Note: Data includes Placer County and all cities.
Source:
1. California Statewide Local Streets and Roads Needs Assessment Final Report, Nichols Consulting Engineers, Chtd., October 2009.

Bridge Needs Assessment

Bridges are an integral part of the overall regional transportation system. Caltrans maintains a bridge management system (PONTIS) that contains an inventory and condition data for all bridges in the State (see http://www.dot.ca.gov/hq/structur/strmaint/local/localbrlist.pdf). The inventory includes bridges owned by the State, Placer County and its cities, other state agencies, and special districts. The inventory does not include structures such as culverts that have a span of less than 20 feet; nor does this definition include bridges owned by railroads or private landowners. The condition data is used to help determine when bridges need maintenance and repair, rehabilitation such as a seismic retrofit, or replacement.

Bridge condition is typically characterized by a sufficiency rating similar to the PCI index used for pavement. The sufficiency rating is based on FHWA criteria, which looks at structural adequacy and deficiency, safety, serviceability, functional obsolesce, and essentiality for public use. The sufficiency rating is used to determine a bridge's eligibility for funding under the federal HBP. Under the HBP, bridges are eligible for rehabilitation when the sufficiency rating is less than or equal to a rating of 80, and for replacement when the rating is less than or equal to 50. Local agencies are required to review the inventory to verify their bridges are eligible for Highway Bridge Program (HBP) funds.

Unfortunately, there is currently no comprehensive bridge needs assessment performed with the PONTIS condition data at either the local or statewide level.

Complete Streets

A "complete street" is a transportation facility that is planned, designed, operated and maintained to provide safe mobility for all users appropriate to the function and context of the facility. Users include bicyclists, pedestrians, transit riders, as well as motorists. Complete street elements can include a number of design elements, from raised medians, appropriate signal timing, traffic calming features, bike lanes, sidewalks, transit amenities, shade trees and landscaping features. In February 2010, Caltrans initiated a Complete Streets Implementation Action Plan as part of a commitment to transform the State highway system in a manner to meet the needs of all legal users.

REGIONAL ROADWAY ACTION PLAN

Short Range

1. Continually develop and implement innovative approaches to delivering projects (as shown in Table 6.1-3 as quickly and cost effectively as possible. *(PCTPA, project sponsors)*

2. Identify and pursue additional funding sources, as appropriate. *(PCTPA, Caltrans, jurisdictions)*

3. Obtain funding for and construct regionally significant roadway projects shown in Figures 6.1c through 6.1e. *(PCTPA, SPRTA, Caltrans, jurisdictions)*

4. Identify deficiencies and/or future congestion impacts on the regional road network. *(PCTPA, Caltrans, jurisdictions)*

5. Maintain street and highway system, including vegetation management. *(Caltrans, jurisdictions)*

6. Identify and implement operational improvements on local streets and roads. *(Jurisdictions)*

7. Implement capacity increasing strategies that encourage the use of alternative modes, such as High Occupancy Vehicle (HOV) lanes. *(PCTPA, Caltrans, jurisdictions)*

8. Develop parallel capacity to I-80 and SR65 to reduce congestion and reliance on I-80 and SR65 for local trip purposes. *(PCTPA, SPRTA, jurisdictions)*

9. Consider the concept of complete streets when developing and implementing local roadway improvement projects. *(Jurisdictions)*

10. Improve select rural roads to an urban standard that serve new Blueprint development on the urban edge. *(Jurisdictions)*

11. Continue to participate in the Caltrans system planning and corridor planning processes. *(PCTPA, jurisdictions, Caltrans)*

12. Consider access management strategies along older retail corridors to improve economic performance. *(Jurisdictions, transit operators, Caltrans)*

13. Maintain pavement conditions at a good or better Pavement Condition Index. *(Jurisdictions, Caltrans)*

Long Range

1. Construct the Placer Parkway, in phases, connecting from SR65 to SR70/99. *(PCTPA, SPRTA, Caltrans, jurisdictions, other state/federal agencies)*

2. Continue to implement the actions called for in the short range action plan. (*PCTPA, Caltrans, jurisdictions, other state/federal agencies)*

REGIONAL ROADWAY PROJECTS

Regional roadway projects are shown on Table 6.1-5 through Table 6.1-7. Regional roadways are proposed to improve mobility, promote safety and operations, maintain the structural integrity of the roadway, and to promote economic vitality.

State Highway Projects List
Table 6.1-5

Lead Agency	SACOG Project ID	SACOG MTP	SACOG MTIP	Project Title	Project Description	Year Complete	Status	Current Year (2010) $	Expenditure Year $
City of Roseville Dept of Public Works	PLA15710	'07-00	09-35	I-80 Eureka Road On-Ramp Improvements	In Roseville, Eureka Road at I-80: add 4th WB thru lane from 500' E of N. Sunrise to eastbound I-80 on-ramp, including Miners Ravine Bridge widening, & change existing #1 NB & SB thru lanes at Sunrise/Eureka to left turn lanes. HPP #2399	2011	Programmed	$9,600,000	$9,984,000
Caltrans District 3	CAL18797	'07-00	11-00	I-80 HOV Lanes & Aux Lanes - Phase 3	Phase 3 of the Operational Improvement Project: On I-80, Construct east & west bound extensions of the HOV (High Occupancy Vehicle) lanes & auxiliary lanes from Miners' Ravine to SR 65, 1 mile east of the 65/80 Separation. Includes widening of Miners' Ravine Bridge in both directions.	2012	Programmed	$33,848,000	$36,609,997
Caltrans District 3	CAL18767	'07-00	11-00	I-80 Operational Improvements/HOV - Phase 2	In Placer County, near Sacramento, phase 2, west of Sacramento/Placer County line to Miners' Ravine Bridge-Construct eastbound & westbound HOV lanes & auxiliary lanes, with bridge widening & ramp modifications.	2012	Programmed	$47,576,532	$51,458,777
Caltrans District 3	CAL20398	07-00	11-00	I-80 Rehabilitation - SHOPP	In Auburn, Placer County, from 0.5 mile west of Ophir Road undercrossing to 0.1 mile east of Russell Road overcrossing, rehabilitate roadway (16.8/R19.0).	2012	Programmed	$7,515,000	$8,128,224
Caltrans District 3	CAL20422	07-00	11-00	I-80 Maintenance in Placer County	On I-80 in Placer County, 7 miles east of Auburn, from 1.7 miles west of Applegate Road overcrossing (Br #19-0130) to 0.2 mile east of Junction SR174 in Colfax: perform maintenance of asphalt & concrete overlay.	2012	Programmed	$6,165,500	$6,668,605
Caltrans District 3	CAL20393	07-00	11-00	Sac/Pla/Nev Thin Friction Surface	In Sacramento, Placer & Nevada counties at various Locations - place a thin high friction surface (SHOPP - Collision Reduction). In Placer County at Pla-80-8.87.	2012	Programmed	$842,000	$910,707
Caltrans District 3	CAL20442	'07-00	11-00	Upgrade MBGR End Treatments at Various Locations	In El Dorado, Placer, Sutter, Butte & Nevada counties on SR 99, 20, 49 & 50 - Upgrade metal beam guard rail (MBGR) end treatments (approximately 50% of work in El Dorado, Placer & Sutter counties; 29% in Butte County; & 21% in Nevada County)..	2012	Programmed	$5,170,000	$5,591,872
City of Lincoln Dept of Public Works	PLA19070	'07-00	11-00	Ferrari Ranch Road at SR65 Bypass	In Lincoln, SR65 Lincoln Bypass at Ferrari Ranch Road: construct interchange.	2012	Programmed	$14,495,628	$15,678,471
Caltrans District 3	CAL20439	07-00	11-00	Martis Creek Left-Turn Lane	Near Truckee on SR 267 at Martis Creek Lake Road, construct a left-turn lane pocket.	2013	Programmed	$1,458,000	$1,640,052
Caltrans District 3	CAL18826	'07-00	11-00	I-80 Rehabilitate Bridge Decks Near Roseville	Placer County, I-80 near Roseville at various Locations from Auburn/Riverside Overcrossing to Weimar Cross Road - Rehabilitate bridge decks (PM 0.3/29.3).	2013	Programmed	$16,184,000	$18,204,799
Caltrans District 3	CAL18780	07-00	11-00	Various Counties Upgrade Guardrail	In Placer Counties on SR65 upgrade guardrail. Project includes other various counties in District 3.	2013	Programmed	$2,843,400	$3,198,438
Caltrans District 3		07-00		SR65 Lincoln Bypass Phase 2	In Placer County, SR65: Right-of-way acquisition & construct a 4-lane expressway from North Ingram Slough to Sheridan.	2014	Planned	$55,000,000	$64,342,221
Caltrans District 3		07-00		SR193 Pavement Rehabilitation	Rehabilitate roadway from Sierra College to Newcastle.	2014	Planned	$5,000,000	$5,849,293
Caltrans District 3	CAL18829	'07-00	11-00	Upgrade MBGR End Treatments in Various Counties	In Sacramento, Placer, Yuba & Yolo Counties at various Locations - Upgrade metal beam guard rail end treatments (project includes additional $2 million of OTS funds).	2014	Programmed	$6,380,000	$7,463,698

Lead Agency	SACOG Project ID	SACOG MTP	SACOG MTIP	Project Title	Project Description	Year Complete	Status	Current Year (2010) $	Expenditure Year $
Caltrans District 3	CAL17240	'07-00	11-00	SR65 Lincoln Bypass	Placer County, SR 65: Construct a 4-lane expressway on a new alignment from Industrial Avenue to north of North Ingram Slough & continue north with 2 lanes to Sheridan. Also design & construct a Park & Ride facility at SR65 Bypass & Industrial Avenue. (Emission Reductions in kg/day: ROG 1, NOx 1.2, PM10 0.6.) HPP #1408	2014	Programmed	$291,783,000	$341,344,840
Caltrans District 3	CAL20389	'07-00	11-00	SR193 Curve Improvement	Near Lincoln, from 0.1 mile west to 0.9 mile east of Clark Tunnel Road - Realign curve improvement (SHOPP Lump Sum - Collision Reduction) (PM 4.5/5.4).	2014	Programmed	$12,586,000	$14,723,840
City of Rocklin Division of Engineering	PLA25374	'07-00	11-00	Whitney Ranch Parkway Interchange	Whitney Ranch Parkway & SR 65: construct full movement interchange.	2014	Programmed	$20,000,000	$23,397,171
Caltrans District 3	CAL18828	'07-00	11-00	I-80 Vertical Clearance Improvements	Placer County, I-80 in & near Loomis at various Locations from Brace Road to Magra Road - Improve vertical clearance (PM 8.1/37.8).	2015	Programmed	$36,045,000	$43,854,254
Caltrans District 3	CAL20375	'07-00	11-00	Northstar Slope Stabilization	Near Truckee, from 1.2 miles east of Northstar Drive to Brockway Summit - Stabilize slopes, repair dikes & culverts, & place rock slope protection (PM 4.9/6.7). (Storm Water Mitigation)	2015	Programmed	$7,510,000	$9,137,063
City of Roseville Dept of Public Works	PLA25209	'07-00	11-00	Galleria Boulevard/SR 65 Interchange Phase II Improvements	In Roseville, at existing interchange on SR 65/Galleria Boulevard/Stanford Ranch Road.: modify all on & off ramps to provide improved operations.	2015	Programmed	$5,000,000	$6,083,265
Caltrans District 3	CAL20420	07-00	11-00	SR89 - Squaw Valley to Nevada County Line Rehabilitation	Pla-89, near Truckee, from 0.2 mile of Squaw Valley Road to the Nevada County line: rehabilitate roadway (PM 13.5/21.7) - SHOPP Roadway Preservation CTIPS ID 120-0000-0066.	2016	Programmed	$8,870,000	$11,223,380
Caltrans District 3	CAL20424	07-00	11-00	I-80 3-Mile Truck Climbing Lane	Near Colfax on I-80, from the Long ravine UP to east of Magra Road overcrossing: widen eastbound roadway for truck climbing lane, replace two structures, rehabilitate drainage & extend culverts, eliminate or construct westbound standard off/on ramps at Magra Road overcrossing (PM 35.1/38.0). (Project will use tapered match, matching FHWA discretionary IMD funds with State matching funds during later phases).	2018	Programmed	$31,600,000	$43,246,782
City of Lincoln Dept of Public Works	PLA18950	07-00		SR193 Widening	Widen: 4 lanes from Ferrari Ranch Road to Sierra College Boulevard.	2019	Planned	$6,000,000	$8,539,871
City of Rocklin Division of Engineering	PLA25345	'07-00	11-00	I-80 / Rocklin Road Interchange	In Rocklin: from Rocklin Road onto both westbound & eastbound I-80; construct a combination of loop/flyover ramps to eliminate left-turn movements.	2020	Programmed	$29,850,000	$44,185,292
Placer County Transportation Planning Agency	PLA25440	07-00	09-37	SR65/I-80 Interchange Improvements (Phase 1)	Rebuild SR65/I-80 to improve movement from eastbound I-80 to northbound SR65 (Phase 1). (PA&ED of $3,899,700 to be matched at 10 percent with Toll Credits).	2020	Programmed	$30,000,000	$44,407,329
Caltrans District 3		07-00		SR267 Widening	In eastern Placer County, widen SR267 from 2 lanes to 4 lanes from Nevada County line to Northstar Drive.	2025	Planned	$10,000,000	$18,009,435
Placer County Dept of Public Works		07-00		SR49 Widening	Widen from 4 lanes to 6 lanes from Luther Road to Nevada Street.	2027	Planned	$10,000,000	$19,479,005
Placer County Dept of Public Works		07-00		SR49 Widening	Widen from 4 lanes to 6 lanes from Bell Road to Dry Creek Road.	2027	Planned	$10,000,000	$19,479,005
South Placer Regional Transportation Authority	CAL18796	07-00		SR65 HOV Lanes Project	SR65 HOV Lanes Project area: 6.5 miles of SR 65 from the Galleria Boulevard interchange to the Industrial Avenue interchange. The proposed project improvements include: preconstruction activities (PA&ED, PS&E, R/W support and construction support) for all phases of project; and construction of HOV lanes on SR65 from the end of the proposed lanes of the I-80/SR 65 Interchange Modification Project to the Industrial Avenue interchange, which is currently under construction.	2033	Planned	$109,270,000	$269,319,467
Caltrans District 3		07-00		I-80 HOV Lanes East of SR65	New HOV lanes - one each direction - on I-80 from SR65 east to SR49.	2035	Planned	$200,000,000	$533,167,266
City of Colfax Dept of Public Works		'07-00		SR174	Unspecified operational improvements at SR. 174 & I-80	2035	Planned	$3,000,000	$7,997,509

Lead Agency	SACOG Project ID	SACOG MTP	SACOG MTIP	Project Title	Project Description	Year Complete	Status	Current Year (2010) $	Expenditure Year $
Placer County Transportation Planning Agency				SR65/I-80 Interchange Modification	Project area: 3.3 mile of I/80 between Miners Ravine Bridge and approximately 0.2 mile west of Rocklin Road and 2.1 miles of SR65 between I-80 junction and approximately 1 mile to the north of Galleria Boulevard. The proposed project improvements include: (1) construction of a 2-lane bi-directional HOV direct connector on eastbound I-80 to northbound SR65 and southbound SR65 to westbound I-80; (2) replacement of the eastbound I-80 to northbound SR65 loop connector with a 3-lane flyover ramp; (3) ramp widening and additional lane at the southbound SR65 on-ramp from Galleria Boulevard; (4) connector widening with associated auxiliary lane at the westbound I-80 to northbound SR65 connector; (5) reconstruction and widening of the southbound SR65 to eastbound I-80 connector flyover; (6) widening of I-80 and SR65 and associated ramp realignments at Eureka Road, Taylor Road and Galleria Boulevard; (7) widening the East Roseville Viaduct; (8) replacement of the Taylor Road Overcrossing to accommodate widening I-80; (9) construction of HOV lanes on SR65 from the I-80/SR 65 interchange past the Galleria Boulevard interchange.	2035	Planned	$250,000,000	$666,459,083
							2010-2015	$585,002,060	$674,269,586
							2016-2024	$106,320,000	$151,602,653
							2025-2035	$592,270,000	$1,533,910,771
							Total	$1,283,592,060	$2,359,783,010

Table 6.1-6
Regional & Local Roads Projects List

Lead Agency	SACOG Project ID	SACOG MTP	SACOG MTIP	Project Title	Project Description	Year Complete	Status	Current Year (2010) $	Expenditure Year $
City of Roseville Dept of Public Works	PLA25442	07-00	11-00	Riverside Avenue Storm Drain Improvement Project - Phase II	In Roseville on Riverside Avenue, Bonita Street, Clinton Avenue & Cherry Street, upgrade existing drainage infrastructure.	2010	Programmed	$400,000	$400,000
City of Roseville Dept of Public Works	PLA25428	07-00	09-26	Jobs for Main Street - Microsurfacing	In Roseville, application of microsurfacing to the following existing roadways: Church Street from Atkinson Street to Washington Boulevard; Baseline Road from Fiddyment Road to Foothills Boulevard; Junction Boulevard from Washington Boulevard to Foothills Boulevard; Foothills Boulevard from Junction Boulevard to Main Street / Baseline Road; Atlantic Street from Folsom Road to Eureka Road; and Pleasant Grove Boulevard from Foothills Boulevard to Roseville Parkway.	2010	Programmed	$1,400,000	$1,400,000
Placer County Dept of Public Works	PLA25392	'07-00	11-00	Horseshoe Bar Road Curve Improvements	This project will improve roadway curves on Horseshoe Bar Road between Happy Road & Auburn-Folsom Road. Sight distance at problem curves will be improved by grading, widening shoulder, & vegetation removal.	2010	Programmed	$785,000	$785,000
City of Colfax Dept of Public Works	PLA25205	'07-00	11-00	Overlays & Pavement Rehabilitation	In Colfax, surface overlays, various dig-outs, & patching of failed substructure South Auburn Street north of SR174, North Main Street, Grass Valley Street, & Rocky Road.	2011	Programmed	$300,000	$312,000
City of Rocklin Division of Engineering	PLA25502	07-00	11-00	Rocklin Road / Meyers Street Intersection Improvements	Construct a new roundabout at the intersection of Rocklin Road & Meyers Street.	2011	Programmed	$963,205	$1,001,733
City of Rocklin Division of Engineering	PLA25503	07-00	11-00	Rocklin Road Pavement Rehabilitation	Reconstruct Rocklin Road from Granite Drive to Meyers Street & High Street to Pacific Street.	2011	Programmed	$1,500,000	$1,560,000
City of Rocklin Division of Engineering	PLA25267	'07-00	11-00	Civic Center Drive	Civic Center Drive: Construct new two lane roadway from the intersection of Meyers Street / Rocklin Road to an intersection with Pacific Street. One or more phases of this project may require federal permitting.	2011	Programmed	$2,698,000	$2,805,920

Lead Agency	SACOG Project ID	SACOG MTP	SACOG MTIP	Project Title	Project Description	Year Complete	Status	Current Year (2010) $	Expenditure Year $
City of Roseville Dept of Public Works	PLA25422	'07-00	11-00	2010 Douglas Boulevard Bonded Wearing Course	In Roseville on Douglas Boulevard, from Sierra Gardens to Sierra College, apply bonded wearing course.	2011	Programmed	$1,986,850	$2,066,324
Placer County Dept of Public Works	PLA25427	07-00	11-00	Foresthill Passing Lane Modification Project	Project is Located on Foresthill Road 4.9 miles east of the intersection of I-80 and Auburn Ravine - Foresthill Road Exit, between PM 5.25 & 5.50. Project includes realigning & restriping of approximately 875lf of centerline to increase the horizontal curve from 560lf to 700lf; remove approximately 965lf of eastbound passing lane; extend approximately 413lf of westbound passing lane; and apply a microsurface friction course to entire project. Project also includes striping of approximately 1415lf of the south shoulder to maintain 12 - 14 foot maximum lane width.	2011	Programmed	$125,000	$130,000
Town of Loomis Dept of Public Works	PLA25252	'07-00	11-00	Swetzer Road / King Road Signalization	In Loomis, install signal that is synchronized with the UPRR railroad at the Swetzer Road & King Road intersection.	2011	Programmed	$347,345	$361,239
City of Auburn Dept. of Public Works	PLA25230	'07-00	11-00	Dairy Road Realignment	Roadway improvements along Dairy Road from Auburn Ravine to Luther Road, including realignment, bike lanes, bus turnouts, & sidewalks.	2012	Programmed	$1,000,000	$1,081,600
City of Colfax Dept of Public Works	PLA25466	07-00	"11-00	Main & Grass Valley Signal Improvements	Design & construction of a new traffic signal & turn-lane at the intersection of Main Street & Grass Valley Street. (Emission reductions: ROG 16 lbs/yr; NOx 11 lbs/yr; CO 20 lbs/yr).	2012	Programmed	$200,000	$216,320
City of Lincoln Dept of Public Works	PLA18710	'07-00	11-00	Industrial Boulevard	Industrial Boulevard, from Route 65 to 12 Bridges Drive: Widen from 2 to 4 lanes.	2012	Programmed	$948,000	$1,025,357
City of Lincoln Dept of Public Works	PLA18790	'07-00	11-00	East Joiner Parkway	Widen East Joiner Parkway from 2 to 4 lanes from Del Webb Boulevard to Twelve Bridges.	2012	Programmed	$1,104,290	$1,194,400
City of Lincoln Dept of Public Works	PLA19020	'07-00	11-00	Twelve Bridges Drive	Twelve Bridges Drive from Industrial Boulevard to SR 65 Interchange: widen from 2 to 4 lanes, including interchange improvements.	2012	Programmed	$230,414	$249,216
City of Lincoln Dept of Public Works	PLA20810	'07-00	11-00	East Avenue	Reconstruct & restripe East Avenue 2-lane roadway from East 9th Street to SR193.	2012	Programmed	$1,900,000	$2,055,040
City of Rocklin Division of Engineering	PLA25356	'07-00	11-00	NEV Lanes	Install striping, pavement markings, & signage to existing roadways to provide Neighborhood Electric Vehicle (NEV) access from residential areas within the City of Rocklin to downtown Rocklin & commercial areas. (Emission benefits in kg/day: ROG 3.29, NOx 2.88, PM10 1.56)	2012	Programmed	$267,500	$289,328
City of Roseville Dept of Public Works	PLA25375	'07-00	11-00	Blue Oaks Extension	Roseville, Blue Oaks from 1300' west of Fiddyment to Hayden Pkwy., extend as 4 lanes. From Hayden Pkwy. to Westside extend as 2 lanes, including a 6 lane bridge over Kaseberg Creek.	2012	Programmed	$9,700,000	$10,491,520
City of Roseville Dept of Public Works	PLA25381	'07-00	11-00	Westside Drive	City of Roseville: New N/S Road in West Roseville Specific Plan, west of Fiddyment Road, south of Blue Oaks Avenue, between Pleasant Grove & Blue Oaks.	2012	Programmed	$3,500,000	$3,785,600
Placer County Dept of Public Works	PLA25128	'07-00	11-00	De La Salle Access Road	Construct De La Salle Access Road: new 4 lane road from Watt Avenue extension north to De La Salle University.	2012	Programmed	$6,000,000	$6,489,600
Placer County Dept of Public Works	PLA15080	'07-00	11-00	Auburn-Folsom Road Widening	From Placer/Sacramento County line to Douglas Boulevard: Widen to 4 lanes & install a signal at Auburn-Folsom Road & Fuller Drive.	2012	Programmed	$27,300,000	$29,527,680
Placer County Dept of Public Works	PLA25044	'07-00	11-00	Sunset Boulevard	Widen Sunset Boulevard from SR 65 to Cincinnati Avenue from two to four lanes. Project includes widening Industrial Boulevard / UPRR overcrossing from two to four lanes.	2012	Programmed	$8,675,000	$9,382,880
Placer County Dept of Public Works	PLA25170	'07-00	11-00	Sunset Boulevard Phase 2	Sunset Boulevard, from Foothills Boulevard to Fiddyment Road: Construct a 2-lane road extension [PLA15410 is Phase 1.]	2012	Programmed	$6,275,000	$6,787,040
Town of Loomis Dept of Public Works	PLA25182	'07-00	09-38	Multi-Modal Parking Facility - Phase 1	Multi-modal parking facility, bus stop & bicycle & pedestrian improvements on approximately 10 acres of Union Pacific property on Horseshoe Bar Road, adjacent to downtown Loomis. Phase 1 includes environmental, engineering & design, property acquisition & initial construction; future phases 2 & 3 cover construction only. Air quality emissions reduction is estimated at 1.0 kg per day.	2012	Programmed	$1,402,232	$1,516,654

Lead Agency	SACOG Project ID	SACOG MTP	SACOG MTIP	Project Title	Project Description	Year Complete	Status	Current Year (2010) $	Expenditure Year $
Town of Loomis Dept of Public Works	PLA25251	'07-00	11-00	Bankhead Road Widening	In Loomis, widen Bankhead Road to standard lane width, including possible construction of bike lanes.	2012	Programmed	$600,000	$648,960
Town of Loomis Dept of Public Works	PLA25253	'07-00	11-00	Sierra College Boulevard / Bankhead Road Signalization	Signalize intersection at Sierra College Boulevard & Bankhead Road in Loomis.	2012	Programmed	$300,000	$324,480
Town of Loomis Dept of Public Works	PLA25354	'07-00	11-00	King Road. / Swetzer Road. Signalization	Construct a new traffic signal at King Road & Swetzer Road & provide synchronization between this signal, the King Road & the Taylor Road traffic signals & the Union Pacific railroad crossing. (Emission benefits in kg/day ROG 2.35, NOx 0.75)	2012	Programmed	$152,931	$165,410
City of Lincoln Dept of Public Works	PLA18770	'07-00		Lincoln Pkwy.	Widen: 4 lanes from Sterling Pkwy. to Del Webb Boulevard	2013	Planned	$175,000	$196,851
City of Lincoln Dept of Public Works	PLA18650	'07-00	11-00	Aviation Boulevard	Widen Aviation Boulevard from 2 to 4 lanes from Venture Drive to terminus 0.5 miles north of Venture Drive	2013	Programmed	$850,000	$956,134
City of Roseville Dept of Public Works	PLA25377	'07-00	11-00	Market Drive	City of Roseville; Extend from Baseline Road to Pleasant Grove.	2013	Programmed	$8,500,000	$9,561,344
City of Roseville Dept of Public Works	PLA25430	07-00	11-00	Washington Boulevard Bonded Wearing Course	In Roseville, on Washington Boulevard from Pleasant Grove Boulevard to Blue Oaks Boulevard: apply 1-inch bonded wearing course to existing street surface.	2013	Programmed	$1,175,460	$1,322,233
City of Roseville Dept of Public Works	PLA25382	'07-00	11-00	Westside Drive	City of Roseville: New N/S Road in proposed new Sierra Vista Specific Plan, west of Fiddyment Road, between Baseline & Pleasant Grove.	2013	Programmed	$4,000,000	$4,499,456
Placer County Dept of Public Works	PLA15120	'07-00	11-00	Bill Francis Drive	Construct 2-lane road from new Airport Road. to old Airport Road.	2013	Programmed	$1,500,000	$1,687,296
Placer County Dept of Public Works	PLA16840	'07-00	11-00	Douglas Boulevard Widening	In Placer County, Douglas Boulevard: widen from 4 to 6 lanes from Cavitt Stallman Road south to Sierra College Boulevard (1,000+ feet).	2013	Programmed	$500,000	$562,432
Placer County Dept of Public Works	PLA15420	'07-00	11-00	Walerga Road	Walerga Road: Widen & realign from 2 to 4 lanes from Baseline Road. to Placer / Sacramento County line.	2013	Programmed	$13,781,700	$15,502,538
Town of Loomis Dept of Public Works	PLA25254	'07-00	11-00	Del Oro High School / Taylor Road Signalization	In Loomis, signalize the intersection at Del Oro High School & Taylor Road.	2013	Programmed	$400,000	$449,946
City of Auburn Dept. of Public Works	PLA25227	'07-00	11-00	Auburn Signalization & Traffic Calming	Installation of various traffic signals & traffic calming measures within the City of Auburn.	2014	Programmed	$400,000	$467,943
City of Auburn Dept. of Public Works	PLA25441	07-00	11-00	Road Rehab & Overlays	In Auburn, various locations: perform pavement resurfacing and/or rehabilitation on the following urban roadways: Auburn-Folsom Road from Sunrise Ridge to Southridge, East Lincoln Way from Foresthill Avenue to Auburn City limits, and Dairy Road from Auburn Ravine to Luther Road.	2014	Programmed	$363,768	$425,557
City of Auburn Dept. of Public Works	PLA25233	'07-00	11-00	Central Auburn Roadway Network	Various roadway widening & new roadway construction as a result of new development & redevelopment in the central Auburn Area. One or more phases of this project may require federal permitting.	2014	Programmed	$500,000	$584,929
City of Colfax Dept of Public Works	PLA25238	'07-00	11-00	South Canyon Way / Illinois Town Road	Intersection improvements, including construction of a center turn lane, at South Canyon Way & Illinois Town Road in Colfax.	2014	Programmed	$225,000	$263,218
City of Colfax Dept of Public Works	PLA25239	'07-00	11-00	South Canyon Way / Plutes Road	Intersection improvements, including the construction of a center turn lane at South Canyon Way & Plutes Road in Colfax.	2014	Programmed	$225,000	$263,218
City of Colfax Dept of Public Works	PLA25240	'07-00	11-00	Canyon Creek Road Extension	Extension of Canyon Creek Road to City Limits. Improvements include curb, gutter, & sidewalk.	2014	Programmed	$100,000	$116,986
City of Colfax Dept of Public Works	PLA25241	'07-00	11-00	Shadowwood Subdivision Local Road Network	Local road network within & around Shadowwood subdivision. Project may require Federal permitting.	2014	Programmed	$260,000	$304,163
City of Colfax Dept of Public Works	PLA25242	'07-00	11-00	Plutes Road	Construction of new subdivision access road from Canyon Way to east City limits, including construction of culvert at Bunch Creek. Project may require Federal permitting.	2014	Programmed	$1,087,500	$1,272,221
City of Colfax Dept of Public Works	PLA25243	'07-00	11-00	Illinois Town Road	Construction of new subdivision access road from Canyon Way to east City limits, including construction of culvert at Bunch Creek. Project may require Federal permitting.	2014	Programmed	$1,147,500	$1,342,413
City of Colfax Dept of Public Works	PLA25244	'07-00	11-00	Colfax Pines Subdivision New Local Road	New Local road connecting Colfax Pines development to Iowa Hill Road. Project may require Federal permitting.	2014	Programmed	$650,000	$760,408

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City of Colfax Dept of Public Works	PLA25145	'07-00	11-00	Railroad Avenue Connector	Construct north south connector road on Railroad Avenue with pedestrian & bicycle improvements from Whitcomb to Grass Valley Street.	2014	Programmed	$1,357,500	$1,588,083
City of Lincoln Dept of Public Works	PLA25168	'07-00		Ferrari Ranch Road	Widen: 4 lanes from E. Caledon Circle to Lincoln City limit.	2014	Planned	$1,000,000	$1,169,859
City of Lincoln Dept of Public Works	PLA25169	'07-00		Ferrari Ranch Road	Widen: 4 lanes from SR65 to SR193.	2014	Planned	$2,252,000	$2,634,521
City of Lincoln Dept of Public Works	PLA20750	'07-00	11-00	Airport Road	Reconstruct 1 mile of an existing 2-lane Airport Road from Nicolaus Road to Weco Access Road.	2014	Programmed	$721,000	$843,468
City of Lincoln Dept of Public Works	PLA25467	07-00	11-00	Ferrari Ranch Road Extension	Extend Ferrari Ranch Road from existing City limit near Caledon Circle to Moore Road (Village 7 boundary).	2014	Programmed	$1,920,000	$2,246,128
City of Rocklin Division of Engineering	PLA25499	07-00	11-00	Rocklin Road / Grove Street Roundabout	Convert existing signalized intersection at Rocklin Road / South Grove Street & the offset unsignalized intersection at Rocklin Road / Grove Street to a dual roundabout intersection. (Emission benefits (kg/day) ROG 0.32, NOx 0.40, PM10 0.07).	2014	Programmed	$2,102,061	$2,459,114
City of Rocklin Division of Engineering	PLA20460	'07-00	11-00	Sierra College Boulevard	In Rocklin, Sierra College Boulevard from Aguilar Tributary to Nightwatch: widen from 2 to 4 lanes.	2014	Programmed	$2,750,000	$3,217,111
City of Rocklin Division of Engineering	PLA25025	'07-00	11-00	Whitney Ranch Parkway	In Rocklin, Whitney Ranch Parkway: construct new 6-lane facility from SR 65 to east of Wildcat Boulevard.	2014	Programmed	$4,739,673	$5,544,747
City of Rocklin Division of Engineering	PLA25156	'07-00	11-00	Sunset Boulevard	Sunset Boulevard: Widen to 6 lanes from north bound SR 65 ramp to West Stanford Ranch Road.	2014	Programmed	$850,000	$994,380
City of Rocklin Division of Engineering	PLA15530	'07-00	11-00	Pacific Street	Widen Pacific Street to 4 lanes from Sierra Meadows to Loomis Town Limits.	2014	Programmed	$6,000,000	$7,019,151
City of Rocklin Division of Engineering	PLA19260	'07-00	11-00	Dominguez Road	In Rocklin, Dominguez Road: extend with 2 lanes from Granite Drive to Sierra College Boulevard, including new bridge over I-80.	2014	Programmed	$11,000,000	$12,868,444
City of Rocklin Division of Engineering	PLA25268	07-00	09-00	University Avenue - Phase 1	New road: 4 lanes from the intersection of Whitney Ranch Parkway, north to the extension of West Ranchview Drive.	2014	Programmed	$2,500,000	$2,924,646
City of Rocklin Division of Engineering	PLA25270	'07-00	11-00	University Avenue - Phase 2	In Rocklin, University Avenue from the intersection of Sunset Boulevard / Atherton Road north to the intersection of Whitney Ranch Parkway: Construct a new four lane roadway. One or more phases of this project may require federal permitting.	2014	Programmed	$4,500,000	$5,264,364
City of Roseville Dept of Public Works	PLA25501	'07-00	11-00	Washington Boulevard / Andora Undercrossing Improvement Project	In Roseville, widen Washington Boulevard from 2 to 4 lanes, including widening the Andora Underpass under the UPRR tracks, between Sawtell Road & just south of Pleasant Grove Boulevard,& construct bicycle & pedestrian improvements adjacent to roadway. (Emission benefits in kg/day: 0.9 ROG, 0.51 NOx, 0.16 PM10).	2014	Programmed	$13,321,950	$15,584,797
City of Roseville Dept of Public Works	PLA25429	07-00	11-00	Industrial Avenue Rubberized Overlay	In Roseville, apply 2-inch gap graded rubberized asphalt to Industrial Avenue from Washington Boulevard to Justice Center Drive.	2014	Programmed	$2,150,000	$2,515,196
City of Roseville Dept of Public Works	PLA25380	'07-00	11-00	Westside Drive	City of Roseville: New N/S Road in proposed new Creekview Specific Plan, west of Fiddyment Road, north of Blue Oaks Avenue.	2014	Programmed	$6,000,000	$7,019,151
City of Roseville Dept of Public Works	PLA15720	'07-00	11-00	Eureka Boulevard	Widen Eureka Boulevard from 2 to 4 lanes, from Sierra College to City Limits.	2014	Programmed	$500,000	$584,929
City of Roseville Dept of Public Works	PLA25436	07-00	09-29	Atlantic Street Micropave	In Roseville, on Atlantic Street from V Street to I-80, remove and replace damaged pavement and microsurface roadway.	2014	Programmed	$517,850	$605,811
City of Roseville Dept of Public Works	PLA25437	07-00	09-29	Baseline Road Micropave	In Roseville, on Baseline Road from Brady Lane to Fiddyment Road, remove and replace damaged pavement and microsurface roadway.	2014	Programmed	$775,005	$906,646
City of Roseville Dept of Public Works	PLA15850	'07-00	11-00	Roseville Road	Widen from 2 to 4 lanes from City Limits to Cirby Way. STREET NAME: Roseville Road.	2014	Programmed	$5,000,000	$5,849,293
Placer County Dept of Public Works	PLA15100	'07-00	11-00	Baseline Road	In Placer County, Baseline Road from Fiddyment Road to Watt Avenue: widen from 2 to 4 lanes.	2014	Programmed	$6,462,500	$7,560,211
Town of Loomis Dept of Public Works	PLA20900	'07-00	11-00	Taylor Road Improvements	In Loomis, Taylor Road from south town limits to King Road: add signals at three intersections, 2500 feet of two-way left turn lanes, bike lanes, sidewalk, curb, gutter & underground Drainage system. See note below. STREET NAME: Taylor Road Improvements.	2014	Programmed	$1,600,000	$1,871,774

