



3. Sustainable Communities Strategy



Introduction

Since the development of the Bi-State Tahoe Regional Planning Compact (Public Law 91-148) in 1969 and its amendment in 1980 (Public Law 96-551), those with a stake in Lake Tahoe have engaged in an ever-evolving process of finding ways to both preserve and protect the natural assets of the Region while simultaneously enhancing its economic viability. A common theme through the decades has been an emphasis on reducing dependence on automobiles in order to provide a range of transportation options and reduce the impacts on the environment.

Recently, reducing impacts on the global climate has emerged as a high priority for all communities in California. California's Senate Bill 375 (SB 375) requires metropolitan planning organizations to focus regional land use and transportation policies to reduce greenhouse gas (GHG) emissions from cars and light trucks in order to meet targets established by the California Air Resources Board's Regional Targets Advisory Committee. SB 375 calls for each metropolitan planning organization to develop a Sustainable Communities Strategy (SCS) identifying the transportation, land use, and housing strategies that will reduce regional GHG emissions.

At Lake Tahoe, there are a number of other environmental standards, in addition to the California GHG targets, that are directly tied to vehicle trips and vehicle miles traveled. In presenting the Lake Tahoe Region's Sustainable Communities Strategy, this chapter identifies the programs and investments in the Regional Transportation Plan and the Tahoe Regional Planning Agency (TRPA) Regional Plan that will allow the Region to meet not only the GHG emissions reductions, but all of these environmental targets.

In accordance with SB 375, section 65080(b)(2)(B), this chapter includes the following sections:

Section 3.1: Land Use and Transportation Connection. As required by SB 375, Section 3.1 provides a proposed distribution of land uses in the Region. The land use scenario described here is consistent with the proposed update to Lake Tahoe's Regional Plan. An estimate of GHG emissions reductions attributable to the proposed land use scenario is also included.

Section 3.2: Proposed Transportation System to Meet Forecast Demand. This section identifies the transportation programs and capital investments that will allow the Region to serve the forecast transportation demand while meeting its environmental targets. Brief summaries describe the proposed investments; details are provided in Chapters 4 and 5 of the plan. It also estimates the extent to which each group of investments would reduce per-capita GHG emissions from transportation.

Section 3.3: Regional Housing Needs. Section 3.3 identifies areas within the Region sufficient to house all the population of the

region, including all economic segments of the population. It demonstrates that the proposed land use distribution will accommodate the Regional Housing Needs Assessment (RHNA) under California Housing Element law.

Section 3.4: Meeting GHG, Air Quality, and Water Quality Goals. Section 3.4 presents analysis showing that the proposed transportation and land use changes will allow the Region to reach its major environmental goals. These goals include reducing per-capita GHG emissions to meet the Region's targets under SB 375, and meeting Lake Tahoe Region's own environmental standards. These include TRPA environmental threshold standards and Total Maximum Daily Load (TMDL) water quality targets.

Section 3.5: Protecting Resource Areas. In accordance with the requirements of SB 375, TRPA has identified protected parkland, open space, and natural resource areas.

Section 3.6: *Mobility 2035* Mitigation Strategies. This section describes a multi-faceted approach to mitigating environmental impacts of existing and proposed development in the Lake Tahoe Region. Measures identified in the EIR/EIS process, restoration projects, and the retirement of unused development are combined to provide a coordinated strategy for both the near- and long-term.

Section 3.7: Public Participation in the Sustainable Communities Strategy. SB 375 requires that each metropolitan planning organization engage the community to receive input on the Sustainable Communities Strategy. Section 3.6 summarizes the outreach plan and its execution. Additional details on public participation are provided in Chapter 7.

Section 3.1: Land Use and Transportation Connection

LAND USE PLANNING IN THE LAKE TAHOE BASIN

TRPA and the Region's local governments share responsibility for regulating land use. TRPA's role in land use regulation at the regional level is unique in the United States, established through the *Bi-State Compact*. In this role, TRPA is responsible for creating the *Regional Plan*, which establishes land use regulations for the entire Tahoe Basin. The *Regional Plan* was last updated in 1987, and TRPA is completing the next update of the *Regional Plan* in 2012. The land use plan summarized here is based on the most current planning assumptions and those that are likely to be adopted in 2012. The SCS land use plan is therefore consistent with the Regional Plan update proposal.

Planning for walkable town centers

The *Regional Plan* update proposes to cluster population and employment in relatively compact town centers that are well served by transit, pedestrian, and bicycle infrastructure. It achieves this goal by incentivizing transfers of development into town center planning areas and by requiring all new commercial floor area to be in town centers only.

In these central places, the form, design, and positioning of buildings will be under the jurisdiction of local communities through local community plans. These plans will need to meet the overarching tenets of focusing new development in town centers, and providing environmental benefits through building location and design. The combination of regional goals and local flexibility to design communities is intended to create an environment where walking, biking, and transit are convenient modes of transportation, and residents and visitors need not rely solely on the private automobile for their travel needs. For those who wish to leave their cars to walk, bike, and take transit, centralized parking at lodging properties or in shared lots would provide convenient locations to make the transition onto other modes.

Clustering development in well-designed, mixed-use town centers has a number of benefits, including enhanced community character, improved mobility choice, reduced household transportation expenses, improved community health through increased physical activity, and reduced air pollution and greenhouse gas emissions. Increased pedestrian travel can encourage economic development for local business and promote economic competitiveness. Accommodating development in existing community centers can also reduce the pressure for development in existing open spaces.



Forecast distribution of development

California Government Code 65080(b)(2)(B)(i): Identify the general location of uses, residential densities, and building intensities within the Region.

California Government Code 65080(b)(2)(B)(vii): Set forth a forecasted development pattern for the Region, which, when integrated with the transportation network, and other transportation measures and policies, will reduce the greenhouse gas emissions from automobiles and light trucks to achieve, if there is a feasible way to do so, the greenhouse gas emission reduction targets approved by the state board.

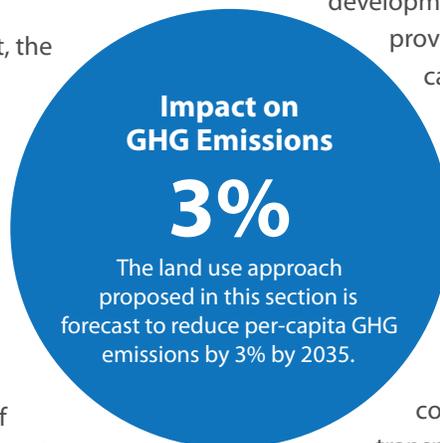
In the TRPA *Regional Plan* update draft, the staff proposal provides allocations for use of existing development rights for new residential units to Tahoe communities at a rate of 130 per year, Region-wide over the 20-year life of the plan. These residential units may be used on remaining developable parcels in each jurisdiction. In addition, the *Regional Plan* update draft makes available a total of 600 new “Bonus Units” (dedicated to multi-family, affordable, or moderate-income housing), over the life of the plan, plus 874 Bonus Units left over from the 1987 *Regional Plan*. These Bonus Units may be distributed to any jurisdiction for qualifying development, and may only be used in plan areas designated as town centers.

In addition, Bonus Units may be used to incentivize transfers of development rights and existing development from sensitive parcels and parcels far from town centers. Transfer ratios vary based on the distance from the town center and the level of sensitivity, and whether the transferring parcel has existing development or not. For instance, a developed parcel

which is in a stream environment zone and is more than 1.5 miles from a town center would have the highest transfer ratio, of 1 to 6—that is, for transferring one unit of existing development, a property owner would receive 5 bonus units. (For more details on transfer ratios, see the Modeling Methodology in the Appendix.)

