoe Police Department
- El Dorado County Sheriff's Department
- South Lake Tahoe Recreation Facilities Joint Powers Authority (JPA)



# RUFUS ALLEN BOULEVARD EXISTING CONDITIONS

## RUFUS ALLEN BOULEVARD

### PROJECT AREA

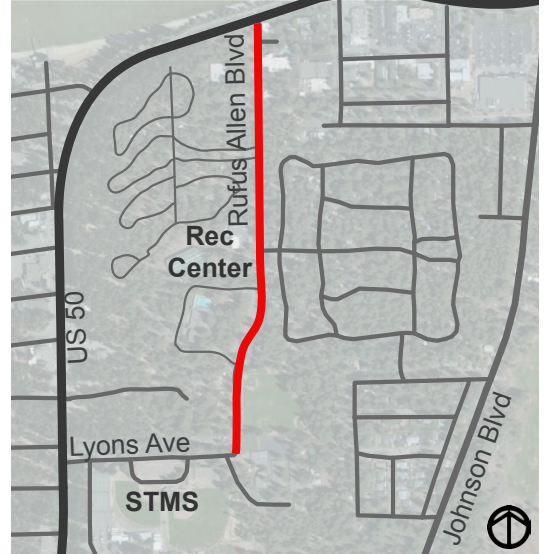
Rufus Allen Boulevard from US 50 south to Lyons Avenue

### EXISTING RIGHT OF WAY + MOBILITY FEATURES

- Two-lane roadway with varied travel lane width
- Informal roadside parking at recreation fields near Lyons Avenue
- 6-foot sidewalk along the west side of the road from Lyons Avenue north to the City cooperation yard
- 8-foot shared use path from the City cooperation yard north to the US 50 intersection

### KEY ISSUES + OPPORTUNITIES

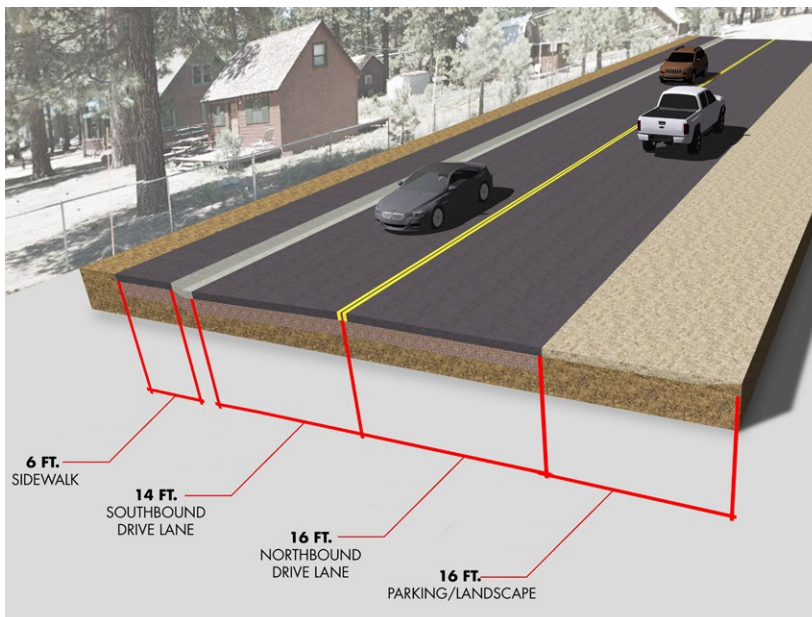
- Lack of continuous shared use path



Project location



Class I path adjacent Rufus Allen near the intersection of US 50, looking north



Existing section of Rufus Allen Boulevard



Rufus Allen looking south to the Recreation Center



Intersection of Rufus Allen and Lyons looking north

# RUFUS ALLEN BOULEVARD ALTERNATIVES

## ALTERNATIVES EVALUATED

### RUFUS ALLEN BLVD. ALTERNATIVE 1

- Narrow travel lanes to 10 feet
- Create Class II bike lanes
- Continue sidewalk on west side to connect the gap between the Rec Center and Lyons Avenue