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City of Auburn Dept. of Public Works	PLA25234	'07-00		Baltimore Ravine Development	Local Road. Network: widening & construction of new Local roadways in the Baltimore Ravine area of Auburn as a result of new development.	2015	Planned	$2,000,000	$2,433,306
City of Auburn Dept. of Public Works	PLA25232	'07-00	11-00	Auburn Municipal Airport Area Local Road Network	Widening of existing roadways & construction of new Local roads in the Auburn Municipal Airport area as a result of new development. Federal permitting may be required for this project.	2015	Programmed	$6,000,000	$7,299,917
City of Colfax Dept of Public Works		07-00		Canyon Way	Intersection improvements at Canyon Way / I-80 overpass	2015	Planned	$400,500	$487,269
City of Colfax Dept of Public Works	PLA20430	'07-00		Rising Sun Road	Reconstruct & improve intersection at Ben Taylor Road., Church Street, & reconstruct Auburn Street from Grass Valley Street to SR. 174.	2015	Planned	$1,453,500	$1,768,405
City of Colfax Dept of Public Works	PLA25235	'07-00		SR174	Intersection improvements: South Auburn Street & Central Avenue Includes signalization.	2015	Planned	$600,000	$729,992
City of Colfax Dept of Public Works	PLA25236	'07-00		SR174	Intersection improvements: South Auburn Street Includes signalization.	2015	Planned	$400,502	$487,272
City of Colfax Dept of Public Works	PLA25237	'07-00		SR174	Intersection improvements: South Auburn Street & WB I-80. Includes signalization.	2015	Planned	$420,000	$510,994
City of Colfax Dept of Public Works	PLA25245	'07-00		Illinois Town-Plutes-Canyon Creek Loop Local Road	Construct: subdivision access road from Canyon Way. to east City limits, including construction of culvert at Bunch Creek. Federal permitting may be required as part of this project.	2015	Planned	$2,400,000	$2,919,967
City of Lincoln Dept of Public Works	PLA18810	'07-00		E. Joiner Pkwy.	Widen: 4 lanes from Twelve Bridges Drive to Rocklin city limits.	2015	Planned	$450,000	$547,494
City of Lincoln Dept of Public Works	PLA25161	'07-00		12th Street	Widen: 4 lanes from East Avenue to Harrison Avenue	2015	Planned	$487,000	$592,510
City of Lincoln Dept of Public Works	PLA25162	'07-00		McCourtney Road	Widen: 4 lanes from 12th Street to north Lincoln city limits.	2015	Planned	$488,000	$593,727
City of Lincoln Dept of Public Works	PLA18720	'07-00	11-00	Industrial Boulevard	Industrial Boulevard, from 12 Bridges Drive to Athens Boulevard: Widen from 2 to 4 lanes.	2015	Programmed	$1,876,246	$2,282,740
City of Rocklin Division of Engineering	PLA25151	'07-00	11-00	West Oaks Boulevard	West Oaks Boulevard: Construct new 4-lane extension from terminus to 4-lane portion to Whitney Ranch Parkway.	2015	Programmed	$3,500,000	$4,258,285
City of Rocklin Division of Engineering	PLA15400	'07-00	11-00	Sierra College Boulevard	In Rocklin, widen Sierra College Boulevard to 6 lanes from I-80 to Aguliar Tributary.	2015	Programmed	$3,800,000	$4,623,281
City of Rocklin Division of Engineering	PLA19230	'07-00	11-00	Argonaut Avenue	Construct Argonaut Avenue as 2 lanes from Yankee Hill Road to Del Mar Avenue, including a grade separation over UPRR tracks.	2015	Programmed	$5,000,000	$6,083,265
City of Roseville Dept of Public Works	PLA15690	'07-00		Cirby Way	Widen: 6 lanes (from 4) from Regency Street to Oak Ridge Drive	2015	Planned	$2,000,000	$2,433,306
City of Roseville Dept of Public Works	PLA19470	'07-00		Woodcreek Oaks	Widen: 4 lanes from Canevari Drive to North Branch of Pleasant Grove Ck.	2015	Planned	$5,750,000	$6,995,754
City of Roseville Dept of Public Works	PLA25211	'07-00		Galleria Boulevard	SR. 65 / Galleria Boulevard Interchange: re-stripe Galleria/ Stanford Ranch to 6 lanes; modify 3 NB & SB off ramps & SB Stanford Ranch Road. to NB 65 on ramp; add 2nd N/B Galleria to NB SR. 65 left-turn lane (Phase II)	2015	Planned	$4,000,000	$4,866,612
City of Roseville Dept of Public Works	PLA19810	'07-00	11-00	Atkinson Street/PFE Road Widening	In Roseville, Atkinson Street/PFE Road: widen from two to four lanes from Foothills Boulevard to just south of Dry Creek.	2015	Programmed	$7,000,000	$8,516,570
City of Roseville Dept of Public Works	PLA15600	'07-00	11-00	Sierra College Boulevard Widening	Sierra College Boulevard from Sacramento County line to Olympus Drive: widen to 6 lanes	2015	Programmed	$1,661,100	$2,020,982
City of Roseville Dept of Public Works	PLA15660	'07-00	11-00	Baseline Road	In Roseville, from City Limits to West of Foothills Boulevard, widen Baseline Road. from 3 to 4 lanes.	2015	Programmed	$5,000,000	$6,083,265
City of Roseville Dept of Public Works	PLA15760	'07-00	11-00	Pleasant Grove Boulevard Widening	In Roseville, from Foothills Boulevard to Wood Creek Oaks, widen Pleasant Grove Boulevard from 4 to 6 lanes.	2015	Programmed	$600,000	$729,992
City of Roseville Dept of Public Works	PLA17950	'07-00	11-00	Cirby Way Widening	In Roseville, Cirby Way from Riverside Avenue to Regency Way: Widen from 4 to 5 lanes.	2015	Programmed	$500,000	$608,326
City of Roseville Dept of Public Works	PLA25343	'07-00	11-00	Blue Oaks Extension & Widening	Blue Oaks, Widen: 4 lanes from Hayden Pkwy. to Westside; Extend: 4 lanes from Westside to Watt Avenue	2015	Programmed	$12,500,000	$15,208,161
City of Roseville Dept of Public Works	PLA25376	'07-00	11-00	Fiddyment Road	City of Roseville: Widen four lanes from Blue Oaks Boulevard to Baseline Road.	2015	Programmed	$3,000,000	$3,649,959
City of Roseville Dept of Public Works	PLA25378	'07-00	11-00	Santucci Boulevard	City of Roseville: Extend four lanes from Baseline Road to Blue Oaks Avenue.	2015	Programmed	$6,500,000	$7,908,244

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City of Roseville Dept of Public Works	PLA25379	'07-00	11-00	Pleasant Grove Boulevard	City of Roseville: Widen from Fiddyment Road to Watt Avenue	2015	Programmed	$10,450,000	$12,714,023
Placer County Dept of Public Works	PLA18390	'07-00		Dyer Pkwy.	Extend: 4 lanes west/north to Baseline Road. at Brewer Road. & east/north to Baseline Road. west of Fiddyment Road.	2015	Planned	$16,000,000	$19,466,446
Placer County Dept of Public Works	PLA15105	'07-00	11-00	Baseline Road Widening (West Portion)	Baseline Road. from Watt Avenue to Sutter County line: Widen from 2 to 4 lanes.	2015	Programmed	$19,200,000	$23,359,736
Town of Loomis Dept of Public Works	PLA25279	'07-00		King Road	Exp & Culvert: Sucker Ravine & King Road. Ancillary Road. work may be included. Federal permitting may also be required as part of this project.	2015	Planned	$100,000	$121,665
Town of Loomis Dept of Public Works	PLA15940	'07-00	11-00	Taylor Road Widening	Widen Taylor Road. from 2 to 4 lanes from Horseshoe Bar Road to King Road.	2015	Programmed	$425,000	$517,077
Town of Loomis Dept of Public Works	PLA20890	'07-00	11-00	Sierra College Boulevard Widening	In Loomis, Sierra College Boulevard from railroad tracks (Taylor Road) to the north town limits, widen from 2 to 4 lanes & construct turn lanes, bike lanes, & landscaped median.	2015	Programmed	$5,899,180	$7,177,254
Town of Loomis Dept of Public Works	PLA20960	'07-00	11-00	Sierra College Boulevard Widening	In Loomis, Sierra College Boulevard from Granite Drive to Bankhead Road: widen from 4 to 6 lanes.	2015	Programmed	$3,600,000	$4,379,950
Town of Loomis Dept of Public Works	PLA15250	'07-00	11-00	King Road	In Loomis, King Road: add turn lane from Sierra College Boulevard to Boyington Road.	2015	Programmed	$809,000	$984,272
Town of Loomis Dept of Public Works	PLA15350	'07-00	11-00	Rocklin Road Widening	In Loomis, Rocklin Road from Barton Road to west town limits: widen from 2 to 4 lanes.	2015	Programmed	$1,200,000	$1,459,983
Town of Loomis Dept of Public Works	PLA25290	'07-00	11-00	Orchard Place Subdivision Local Road Network	In Loomis, construct new Local road network as part of developing Orchard Place subdivision. Federal permitting may be required as part of this project.	2015	Programmed	$191,400	$232,867
Town of Loomis Dept of Public Works	PLA25289	'07-00	11-00	Grove Subdivision Local Road Network	In Loomis, construct new Local road network as part of Grove subdivision off of Humphrey Road. Federal permitting may be required as part of this project.	2015	Programmed	$261,000	$317,546
City of Rocklin Division of Engineering	PLA25272	'07-00		Pacific Street	Widen: 6 lanes from SW of Sunset Boulevard to NE of Sunset Boulevard	2016	Planned	$300,000	$379,596
City of Rocklin Division of Engineering	PLA19290	'07-00	11-00	Whitney Ranch Parkway	Whitney Ranch Parkway, construct new 4-lane facility from east of Old Ranch House Road to Whitney Oaks Drive	2016	Programmed	$12,428,000	$15,725,385
City of Rocklin Division of Engineering	PLA19400	'07-00	11-00	Rocklin Road	In Rocklin, Rocklin Road: widen to 6 lanes from Granite Drive to westbound I-80 ramps.	2016	Programmed	$880,000	$1,113,481
City of Rocklin Division of Engineering	PLA15620	'07-00	11-00	Sunset Boulevard	Widen Sunset Boulevard from 4 to 6 lanes, from Topaz to S. Whitney Boulevard	2016	Programmed	$2,700,000	$3,416,361
City of Rocklin Division of Engineering	PLA19250	'07-00	11-00	Valley View Parkway	Valley View Parkway: Construct 2 lanes from Park Drive to Sierra College Boulevard	2016	Programmed	$9,575,000	$12,115,430
City of Rocklin Division of Engineering	PLA19330	'07-00	11-00	Sierra College Boulevard	In Rocklin, Sierra College Boulevard: widen to 4 lanes from intersection with Valley View Parkway to Loomis Town limits (SPRTA Segment #2a).	2016	Programmed	$8,650,000	$10,945,010
City of Rocklin Division of Engineering	PLA19360	'07-00	11-00	Sunset Boulevard	Widen Sunset Boulevard from 4 to 6 lanes from Stanford Ranch Road. to Topaz.	2016	Programmed	$2,600,000	$3,289,829
City of Rocklin Division of Engineering	PLA25273	'07-00	11-00	Rocklin Road Widening	Widen Rocklin Road from 2 to 4 lanes from Loomis town limits to east of Sierra College Boulevard.	2016	Programmed	$126,000	$159,430
Placer County Dept of Public Works	PLA25463	07-00	11-00	Baseline Road Widening Phase 2 (West Portion)	Baseline Road. from Sutter County line to future 16th Street: Widen from 2 to 4 lanes.	2016	Programmed	$29,000,000	$36,694,252
City of Lincoln Dept of Public Works	PLA18760	'07-00		E. Joiner Pkwy.	Widen: 6 lanes from Ferrari Ranch Road. to Sterling Pkwy. (Includes SR. 65 / UPRR overcrossing)	2017	Planned	$7,000,000	$9,211,522
Placer County Dept of Public Works	PLA15270	'07-00	11-00	North Antelope Road	North Antelope Road: Widen from 2 to 4 lanes from Sacramento County line to PFE Road.	2017	Programmed	$2,026,600	$2,666,867
Placer County Dept of Public Works	PLA25130	'07-00	11-00	Fiddyment Road Widening	Widen Fiddyment Road from 2 lanes to 4 lanes from Roseville City Limits to Athens Road.	2017	Programmed	$11,550,000	$15,199,012
Placer County Dept of Public Works	PLA20700	'07-00	11-00	Watt Avenue	Watt Avenue, from Baseline Road. to Sacramento County Line: Widen from 2 to 4 lanes.	2017	Programmed	$27,487,500	$36,171,675
Town of Loomis Dept of Public Works	PLA15290	'07-00		Boyington Road	Extend: 3 lanes from Horseshoe Bar Road. to King Road.	2017	Planned	$2,000,000	$2,631,864
Placer County Dept of Public Works	PLA20680	'07-00		Baseline Road	Widen: 6 lanes (from 2) from Watt Avenue to Fiddyment Road.	2018	Planned	$8,870,000	$12,139,207
Placer County Dept of Public Works	PLA20690	'07-00		PFE Road	Widen: 4 lanes from North Antelope Road. to Roseville City Limits.	2018	Planned	$1,514,700	$2,072,972

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Placer County Dept of Public Works	PLA15390	'07-00	11-00	Sierra College Boulevard	Widen Sierra College Boulevard from 2 to 4 lanes from SR193 to Loomis Town Limits.	2018	Programmed	$13,000,000	$17,791,398
Placer County Dept of Public Works	PLA18490	'07-00	11-00	PFE Road Widening	PFE Road, from Watt Avenue to Walerga Road: Widen from 2 to 4 lanes & realign.	2018	Programmed	$13,085,000	$17,907,726
Placer County Dept of Public Works	PLA25299	'07-00	11-00	Placer Parkway - Phase 1	Phase 1 of the Placer Parkway project, including Tier 2 environmental work, preliminary engineering, & construction to Located a roadway within the selected 500' wide approved Alternative 5 alignment corridor connecting SR. 65 (Whitney Ranch Pkwy) to Foothills Boulevard (replaces PLA25337 - Placer Ranch Parkway - $145 million). Additional Tier 2 work may be completed in increments by Local jurisdictions for subsequent phases of the Placer Parkway project.	2018	Programmed	$70,000,000	$95,799,834
City of Lincoln Dept of Public Works	PLA18630	'07-00		Aviation Boulevard	New Road.: 4 lanes from terminus 0.5 miles north of Venture Drive to Wise Road.	2019	Planned	$4,000,000	$5,693,247
City of Lincoln Dept of Public Works	PLA18910	'07-00		Nicolaus Road	Widen: 4 lanes from Joiner Pkwy. to Joiner Park	2019	Planned	$600,000	$853,987
City of Lincoln Dept of Public Works	PLA20740	'07-00		Airport Road	New road: 2 lanes from Weco Access Road. to Wise Road.	2019	Planned	$5,500,000	$7,828,215
City of Lincoln Dept of Public Works	PLA25163	'07-00		Virginiatown Road	Widen: 4 lanes from McCourtney Road. to east Lincoln city limits	2019	Planned	$502,000	$714,503
City of Lincoln Dept of Public Works	PLA25304	'07-00		Aviation Boulevard	Extend: 4 lanes from Venture Drive & Wise Road.	2019	Planned	$15,000,000	$21,349,677
City of Lincoln Dept of Public Works	PLA25305	'07-00		Oak Tree Extension	New road: 4 lane between Sierra College Boulevard & Wise Road. / SR. 65	2019	Planned	$35,000,000	$49,815,913
City of Roseville Dept of Public Works	PLA15740	'07-00		Galleria Boulevard	Widen: 6 lanes from Berry to Roseville Pkwy.	2019	Planned	$1,500,000	$2,134,968
City of Roseville Dept of Public Works	PLA15810	'07-00		Roseville Pkwy.	Extend: 4 lanes from Washington Boulevard to Foothills Boulevard	2019	Planned	$6,000,000	$8,539,871
Placer County Dept of Public Works	PLA15220	'07-00	11-00	Foothills Boulevard	Foothills Boulevard: Construct as a 2 lane road from the City of Roseville to Sunset Boulevard	2019	Programmed	$4,062,300	$5,781,920
City of Lincoln Dept of Public Works	PLA25166	'07-00		Twelve Bridges Drive	Widen: 6 lanes from SR. 65 Interchange to Lincoln Pkwy. (Includes interchange improvements)	2020	Planned	$2,252,000	$3,333,510
City of Lincoln Dept of Public Works	PLA15970	'07-00	11-00	Nicolaus Road	Widen Nicolaus Road. from 2 to 4 lanes from Airport Road. to Aviation Boulevard	2020	Programmed	$2,250,600	$3,331,438
City of Rocklin Division of Engineering	PLA25154	'07-00		Rocklin Road	Extend: 2 lanes from current west terminus to South Whitney Boulevard	2020	Planned	$1,641,600	$2,429,969
City of Rocklin Division of Engineering	PLA19401	'07-00		Rocklin Road	Widen: 6 lanes from Aguilar Road / eastbound I-80 on-ramps to west of Sierra College Boulevard	2020	Planned	$1,600,000	$2,368,391
City of Rocklin Division of Engineering	PLA25275	'07-00		Rocklin Road	Extend: 2 lanes from current western terminus to Whitney Boulevard (Phase II)	2020	Planned	$1,400,000	$2,072,342
City of Rocklin Division of Engineering	PLA17820	'07-00	11-00	Pacific Street	On Pacific Street: Construct downtown improvements.	2020	Programmed	$8,000,000	$11,841,954
City of Rocklin Division of Engineering	PLA17910	'07-00	11-00	Sunset Boulevard	Widen Sunset Boulevard bridge at UPRR from 4 to 6 lanes from South Whitney Boulevard to Pacific Street	2020	Programmed	$2,600,000	$3,848,635
City of Rocklin Division of Engineering	PLA25373	'07-00	11-00	Midas Avenue Grade Separation	Midas Avenue, from Pacific Street to Third Street, construct 2 lane grade separation of UP tracks including right of way.	2020	Programmed	$8,750,000	$12,952,137
City of Roseville Dept of Public Works	PLA15890	'07-00		Sunrise Avenue	Widen: 6 lanes from Sacramento County line to Madden Lane.	2020	Planned	$5,000,000	$7,401,221
City of Roseville Dept of Public Works	PLA15910	'07-00		Taylor Road	Widen: 4 lanes from Roseville Pkwy. to I-80.	2020	Planned	$521,157	$771,440
City of Roseville Dept of Public Works	PLA15911	'07-00		Taylor Road	Widen: 4 lanes from I-80 to City Limits.	2020	Planned	$4,000,000	$5,920,977
City of Roseville Dept of Public Works	PLA25344	'07-00		Blue Oaks	Widen: 6 lanes (from 4) from Foothill to Crocker Ranch Road. & from 1300' W/O Fiddyment to Westside	2020	Planned	$11,000,000	$16,282,687
City of Roseville Dept of Public Works		'07-00		Foothills Boulevard	Widen: 6 lanes from Cirby to Misty Wood (just N/O Pleasant Grove Boulevard).	2020	Planned	$23,900,000	$35,377,838
Placer County Dept of Public Works	PLA25127	'07-00		Baseline Road	Widen Baseline Road from 4 to 6 lanes from Watt Avenue to Sutter County Line (Western Portion).	2020	Planned	$12,000,000	$17,762,931

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Placer County Dept of Public Works	PLA20350	'07-00		Auburn Connector Roads	Adjacent to SR. 49 between I-80 & Dry Creek Road. - three new Local connector roads; 1) Quartz Drive Connector from SR. 49 to Locksley Lane, 2) Willow Creek Drive Connector from SR. 49 to 1st Street in Dewitt Center, & 3) Edgewood Road. Connector from SR. 49 to Alta Mesa Drive (City of Auburn) - state & Local funding only.	2020	Planned	$3,671,000	$5,433,977
Placer County Dept of Public Works	PLA25134	'07-00		Bell Avenue	I-80 / Bell Road. interchange: Capacity & operational improvements	2020	Planned	$3,000,000	$4,440,733
Placer County Dept of Public Works		07-00		Lincoln Way	Widen from 2 to 4 lanes from Russell Rd. to Ferguson Rd.	2020	Planned	$484,000	$716,438
Placer County Dept of Public Works	PLA15300	'07-00	11-00	Parallel Road	In Placer County, east of Route 49, from Dry Creek Road to Quartz Road, construct a 2 lane road. Name of road shall be determined in the future.	2020	Programmed	$6,025,000	$8,918,472
Town of Loomis Dept of Public Works	PLA25258	'07-00		Brace Road / Horseshoe Bar Road	Signalize intersection. Realign two existing intersections at the Location into one intersection, including related signalization improvements.	2020	Planned	$600,000	$888,147
Town of Loomis Dept of Public Works	PLA25260	'07-00		Barton Road	Widen to standard lane widths with the inclusion of bike lanes.	2020	Planned	$2,100,000	$3,108,513
Town of Loomis Dept of Public Works	PLA25274	'07-00		S. Holly Area	Local Road. Storm drainage Extension: In Loomis, extend Local Road. storm Drainage facility in the South Holly area. Ancillary Road. work may be included. Federal permitting may also be required as part of this project.	2020	Planned	$400,000	$592,098
Town of Loomis Dept of Public Works	PLA25276	'07-00		Sunrise-Loomis Subdivision	Local Road. Storm Drainage Upgrade: In Loomis, upgrade the Local Road. network storm Drainage facilities in the Sunrise-Loomis subdivision. Ancillary Road. work may be included. Federal permitting may also be required as part of this project.	2020	Planned	$500,000	$740,122
Town of Loomis Dept of Public Works	PLA25277	'07-00		Brace Road	Bridge Replacement: at Secret Ravine & Brace Road. Ancillary Road. work may be included.	2020	Planned	$500,000	$740,122
Town of Loomis Dept of Public Works	PLA25278	'07-00		Antelope Creek	Expand & Replace Culvert: along Antelope Creek at King Road., from Sierra College Boulevard to Vet Clinic. Ancillary Road. work may be included.	2020	Planned	$600,000	$888,147
Town of Loomis Dept of Public Works	PLA25280	'07-00		Sierra College Boulevard	Culvert Expansion: In Loomis, at Loomis Tributary & Sierra College Boulevard Ancillary Road. work may be included.	2020	Planned	$400,000	$592,098
Town of Loomis Dept of Public Works	PLA16350	'07-00	11-00	Horseshoe Bar Road @ I-80 Overcrossing Widening	Widen Horseshoe Bar Road. @ I-80 overcrossing 2 to 4 lanes & improve ramps.	2020	Programmed	$15,000,000	$22,203,664
City of Lincoln Dept of Public Works		07-00		Nelson Lane Widening	Widen to four lanes from Lincoln Bypass to Nicolas Road.	2021	Planned	$6,000,000	$9,236,724
City of Lincoln Dept of Public Works	PLA25303	'07-00		Fiddyment Road	Widen: 4 lanes from East Catlett to Nicolaus Road.	2022	Planned	$20,000,000	$32,020,644
City of Roseville Dept of Public Works	PLA15830	'07-00		Roseville Pkwy.	Widen: 4 lanes from City Limits to Sierra College Boulevard	2022	Planned	$850,000	$1,360,877
Placer County Dept of Public Works		07-00		New Road	Construct a new 2-lane road between Kemper Rd. and Mt. Vernon Rd.	2022	Planned	$1,300,000	$2,081,342
City of Lincoln Dept of Public Works	PLA20760	'07-00		Venture Drive	Widen: 4 lanes from Aviation Boulevard to Lakeside Drive	2024	Planned	$900,000	$1,558,509
City of Lincoln Dept of Public Works	PLA20780	'07-00		Gladding Pkwy.	New road: 2 lanes from Nicolaus Road. to East Avenue Includes overpass over UPRR & SR. 65 & connection to 12th Street	2024	Planned	$23,000,000	$39,828,558
City of Lincoln Dept of Public Works	PLA25164	'07-00		Joiner Pkwy.	Widen: 6 lanes from Nicolaus Road. to Ferrari Ranch Road.	2024	Planned	$3,440,000	$5,956,967
Placer County Dept of Public Works	PLA25136	'07-00		Northstar Drive	Widen: 4 lanes from SR267 to Sawmill Flat Road (near Truckee).	2025	Planned	$3,234,300	$5,824,792
Town of Loomis Dept of Public Works	PLA20510	'07-00		Sierra College Boulevard	New: 4 lane undercrossing at UPRR Crossing & Sierra College Boulevard	2025	Planned	$30,000,000	$54,028,305
Town of Loomis Dept of Public Works	PLA25259	'07-00		Brace Road	Widen to standard lane widths with the inclusion of bike lanes.	2025	Planned	$1,000,000	$1,800,944
Town of Loomis Dept of Public Works	PLA25261	'07-00		I-80	Brace Road. Bridge Modification (To Caltrans standards).	2025	Planned	$10,000,000	$18,009,435

Lead Agency	SACOG Project ID	SACOG MTP	SACOG MTIP	Project Title	Project Description	Year Complete	Status	Current Year (2010) $	Expenditure Year $
Town of Loomis Dept of Public Works	PLA25262	'07-00		King Road	Modify the existing King Road. overcrossing to accommodate freeway access for traffic from King Road. onto WB I-80. Provide a transition auxiliary lane on I-80 from King Road. to Horseshoe Bar interchange.	2025	Planned	$5,000,000	$9,004,718
Town of Loomis Dept of Public Works	PLA25269	'07-00		Taylor Road	Construct storm Drainage facility on Taylor Road. from King Road. to Sierra College Boulevard Ancillary Road. work may be included. Federal permitting may also be required as part of this project. Phase 1 is King Road. to Walnut Street, $800,000.	2025	Planned	$2,300,000	$4,142,170
City of Lincoln Dept of Public Works	PLA25310	'07-00		Wise Road	Realignment & overcrossing between SR65 Lincoln Bypass & existing SR65.	2026	Planned	$60,000,000	$112,378,875
City of Colfax Dept of Public Works	PLA25146	'07-00		S. Auburn Street	Grade Crossing between Tokeyana & South Auburn Street	2027	Planned	$3,000,000	$5,843,701
Placer County Dept of Public Works		07-00		Indian Hill Road	Widen from 2 to 4 lanes from Auburn City Limits to Newcastle.	2027	Planned	$8,000,000	$15,583,204
Placer County Dept of Public Works	PLA15070	'07-00	11-00	Auburn Ravine Road at I-80 Overcrossing	Auburn Ravine Road overcrossing over I-80 between Bowman Road to Lincoln Way: widen overcrossing from 2 to 4 lanes.	2033	Programmed	$29,000,000	$71,476,751
City of Lincoln Dept of Public Works	PLA25315	'07-00		Village 1-7, SUD A-C Local streets	Local roads for various villages & SUD including enhancements	2035	Planned	$118,000,000	$314,568,687
Placer County Dept of Public Works		'07-00		16th Street	New: 4 lanes from Sacramento/Placer County Line to Baseline Road.	2035	Planned	$7,500,000	$19,993,772
South Placer Regional Transportation Authority / Placer County	PLA20721	'07-00	11-00	Placer Parkway Project	New 4 lane connector (ultimate 6 lanes freeway) in 500'- to 1,000'-wide corridor connecting SR 70/99 (between Riego Road & Sankey Road) to SR 65 (Whitney Ranch Parkway). (Note: as the project proceeds, Parkway segments will be administered by different lead agencies depending upon Location of the segment. In Placer County, it will be SPRTA or Roseville &/or Placer County; in Sutter County it will be Sutter County.)	2035	Programmed	$660,000,000	1759451979
							2010-2015	$329,843,662	**$383,234,830**
							2016-2024	$468,642,457	**$665,144,774**
							2025-2035	$937,034,300	**$2,392,107,332**
							Total	$1,735,520,419	$3,440,486,936

Table 6.1-7
Regional & Local Bridges Projects List

Lead Agency	SACOG Project ID	SACOG MTP	SACOG MTIP	Project Title	Project Description	Year Complete	Status	Current Year (2010) $	Expenditure Year $
Placer County Dept of Public Works	PLA25448	07-00	11-00	Bowman Road Bridge	Bridge No. 19C0062, Bowman Road, over UPRR, BNSF rail yards & Amtrak, 0.1 mile north of 19C0061. Preliminary Engineering & replace the existing structurally deficient bridge to bring it up to current standards. No additional lanes.	2010	Programmed	$1,875,001	$1,875,001
Placer County Dept of Public Works	VAR10050	07-00			Bridge No. 19C0060, Auburn-Foresthill Road, over North Fork American River, east of I-80. Paint existing steel structure.	2011	Programmed	$8,100,000	$8,424,000
Placer County Dept of Public Works	PLA25444	07-00	11-00	Wise Road Bridge Replacement	Bridge No. 19C0035, Wise Road, over Auburn Ravine, between Millerton & Stone Road. Replace the existing 2 lane bridge with a new 2 lane bridge.	2011	Programmed	$2,334,000	$2,427,360
Placer County Dept of Public Works	PLA25446	07-00	11-00	Auburn-Foresthill Road Bridge	Bridge No. 19C0060A, Auburn-Foresthill Road, over North Fork American River, east of I-80. LSSRP Seismic Retrofit.	2011	Programmed	$91,888,011	$95,563,531
Placer County Dept of Public Works	PLA25447	07-00	11-00	Bowman Road Bridge	Bridge No. 19C0061, Bowman Road, over UPRR, BNSF rail yards & AMTRAK, 0.1 miles south of 19C0062. Preliminary Engineering & rehabilitate or replace the existing structurally deficient bridge to bring up to current standards. No additional lanes.	2011	Programmed	$1,875,001	$1,950,001
City of Lincoln Dept of Public Works	VAR10050	07-00			Bridge No. 19C0199R, Nicholas Road, over Markham Ravine, 0.25 mile east of Nelson Lane. Right-of-way & replace 2 lane bridge with 2 lane bridge.	2012	Programmed	$987,193	$1,067,748
Placer County Dept of Public Works	PLA25474	07-00	11-00	Dowd Road Bridge Replacement	Bridge No. 19C0118, Dowd Road, over Markham Ravine, 0.5 miles south of Nicolaus Road. Replace existing 2 lane structurally deficient bridge with a new 2 lane bridge.	2012	Programmed	$4,800,000	$5,191,680
Placer County Dept of Public Works	PLA25453	07-00	11-00	Yankee Slough Bridge Replacement	Bridge No.19C0129, Dowd Road, over Yankee Slough, just south of Dalby Road. Right-of-way & replace existing structurally deficient bridge with new 2 lane bridge.	2012	Programmed	$2,341,000	$2,532,026
Placer County Dept of Public Works	PLA25426	07-00	11-00	Cook Riolo Road Bridge	Bridge No. 19C0117, Cook Riolo Road, over Dry Creek, 1.0 mile south of Base Lane Road. Right-of-way & replace 2 lane bridge with a new 2 lane bridge.	2012	Programmed	$9,146,051	$9,892,369
Placer County Dept of Public Works	PLA20880	'07-00	11-00	Walerga Road Bridge Widening	In Placer County, West of Roseville, Walerga Road at Dry Creek: replace bridge & widen from 2 to 4 lanes.	2013	Programmed	$20,200,000	$22,722,253
City of Lincoln Dept of Public Works		07-00		SR193 Bridge Replacement at Auburn Ravine	Reconstruct SR193 Bridge over Auburn Ravine to provide 100 year flood capacity. Increase width to provide for combined bike lanes, NEV lanes and sidewalks. Bridge will include 2-12' northbound lanes, 1-12' southbound lane, Bridge will be approximately 280' in length. Eligible for HBP funding, however application has not been submitted	2014	Planned	$4,610,000	$5,393,048
City of Roseville Department of Public Works	PLA25470	07-00	11-00	Oakridge Drive Bridge Replacement	Bridge No. 19C0180. In Roseville, 0.2 miles north of Cirby Way on Oakridge Drive, replace existing narrow substandard bridge over Linda Creek with wider bridge to include bike lanes & sidewalks on both sides.	2014	Programmed	$2,500,000	$2,924,646
City of Lincoln Dept of Public Works		07-00		Old Highway SR65 Bridge Replacement at Auburn Ravine	Reconstruct old SR65 Bridge over Auburn Ravine to provide 100 year flood capacity. Increase width to provide for combined bike lanes, NEV lanes and sidewalks. Bridge will include 2-12' northbound lanes, 1-12' southbound lane, Bridge will be approximately 280' in length. Eligible for HBP funding, however application has not been submitted.	2015	Planned	$5,000,000	$6,083,265
City of Roseville Department of Public Works	PLA25438	07-00	11-00	Industrial Avenue Bridge Replacement	In Roseville, on Industrial Avenue replace existing 2-lane Bridge No. 19C-0046 over Pleasant Grove Creek with a new 4-lane bridge.	2015	Programmed	$5,000,000	$6,083,265
Placer County Dept of Public Works	PLA25445	07-00	11-00	Hampshire Rocks Road Bridge	Bridge No. 19C0042, Hampshire Rocks, over & just south of Dry Creek Road. Preliminary Engineering, right-of-way & replace the existing functionally obsolete bridge with a new 2 lane bridge.	2015	Programmed	$4,900,000	$5,961,599

Lead Agency	SACOG Project ID	SACOG MTP	SACOG MTIP	Project Title	Project Description	Year Complete	Status	Current Year (2010) $	Expenditure Year $
Placer County Dept of Public Works	PLA25449	07-00	11-00	Down Road Bridge Replacement	Bridge No. 19C0095, Dowd Road, over Coon Creek, 0.4 mile North Wise Road. Right-of-way & replace a structurally deficient bridge with a new 2 lane bridge.	2015	Programmed	$5,675,010	$6,904,517
Placer County Dept of Public Works	PLA25450	07-00	11-00	Brewer Road Bridge Replacement	Bridge No. 19C0104, Brewer Road, over branch of Curry Creek, 2.2 mile north of Base Lane Road. Right-of-way & replace structurally deficient 2 lane structure with a new 2 lane structure.	2015	Programmed	$1,760,000	$2,141,309
Placer County Dept of Public Works	PLA25476	07-00	11-00	Brewers Road Bridge Replacement	Bridge No. 19C0112, Brewers Road, over Kings Slough, 6.0 mile north of Base Lane Road. Right-of-way & replace structurally deficient 2 lane bridge with a new 2 lane bridge.	2015	Programmed	$2,126,001	$2,586,605
Placer County Dept of Public Works	PLA25454	07-00	11-00	Brewer Road Bridge Replacement	Bridge No. 19C0138. Brewer Road, over Markham Ravine, 0.5 mile south of Nicolaus Road. Right-of-way & replace structurally deficient bridge with new 2 lane bridge.	2015	Programmed	$1,568,000	$1,907,712
Placer County Dept of Public Works	PLA25475	07-00	11-00	Haines Road Bridge Replacement	Bridge No. 19C0145, Haines Road, over Wise Canal, 0.45 mile north of Bell Road. Right-of-way & replace the existing functionally obsolete 2 lane bridge with a new 2 lane bridge.	2015	Programmed	$4,900,000	$5,961,599
Placer County Dept of Public Works	PLA25477	07-00	11-00	Alpine Meadows Road Bridge Replacement	Bridge No. 19C0151, Alpine Meadows Road, over Truckee River, 0.1 mile west of SR 89. Right-of-way & rehabilitation & shoulder widening of existing structurally deficient 2 lane bridge.	2015	Programmed	$9,980,000	$12,142,196
Placer County Dept of Public Works	PLA25458	07-00	11-00	Bridge Preventive Maintenance	PM00013, Bridge Preventive Maintenance Program, various locations in Placer County. Refer to Caltrans District 03 Local Assistance HBP web site for list of bridges.	2015	Programmed	$893,000	$1,086,471
City of Lincoln Dept of Public Works	PLA25022	'07-00	11-00	Auburn Ravine Bike/Ped Bridge Phase 1	In Lincoln: Construction of new multi-use bridge across Auburn Ravine: Preliminary Engineering, Environmental Documentation, Permitting, & Construction of Neighborhood Electric Vehicle (NEV) & pedestrian bridge crossing Auburn Ravine. Preliminary Engineering, Environmental Documentation, & Permitting for future vehicle bridge at same Location.	2016	Programmed	$987,193	$1,249,114

Note: The purpose of the State SR Bridge Replacement Group Projects list is to show which projects being advanced by Local agencies have met the eligibility requirements of the federal Highway Bridge Program (HBP). The grouped project list has been prioritized for funding by Caltrans in cooperation with Local agencies. The federal HBP funding constraint is managed by Caltrans; financial constraint of Local matching funds, Local advance construction and regional STIP funds is managed by SACOG.

2010-2015	$192,458,268	$210,822,201
2016-2024	$987,193	$1,249,114
2025-2035	$0	$0
Total	$193,445,461	$212,071,315

6.2 Public Transit

This chapter provides an inventory of public transportation providers, the consolidated transportation services agency, and intercity bus service operating in Placer County. The chapter gives special emphasis to issues surrounding transit services and discusses unmet transit needs. Lastly, the chapter includes a summary of recent transit planning studies that provided technical input to the development of the RTP.

TYPES OF TRANSIT SERVICE

Several transit systems provide services within and between the incorporated cities in Western Placer County, and one transit system serves the Tahoe Basin and adjacent areas. There are five basic types of transit service provided in Placer County:

Fixed Route Service: Fixed route transit service is characterized by transit vehicles, usually larger buses, which travel a specified route and stop at fixed locations (i.e., bus stops) on a specific fixed schedule. Riders avail themselves of this service by simply traveling to a bus stop at the appointed time; no pre-arrangement or reservation is necessary.

Paratransit Service: Paratransit, or dial-a-ride service, is a curb-to-curb or door-to-door service comparable to taxi service but often with a shared-ride component. Smaller vehicles, such as vans and sedans, are used to pick up and drop off people at the locations they request within the operating range of the system. Like taxis, rides must be prearranged and scheduled; like buses, rides may be shared by many different people. Most paratransit systems are focused on meeting the transit needs of people with disabilities and seniors. These services are typically more expensive to provide than fixed route service.

Deviated Fixed Route Service: Deviated fixed route transit service is a hybrid of fixed route and paratransit service. This type of service has a basic underlying route that includes a few specific points with specific arrival times, like a fixed route service. However, between those specific points, the bus can deviate off the route a limited distance (usually up to ¾ of a mile) to pick up and drop off passengers at locations they request, like a dial-a-ride system. People may board the bus at the fixed stops without prior arrangement; if a pick up is needed off the route, a request must be called in to the dispatcher. Most deviated fixed route services are operated in small communities or rural areas that seek to fulfill the needs of a variety of transit users with a single system.