Residential densities will be up to 25 units per acre in town centers. An additional 342 tourist accommodation units and 583,600 square feet of commercial floor area (CFA)¹ could also be built, almost all of which will be built in town centers.

The possibility of reducing the development footprint in the Lake Tahoe region through an innovative development rights transfer program could provide for significant reductions in per capita GHG emissions from private vehicles and can be complemented by the development of a land acquisition program that retires, or in some cases transfers, excess development rights. TMPO supports the development of such a program by partners, including the consideration of necessary commodities to support proposed transportation investments. Acquisition programs have had past success in the Tahoe region, increasing public land ownership from 50% in 1982 to 90% in 2010 and resulting in environmental improvement. This type of program would be an ideal candidate for various potential revenue sources such as California “Cap and Trade” funding, private sector, and other sustainability funding programs.



¹ 342 Tourist Accommodation Units and 383,000 square feet of commercial floor area are already permitted under existing regulations. An additional 200,000 square feet of CFA would be permitted under Alternative 3.

Figures 3-2 and 3-3 illustrate the existing and forecast pattern of residential development in the Tahoe Region. Figure 3-3 shows the slightly denser, more compact nature of the TRPA Regional Plan draft staff proposal. Figure 3-1 shows projections for population, employment, and housing. Detailed policies and programs related to the future land use pattern can be found in the draft Land Use Chapter of the Goals and Policies of the Regional Plan Update.

Figure 3-1 Region-wide Population, Employment, and Housing Projections

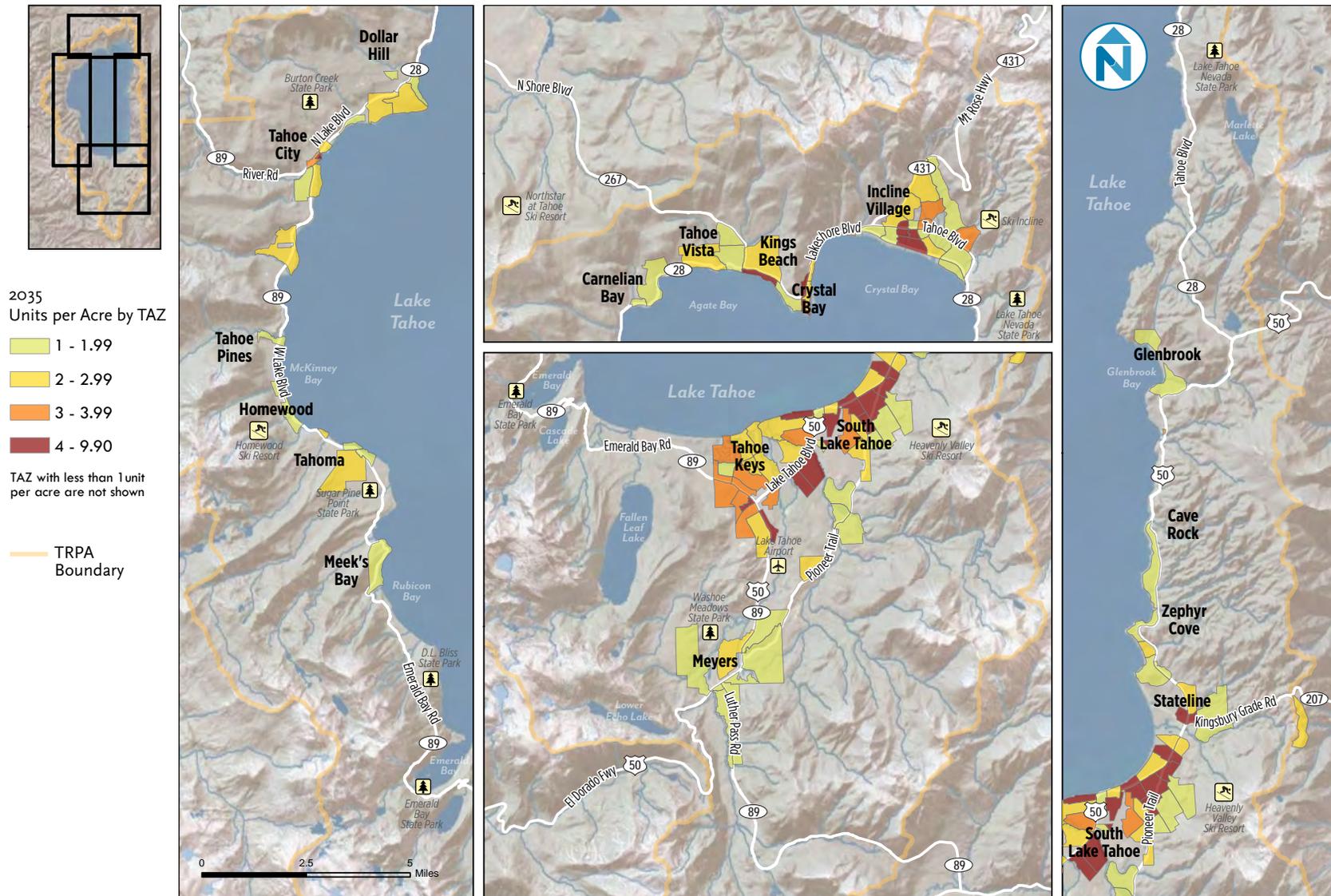
	2010	2035
Population	54,473	60,365
Jobs (Payroll Employees)*	22,605	23,804
Total Housing Units	47,392	51,552

* Number of jobs (payroll employees) excludes businesses with one or two employees

Source: TRPA Transportation Model



Figure 3-3 Forecast Distribution of Residential Development (2035)



Section 3.2: Transportation System to Meet Forecast Demand

California Government Code 65080(b)(2)(B)(iv): Identify a transportation network to service the transportation needs of the Region.

As the population of the Lake Tahoe Region increases slightly and as populations outside the Region continue to shift, there will be changes in transportation demand in the Region. Figure 3-4 identifies forecast changes in Region-wide population, total daily trips by all modes, and vehicle miles traveled (VMT).

This section summarizes the transportation system investments that the Region has planned to meet this forecast demand while also meeting its goals for livability, sustainability, and economic vitality. These investments, which are consistent with the Regional Plan Update proposal, incorporate complete streets design, multimodal options (bicycle travel, walking, transit), information technology, and transportation demand management strategies. They are summarized briefly below, shown on the map in Figure 3-5, and detailed in Chapter 4, *Existing and Planned Transportation System* and Chapter 5, *Transportation Management Programs*.

TRANSPORTATION CAPITAL INVESTMENTS

The Lake Tahoe Region’s transportation system is made up of regional roadways and local streets, sidewalks and bike paths, bus systems, water transit, and an airport.

Together, these facilities frame the Basin’s public spaces, link its communities and connect them to neighboring Regions, and shape the daily lives of residents, workers, and visitors. Chapter 4 of this plan describes in detail and illustrates the planned investments in the transportation system.

Highlights include:

- **Corridor revitalization:** The Region has identified a group of investments that aim to improve the network of streets and roadways. They include projects and programs that benefit users of all modes of travel, as well as projects that are focused on improving the efficiency and safety of local and regional streets as vehicle through-routes.
- **Pedestrian and bicycle facilities:** Through its Bicycle and Pedestrian Plan, the Region has outlined a program of investments to create an integrated network of pedestrian and bicycle paths. These facilities include bicycle lanes and sidewalks, as well as paved, multi-use paths. The planned shared-use path projects would fill many of the remaining gaps around the Lake Tahoe Region, bringing pedestrians and cyclists closer to the goal of being able to travel almost anywhere around the Lake on facilities separated from vehicle traffic.
- **Transit facilities and services:** The Region’s transportation agencies have both capital investments and service changes planned to enhance transit service in the Basin. These include investment in waterborne transit facilities and service; operational enhancements for BlueGO and TART; establishment of a new transit service on the east shore of Lake Tahoe; and enhanced vanpool service for commuters.