Bike lane example

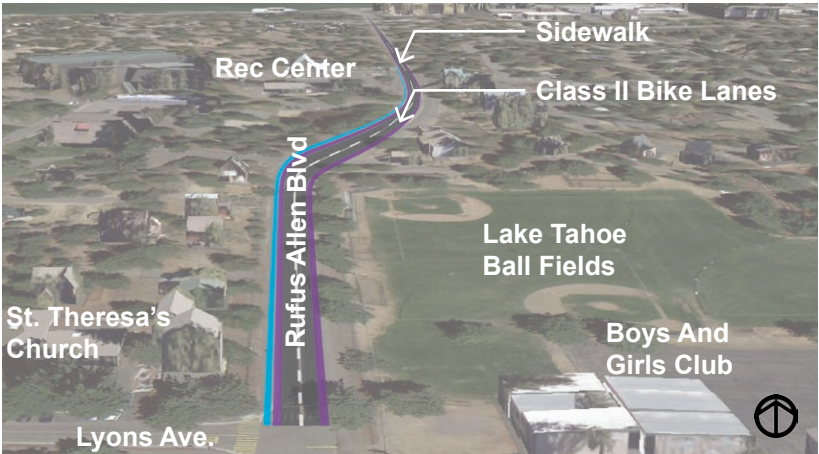


Diagram of Rufus Allen Alternative 1 mobility improvements

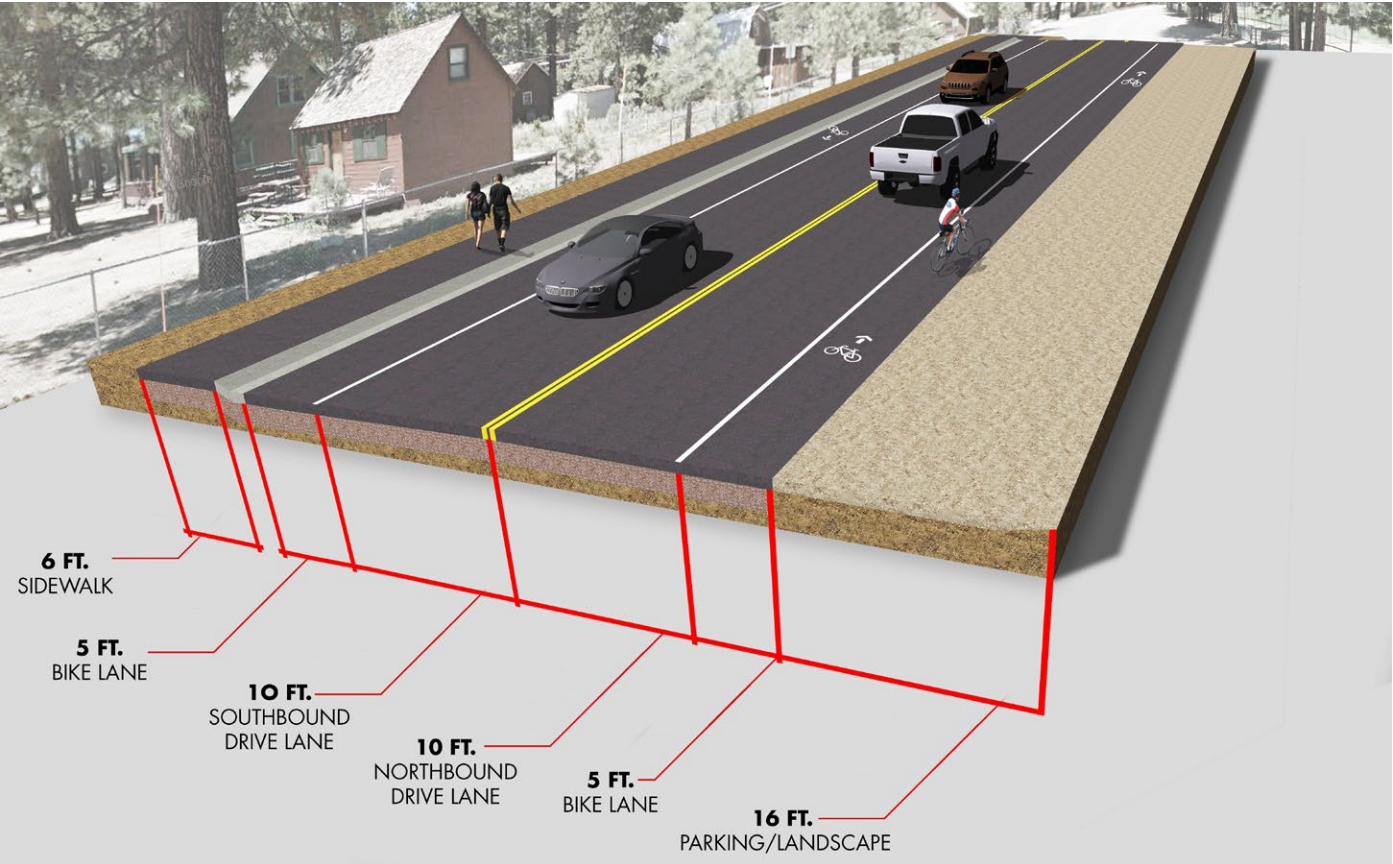


Diagram of Rufus Allen Alternative 1 mobility improvements: Class II bike lanes, sidewalk and narrowed travel lanes



# RUFUS ALLEN BOULEVARD ALTERNATIVES

## RUFUS ALLEN BLVD. ALTERNATIVE 2

- Narrow travel lanes to 11 feet
- Continue Class I path on west side to connect the gap between the Rec Center and Lyons Avenue
- Coordinate improvements with Parks and Recreation Master Plan



Bike path example



Diagram of Rufus Allen Alternative 2 mobility improvements

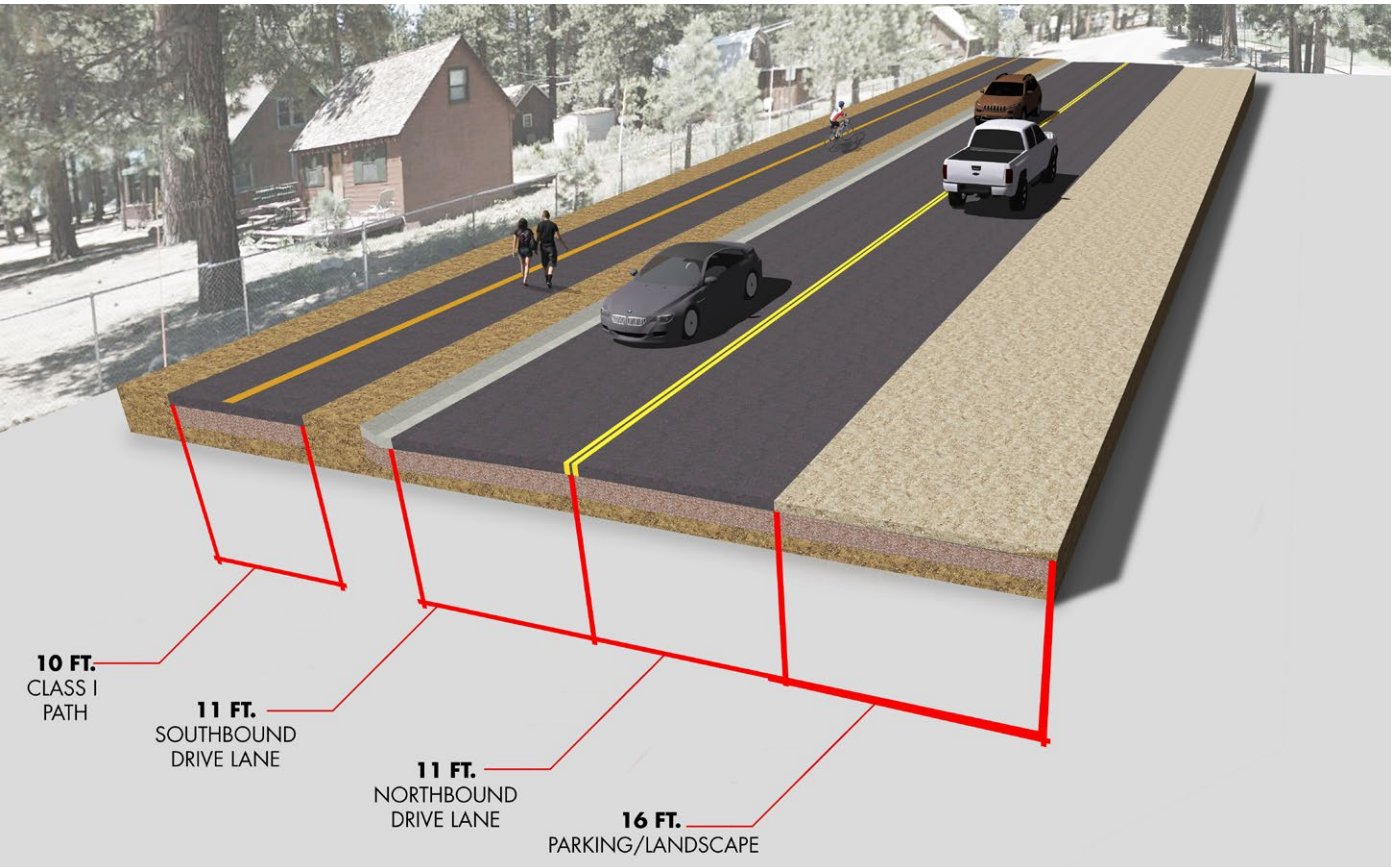


Diagram of Rufus Allen Alternative 2 mobility improvements: Class I bike path and narrowed travel lanes



# RUFUS ALLEN BOULEVARD RECOMMENDATIONS

## RECOMMENDATIONS: RUFUS ALLEN BOULEVARD

- Narrow travel lanes to 11 feet
- Continue Class I path on west side to connect the gap between the Rec Center and Lyons Avenue
- Coordinate improvements with Parks and Recreation Master Plan