Commuter Bus: Commuter service operates on a fixed route during peak-hour commute periods. Commuter routes often travel a long distance, taking commuters from suburbs to central business districts or to other suburbs with concentrations of employers. Pick-up and drop-off locations are minimized in order to provide direct and timely service. Vehicles are usually large transit coaches and are often equipped with more comfortable seating than typical transit coaches, reading lights, and restrooms on board. Fares are usually higher than other types of transit services due to the tailored nature of commuter service.

Commuter Vanpools: Commuter vanpools can be organized and paid for in a variety of ways. In general, a group of commuters share the operating and maintenance cost of a leased van that transports them to and from work. Usually one in the group is the regular driver. Participants usually meet in a central location, such as a park-and-ride lot and then are dropped off at their workplace(s). Vanpool participants often work for the same company. Vanpools are usually self-supporting but can also be subsidized by a public agency and/or employers.

Bus Rapid Transit: Bus Rapid Transit (BRT) is an integration of light-rail transit service ideals with the flexible operation of bus services. BRT services are usually defined by the attributes of the system. Systems with more attributes present are defined as BRT, and systems with fewer are often referred to as Rapid Bus. BRT services are defined as incorporating:

- Stylized BRT vehicles – often articulated vehicles;
- Exclusive or semi-exclusive rights-of-way for faster operation;
- Discrete stations spaced farther apart than traditional bus stops, with enhanced furnishings and amenities (lighting, shelters, seating, signage);
- Traffic signal prioritization (TSP);
- Real-time information systems;
- Proof-of-payment fare collection; and
- Branding and marketing.

Intercity Bus Service: Intercity bus service is designed to connect non-urbanized / rural areas and urbanized areas.

There are five public transit providers, including the CTSA, serving the western portion of Placer County, and one transit operator serving the northern and western shores of Lake Tahoe. A matrix summary of transit operators, services, and fares are shown in Table 6.2-1.

Table 6.2-1
Placer County Public Transit Services Summary

Transit Operator	Type of Service	Service Area	Fares (2010)
Placer County Transit	Fixed route Deviated fixed route Paratransit Commuter bus Commuter vanpools	Western Placer County from Alta to Sacramento	$1.25 general $0.60 disabled/senior & youth Paratransit: $2.50 general $1.25 disabled/senior & youth Commuter bus: $4.25 to $5.75 depending on distance. Vanpool: Fares vary depending on distance traveled
Tahoe Area Regional Transit	Fixed route Paratransit	Tahoe Basin from Incline Village to Sugar Pine Point, Truckee, SR 89	$1.75 general $0.85 disabled/senior
Auburn Transit	Deviated fixed route	City of Auburn and into unincorporated County	$0.80 general $0.60 disabled/senior & students
Lincoln Transit	Deviated fixed route Paratransit	City of Lincoln	Fixed route: $1.00 general $0.75 disabled/senior & youth Paratransit: $2.00 general $1.50 disabled/senior
Roseville Transit	Fixed route Commuter Paratransit	City of Roseville and Sacramento and Highway 50 corridor	Fixed route: $1.50general $0.75 disabled/senior & student Commuter: $3.25 resident & reverse $4.50 non-resident Paratransit: $3.75 general $2.50 disabled/senior
Western Placer Consolidated Transportation Services Agency	Paratransit – Non-Emergency Medical Transportation Volunteer Door-to-Door	Western Placer County and Sacramento (one day/week)	Free – donations accepted Free – donations accepted

Sources: Transit Operator system schedules & web sites.

FIXED ROUTE SYSTEMS

Placer County Transit (PCT)

Initiated in 1974, Placer County Transit (PCT) is operated by the Placer County Department of Public Works. Placer County Transit provides fixed route, deviated fixed route, dial-a-ride and commuter bus service as well as a commuter vanpool program. The service area includes western Placer County from Alta to Sacramento; one route terminates at the I-80 / Watt Avenue light rail station in Sacramento.

PCT directly operates fixed route service between 1) Alta, Colfax and Auburn, 2) Auburn and the Watt-I-80 Light Rail, 3) Dry Creek Road in North Auburn to Downtown Auburn, and 4) Lincoln, Rocklin and Sierra College. This service operates Monday through Friday, 5:00 am to 9:00 pm; and on Saturdays from 9:00 am to 7:00 pm. There is no service on Sundays.

The Placer Commuter Express (PCE) service begins in Colfax and stops at Clipper Gap, Auburn, Penryn, Loomis, Rocklin and Roseville, and ends in downtown Sacramento. This service operates Monday through Friday from 5:00 am to 8:00 am and from 4:00 pm to 7:00 pm.

PCT contracts Dial-A-Ride service and the Taylor Road Shuttle to PRIDE Industries. Dial-A-Ride provides service based on reservations directly to requested destinations within the service area. Dial-A-Ride is provided in Auburn in the Highway 49 Corridor, Loomis, Rocklin and Granite Bay. The Taylor Road Shuttle provides service to Newcastle, Penryn and Loomis from Auburn to Sierra College in Rocklin. The Taylor Road service is a route deviated service.

PCT also coordinates and subsidizes commuter vanpools. Vanpools are leased and insurance are provided by a private firm. The vanpools are driven by one of the commuters in the vanpool. Currently there are ten vanpools originating from Placer County to various employers in Sacramento and Davis. The vanpool program is supported with County subsidy.

PCT provides connections with Auburn Transit, Gold Country Stage (Nevada County), Lincoln Transit, Roseville Transit, and the Sacramento Regional Transit District (RT) at designated transfer points within respective jurisdictions.

Current routes of Placer County Transit are shown in Figure 6.2a.

Tahoe Area Regional Transit (TART)

Transit services in the North Tahoe area are primarily provided by Tahoe Area Regional Transit (TART) which is operated by the Placer County Department of Public Works. TART service differs from other transit services operated in Placer County, as it operates within the jurisdictions of multiple planning agencies including the Nevada County Transportation

Commission (NCTC), the Tahoe Regional Planning Agency (TRPA), and the Placer County Transportation Planning Agency (PCTPA).

TART operates public bus transit service in North Tahoe. TART's "mainline" route runs year-round between Tahoma on the Westshore to the Hyatt in Incline Village. The route serves Tahoe City, Kings Beach and all of the other communities along this route. TART also operates route service between Tahoe City, Squaw Valley and Truckee. In the summer time, TART adds the Tahoe Trolley service, which increases daytime service and adds nighttime service. In the winter and summer TART adds runs on the Tahoe City / Truckee route. Service hours are generally 6:00 a.m. to about 7:00 p.m.

TART service provides connections to public transit services offered by the Town of Truckee, the City of South Lake Tahoe, and the Regional Transportation Commission in Nevada.

In general, the Tahoe Regional Planning Agency (TRPA) is responsible for analyzing unmet transit needs within the Tahoe Basin, and PCTPA is responsible for the unmet transit needs outside the Basin, but within Placer County. NCTC performs the required unmet transit needs analysis within the Town of Truckee, where TART also provides a level of transit service. For purposes of the 2035 RTP, PCTPA focuses only on TART services located within its jurisdiction - State Routes 89 and 267 corridors.

Auburn Transit

The City of Auburn Department of Public works operates Auburn Transit. Auburn Transit provides two deviated fixed routes weekdays from 6:00 am to 6:30 pm, and one deviated fixed route on Saturdays from 9:00 am to 5:00 pm. There is no service on Sunday. Auburn Transit routes will deviate from the scheduled route up to ¾ of a mile upon a reservation request, scheduled at least two hours in advance. In addition, Auburn Transit will stop at any of several call-in stops on request. This deviated fixed-route service fulfills the Americans with Disabilities Act (ADA) requirement for complementary paratransit service. The vehicles are equipped with a cellular phone, which allows passengers to contact the drivers directly for demand-response service.

Auburn Transit is based around the Auburn Multi-Modal Station located on Blocker Drive near Nevada Street. The Auburn Multi-Modal Station provides a transfer point from Auburn Transit to Placer County Transit and Nevada County's Gold County Stage service.

Current routes of Auburn Transit are shown in Figure 6.2b

Figure 6.2a
Map of Placer County Transit Routes

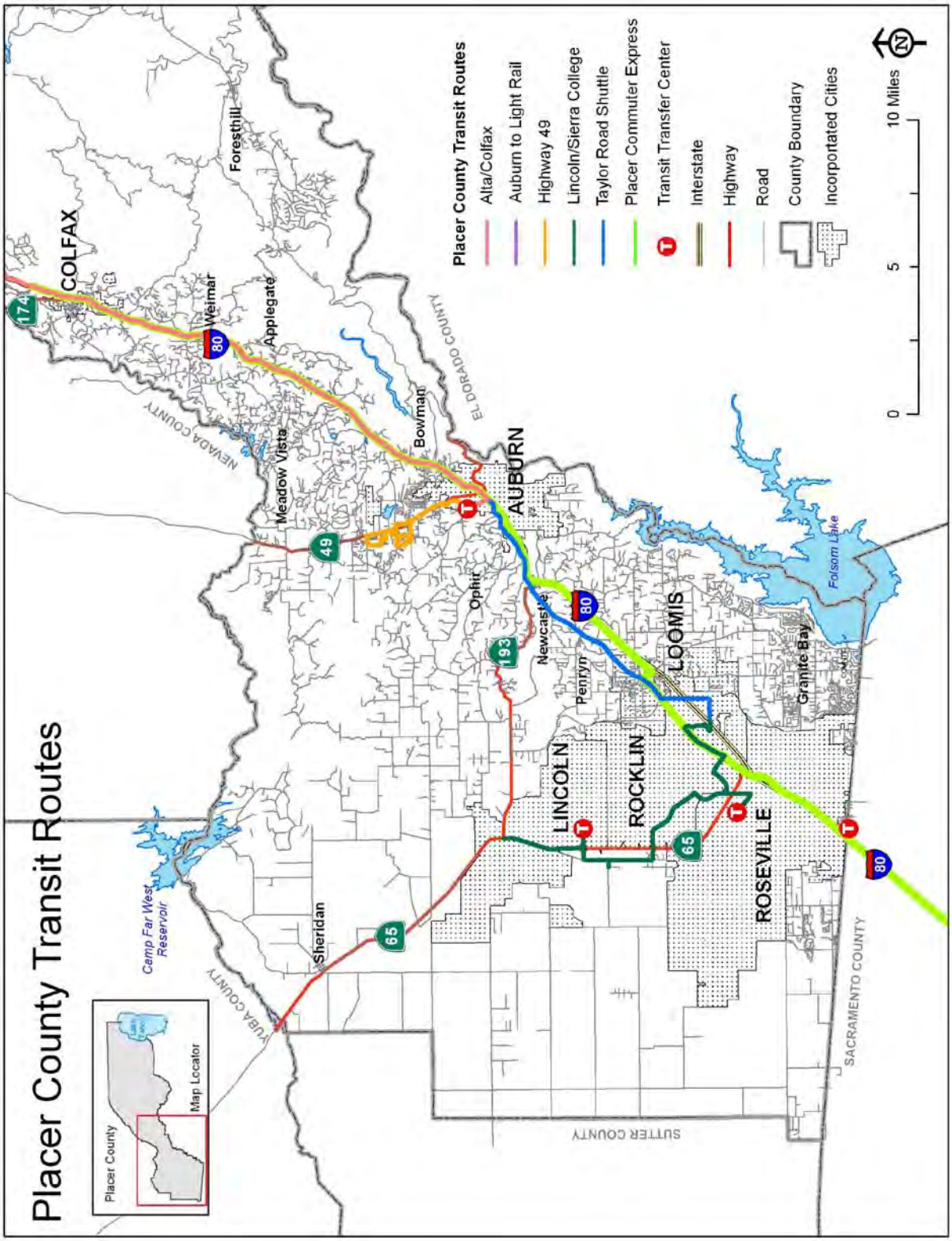
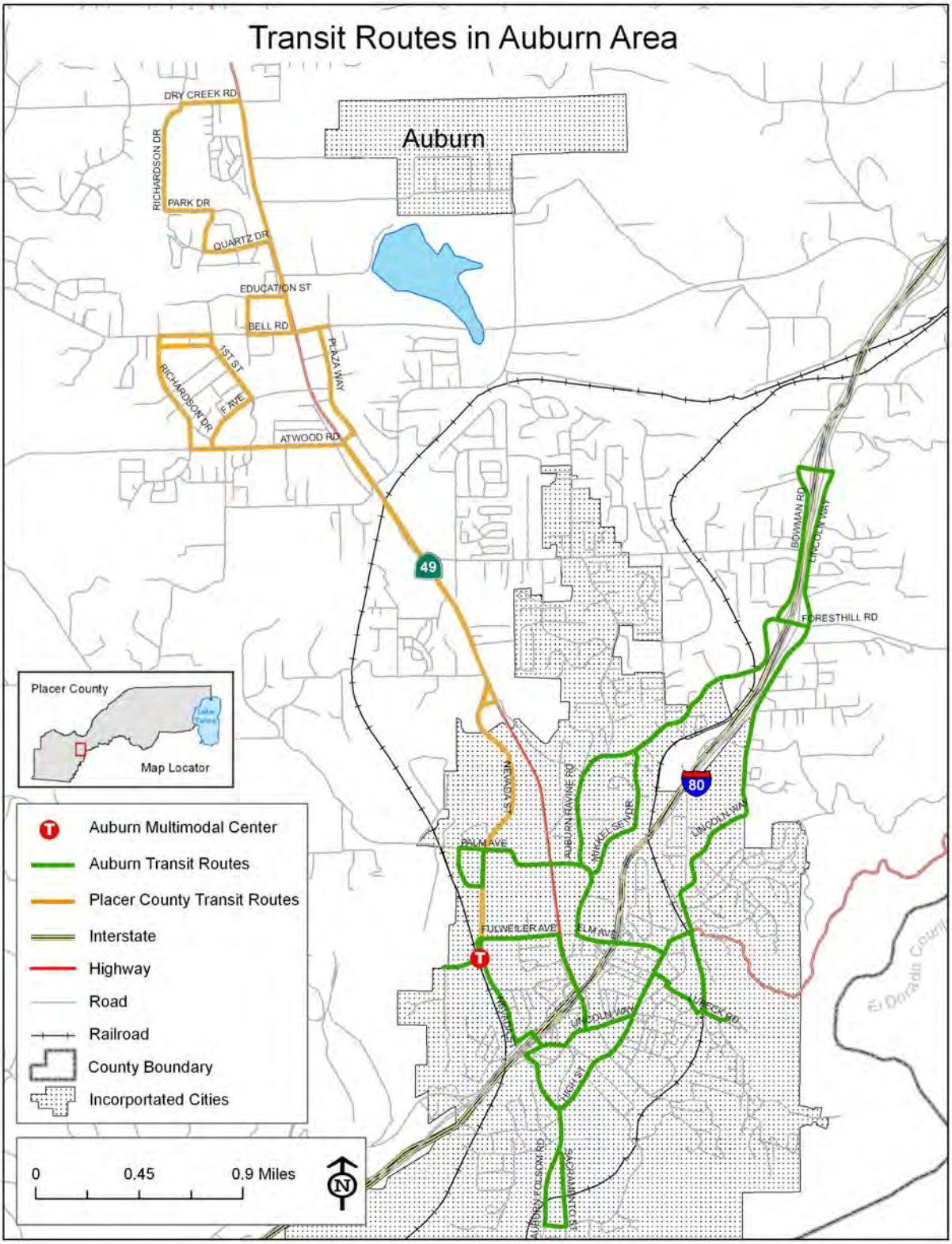


Figure 6.2b
Map of Auburn Transit Routes



Lincoln Transit

The City of Lincoln Department of Public Works operates Lincoln Transit. Lincoln Transit provides fixed-route and demand response public transit service. The City of Lincoln Starting November 16, 2009, the service includes two routes: the Downtown Circulator and Lincoln Loop.

The Downtown Circulator operates throughout historic Downtown Lincoln and along Hwy 65; with stops near City Hall, commercial retail centers, Twelve Bridges library, Twelve Bridges Medical Center, and Kaiser Permanente. Service hours are Monday through Friday (except holidays) from 6:30 am to 5:30 pm. No service is available on weekends. The Downtown Circulator also connects with Placer County Transit's Lincoln/Rocklin/Sierra College route. Placer County Transit service is available during evening hours and Saturday at Third and F Streets.

The Lincoln Loop operates throughout north of the ravine, with stops at many schools, parks, community centers, and other points of interest. Service hours are Monday through Friday (except holidays) from 7:00 am to 6:00 pm.

Lincoln Transit offers complementary paratransit service to ADA-certified individuals and seniors (age 60 and above). The program, which operates as a shared-ride, reservation-based service, provides curb-to-curb service to any location within a ¾-mile radius of any Lincoln Transit route as well as the Del Webb community. With respect to ride requests, priority will be given to ADA-certified individuals followed by seniors (defined as persons age 60 and above). Use of the dial-a-ride service by the general public is available solely on a space-available basis. The service operates Monday through Friday, from 7 am to 6 pm.

The City Council approved an update of the Lincoln Transit Short Range Transit Plan in April 2009.

Current Lincoln Transit routes are shown in Figure 6.2c.

Roseville Transit

The City's fixed route fleet consists of fifteen local fixed route plus ten commuter buses, which are owned and maintained by the City. The City's complimentary paratransit service is provided by a general public dial-a-ride service with eleven vehicles, which are also flexible for use in local services. Current Roseville fixed routes are shown in Figure 3.2d.

The City of Roseville Department of Public Works is responsible for providing transit service within the City of Roseville. The City owns and maintains the bus fleet and contracts with a transit provider for daily operation, dispatching and supervision of Roseville Transit. The current

operating contract began July 1, 2009 and is valid for a five year period, with three optional years.
Roseville Transit is comprised of three modes: a local fixed route service with ten local routes operated throughout the City, as well as two peak hour shuttles; Dial-A-Ride, a city-wide demand-response service open to the general public; and a weekday peak-period commuter service from park-and-ride facilities within Roseville to downtown Sacramento and to the Highway 50 corridor (as well as a reverse commuter service using the same commuter buses). All services operate weekdays, from 6:00 am to 7:00 pm., except the Commuter service, which operates from 5:00 am to 9:00 am and from 3:30 pm to 7:00 pm. The local fixed-route service (except for the peak hour employee shuttle) operates on Saturdays from 8:00 am to 5:00 pm, while the Dial-A-Ride operates on Saturdays and Sundays from 8:00 am to 5:00 pm.

Roseville Transit provides connections with Placer County Transit (PCT) and the Sacramento Regional Transit District (RT) at designated transfer points in Roseville.

Current Roseville Transit routes are shown in Figure 6.2d.

PUBLIC PARATRANSIT SYSTEMS

Western Placer Consolidated Transportation Services Agency (WPCTSA)

The Placer County Transportation Planning Agency (PCTPA) designated during FY 2008/09 a new Consolidated Transportation Service Agency (or CTSA) to serve western Placer County. The new CTSA is a joint powers authority, consisting of Placer County and all of the cities within the County, and is called the Western Placer Consolidated Transportation Service Agency. The CTSA became effective October 13, 2008, and new the service went into effect on January 2, 2009.

On January 2, 2009, three PRIDE Industries transportation programs – the I-Med program (or the non-emergency medical transportation program), the transportation voucher program, and the volunteer transportation program - transferred their administration to a new public / private partnership between the Western Placer CTSA and Seniors First, Inc, a private non-profit organization.

Seniors First, Inc. operates on behalf of the CTSA a non-emergency medical transportation service called “Healthy Express.” Several other private partners also support this effort: Sutter Auburn Faith Hospital, Sutter Roseville Medical Center, Kaiser Permanente, Placer Collaborative Network and Placer Independent Resource Services.

The CTSA has also implemented a voucher program where individuals with specialized needs and no transportation alternatives are provided with transportation to both local destinations and services anywhere in the greater Sacramento region. This service is operated by Seniors First.

The CTSA also partners with Seniors First to provide a volunteer based transportation program. The program provides transportation for seniors residing in Placer County, and also provides rides for disabled adults under 60 who are unable to drive or use public transportation. Transportation is provided to medical and dental appointments, labs, pharmacies; with service provided in western Placer County and Sacramento

The Western Placer CTSA further supports the goal of increasing mobility options for the elderly and individuals with disabilities by working with local non-profit / community based organizations that can design transportation for their own clients based upon local needs. To help address these organizations transportation needs, the Western Placer CTSA will provide surplus dial-a-ride vehicles from Placer transit operators that are being retired and sell these vehicles to local non-profit / community based organizations at a nominal amount. This program supports the county's public transportation function by:

- Reduce single occupancy vehicle trips, air pollution, and traffic congestion;
- Supplement the services provided by the local public transportation system; and
- Increase mobility for the transit-dependent who cannot use conventional public transportation services.

Figure 6.2c
Map of Lincoln Transit Routes

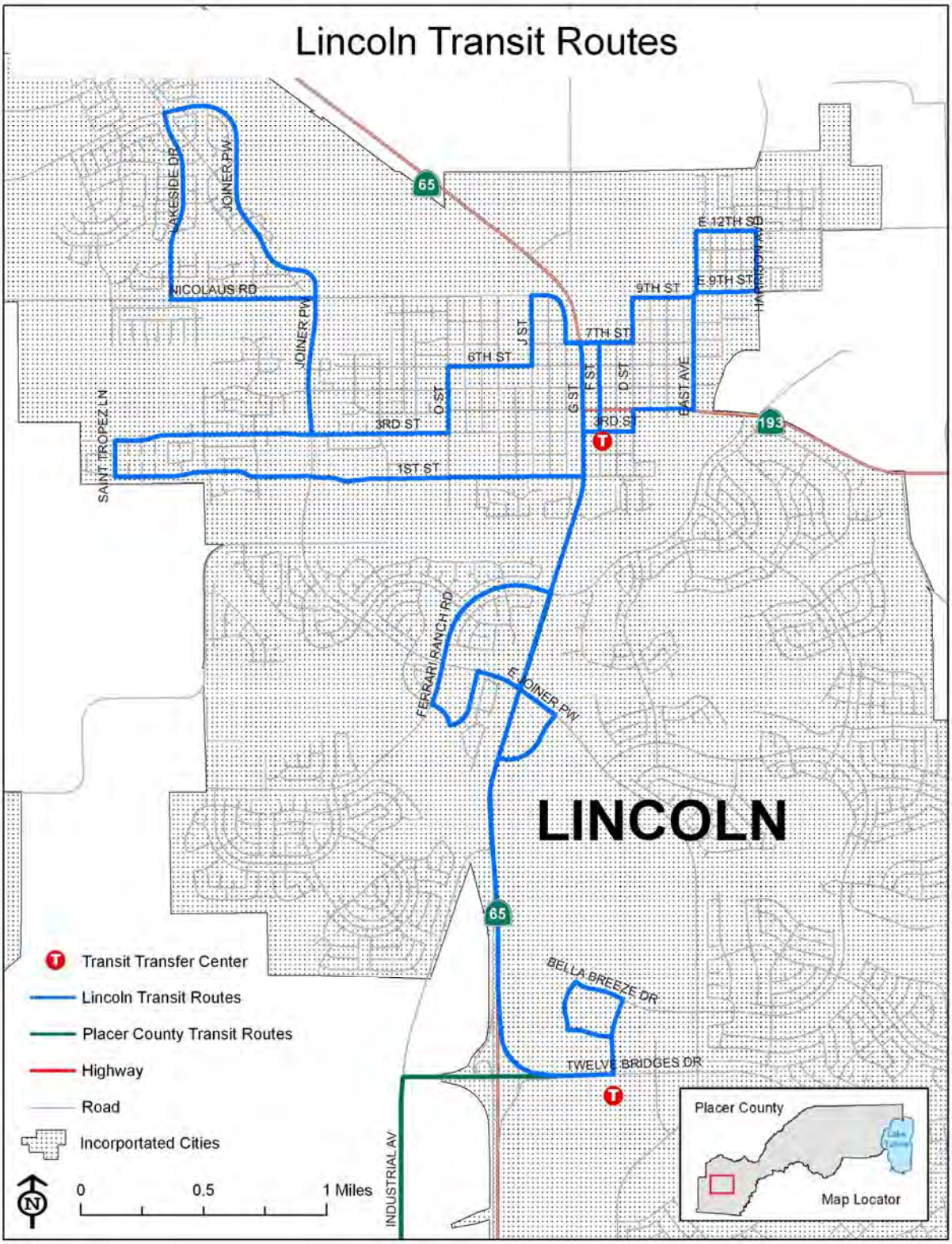
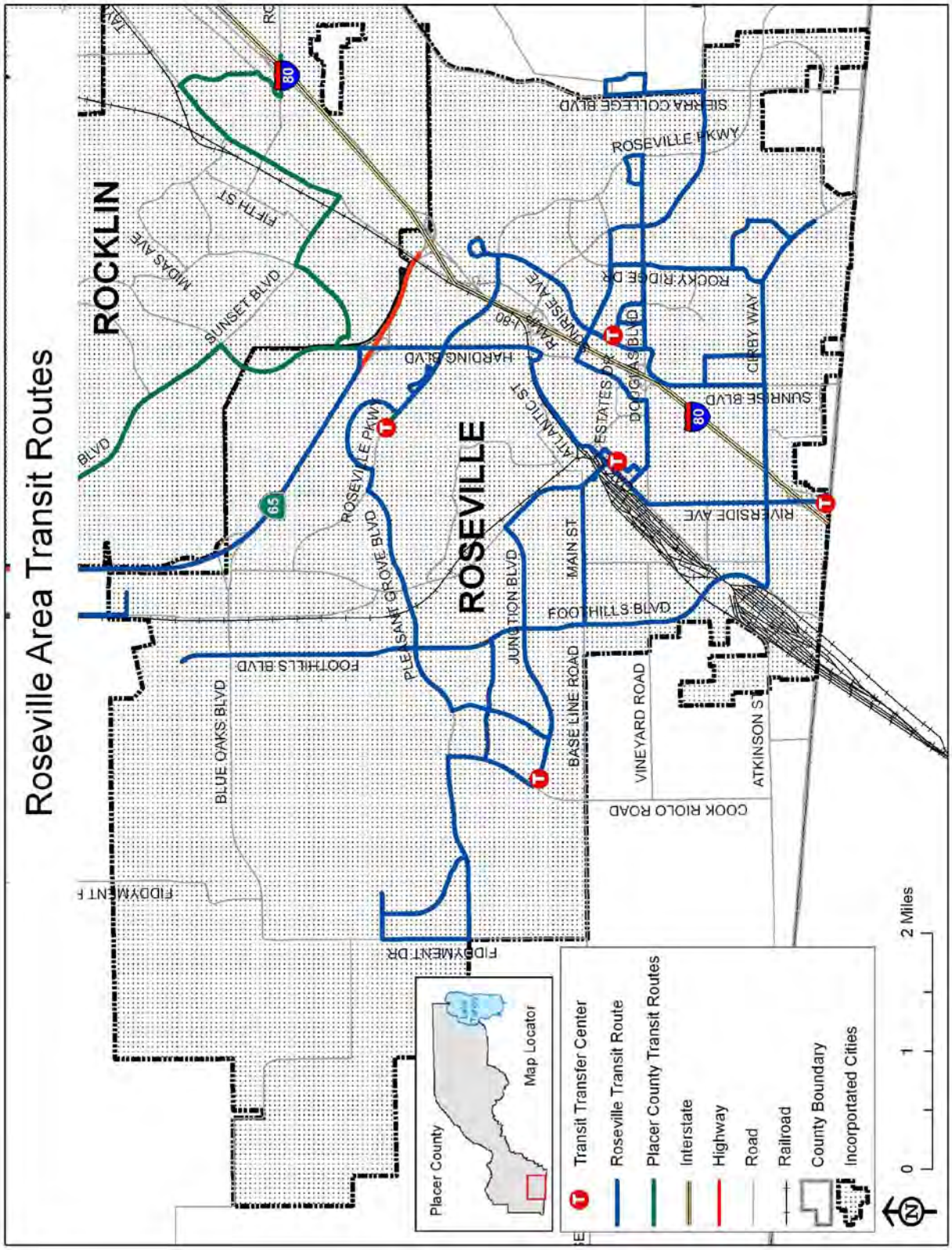


Figure 6.2d
Map of Roseville Transit Routes



Lincoln Transit Dial-A-Ride

The City of Lincoln offers weekday curb-to-curb Dial-a-Ride service focused on serving the needs of seniors, persons with disabilities, and the general public by reservation only

Roseville Dial-A-Ride

Operated by the City of Roseville and contracted to the private sector, Roseville Dial-a-Ride is a curb-to-curb, demand responsive service open to the public and operating within the city limits of Roseville. Reservations are required at least two hours in advance. With a fleet of twelve vehicles, service hours are 6:00 a.m. to 8:00 p.m. Monday through Friday, 8:00 a.m. to 6:00 p.m. Saturdays and Sundays.

Tahoe Area Regional Transit (TART)

Placer County Department of Public Works contracts with a local cab company in the Tahoe Basin to provide ADA complementary paratransit service for its TART fixed route service.

AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS

The Americans with Disabilities Act (ADA) requires that all public transit buses be accessible to individuals with disabilities. Currently, all buses used by transit providers in Placer County meet this requirement. In addition, the ADA requires transit authorities to provide complementary paratransit or other special transportation services to individuals with disabilities who cannot use fixed-route bus service. This service must be demand-response and curb-to-curb service provided within a ¾-mile boundary around all fixed-route transit services. Placer County transit operators fulfill this requirement in one of two ways: dial-a-ride paratransit service (Lincoln Transit, Placer County Transit and Roseville Transit) or deviated fixed-route service (Auburn Transit and Placer County Transit).

Any trips that are currently not provided according to these requirements are considered violations of ADA regulations. According to the PCTPA definition, an unmet transit need can include those trips (and measures) required to comply with the requirements of the ADA.

SOCIAL SERVICE TRANSPORTATION

While the CTSA provides some of the social service transportation in western Placer County, there are several agencies that either contract with the private sector for transportation services or have their own fleets and operate paratransit service. Ridership is limited to program clients based on the individual agency's criteria. The major non-profit social service transportation provider in Placer County is PRIDE Industries. PRIDE Industries provides contract services to

organizations, such as Alta California Regional Center, to transport their clients to training centers, workshops, and other employment locations.

SACOG Public Transit and Human Services Transportation Coordinated Plan

A Coordinated Plan is required under SAFETEA-LU. SACOG developed a regional Coordinated Plan, which included Placer County. The Plan was adopted in July 2007. The Plan offers an overview of transit services available; where there are gaps in services; and includes potential solutions to close those service gaps. With the Coordinated Plan in place, federal funds specifically directed toward services to lower income persons, seniors, and persons with disabilities are available to Placer County transit operators. The types of services provided with these funds are derived from the SACOG Coordinated Plan. SACOG intends to develop future updates of the Coordinated Plan along the same schedule as the MTP.

Best Step Transportation Collaborative

The Best Step Transportation Collaborative is another avenue for coordination of social service transportation. This working group is a subcommittee of the larger Best Step Collaborative, which is a consortium of public and private agencies that serve persons with disabilities. The Collaborative focuses on communication and coordination among the various organizations to provide the most appropriate and effective services to those with disabilities.

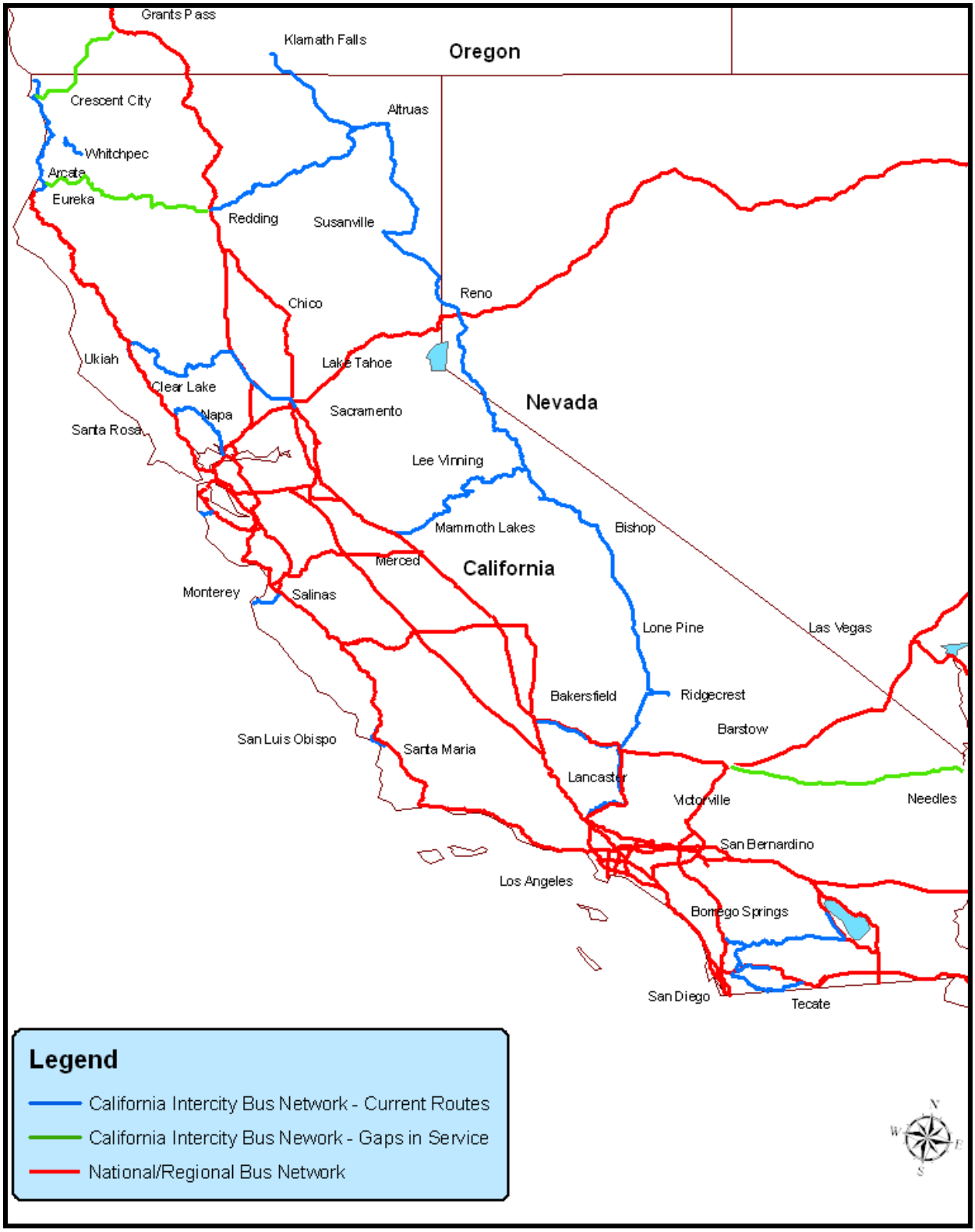
INTERCITY BUS SERVICE

California's Intercity Bus Program is designed to address the state's intercity bus transportation needs supporting projects that connect non-urbanized / rural areas and urbanized areas. The goals of this program are:

- Provide a seamless regional service;
- Encourage interagency coordination;
- Enhance and expand regional bus services; and
- Conduct marketing and provide an informational network.

Interstate 80 in Placer and Nevada counties is part of the established California Intercity Bus Network (see Figure 6.2e).

Figure 6.2e
California Intercity Bus Network



TRANSIT NEEDS ASSESSMENT

PCTPA encourages the use of public transit and paratransit within the County by assisting programs aimed at providing transportation services to the general public, the elderly, and persons with disabilities. Each of the seven jurisdictions within PCTPA's jurisdiction provides or contracts for transportation services for their constituents.

Private firms also provide transportation services within the region. Greyhound Lines provides service along the I-80 corridor, with stops in Placer County. Other private transportation services operating in PCTPA's jurisdiction include limousines, airport shuttles, taxi services, and non-emergency medical transport.

Unmet Transit Needs

As required under the Transportation Development Act, PCTPA must annually make an assessment of the unmet transit needs existing within Placer County. Based on this assessment, PCTPA must make one of the following findings:

- There are not unmet transit needs that are reasonable to meet;
- There are unmet transit needs, but they are not reasonable to meet; or,
- There are unmet transit needs, including those which are reasonable to meet.

The Placer County Transportation Planning Agency (PCTPA) Board of Directors has adopted a definition of an unmet transit need and criteria for determining whether needs are reasonable to meet. The adopted definition of an unmet transit need is as follows:

> *An unmet transit need is an expressed or identified need, which is not currently being met through the existing system of public transportation services. Unmet transit needs are also those needs required to comply with the requirements of the Americans with Disabilities Ac*t.

The adopted criteria for determining whether or not an unmet transit need is reasonable to meet (assuming all of the criteria prevail) are as follows:

- *Service, which if implemented or funded, would result in the responsible service meeting the fare box recovery requirement specified in California Code of Regulations Sections 6633.2 and 6633.5, and Public Utilities Code 99268.2, 99268.3, 99268.4, and 99268.5. The minimum required fare box recovery is 10 percent for Placer County Transit (PCT), Tahoe Area Regional Transit (TART), Auburn Transit, Lincoln Transit, and paratransit (Dial-A-Ride) services; for Roseville Transit it is 15 percent.*
- *Notwithstanding the criterion above, an exemption to the required fare box recovery requirement is available to the claimant for extension of public transportation*

services, as defined by California Code of Regulations Section 6633.8, and Public Utilities Code 99268.8.

- *Service, which if implemented or funded, would not cause the responsible operator to incur expenditures in excess of the maximum amount of Local Transportation Funds, State Transit Assistance Funds, Federal Transit Administration Funds, and fare revenues and local support, as defined by Sections 6611.2 and 6611.3 of the California Administrative Code, which may be available to the claimant.*
- *Community support exists for the public subsidy of transit services designed to address the unmet transit need, including but not limited to, support from community groups, community leaders, and community meetings reflecting a commitment to public transit.*
- *The need should be in conformance with the goals included in the Regional Transportation Plan.*
- *The need is consistent with the intent of the goals of the adopted Short Range Transit Plan for the applicable jurisdiction.*

Unmet transit needs workshops are held annually in various locations throughout the County. The purpose is to provide a forum for public input into the transit planning process and identify those transit needs that are not being met. Once these needs are identified, a determination is made as to whether these needs are reasonable to meet, based on the criteria above.