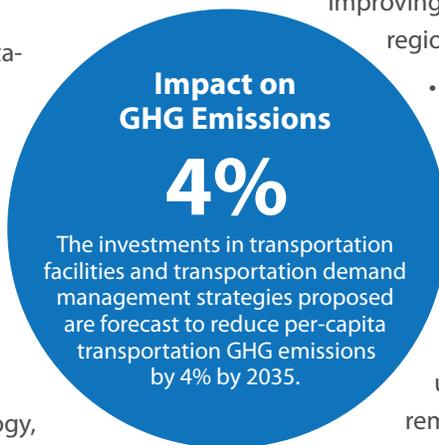


Figure 3-4 Forecast Transportation Demand

	2005	2020	2035
Region-wide Population	55,233	58,049	60,365
% Change in Population from 2005		5.1%	9.3%
Total Daily Trips by All Modes	337,956	341,852	372,152
Vehicle Miles Traveled	2,079,849	2,071,599	2,131,000
% Change in VMT from 2005		-3.9%	+2.5%

Source: TRPA Transportation Model. See Appendix for Modeling Methodology.

Transportation Management Programs

TRANSPORTATION DEMAND MANAGEMENT

Transportation Demand Management (TDM) programs make it easier for travelers to shift some trips from driving alone to transit, bicycling, walking, and carpooling. Chapter 5 of this plan describes the Transportation Demand Management (TDM) strategies that the Region will use to maximize system efficiency.

The *Employer Trip Reduction Ordinance* requires large employers to implement reduced commute trips by their workers. While the Ordinance is in effect and most large employers participate in the program, there is more that could be done to improve trip reductions at large employment sites. Under this plan, TRPA will work with large employers to enhance participation. As a companion to the Trip Reduction Ordinance, the *BlueCommute Program* provides supporting marketing and training services. The program was in effect several years ago, but the strategies need rejuvenation to appeal to a broader audience. Under this plan, TMPO will invest in updating this program.

Mobility 2035 also includes public information campaigns to educate visitors and residents on the convenient multi-modal options available to them to reduce their environmental footprint. Finally, it proposes a collaboration between TMPO and the Region's localities to develop parking management programs.

Transportation System Management

Transportation System Management (TSM) refers to a group of strategies that work together to improve safety and traffic operations, and maximize the performance of the existing roads infrastructure. Investments to manage vehicle traffic have the potential to moderate vehicle speeds, reduce congestion, promote safety, and in some cases reduce emissions. Chapter 5 of *Mobility 2035* describes the Transportation System Management strategies that the Region will use to maximize efficiency. Highlights include improvements to signal timing, traffic monitoring stations, roadway rehabilitation, and real-time travel information for both motorists and transit users.

Section 3.3: Accommodating the Region's Housing Needs

California Government Code 65080(b)(2)(B)(ii): Identify areas within the Region sufficient to house all the population of the Region, including all economic segments of the population, over the course of the planning period of the Regional Transportation Plan taking into account net migration into the Region, population growth, household formation and employment growth.

California Government Code 65080(b)(2)(B)(iii): Identify areas within the Region sufficient to house an eight-year projection of the regional housing need for the Region pursuant to Section 65584.

Local governments play a vital role in the supply and affordability of housing. California Housing Element law mandates that local governments plan to meet the existing and projected housing needs of all economic segments of the community. California jurisdictions must adopt housing element updates that demonstrate accommodation of an eight-year projection of housing need, called the Regional Housing Needs Assessment (RHNA). For Lake Tahoe, the projection of housing need is set by the Sacramento Area Council of Governments (SACOG), in consultation with the TMPO. The RHNA requirements apply only to the portions of the Lake Tahoe Region that are in California.

The passage of SB 375 strengthened the linkage between Regional Transportation Plans and the Regional Housing Needs Assessment. SB 375 requires that the land use plan in the Sustainable Communities Strategy accommodate the regional housing needs requirements; i.e., it should not prevent local jurisdictions from meeting their housing requirements. SACOG approved the 2013-2021 RHNA for the California side of the Tahoe Basin in December 2011.

The regional housing needs requirements for Tahoe's California jurisdictions are shown in Figure 3-6. The Sustainable Communities Strategy must allow local

Figure 3-6 Allocation of New Housing by Jurisdiction

Jurisdiction	Total Housing Units RHNA Requirement	Total Housing Units Lake Tahoe SCS allocation ²	Very Low + Low Income RHNA Requirement	Very Low + Low Income Lake Tahoe SCS allocation
Placer County (Tahoe portion)	328	562	154	n/a
El Dorado County (Tahoe portion)	480	654	225	n/a
City of South Lake Tahoe	336	605	92	n/a
Total	1,144	1,821	471	1,474 ³

jurisdictions to provide enough housing to meet the total housing allocation (column 1), as well as the allocation for “low” and “very low” income households (column 3)⁴. Columns 2 and 4 in the table show that the Lake Tahoe SCS is expected to provide more than enough total housing units, as well as housing units that are available to be constructed as affordable to households defined as “low” or “very low” income. To meet the “low or very low” requirement, the draft *Regional Plan* update includes 1,474 “bonus units,” or permissions to build multi-family, affordable, or moderate-income housing in town centers over the life of the plan. All jurisdictions have an equal opportunity to utilize the bonus units.

In an effort to incentivize the construction of affordable housing the TRPA Regional Plan proposes to set aside a certain number bonus units specifically for use in affordable housing projects. As described above, under “Forecast Distribution of Development,” other bonus

units may be used for affordable housing as well. Although a sufficient quantity of bonus units are available to be constructed as affordable housing, market viability can have a significant impact on the likelihood that units are actually constructed as affordable. Planners, developers, local jurisdictions and affordable housing advocates must maintain an on-going dialogue to hone new and existing development policies, and monitor the effectiveness of incentives to support a diversity of housing types.

Section 3.4: Meeting GHG, Air Quality, and Water Quality Goals

This section presents analysis showing that the proposed transportation and land use changes will allow the Region to reach its major environmental goals—both local goals for air and water quality, and GHG emissions reduction goals as established under SB 375.

The *Bi-State Compact* requires that the goal of transportation planning shall be to reduce dependency on the automobile and, to the extent feasible, reduce air pollution caused by motor vehicles. Since adoption of the Compact, TRPA has monitored compliance with several environmental threshold standards and Total Maximum Daily Load (TMDL) water quality targets. This section reports performance with respect to these threshold standards. To these long-standing environmental goals, SB 375 added the goal of reducing per-capita GHG emissions. This goal is entirely consistent with the Region’s own goals.

² The SCS overall allocation is based on the ratio of development rights remaining in each jurisdiction times the number of allocations that will be available over the 8-year period (under the TRPA Regional Plan staff proposal this would be 130 allocations x 8 years = 1,040 allocations), plus bonus units. Total development rights by jurisdiction is taken from the TRPA PARCEL_APO database. City of South Lake Tahoe=1,218 (28% of total); El Dorado County=1,412 (38%); Placer=1,051 (27%), Nevada Counties=410 (7%). Total development rights= 4091. Bonus units available for each jurisdiction for the purposes of this table are calculated as the total number of bonus units available over the entire life of the plan, divided evenly between the five jurisdictions (295 units per jurisdiction). Each jurisdiction has an equal opportunity to obtain bonus units, however, and is not limited to 295 units.