Bike path example

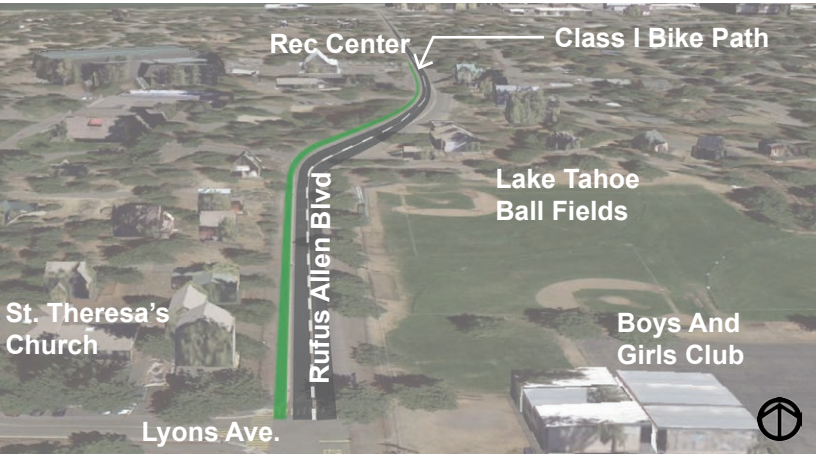


Diagram of Rufus Allen Alternative 2 mobility improvements

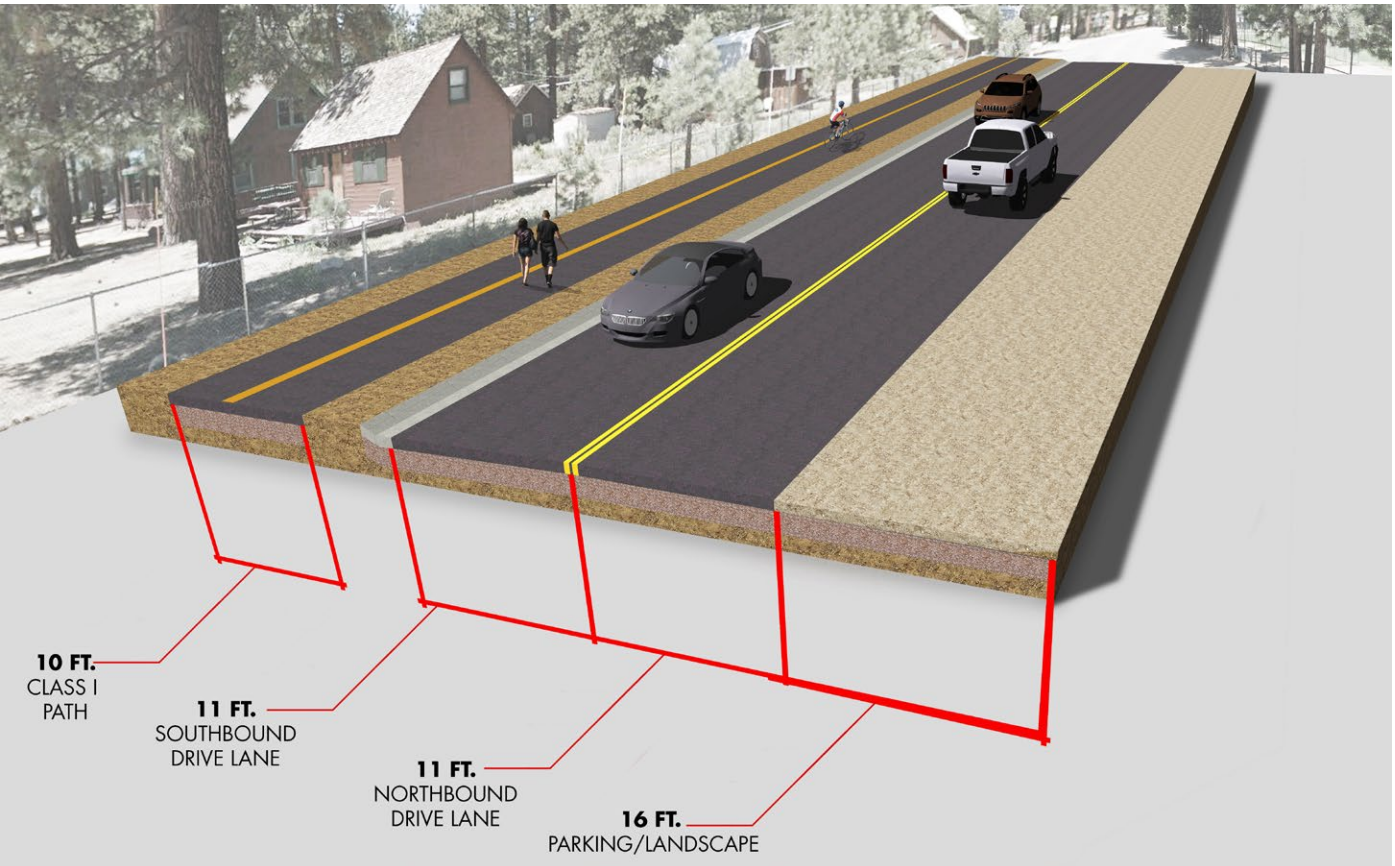


Diagram of Rufus Allen Alternative 2 mobility improvements: Class I bike path and narrowed travel lanes



# RUFUS ALLEN BOULEVARD RECOMMENDATIONS

## PROJECT BENEFITS

### ***Safety***

- Provides fully separated path to complete the existing Class I path that ends at the City's Cooperation Yard
- Organizes roadside parking by the ballfields to separate active transportation users from parking area

### ***Public Health***

- Improves physical activity to decrease youth and adult obesity and corresponding blood pressure – connects youths and adults to Lakeview Commons, ballfields, the recreation center and track and field at the Middle School
- Enhances connectivity to the regional Class I facility north of US 50 that will provide a separated path to Stateline, Nevada

### ***Connectivity: Destinations within 1/2-Mile***

- Lakeview Commons
- County library
- Recreation Center
- Boys and Girls Club
- STMS
- Harrison Avenue Business District
- Safeway Shopping Center
- Class I regional facility north of US 50
- Class I facility on Lyons Avenue
- Ballfields

## POTENTIAL CONSTRAINTS

### ***Ownership***

- Improvements anticipated to fit within the existing right of way
- Adjacent ownership to the west includes:
  - Private property owners
  - City of South Lake Tahoe

### ***Environmental***

- No major constraints anticipated

### ***Traffic***

- No major constraints anticipated
- Roadside parking by the ballfields should be evaluated for relocation or redesign

## COST CONSIDERATIONS

- Construction Cost: \$840,000
- Non-Construction Cost: \$530,000
- Total Cost: \$1,370,00

## IMPLEMENTATION

### ***Short Term***

- Evaluate roadside parking by the ballfields for relocation or redesign to eliminate conflicts with active transportation users
- Reduce travel lane widths and provide bike lanes

### ***Long Term***

- Remove bike lanes and relocate western curb to the east
- Replace 6-foot sidewalk with a 10-foot Class I bike path

## FUNDING OPPORTUNITIES/SOURCES

- City of South Lake Tahoe Capital Improvement Funds (the project is not currently programmed in the adopted City CIP)
- California Active Transportation Program, including Safe Routes to School
- TRPA/TMPO Air Quality Mitigation Fees
- Measure R/S

