

# LAKE TAHOE REGIONAL TRANSPORTATION PLAN FINAL





August 27, 2008

# **Energy Element**

### Reducing Greenhouse Gas Emissions at Lake Tahoe

The Lake Tahoe Region is particularly vulnerable to the impacts of global climate change, just as it is to other environmental impacts. The region's economy is highly dependent on the health of its environmental assets, including its substantial snowpack, a clear lake, and healthy forests, all of which will be negatively affected by warming temperatures.

Emissions from motor vehicles, including cars, buses and boats, are a leading source of greenhouse gas emissions in the Basin. Motor vehicle use has been identified as a major contributor to the loss of clarity of Lake Tahoe, contributing to runoff from roadways and the emission of nitrogen oxides and particulate matter, causing algae growth in the Lake. Since 1982, the TRPA has strived to meet two air quality threshold indicators: Vehicle Miles Traveled (VMT) and traffic counts. Both of these criteria should be reduced to 1981 levels. These threshold indicators are consistent with the goals of California's Global Warming Solutions Act (AB32) of 2006, which specifies that the state must reduce greenhouse gas emissions to 1990 levels by 2020. Vehicle Miles Traveled have been decreasing in the Lake Tahoe Region over the last five years, and traffic counts, which, for the purposes of the threshold indicator, are measured at a location in South Lake Tahoe, are also trending downward.

Because of the air quality thresholds and the intense focus on environmental health in the Lake Tahoe Region, the goals and policies of past regional plans and regional transportation plans have focused on reducing emissions from motor vehicles, and on shifting people out of their cars and into other, lower impact modes such as transit, bicycling, and walking. This Regional Transportation Plan continues this trend, with the majority of policies and projects encouraging transit and pedestrian-oriented development, constructing pedestrian and bicycling facilities, and strengthening the transit system. Those projects that are related to roadway improvements are limited to minor changes such as adding left-hand turn lanes or improving traffic signalization to provide for a more efficient use of the current roadway network. These projects relieve

congestion without widening roadways or adding major capacity for motor vehicles.

Concurrent with the development of this regional transportation plan is a comprehensive revision and update to the regional plan for the Lake Tahoe Region. The regional plan outlines goals and policies for many resource areas in addition to transportation, and will examine land-use and building strategies that can reduce greenhouse gas emissions. The regional plan will include a region-wide analysis that looks at all aspects of the plan with respect to climate change, including transportation.

### Projects that affect greenhouse gas emissions

In the area of transportation, most greenhouse gas emissions are associated with motor vehicle use. Therefore, projects that shift people out of cars and into other, lower-emission alternatives will reduce greenhouse gas emissions. The projects proposed as part of Mobility 2030, the Lake Tahoe Regional Transportation Plan, are grouped below into three categories: projects that will likely reduce greenhouse gas emissions, projects that will likely increase greenhouse gas emissions, and those where the effect on emissions is unclear or may be neutral.

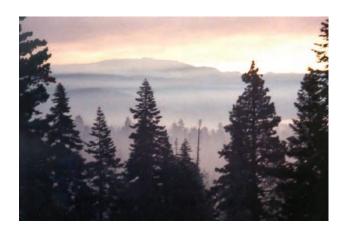
Projects that were placed in the "reduce" category are those that aim to reduce vehicle use or vehicle emissions as a primary goal. For instance, all bicycle trails and pedestrian improvements are considered to reduce emissions, since the primary goals of these projects getting drivers to walk or bicycle for trips they otherwise would have made by motor vehicle, thus reducing air quality emissions. Likewise, capital improvements in bus fleets were considered to reduce greenhouse gas emissions, since one of the main purposes of replacing buses is introducing newer, cleaner technologies to the fleets.

Projects included in the "increase" greenhouse gas emissions category are those that create capacity increases for motor vehicles. These capacity increases are still quite small, compared to those planned in larger, urban areas, but they create additional lane capacity for several thousand feet of roadway in order to alleviate reoccurring congestion

at key points. Aviation service enhancements are also considered to increase greenhouse gas emissions as air travel is one of the most energy-intensive forms of travel.