³ 874 remaining bonus units from the 1987 plan plus 600 new bonus units.

⁴ Defined as households with household incomes less than 80% or 50%, respectively, of the area median income (AMI)

Figure 3-7 Total Daily California VMT and Greenhouse Gas Emissions per Capita

	2005	2020	2035
Population Forecasts for the California portion of the Tahoe Region	41,213	43,934	45,468
SCS Forecast			
VMT per capita	23.04	21.06	22.39
Total Daily VMT	949,750	925,150	1,017,955
Total Daily CO ₂ equivalents (short tons) ⁵	460	431	471
CO ₂ per capita (lbs)	22.3	19.6	20.7
% Reduction in CO ₂ per capita from 2005 values		12.1%	7.2%

REDUCING GREENHOUSE GAS EMISSIONS FROM TRANSPORTATION

Global climate change is a major threat to the future of the Lake Tahoe Region, where the quality of life and health of the recreational economy depends heavily on the health of the lake, forests, and snowpack. Local and regional governments have an important part to play in reducing and mitigating this threat. Under California Senate Bill 375, regions in the state are required to create a transportation and land use plan that will lead to reduction in CO₂ emissions from cars and light trucks in California counties.

In comparison to the approximately 2 million miles driven daily Region-wide, currently, drivers to, from, and within the California portions of the Lake Tahoe Region drive approximately 950,000 miles per day, generating approximately 103,000 metric tons of CO₂ emissions per year. Based on its authority under SB 375, the California Air Resources Board (ARB) set a requirement that the Tahoe Region create a plan to reduce CO₂ emissions from cars and light trucks by 7 percent per capita by 2020, and 5 percent per capita by 2035, as compared to the 2005 base year.

In order to determine whether or not the Tahoe Region will meet these targets, the TMPO has conducted an analysis of the impacts to Lake Tahoe baseline emissions (California side only) of the anticipated land use pattern⁶

⁵ EMFAC2011

⁶ The land use pattern modeled is TRPA's currently proposed Alternative 3.

combined with the set of transportation strategies outlined in *Mobility 2035*. For more details on the modeling methodologies, please see the Appendix.

The results of the analysis are shown in Figure 3-7. This figure shows that investments in sustainable transportation systems and land use patterns spelled out in this plan are sufficient to reduce forecasted GHG on the California side of the Basin by the targeted amount. Despite a gradual increase in total vehicle miles traveled as a result of moderate population growth and economic recovery, per capita, GHG would be reduced from 2005 values by 12.1 percent by 2020 and by 7.2 percent by 2035.⁷

TRPA AIR QUALITY AND WATER QUALITY THRESHOLD STANDARDS

Three of the TRPA air quality threshold indicators are directly associated with vehicle travel: US 50 Traffic Volumes, Vehicle Miles Traveled (VMT), and Atmospheric Nutrient Loading. Both VMT and Atmospheric Nutrient Loading also relate to water quality. The trends for traffic volumes and VMT are listed here, while information on atmospheric nutrient loading is provided under the "Clean Water Act Compliance, Total Maximum Daily Loads" heading, later in this section.

⁷ The greenhouse gas reductions per capita are greater in 2020 than in 2035 because the Tahoe Region is expected to reach build-out around 2030. At that time, the population will remain the same but visitor vehicle miles traveled will continue to increase slightly as new commercial floor area is constructed.

In Focus: Reducing Emissions through New Technology

In addition to reducing trips, changing the region's vehicle fleet mix to cleaner technology will help reduce GHG emissions. Improvements to fuel technology in the United States, and particularly California, are anticipated as a result of federal and state fuel economy standards. In addition, there are local measures that can be taken to improve fuel efficiency. As part of the Regional Plan Update draft, the TRPA staff proposal includes a new policy to incentivize rentals of low-emission vehicles through its Rental Car Mitigation Program. Purchase of low-emission vehicles by residents could also be encouraged through a public information campaign.

Example: Nevada's Electric Vehicle Infrastructure Readiness Task Force

In response to growing interest in electric vehicles, the State of Nevada has developed a program to position the state at the forefront of the new electric vehicle economy. The Electric Vehicle Infrastructure Readiness Task Force is a statewide initiative, co-chaired by the Nevada Department of Transportation (NDOT) and the Nevada Department of Energy. The task force is working to update codes/standards, test drive vehicles, analyze fleet vehicle adoption, and consider other issues related to the transition from gasoline to electricity. The task force hopes to not only build out local electric vehicle support infrastructure within specific state regions, but also "electrify" the tourist corridors on Interstate 15 and Interstate 80. One approach being explored is to establish electric vehicle car share pods in more urbanized areas, so that tourists arriving in larger cities via public transit can use electric shared vehicles for shorter local trips.

As shown in the table, the investments in sustainable transportation systems and land use patterns spelled out in this plan are sufficient to reduce forecasted GHG on the California side of the basin by the targeted amount.



VEHICLE MILES TRAVELED (VMT)

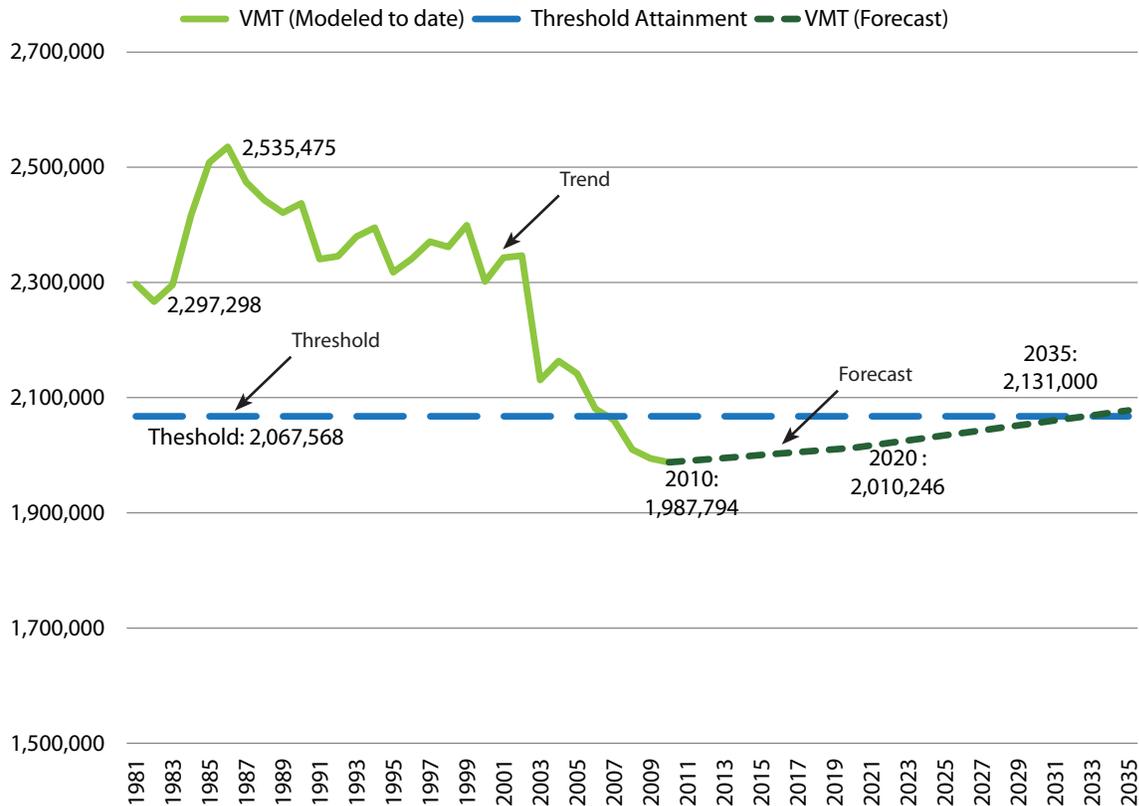
TRPA adopted the Vehicle Miles Traveled Threshold standard in 1982 as an air quality threshold, although the indicator relates to water quality as well. The indicator states that there shall be a 10 percent reduction in vehicle miles traveled below the 1981 peak summer day levels. In 1981, peak summer day VMT was determined to be 2.3 million miles. Therefore the attainment level for this indicator is 2.07 million miles.⁸