## IMPLEMENTING ORGANIZATION

- City of South Lake Tahoe

## PARTNERSHIP OPPORTUNITIES

- El Dorado County (path would serve county library)
- Lake Tahoe Unified School District
- South Lake Tahoe Recreation Facilities Joint Powers Authority (JPA)

# RUFUS ALLEN/US 50 INTERSECTION EXISTING CONDITIONS

## RUFUS ALLEN/US 50 BOULEVARD

### PROJECT AREA

Rufus Allen/US 50 intersection

### EXISTING RIGHT OF WAY + MOBILITY FEATURES

- Signalized intersection
- High visibility crosswalk markings on each leg of the intersection
- Accessible, flared curb cuts
- Video detection
- Pedestrian actuated signals
- Class II bike lanes along US 50
- Sidewalk along southern side of US 50
- Class I bike path along northern side of US 50
- Class III bike route along Rufus Allen Boulevard
- Separated bike path along western side of Rufus Allen Boulevard
- Sidewalk along eastern side of Rufus Allen Boulevard

### KEY ISSUES + OPPORTUNITIES

- Potential for high volumes of pedestrians and cyclists due to connectivity to destination recreation area of Lakeview Commons



Project location



Intersection of US 50 and Rufus Allen from southeast corner looking toward southwest corner



Aerial view of intersection



The southwest corner of Rufus Allen/US 50 intersection with crosswalk and path



The southwest corner of Rufus Allen/US 50 intersection looking north across US 50



# RUFUS ALLEN/US 50 INTERSECTION RECOMMENDATIONS

## RECOMMENDATIONS: RUFUS ALLEN/US 50 INTERSECTION

- Widen pedestrian crossings of US 50 to 8 feet
- Provide a green painted crossbike crossing on the western leg of the intersection



Crossbike crossings separate cyclists from pedestrians



Recommended Rufus Allen/US 50 intersection enhancements

# RUFUS ALLEN INTERSECTION RECOMMENDATIONS

## PROJECT BENEFITS

### ***Safety***

- Provides designated location for bicyclists in the crosswalk
- Reduces conflicts between pedestrians and bicyclists in the crosswalk

### ***Public Health***

- Regional connection improves physical activity to decrease youth and adult obesity and corresponding blood pressure
- Regional connection improves access to healthy food

### ***Connectivity: Destinations within 1/2-Mile***

- Lakeview Commons
- County library
- Recreation Center
- Boys and Girls Club
- STMS
- Harrison Avenue Business District
- Safeway Shopping Center
- Class I regional facility north of US 50
- Ballfields

## POTENTIAL CONSTRAINTS/OPPORTUNITIES

### ***Ownership***

- Caltrans right of way

### ***Environmental***

- No major constraints anticipated

### ***Traffic***

- No major constraints anticipated

## COST CONSIDERATIONS

- Construction Cost: \$42,000
- Non-Construction Cost: \$40,000
- Total Cost: \$82,000

## IMPLEMENTATION

### ***Short Term***

- Widen crosswalk

### ***Long Term***

- Incorporate green paint to develop crossbike lane and highlight the location of bicyclists in the crosswalk

## FUNDING OPPORTUNITIES/SOURCES

- Highway Safety Improvement Program, including the Systemic Safety Analysis Report Program
- CMAQ
- City of South Lake Tahoe Capital Improvement Funds (not currently programmed in adopted City CIP)
- TRPA/TMPO Air Quality Mitigation Fees

## IMPLEMENTING ORGANIZATION

- Caltrans

## PARTNERSHIP OPPORTUNITIES

- City of South Lake Tahoe



# TROUT CREEK/US 50 EAST-WEST CONNECTIVITY EXISTING CONDITIONS

## TROUT CREEK/US 50 CONNECTIVITY

### PROJECT AREA

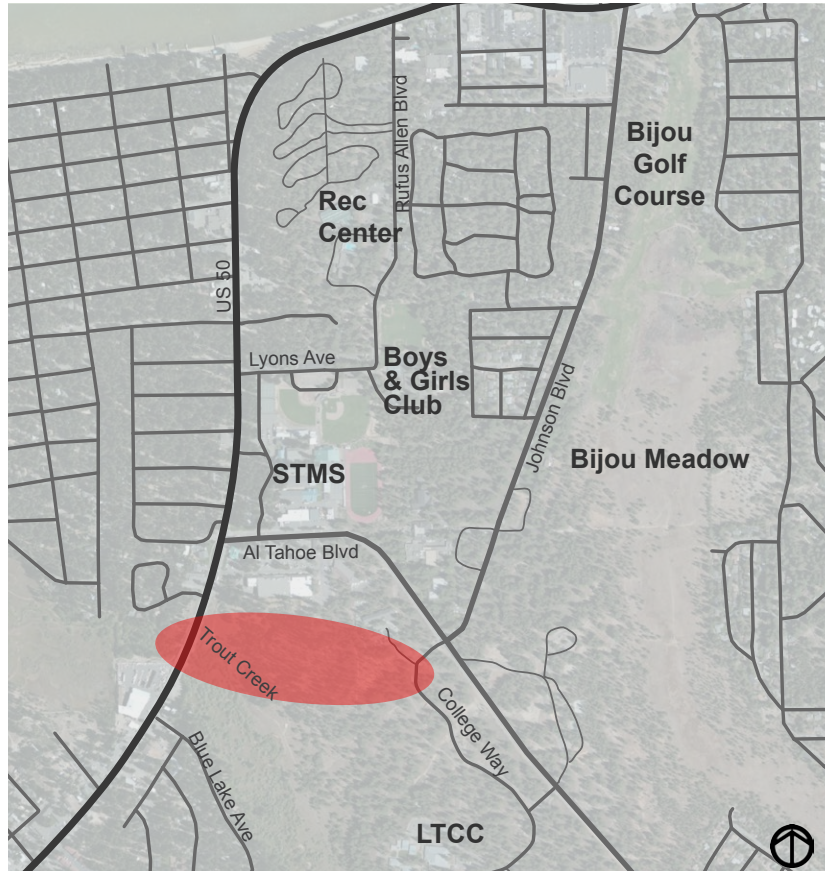
College Way/Al Tahoe Boulevard area west through Trout Creek meadow to US 50

### EXISTING RIGHT OF WAY + MOBILITY FEATURES

- Class I bike path west of US 50
- Class I bike path along Al Tahoe Boulevard from Pioneer Trail to College Way
- Class I bike path along College Way
- Informal use trails
- Designated cross country trails around the Lake Tahoe Community College

### KEY ISSUES + OPPORTUNITIES

- The US 50/Al Tahoe intersection presents a major barrier to active transportation mobility – anecdotally, it is the second or third busiest intersection in the city and only has crosswalks on three of the four legs
- Active transportation users avoid the US 50/Al Tahoe intersection by riding through parking lots and traveling against traffic on a sidewalk
- The Class I bike path west of US 50 is a highly used regional trail connecting the Camp Richardson recreation area in El Dorado County to a Class I system through South Lake Tahoe that will connect to Stateline, Nevada
- Grade separated crossings can provide greater safety than a signalized intersection