The list below summarizes the more prominent themes presented during prior year annual unmet transit needs processes:

- New service or service extensions (this is the dominant comment category).
- More direct routes, with fewer transfers.
- Regional connections between North Lake Tahoe, Auburn, Folsom/western El Dorado, and Sacramento.
- More consistent service hours among the different operators to provide better connectivity.
- More frequent service, especially during commute periods.
- More weekend service, with longer service hours, particularly in the morning.
- Later evening and night service consistent with employer work schedules, particularly in North Lake Tahoe.
- Improved marketing, signage, information availability, and outreach of services.
- Various facility improvements, including shelter, stops, and park-and-ride

If the PCTPA Board of Directors finds that there are unmet transit needs that are reasonable to meet, LTF funds must be spent to meet those needs before funds can be spent for streets and roads purposes. TDA funds are the primary source of subsidy for public transportation services.

However, if no needs meet the reasonable-to-meet criteria, jurisdictions can implement service changes or other improvements as long as transit operators continue to meet the TDA-required fare box recovery minimum.

Social Services Transportation Advisory Council (SSTAC)

As the part of PCTPA's responsibility for the administration of Transportation Development Act (TDA) funds the agency is required to provide for the establishment of a Social Services Transportation Advisory Council (SSTAC). Categories of membership is guided by the TDA, with members appointed by the PCTPA Board.

The SSTAC's responsibilities are three-fold:

- Annually participate in the identification of unmet transit needs;
- Annually review and recommend action by the transportation planning agency regarding any recommendations and findings relative to unmet transit needs; and
- Advise the transportation planning agency on any other major transit issues, including the coordination and consolidation of specialized transportation services.

Transit Planning

Transit operators in Placer County are committed to improving service through participation in both countywide and regional coordinating groups and ongoing transit planning efforts.

PCTPA sponsors the countywide Transit Operators Working Group (TOWG), which meets every other month or as needed. Through the TOWG, all of Placer County's transit operators work together to coordinate services and the implementation of a variety of capital projects. The members also provide valuable input on annual fiscal audits and triennial performance audits.

On a regional level, SACOG sponsors the Transit Coordinating Council (TCC). The TCC meets quarterly to coordinate efforts to obtain federal grant funds and earmarks for both operating and capital purposes and to share information. The TCC includes all of the transit operators in the counties of Sacramento, El Dorado, Placer, Yuba, Sutter, and Yolo. The TCC members work together on such issues as obtaining Federal funds for regional access to jobs transit services, coordinating use of Federal Transit urbanized area formula grant funds (e.g., FTA Section 5307), developing a regional transit trip planning capability, and universal fare card program.

Short Range Transit Plans

Short range transit plans (SRTP) are prepared for each of the transit operators in Placer County. The SRTP is the document through which the continuing, comprehensive and coordinated transit planning process is implemented. These plans look at countywide demographics, review operating histories of each transit operator, analyze demand for transit services, present a series

of goals, objectives and performance standards, analyze a series of service alternatives, identify operating, maintenance and capital program needs, address the requirements of the ADA, the FTA and the TDA, and present the steps that each transit operator will take over a five to seven year planning period to improve and enhance transit services.

Because the SRTPs represent a focused and calculated approach to improve each transit system, the PCTPA Board of Directors requires that any unmet transit need that is identified to be consistent with the applicable SRTP before it can be considered "reasonable to meet." The SRTPs also serve as the primary justification for receipt of Federal and State funds for transit operations and capital projects. Adopted SRTP goals, objectives and performance standards are shown in Table 6.2-2.

Table 6.2-2
Western Placer County Goals & Standards for Transit Service

TABLE 59: Western Placer County Goals and Standards for Transit Service
Fiscal Year 2002-03 Results

		Service Efficiency Goal [1]		*Service Effectiveness Goal*	*Service Quality Goal*				
Service	**Provider**	Operating Farebox Return Ratio Standard (Minimum)	Operating Subsidy Per Passenger-Trip Standard (Maximum)	Passenger-Trips per Vehicle Service Hour (Minimum)	Service Availability Standard	On-Time Performance Standard (Minimum % of Trips On-Time	Missed Trips (Maximum)	Service Headway Standard (Minimum)	Trip Denial Standard
Regional Commuter Services									
Standard		**15%, Except 75% for Roseville Commuter Services**	**$6.50**	**8.0**	**Major Activity Centers?**	**95%**	**1%**	**N/A**	**N/A**
Lincoln / Rocklin / Sierra College	PCT	5.5%	$8.57	7.7	No	N/A	N/A	N/A	N/A
Auburn / Light Rail	PCT	7.7%	$5.91	12.9	Yes	N/A	N/A	N/A	N/A
Roseville Commuter Services	Roseville Transit	79.3%	$0.81	13.4	Yes	Yes	Yes	N/A	N/A
Intra-Community Services									
Standard		**10% Smaller Jurisdictions, 15% Larger Jurisdictions**	**$6.50**	**8.0**	**Service Within 1/4 Mile of 85% of Residents?**	**95% for Fixed-Routes, 90% for Deviated Fixed-Routes**	**1%**	**60 Minutes**	**N/A**
Highway 49 Shuttle	PCT	9.5%	$4.71	10.5	Yes	N/A	N/A	Yes	N/A
Auburn Transit	Auburn Transit	7.9%	$7.56	6.7	Yes	N/A	N/A	No	N/A
Lincoln Transit	Lincoln Transit	9.6%	$13.22	5.8	Yes	N/A	N/A	Yes	N/A
Roseville Transit Route A	Roseville Transit	7.4%	$5.77	7.9	Yes	Yes	Yes	Yes	N/A
Roseville Transit Route B	Roseville Transit	6.3%	$6.88	6.3	Yes	Yes	Yes	Yes	N/A
Roseville Transit Route C	Roseville Transit	5.7%	$7.60	5.7	Yes	Yes	Yes	Yes	N/A
Roseville Transit Route D	Roseville Transit	6.6%	$6.51	6.8	Yes	Yes	Yes	Yes	N/A
Roseville Transit Route E	Roseville Transit	10.6%	$3.90	9.9	Yes	Yes	Yes	Yes	N/A
Roseville Transit Route J	Roseville Transit	10.3%	$4.01	9.9	Yes	Yes	Yes	Yes	N/A
Roseville Transit Route K	Roseville Transit	9.0%	$4.66	8.7	Yes	Yes	Yes	Yes	N/A
Roseville Transit Route M	Roseville Transit	3.4%	$13.24	3.5	Yes	Yes	Yes	Yes	N/A
Roseville Transit Route R	Roseville Transit	8.2%	$5.20	8.6	Yes	Yes	Yes	Yes	N/A
Rural Services									
Standard		**10.0%**	**$15.00**	**3.0**	**N/A**	**95%**	**1%**	**3 Trips/Day**	**N/A**
Colfax/Alta Shuttle	PCT	3.1%	$15.47	3.8	N/A	N/A	N/A	No	
Demand Response Services									
Standard		**N/A**	**N/A**	**3.0**	**Service Within 3/4 Mile of Fixed-Routes?**	**95%**	**1%**	**N/A**	**No Pattern of ADA Denials, Attempt Reschedule Where Possible**
Roseville Dial-A-Ride	Roseville Transit	10.0%	$16.61	2.5	Yes	Yes	Yes	N/A	Yes
Highway 49 Dial-A-Ride [2]	CTSA	4.0%	$7.55	3.3	Yes	N/A	N/A	N/A	Not Reported
Taylor Road Shuttle [2]	CTSA	4.8%	$10.88	2.7	Yes	N/A	N/A	N/A	Yes
Rocklin-Loomis Service [2]	CTSA	6.5%	$7.91	3.2	Yes	N/A	N/A	N/A	Yes
Granite Bay Service [2]	CTSA	4.1%	$12.82	2.6	Yes	N/A	N/A	N/A	Yes

Note 1: In addition to the farebox recovery ratio and subsidy standards, a 3/4 mile maximum deviation standard is used for deviated fixed-route services.
Note 2: The data reported herein for CTSA is from Fiscal Year 2001-02.

Working with the TOWG, PCTPA completed updates to the short range transit plans for each of the transit operators in western Placer County in 2005. TART completed updates to its system plan in 2005, as well. One consulting firm was hired to prepare all of the plans, and the

operators work together to coordinate plans for service changes and expansion in order to complement each others' efforts. The result is a blueprint for each transit operator's service and capital needs through 2012.

Since this last update all of the transit operators have made significant changes to their services, including increases in service area, frequency and span of hours. Because the majority of the data contained in each SRTP has become dated the SRTPs for Auburn Transit, PCT, Roseville Transit, and the Western Placer CTSA will be updated in FY 2010-11. Lincoln Transit's SRTP was recently updated and adopted by the City Council in April 2009.

TDA Triennial Transit Operator Performance Audits

PCTPA is statutorily required by Section 99246 of the California Public Utilities Code to conduct a performance audit every three years of the activities of each of the five transit operators under its jurisdiction that it allocates LTF (funds). Performance audits of Auburn Transit, Lincoln Transit, Roseville Transit, Placer County Transit, the Consolidated Transportation Service Agency were completed and accepted by the PCTPA Board of Directors in June 2007, covering fiscal years 2003-04 through 2005-06.

The purpose of the performance audit is to evaluate the effectiveness and efficiency of an operator's use of TDA funds to provide public transit in its service area. This is a requirement for continued receipt of these funds for public transit purposes. The reviews are conducted consistent with Caltrans "Performance Audit Guidebook for Transit Operators and Regional Transportation Planning Entities" (January 1998, 2nd Edition).

Long Range Transit Plan

In coordination with the TOWG, PCTPA completed a Long Range Transit Master Plan for South Placer County. The Transit Master Plan presented a series of scenarios for possible future service levels, capital needs, technology options, financing and organization within the county. The Plan examined the issues inherent in coordinating transit service delivery among the five existing transit operators. The Transit Master Plan also outlined recommendations in a variety of areas to assist Placer County in managing and planning transit services as the area grows.

Specific elements examined during the master planning process include:

- Long-Range service plan;
- Vehicle maintenance needs and arrangements;
- Capital needs and options (vehicles and facilities);
- Technology upgrade/modernization issues and options;
- Costs and funding options; and
- Management and governance ("institutional") arrangements.

Master Plan recommendations were based on three long-range scenarios:

- **Scenario 1 (Funding Constrained Service Level) –** Base line assumptions, but includes a 140% increase in transit vehicle miles and vehicle hours based on population growth, with funding coming from existing sources only;
- **Scenario 2 (Transition Service Level) –** Transition level of service from rural to urban service, and includes a 190 percent increase in transit vehicle-miles and vehicle-hours, with higher service levels targeted in fast-developing areas in the County; and
- **Scenario 3 (Urban Service Level) –** Transition to a full urban function for the transit services in the county, resulting in a 320% increase in transit vehicle miles and vehicle hours.

Development assumptions in each scenario are consistent with urban density levels established under the Blueprint Preferred Alternative in the Sacramento Council of Government's (SACOG) Metropolitan Transportation Plan (MTP).

The Master Plan was accepted by the PCTPA Board of Directors in June 2007, with staff direction to pursue the recommendations outlined for Scenario 2 in the Plan. Scenario 2 is to be used for planning and policy purposes for development of future transit services in Placer County through the year 2035, with a focus on coordination and integration opportunities in light of anticipated land use and demographic changes occurring within the County.

South Placer Dial-a-Ride Study

As previously noted there are four separate Dial-a-Ride systems providing service in the South Placer area. All of these services are funded with local Transportation Development Act (TDA) funds from the three cities and Placer County. These systems provide two distinct types of dial-a-ride service: general dial-a-ride service open to the public, and service specifically targeted toward elderly persons and persons with disabilities including that required by the Americans with Disabilities Act (ADA).

As the area continues to grow, demand for travel across municipal boundaries also grows. The logistics of providing dial-a-ride service (including resultant transfers) to meet inter-municipal travel needs has become increasingly challenging from both the transit operator and rider's point of view. The issue of better coordination or consolidation of dial-a-ride services in the South Placer region comes up annually during PCTPA's unmet transit needs process.

The recently Transit Master Plan for South Placer County speaks to the critical importance of creating transit services that are seamless to users, and of developing an infrastructure by which unmet needs can be effectively met. Further, each of the operator short range transit plans also recommend further study of a coordinated or consolidated approach to dial-a-ride service in the South Placer region.

The South Placer Regional Dial-a-Ride Study was completed in September 2007. The PCTPA Board of Directors accepted the Study and directed staff to implement its recommendations to

avoid duplication and coordinate respective Dial-a-Ride services in an effort to provide the highest level and quality of service to the riding public.

South Placer County Bus Rapid Transit Service Plan

Placer County has an adopted Transit Master Plan that addresses various approaches to coordinated transit services. The BRT services outlined in this report were envisioned in that Master Plan, and would be one portion of the coordinated services in the county. This plan portrays a long-range vision for BRT services within Placer County and describes a potential phasing plan to incrementally implement and upgrade BRT services as development occurs in the southwestern portion of Placer County.

The route structure for the Placer County BRT System was developed based on planning work that was done between 2005 and 2007 for PCTPA and South Placer Regional Transportation Authority (SPRTA). The major elements of the basic route structure include the three primary BRT routes, with secondary options. The recommended routes are summarized in Table 6.2-2. Modifications to the routes will be developed at the time of implementation based on the results of future land use development and more specific feasibility assessment.

Table 6.2-3
Recommended BRT System Route Structure for South Placer County

Route 1-A (primary)	CSU Placer – Hewlett–Packard Campus – Corporate Center – Galleria – Watt/I-80 Light Rail Station via Sunset Blvd, Foothills Blvd, Blue Oaks, CA–65, Roseville Parkway, I-80. Option: Extension to City of Lincoln
Route 2-A (primary)	CSU Placer – West Roseville Town Center – Placer Vineyards Center – Watt/I-80 LRT Station via Fiddyment Rd, Pleasant Grove Rd, Watt Ave. Option: Extension to City of Lincoln
Route 3-A (primary)	Galleria – Taylor – Hazel LRT Station – Sunrise LRT Station via Roseville Parkway, Sierra College Blvd, Hazel Ave, Folsom Blvd

Source: South Placer County Bus Rapid Transit Service Plan Final Report, URS Corporation, November 2008.

PCTPA's BRT Service Plan, which included an examination of ridership estimates for BRT service; capital needs and technology opportunities for deployment of the system; an implementation phasing strategy; institutional models to manage the service; and a financial plan to establish capital and operating costs and to identify potential funding sources.

Universal Transit Fare Card System – Connect Card

SACOG has obtained grant funding to develop a Universal Transit Fare Card system in eight different transit systems across the Sacramento region. The Universal Transit Fare Card, or Connect Card, is a program to implement a regional, contact-less electronic transit fare system (or smart card) that will allow for seamless transfers between transit systems and increase transit ridership. Seamless transfers between systems has been an annual request by passengers through the unmet transit needs process in Placer and Sacramento counties. PCT and Roseville Transit

are the participating transit operators in Placer County. The Connect Card is expected to be fully operational by 2012.

Lifeline Transit

SACOG has obtained grant funding to assess the lifeline transit needs for low-income residents in the Sacramento region. The analysis will identify service needs and gaps for low-income households to reach essential destinations, and review creative alternatives for addressing identified needs and gaps. The information gathered through the study will help inform the 2011 MTP, the next Coordinated Plan, and transit operator's short-range service planning efforts.

Transit Consolidation/Coordination

As a result of a March 2009 Board transit workshop, potential operational improvements and/or cost savings that could result from consolidating the various transit operations in Placer County was investigated. A key driver behind the consolidation effort has been the State funding cuts for local transportation, including the elimination of the State Transit Assistance program and proposed diversions of local gas tax and Proposition 42 funds.

Consensus emerged behind several recommendations:

- Transit consolidation efforts are premature. Focus should first be on improved coordination of existing transit services.

- Specific areas of coordination that should be pursued are:
    - Improved/streamlined transfers between operators;
    - Coordination of schedules;
    - Elimination of service duplications;
    - Uniform fare card or other way of paying that will work on all transit services; and
    - Implementation of a call center as a single phone number/point of contact for the public to get transit information, schedules, and dial a ride reservations.

PUBLIC TRANSIT ACTION PLAN

Short Range

1. Continue to maximize available Federal Transit Administration (FTA) funds through the Section 5311 (rural transit), Section 5307 (urban transit), and other FTA discretionary programs. *(PCTPA, transit operators)*

2. Continue to maximize available State funds through the State Transit Assistance, bond programs, and other related funding programs. *(PCTPA, transit operators, CTSA)*

3. Update the short range transit plans for Auburn, Lincoln, Roseville, Placer County, and the Western Placer CTSA. *(PCTPA, jurisdictions, transit operators, CTSA)*

4. Monitor transit services regularly and make adjustments to routes and schedules to improve operational efficiency and on-time performance, and maintain a discipline of cost recovery, including meeting fare box recovery ratios as outlined in the Transportation Development Act and productivity standards established in the adopted Short Range Transit Plans. *(PCTPA, transit operators, CTSA)*

5. Conduct an independent performance audit every three years of the activities of each of the five transit operators under PCTPA jurisdiction that it allocates LTF (funds). *(PCTPA, transit operators, CTSA)*

6. Conduct an independent financial audit annually of the TDA funds allocated to each jurisdiction to determine compliance with statutes, rules and regulations of TDA and the allocation instructions of PCTPA. *(PCTPA, jurisdictions, transit operators, CTSA)*

7. Continue to obtain public input on public transportation systems by holding annual unmet transit needs workshops and hearings. Implement expanded services to respond to needs that are reasonable to meet. *(PCTPA, transit operators, jurisdictions, CTSA)*

8. Continue active participation in local and regional coordinating groups (e.g., SACOG Transit Coordinating Committee, Transit Operators Working Group, Best Step Transportation Collaborative). *(PCTPA, transit operators, CTSA)*

9. Work with public transit operators and social service transportation providers to improve or increase transit services to rural areas of Placer County. *(PCTPA, transit operators, CTSA)*

10. Implement and/or modify paratransit services to continually meet the requirements of the Americans with Disabilities Act. *(PCTPA, transit operators)*

11. Continue to coordinate and consolidate social service transportation whenever possible. *(PCTPA, CTSA, social service agencies)*

12. Implement the recommendations outlined in the South Placer Regional Dial-a-Ride Study to avoid duplication and coordinate respective Dial-a-Ride services. *(PCTPA, transit operators, CTSA)*

13. Encourage the transit operators to work cooperatively to optimize service delivery, offer complementary services and fare media to improve ease of connectivity among transit systems. *(PCTPA, transit operators, CTSA)*

14. Implement a discounted College Transit Pass Program in partnership with local colleges, universities, trade and technical schools to increase student awareness and use of Placer County public transit services. *(PCTPA, transit operators, Sierra Community College District, California State University Sacramento, other local colleges, universities, trade and technical schools)*

Long Range

1. Continue to update the short range transit plans for the transit operators with continued emphasis on meeting the transit needs of the growing and changing population, public education, enhancing the convenience of regional travel, offering alternatives to the automobile, and improving connections between various modes of travel. *(PCTPA, transit operators, CTSA, jurisdictions)*

2. Pursue the recommendations outlined for Scenario 2 in the Transit Master Plan in the development of future transit services in Placer County through the year 2035, with a focus on coordination and integration opportunities. *(PCTPA, transit operators, CTSA, jurisdictions)*

PUBLIC TRANSIT PROJECTS

Table 6.2-4
Public Transit Projects List

Lead Agency	SACOG Project ID	SACOG MTP	SACOG MTIP	Project Title	Project Description	Year Complete	Status	Current Year (2010) $	Expenditure Year $
Placer County Transit	PCT10479	07-00	11-00	Sierra College Bus Stop Improvements	Entrance bus stop on the periphery of Sierra College campus along Rocklin Road.	2010	Programmed	$113,095	$113,095
Caltrans Headquarters	CAL18820	07-00	11-00	FTA Section 5310 Elderly & Disabled Transit Program Grouped Projects	Transit capital purchases, including large, medium, & small buses, minivans, bus lifts, scheduling software, mobile radios, & other equipment. Project cost is for Placer County only, non-profit is PRIDE Industries, Inc.	2011	Programmed	$440,085	$457,688
City of Auburn Dept. of Public Works	PLA25459	'07-00	11-00	Auburn Transit - O&M (2011)	Operations & maintenance (O&M) for Auburn Transit bus service within the City of Auburn.	2011	Programmed	$453,000	$471,120
City of Auburn Dept. of Public Works	PLA25399	'07-00	11-00	Auburn Transit Bus Replacement	Purchase 2 (two) 25' replacement buses.	2011	Programmed	$166,500	$173,160
City of Roseville Dept of Public Works	PLA25319	'07-00		Roseville Transit Buses	Replace 4 fixed route buses.	2011	Planned	$1,543,000	$1,604,720
City of Roseville Dept of Public Works	PLA25415	'07-00	11-00	Bus Purchase	Replace three (3) DAR style buses, with three low floor buses @ $130,000 each.	2011	Programmed	$390,000	$405,600
City of Roseville Dept of Public Works	PLA25215	07-00	11-00	Operating Assistance JARC 5316	JARC funds to decrease headways on weekday Roseville Transit Local Route A from hourly to every half hour. The additional service will aid passengers taking transit to major employment centers & provide better connectivity to Sacramento Regional Transit & Placer County Transit.	2011	Programmed	$229,119	$238,284
City of Roseville Dept of Public Works	PLA25200	'07-00	11-00	Roseville Transfer Point & Bus Stop Improvement Project	1. In Roseville, bus stop & pedestrian improvements along Riverside Avenue & completion of bike trail segment to Darling Way/Riverside Avenuenue;2. &, transfer point improvements at Sierra Gardens/Santa Clara Drive. LIMITS: 1. Riverside Avenue - Douglas to Darling (including ptn. of bike trail along Dry Creek);2. Sierra Gardens/Santa Clara. STREET NAME: Riverside Avenue	2011	Programmed	$1,402,500	$1,458,600
City of Roseville Dept of Public Works	PLA25404	'07-00	11-00	Repower/Rehab Buses	Repower/Rehab buses	2011	Programmed	$1,215,000	$1,263,600
Placer County Transit	PCT10496	'07-00	11-00	Preventive Maintenance	In non-urbanized areas of Placer County: Preventive maintenance. (Includes TART as well.)	2011	Programmed	$251,098	$261,142
Placer County Transit	PCT10494	'07-00	11-00	CNG Station Upgrade Phase 2	Dewitt Center in Auburn: Increase of CNG compressor capacity at Placer County CNG fueling station in Auburn. (Emissions Benefits in kg/day: 3.46 NOx, 0.12 PM10.) *Local Funds are Air District Funds*	2011	Programmed	$576,809	$599,881
Placer County Transit	PCT10500	07-00	11-00	Placer County Transit Replacement Buses	Purchase of 2 35' CNG replacement buses for Placer County Transit.	2011	Programmed	$282,390	$293,686
Placer County Transit	PCT10475	'07-00	11-00	Tahoe Truckee Jobs Access Reverse Commute Program	In Placer County, provide JARC operating assistance to Tahoe Area Regional Transit (part of Sacramento RT grant #CA-37-X065).	2011	Programmed	$1,320,000	$1,372,800
City of Auburn Dept. of Public Works	PLA25141	'07-00		Auburn Transit - Bus Replacement	Replacement of 2 30' passenger buses for Auburn Transit.	2012	Planned	$404,000	$436,966
City of Auburn Dept. of Public Works	PLA25143	'07-00		Auburn Transit - Bus Shelters	In Auburn, install bus shelters, signage & related amenities.	2012	Planned	$146,000	$157,914
City of Auburn Dept. of Public Works	PLA25144	'07-00		Auburn Transit - On-Board Surveillance	Install on-board surveillance systems on all Auburn Transit buses.	2012	Planned	$12,000	$12,979
City of Auburn Dept. of Public Works	PLA25247	'07-00	11-00	Auburn Ravine Bus Turnout / Bus Shelter	Construction of bus turnout & installation of bus shelter on Auburn Ravine Road in the City of Auburn.	2012	Programmed	$175,000	$189,280
City of Lincoln Dept of Public Works	PLA20210	'07-00		Lincoln Transit Buses	In Lincoln, purchase 8 replacement transit buses.	2012	Planned	$2,224,000	$2,405,478

Lead Agency	SACOG Project ID	SACOG MTP	SACOG MTIP	Project Title	Project Description	Year Complete	Status	Current Year (2010) $	Expenditure Year $
City of Rocklin Division of Engineering	PLA25355	'07-00	11-00	Multi Modal Station Park-n-Ride Lot	In Rocklin, Rocklin Road adjacent to the UPRR tracks: Construct approximately 175 additional spaces, including lighting & landscaping, to the existing parking lot at the existing Rocklin Multi Modal station. (Emission Benefits in kg/day: ROG 0.46, NOx 0.49, PM10 0.38)	2012	Programmed	$580,000	$627,328
City of Roseville Dept of Public Works	PLA25320	'07-00		Roseville Transit Buses	Replace six (6) cutaway buses.	2012	Planned	$527,000	$570,003
City of Roseville Dept of Public Works	PLA25321	'07-00		Roseville Transit Buses	Replace five (5) 40 foot buses for commuter services.	2012	Planned	$2,224,000	$2,405,478
City of Roseville Dept of Public Works	PLA25325	'07-00		Park & Ride	To develop & construct a new transfer point that will also include a 75-space park & ride facility.	2012	Planned	$8,300,000	$8,977,280
City of Roseville Dept of Public Works	PLA25214	'07-00	11-00	Roseville Transit ITS Project	To purchase & install electronic fare boxes, software, probes, software, automatic vehicle Location devices, mobile data computers, video security cameras & software, & digital reader board equipment for transfer points. [Project replaces PCT10430 & PCT10420]	2012	Programmed	$1,100,000	$1,189,760
City of Roseville Dept of Public Works	PLA25416	'07-00	11-00	South Placer Transportation Call Center	Operating cost contribution towards ADA complementary paratransit services provided for the South Placer Call Center.	2012	Programmed	$187,500	$202,800
Placer County Dept of Public Works	PLA25006	'07-00	11-00	TART CNG Facility Phase 2	TART Maintenance Facility, 870 Cabin Creek Road, Truckee, CA. Construct improvements to the TART CNG Fueling Facility (phase 2).	2012	Programmed	$358,868	$388,152
SACOG	VAR56028	'07-00	09-23	Universal Transit Fare Card	Universal Transit Fare Card Procurement & Implementation: Implement a Universal Transit Fare Card System (UTFS) in the SACOG region, including hiring a consultant. [This project has $537k STIP in 2010, but will implement AB3090 in order to use State Bond Transit in 2008] (Emission Benefits in kg/day: 0.06 ROG, 0.12 NOx). PCT and Roseville Transit participating Placer County transit operators.	2012	Programmed	$10,450,583	$11,303,351
SACOG	VAR56036	07-00	11-00	SACOG New Freedom Funding FY 2007/2010	SACOG 5317 New Freedom funds for the Sacramento urbanized area for FFY 2007-2010. For Placer County, FY 2009 & FY2010 two-year application is for the WPCTSA.	2012	Programmed	$324,412	$350,884
City of Auburn Dept. of Public Works	PLA25461	'07-00	11-00	Auburn Transit - O&M (2013)	Operations & maintenance (O&M) for Auburn Transit bus service within the City of Auburn.	2013	Programmed	$473,000	$532,061
City of Roseville Dept of Public Works	PLA25323	'07-00	11-00	Sierra Gardens Transfer Point	Improve Sierra Gardens Transfer Point. Improvements may include new bus turnouts, shelters, restrooms, landscaping, lighting, crosswalks, sidewalks, & other pedestrian improvements such as bulb-outs. (Emission benefits in kg/day: 63 ROG, 63 NOx, 25 PM10.)	2013	Programmed	$2,542,151	$2,859,574
City of Roseville Dept of Public Works	PLA25417	'07-00	11-00	Preventive Maintenance	FFY 2009 through FFY 2013 preventive maintenance.	2013	Programmed	$1,311,750	$1,475,540
City of Roseville Dept of Public Works	PLA19841	'07-00	11-00	Roseville Maintenance Facility Upgrades	Expand existing Vehicle Maintenance facility at City of Roseville Corporation Yard (2005 Hilltop Circle). Early funding will cover preliminary engineering/environmental studies for preferred sites.	2013	Programmed	$2,710,000	$3,048,381
City of Auburn Dept. of Public Works	PLA25462	'07-00	11-00	Auburn Transit - O&M (2014)	Operations & maintenance (O&M) for Auburn Transit bus service within the City of Auburn.	2014	Programmed	$487,000	$569,721
City of Lincoln Dept of Public Works	PLA25497	07-00	11-00	Operating Assistance	In Lincoln: operating assistance for Lincoln Transit.	2014	Programmed	$3,374,874	$3,948,125
City of Roseville Dept of Public Works	PLA25498	07-00	11-00	Roseville Transit Preventive Maintenance	2011 through 2014 preventive maintenance.	2014	Programmed	$2,000,000	$2,339,717
City of Roseville Dept of Public Works	REG17928	'07-00	11-00	Louis/Orlando Transfer Point Improvements	In Roseville, on Louis Boulevard at Orlando Avenue: Develop & construct an improved transfer point & a 75-space park & ride facility. (Includes previously programmed PLA16080.)	2014	Programmed	$4,937,500	$5,776,177
City of Roseville Dept of Public Works	PLA25324	'07-00	11-00	Fuel Station Cover	Construct a fuel station cover.	2014	Programmed	$1,965,000	$2,298,772

Lead Agency	SACOG Project ID	SACOG MTP	SACOG MTIP	Project Title	Project Description	Year Complete	Status	Current Year (2010) $	Expenditure Year $
Placer County Transit	PCT10501	07-00	11-00	Placer County CNG Replacement Buses	Purchase of four (4) Compressed Natural Gas (CNG) buses to replace older vehicles currently in use by PCT. The new CNG buses will be used on regional transit routes connecting Rocklin, Lincoln, Loomis, Auburn & Placer County to Roseville & the Watt / I-80 Light Rail Station. (Emission benefits (kg/day) 3.16 NOx).	2014	Programmed	$2,059,528	$2,409,356
Placer County Transit	PCT10493	'07-00	11-00	Preventive Maintenance & ADA Operations 2010-2014	Preventive Maintenance 2010 = $300,000 ADA Ops 2010 = $200,000; Preventive Maintenance 2011 = $324,890 ADA Ops 2011 = $206,700; Preventive Maintenance 2012 = $324,890 ADA Ops = $206,700; Preventive Maintenance 2013 = $324,890 ADA Ops 2013 = $206,700; & Preventive Maintenance 2014 = $324,890 ADA Ops = $206,700	2014	Programmed	$3,282,952	$3,840,589
Placer County Transit	PCT10491	'07-00	11-00	Placer County Non-Urbanized Transit Operations	For the ongoing Operation of transit services within the non-urbanized area of Placer County.	2014	Programmed	$3,290,175	$3,849,039
Western Placer CTSA	New10000	36708	11-00	Western Placer CTSA Operations	The Western Placer CTSA operates non-emergency medical transportation demand-response paratransit service; volunteer door-to-door transportation; & a voucher program within western Placer County.	2014	Programmed	$2,000,000	$2,339,717
City of Auburn Dept. of Public Works	PLA25460	'07-00	11-00	Auburn Transit - O&M FFY 2011 - FFY 2014	Operations & maintenance (O&M) for Auburn Transit bus service within the City of Auburn.	2015	Programmed	$1,840,000	$2,238,641
Placer County Transit	PCT10492	'07-00		PCT Operations & Maintenance Facility	New office & maintenance building for PCT operations.	2015	Planned	$5,000,000	$6,083,265
Tahoe Area Regional Transit	PCT10490	'07-00		TART Operations	TART operations (lump sum) on SR89 & SR267 corridors within Placer County/SACOG region.	2030	Planned	$22,000,000	$48,204,709
Placer County Transportation Planning Agency	PLA25292	'07-00		Placer County - Bus Rapid Transit Capital	Capital Costs for a three route bus rapid transit (BRT) system serving South Placer County; including planning & engineering & environmental studies, right-of-way acquisition, vehicles, related roadway improvements & signalization, park-&-ride facilities, signage, bus stop improvements, ITS elements, fare vending equipment. BRT Route 1 - CSUS Placer to Galleria to Watt/I-80 LRT station via I-80 HOV lane. BRT Route 2 - CSUS Placer Campus to Placer Vineyards to Watt/I-80 LRT station via Watt Avenue. BRT Route 3 - Galleria to Hazel & Sunrise LRT stations via Sierra College Boulevard/Hazel Avenue.	2035	Planned	$82,526,000	$220,000,809
Placer County Transportation Planning Agency	PLA25314	'07-00		Fixed Route Bus Capital, Operations & Maintenance	Lump-sum for fixed-route bus capital, operations & maintenance between 2010-2035.	2010-2035	Planned	$777,652,584	$2,073,094,512
Placer County Transportation Planning Agency		'07-00		Demand Response Bus Operations & Maintenance	Lump-sum for DAR operations & maintenance between 2010-2035.	2010-2035	Planned	$200,381,363	$534,183,918
Placer County Transportation Planning Agency		'07-00		Demand Response Bus Replacement & Expansion Vehicles	Lump-sum for DAR vehicles between 2010-2035.	2010-2035	Planned	$40,203,000	$107,174,618
Placer County Transportation Planning Agency		'07-00		Fixed Route Bus Replacement & Expansion Vehicles	Lump-sum for bus vehicles between 2010-2035.	2010-2035	Planned	$151,703,900	$404,417,768
Placer County Transportation Planning Agency	PLA25294	'07-00		Placer County - Bus Rapid Transit O&M	Annual operating & maintenance (O&M) cost ($5,704,000) specifically for a three route BRT system for fiscal years 2010 - 2035 for a TBD transit operator.	2010-2035	Planned	$142,600,000	$380,148,261
City of Lincoln Dept of Public Works		07-00		Lincoln Transit Operating Assistance	In Lincoln: operating funds for Lincoln Transit.	2013-2035	Planned	$20,265,000	$48,026,404
Placer County Transportation Planning Agency	PLA19760	'07-00		Placer County - CTSA Capital (2013-2035)	Capital costs for CTSA Article 4.5 & complementary ADA dial-a-ride services for TBD designated CTSA operating in Placer County; including vehicles, miscellaneous capital items & facilities expansion.	2013-2035	Planned	$71,811,000	$170,186,238

Lead Agency	SACOG Project ID	SACOG MTP	SACOG MTIP	Project Title	Project Description	Year Complete	Status	Current Year (2010) $	Expenditure Year $
Placer County Transportation Planning Agency	PLA25300	'07-00		Placer County - Local Bus Service O&M (2013-2035)	Annual operation & maintenance (O&M) costs of Local fixed route bus, commuter / express bus, general public dial-a-ride services for a TBD transit operator serving Placer County & cities for fiscal years 2013-2035. Estimated annual O&M cost = $18,832,545.	2013-2035	Planned	$414,316,000	$981,895,274
Western Placer CTSA	PLA25250	'07-00		Placer County - CTSA O&M (2013-2035)	Annual operation & maintenance (O&M) costs for Article 4.5 Community Transit Services & complementary ADA dial-a-ride services for a TBD designated CTSA of Placer County serving Placer County & cities for fiscal years 2013-2035. Estimated annual O&M cost	2013-2035	Planned	$36,538,000	$86,592,093
							2010-2015	$384,535,331	$898,316,250
							2016-2024	$694,622,432	$1,786,024,144
							2025-2035	$953,508,973	$2,451,123,917
							Total	$2,032,666,736	$5,135,464,311

6.3 Passenger Rail

Rail service in Placer County is used to transport freight and passengers. Union Pacific Rail Road (UPRR) owns the right-of-way for both types of rail service and operates freight trains through Placer County. Rail passenger service in Placer County is provided by the Capitol Corridor Joint Powers Authority (CCJPA). The ongoing focus of Placer's rail program is to enhance passenger rail service to Placer County.

This chapter describes existing rail passenger service in Placer County provided by the Capitol Corridor Joint Powers Authority (CCJPA). This chapter further provides an analysis of intercity passenger rail needs through 2035 for the County. The nature of the long-term timeframe does not permit this analysis to be all-inclusive. Rather, it should be looked at as an evolving vision of service level decisions, capital program development, and funding availability. Freight rail needs are examined in the Goods Movement chapter.

EXISTING PASSENGER RAIL SERVICES

Intercity passenger rail service can be defined as frequent corridor service operated between major urban areas up to 500 miles apart. Among the fastest growing corridors, are those where 80 percent of all rail passenger trips typically exceed 100 miles.

Capitol Corridor Passenger Rail Service Background

The Capitol Corridor Joint Powers Authority (CCJPA) assumed management responsibility for the service in October 1998. The CCJPA manages the Capitol Corridor service through an operating agreement with Amtrak to operate daily intercity passenger rail service between Auburn and San Jose (see Figure 3.3a). The CCJPA is comprised of six transportation agencies in the Capitol Corridor service area: Placer County Transportation Planning Agency, Sacramento Regional Transit District, Yolo County Transportation District, Solano County Transportation Authority, San Francisco Bay Area Rapid Transit District, and the Santa Clara Valley Transportation Authority. The governing board of the CCJPA is comprised of elected officials representing the six member agencies.

The Capitol Corridor is an intercity passenger service that began in December 1991 with six daily trains serving a 170 mile corridor between San Jose and Sacramento. Since then, it has grown into the third busiest intercity passenger rail service in the nation providing an alternative to congested I-80, I-680, and I-880 highway corridors. Service now consists of 32 weekday trains providing hourly service between Sacramento and Oakland, and 14 daily trains between Oakland and San Jose. This expansion was accomplished with no increase in State funding by growing ridership and revenue, reallocating funds for more efficient use, and making cost-effective service changes. The benefits of these service expansions and capital improvements have resulted in a significant growth in ridership (+245 percent), revenues (+276 percent), and service level (+300 percent) during the past 11 years.