⁸ Vehicle Miles Traveled is a modeled value that is calculated approximately every five years using travel demand software programs. As the original 1981 VMT value was based on an early traffic modeling program, it is not directly comparable to the VMT results of TRPA's most recent TransCAD modeling software. To provide a valid comparison to the threshold standard using traffic counts, the 1981 value has been updated here to correlate with the current TransCAD output. The 1981 value was updated by developing a ratio between cumulative traffic counts from 20 count stations around the basin in 2010 and the traffic counts from those same stations in 1981. This ratio was then applied to the 2010 VMT to obtain a 1981 VMT value.

As discussed in Chapter 1, Regional Trends and Performance Measures, as a result of the decrease in traffic volumes, modeled vehicle miles traveled by passenger vehicles per weekday in the Region are shown to have decreased from a peak of 2.54 million miles per day in 1985 to 2 million in 2010, bringing the Region into compliance with the TRPA threshold standard.

However, as illustrated in Figure 3-8, total VMT are forecast to increase gradually over the coming decades, driven by a recovery in the visitor economy and moderate population growth, approaching the threshold standard by 2035. Continued investment in improved transportation choices will be required to keep the Region below the threshold standard for VMT as the economy improves.

Figure 3-8 Daily Vehicle Miles Traveled, 1981 - 2009



Source: Draft 2011 TRPA Threshold Evaluation

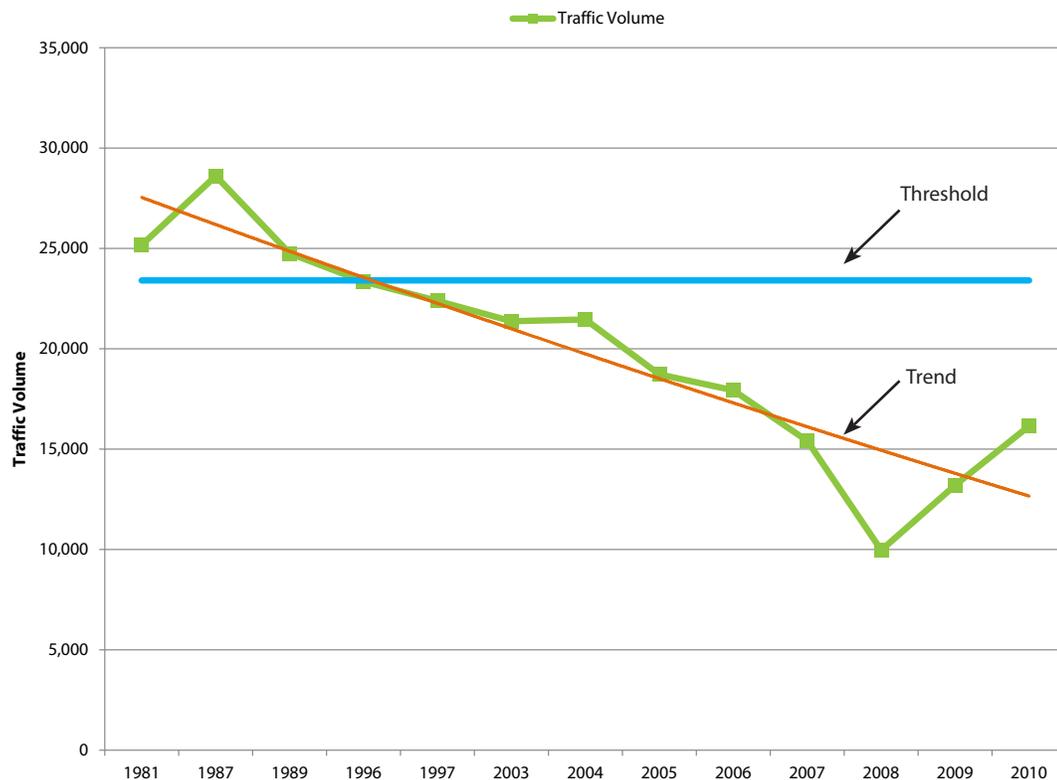
TRAFFIC VOLUME ON US HIGHWAY 50

TRPA established threshold standards for traffic volume to reduce the level of carbon monoxide (CO) in the Region. Although this indicator was originally developed to specifically target CO reductions, it remains an important indicator for other air quality related thresholds because a number of these thresholds are affected by vehicle traffic.

The indicator for the TRPA traffic volume program states that there shall be a 7 percent reduction in the daily traffic volume on the US 50 corridor from the 1981 values. This equates to a directional daily traffic count of less than 23,411 vehicles. TRPA evaluates this indicator by measuring the traffic volume on Saturday of the Presidents' Day Holiday weekend between 4:00 p.m. and 12 a.m. (midnight) at a site immediately west of the intersection of Park Avenue in the City of South Lake Tahoe.

Traffic volumes have decreased by about 12,000 vehicles between 1981 and 2009. The Region has not exceeded the threshold standard since 1989. The short-term trend (2005-2009) shows a continual decrease (apart from a jump in 2009), from approximately 10,000 to 13,000 daily vehicle trips. Figure 3-9 shows the trend since 1981.

Figure 3-9 US Highway 50 Traffic Volumes 1981 - 2009



Source: Caltrans Traffic Counts, TRPA Draft 2011 Threshold Evaluation Report

Note: Forecast values are not shown because the Transportation Model does not generate data at this level of specificity.

CLEAN WATER ACT COMPLIANCE: LAKE TAHOE TOTAL MAXIMUM DAILY LOADS

Section 303(d) of the Clean Water Act requires states to compile a list of impaired water bodies that do not meet water quality standards. The Clean Water Act also requires states to establish Total Maximum Daily Loads (TMDLs) for the primary pollutants for such waters. Lake Tahoe is an impaired water body; the primary pollutants causing its degradation are phosphorus, nitrogen, and sediment.

The Tahoe TMDL establishes strategies for reducing these pollutant loads so that Lake Tahoe can meet a deep water transparency standard (Secchi depth) of 97.4 feet (29.7 meters). There are two sets of strategies that affect transportation projects: reducing roadway runoff from the urban uplands and reducing atmospheric nitrogen from vehicle emissions.

Reducing roadway runoff is the responsibility of local jurisdictions and state departments of transportation. Each of these entities in the Tahoe Region is in the process of developing TMDL Load Reduction Plans to meet their assigned waste load reduction allocations. The Regional Transportation Plan will provide a supportive role to local jurisdictions and departments of transportation as they develop and implement these plans, and will help to coordinate funding sources and other local projects to facilitate completion of these water quality improvements.