Project location



Cyclists currently cross under the bridge to reach the Class I path west of US 50



Informal trail access under Trout Creek bridge



# TROUT CREEK/US 50 EAST-WEST CONNECTIVITY RECOMMENDATIONS

## RECOMMENDATIONS: TROUT CREEK/US 50 EAST-WEST CONNECTIVITY

### LONG-TERM VISION PROJECT

- Raise US 50 and create a Class I Bike Path that crosses under US 50 at Trout Creek to connect to the existing Class I Bike Path paralleling the west side of US 50

#### Considerations

- Existing utilities under US 50 could be several feet below road surface
- Water level of Trout Creek could inhibit the use of bike facilities during wet periods unless the bridge was raised
- East-west Class I Bike Path connection from Trout Creek to Al Tahoe Boulevard should be developed in conjunction with the Trout Creek/US 50 crossing

### ALTERNATIVE/SUPPLEMENTAL LONG-TERM VISION

- Develop a Class I Bike Path bridge crossing of Trout Creek on the east side of US 50
- Create an east-west Class I Bike Path connection from Trout Creek to Al Tahoe Boulevard
- Create a Class I Bike Path connection to Blue Lake Road from the new bridge



Bike path coordinated with Rock Creek bridge in Broomfield, Colorado

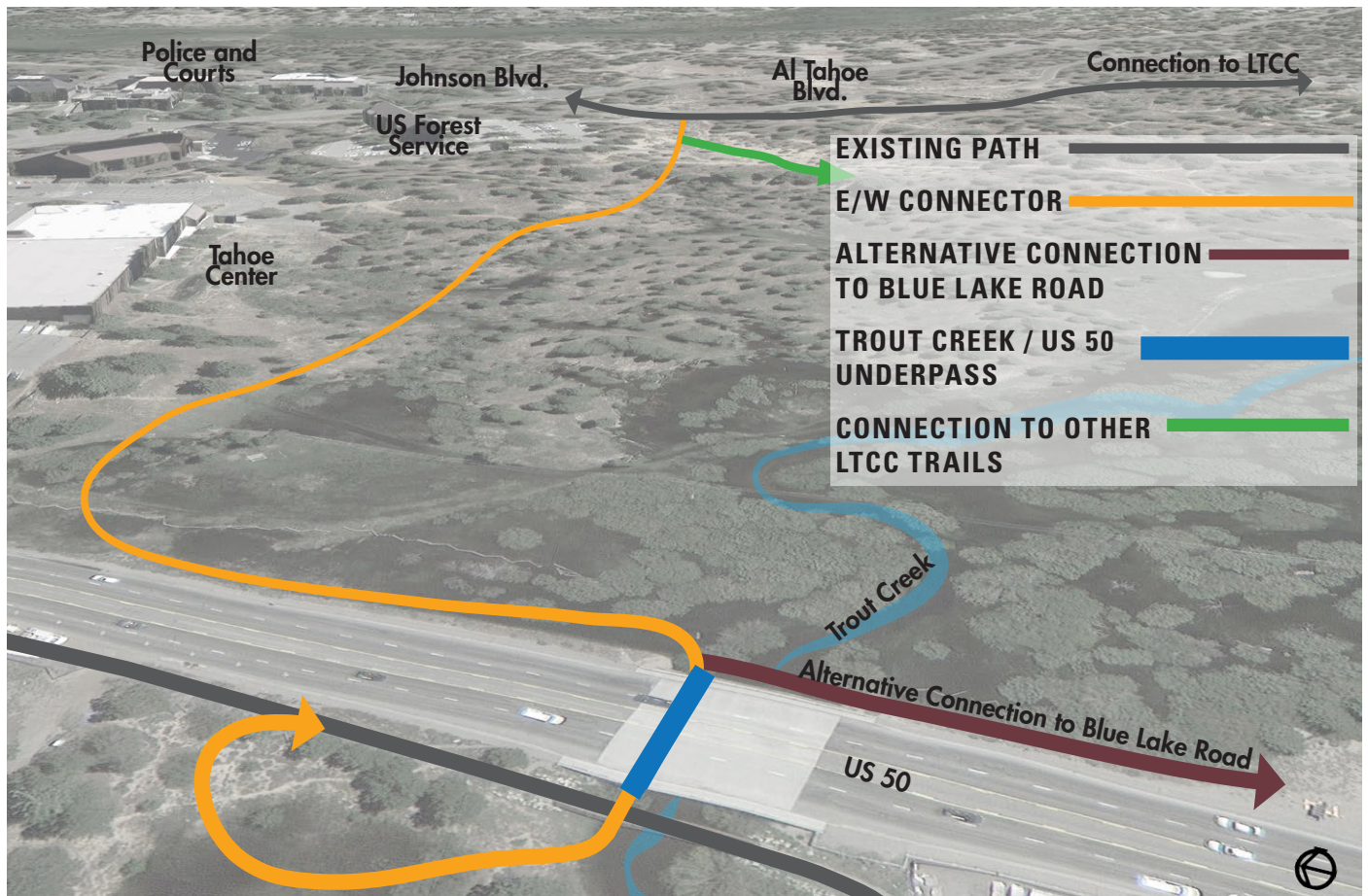


Diagram of east-west connectivity opportunities across US 50 at the Trout Creek bridge



# TROUT CREEK/US 50 EAST-WEST CONNECTIVITY RECOMMENDATIONS

## PROJECT BENEFITS

### **Safety**

- Provides a fully separated path alternative to using US 50, the route where a majority of incidents occur
- Provides a grade separated crossing of US 50, allowing active transportation users to avoid the US 50/Al Tahoe intersection
- Provides a facility for users with a wide range of skills, including young children
- Completes a gap between the Class I facility along Al Tahoe Boulevard and the regional Class I facility along US 50 that connects to El Dorado County recreation facilities to the west and Stateline, Nevada to the east

### **Public Health**

- Improves direct access to existing and proposed regional Class I facilities without the need to interface with vehicles at a US 50 crossing
- Improves physical activity to decrease youth and adult obesity and corresponding blood pressure
- Improves access to healthy food through regional connectivity
- Improves access to health care facilities through regional connectivity

### **Connectivity: Destinations within 1/2-Mile**

- LTCC
- Bijou Park and Bike Park
- Boys and Girls Club
- STMS
- SLTPD, EDSO and county courthouse
- County library
- Recreation Center
- Tahoe Center
- Lakeview Commons
- St Theresa's Church
- Ballfields

## POTENTIAL OPPORTUNITIES/CONSTRAINTS

### **Ownership**

- Alignment runs through publicly-owned lands: LTCC, Caltrans, USFS and CTC

### **Environmental**

- Project area includes SEZs, wetlands, Trout Creek floodway and floodplains
- Willow Flycatcher may be present
- Sensitive vegetation areas and habitat may be present

### **Traffic**

- Provides an off-highway active transportation alternative
- Traffic management during construction will need to be addressed to replace the bridge

## COST CONSIDERATIONS

- Construction Cost: \$1,300,000
- Non-Construction Cost: \$1,000,000
- Total Cost: \$2,300,000