Table 6.3-1 summarizes annual ridership activity for the Sacramento region from 2002 through 2008.

Table 6.3-1
Capital Corridor Annual Ridership
To / From & Within Sacramento Region

Year	Riders	Riders Per Capita
2002	875,892	0.44
2003	930,476	0.46
2004	987,526	0.47
2005	1,037,165	0.49
2006	1,057,628	0.49
2007	1,161,099	0.53
2008	1,341,896	0.60
2002-08 Percent Change	53.2	36.4

Sources: CCJPA passenger boarding data& DOF population data.

Capitol Corridor Passenger Rail Service in Placer County

In Placer County, the Capitol Corridor trains stop in Roseville, Rocklin, and Auburn. The three Placer County stations are served by one westbound train leaving Auburn at 6:35 a.m. (weekdays) or 8:05 a.m. (weekends) and one return train arriving in Auburn at 6:35 p.m. (weekdays) or 6:55 p.m. (weekends). Amtrak provides motor coach buses that fill the gap between trains, providing service between Sacramento and the Placer County stations, and connecting outlying communities to the Capitol Corridor service. Connecting bus service is also provided to and from Colfax, Nevada City/Grass Valley, Carson City, and Reno.

CCJPA has also negotiated reciprocal ticketing agreements with Placer County for their Commuter Express buses and with Roseville Transit. The reciprocal ticketing agreements are for bus services that parallel the Capitol Corridor route between Auburn, Roseville and Sacramento.

Table 6.3-2 summarizes recent annual and daily ridership activity for rail stations in Placer County and the Sacramento Valley Station.

Table 6.3-2
Capitol Corridor Rail Station Ridership Activity

Station	FFY 2008 - 2009 Total Ridership	Ridership Per Day
Auburn	31,772	87
Rocklin	38,760	106
Roseville	71,115	195
Sacramento Station Total	867,200	2,376
West of Sacramento	2,160,019	5,918
Corridor Total	3,168,866	8,682

Note: The Sacramento Valley station is the 7th busiest station in Amtrak's nationwide system; over 20 percent of Capitol Corridor riders begin or end their train trip at this station.
Source: CCJPA SCG supporting monthly stats / reports.

Capitol Corridor Passenger Rail Service Characteristics

Ticket types include standard one-way and roundtrip fares, as well as monthly passes and 10-ride tickets valid for 45 days. Discount fares are available to seniors, students, military personnel, and children under age 15. No reservations are required to ride the Capitol Corridor trains or connector buses.

The typical rider on the Capitol Corridor takes the train primarily for work / business / travel. Riders also take the train for leisure oriented trips to visit family / friends, go shopping, or to school. More than half of the riders use the discounted multi-ride tickets, an attractive option for business travelers.

During the past 10 years, the CCJPA has incrementally increased fares based on service improvements. In FY 2007 / 2008 the CCJPA simplified the fare structure and re-examined multi-ride ticket prices to improve equity among the fare types. Fares are structured to meet the State's farebox return goal of 50 percent. The CCJPA will continue strategic fare increases to offset anticipated increases in Amtrak's operating expenses.

Capitol Corridor trains provide complete accessibility to passengers and include bicycle storage units on the lower level of cars.

Table 6.3-3 summarizes annual ridership activity for the Sacramento region from 2002 through 2008.

Table 6.3-3
Capitol Corridor Rider Profile

Access Mode	July 2008	June 2009	Trip Purpose	July 2008	June 2009	Ticket Type	July 2008	June 2009
Drive Alone	22.1%	21.7%	Business / Work	58.5%	57.6%	One Way / Round Trip	48.0%	46.4%
Dropped Off	21.9%	24.6%	Visit Family / Friends	27.4%	29.1%	45 Day / 10 Ride	20.0%	17.7%
Amtrak Thruway Bus	7.7%	7.0%	School	2.6%	2.0%	Monthly	32.0%	35.9%
Local Transit	18.4%	16.8%	Personal Business	5.0%	5.4%			
Walked	15.8%	16.8%	Shopping / Vacation	6.5%	5.9%			
Carpool	2.8%	2.6%	Other	0.2%	0.0%			
Bicycle	8.1%	7.5%						
Taxi	2.2%	1.9%						
Other	1.0%	1.1%						
Total	100.0%	100.0%	**Total**	100.2%	100.0%	**Total**	100.0%	100.0%

Source: CCJPA Annual On-Board Surveys for 2008 & 2009.

Other California Passenger Rail Services

The California Zephyr, which runs one daily train in each direction between Chicago and Oakland, provides interstate passenger rail service with stops in Sacramento, in Placer County at Colfax and Roseville, as well as Truckee. As an interstate rail service, reservations are required for travel on the California Zephyr.

Amtrak also operates the Coast Starlight, which runs one daily train in each direction from Seattle to Los Angeles, with a stop in Sacramento.

The San Joaquin train service, which is managed by Caltrans and operated by Amtrak, provides connecting bus service to and from Sacramento, Roseville, Rocklin, Auburn, Colfax, Truckee, Reno and Sparks, Nevada. There is also a morning bus from Roseville that meets a southbound San Joaquin train in Sacramento. The San Joaquin provides four daily round trips between Sacramento and Bakersfield, with connecting bus service to Los Angeles and numerous other points in California.

Figure 6.3a
Existing Rail Service – Western County

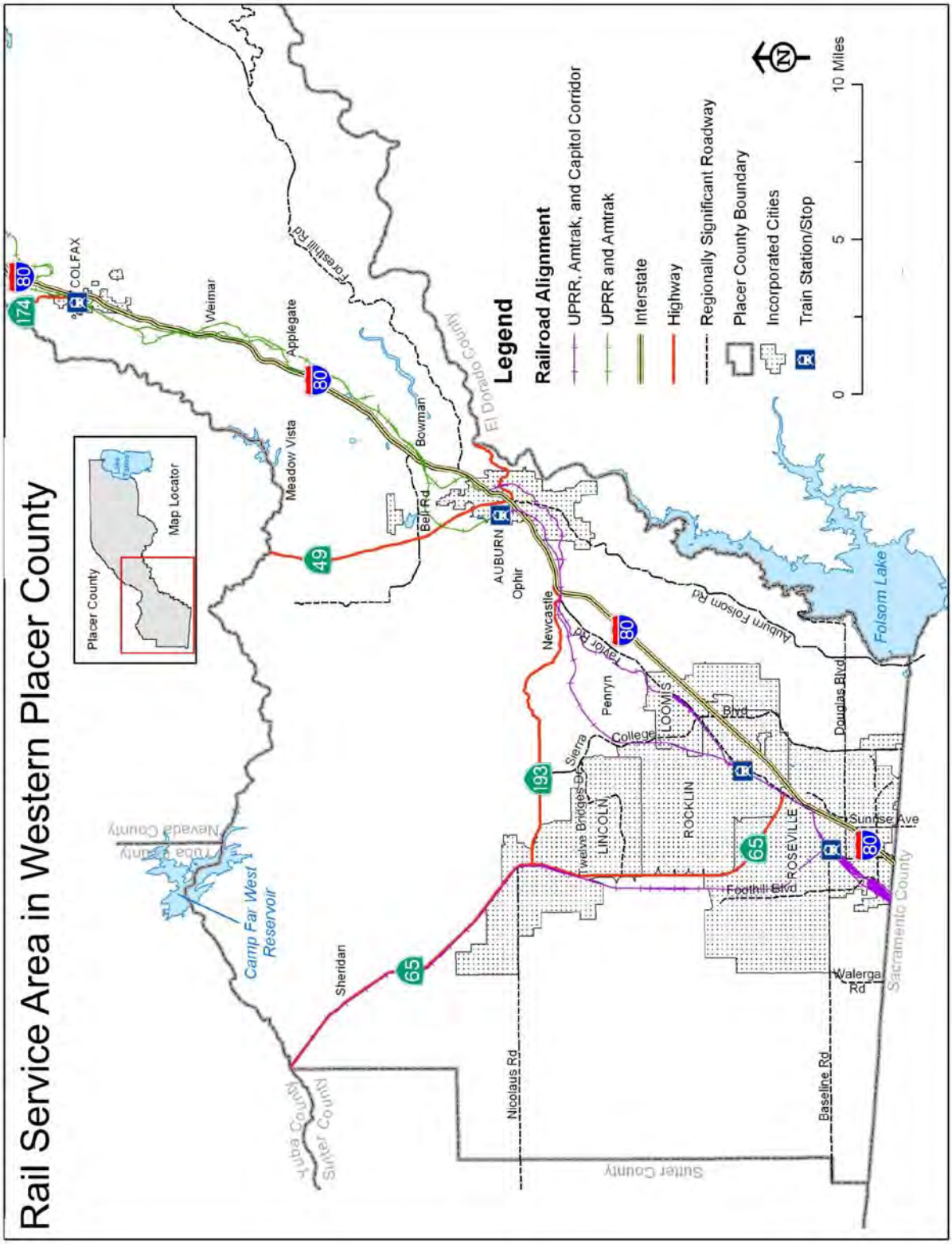
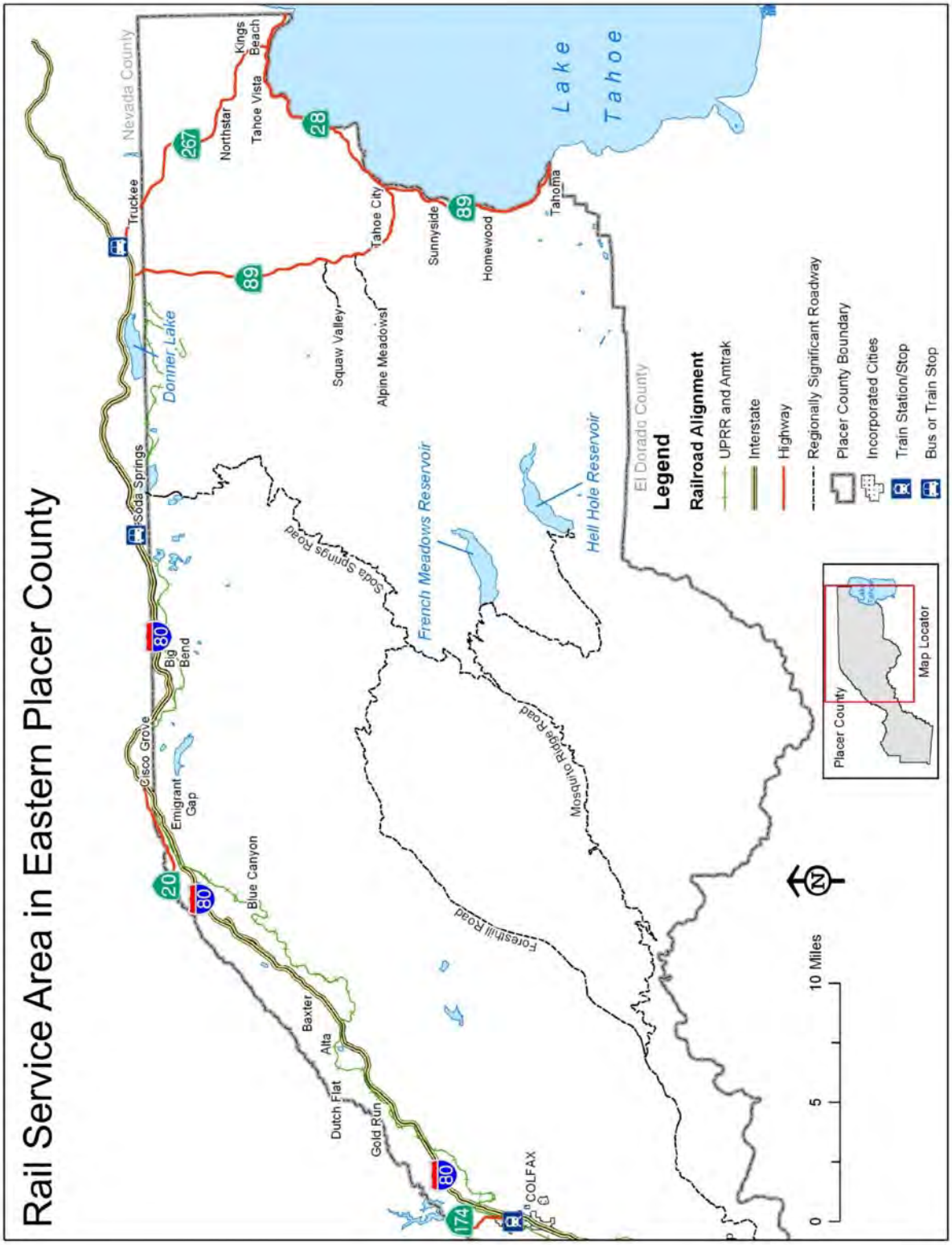


Figure 6.3b
Existing Rail Service – Eastern County



PASSENGER RAIL SERVICE NEEDS ASSESSMENT

Capitol Corridor

During the past 11 years, ridership has trended upward by increasing demand along the congested I-80, I-680 and I-880 highway corridors. Capitol Corridor ridership increased substantially with the implementation of the February 2000 plan, which changed the return time of the Placer County weekday evening train to coincide with the peak commute period. Currently, ridership and revenue are expected to grow at significantly lower rates than prior years due to weak economic conditions. Further, job cuts and furlough days in Sacramento have negatively affected the business travel market.

Business Plan

The CCJPA is required to prepare an annual Business Plan that identifies operating and marketing strategies, performance standards and goals, outlines service and capital improvement plans for the Capitol Corridor, and a funding request for inclusion in the State's budget proposal to the Legislature.

From FY 2004/5 to FY 2007/8, ridership has increased 34 percent overall from 1,260,249 to 1,693,580 annual passengers. The CCJPA's Business Plan will maintain current Capitol Corridor service levels at 32 weekday and 22 weekend trains between Sacramento and Oakland, including two daily trains from Sacramento to Auburn, and 14 daily trains between Oakland and San Jose during FY 2010/11 and remain the same for FY 2011/12. Additional rail equipment will be added to the fleet to provide greater seating capacity; however, depending upon delivery schedules, new rolling stock is not expected to arrive until 2014.

Service plans can support up to six daily trains between Sacramento to Roseville and four daily trains between Roseville to Auburn; however, the addition of trains to Placer County will require implementation of a package of station, track and maintenance facility improvements that is contingent upon securing approval from Union Pacific.

Ridership at the three Placer County stations (Auburn, Rocklin, and Roseville) continues to be strong in spite of prior reliability problems with on-time train performance. These reliability problems have been worked out in partnership with UPRR, through implementation of a capitalized maintenance program and a commitment to maximize dispatching to keep trains operating smoothly. As a result, on-time performance has improved significantly reaching 93 percent, a record across the nation for multi-frequency Amtrak service.

Travel to Placer stations is generally spread among several modes: transit use (25 percent); auto drop off / pick up (24 percent); drive alone (22 percent); walk / bike (23 percent); carpool (3 percent); with the remainder spread between taxi and long-distance Amtrak services.

The Capitol Corridor also continues to improve its cost effectiveness. With a current cost per passenger of under $20 and cost per passenger mile at $0.26, its performance is comparable to the other State-supported rail services (Pacific Surfliner and San Joaquin).

The Capitol Corridor is experiencing overcrowding on some cars during peak periods. There are several factors that are contributing to these trends:

- Increasing populations are taxing existing transportation systems such as I-80;
- Existing transportation systems for intercity travel are almost exclusively motorized requiring the use of cars (including carpools and vanpools) or buses;
- State and federal clean air regulations make it more and more difficult to increase roadway capacity; and
- The Capitol Corridor has reached its maximum capacity in terms of rolling stock and service frequency along the core route between Sacramento to Oakland.

Capital Improvement Program

The Capitol Corridor will need additional funding to begin the next phase of infrastructure improvements and rolling stock acquisition to meet ridership demand.

One of the most cost-effective capital improvements is to increase seating capacity by adding more rail cars to the existing scheduled trains. This is the only practical method of growing ridership during the increasingly congested peak hours. Caltrans, the owner of the rolling stock, is now working in partnership with Amtrak to develop a joint specification to develop a larger bi-level car. A preliminary analysis by the CCJPA indicates the need for 24 cars to meet service requirements and passenger demand over the next five to ten years.

Recent federal law requires that a Positive Train Control (PTC) System be in place by 2015. The CCJPA participating with Caltrans, will partner with UPRR to retrofit (at a minimum) the existing rolling stock to communicate with UPRR's wayside PTC equipment.

Longer-term capital improvement projects beyond 2018 are meant primarily to maintain infrastructure to support prior capacity expansion projects, implement additional infrastructure upgrades, including track improvements, as well as improve safety and operations. Other projects proposed are designed to respond to anticipated ridership demands

Grade separations will continue to rank high on the list of the CCJPA. CCJPA has identified high priority grade separation projects, but uncertainty in State funding has made it difficult to predict and secure funds by jurisdictions to implement these projects.

Vision Plan

In April 2005, the CCJPA updated its long term Vision Plan, which identifies short and long-term goals to guide operating and capital improvement plans of the Capitol Corridor during the next five to 20 years.

These goals include providing hourly service daily, from 5:00 a.m. to 10:00 p.m.; achieving a farebox recovery of 50 percent; reducing train cost per passenger mile to 0.20 cents; reducing travel time by 12 percent; achieving on-time performance of 90 percent or more; and providing additional track capacity to expand and extend the Capitol Corridor, including extension of service south to Monterey and Salinas and east to Colfax, Truckee, and Reno.

In support of the CCJPA's objective to expand service, the PCTPA has been working with Caltrans and the local jurisdictions to implement improved rail facilities, station amenities, park and ride lots, and train/bus connections at the Colfax, Auburn, Rocklin, and Roseville depots. The multimodal centers at Colfax, Auburn and Rocklin are now complete as is a new park-and-ride lot adjacent to the Roseville depot.

Regional Rail Plan

Studies and discussion about the feasibility of regional or commuter rail along the Interstate 80 corridor have been occurring since 1990. In general, the various studies have concluded that a regional rail alternative is feasible and would be more cost effective than expanding the Sacramento light rail service into Placer County.

The most current study of regional rail was a concept plan for the corridor between Oakland and Auburn and was being jointly funded by PCTPA, Sacramento Regional Transit, Yolo County Transportation District, Solano Transportation Authority, and the Contra Costa Transportation Authority. CCJPA staff provided technical assistance, and UPRR has been involved in order to ensure that passenger rail improvements will not have a negative impact on freight performance. The Auburn-Oakland Regional Rail Concept Plan, completed in mid 2005, outlined a service that could be jointly funded by the participating agencies and operated by the CCJPA. Implementation will likely be in phases, the timing of which will depend on UPRR's ability to ascertain current freight growth trends so that capacity on the railroad can be modeled accurately. It is through the capacity modeling that the scope and design of track improvements can be estimated. The final phase would include the additional of five round trips between Auburn and Oakland during peak commute periods; these trips would be interspersed between CCJPA trains providing 30 minute frequency in the peak period.

Operating and capital costs would be shared among the participating agencies. Funding would likely come from a variety of state, federal, and local sources. It is estimated that the ultimate level of regional rail service in this corridor would cost about $8.72 million annually to operate in 2020. Placer's pro-rata share of this operating cost is about $1 million. Capital expenses, for purchase of trainsets and track and facility improvements, are estimated to be $380 million. Placer's pro-rata share of this capital cost would total $30.24 million.

Other Services Studied

In 1995, Caltrans, in cooperation with the Nevada Department of Transportation, completed the Sacramento-Tahoe-Reno Intercity Rail Study. The study concluded that expanding the Capitol Corridor service to include stops in Colfax, Soda Springs, Truckee, Reno, and Sparks would be technically feasible, provide economic benefits, expand transportation capacity in the I-80 corridor, and increase the farebox recovery ratio. An environmental document would be required, however, and extensive mitigation costs could be involved. In 2000, Amtrak completed a 20-Year Plan for rail service in California which also concluded that expansion of the Capitol Corridor service to Reno would be feasible and desirable.

In 2003, PCTPA, NCTC, CCJPA, the Town of Truckee, and interested businesses in the North Tahoe area decided to jointly fund a study exploring the feasibility of extending daily Capitol Corridor service to Reno. This study has not progressed because UPRR could not accommodate any additional passenger trains over the Donner Pass. Moreover, the CCJPA Board preferred to focus agency resources on implementing the Vision Plan's service objectives between Auburn and San Jose.

In 1997, the Roseville-Lincoln-Marysville Passenger Feasibility study defined a plan for rail service between Marysville and Sacramento. The study concluded that the service was technically feasible either as commuter rail, which would need to be funded locally, or as intercity rail, funded as an extension of the Capitol Corridor or San Joaquin service.

MTC Rail Plan

The Metropolitan Transportation Commission (MTC) completed a 50-year Regional Rail Plan in 2008. The MTC Plan provides a vision for future passenger and freight rail service in northern California. The Plan examines future alignments and identifies service expansions plans for the Capitol Corridor extending into the Sacramento region

Statewide Rail Plan

Caltrans recently completed the development of the biennial 10-Year Statewide Rail Plan. The Caltrans Rail Plan includes the proposed extension of Capitol Corridor train service to Reno / Sparks, Nevada via Truckee, as well as other improvements to Capitol Corridor services.

Passenger Rail Safety & Security

The Capitol Corridor Joint Powers Authority (CCJPA) operates the intercity passenger rail service known as the Capitol Corridor. As part of its capital improvement plan, the CCJPA continues to invest in projects to improve passenger rail safety and security, including security

cameras at stations; infrastructure hardening (fencing, bollards, and barriers) to protect stations, facilities and passengers / employees; lighting; upgrades to electronic signage at stations.

An important priority for the CCJPA is to promote rail safety awareness to the public by partnering with local agencies to provide effective outreach, education and enforcement. Trespassing and grade-crossing incidents are on the rise and can have a severe impact on the service performance and reliability of the passenger rail service. CCJPA and Amtrak have teamed to reduce the number of pedestrians who are killed and injured when trespassing around trains and tracks. The program is aimed at 18 to 34 years old who make up more than one-third of railroad related pedestrian casualties.

Vandalism and personal property theft have also increased sharply at unstaffed rail stations. In an effort to improve security at these stations, CCJPA plans to install video surveillance equipment; the digital images will be fed directly to equipment and personnel at Security Operations Center to be established at the Oakland Maintenance Facility.

PASSENGER RAIL ACTION PLAN

Short and Long Range

1. Seek funding through Caltrans to implement the CCJPA Business Plan and Capital Improvement Program, as continuously updated. *(PCTPA, CCJPA, Caltrans, jurisdictions)*

2. Continue to partner with CCJPA to bring additional Capitol Corridor passenger rail service to western Placer County. *(PCTPA, CCJPA, Caltrans, jurisdictions, UPRR)*

3. Continue to partner with CCJPA to promote destination and rail travel to / from Placer County. *(PCTPA and CCJPA)*

4. Encourage expansion of the Capitol Corridor service to Colfax, Soda Springs, Truckee, and Reno/Sparks. *(PCTPA, CCJPA, Nevada County Transportation Commission, Caltrans, Washoe County Regional Transportation Commission, jurisdictions, UPRR)*

5. Support Capitol Corridor program / project applications for high-speed rail and other funding opportunities from the Federal Railroad Administration (FRA). *(PCTPA, CCJPA, jurisdictions, federal representatives)*

6. Support the allocation of Proposition 1A high speed rail bond funding and other intercity rail funding to the Capitol Corridor from the California Transportation Commission. *(PCTPA and jurisdictions)*

7. Pursue implementation of regional rail service between Auburn and Oakland. *(PCTPA, Regional Transit, Yolo County Transportation District, CCJPA, Solano Transportation*

Authority, Contra Costa Transportation Authority, Caltrans, UPRR)

8. Continue to explore the feasibility of rail service between Marysville and Sacramento with stops in Lincoln and Roseville. *(PCTPA, Caltrans, Yuba County, jurisdictions, UPRR)*

9. Consider implementing new safety / quiet zones at at-grade rail crossings to eliminate train horn noise provided that the crossing accident rate meets Federal Railroad Administration (FRA) standards and supplemental or alternative safety measures are in place in accordance with the FRA Final Train Horn and Quiet Zone Rule (effective June 2005). *(PCTPA, jurisdictions, CCJPA, CPUC, Caltrans, FRA, UPRR)*

10. Continue to evaluate capital improvement requirements and amenities at passenger rail stations. *(PCTPA, jurisdictions, CCJPA, CPUC, Caltrans, FRA, UPRR)*

PASSENGER RAIL PROJECTS

Table 6.3-4
Passenger Rail Projects List

Lead Agency	SACOG Project ID	SACOG MTP	SACOG MTIP	Project Title	Project Description	Year Complete	Status	Current Year (2010) $	Expenditure Year $
Placer County Transportation Planning Agency	PLA25468	09-00	11-00	Placer County Congestion Management Program	The Placer County Congestion Management Program (CMP) provides educational and outreach efforts regarding alternative transportation modes, with a specific emphasis on marketing of public transit services to employers, residents and the school community. CMP activities are coordinated with the City of Roseville and SACOG's Regional Rideshare / TDM Program.	2014	Programmed	$570,428	$667,320
Placer County Transportation Planning Agency	PLA25140	07-00		Congestion Management Program (CMP) activities (2014-2035)	Congestion Management Program activities for educational & outreach to reduce traffic congestion & drive alone auto trip making in Placer County. Both City of Roseville & PCTPA are implementing agencies.	2014-2035	Planned	$2,500,000	$5,696,920
							2010-2015	$570,428	$667,320
							2016-2024	$0	$0
							2025-2035	$0	$0
							Total	$3,070,428	$6,364,240
Capitol Corridor Joint Powers Authority		07-00		Capitol Corridor Rail Replacement & Expansion	Lump-sum of capital improvements between Colfax & Davis	2010-2035	Planned	$120,720,000	$321,819,762
Capitol Corridor Joint Powers Authority		07-00		Capitol Corridor Operations & Maintenance	Capitol Corridor operations & equipment maintenance, funded by the State of California/ Caltrans Division of Rail.	2010-2035	Planned	$728,000,000	$1,940,728,849
							2010-2015	$173,384,856	$459,541,283
							2016-2024	$308,609,628	$820,881,740
							2025-2035	$373,436,800	$995,521,389
							Total	$855,431,284	$2,275,944,412

6.4 Aviation

This chapter describes existing aviation facilities and services in Placer County and projected needs. This chapter also discusses potential aviation issues related to encroachment of incompatible land uses around airports; adverse noise impacts on adjacent communities; capacity constraints; and issues related to airport ground access.

AVIATION FACILITIES AND SERVICES

Aviation facilities in Placer County include both public and private airports and helipads serving commercial, recreational, medical, law enforcement, fire and agricultural needs. There are three general purpose airports: Auburn Municipal Airport, Blue Canyon Airport, and Lincoln Regional Airport. In addition, there are several private use airports and helipads in the county. There are no commercial service airports or military airports in Placer County. Refer to Figures 3.4a and 3.4b.

The Truckee-Tahoe Airport straddles the boundary between Nevada and Placer counties. The airport is described in the 2005 Nevada County Regional Transportation Plan and the 2004 Truckee Tahoe Airport Land Use Compatibility Plan.

Auburn Municipal Airport

Auburn Municipal Airport is owned and operated by the City of Auburn. The airport has existed on the present site since 1934. The regional general aviation facility is located approximately three miles north of downtown Auburn. It serves as the aviation hub for the greater Auburn area and portions of eastern Placer County. The 295-acre airport and adjacent industrial park are surrounded by unincorporated areas of Placer County. Primary airport access is from Bell Road, via New Airport Road. State Route 49 is approximately one mile to the west. Interstate 80 is approximately two miles to the east.

According to the Airport's Master Plan (2007), aircraft operations are projected to increase from 70,000 in 2004 to 104,000 by 2025. Federal Aviation Administration (FAA) data, in 2009, indicates that 165 aircraft are based at Auburn Municipal Airport. The Airport's Master Plan indicates this total is expected to increase to 240 based aircraft by 2015. Currently, local general aviation comprises about 51 percent of aircraft activity; transient general aviation about 47 percent; and two percent is considered air taxi. Single-engine, piston-powered airplanes will continue to comprise the bulk of the airport's based aircraft fleet. Consistent with national trends growth will occur with twin-engine piston and turboprop airplanes, very light jets, and helicopters.

The airport's elevation is 1,531 feet above sea level. The airport has one runway - Runway 7-25, which is 3,700 feet long by 75 feet wide. There is one full length parallel taxiway along the runway's south side. The existing instrument approach is a GPS-non-precision instrument

approach to Runway 7. The Airport provides a fueling facility, hangers and parking tiedowns for aircraft.

Meeting projected aviation demand will require both the addition of new facilities and the reconstruction of existing ones. Planned improvements include an aircraft parking apron, hangar storage, and an operations/administration building.

Auburn Municipal Airport's runways are short of their minimum required runway length. The Airport Master Plan indicates that no runway extension is currently planned because of high costs. A north side parallel taxiway is, however, planned. According to the 2010 General Aviation System Needs Assessment, extension of the runway to 6,000 feet is estimated to cost approximately $1.1 million and it's widening at a cost of $663,000. A longer runway would aid emergency fire fighting aircraft such as those used in the August 2009 wildfire in Auburn. Auburn Municipal Airport's elevation also supports VFR conditions. See Table 6.4-1 for a list of aviation projects (Capital Improvement Program).

See 2010 - 2019 Capital Improvement Plan – California Aviation Systems Plan (CASP) for a complete list of Placer County Airport projects (*http: //www. dot.ca.gov/aeronautics*).

Blue Canyon – Nyack Airport

The Blue Canyon – Nyack Airport serves as an important emergency landing field along the western slope of the Sierra Nevada. The limited use airport is owned by the U.S. Forest Service and Placer County, and is operated by Placer County under a special use permit. The airport has existed on the site since the 1930's. Located one mile south of Emigrant Gap, midway between Auburn and Truckee. Airport access is from Interstate 80's Blue Canyon exit.

The airport is open to public use, although traffic is minimal. According to Federal Aviation Administration (FAA) data, in 2009, there are no aircraft based at Blue Canyon –Nyack Airport. Aircraft operations average about 23 per week, or less than 1,000 per year. Transient general aviation activity comprises about 92 percent; and eight percent is considered military related. The primary constraint at the airport is weather. Snow and ice conditions close the airport for about three months per year. An ongoing issue at Blue Canyon is the need for tree and brush removal to comply with FAA and Caltrans Division of Aeronautics safety regulations.

The airport's elevation is 5,284 feet above sea level. The airport has one runway – 15-33, which is 3,300 feet long by 50 feet wide. Blue Canyon's runway length and width is considered inadequate, not meeting minimum requirements. The runway and parking ramp are scheduled for resurfacing. According to the 2010 General Aviation System Needs Assessment, extension of the runway to 6,000 is estimated to cost approximately $1.1 million, and widening it to 60 feet is estimated at about $$457,000. Blue Canyon is also in need for fuel facilities. An airport layout plan was prepared in 1999.

Table 6.4-1 lists the airport's planned improvement project. See 2010 - 2019 Capital Improvement Plan – California Aviation Systems Plan (CASP) for a complete list of Placer County Airport projects (*http: //www. dot.ca.gov/aeronautics*).

Figure 6.4a
Airport Locations Map – Western County

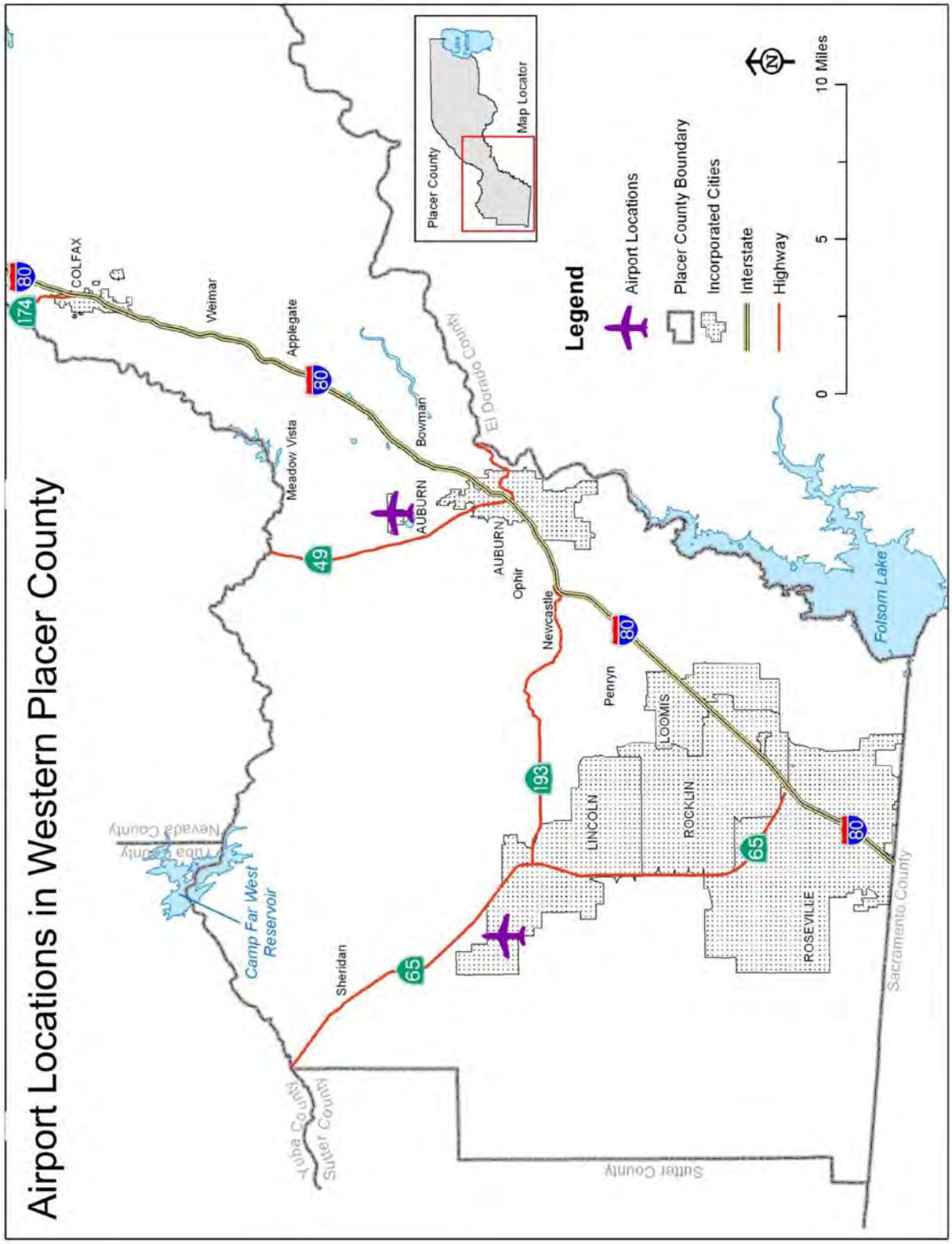
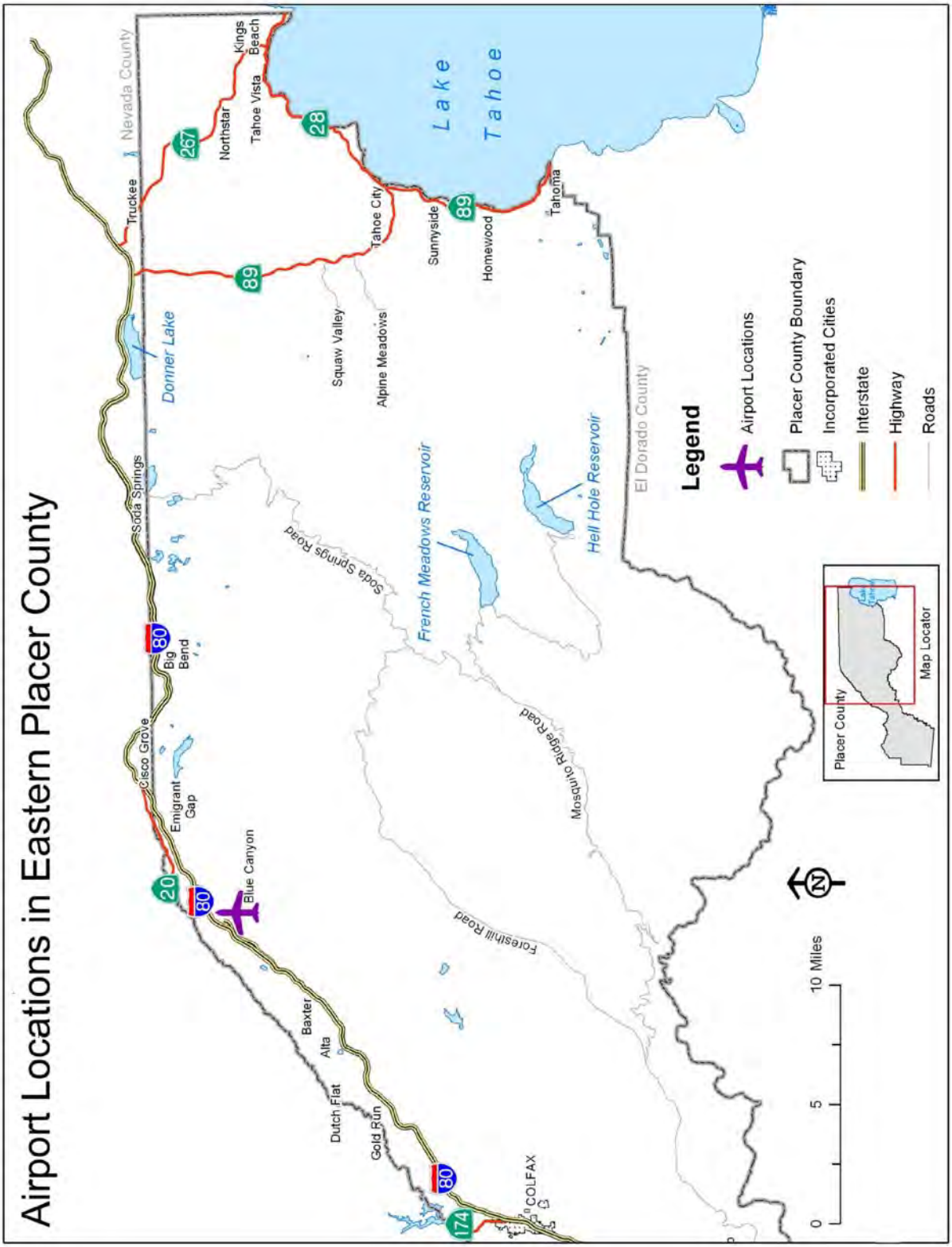


Figure 6.4b
Airport Locations Map – Eastern County



Lincoln Regional Airport / Karl Harder Field

The Lincoln Municipal Airport, a regional reliever facility, is operated by the City of Lincoln. The airport served as a former World War II military training field, becoming active as a public airport in July 1944. It is located on the western edge of the City, north of Nicolaus Road. Due to its close proximity to major industrial and population centers in the South Placer region along State Route 65 and Interstate 80, the Lincoln Regional Airport has become an attractive alternative to the Sacramento International Airport, especially for executives of major industries in Roseville and Rocklin.