The TMDL relies on the TMPO and TRPA's air quality and transportation plans to manage the load of nitrogen to the atmosphere from mobile sources. The TMDL anticipates that these plans will result in a Basin-wide nitrogen load reduction of at least 1 percent within 15 years⁹. Based on the proposed RTP strategies to reduce vehicle miles traveled and the anticipated improvements in vehicle emissions technology documented in California's EMFAC2011 model, the TMPO expects the reduction to dramatically exceed the 1 percent target.

⁹ Nevada Division of Environmental Protection Final Total Maximum Daily Load Report, approved by the US EPA on August 7, 2011; and the California Final Total Maximum Daily Load Report, approved by the US EPA on August 16, 2011.

FEDERAL CLEAN AIR ACT AND CALIFORNIA CLEAN AIR ACT COMPLIANCE

California Government Code 65080(b)(2)(B)(viii): Allow the Regional Transportation Plan to comply with Section 176 of the federal Clean Air Act.

Under the federal Clean Air Act, TRPA and the U.S. Department of Transportation must determine that the Regional Transportation Plan conforms to the State Implementation Plan for air quality. Conformity means that transportation activities will not create or worsen air quality violations, or delay the attainment of air quality standards. The conformity analysis, which for *Mobility 2035* focuses only on carbon monoxide, is included in the Appendix and in the Environmental Impact Report/ Environmental Impact Statement.

The analysis of *Mobility 2035's* impact on California air quality indicators is also addressed in the environmental impact report in accordance with the California Environmental Quality Act.



Section 3.5: Protecting Resource Areas

California Government Code 65080(b)(2)(B)(v): Gather and consider the best practically available scientific information regarding resource areas and farmland in the Region as defined in subdivisions (a) and (b) of Section 65080.01.

While it is home to over 50,000 full-time residents and a destination for millions of visitors, the Lake Tahoe Basin is also a precious natural environment. Protecting the health of Lake Tahoe and the surrounding wilderness areas is a fundamental responsibility of the Region's public agencies as well as each citizen and visitor. Beginning with the *Bi-State Compact*, an understanding of this responsibility has guided public policy in the Region.

In accordance with the requirements of SB 375, TRPA has identified protected parkland, open space, and natural resource areas (SB 375 also requires that the Region identify farmland and mineral resource areas, however, the Tahoe Region does not have these

types of land uses). Parkland, open space, and natural resource areas were identified using the best available information from TRPA resource databases. Currently, approximately 85 percent of the Region's land area is in public ownership and is managed by the U.S. Forest Service, the California Tahoe Conservancy, California or Nevada State Parks, or other public land management agency, and has protection as public and open space or natural resource area.

Figure 3-10 shows the distribution of parks, recreation areas, and protected natural resource areas.

PROTECTING THE REGION'S NATURAL HABITATS AND RARE, THREATENED, ENDANGERED, AND CEQA SENSITIVE SPECIES

Natural habitat and rare, threatened, and endangered species are protected in the Lake Tahoe Region by the federal Endangered Species Act, the California Environmental Species Act, and the TRPA *Code of Ordinances*. Figure 3-11 identifies protected and buffer areas for wildlife species which are of concern when planning new transportation or development projects.

Figure 3-10 Parks and Protected Natural Resource Areas

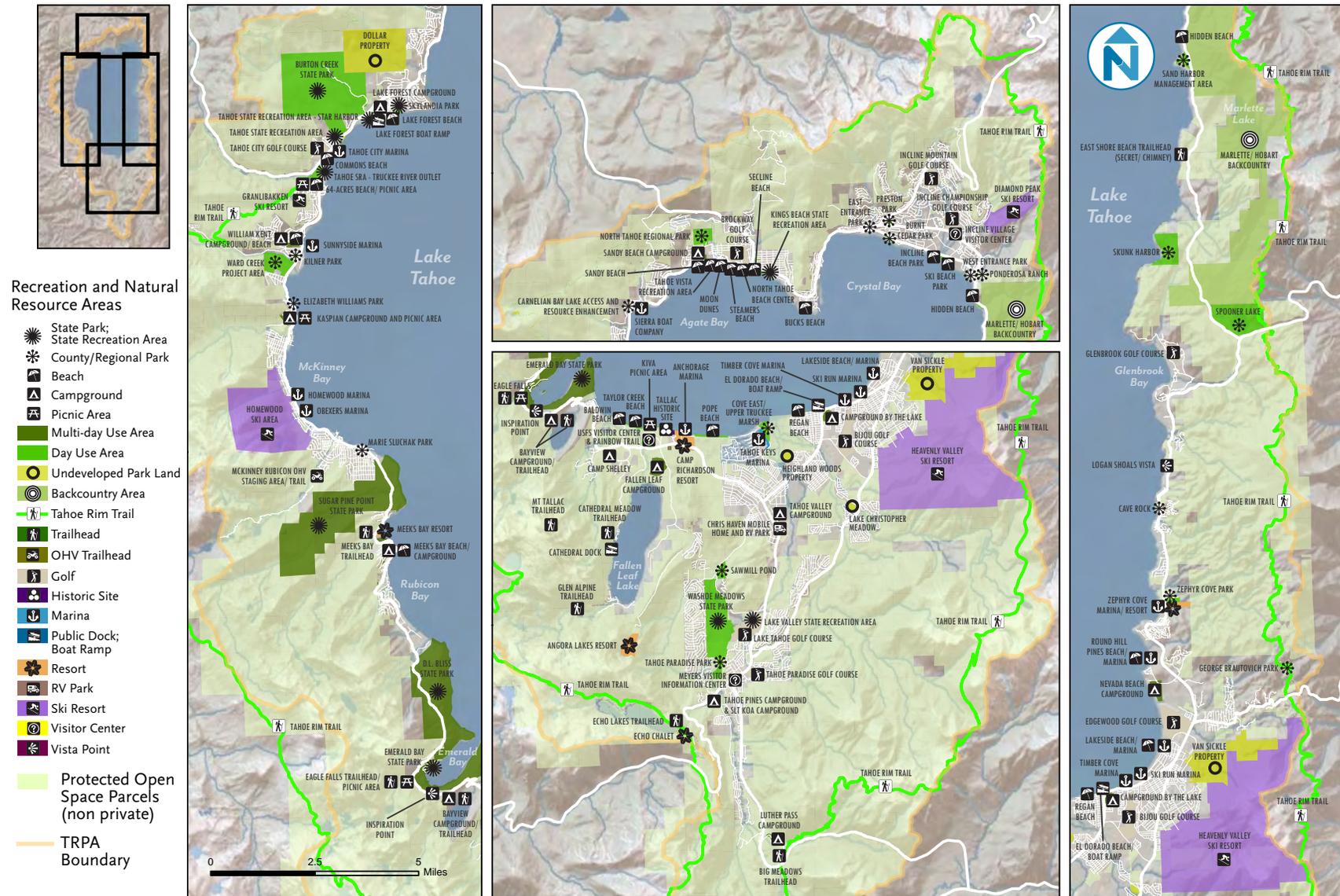
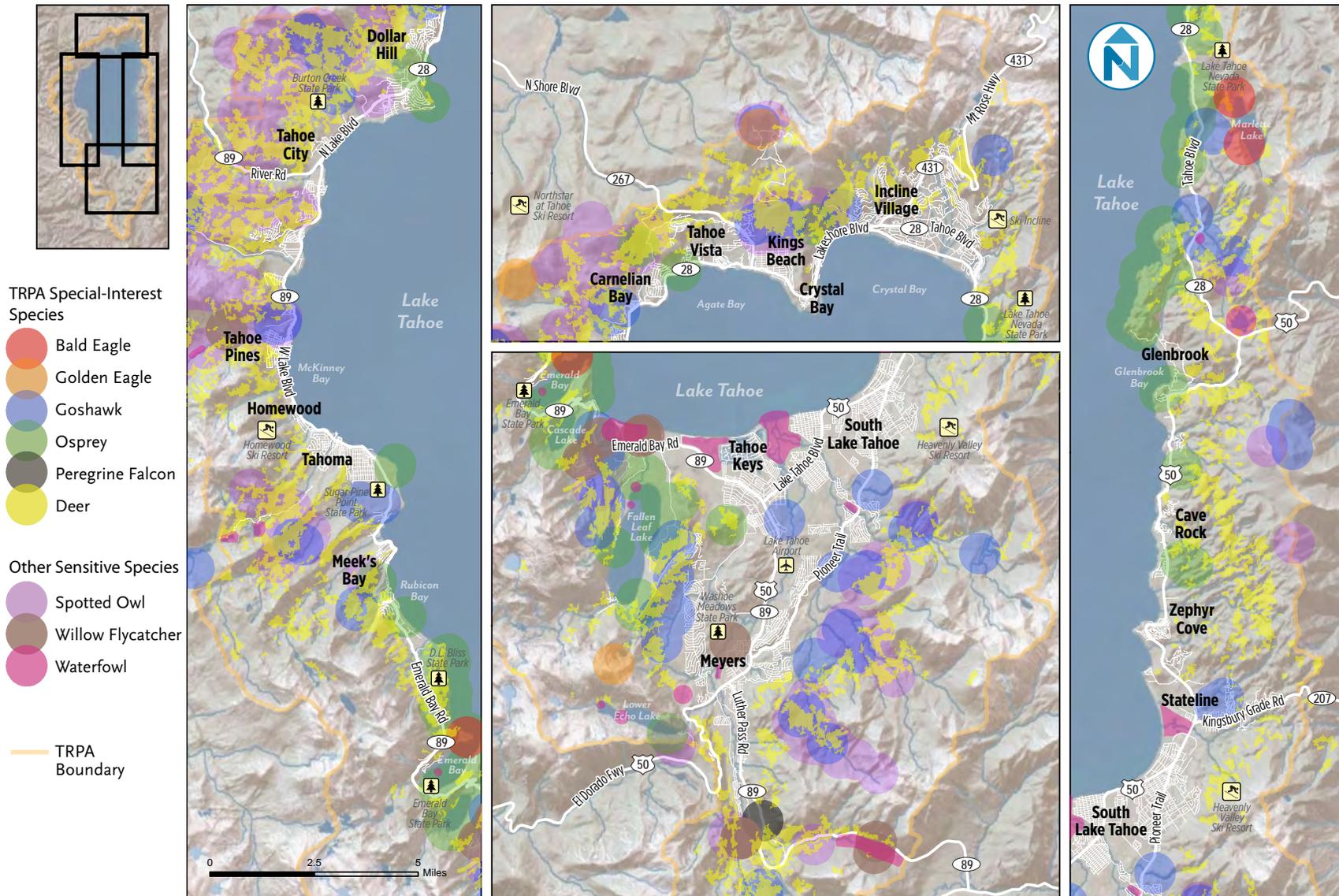