## IMPLEMENTATION

### **Short Term**

- Evaluate existing bridge structure to identify future replacement need
- Identify utilities in US 50 and approximate depth as part of planned Caltrans projects

### **Long Term**

- Replacement of Trout Creek/US 50 bridge with coordinated active transportation facilities
  - Class I facility underpass
  - Class I facility on east side of new bridge
- Class I trail connections to Al Tahoe Boulevard Class I facility, US 50 Class I facility and Blue Lake Road

## FUNDING OPPORTUNITIES/SOURCES

- California Active Transportation Program
- City of South Lake Tahoe Capital Improvement Funds (the project is not currently programmed in the adopted City CIP)
- Measure R/S

## IMPLEMENTING ORGANIZATION

- Caltrans
- City of South Lake Tahoe

## PARTNERSHIP OPPORTUNITIES

- City of South Lake Tahoe
- Lake Tahoe Community College
- South Lake Tahoe Recreation Facilities Joint Powers Authority (JPA)

# CHAPTER 6: OUTCOMES + PLAN CONSISTENCY



# CONNECTIVITY PLAN OUTCOMES

## CONNECTIVITY PLAN OUTCOMES

The projects recommended as part of the planning process were identified for their ability to significantly enhance active transportation use within the project area and their connectivity to the greater community. Based on the results of the alternatives analysis, mobility enhancement schematic plans were developed for the following locations:

- US 50/Al Tahoe intersection
- Al Tahoe Boulevard from US 50 to Johnson Boulevard
- Al Tahoe/Johnson intersection

In the spring of 2015, a California Active Transportation grant application was prepared for the project. The project was approved for funding through the Active Transportation Program by the California Transportation Commission October 22, 2015.

## OVERALL RECOMMENDATIONS

The individual project recommendations and supporting information presented in Chapter 5 revealed a number of consistent connectivity improvements opportunities. These findings, listed below, reflect the need to both complete the City's active transportation network and provide additional amenities to support active transportation use. They are organized according to the facility type and listed by the time frame for potential implementation.

### *Linear Facilities*

#### ***Short Term:***

- Striping bike lanes
- Adding bike lane green paint at intersections
- Widening bike lanes or creating buffered bike lanes
- Installing bike racks and lockers
- Signage and wayfinding
- Traffic calming through narrowing travel lanes
- Speed enforcement

#### ***Long Term:***

- Class I bike paths
- Sidewalks
- Lighting

### *Intersections*

#### ***Short Term:***

- Optimizing signal timing
- Add or adjust bicycle detection systems
- Widening high visibility crosswalks
- Increasing landing zones
- Providing bike boxes and intersection markings

#### ***Long Term***

- Crosswalks on all intersection legs
- Scramble signal phase where appropriate

## IMPLEMENTATION OPPORTUNITIES

Within the City, and more specifically the project area, the City of South Lake Tahoe or Caltrans would likely be the implementing agency for the development of bike and pedestrian infrastructure facilities. Implementing the Connectivity Plan also requires collaboration with regional agencies, LTUSD, LTCC and the private sector.

# CONNECTIVITY PLAN OUTCOMES

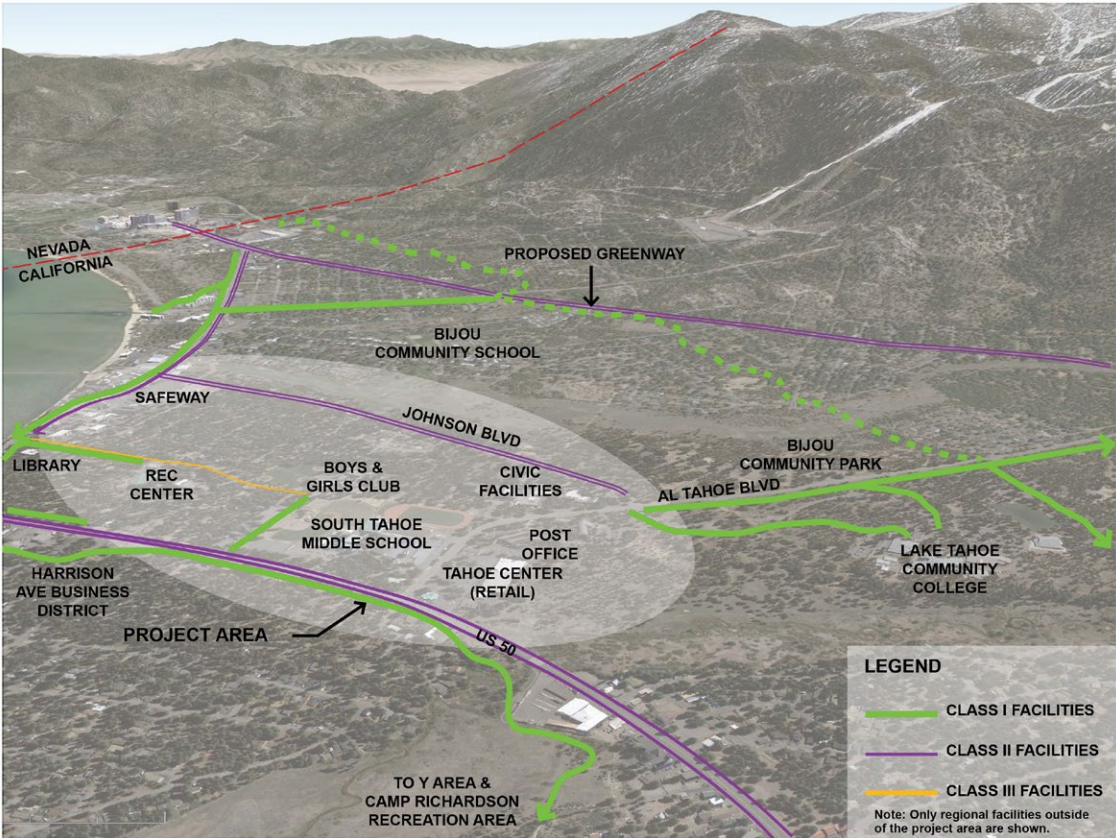


Diagram of existing project area active transportation network showing gaps in the Class I network