According to the Airport Master Plan (2008), aircraft operations are projected to increase from 74,000 in 2005 to 138,000. Federal Aviation Administration (FAA) data, in 2009, indicates that 221 aircraft were based at Lincoln Regional Airport. Local general aviation comprises about 49 percent of aircraft activity; transient general aviation about 46 percent; and four percent is considered air taxi. The Master Plan forecasts a shift toward larger aircraft – multi-piston engine, turboprops, and business jets.

The airport's elevation is 118 feet above sea level. The airport has one runway -15-33, which is 6,001 feet long by 100 feet wide. There is one full-length parallel taxiway on the runway's east side. There is one designated helicopter take-off and landing area. There is one precision instrument approach to Runway 15. The installation and commissioning of an Instrument Landing System (ILS) in 1994 increased the airport's ability to accommodate larger corporate aircraft. The Airport provides a fueling facility and parking tiedowns for aircraft.

Lincoln Regional Airport includes land that will accommodate aviation, light industrial and commercial development. Growth at Lincoln Regional Airport has been primarily on the east side along Flightline Drive. The Airport will soon have access to the Lincoln Bypass, presently under construction.

The Master Plan proposes a 1,000-foot long runway extension and a 3,350-foot long parallel runway east of the existing runway to accommodate even larger aircraft. Table 6.4-1 lists the airport's planned improvement project. See 2010 - 2019 Capital Improvement Plan – California Aviation Systems Plan (CASP) for a complete list of Placer County Airport projects (*http: //www. dot.ca.gov/aeronautics*).

AIRPORT LAND USE COMMISSION

An Airport Land Use Commission (ALUC) was first established for Placer County in 1985. Initially, the Sierra Planning Organization[1] functioned as the ALUC. At the urging of Placer County and the cities of Auburn and Lincoln, PCTPA assumed the ALUC responsibility in 1997. The desire for greater local control over airport land use planning matters was the principal factor for the change.

[1] A council of governments and economic development agency consisting of El Dorado, Nevada, Placer, and Sierra Counties and most of the cities in them.

The overall mission of an ALUC is to ensure the continued viability of airports by assuring that surrounding land uses are compatible from the standpoint of safety and noise. ALUCs have two primary functions under State law. The first is the adoption of land use standards that minimize the public's exposure to safety hazards and excessive levels of noise. The second is to prevent the encroachment of incompatible land uses around public-use airports.

The California Public Utilities Code governs ALUC responsibilities and powers. ALUCs have two specific duties:

- Prepare and adopt an airport land use compatibility plans; and,
- Review local agency plans, regulations, and other actions for consistency with the plan.

PCTPA coordinates with the California Department of Transportation, Division of Aeronautics for ALUC planning activities and funding. As the designated Airport Land Use Commission (ALUC) for Placer County, PCTPA is responsible for defining planning boundaries and setting standards for compatible land uses surrounding airports.

The Placer County Airport Land Use Compatibility Plan was adopted in October 2000. This plan is primarily concerned with land uses near the three public-use airports: Auburn Municipal Airport, Blue Canyon - Nyack Airport, and Lincoln Regional/Karl Harder Airport. Plan implementation requires coordination with Placer County, Auburn, Lincoln, and for the Blue Canyon Airport, Nevada County and the U.S. Forest Service. The plan details land use compatibility criteria and review processes for airport master plans, new airports/heliports, local agency planning and building regulations, and development proposals.

State law requires that a local agency's general plan and supporting planning documents are to be consistent with the compatibility plan. Alternatively, a local agency may adopt findings and override an ALUC determination of inconsistency. Once a local agency satisfies the consistency requirement, the ALUC's authority to review proposed projects around an airport becomes more limited. At that point, the local agency becomes responsible for the majority of day-to-day ALUCP implementation.

In 2008, the ALUC found the City of Lincoln's 2050 General Plan to be consistent with the Placer County ALUCP. Consistency determinations for Placer County and the City of Auburn general plans have not been completed. Placer County and the City of Auburn refer all development proposals within an airport influence area to the ALUC for consistency determinations.

Over the last decade, Placer County has seen some of the fastest growing communities in California. New urban development is proposed to the south and west of Lincoln Regional Airport. New retail and 'big-box' commercial development proposals are being considered by Placer County along SR 49 (Grass Valley Highway) in north Auburn. Ensuring airport compatibility for new and redeveloping areas around Auburn Municipal and Lincoln Regional Airports will be a critical ALUC role.

AVIATION COORDINATION

Federal Aviation Administration (FAA) – National Plan of Integrated Airport System (NPIAS)

The National Plan of Integrated Airport System (NPIAS) is prepared by the Federal Aviation Administration (FAA). The NPIAS identifies the cost associated with establishing and maintaining an adequate system of airports to meet the needs of civil aviation and to support the needs of the Department of Defense and the Postal Service. The FAA draws from state, regional and local planning studies in preparing the NPIAS. The current report was largely compiled in 2007 and reflects infrastructure needed through FY 2013.

The FAA uses the NPIAS to administer the AIP. Airports identified in the NPIAS are eligible to receive grants from the FAA under the AIP.

About 39 percent of the development estimates included in the NPIAS are intended to address growth in travel – more passengers, more cargo, and more and larger aircraft. Projects include large scale, long-term programs over a 10 to 15 year period, such as new runway or significant runway extension, rehabilitation or expansion of passenger terminals, and improvements to highways or transit systems on the airport. These types of projects are typically not sensitive to short-term fluctuations in traffic.

About 61 percent of the development estimates included in the NPIAS is intended to address rehabilitation of existing infrastructure and to keep airports up to standards for the aircraft that use them. The need for this type of development is not expected to change over the longer term, however, their timing may be affected by funding availability.

California Department of Transportation – Division of Aeronautics

The California Aviation System Plan (CASP), prepared by the California Department of Transportation – Division of Aeronautics, is the forum for continuous aviation system planning, and guides the future development and preservation of the state-wide system of airports and aviation facilities. It is made up of elements such as background and introduction, air transportation issues, regional and state plans, and capital improvement plan/program. The CASP is updated every five years in consultation with Regional Transportation Planning Agencies, and it is adopted by the California Transportation Commission. PCTPA staff participates on the Aviation System Planning Committee.

The CASP's Capital Improvement Plan (CIP) Element was updated in 2009 (see *http://www.dot.ca.gov/aeronautics*). The State CIP consists of desired projects for the 10-year period beginning in 2010 through 2019. The next State CIP update will occur in 2011. CIP projects are based on the airport's adopted master plan and should be consistent with its forecasts of aviation demand. Projects must also be depicted on the approved Airport Layout Plan (ALP). To be eligible for State funds airport projects must be identified in the State CIP. Project applications are submitted by airports, via PCTPA, to the Division of Aeronautics. The CIP is

updated every odd year; Table 6.4-1 lists the planned improvements submitted by each airport manager for the RTP update.

The CASP's System Requirements Element (SRE) was updated in 2004, with the General Aviation System Needs Assessment Element updated in 2010. This element identifies and prioritizes needed airport capacity and safety-related infrastructure enhancements identified by the Division of Aeronautics. Starting in 2004, it is to be updated every two years to match CIP updates. The SRE includes a list of potential projects needed to optimize the capacity and safety of California's system of airports – a consideration outside the responsibility of individual airports.

The CASP's Policy Element was updated in 2001. This element lists policies and implementation actions to guide CASP development and improve California's aviation system. The RTP is consistent with applicable Policy Element provisions for noise, safety, land use compatibility; environmental coordination; CIP needs assessment, and funding. The RTP includes new policies to promote airport ground access and airport security.

Foothill ALUC

The Foothill ALUC (Sierra Planning Organization) currently serves as the ALUC for Nevada County's public use airports – Grass Valley and Truckee-Tahoe airports. The Nevada County Transportation Commission (NCTC) is exploring whether to become the ALUC for Nevada County. If NCTC assumes the ALUC role, a separate ALUC would be required to implement the Truckee-Tahoe Airport Land Use Compatibility Plan. This intercounty ALUC would require representatives from Nevada and Placer counties. To facilitate NCTC's efforts, PCTPA will coordinate with Placer County and airport operators.

The Truckee-Tahoe Airport is located near the northeastern edge of Placer County. Most of the airport lies in Nevada County; therefore, airport compatibility planning issues for the Airport are not addressed in the Placer County ALUCP; they are addressed by the Foothill ALUC. The airport is also included in the 2005 Nevada County Regional Transportation Plan.

SACOG ALUC

In FY 2005/06, SACOG in its role as the ALUC for Sacramento, Sutter, Yolo and Yuba counties, began work to update McClellan Field's Comprehensive Land Use Plan.

McClellan Field is located near the Placer / Sacramento county boundary. PCTPA, the City of Roseville and Placer County are working with SACOG to coordinate noise, airspace protection, and overflight issues. This work may result in preparing an amendment to the Placer County ALUCP.

AVIATION ACTION PLAN

Short Range

1. Continue efforts to avoid conflicts over noise issues. *(PCTPA, jurisdictions, airport operators, vicinity property owners)*

2. Continue to protect airspace and runway approaches. *(PCTPA, FAA, jurisdictions, airport operator, vicinity property owners)*

3. Promote compatible land uses that are consistent with the Placer County Airport Land Use Compatibility Plan. *(PCTPA, airport operators, jurisdictions, Caltrans)*

4. Continue to upgrade navigational equipment as needed. *(Jurisdictions, airport operators)*

5. Promote public awareness of airport services and benefits for business, recreation and goods movement use. *(PCTPA, jurisdictions, airport operators)*

6. Maintain and improve existing airport facilities in accordance with adopted airport master plans, as updated. *(Jurisdictions, airport operators)*

7. Assist operators of public use airports in pursuing funding sources. *(PCTPA, airport operators)*

8. Explore opportunities to improve passenger and cargo airport ground access to relieve potential bottlenecks around airports through local road and intersection improvements. *(PCTPA, jurisdictions)*

9. Promote the development of general aviation airport security for functional areas such as personnel, aircraft, airports/facilities, surveillance, security plans and communications, and specialty operations. *(Caltrans Division of Aeronautics, jurisdictions)*

10. Participate in SACOG's development of the McClellan Field ALUCP update to ensure that any potential impacts from ongoing operations at McClellan Field to Placer jurisdictions are minimized, and update the Placer County ALUCP, as necessary. *(PCTPA, jurisdictions, SACOG, Sacramento County)*

11. Participate in Caltrans Division of Aeronautics regional and statewide aviation planning efforts. *(PCTPA, airport operators)*

12. Work cooperatively with NCTC to address Truckee-Tahoe Airport ALUCP coordination issues. *(PCTPA, NCTC)*

13. Encourage Placer County to initiate the State-mandated requirement to update its General Plan and supporting planning documents to be consistent with the Placer County ALUCP. *(PCTPA, Placer County)*

14. Prepare a comprehensive update of the Placer County ALUCP, once the Caltrans Division of Aeronautics State Handbook update is completed, and review the ALUCP every five years and update as needed. *(PCTPA, jurisdictions, airport operators, Caltrans Division of Aeronautics, Sacramento County, SACOG)*

Long Range

1. Continue to implement the actions outlined in the short range action plan. *(PCTPA, jurisdictions, airport operators, Caltrans, FAA)*

2. Encourage more flexible use of airport revenues for off-airport ground access projects. *(PCTPA, airport operators, jurisdictions, Caltrans, FAA)*

AVIATION PROJECTS

Table 6.4-1 presents the Aviation Capital Improvement Program, which is based on the 2010 - 2019 Capital Improvement Plan (CIP) – California Aviation Systems Plan (CASP) (see *http://www. dot.ca.gov/aeronautics*). The next update of the CIP is anticipated to be published in summer 2011. Projects related to airport ground access are identified in the Regional Roadways project list.

Table 6.4-1
Aviation Capital Improvement Plan

Airport	Lead Agency	Project Title	Project Description	Year Complete	Status	Current Year (2010) $	Expenditure Year $	FAA	State	Local
Auburn Municipal Airport	City of Auburn	Crack Fill seal coat & Repaint Runway 7/25, TWY A, B, C, D & E and Aircraft Parking Apron	Project will seal coat asphalt surfaces to prevent deterioration and extend useful life of airport pavement.	2010	CIP	$296,000	$296,000	$281,200	$0	$14,800
Auburn Municipal Airport	City of Auburn	Apron Lighting	Review existing airport lighting and upgrade for enhanced safety.	2010	CIP	$50,000	$50,000	$47,500	$1,188	$1,313
Auburn Municipal Airport	City of Auburn	Taxiway, Parking Apron & Access Road	Design and engineering for connector taxiway and aircraft parking apron to connect recently acquired property with airport operating area.	2010	CIP	$400,000	$400,000	$380,000	$9,500	$10,500
Auburn Municipal Airport	City of Auburn	East Hanger Area Taxiway Lighting	Install taxiway lighting for East Hanger area connector.	2010	CIP	$75,000	$75,000	$71,250	$1,781	$19,689
Auburn Municipal Airport	City of Auburn	Taxiway & Access Road	Environmental Impact Report for connector taxiway and parking apron to connect recently acquired property with airport operating area.	2010	CIP	$100,000	$100,000	$95,000	$2,375	$2,625
Auburn Municipal Airport	City of Auburn	Perimeter Fencing	Complete fencing around perimeter of airport Install card lock gate system at access points.	2010	CIP	$500,000	$500,000	$475,000	$11,875	$13,125
Auburn Municipal Airport	City of Auburn	Runway, Taxiway, Apron Sealant & Remarking	Crack seal and seal coat asphalt.	2010	CIP	$100,000	$100,000	$95,000	$2,375	$2,625

Airport	Lead Agency	Project Title	Project Description	Year Complete	Status	Current Year (2010) $	Expenditure Year $	FAA	State	Local
Auburn Municipal Airport	City of Auburn	Safety Camera Upgrade	Upgrade system, add cameras and sensors for enhanced safety and security.	2010	CIP	$100,000	$100,000	$95,000	$2,375	$2,625
Blue Canyon Airport	Placer County	Runway & Parking Ramp Resurfacing	Resurface existing runway and parking ramp.	2010	CIP	$100,000	$100,000	$0	$100,000	$0
Lincoln Regional Airport	City of Lincoln	A & D Building Design	A & D building design reimbursement.	2010	CIP	$387,625	$387,625	$200,000	$0	$187,625
Lincoln Regional Airport	City of Lincoln	Environmental Assessment (EA)	Environmental Assessment - Phase 2.	2010	CIP	$63,158	$63,158	$60,000	$0	$3,158
Lincoln Regional Airport	City of Lincoln	Fuel Island	Construct new fuel island.	2010	CIP	$410,000	$410,000	$300,000	$0	$110,000
Lincoln Regional Airport	City of Lincoln	Wetlands Mitigation / Habitat Mitigation	Wetlands and habitat mitigation on west side, east and southeast sides.	2010	CIP	$2,400,000	$2,400,000	$2,280,000	$57,000	$63,000
Auburn Municipal Airport	City of Auburn	Install MITL	Install medium intensity taxiway lighting (MITL) for connector taxiway to the East Hanger Apron area.	2010	CIP	$300,900	$300,900	$285,855	$0	$15,045
Auburn Municipal Airport	City of Auburn	Install Apron Lighting	Install additional flood lights along the edge of aircraft parking apron to enhance operational safety.	2011	CIP	$256,000	$266,240	$243,200	$0	$12,800
Auburn Municipal Airport	City of Auburn	Taxiway, Parking Apron & Access Road	Construct for connector taxiway and aircraft parking apron to connect recently acquired property with airport operating area.	2011	CIP	$1,600,000	$1,664,000	$1,520,000	$38,000	$42,000
Auburn Municipal Airport	City of Auburn	Additional Helicopter Landing Pad	Design and engineer additional helicopter landing pad.	2011	CIP	$100,000	$104,000	$95,000	$2,375	$2,635
Lincoln Regional Airport	City of Lincoln	Obstruction Removal	Obstruction removal.	2011	CIP	$60,000	$62,400	$57,000	$0	$3,000
Lincoln Regional Airport	City of Lincoln	A & D Parking Lot Construction	Construct A and D parking lot (370' by 450').	2011	CIP	$2,091,000	$2,174,640	$1,986,450	$0	$104,550
Lincoln Regional Airport	City of Lincoln	A & D Building Construction	Construct A and D building	2011	CIP	$2,876,400	$2,991,456	$2,141,300	$0	$735,100
Lincoln Regional Airport	City of Lincoln	Automatic Entrance Security Gates	Construct new automatic entrance security gates.	2011	CIP	$123,000	$127,920	$116,850	$0	$6,150
Auburn Municipal Airport	City of Auburn	Install Airport Perimeter Fence & Access Gates	Install 17,000 linear feet chain link contiguous perimeter fence, with controlled access gates.	2012	CIP	$698,800	$755,822	$663,860	$0	$34,940
Auburn Municipal Airport	City of Auburn	Pollution Runoff Facility	Design and construct a new wash rack in the east area of the airport.	2012	CIP	$150,000	$162,240	$142,500	$35,625	$3,938
Auburn Municipal Airport	City of Auburn	Placer County Airport Land Use Compatibility Plan Update	Update the Placer County Airport Land Use Compatibility Plan I regard to Auburn Municipal Airport.	2012	CIP	$225,000	$243,360	$0	$202,500	$22,500
Lincoln Regional Airport	City of Lincoln	Grade Runway Safety Areas	Grade runway safety areas and remove trees	2012	CIP	$317,000	$342,867	$301,150	$0	$15,850
Lincoln Regional Airport	City of Lincoln	Engineering & Design	Engineering and design for projects 10, 11, 12 and 13.	2012	CIP	$929,000	$1,004,806	$882,550	$0	$46,450
Lincoln Regional Airport	City of Lincoln	Tee Area Hanger Development	Development of Tee Hanger area on east side, south of North Hangers - Phases C.	2012	CIP	$6,386,000	$6,907,098	$5,376,050	$0	$1,009,950
Lincoln Regional Airport	City of Lincoln	Flightline Drive Rehabilitation	Rehabilitation of Flightline Drive.	2012	CIP	$2,045,000	$2,211,872	$1,942,750	$0	$102,250
Lincoln Regional Airport	City of Lincoln	Runway 15R Extension and Associated Taxiways	Runway 15R extension and associated taxiways (runway 100' by 1000' and taxiways 40' by 1830).	2012	CIP	$4,818,000	$5,211,149	$4,577,100	$0	$240,900
Auburn Municipal Airport	City of Auburn	Terminal Area Plan	Develop Terminal Area Plan, including future development alternatives.	2013	CIP	$60,000	$67,492	$57,000	$0	$3,000
Auburn Municipal Airport	City of Auburn	Design - Denham Property Apron & Taxiway Access	Engineering design of a general aviation aircraft apron parking area on previously acquired Denham property.	2013	CIP	$77,500	$87,177	$73,625	$0	$3,875
Auburn Municipal Airport	City of Auburn	Pavement Maintenance	Rehabilitate pavement on runways and taxiways.	2013	CIP	$500,000	$562,432	$475,000	$11,875	$13,125
Lincoln Regional Airport	City of Lincoln	Taxiway Lights	Construct new taxiway lights	2013	CIP	$459,000	$516,313	$436,050	$0	$22,950
Lincoln Regional Airport	City of Lincoln	Engineering & Design	Engineering and design for projects 15, 16, 17 and 18.	2013	CIP	$403,000	$453,320	$382,850	$0	$20,150

Airport	Lead Agency	Project Title	Project Description	Year Complete	Status	Current Year (2010) $	Expenditure Year $	FAA	State	Local
Lincoln Regional Airport	City of Lincoln	Grade, Drain & Utilities & Pave Aircraft Apron Area	Grade, drain and add utilities on West Side Phase 1 project, and pave aircraft parking apron (480' by 400').	2013	CIP	$2,524,000	$2,839,157	$1,540,900	$0	$983,100
Lincoln Regional Airport	City of Lincoln	West Side Service Road	Construct West Side Service Road (44' by 3200').	2013	CIP	$2,091,000	$2,352,091	$1,986,450	$0	$104,550
Auburn Municipal Airport	City of Auburn	Construction - Denham Property Apron & Taxiway Access	Construction of aircraft parking apron, milling, resurface existing pavement and building demolition.	2014	CIP	$1,100,500	$1,287,429	$1,045,475	$0	$55,025
Auburn Municipal Airport	City of Auburn	Additional Helicopter Landing Pad	Construct a new public use helicopter landing pad.	2014	CIP	$250,000	$292,465	$237,500	$5,938	$6,563
Auburn Municipal Airport	City of Auburn	EA/EIR Update	Update of the airport EA/EIR to keep within FAA Guidelines	2014	CIP	$500,000	$584,929	$475,000	$11,875	$13,125
Auburn Municipal Airport	City of Auburn	Master Plan & ALP Update	Update of the airport Master Plan and ALP to keep within FAA Guidelines	2014	CIP	$200,000	$233,972	$190,000	$4,750	$5,250
Lincoln Regional Airport	City of Lincoln	West Side Taxiway System - Phase 1	Construct West Side taxiway Phase 1 project (50' by 3525').	2014	CIP	$1,982,000	$2,318,660	$1,882,900	$0	$99,100
Auburn Municipal Airport	City of Auburn	Rehabilitate & Repaint Runway 7/25 & TWY A, B, C, D & E	Project includes partial pavement removal by level milling pavement; pave a 2 inch asphalt overlay for all runway and taxiway pavement; and repaint all runway, taxiway and apron markings.	2015	CIP	$1,799,000	$2,188,759	$1,709,050	$0	$89,950
Auburn Municipal Airport	City of Auburn	Enhancement to Instrument Landing System	Engineer, design and construct enhancements to the instrument landing system	2015	CIP	$150,000	$182,498	$142,500	$3,563	$3,938
Auburn Municipal Airport	City of Auburn	Administration Building - Phase 1: Environmental	Environmental review process for the construction of an Administration Building - Phase 1 project	2015	CIP	$200,000	$243,331	$190,000	$4,750	$5,250
Auburn Municipal Airport	City of Auburn	Runway Resurfacing Project	Resurface existing runway.	2015	CIP	$3,000,000	$3,649,959	$2,850,000	$71,250	$78,750
Lincoln Regional Airport	City of Lincoln	Southeast Hanger Site Development	Construct 4 hangers (800' by 640')	2015	CIP	$1,214,000	$1,477,017	$1,153,300	$0	$60,700
Auburn Municipal Airport	City of Auburn	Administration Building - Phase 1: Construction	Construct Administration Building - Phase 1 project.	2016	CIP	$2,000,000	$2,530,638	$1,900,000	$47,500	$52,500
Auburn Municipal Airport	City of Auburn	Core Area Redevelopment - Phase 1: Environmental	Environmental review for Core Area Redevelopment - Phase 1 project.	2016	CIP	$200,000	$253,064	$190,000	$4,750	$5,250
Lincoln Regional Airport	City of Lincoln	Environmental Assessment (EA)	EA for Runway 15R extension and Runway 15L-33R construction	2016	CIP	$540,000	$683,272	$513,000	$0	$27,000
Lincoln Regional Airport	City of Lincoln	Engineering & Design	Engineering and design for projects 21, 22 and 23.	2016	CIP	$150,000	$189,798	$142,500	$0	$7,500
Auburn Municipal Airport	City of Auburn	Alternative Energy Project	Environmental review, design and construction of an alternative energy project to operate the airport lights	2017	CIP	$1,500,000	$1,973,898	$1,425,000	$35,625	$39,375
Auburn Municipal Airport	City of Auburn	Core Area Redevelopment - Phase 1: Design	Design and engineer the Core Area Redevelopment - Phase 1 Project.	2017	CIP	$200,000	$263,186	$190,000	$4,750	$5,250
Lincoln Regional Airport	City of Lincoln	Runway 15R-33L and Taxiway Rehabilitation	Rehabilitation of Runway 15R-33L and taxiway (runway 6000' by 100' and taxiway 10,150' by 40').	2017	CIP	$3,252,000	$4,279,410	$3,089,400	$0	$162,600
Auburn Municipal Airport	City of Auburn	Core Area Redevelopment - Phase 1: Construction	Construct entrance area improvements.	2018	CIP	$750,000	$1,026,427	$712,500	$17,813	$19,688
Lincoln Regional Airport	City of Lincoln	Apron Rehabilitation	Rehabilitation apron (400' by 1500').	2018	CIP	$1,843,000	$2,522,273	$1,750,850	$0	$92,150
Auburn Municipal Airport	City of Auburn	Administration Building - Phase 2: Construction	Environmental, design and construction of Phase 2 of the Airport Administration Building.	2019	CIP	$1,500,000	$2,134,968	$1,425,000	$35,625	$39,375
Auburn Municipal Airport	City of Auburn	North Side of Airport - Environmental Study & Report	Environmental study and report to be completed for north side of airport.	2019	CIP	$150,000	$213,497	$142,500	$3,563	$3,938
Auburn Municipal Airport	City of Auburn	Shale Ridge Lane Extension & Improvements	Environmental, design and construct extension and improvements to Shale Ridge Lane access road to the airport (Ground Access Project).	2019	CIP	$300,000	$426,994	$0	$0	$300,000

Airport	Lead Agency	Project Title	Project Description	Year Complete	Status	Current Year (2010) $	Expenditure Year $	FAA	State	Local
Auburn Municipal Airport	City of Auburn	Core Area Redevelopment - Phase 2	Environmental review for Core Area Redevelopment - Phase 2 Gateway project.	2019	CIP	$250,000	$355,828	$237,500	$5,938	$6,563
Lincoln Regional Airport	City of Lincoln	Runway 15L-33R Construction	Construct Runway 15L-33R (60' by 3350')	2019	CIP	$2,457,000	$3,497,077	$2,334,150	$0	$122,850
Lincoln Regional Airport	City of Lincoln	Air Traffic Control Tower	Construct Air Traffic Control Tower.	2020	CIP	$1,875,000	$2,775,458	$1,781,250	$0	$93,750
				2010 - 2015		**$44,467,883**	$48,849,551	$39,539,165	$580,969	$4,397,542
				2016 - 2024		**$16,967,000**	$23,125,787	$15,833,650	$155,563	$977,788
				2025 - 2035		**0**	0	0	0	0
				Total		**$61,434,883**	$71,975,338	$55,372,815	$736,531	$5,375,329

Sources:

1. Auburn Municipal Airport Aviation Capital Improvement Program (AICP) 2010 - 2019, January 15, 2009; Auburn Municipal Airport Capital Improvement Plan 2010 - 2015, revised January 2010.

2. Lincoln Regional Airport Capital Improvement Program 2010 - 2025, Preliminary, December 16, 2009.

3. Capital Improvement Program, California Aviation System Plan 2010 - 2019, Caltrans, November 2009.

6.5 GOODS MOVEMENT

Goods movement is critical to the continued economic health of the area. Efficient goods movement allows local producers to transport their goods to market and bring needed raw materials and finished products into the area for the use of local businesses and individuals.

This chapter summarizes goods movement transportation methods by which freight, commodities, and information are transported into and out of Placer County.

REGIONAL GOODS MOVEMENT PLANNING

SACOG completed a Goods Movement Action Plan in September 2008 to better accommodate and facilitate the movement of goods and to help direct future funding decisions. The report details the Sacramento region goods movement network; documents planning issues; compares development patterns with transportation infrastructure; and identifies infrastructure and operational needs required for the reliable operation of the network. Much of the information detailed in this report is summarized in this chapter.

GOODS MOVEMENT TRANSPORTATION TYPES & PATTERNS

Goods movement covers all transportation methods by which freight, commodities, and information are transported into and out of Placer County. The most common methods to transport freight and commodities are rail, truck, air, bus, and pipelines, while information can be transported using fiber optic cable, cellular towers, telephone wire, radio waves, electrical wires, and other technologies.

There are three basic goods movement transportation patterns occurring in the Sacramento region.

Local Movements: the region produces and consumes goods as a function of population, resources, and economic activity. According to FHWA's Freight Analysis Framework, 29 – 37 percent of movements occur entirely within the Sacramento region. Stressing the importance of local markets. Goods transported within the region use all modes: an estimated 90.6 percent of freight tonnage is carried by truck, 2.9 percent by rail, 0.4 percent by ship, and 0.1 percent by air. The remainder is carried by pipeline. Regionally, the makeup of freight is about 35 percent gravel and non-metal mineral products, 20 percent gasoline and petroleum products, and 9 percent waste or scrap. Surface streets and roads provide access to most origins and destinations.

Through Movements: The highways and rail lines converging and radiating in the region make it a crossroads for goods movements between other regions. The through movements are primarily truck trips but also include substantial volumes of intermodal rail traffic. Freight coming into the region from somewhere else, comprise about 33 – 43 percent of total goods movement, while the through movement of goods comprise about 22 percent.

Regional Hub: Central location makes the Sacramento area as a regional hub, resulting in consolidation, distribution, and transloading movements. Exports from this region to other areas comprise about 16 – 20 percent of total goods movement volume. The only sizeable export out of the region is agricultural products.

Sacramento Region

Data for the overall flow of freight in the Sacramento region is derived from the Freight Analysis Framework produced by U.S. DOT – BTS. Table 6.5-1 below gives an estimate of all the tonnages hauled by mode. Trucking over shadows all modes; air cargo tends to be light weight and of high value. The Sacramento region is on balance a net consumer, with inbound flows exceeding outbound.

Table 6.5-1
Sacramento Area Freight Hauled By Mode

Mode	Tonnage (000)	Share
Air & Truck	140	0.1%
Other Intermodal*	2,227	1.6%
Pipeline	6,010	4.3%
Rail	4,106	2.9%
Truck	126,928	90.6%
Truck & Rail	95	0.1%
Water	619	0.4%
Total	140,125	100.0%

Notes:
*Other Intermodal includes parcel, courier and mail shipments.
Source:
1. SACOG Regional Goods Movement Study, July 2008.

EXISTING TRANSPORT

Rail Transport

Rail freight service in Placer County is provided by the Union Pacific Railroad, with Roseville as the site of a major Union Pacific rail yard. From Roseville, lines extend northeast across the Sierra, north through the Sacramento Valley, and southwest into Sacramento and on to the Bay Area and San Joaquin Valley. The route from Sacramento through Roseville and across the Sierra is a major transcontinental rail corridor. Existing rail services are shown in Chapter 6.3, Figures 6.3a and 6.3b.

The Roseville yard is the largest yard west of the Mississippi. The yard was extensively rebuilt in 1997 – 1999. It is over six miles long, covers 780 acres, bridging Placer and Sacramento counties. There are about 1000 employees. Roughly 60 trains per day pass through the yard, and up to 2000 railcars are classified each day. It serves as a major classification facility as eastbound railcars and locomotives are organized for the substantial climb over the Sierra, and westbound railcars are redistributed for delivery to West Coast destinations. The Roseville yard also serves as the major northern California point for servicing, manufacturing, and repairing freight cars and locomotives, serving over 2000 units per month. The yard also serves as the operating hub for local switching assignments.

Freight train miles continue to increase, and are forecast to double by 2020 and double again by 2035. Currently, the Union Pacific runs 20 to 25 double-stacked trains daily from the Port of Oakland through the Donner Pass. The number of daily trains will increase to as many as 40 trains after completion of the Donner Pass tunnel improvement and double tracking project. Union Pacific continues to experience substantial increases in demand for freight delivery operations, and is concerned with the safety of at-grade railroad crossings. With the increased number of trains moving through the region, Union Pacific has made plans to improve many of these crossings.

Air Transport

Because it is more expensive, yet timelier than ground transport, air transportation is the preferred method of transport for high value, light weight goods, such as computer components. Air transportation may also be feasible for document transportation; however, with advanced technologies such a fax machines and modems, the demand for the transportation of documents will probably decrease.

Auburn Municipal Airport is classified as a general aviation airport. Accordingly, regularly scheduled air cargo information is not available. United Parcel Service (UPS) currently makes two flights per day out of the Lincoln Regional Airport. Air cargo is not an issue at Blue Canyon because runway proportions will not accommodate cargo planes.

Truck Transport

The majority of goods movement in Placer County is provided by truck transportation. Trucks are defined as heavy freight vehicles which meet the Service Transportation Assistance Act of 1982 (STAA) definitions as found in the California State Vehicle Code.

Interstate 80 is one of the most important truck routes in Northern California. It is the only east-west freeway crossing the Sierra Nevada and Cascades in the thousand miles between Bakersfield on the south and Portland on the north.

Depending on location, truck traffic on Interstate-80 varies from 5.18 percent to 18.95 percent of total traffic. In 2007, average daily truck volumes on I-80 was 6900, with 3 – 5 axle trucks

average 3824 trucks near Auburn, increasing to 5981 at Rocklin, and 5867 at Roseville / County line, tending to increase in volume in populated areas. Through truck trips represent about 88 percent of that total truck traffic. Future truck traffic is projected to increase significantly in the corridor, at about three percent annually, with the majority of this growth occurring in metropolitan areas. Mixing of auto traffic with truck traffic contributes to congestion on the roadway system and can pose safety and operational problems on the freeways, particularly during seasons of peak recreational travel. Truck climbing lanes have been identified by Caltrans as needed on several segments of I-80.

Under the California Vehicle Code, Section 35701, truck routes on local roads can be designated by the specific City or County. Placer County has not developed a system of truck routes for the unincorporated county; however, trucks are prohibited from using specific bridges and roadways. The City of Roseville has designated several truck routes within its boundaries, including STAA truck routes for extra long vehicles that exceed California length limits. The City of Lincoln has similarly designated two truck routes from SR65 to Lincoln Regional Airport, and one has been developed as a STAA truck route.

Pipelines and Transmission Lines

Placer County is served by a number of public and private entities whose purpose is to provide power, telecommunications, and natural gas and petroleum products throughout the incorporated and unincorporated areas of the county. These transmission facilities provide an element of infrastructure that is vital to economic development and growth within Placer County and beyond. They also provide critical energy and communication services to commercial and residential areas. Moreover, using pipelines and telecommunications provide efficient distribution of goods and services without impacting other infrastructure such as roads or rail.

Electrical Distribution

Local electrical service is provided to the residents, businesses and industries of Placer County through four entities: Pacific Gas & Electric (PG&E), Sacramento Municipal Utilities District (SMUD), Sierra Pacific Power Company (SPPC), and the City of Roseville Electric Department.

PG&E is a San Francisco based private company that is publicly regulated by the California Public Utilities Commission. They provide electricity and natural gas to the majority of Northern California. PG&E provides electrical service throughout the majority of Placer County, with the exception of the City of Roseville, remote areas east and west of the Sierra Crest, and in the greater Tahoe Area. They generate power within the county through a number of hydroelectric facilities regulated by the Federal Energy Regulatory Commission.

SMUD is a publicly owned energy utility managed by the elected SMUD board, SMUD currently provides electrical service to a five square mile area in the Dry Creek/West Placer Community.

In Placer County, SPPC provides electrical service to the Tahoe Basin and the Truckee River Corridor, including Squaw Valley, Alpine Meadows and Martis Valley. The majority of their electrical energy is generated in Valmy, Nevada, at a coal-fired power plant. No gas for domestic heating or industrial use is provided by SPPC. SPPC has plans to expand existing transmission facilities to accommodate the anticipated growth within the region.

The City of Roseville Electric Department is owned and managed by the City of Roseville. The Department serves customers in the area that approximately coincides with the City's boundaries. The Department buys electricity from the Northern California Power Agency and the Western Area Power Administration.

In addition, both the Nevada Irrigation District (NID) and the Placer County Water Agency (PCWA) both operate hydropower plants.

Water Purveyors

In Placer County, the main water purveyors are the Nevada Irrigation District (NID) and the Placer County Water Agency (PCWA). Their water supply is derived from a variety of sources including the Yuba, Bear and American rivers. Water transfers are conveyed via a myriad of canals, pipelines and flumes to downstream users and treatment plants. PCWA alone is responsible for 165 miles of these facilities.

Petroleum Distribution

There is a petroleum oil transmission pipeline located adjacent to the Union Pacific Railroad right-of-way near Interstate 80 and Highway 65. The oil is moved from Sacramento to Reno and from Sacramento to Chico. A terminal for storage and distribution transfers to Reno and Chico is located in Rocklin.

Telecommunication Facilities

Telephone service is provided to Placer County through a number of independent telephone companies. MCI and Sprint have fiber-optic cable for long distance transmission located within the Union Pacific Railroad right-of-way, which bisects the County east to west. Several cellular phone companies provide cellular service to Placer County.