Figure 3-11 Protected Areas for Endangered, Threatened, or Sensitive Wildlife



Sensitive plant communities, while not depicted here, are provided protection through other designations, such as prohibitions on development in stream environment zones. The following chapters of the TRPA Code of Ordinances identify protections specific to Lake Tahoe:

Chapter 30 – Land Coverage

Chapter 61 – Vegetation Protection and Forest Health

Chapter 62 – Wildlife Resources

Chapter 63 – Fish Resources

When considering natural habitats and endangered species, project and plan proponents work closely with the U.S. Forest Service and TRPA to identify protected habitats and ensure that projects do not encroach upon them.

CONSIDERING AREAS SUBJECT TO FLOODING

The TRPA Code of Ordinances also sets rules with regards to development in the 100-year flood zone. Section 35.4 of the TRPA Code regulates development within the 100-year flood zone, shown in Figure 3-12.

Section 3.6: *Mobility 2035* Mitigation Strategies

23 CFR part 450.322(f)(7): A discussion of types of potential environmental mitigation activities and potential areas to carry out these activities, including activities that may have the greatest potential to restore and maintain the environmental functions affected by the metropolitan transportation plan.

Mobility 2035 is a comprehensive transportation planning document that contains a strong link to regional land use policy through its Sustainable Communities Strategy, and in itself provides important mitigations for existing and proposed development in the Lake Tahoe Region. Through the process of developing the RTP/SCS, the TRPA and the TMPO identified multiple activities to protect environmental functions of the Region. These include specific mitigations identified through a detailed Environmental Impact Report/Environmental

Impact Statement (EIR/EIS) for the RTP/SCS¹⁰, conducting large-scale restoration projects that can be used to mitigate cumulative impacts of transportation and land use projects, and new public-private partnerships to retire unused development. Each of these concepts is described in greater detail below.

ENVIRONMENTAL MITIGATION IDENTIFIED IN THE EIR/EIS

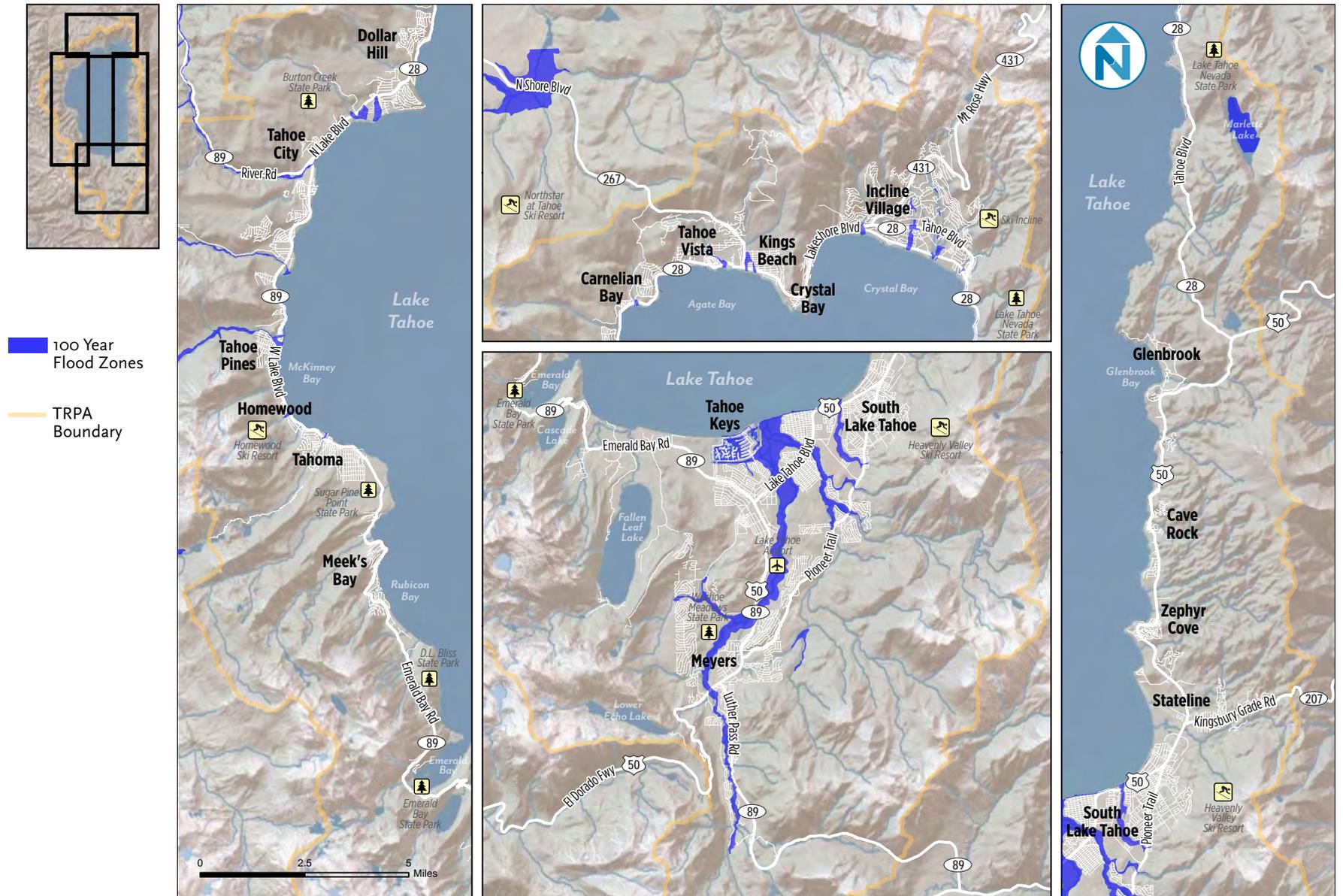
The main impacts tied to the RTP/SCS identified in the environmental document were construction-related impacts and impacts of new development on traveler delay and vehicle miles traveled. In mitigating the RTP/SCS, the TMPO will coordinate with the TRPA on development of several mitigation programs. These include programs that would be applied on a project-by-project basis, as needed, including a program to develop best construction practices, and a program to monitor and forecast travel delay and VMT in four-year intervals, addressing potential exceedences of TRPA standards through the implementation of non-motorized improvements, roadway system management, and the phased release of land use allocations.