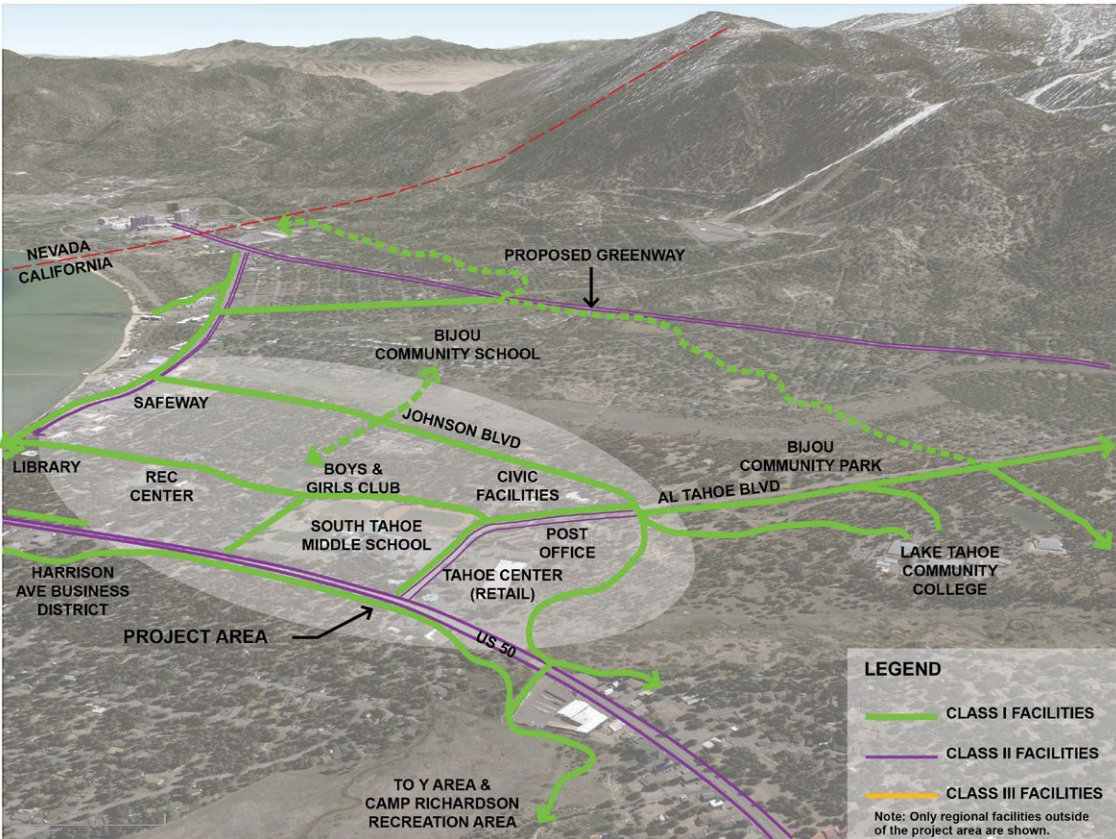


Diagram of recommended connectivity and active transportation system enhancements and their regional connectivity



# CONNECTIVITY PLAN OUTCOMES

LTUSD should remain engaged to facilitate improvements on school property while also playing a lead role in the development and implementation of a safe routes to school program that includes education and enforcement. Encouraging and facilitating increased bus use is also important.

LTCC can be engaged to identify mutually-beneficial projects and assist with projects they could help fund.

Private property owners may be engaged to promote the installation of bike racks and lockers. Sidewalks and bike paths could be designed as part of new development, reinvestment in existing properties and utility provider improvement projects. Community groups and community members can also serve as advocates and partners for enhanced active transportation infrastructure.

Potential partners and funding opportunities are included in Chapter 5 as part of the project recommendations' descriptions.

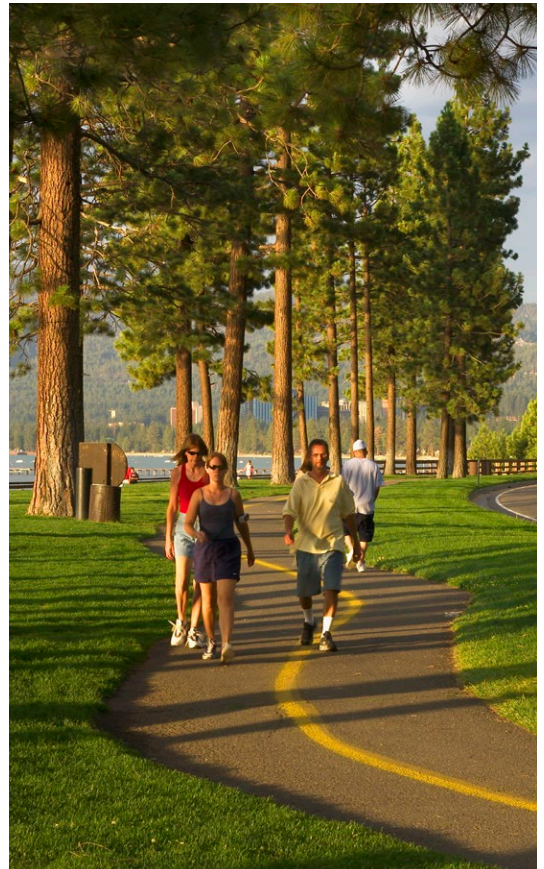
## MOVING FORWARD

As the high priority Al Tahoe Boulevard project moves forward, it will be important for the other project recommendations to also gain traction. The project recommendations should be used to inform the update of the regional active transportation plan and the development of LTUSD's Safe Routes to Schools Plan.

The Connectivity Plan's recommended projects should be also be incorporated into updates of the Regional Transportation Plan (RTP), the City's Capital Improvement Program (CIP), the Lake Tahoe Environmental Improvement Program (EIP) and into the new Linking Tahoe: Active Transportation Plan. This integration will be important to support future grant application processes by reinforcing plan consistency.



Enhanced active transportation facilities create safe opportunities for even the youngest riders to cycle



Sections of a Class I bike path network exist in South Lake Tahoe; the Connectivity Plan aims to complete the missing gaps in this central part of town

# PLAN CONSISTENCY

## RELATIONSHIP TO OTHER PLANS + POLICIES

Other key planning documents for the City and the Region identify active transportation improvements within the study area. Following is a summary of how improvements within the project area align with other plans, policies and recommended projects.

### LAKE TAHOE REGION BICYCLE AND PEDESTRIAN PLAN 2010 – TECHNICAL AMENDMENT DEC 2014

The Lake Tahoe Bicycle and Pedestrian Plan (BPP) serves as the Bicycle and Pedestrian element to both the TRPA/TMPO Regional Transportation Plan and the TRPA/TMPO Transportation Plan (part of the TRPA/TMPO Regional Plan). It presents a guide for planning, constructing and maintaining a regional bicycle and pedestrian network and support facilities and programs for the Region.

The BPP is currently undergoing an update (*Linking Tahoe: Active Transportation Plan*) and identifies the following future active transportation improvements within the study area:

- Class I path along Al Tahoe Boulevard from US 50 to Johnson Boulevard
- Class I path connecting the future South Tahoe Greenway Shared Use Trail to Bijou Park
- Class I path connecting Al Tahoe Boulevard to Rufus Allen Boulevard
- Class II bike lanes along Al Tahoe Boulevard

### REGIONAL TRANSPORTATION PLAN MOBILITY 2035

The Lake Tahoe Regional Transportation Plan: Mobility 2035 (RTP) was adopted by TRPA/TMPO Governing Boards December 12, 2012 and is part of Lake Tahoe's approved Regional Plan. The RTP identifies the following proposed mobility improvements for the study area:

- Class I path on Al Tahoe Boulevard from US 50 to Johnson Boulevard (Tier 1 Priority Project)
- Class I path connecting the future South Tahoe Greenway Shared Use Trail to Johnson Boulevard
- Class I path connecting Al Tahoe Boulevard to Rufus Allen Boulevard
- Class II bike lanes along Al Tahoe Boulevard