Natural Gas

The single largest provider of natural gas throughout Placer County is PG&E. The main transmission facility for their gas distribution system is located along the State Route 65 and Interstate 80 corridors. PG&E's service area for gas distribution is smaller than their service area for electrical distribution. Gas is generally available to residents and industries from Auburn, then south and westward.

Between Auburn and the Tahoe Basin, gas is provided to individual landowners in the form of propane. Propane storage and distribution facilities are located throughout the area, including Colfax and Weimar.

The Tahoe Basin Southwest Gas Company provides natural gas to the communities bordering Lake Tahoe. They distribute gas from a 6" transmission line, which is located along State Highways 89, 28, and 267. Within the Tahoe City area, natural gas is distributed by the Tahoe City Public Utilities District.

The gas lines, natural gas lines, and transmission lines are shown in Figures 6.5a and 6.5b.

Figure 6.5a
Gas Lines and Transmission Lines – Western County

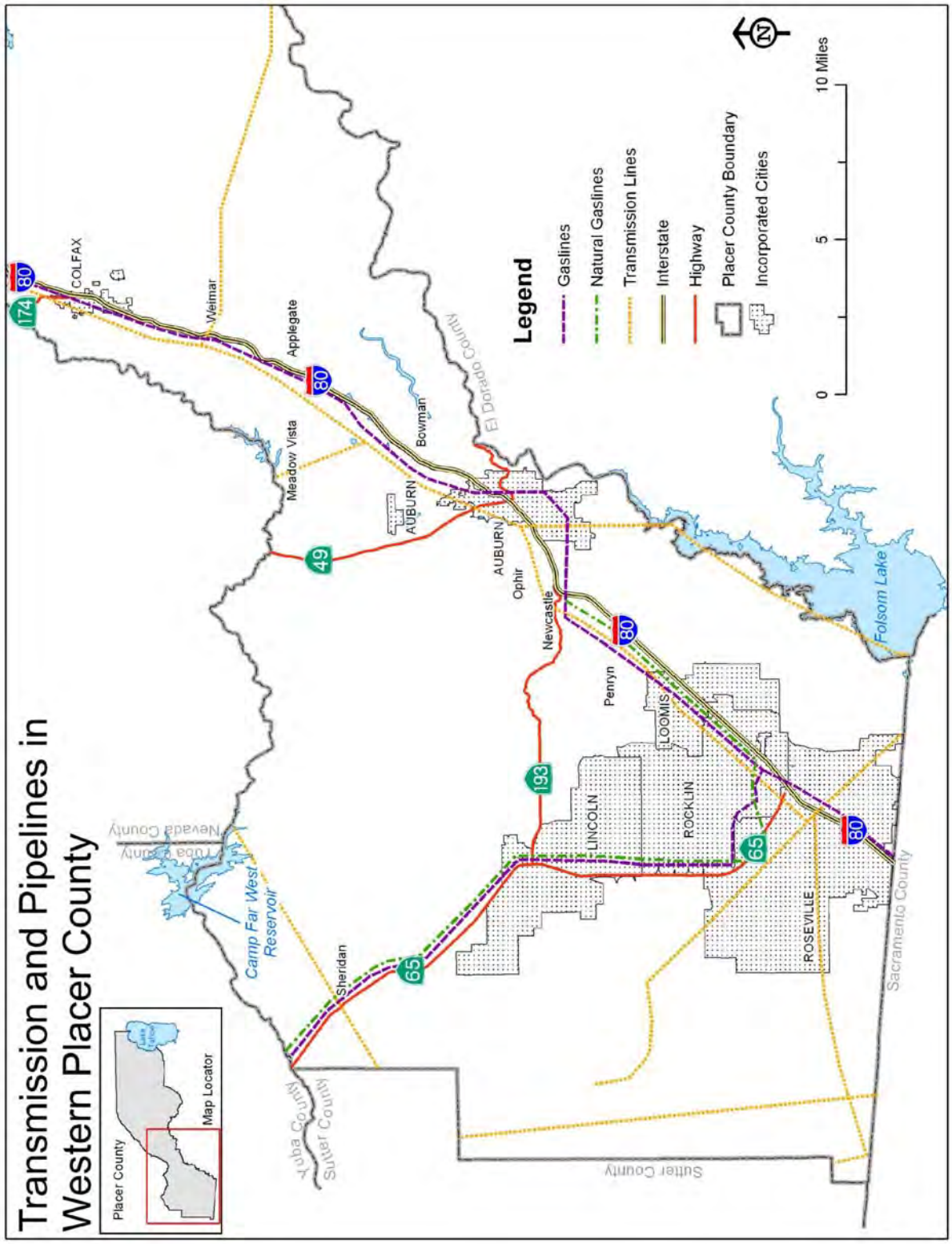
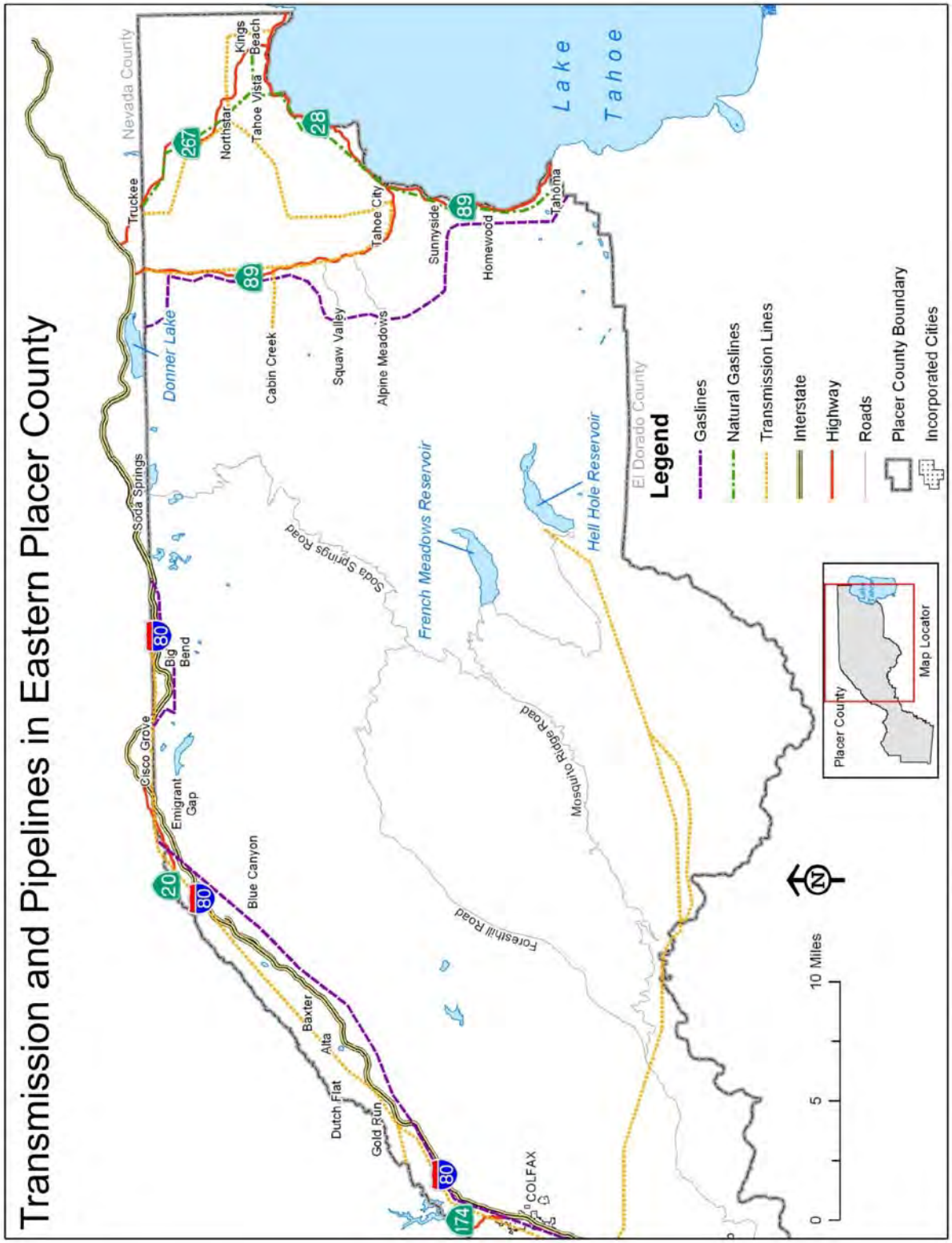


Figure 6.5b
Gas Lines and Transmission Lines – Eastern County



GOODS MOVEMENT NEEDS ASSESSMENT

Trucking Issues

Jurisdictions ranked large trucks use of local roads to bypass I-80 and SR65 traffic congestion as a significant transportation issue. When these trucks use local roads for their travel route, it creates problems with street deterioration and congestion. Jurisdictions also reported safety problems with ingress / egress to businesses for deliveries; as well as pavement shoulder damage due to parked trucks. Caltrans has identified a lack of sufficient private truck parking in both urban and rural areas of the Sacramento region as an important goods movement issue.

Alternately, auto drivers consider large trucks as obstacles when driving. Auto drivers also perceive them as nuisances because of a truck's overall size, slow acceleration and maneuverability.

Traffic Congestion

Whether products are shipped by rail, ship, air, or truck, regional highways and local roads are very likely to be used for some part of the trip. Caltrans data indicates that truck movements in the region more than doubled over the last twenty years. Freight movement by truck suffers from traffic congestion on the roadway system, which delays deliveries and therefore may cause some economic loss to shippers. Mixing of auto traffic with truck traffic contributes to the congestion, and can pose safety and operational problems on the freeways, particularly places where freeways join and where lanes are dropped. Congestion also significantly increases emissions from diesel trucks.

Regional air freight is handled either at Sacramento International Airport (just off I-5 near SR 70/99) or at Mather Airport (near Highway 50 in Rancho Cordova). Maritime freight is handled at ports in Sacramento, Stockton, and Oakland. Interstate 80 provides direct and indirect access to these airports and ports, and as such, is a vital link for goods movement not only for the region but for the entire west coast. Traffic congestion on I-80 affects the timely flow of goods and increases in truck traffic on I-80 during commute hours exacerbates peak period traffic congestion.

California's Statewide Integrated Traffic Records System (SWITRS) data provides detailed locations of truck-involved collisions. Freeway segments within Placer County with historically high accident rates are:

- I-80 between Antelope Road and Riverside Avenue/Auburn Boulevard;
- I-80 between Douglas Boulevard and Atlantic Avenue;
- I-80 between SR 174 and Magra Road; and

- I-80 between Drum Forebay Road and Blue Canyon Road.

SACOG completed a future goods movement "hot spots" analysis examining 2035 traffic congestion. The analysis highlighted roadway segments with unacceptable levels of service at key points in the regional truck system near future industrial growth sites. In Placer County, major growth areas of industrial development include Lincoln, the Rocklin / Roseville area, and Auburn. Highway truck traffic is expected to grow substantially in these areas. Growth will be driven by regional and local trips, with long-distance trucking a relatively minor part. Key year 2035 congestion locations include:

- Lincoln Bypass: congestion projected on SR65 north and south of the bypass due to new development;
- SR 65: connection to I-80 in Roseville and Rocklin;
- SR 65: access to the Roseville industrial area; and
- Baseline Road: access to the Roseville industrial area.

Truck Routes

Legacy highway and street systems are almost inevitably ill-suited for future traffic patterns, including truck routes. The current truck routes in the county and region are the result of State and local actions that have not always been coordinated. Missing links in the highway network result in more trucks on surface arterials. A regional perspective on truck routes would eliminate some of these coordination problems, as would standard signage.

Transportation of Hazardous Waste

Currently, transportation of hazardous waste is regulated by both federal and state agencies. Regulators have not placed restrictions on roadways available for the transportation of hazardous waste. However, the public remains concerned about the safety hazards to local residents should a spill or leakage of toxic materials being transported through the area occurs.

Rail-Motor Vehicle Conflicts

Railroads and train operations bring with them both advantages and disadvantages to the communities they serve. Placer County is faced with increased conflicts between the train operations and other transportation methods, such as automobiles and pedestrians, due to increased travel demands resulting from urban expansion.

To eliminate train conflicts between the railroad, roadways, and the community, grade separations are normally built. However, the significant expense and environmental impacts of

these major construction projects complicate the use of this alternative. Research should examine the ability of land use policy, transportation planning, public policy, and cooperation between the community and railroad to determine if the negative impacts may be mitigated through other means.

Pipelines and Transmission Lines

Distribution and transmission lines and related facilities should be protected from incompatible land uses and activities. Improvements needed to accommodate growth may include adding new distribution feeders, upgrading existing substation and transmission line equipment, expanding existing substations to their ultimate buildout capacity, and building new substations and interconnecting transmission lines.

GOODS MOVEMENT ACTION PLAN

Short Range

1. Identify obstacles that prevent or impede goods movement. *(PCTPA, jurisdictions, industry).*

2. Encourage industry to maximize use of rail and air for the transportation of goods. *(PCTPA, jurisdictions)*

3. Support the development of grade separation projects where necessary. *(PCTPA, jurisdictions, Caltrans)*

4. Support the designation of hazardous waste routes by federal and state regulators. *(PCTPA, jurisdictions)*

5. Designate a subregional or countywide backbone truck route system. *(PCTPA, jurisdictions, Caltrans)*

6. Maintain a balanced freight transportation system to provide for the safe and efficient movement of goods. *(PCTPA, jurisdictions, Caltrans)*

7. Support local development of truck parking strategies. *(PCTPA, jurisdiction, industry)*

8. Specially designate roads that connect key agricultural producers with processing facilities and the regional road network. *(PCTPA, jurisdictions, agricultural industry)*

9. Act as a resource to local jurisdictions for interrelationship of industrial and wholesale land use and transportation planning. *(PCTPA)*

Long Range

1. Continue to implement the actions outlined in the short-range action plan. *(PCTPA, Caltrans, jurisdictions, industry)*

2. Continue to support accelerating truck and rail modernization, with cleaner technologies, in order to reduce current and long-term impacts of the goods movement system on public health and air quality. *(PCTPA, SACOG, APCDs, jurisdiction and industry)*

3. Coordinate goods movement plans and projects. *(PCTPA, Caltrans, jurisdictions, SACOG)*

GOODS MOVEMENT PROJECTS

There are no projects included in the 2035 RTP that are specifically identified as "goods movement" projects. There are many projects identified in SACOG's Good Movement Action Plan, which are considered supportive of goods movement. These projects are identified in Table 6.5-2 below, and are specifically listed in the Regional Roadways, Passenger Rail and Aviation chapters.

The key projects shown below will improve the movement of goods through Placer County and support development of industrial areas inside the county.

- Interstate-80 Capacity improvements
- Lincoln Bypass
- Sierra College Boulevard improvements/widening
- Reconstruction of Sierra College Boulevard interchange
- Track capacity improvements for rail projects
- Placer Parkway
- Improvements to Atkinson from Main to PFE Road
- I-80 / SR65 interchange
- SR65 improvements
- Airport CIP projects

In addition to the key projects, investment in localized street and road improvements can have a cumulative effect in alleviating bottlenecks in the transportation system and facilitate goods movement.

GOODS MOVEMENT PROJECTS

Table 6.5-2

Goods Movement Projects List

Lead Agency	SACOG Project ID	SACOG MTP	SACOG MTIP	Project Title	Project Description	Year Complete	Status	Current Year (2010) $	Expenditure Year $
Caltrans District 3	CAL18797	'07-00	11-00	I-80 HOV Lanes & Aux Lanes - Phase 3	Phase 3 of the Operational Improvement Project: On I-80, Construct east & west bound extensions of the HOV (High Occupancy Vehicle) lanes & auxiliary lanes from Miners' Ravine to SR 65, 1 mile east of the 65/80 Separation. Includes widening of Miners' Rav	2012	Programmed	$33,848,000	$36,609,997
Caltrans District 3	CAL17240	'07-00	11-00	SR65 Lincoln Bypass	Placer County, SR 65: Construct a 4-lane expressway on a new alignment from Industrial Avenue to north of North Ingram Slough & continue north with 2 lanes to Sheridan. Also design & construct a Park & Ride facility at SR 65 Bypass & Industrial Avenue.	2014	Programmed	$291,783,000	$341,344,840
Capitol Corridor Joint Powers Authority	CAL18320	'07-00	11-00	Roseville Third Track	Design & construct third track to improve capacity on the UP mainline between Elvas Tower in Sac County & Roseville Station in Placer County. Extend freight lead track. Construct track and signal improvements. Relocate Roseville rail station to address conflicting train movements that affect capacity.	2012	Programmed	$7,280,000	$7,874,048
City of Lincoln Dept of Public Works	PLA18710	'07-00	11-00	Industrial Boulevard	Industrial Boulevard, from Route 65 to 12 Bridges Drive: Widen from 2 to 4 lanes.	2012	Programmed	$948,000	$1,025,357
Caltrans District 3	CAL18826	'07-00	11-00	I-80 Rehabilitate Bridge Decks Near Roseville	Placer County, I-80 near Roseville at various locations from Auburn/Riverside Overcrossing to Weimar Cross Road - Rehabilitate bridge decks (PM 0.3/29.3).	2013	Programmed	$16,184,000	$18,204,799
Caltrans District 3	CAL18809	07-00		Roseville Third Main Track/Sacramento Layover Facility	Dedicated third mainline track and Sacramento area satellite maintenance facility and other associated improvements, which will permit service capacity increases for Capitol Corridor in Placer County, including possible relocation of the Roseville rail station.	2014	Planned	$250,800,000	$293,400,527
Caltrans District 3	CAL18798	07-00		Auburn to Donner Summit Track Improvements Phases 1 & 2	Upgrade Donner Pass Summit (UP Line) double track: including addition of crossovers, notching of tunnels, reactivation & replacement of second mainline track between Auburn & Reno, Nevada	2015	Programmed & Planned	$86,000,000	$104,632,150
Caltrans District 3	CAL18828	'07-00	11-00	I-80 Vertical Clearance Improvements	Placer County, I-80 in & near Loomis at various locations from Brace Road to Magra Road - Improve vertical clearance (PM 8.1/37.8).	2015	Programmed	$36,045,000	$43,854,254
City of Lincoln Dept of Public Works	PLA18720	'07-00	11-00	Industrial Boulevard	Industrial Boulevard, from 12 Bridges Drive to Athens Boulevard: Widen from 2 to 4 lanes.	2015	Programmed	$1,876,246	$2,282,740
City of Roseville Dept of Public Works	PLA19810	'07-00	11-00	Atkinson Street/PFE Road Widening	In Roseville, Atkinson Street/PFE Road: widen from two to four lanes from Foothills Boulevard to just south of Dry Creek.	2015	Programmed	$7,000,000	$8,516,570
Placer County Dept of Public Works	PLA15270	'07-00	11-00	North Antelope Road	North Antelope Road: Widen from 2 to 4 lanes from Sacramento County line to PFE Road.	2017	Programmed	$2,026,600	$2,666,867
Placer County Dept of Public Works	PLA18490	'07-00	11-00	PFE Road Widening	PFE Road, from Watt Avenue to Walerga Road: Widen from 2 to 4 lanes & realign.	2018	Programmed	$13,085,000	$17,907,726

Lead Agency	SACOG Project ID	SACOG MTP	SACOG MTIP	Project Title	Project Description	Year Complete	Status	Current Year (2010) $	Expenditure Year $
Placer County, City of Roseville, Sutter County	PLA25299	07-00	11-00	Placer Parkway - Phase 1	Phase 1 of the Placer Parkway project, including Tier 2 environmental work, preliminary engineering, & construction to Located a roadway within the selected 500' wide approved Alternative 5 alignment corridor connecting SR. 65 (Whitney Ranch Pkwy) to Foothills Boulevard (replaces PLA25337 - Placer Ranch Parkway - $145 million). Additional Tier 2 work may be completed in increments by Local jurisdictions for subsequent phases of the Placer Parkway project.	2018	Programmed	$70,000,000	$95,799,834
Caltrans District 3	CAL18799	07-00		UP Over/Under Crossing	Build over/undercrossing at Union Pacific crossing of Sierra College Boulevard	2020	Planned	$30,000,000	$44,407,329
City of Roseville Dept of Public Works	PLA15890	'07-00		Sunrise Avenue	Widen: 6 lanes from Sacramento County line to Madden Lane.	2020	Planned	$5,000,000	$7,401,221
Town of Loomis Dept of Public Works	PLA25276	'07-00		Sunrise-Loomis Subdivision	Local Road. Storm Drainage Upgrade: In Loomis, upgrade the local Road. Network storm Drainage facilities in the Sunrise-Loomis subdivision. Ancillary Road. work may be included. Federal permitting may also be required as part of this project.	2020	Planned	$500,000	$740,122
South Placer Regional Transportation Authority / Placer County	PLA20721	'07-00	'09-00	Placer Parkway Project	New 4 lane connector (ultimate 6 lanes freeway) in 500'- to 1,000'-wide corridor connecting SR 70/99 (between Riego Road & Sankey Road) to SR 65 (Whitney Ranch Parkway). (Note: as the project proceeds, Parkway segments will be administered by different l	2035	Programmed	$660,000,000	$1,759,451,979
							2010-2015	$731,764,246	$857,745,282
							2016-2024	$120,611,600	$168,923,099
							2025-2035	$660,000,000	$1,759,451,979
							Total	$1,512,375,846	$2,786,120,359

6.6 Non-Motorized & Low-Speed Transportation

This chapter describes non-motorized and low-speed transportation facilities and programs in Placer County, including neighborhood electric vehicles.

TYPES OF NON-MOTORIZED & LOW-SPEED TRANSPORTATION

Bicycling and pedestrian travel are the two primary forms of non-motorized transportation used in Placer County. Pedestrian travel is commonly used for very short trips, such as for students traveling to and from school. In addition, the health benefits of walking have made this a popular form of exercise. In urban areas, pedestrian facilities most often consist of sidewalks and shared bicycle/pedestrian paths, while in rural areas, hiking trails are the most common facilities.

Bicycling has increased in popularity in recent years, both as a form of recreation and as a commute mode. Technological advances have broadened the profile of the average rider, as bicycles become more comfortable and user-friendly. The incorporation of bicycle facilities in local planning efforts makes riding more convenient and ensures popularity will continue to rise.

Some bicyclists are riding purely as a leisure pursuit while others choose the bicycle as an alternate commute mode. For those unable to drive due to age, health related restrictions, the bicycle is a more timely option than walking. Others ride to enjoy the health or recreation benefits of a trip to and from the workplace. Environmental benefits, energy savings, and relief from congested roadways also entice bicycle commuters.

In Placer County, a variety of terrain and climate are provided for the bicyclist. The western portions of the county are relatively flat, making bicycle use more feasible. In the foothills and eastern portion of the county, the mountainous terrain makes cycling a bit more of a challenge. In the Tahoe area, scenic trails make bicycle use a popular recreation activity, although it is generally not feasible during the winter months due to weather conditions. The foothill region of the county provides cyclists with mild winters and ideal weather conditions during the spring and fall months. Mid-day summer heat in the western portion of the county could discourage even the most avid cyclist.

Another mode, neighborhood electric vehicles or NEVs, are also gaining in popularity. NEVs are, in fact, motorized electric vehicles that travel at low speeds – up to 25 miles per hour. They can be driven on any street that has a speed limit of 35 miles per hour or less. Thus, they are a feasible alternative to a car when making short trips within a community, especially for seniors.

NON-MOTORIZED AND LOW-SPEED TRANSPORTATION FACILITIES

PCTPA is committed to developing programs and projects that encourage the use of alternative transportation modes. This includes the implementation of low-speed NEV, bikeway, and pedestrian projects in concert with urbanization projects and development of business and industry. The projected growth for this region will necessitate the development of safe and efficient facilities to handle current and long-range increases in NEV, bicycle, and pedestrian facilities use.

Low-Speed Vehicles or NEVs

Existing roadways that have speed limits of 35 mph or less can be used by low-speed vehicles. NEVs are the most common type of low-speed vehicle. NEVs may also use existing bike lanes. Primarily, facilitating the use of NEVs involves identifying routes, including closing gaps over bridges or on short segments of higher speed roadways; providing signage and striping to identify routes; and providing charging infrastructure at select locations. The Cities of Lincoln and Rocklin are currently developing implementation plans for expanding the use of NEVs within their cities.

Pedestrian

Placer County requires developers to finance and install pedestrian walkways, equestrian trails, and multi-purpose paths in new development, as appropriate. In addition, the county maintains a listing of roadways with descriptions of right-of-way, curb, gutter and sidewalk presence, bike lane presence, and miles per hour, that is used as a reference for Placer County personnel to utilize for widening or maintenance projects. Placer County considers pedestrian safety issues in the prioritization of sidewalk maintenance projects.

The City of Roseville conducts a sidewalk replacement project annually. The purpose of the program is to repair public sidewalks damaged by tree root or trunk growth. The City of Roseville requires that sidewalks be constructed adjacent to all public streets. Accessible ramps are required at all intersections and driveways and must conform to the requirements of Title 24 of the Office of the State Architect and to the State Standard Drawings.

The less populated cities of Auburn, Loomis, Rocklin, Lincoln and Colfax make pedestrian projects a priority in the more developed areas. Maintenance is handled on a case by case basis. The State guidelines for accessible ramps are followed, and integrated networks of pedestrian connections are incorporated within their general plans.

Bicycle

California Vehicle Code permits bicycling on all streets, with the exception of some highway segments. Although not all streets are designated as bikeways, they are all important to ensure access and connectivity for bicyclists.

In sections of State highways that are prohibited to bicyclists, Caltrans and local jurisdictions work to ensure that there is an alternate route on parallel local streets. Bicycles are permitted on certain State freeways if no suitable alternate route exists, usually on shoulders in rural areas; and are permitted on all expressways and conventional highways.

Several factors are considered during route development. These factors include a needs assessment which identifies the anticipated use, system coverage, connectivity, safety issues. A safe, comfortable, convenient and highly connected system that meets transportation and recreation needs of a broad range of users is emphasized.

The jurisdictions in Placer County use Caltrans' design standards for classifications of bikeways, as described in Chapter 1000 of the Caltrans Highway Design Manual, 2004 edition.

Class I Bike Paths provide a completely separated facility designed for the exclusive use of bicycles and pedestrians with minimal crossings by motorists. Caltrans standards call for Class I bikeways to have 8 feet (2.4 meters) of pavement with 2-foot (0.6 meters) graded shoulders on either side, for a total right-of-way of 12 feet (3.6 meters). These bikeways must also be at least 5 feet (1.5 meters) from the edge of a paved roadway. Examples of Class I bike paths found in Placer County include: Miner's and False Ravine trails and Pleasant Grove Creek trail found within Roseville; and Antelope Creek trail located in Roseville and Rocklin

Class II Bike Lanes provide a restricted right-of-way designated for the exclusive or semi-exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited, but with vehicle parking and crossings by pedestrians and motorists permitted. Caltrans standards generally require a 4 foot (1.2 meters) bike lane with a 6-inch (150 mm) white strip separating the roadway from the bike lane. An example of a Class II bike lane is Auburn-Folsom Road in Placer County. Since 2005, the City of Roseville has been installing bike detection loops at intersections with Class II bike lanes. The detector loops communicate to the traffic signal that there is a bicyclist stopped in the bike lane. Currently, 60 have been installed at 22 city intersections.

Class III Bike Routes provide a right-of-way designated by signs or permanent markings and shared with pedestrians and motorists. Roadways designated as Class III bike routes should have sufficient width to accommodate motorists, bicyclists, and pedestrians. Other than a street sign, there are not special markings required for a Class III bike route.

Jurisdiction municipal codes also address bicycle use on sidewalks. Typically, bicycle use is allowed primarily for the enjoyment of children with their parents and for casual riders; with specific sidewalk prohibited.

Depending on the location, overall development of non-motorized facilities may be a responsibility of local, state, or federal government. Local governments are responsible for the planning and development of bikeways within their incorporated limits, and also work together to plan and construct facilities that cross boundaries. Many bicycle and pedestrian improvements are included as part of street maintenance and construction projects. Caltrans is responsible for the development and maintenance of bikeways along state highways or where established bikeways are interrupted by highway construction. The federal government is responsible for funding bikeways on federal lands, such as national forests, or along interstate highways if their provision will enhance safety.

Bicycle Safety

The most common type of collisions with bicyclists include: broadsides, where the vehicle and bicyclist are traveling at 90 degree angles to each other; rear ends, caused by excessive speed or a lack of awareness; sideswipes, due to failure to yield while changing lanes; head-ons; vehicle collision, due to wrong way riding; pedestrian collision, due sidewalk riding; and hitting an object.

Typically rear-end and sideswipes are scattered throughout the more urbanized areas of Placer County. Broadsides and head-on collisions seem to occur more often at intersections and driveways, or with the bicyclist riding against the normal flow of traffic. Broadsides and head-ons are more likely concentrated along heavily traveled arterials in the urbanized area of the County.

The statewide average (over a two year period) for bicycle related collisions is 22.3 per year, with an average of 0.25 collisions per 1000 persons. Roseville averages 26.5 collisions per year (also for a two year period), with about 0.25 collisions per 1000 persons. In Rocklin the average is for four collisions per year (for a two year period), with 0.08 collisions per 1000 persons. Data was not available for other local jurisdictions.

Existing Bike Plans

In 1988, the Placer County Bikeways Master Plan was adopted by PCTPA, and provided a ten-year policy guide for locations and types of bikeways, including financial analysis, for the western slope of Placer County.

The Placer County Bikeways Master Plan has been supplemented with an updated Regional Bikeway Plan prepared by PCTPA that was approved by the Board of Supervisors in September 2002. The overall goal of the plan is to promote safe, convenient and enjoyable cycling by establishing a comprehensive system of bikeways that link the communities of Placer County. Twelve objectives and policies support this overall goal, and several closely align with those of the Regional Transportation Plan.

The Regional Bikeway Plan includes a list of proposed bikeways using the criteria of existing conditions, mileage, regional connectivity, and priority for implementation. There are a variety of funding sources available for bikeways and related facilities. The major sources applicable to Placer County are described in Chapter 5, Financial Element. The proposed regional bikeway network is shown in Figures 6.6a and 6.6b.

The City of Roseville has developed its own Bicycle Master Plan, which was adopted in September 1994. The plan describes existing conditions, includes a needs analysis, and lays out a ten year prioritized plan for bike paths, lanes and routes including estimated costs. It has been consistently updated, most recently in 2008. The plan outlines goals, objectives, and policies; an ultimate bikeway system; and, a 10-year plan for bikeway facilities. The City recently was awarded Bicycle Friendly Community by the League of American Bicyclists, joining the cities of Davis, Folsom and Sacramento as other locally honored communities.

PCTPA prepared bikeway plans for Auburn, Loomis, and Colfax in 2002 and 2003. All three cities have subsequently adopted the plans. The Colfax bikeway plan was updated in 2008 and the Loomis bikeway plan updated in 2010. The City of Lincoln prepared and adopted its own bike plan in 2001, with the most recent update occurring in 2005. Rocklin's bikeway plan is included in the Circulation Element of the City's General Plan.

Bikeway plans that have been updated within the past five years are eligible for State Bicycle Transportation Account (BTA) funds. The BTA provides State funds for city and county projects that improve safety and convenience for bicyclists. Projects can include, but are not limited to, new bikeways, secure bicycle parking, bicycle carrying facilities on public transit vehicles, installation of traffic control devices to

improve safety and efficiency of bicycle travel, elimination of hazardous conditions on existing bikeways, planning activities, improvement and maintenance of bikeways.

The plans must be in compliance with Streets and Highway Code Section 891.2 and be consistent with the RTP. Plans must be submitted to PCTPA for review and approval. Bikeway plans that have been updated within the past five years and contain all of the required elements, including an inventory of existing bikeways and a list of proposed bikeway facilities, remain eligible for project funding under the BTA.

Other Recent Planning Efforts

Caltrans District 3 Bicycle Plan

Caltrans District 3 is preparing a District Bicycle Plan and a Bicycle Guide. The plan will outline the different bicycle plans in jurisdictions throughout District 3; while the bicycle guide will show the various bicycle routes and topography.

Vision Plan for a Dry Creek Greenway

Placer County, using a CMAQ grant, and working with the Dry Creek Conservancy and local jurisdictions, prepared a Vision Plan for a Dry Creek Greenway, which would include bicycle, pedestrian, hiking, and equestrian facilities connecting the Folsom Lake State Recreation Area on the east to the Sacramento Dry Creek Parkway on the west side. That Vision Plan was completed in 2004.

Figure 6.6a
Regional Bikeway Network – Western County

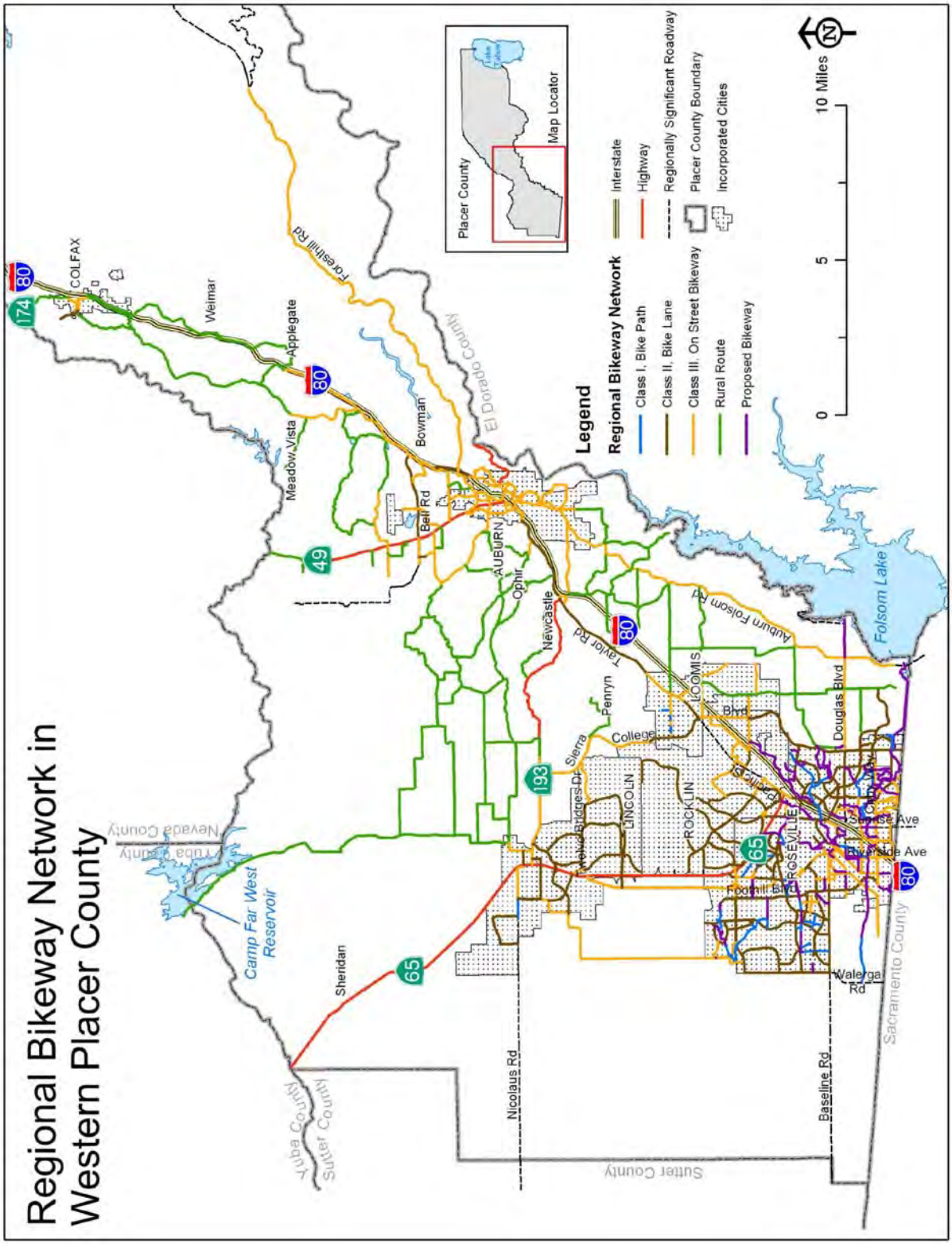
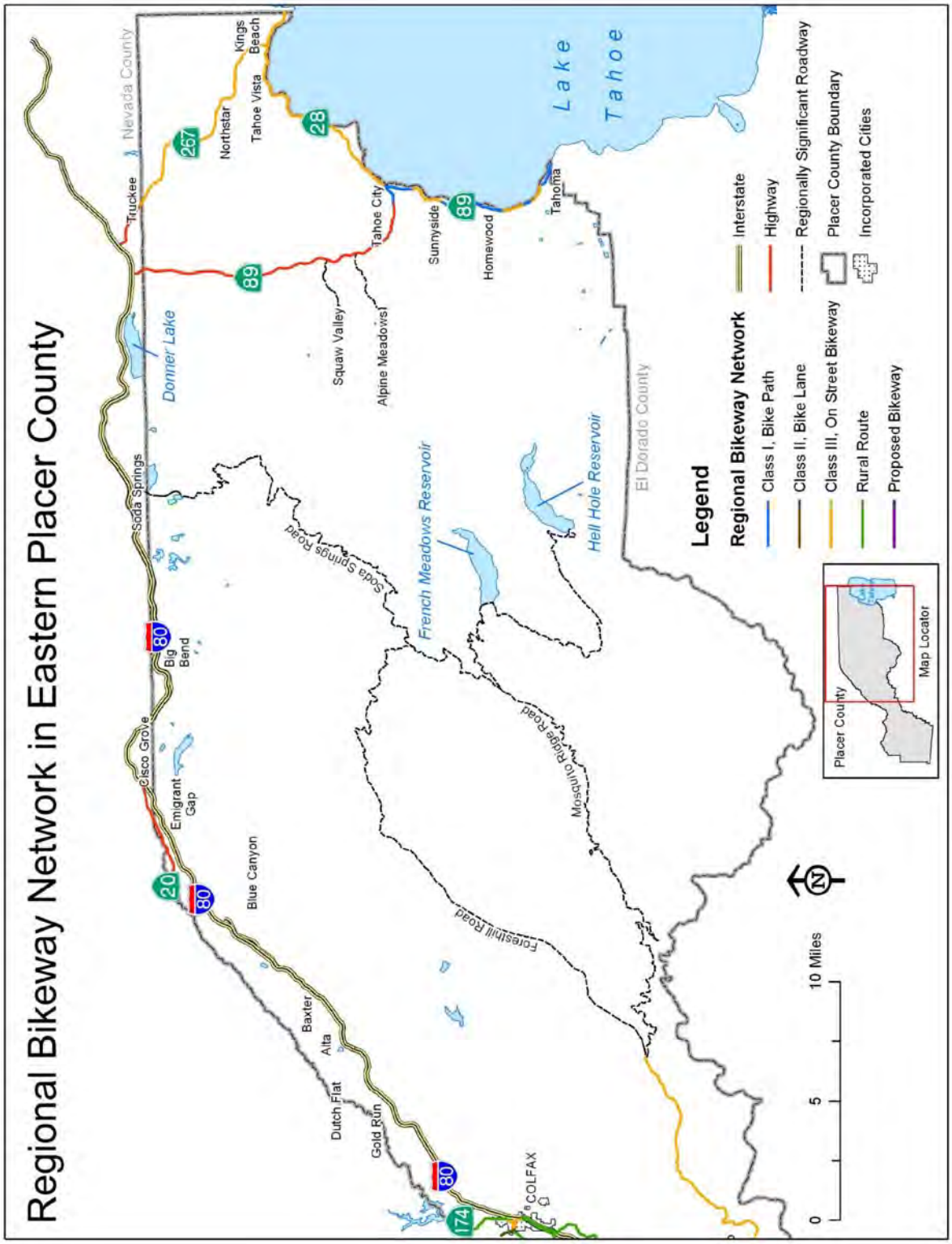


Figure 6.6b
Regional Bikeway Network – Eastern County



Dry Creek Greenway Trail Feasibility Study

The Dry Creek Greenway Multi-use Trail is envisioned as a paved, off-street trail along Dry, Cirby and Linda Creeks. The trail is a component of the City of Roseville bikeway and trail system. It will provide a safe, convenient and highly connected bike route as an alternative to using City streets in an area of the City that is underserved by bicycle facilities. The Dry Creek Greenway trail will connect schools and businesses to residential neighborhoods. The trail will also provide important regional connections as it is part of a series of existing and planned trails that will form a loop around the greater South Placer/ Sacramento area. The Dry Creek Greenway Multi-use Trail is planned for the south side of the City, beginning at the west City limits and extending to the east city limits near Old Auburn Road. Challenges for the project include neighborhood compatibility, limited availability of right-of-way, roadway crossings, existing utilities and environmental factors.