RESTORATION TO MITIGATE CUMULATIVE IMPACTS

Mobility 2035 identifies a program of transportation projects, that, when implemented, have the potential to create significant benefits to the Region by providing a connected, coordinated, seamless transportation system that supports bicycling, walking, transit use, goods movement and efficient roadway management for drivers and other roadway users. By studying the set of financially constrained projects, the TMPO and partner implementing agencies, such as the Tahoe Transportation District, local jurisdictions, and state departments of transportation, have the opportunity to explore large-scale restoration projects that can serve to mitigate the impacts of more than one project at a time. Examples of locations where these types of mitigation activities could take place are in sensitive

¹⁰ See the *Mobility 2035 Regional Transportation Plan/Sustainable Communities Strategy Environmental Impact Report/Environmental Impact Statement*, www.tahoempo.org.

Figure 3-12 100-Year Flood Zone



areas, such as stream environment zones, areas of scenic disturbance, or high quality habitat areas as identified by the TRPA GIS database. Mitigation projects could include purchase and restoration of aging development that was placed in a stream environment zone, improvements to a scenic corridor, or improving nesting habitat for special-interest species. The TRPA and the TMPO coordinate to share the significant mapping resources available for the Tahoe Region, allowing the TMPO to identify targeted areas for this type of mitigation.

Also, the TRPA, through its Environmental Improvement Program (EIP), has identified the areas where environmental restoration would have the most benefit for the Region. Implementing agencies such as Caltrans, NDOT, and local jurisdictions have been completing projects on the EIP, and work is continuing on remaining projects. These projects also serve as important mitigation for impacts to the Region caused by development, and future mitigations can tie back to these projects and identified areas.

DEVELOPMENT RIGHTS TRANSFER AND RETIREMENT PROGRAM

As mentioned earlier in this chapter, the possibility for public and private entities to work together to find sources of funding to retire unused development is another opportunity for mitigation and restoration of sensitive areas. Much of the early commercial and motel development at Lake Tahoe occurred in environmentally sensitive areas. Now many of these units are underused and outdated, and the focus of the Regional Plan is to shift development to town centers, where environmental impacts are reduced through sharing of resources, such as parking, and business owners can benefit from the close proximity of other land uses. Identifying sources of funding that can be used to retire, or, in some cases transfer this development could lead to significant opportunities for restoration and environmental protection.

The identification of these three potential types of mitigation is an important step in carrying out a coordinated, proactive mitigation strategy for *Mobility 2035* and the transportation system that it envisions.

Policies to target environmental restoration through transportation projects highlight areas that would most benefit from restoration and ensure that future projects carry this restoration through future environmental analyses and mitigation programs.

Section 3.7: Public Participation in the Sustainable Communities Strategy

California Government Code 65080(b)(2)(E): Each metropolitan planning organization shall adopt a public participation plan, for development of the sustainable communities strategy.

In July 2010, the TMPO updated its Public Participation Plan to include new guidance for additional outreach related to the Sustainable Communities Strategy. Additional outreach includes workshops and hearings throughout the Region to provide the public, elected officials, and other stakeholders with a “clear understanding of the issues and policy choices.”¹¹

As part of the update of both the *Regional Transportation Plan* and the *Regional Plan*, and in accordance with its Public Participation Plan, TRPA and TMPO have conducted a robust, on-going public process for soliciting public input on the land use and transportation policies highlighted in this chapter. Beginning in 2005, TRPA and TMPO engaged the public in a collaborative visioning process that included place-based planning workshops in local communities, a planning forum made up of community members and agency partners, and extensive civic outreach to gather public input about the aspirations for the future of the Tahoe Region. This process continued with stakeholder meetings to give input on specific goals, policies, and implementation measures proposed for the *Regional Plan*.

At the beginning of November 2011, the TMPO conducted public workshops to receive direct input on the specific policies, projects, and programs proposed in this plan. Focus groups have also been conducted to

¹¹ California Government Code 65080(b)(2)(E)(iii).

include the viewpoints of groups less likely to participate in the public process, and online information and input tools allow the public to provide input on project and policy priorities.

More details on public outreach can be found in Chapter 7, *Public Participation*.

Conclusion

For decades, planning in the Tahoe Basin has focused on preserving and restoring the ecology of the Region. The multimodal transportation system and sustainable pattern of land use outlined in this plan renew and reinforce those commitments, while also reducing the Region's impact on the global climate. The remaining chapters of this document detail the supporting transportation investments and outline how they will be funded and implemented.

IN FOCUS: ADAPTING TO CLIMATE CHANGE

In the midst of diligent activity to reduce greenhouse gas (GHG) emissions and lower the threat of global climate change, the earth's atmosphere and oceans are already responding to the actions of the past. Although work to reduce greenhouse gases can slow or reverse this process, climate change models project continued increases in temperatures, which are expected to result in increased risk of drought, flooding, forest fires, and other impacts in the coming decades. Therefore, in addition to mitigating emissions, adaptation will also be necessary to reduce the vulnerability of natural and human systems.



Example: Tahoe Basin Sustainability Planning Guidebook

The Tahoe Basin Sustainability Planning Guidebook, developed by a working group of Tahoe Basin environmental partner agencies, defines a process for developing a collaborative sustainability action plan that identifies climate vulnerabilities, opportunities to build system resiliency, and opportunities to reduce GHG emissions.

The Sustainability Planning Guidebook encompasses both climate change adaptation and mitigation strategies for the Tahoe Region. Many climate adaptation strategies also serve as mitigation strategies. Examples of some of these types of strategies suitable for Lake Tahoe include:

- Incentivize reduction of per capita water use.
- Maximize riparian soil water retention via connection of floodplains and stream flow through stream environment zones.
- Incentivize the transfer of development out of sensitive areas, particularly those prone to flooding.

Adapted from "Tahoe Basin Sustainability Planning Guidebook," USACE Climate Change Project