### BIJOU/AL TAHOE COMMUNITY PLAN 1995

The Bijou/Al Tahoe Community Plan is the study area's adopted land use policy document and identifies construction of Class I and II facilities in the study area. It provides the following policy guidance, for which the Connectivity Plan's recommendations slightly vary, but are primarily consistent:

- Objective 4: To improve circulation, reduce vehicle trips, and to improve public access to the recreational areas, a network of bike trails and sidewalks shall be constructed.
  - Policy A: Extend and provide additional bike trails within the community plan area and to recreation areas.
  - Policy B: Provide adequate sidewalks in commercial areas which are maintained free of snow on a year round basis.
- Proposed Transportation Improvements:
  - Construct a sidewalk on one side of Al Tahoe Boulevard with a Class I facility on the other side
  - Construct Class II bike lanes on Al Tahoe Boulevard and Johnson Boulevard
  - Construct a Class I path from Treehaven Drive to Rufus Allen Boulevard
  - Construct a wide sidewalk that doubles as a Class I path along Rufus Allen Boulevard
  - Construct a 5-foot sidewalk on the west side of Johnson Boulevard and Lyons Avenue
  - Make signal changes and pedestrian improvements at the US 50/Al Tahoe intersection
  - Make improvements to the Al Tahoe/Johnson intersection
  - Limit the number of driveway accesses to Al Tahoe Boulevard



# PLAN CONSISTENCY

## 2030 SOUTH LAKE TAHOE GENERAL PLAN

In 2011, the City completed an update of their General Plan and created policies that seek to encourage increased use of active modes of transportation through improvements to bicycle and pedestrian connections, traffic calming, safe access to schools, complete streets and overall street design. The Connectivity Plan's project recommendations help move the City forward in achieving its vision for "Transportation and Circulation" by implementing elements consistent with General Plan policies and working to implement enhancements that continue to define South Lake Tahoe as a bikeable and walkable community for both residents and tourists.

The Bicycle and Pedestrian Circulation Diagram identifies the following:

- Al Tahoe Boulevard is an arterial roadway
- Johnson Boulevard, Lyons Avenue and Rufus Allen Boulevard are collector roads
- Future Class I paths along Al Tahoe Boulevard between Johnson Boulevard and US 50
- Future Class I path connecting Al Tahoe Boulevard to Rufus Allen Boulevard
- Future Class II bike lanes along Al Tahoe Boulevard

Specifically, the project aligns with the following General Plan policies related to the City's active transportation network:

- Policy TC-1.1: Overall Street Design
  - The City shall develop all arterial streets to provide infrastructure for vehicles, transit, bicycles, and pedestrians.. The City shall develop a network of routes along collector and local streets for pedestrians and bicyclists.
- Policy TC-1.8: Complete Streets Design
  - The City shall seek to develop or upgrade all State Highways, arterials, and collectors as Complete Streets that accommodate all travel modes. Elements of Complete Streets design include the following:
    - Balanced design that accommodates walking, cycling, transit, driving, parking, snow removal, drainage, storm water management, emergency vehicle access and deliveries.
    - Interconnected network of facilities that increases travel route options and allows short trips to be completed off arterial roadways.
    - Appropriate pedestrian and bicycling facilities that promote safety and maximize access.
- Policy TC-1.9: Alternative Modes and Fuels
  - The City shall promote more effective use of alternative transportation modes (e.g., walking, bicycling, and public transportation) and use of electric/alternative fuel vehicles.
- Policy TC-1.15: Safe Access to Schools
  - The City shall work with the South Lake Tahoe Unified School District and Lake Tahoe Community College to provide safe access to schools (e.g., sidewalks, road crossings, bicycle paths, bus circulation). The City shall coordinate with the schools on submittal of grant requests for Safe Routes to Schools to help underwrite the cost to build and maintain the bicycle facilities connecting to schools.
- Policy TC-1.18: Traffic Calming Measures
  - The City shall explore the installation and effectiveness of traffic calming measures in order to create a safer and more attractive environment for bicyclists and pedestrians. Where it is appropriate the City shall encourage Caltrans to also consider traffic calming measures on State Highways. Examples of traffic calming measures may include, but are not limited to: bulb outs, narrow vehicle lanes, lane reductions and stop signs.
- Policy TC-3.2: Cohesive and Continuous Bicycle and Pedestrian Network
  - The City shall develop a cohesive and continuous public bicycle and pedestrian network that allows convenient and safe travel for people of all abilities, free of major impediments and obstacles, and in compliance with ADA requirements.

# PLAN CONSISTENCY

- Policy TC-3.3: Implement the Bicycle Master Plan and Improve Connections
  - The City shall maintain and implement the Bicycle Master Plan and shall improve bicycle and pedestrian connections between all neighborhoods. This shall include linking residential neighborhoods, shopping districts, recreation facilities, employment centers, schools, and other public facilities with a network of safe, continuous, and attractive pedestrian sidewalks, paths, and bikeways.
- Policy TC-3.4: Bike Route Signage
  - The City shall provide appropriate signage, striping, and symbols in accordance with the California Manual of Uniform Traffic Control, for easy rider way-finding through the city bikeway system. The City shall explore the use of sharrows where bicyclists share the road with vehicles.
- Policy LU-1.3: Development Connections
  - The City shall ensure that every project is planned to enhance the physical, visual and social connections to surrounding parcels and to the larger community.

## **TRPA/TMPO ENVIRONMENTAL IMPROVEMENT PROGRAM 2015**

The Environmental Improvement Program (EIP) was developed in 1997 as a partnership to implement projects that protect and improve the natural and recreational resources of the Region. EIP projects are separated into five (5) program areas, including the “Air Quality and Transportation” program area. Bike trail projects are included within that program area in order to create a network of sidewalks, bike lanes and other facilities to create pedestrian and bike-friendly communities. The EIP lists the following active transportation project for the study area:

- Class I path, Class II bike lanes and a sidewalk along Al Tahoe Boulevard from US 50 to Johnson Boulevard

## **SOUTH LAKE TAHOE PARKS, TRAILS AND RECREATION MASTER PLAN 2014**

*The Parks, Trails and Recreation Master Plan* provides direction for enhancing recreation opportunities for residents and visitors by increasing collaborative efforts and focusing resources. Key recommendations include the development of trails to create an accessible, safe and interconnected recreation system. Priority capital projects include the following facilities which are either within or immediately adjacent to the study area:

- Bijou Bike Park (completed in 2015)
- Al Tahoe sports field improvements
- Recreation/Aquatic Center master plan
- County trail projects (along Tahoe Boulevard/US 50)
- South Tahoe Greenway Shared Use Trail extension
- South Lake Tahoe Recreation Area campground upgrades
- South Lake Tahoe Recreation Area shop relocation

## **LAKE TAHOE COMMUNITY COLLEGE FACILITIES MASTER PLAN 2014-2020**

The Facilities Master Plan is a road map to identify strategies to maintain the college’s existing assets while meeting facility needs for future growth. The document describes pedestrian and bike paths to link future facilities with the active transportation network along Al Tahoe Boulevard and the opportunity to improve bike paths through and around the campus. A 5K running path and enhancements to the Nordic ski track and field sports facilities are identified.