Projects that are in the "unclear" column include certain transit and roadway improvement projects. These projects may reduce greenhouse gas emissions in some ways, but could increase them in others. New transit services get people out of their cars, but if older buses with out-of-date emissions technology are used to provide that transit service, then ridership must be high enough to outweigh the impacts of the additional bus emissions. As capital improvements are made to bus fleets, however, emissions will be reduced. Likewise, roadway improvements can decrease greenhouse gas emissions by reducing idling times, but at the same time they can increase the capacity of a roadway, allowing and encouraging more vehicles to use the roadway system. The roadway capacity increases in the 2008 RTP are intended to encourage greater flexibility to implement alternative mode options.

As a percentage of total project cost, projects that will likely reduce greenhouse gas emissions are estimated at approximately 57% of expenditures; those that will likely increase greenhouse gas emissions are approximately 1% of expenditures; and those whose effect is unclear make up 42% of expenditures. See Figure 6.6.



## Policies that affect greenhouse gas emissions

Most of the goals and policies in the Regional Transportation Plan focus on reducing environmental impacts of motor vehicles, including emissions of greenhouse gasses.

**GOAL #1 Pedestrian Transit Oriented Development (PTOD)** Plan for and promote land use changes and development patterns consistent with the Regional Plan that encourage the development of walkable, mixed-use centers that support transportation enhancements and environmental improvements while improving the viability of transit systems.

**GOAL #2 Pedestrian/Bicycle Friendly Communities** Design an atmosphere elevating bicycle and pedestrian usage to the primary modes of transportation at Lake Tahoe.

**GOAL #3** Utilization of Intelligent Transportation Systems (ITS). Technology shall be considered, implemented and used to increase usage of alternative modes.

**GOAL #4** Actively pursue programs that promote the use and expansion of mass transit.

**GOAL #5** Participate in state and local transportation planning efforts to ensure coordination and consistency in the transportation system, and to strengthen inter and intra-regional transportation.

**GOAL #7** Develop parking management strategies for the Tahoe Region.

**GOAL #8** Manage and respond to transportation demand through traffic management plans.

**GOAL #10** Improve the mobility of the elderly, handicapped and other transit-dependent groups.

**GOAL #12** Develop an on-going source of regional revenue to fund alternative transportation operations and maintenance.

For the full text of goals and associated policies, please refer to Chapter 2.

Project Strategies	Reduce GG	Increase GG	<u>Unclear</u>	<u>Total</u>
U.S. 50 Bicycle and Pedestrian Improvement Project(s)	\$48,000,000			\$48,000,00
Kings Beach Commercial Core Improvement Project	\$50,000,000			\$50,000,00
State Route 89 Realignment Project		\$50,000,000		\$50,000,00
Tahoe City Transit Center	\$7,000,000			\$7,000,00
U.S. 50 Stateline Corridor Project			\$65,000,000	\$65,000,00
Waterborne			\$14,000,000	\$14,000,00
Transit Strategies				
BlueGo Service Operational Enhancements			\$4,073,400	\$4,073,40
BlueGo Service Capital Enhancements	\$4,740,000			\$4,740,00
BlueGo Maintenance Facility			\$7,000,000	\$7,000,00
TART Service Operational Enhancements			\$813,000	\$813,00
TART Service Capital Enhancements	\$281,300			\$281,30
Lake Lapper Capital			\$30,000	\$30,00
Lake Lapper Operational			\$240,000	\$240,00
Aviation Capital		\$1,500,000		\$1,500,00
Aviation Operational		\$800,000		\$800,00
Bike and Pedestrian Strategies				
Pioneer Trl - from Lake Tahoe Blvd./US Hwy 50 to - Ski Run Blvd	\$3,560,000			\$3,560,00
Harrison Ave - from Lakeview Ave to Los Angelese Avenue	\$450,000			\$450,00
Lake Tahoe Nevada State Park - From Incline Village to Sand Harbor	\$7,920,000			\$7,920,00
Sawmill Rd - from Lake Tahoe Blvd to Us Hwy 50	\$3,680,000			\$3,680,00
Al Tahoe Trl - from Lake Tahoe Blvd/US Hwy 50 to Al Tahoe Trl	\$500,000			\$500,00
_ake Tahoe Blvd - from Sawmill Road to D Street	\$2,100,000			\$2,100,00
JS Hwy 50 - from Cave Rock to Zephyr Cove	\$9,500,000			\$9,500,00
JS Hwy 50 - from Zephyr Cove to Roundhill/Elks Point Trail	\$2,960,000			\$2,960,00
USFS Trl from Spring Creek to Cascade Rd.	\$3,840,000			\$3,840,00
Dollar Hill Trl - from Dollar Hill to N. Tahoe Regional Park	\$6,160,000			\$6,160,00
OLD Hwy 50 ROW - from CSLT City Limits to Douglas County Line	\$6,760,000			\$6,760,00

Figure 6.6

Project Strategies	Reduce GG	Increase GG	<u>Unclear</u>	<u>Total</u>
OLD Hwy 50 ROW - from CSR 89-Meyers to CSLT City Limits	\$9,480,000			\$9,480,000
Lake Tahoe-Nevada State Park - from Incline Village to Sand Harbor	\$990,000			\$990,000
College Drive - from Mt. Rose Hwy to Village Blvd	\$200,000			\$200,000
NSR 207/Kingsbury Grade - from Basin Boundary/Spooner Summit to US Hwy				
50	\$12,320,000			\$12,320,000
Brockway Summit - from Kings Beach/CSR 28 to Brockway Summit	\$1,610,000			\$1,610,000
NSR 28 - from Sand Harbor to Chimney Beach	\$120,800			\$120,800
CSR 89 - from Cascade to N. Emerald Bay	\$196,400			\$196,400
Homewood - from Tahoe Ski Bowl Way to Silver Street	\$2,000,000			\$2,000,000
Incline Village/NSR 28 - from Southwood to Country Club Drive	\$300,000			\$300,000
Nevada South Demo - from Stateline to Round Hill Pines Beach	\$6,000,000			\$6,000,000
Smart Streets - Complete Streets Strategies				
US 50 and Sierra Blvd. Intersection Improvements		\$755,000		\$755,000
US 50 Signal Syncronization (Meyers to Stateline)			\$3,000,000	\$3,000,000
US 50 and Apache Intersection Improvements		\$320,000		\$320,000
Meyers Highway Corridor Operations Study			\$700,000	\$700,000
Tahoe City Traffic Management Program			\$550,000	\$550,000
Intersection Detection Equipment (various Locations)			\$900,000	\$900,000
Changeable Message Signs (Various Locations)			\$2,850,000	\$2,850,000
Sierra Traffic Operation System (TOS) (ITS at Various Locations in CA)	\$5,300,000			\$5,300,000
Traffic Monitoring Stations (various locations)	\$520,000			\$520,000
Bike & Pedestrian Facilities O&M	\$2,000,000			\$2,000,000
Safety and Rehabilitation Projects (Minor Projects-NV)	\$1,800,000			\$1,800,000
Safety and Rehabilitation Projects (Minor Projects-CA)	\$2,800,000			\$2,800,000
Emergency Roadway Repair Program	\$600,000			\$600,000
Total Project/Program Costs in 2008 dollars	\$203,688,500	\$53,375,000	\$99,156,400	\$356,219,900
Percentage of Total Cost	57%	15%	28%	

Figure 6.6 cont.

### **Conclusion**

The main focus of the regional transportation plan is to implement projects that reduce dependency on the private automobile and ultimately reduce environmental and climate impacts. There is, however, a group of projects in the plan for which the environmental impact is as yet unclear. The impact of these individual projects on greenhouse gas emissions will be fully analyzed by project level environmental documentation during project development. Many of these projects provide mobility and social services that are vital to Lake Tahoe communities, such as frequent transit service in low-income neighborhoods. These systems provide the infrastructure necessary to shift people out of private vehicles, and as transit technology improves, will no doubt provide a reduction in greenhouse gases. Overall, the regional transportation plan directs over \$200 million to projects that will reduce greenhouse gas emissions in the Basin from transportationrelated sources over the next 20 years. The plan's strategies and overall policy direction set the stage for a strong focus on reducing greenhouse gas emissions in the Basin.