Pedestrian Master Plan, Pedestrian Design Guidelines, and ADA Transition Plan

The City of Roseville is currently developing a Pedestrian Master Plan, Pedestrian Design Guidelines, and an ADA Transition Plan. Together, these three plans are intended to optimize the pedestrian experience; provide safe and useable pedestrian facilities for all pedestrians; and assure compliance with all federal, state and local regulations and standards by providing guidance for the design and installation of a wide variety of pedestrian facilities within the City’s public right-of-way.

Pedestrian Master Plan

The Roseville Pedestrian Master Plan establishes goals and objects for pedestrian improvements and programs that are intended to create a safe, efficient, well-connected and aesthetically pleasing pedestrian environment, with the ultimate goal being to increase the number of people who walk in Roseville. The Pedestrian Master Plan identifies a recommended pedestrian network and establishes a Capital Improvement Program for sidewalks that will enhance the pedestrian environment of existing major streets with missing sidewalks.

Best Practices Manual for Pedestrian Design

The Roseville Best Practices Manual for Pedestrian Design is intended to guide the design of sidewalks in Roseville to help achieve a balanced transportation network where walking is safe, comfortable and convenient. The manual will support the City's current efforts to promote pedestrian circulation to improve health and wellness, reduce vehicle emissions and improve air quality.

Americans with Disabilities Act (ADA) Transition Plan for Public Rights-of-Way

The Roseville ADA Transition Plan documents the legal and functional goals and objectives to make existing pedestrian facilities within the public right-of-way accessible to persons with disabilities pursuant to the Americans with Disabilities Act. The plan provides a schedule for curb ramp and other improvements necessary to achieve programmatic accessibility for persons with disabilities. The ADA Transition Plan was adopted by the Roseville City Council in January 2010.

Trail Etiquette Guidelines

The City of Roseville is drafting trail etiquette guidelines, signage and pavement markings to address user behaviors that create potential conflicts between multiple trail users. It is anticipated that the trail etiquette guidelines will be completed in 2010.

Local Transportation Fund for Bicycle and Pedestrian Facilities

The PCTPA Board annually allocates at its discretion two percent of the Local Transportation Fund (LTF) toward bicycle and pedestrian facilities pursuant to PUC Section 99233.3. PCTPA and jurisdictions develop a cash management plan with a five year horizon for the two percent LTF set aside. Allocations are made to each jurisdiction based on existing and future population. If a jurisdiction does not claim its allocation of bicycle and pedestrian funds within the five year window of the cash management plan, the funds revert to the LTF for apportionment.

NON-MOTORIZED AND LOW-SPEED TRANSPORTATION NEEDS ASSESSMENT

According to the 2001 National Household Travel Survey, in urban areas, 50 percent of all trips were less than three miles, and 28 percent of all trips were less than one mile. These trips are ideal for biking, walking and transit or a combination of those modes of travel. According to SACOG, 7.5 percent of the region's residents bicycle or walk as their primary method of transportation. This is higher than the national average of three percent.

Aside from their recreational value, use of low-speed electric vehicles, bikeways, and pedestrian paths are a valuable tool in the quest to improve air quality and relieve traffic congestion. Fewer cars on the road lead to improved air quality and a reduction in the need to build new (and expensive) roadways.

Bikeway and pedestrian paths are widely used for recreation and leisure, and their construction may contribute to increased commuter use. In a 1993 survey done for the City of Roseville Bikeway Master Plan, the results indicated that 59% of the adult population and 55% of the student population would ride more often if more bike lanes and paths were available.

Fragmentation of the bike network makes intercity travel challenging. Commuter trips in Placer County average 20 miles, too far for many bicyclists and pedestrians to travel. Integrating bicycle and transit offers the opportunity to extend the commuting range for many bicyclists. Further, just closing gaps between adjacent communities will enhance connectivity and expand opportunities for non-motorized travel in the county.

In order for low-speed and/or non-motorized transportation to be a viable transportation control measure, it must be safe, attractive, and easy to use. Generally this includes use of design techniques that promote safety and eliminate barriers, such as adding shoulders on existing and new roadways, lighting, striping and loop detectors at intersections; improving the visibility of crosswalks and signage; conducting right-of-way maintenance (street and shoulder sweeping and vegetation control); and the placement of paths in sufficient location and numbers to connect with important activity centers such as schools, parks, shopping centers, and residential areas.

Each jurisdiction prioritizes their own bike projects, based on their respective bicycle master plans. These are shown in the table below.

NON-MOTORIZED AND LOW-SPEED TRANSPORTATION ACTION PLAN

Short Range

1. Identify issues and problems pertaining to non-motorized and low-speed transportation. *(PCTPA, jurisdictions)*

2. Develop policies for the allocation of funds and processing of claims for non-motorized and low-speed projects. *(PCTPA, jurisdictions)*

3. Promote non-motorized and low-speed transportation as a viable transportation control measure for the mitigation of air quality and congestion problems. *(PCTPA, jurisdictions, PCAPCD, SACOG)*

4. Ensure that jurisdictions have current Bikeway Master Plans that comply with state requirements. *(PCTPA, jurisdictions, Caltrans)*

5. Work with jurisdictions and Caltrans to connect the urbanized centers of the region through non-motorized and low-speed transportation facilities, with an emphasis on closing gaps.. *(PCTPA, jurisdictions, Caltrans)*

6. Work with PCTPA jurisdictions to encourage the development of support facilities, such as secure bicycle parking or storage lockers, shower and changing space, appropriate signage, and adequate lighting, at new commercial and industrial sites, transit centers, park-and-ride lots, and all transit buses. *(PCTPA, jurisdictions, Caltrans, transit operators)*

7. Encourage PCTPA jurisdictions to evaluate the feasibility of installing Class II bike lanes as part of street overlay and maintenance projects. *(PCTPA, jurisdictions)*

8. Pursue new revenue sources for non-motorized and low-speed transportation development. *(PCTPA, jurisdictions)*

9. Review existing abandoned railroad corridors for possible conversion to non-motorized and low-speed transportation facilities. *(PCTPA, jurisdictions)*

10. Promote the beneficial aspects of non-motorized and low-speed transportation through Spare the Air, Bike-to-Work Month, and other similar programs. *(PCTPA, jurisdictions, Caltrans)*

11. Expand the use of the Safe Routes to Schools program, conduct bicycling and walking audits, in an effort to make bicycling, walking and crossing the street safer enroute to and from school. *(Jurisdictions, school districts, Caltrans, local law enforcement, CHP, PCTPA)*

12. Encourage jurisdictions to identify and upgrade intersections that have sub-standard or are missing pedestrian crosswalks and curb cuts. *(Jurisdictions, Caltrans)*

Long Range

1. Continue to implement the actions outlined in the short range action plan. *(PCTPA, jurisdictions)*

NON-MOTORIZED AND LOW-SPEED TRANSPORTATION PROJECTS

Table 6.6-1
Non-Motorized and Low-Speed Transportation Projects List

Lead Agency	SACOG Project ID	SACOG MTP	SACOG MTIP	Project Title	Project Description	Year Complete	Status	Current Year (2010) $	Expenditure Year $
Town of Loomis Dept of Public Works	PLA19100	'07-00	11-00	Loomis Rail Station Enhancements	Design & construct pedestrian & landscaping improvements at the multimodal center including a Class I bike facility adjacent to Taylor Road. from downtown Loomis to Sierra College Boulevard (Emission benefits in kg/day: 6 ROG, 8 NOx, 3 PM-10)	2011	Programmed	$659,225	$685,594
SACOG	VAR56041	07-00	11-00	Safe Routes to School	For all schools in the six-county region, including Placer County: create tools, programs, & materials that promote safe walking & bicycling; conduct outreach & educate partners (SRTS#S0203019).	2012	Programmed	$240,000	$259,584
City of Roseville Dept of Public Works	PLA25366	'07-00	11-00	Bicycle Detection	Traffic signal detection for bicycles at various locations in Roseville.	2011	Programmed	$350,000	$364,000
City of Roseville Dept of Public Works	PLA25385	'07-00	11-00	I-80 To Royer Park Bikeway Phase 2 - Segment 2	Roseville, Harding Boulevard @ Dry Creek, I-80 to Royer Park: Construct class 1 bikeway in 2 phases. Phase 1 from I-80 to Harding Boulevard completed in 2004 (PLA20870) completed in 2004. Phase 2 construction is separated into 3 segments: Segment 2 is Located from East Street to Folsom Road.	2011	Programmed	$413,592	$430,136
City of Rocklin Division of Engineering	PLA25357	'07-00	11-00	Safe School Route Phase 5	In downtown Rocklin: Construct new sidewalks & bicycle lanes on remaining unimproved existing streets, allowing access to Springview School, downtown, & adjacent residential neighborhoods. (Emission Benefits in kg/day: ROG 0.26, NOx 0.15, PM10 0.03)	2011	Programmed	$2,989,955	$3,109,553
City of Lincoln Dept of Public Works	PLA25208	'07-00	11-00	Auburn Ravine Phase 2 Bike/Ped Bridge	Phase 2: Class I pedestrian/bikeway along Auburn Ravine paralleling Ferrari Ranch Road from Ingram Parkway west to SR 65 & bridge crossing over Auburn Ravine.	2011	Programmed	$1,849,109	$1,923,073
City of Roseville Dept of Public Works	PLA25500	07-00	11-00	Pedestrian Facilities Improvement Project	In Roseville, construct sidewalks along various arterial & collector roadways. (Emission benefits in (kg/day) 0.45 ROG, 0.27 NOx, 0.05 PM10).	2012	Programmed	$522,450	$565,082
Placer County Dept of Public Works	PLA25126	'07-00	11-00	Coon Creek Regional Park Bike Trail Project	Placer County intends to construct multi-use trails, parking lot & staging area & related improvements. LIMITS: Garden Bar area of Placer County .25 miles north of Mears Road between the Cities of Lincoln & Auburn. STREET NAME: Mears Road	2012	Programmed	$946,194	$1,023,403

Lead Agency	SACOG Project ID	SACOG MTP	SACOG MTIP	Project Title	Project Description	Year Complete	Status	Current Year (2010) $	Expenditure Year $
Placer County Dept of Public Works	PLA25472	07-00	11-00	Auburn-Folsom Road Class 2 Bike Lane	On Auburn-Folsom Road between Douglas Boulevard & Joe Rodgers Road, construct a Class 2 bike lane including signage & striping.	2013	Programmed	$800,000	$899,891
Placer County Dept of Public Works	PLA25390	'07-00	11-00	Sheridan Elementary School Frontage Improvements SRTS	Sheridan ES & Lincoln MS: Improvements shall consist of a multi-purpose pedestrian path along the school frontage with curb ramps plus the installation of 2 4-way stops at the intersections of H Street/10th Street & Riosa Road/10th Street. (SRTS# S0203018)	2012	Programmed	$329,800	$356,712
City of Roseville Dept of Public Works	PLA19860	'07-00	11-00	Roseville Bikeway Master Plan Implementation	In Roseville, provide signs & striping for new class 2 & 3 bikeways.	2012	Programmed	$105,000	$113,568
City of Roseville Dept of Public Works	PLA19910	'07-00	11-00	Dry Creek Greenway Trail	In Roseville, along Dry Creek, Cirby Creek & Linda Creek, construct Class 1 Bike Trail.	2015	Programmed	$2,265,875	$2,756,783
City of Roseville Dept of Public Works	PLA25386	'07-00	11-00	I-80 To Royer Park Bikeway Phase 2 - Segment 3	Roseville, Harding Boulevard @ Dry Creek, I-80 to Royer Park: Construct class 1 bikeway in 2 phases. Phase 1 from I-80 to Harding Boulevard completed in 2004 (PLA20870) completed in 2004. Phase 2 construction is separated into 3 segments: Segment 3 is Located from Folsom Road to Lincoln Street/Royer Park.	2012	Programmed	$938,108	$1,014,658
City of Lincoln Dept of Public Works	PLA25311	'07-00	11-00	NEV Transportation Project - Phase 2	In Lincoln: Various streets within Lincoln; striping, pavement markings, & signage on various roadways for NEV Transportation Project.	2012	Programmed	$273,430	$295,742
City of Colfax Dept of Public Works	PLA25024	'07-00	11-00	South Auburn Street Bike Lanes	On South Auburn Street from Mink Creek to Colfax/Grass Valley Overcrossing: Add bike lanes on both sides of street.	2012	Programmed	$115,000	$124,384
City of Colfax Department of Public Works	PLA25439	07-00	11-00	Grass Valley Street Railroad Crossing Pedestrian Improvements	Pedestrian improvements across UP railroad tracks to improve pedestrian safety.	2012	Programmed	$244,000	$263,910
City of Auburn Dept. of Public Works	PLA25226	'07-00	11-00	Palm Avenue Sidewalks / Bicycle Lane	Installation of sidewalks & Class 2 bike lanes from SR 49 to Nevada Street.	2012	Programmed	$889,090	$961,640
City of Auburn Dept. of Public Works	PLA25229	'07-00	11-00	Nevada Street Improvements	Various improvements on Nevada Street from SR 49 to I-80, including widening 2 to 3 lanes, signalization, bike lanes, sidewalks, & bus turnouts.	2012	Programmed	$225,000	$243,360
City of Auburn Dept. of Public Works	PLA25471	07-00	36831	Nevada Street Pedestrian & Bicycle Facilities	Class 2 bike lane & adjacent sidewalks along Nevada Street from Placer Street to Fulweiler Avenue to allow for continuous pedestrian & bicycle access from Old Town Auburn to the Auburn Station & EV Cain Middle School. (Emission reduction benefits (kg/day) ROG 0.03, NOx 0.02, PM10 0.01).	2013	Programmed	$444,526	$500,031
Town of Loomis Dept of Public Works	PLA20910	'07-00	11-00	Taylor Road Bike & Turn Lane	In Loomis, Taylor Road from King Road to north town limits: add turn lane & bike lanes. STREET NAME: Taylor Road	2013	Programmed	$690,000	$776,156
City of Roseville Dept of Public Works	PLA25469	07-00	11-00	Oak Street Extension of Miners Ravine Trail	In Roseville, extend Class 1 trail from Lincoln Street to Royer Park.	2013	Programmed	$854,770	$961,500
City of Roseville Dept of Public Works	PLA25465	07-00	11-00	Downtown Roseville Transportation Enhancement Project	In Roseville, conduct Washington Boulevard pedestrian/bike undercrossing study; improve Civic Center transit transfer facility; & construct other transit/bicycle/pedestrian related improvements.	2013	Programmed	$793,750	$892,861
City of Auburn Dept. of Public Works	PLA25255	'07-00	11-00	Auburn Infill Sidewalk Program	Construction of new curbs, gutters, & sidewalks that complete the existing sidewalk network, & connects existing areas throughout the City of Auburn.	2013	Programmed	$200,000	$224,973
Town of Loomis Dept of Public Works	PLA20920	'07-00	11-00	Horseshoe Bar Road	In Loomis, Horseshoe Bar Road from Walnut Extension to Taylor Road: add 1,000 feet of two-way left turn lane (for safety) & bike lanes.	2014	Programmed	$700,000	$818,901

Lead Agency	SACOG Project ID	SACOG MTP	SACOG MTIP	Project Title	Project Description	Year Complete	Status	Current Year (2010) $	Expenditure Year $
Placer County Dept of Public Works	PLA25473	07-00	11-00	Highway 49 Pedestrian Facilities & Landscaping	Construct pedestrian & landscaping facilities along SR49 from New Airport Road to Bell Road.	2014	Programmed	$1,587,925	$1,857,648
City of Lincoln Dept of Public Works	PLA25464	07-00	09-38	G Street Bicycle/Pedestrian/ NEV/ITS Improvements	Construct various pedestrian, bicycle, NEV, and ITS improvements along the Highway 65 / G Street corridor from Sterling Parkway to 7th Street. Improvements will consist of gap sidewalk construction, pedestrian improvements to railroad crossings, pedestrian crossings along Highway 65 / G Street, bicycle and NEV lanes, connection to the existing trail along Auburn Ravine east of Highway 65, roadway narrowing through the construction of landscape medians and frontage improvements where appropriate, and traffic signal interconnection and coordination along the corridor. The first step of the project will be to prepare a master plan identifying and analyzing the improvements needed along the corridor. Based on the results of the master plan the project will then be designed and constructed in phases as multiple City capital improvement projects.	2014	Programmed	$3,288,796	$3,847,426
City of Colfax Dept of Public Works		07-00		S Auburn Street Pedestrian / Bicycle Improvements	Add bike lanes on both sides of South Auburn Street from Mink Creek to Colfax / Grass Valley overcrossing.	2014	Planned	$360,000	$421,149
City of Colfax Dept of Public Works	PLA25158	'07-00	11-00	Downtown Colfax Bike Lane Extension	From Downtown Multi-modal station, construct bike path extension to the intersection of Main Street & SR174 (Main Street) at Depot.	2014	Programmed	$562,500	$658,045
City of Auburn Dept. of Public Works	PLA25256	'07-00	11-00	Auburn Sidewalk Reconstruction & Tree Planting	Removal & replacement of damaged sidewalks in various locations throughout the City of Auburn, including installation of irrigation & tree/landscape planting where separated sidewalks exists.	2014	Programmed	$400,000	$467,943
City of Roseville Dept of Public Works		07-00		UP Railyard Bicycle/Pedestrian Bridge	Construct a bicycle/pedestrian bridge to span the UP Railyard.	2015	Planned	$4,000,000	$4,866,612
City of Colfax Department of Public Works		07-00		Colfax Gateway Project	Construct pedestrian and bicycle paths, sidewalks, park-and-ride lots, an "open air" museum, and landscaping near the Historic Freight Depot building.	2015	Planned	$500,000	$608,326
City of Auburn Dept. of Public Works	PLA25228	'07-00		Bike Facilities	Construct: various bike lane facilities throughout the City of Auburn.	2015	Planned	$125,000	$152,082
City of Roseville Dept of Public Works	PLA25318	'07-00		Dry Creek	Bikeway Trail: from Darling Way. to western Roseville City limits along Dry Creek.	2020	Planned	$5,500,000	$8,141,344
City of Colfax Dept of Public Works	PLA20450	'07-00		Bicycle Improvements	Bicycle Path Network: Develop throughout Colfax, connecting to major transportation centers.	2025	Planned	$1,000,000	$1,800,944
Town of Loomis Dept of Public Works	PLA25263	'07-00		Secret Ravine	Bike/Pedestrian Pathway: In Loomis, construct Class I bike & pedestrian facility along Secret Ravine creek system from north Town limits of Loomis to south Town limits of Loomis.	2030	Planned	$600,000	$1,314,674
Town of Loomis Dept of Public Works	PLA25264	'07-00		Antelope Creek	Bike/Pedestrian Pathway: In Loomis, construct Class I bike & pedestrian facility along Antelope Creek. Federal permitting may be required as part of this project.	2030	Planned	$500,000	$1,095,562

2010-2015	$28,663,095	$32,444,727
2016-2024	$5,500,000	$8,141,344
2025-2035	$2,100,000	$4,211,179
Total	$36,263,095	$44,797,250

6.7 Transportation Systems Management

This chapter describes Transportation System Management (TSM) techniques, which are generally low-cost and designed to maximize the efficiency of the existing transportation system, reduce travel demand and dependence on single occupant vehicles, improve air quality, and reduce or eliminate the need for new and expensive transportation infrastructure.

TRANSPORTATION SYSTEM MANAGEMENT (TSM)

Finding creative solutions to deal with growth in population, traffic congestion, and achieving federal air quality standards, is an ongoing effort. One element of this effort that remains constant is finding ways to make our existing transportation system as efficient as possible. This is the role of Transportation System Management (TSM).

Transportation Systems Management (TSM) is often used interchangeably with Transportation Control Measures (TCMs) and Travel Demand Management (TDM) to describe a series of techniques designed to maximize the efficiency of the existing transportation system by reducing dependence on single occupant vehicles. The common goals of TSM, TCMs, and TDM are to reduce traffic congestion, improve air quality, and reduce or eliminate the need for new and expensive transportation infrastructure. Techniques are generally low-cost measures to reduce travel demand or improve the utilization of existing transportation facilities.

The differences between the three concepts are subtle. Each contains alternative transportation measures, such as carpooling, transit, bicycling, walking, vanpooling, compressed work weeks, and telecommuting. Transportation Systems Management (TSM) places emphasis on reducing traffic congestion by increasing the person-trip capacity of existing transportation systems. TSM techniques also include restriping roadways for channelization, ramp metering, establishment of freeway auxiliary lanes, and freeway service patrol. Travel Demand Management (TDM) strategies are designed to influence an individual's travel behavior by reducing the demand for single occupant vehicle travel, especially during peak commute periods. TDM strategies include techniques such as preferential parking for carpoolers, teleconferencing and advanced communication technology. Transportation Control Measures (TCMs) are geared towards reducing air pollution through techniques such as alternative fuel vehicles.

Since 1981, the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) have required that Transportation Systems Management (TSM) be part of the regional transportation planning and programming process. Specifically, the Regional Transportation Plan must have a TSM element which describes how the region intends to deal with the movement of people and goods by improving the efficiency and effectiveness of the total transportation system.

SACOG's MTP 2035 identifies a goal to reduce regional trips anticipated in the MTP by 10 percent. Land uses defined by Blueprint principals provide the framework for the future reduction in trips and VMT. TSM and TDM programs are a complementary component toward achieving the 10 percent trip reduction goal. Work-based trips account for about 20 percent of all

daily trips in the region. To contribute to the goals set forth in the MTP 2035, TSM and TDM programs will need to expand services to target the other 80 percent of regional trips. This chapter outlines various TSM and TDM strategies currently implemented in Placer County that will contribute toward achieving the regional goal.

According to 2005 Urban Mobility Report prepared by the Texas Transportation Institute, using 2002 data for Sacramento, about 48 percent of daily travel occurs in congested conditions, resulting in 40 hours of delay per traveler per year at a total congestion cost of $739 per traveler per year.

TSM STRATEGIES

Traffic Flow Improvements

Roadway restriping, spot widening, channelization, ramp metering, auxiliary lanes, elimination of on-street parking, and computerized signalization are techniques currently used to improve the flow of traffic without new road construction.

- Roadway restriping seeks to increase the number of lanes by reducing lane width, thus increasing traffic capacity.
- Channelization, which is often done in conjunction with restriping, adds turn lanes to busy roadways to eliminate traffic backups behind cars trying to make turns.
- Auxiliary lanes are often added to ease merging of traffic onto and off of freeways, such as Interstate 80.
- Elimination of on-street parking is done to add lanes, and thus capacity, to heavily traveled roadways. In addition, traffic backups caused by vehicles entering or exiting on-street parking spaces is eliminated.
- Computerized signalization seeks to coordinate signal timing to smooth traffic flow.

Freeway Service Patrol (FSP)

Approximately half of the delay experienced by travelers in the United States is due to causes other than simple high volumes of traffic. Much of this nonrecurring congestion occurs as a result of traffic accidents and stalled vehicles. Quickly identifying and removing vehicle incidents reduces traveler delay by returning traffic capacity to normal levels. Freeway service patrol (FSP) programs are designed to reduce the traffic congestion during peak commute periods on area freeways by removing traffic impediments, such as cars with mechanical problems or that have been involved in accidents, as well as assisting the motoring public.

In 2003, PCTPA received grant funding from the Placer County Air Pollution Control District (APCD) to implement a Freeway Service Patrol in the congested areas of I-80 in south Placer County. This service operates weekdays during peak commute periods.

In 2005 and 2008, the Freeway Patrol Service was augmented by State funding, allowing the program to expand to SR 65 and adding hours of operation. A service truck which provides non-tow related service was added in 2009 to complement the existing weekday tow service and on Sundays in 2010 to assist recreational traffic occurring in the late afternoon / early evening. Table 6.7-1 summarizes recent assist data for the PCTPA administered program.

Table 6.7-1
Freeway Service Program Assist Comparison
By Problem Type & Vehicle Location

Problem Type	2007 / 2008		2008 / 2009		
	SR65	I-80	SR65	I-80	Service Truck*
Abandoned	137	132	105	104	69
Accidents	204	179	432	438	63
Debris	37	30	36	25	31
Electrical	28	14	24	54	15
Flat Tire	175	183	249	288	205
Mechanical	142	147	276	265	197
Other	109	152	473	410	85
Out of Gas	168	100	117	105	82
Overheat	74	39	68	83	97
	1074	**976**	**1780**	**1772**	**844**
Vehicle Location					
In FWY Lanes	85	46	117	102	40
On a Ramp	27	63	141	114	3
On Left Shoulder	59	93	143	164	15
On Right Shoulder	887	710	1264	1347	784
Other	12	19	89	8	0
Unable to Locate	4	45	26	35	2
	1074	**976**	**1780**	**1770**	**844**

Note: Service Truck implemented in January 2009 (reflects only 6 months of assists).

Public Transit

Public transit service is the most widely used TSM measure in Placer County serving residents who depend on transit for commuting to work and school and for shopping, medical, and leisure trips. For a more comprehensive overview of the public transit and passenger rail services

operating in Placer County see the Public Transit and Passenger Rail sections of the Action Element.

Public transit service is provided by the Placer County Department of Public Works, the City of Roseville, the City of Auburn, the City of Lincoln, and the Western Placer Consolidated Transportation Services Agency (CTSA). Both Roseville and Placer County provide commuter bus services to downtown Sacramento. In addition, Placer County subsidizes ten commuter vanpools that provide an alternative to driving alone. The Capitol Corridor Joint Powers Authority (CCJPA) provides intercity passenger rail service between Auburn and San Jose with stops in Rocklin and Roseville in Placer County.

Ridesharing

There are several coordinated ridesharing programs that serve Placer County. The Sacramento Area Council of Governments (SACOG) manages the Regional Rideshare program covering Placer, El Dorado, Sacramento, Yolo, Yuba, and Sutter counties. It is part of a statewide network of rideshare agencies. The purpose of the Regional Rideshare program is to encourage the use of carpooling and other alternative transportation modes for traveling to work, school, personal trips, and recreation. The Regional Rideshare program includes a toll-free, easy to remember number (511) to call for information, a database of commuters interested in ridesharing (carpools and vanpools), and an extensive outreach program through employers.

Another regional program focused on encouraging ridesharing is Spare-the-Air managed by the Sacramento Metropolitan Air Quality Management District (SMAQMD) and supported by the air districts of the Sacramento region (including the Placer County Air Pollution Control District). Spare-the-Air is a regional driving curtailment and health notification program that operates in the Sacramento ozone non-attainment area (which includes Placer County with the exception of the Tahoe Basin) during the summer smog season of June through September. Drivers are alerted to reduce driving on days when ozone formation is expected to be high, and the public is advised of ozone levels and health effects through a variety of media. In addition, all of the public transit providers in Placer County offer free rides on Spare the Air days.

PCTPA and the City of Roseville implement the Congestion Management Program (CMP) for Placer County. Their efforts are closely coordinated with the Regional Rideshare program and Spare-the-Air. The CMP provides marketing, seasonal incentive, educational and outreach efforts to the public and employers throughout Placer County about the benefits of using alternative modes of transportation, with the goal of reducing drive-alone auto commute trips and VMT. The CMP also offers an emergency guaranteed ride home program for employees, and includes educating school age children about the benefits of using alternative transportation, with the objective of positively impacting their view of alternative transportation before driving habits are established. A component of the CMP also includes implementation of the Western Placer Marketing Study, completed in 2003. The purpose of this Study is to facilitate the marketing of transit services as an integrated system, focused on increasing awareness of public transit through specific marketing strategies.

Finally, PCTPA has received a grant, from the Placer County Air Pollution Control District that funds a coordinated transit marketing program geared specifically to raise awareness of public transit options in Placer County. The coordinated transit marketing effort complements the CMP and includes the cooperation of the public transit operators who provide direction on marketing campaigns. As part of the program, public transit operators offer a summer youth pass good for unlimited rides on all fixed route transit in Placer County during summer months.

Pedestrian and Bikeway Facilities

By making these methods safer and more convenient, pedestrian and bikeway facilities make bicycling and walking more attractive as alternatives to the automobile. To further support biking as a viable alternative to driving alone, Placer County bike maps are available to the public. For a discussion of plans for pedestrian and bikeway facilities within Placer County, see the Non-motorized Transportation section of the Action Element.

Park-and-Ride Lots

The purpose of park-and-ride lots is to provide a central meeting place adjacent to major travel routes where commuters can congregate and form carpools or catch buses for the remainder of the commute trip. Non-commuters can use these facilities for recreational purposes, such as trail access for bicycling, hiking, and equestrian usage.

Caltrans operates numerous park-and-ride lots in Placer County, located along Interstate 80. Placer County also operates several lots, which are located convenient to I-80 as well. Many lots include bicycle lockers and are all paved areas for parking cars. Table 6.7-2 identifies Placer County park-and-ride lot locations and their service characteristics.

Table 6.7-2
Placer County Park-and-Ride Facilities

Jurisdiction	Location	Owner	Spaces	Transit Service	Bike Locker	Bike Lockers
Auburn	West of SR 49 at Atwood Rd	State	42	No	No	0
Auburn	Auburn Amtrak Rail Station -Nevada Street and Fulweiler Avenue	City	50	Amtrak and Placer County Transit	No	0
Placer Uninc.	Bell Rd and Bowman Rd NW side of 80	State / County	33	No	No	0
Placer Uninc.	Bowman - East side of Lincoln Way Interchange of I-80	County	21	No	Yes	4
Meadow Vista	Clipper Gap Rd - South side SR 80 on Placer Hills Road	County	53	Placer County Transit	No	0

Newcastle	Newcastle - SE side of Newcastle Rd Interchange	State / County	39	No	No	0
Newcastle	Indian Hills Rd and Newcastle Rd	State	27	No	No	0
Ophir	Lincoln / Ophir SR 193 on North West side of I- 80	County	37	No	No	0
Penryn	Penryn Rd Interchange on NW of I-80 on Boyington Rd	County	39	Placer County Transit	No	0
Weimar	Weimar Cross Rd -SW side of SR 80 at Weimar Cross Roads	County	12	No	No	0
Colfax	Dingus McGees Colfax (former) - Approx 1 mile south of Colfax/west side of SR 80	Private	50	No	No	0
Colfax	Colfax Amtrak Railroad Street	City	10	Amtrak and Placer County Transit	No	0
Lincoln	Sierra College Blvd - SW corner of SR 193 and Sierra College Blvd	State	24	No	No	0
Loomis	Horseshoe Bar Rd Interchange South side of SR 80	County	24	No	No	0
Loomis	Loomis Train Station, Horseshoe Bar Road	City	71	Placer County Transit		3
Rocklin	Sierra College Blvd - SE I-80 at Sierra College Blvd	County	24	No	No	0
Rocklin	Rocklin Amtrak Station - Rocklin Road and Railroad Avenue	City	50	Amtrak and Placer County Transit	No	0
Roseville	Roseville Amtrak Station - Church Street and North Grant Street	City	78	Amtrak and Roseville Transit		0
Roseville	Church at Cirby Way and Orlando Av	Private	172	Roseville Transit	Yes	Yes
Roseville	Creekside Town Center - Creekside Ridge Court	Private	50	Roseville Transit	No	0
Roseville	Foothills Blvd / Junction Blvd	Private	25	Roseville Transit	No	0
Roseville	Mahany Park - Pleasant Grove Blvd / Woodcreek Oaks	Private	42	Roseville Transit	Yes	0

Roseville	Maidu Park - East of I-80 at Rocky Ridge Drive and Johnson Ranch Drive	City	50	Roseville Transit	No	0
Roseville	Highland Reserve Marketplace - Pleasant Grove Boulevard and Fairway Drive	Private	25	Roseville Transit	Yes	Yes
Roseville	Roseville Galleria Blvd / East Roseville Parkway	Private	50	Placer County Transit and Roseville Transit	No	0
Roseville	Saugstad Park - NE of I-80 at Douglas Blvd and Buljan Street	State / County	91	Roseville Transit	Yes	6
Roseville	Roseville Costco - Stanford Ranch Road / Five Star Blvd	Private	35	Placer County Transit	No	0
Roseville	Taylor Road & Eureka Road	State	150	Placer County Transit and Roseville Transit	Yes	16

Source: Guide to Regional Park and Ride Lot, Sacramento Region 511 / SACOG, October 2006.

Mobility Rest Areas

Mobility rest areas are provided to increase driver safety and satisfaction. They offer motorists and commercial drivers regular stopping opportunities to rest, receive pertinent traveler information, and access to restroom facilities. There are currently two rest areas in Placer County, located along I-80 at Gold Run and Donner Summit, and one additional facility on SR20 just west of I-80 in Nevada County. One new rest area has been identified by Caltrans for I-80 east of Truckee, although no funding has been identified for its implementation.

Potential TSM Strategies

In Placer County, most every applicable TSM strategy is already being used in some form. Some strategies, such as transit, are well-established, while others, such as use of alternative fuels, are just beginning to expand their applicability. In addition, there are several Intelligent Transportation Systems (ITS) studies recently completed or underway in the Sacramento region, in the foothill counties (Placer, El Dorado, Nevada, Sierra), and in the Tahoe Basin (refer to Chapter 6.9). The result of these studies will be recommendations for implementation of technology improvements that can improve the flow and timeliness of information available to the traveler in order to avoid and/or reduce traffic congestion and delays due to traffic.

TDM STRATEGIES

Telecommuting, Compressed Work Weeks, and Flexible Work Hours

Telecommuting, compressed work weeks, and flexible work hours are employment based techniques to reduce the number of work trips per week, or to transfer trips to reduce peak hour congestion. Telecommuting, or alternative work location, allows workers to perform job duties at home or another location, communicating with the main work center by modem, fax, or telephone as necessary. This alternative is especially attractive for workers in rural areas or those commuting long distances, and studies have shown telecommuters are up to 20% more productive.

Compressed work weeks increase the number of hours worked each day to squeeze a regular work week into fewer work days. A typical schedule could be four 10-hour work days each week (4/10 schedule) or eight 9-hour days and one 8 hour day in two weeks (9/80 schedule).

Flexible work hours do not reduce the number of work trips per week, but seek to reduce traffic congestion by shifting some trips out of the peak period. Employers using flexible hours may allow workers to vary time of arrival and departure daily, or may require workers to choose a specific schedule to meet the needs of the employer and employee.

Teleconferencing

Teleconferencing is generally defined as meetings held by telephone or via video hookup to replace the need for traveling to meet in person. Many employers in Placer County utilize teleconferencing as a cost-effective way to conduct meetings and seminars while avoiding travel on roadways.

TDM Examples

There are many examples of TDM promotions and marketing campaigns currently being implemented in Placer County. The venues outlined below provide an opportunity for promoting alternative transportation modes through both on-going and seasonal campaigns, with an emphasis on congestion management and improved air quality.

Examples of ongoing TDM promotions and marketing campaigns implemented in Placer County include:

- Coordination with SACOG, regional air districts, and jurisdictions on alternative transportation efforts
- Transportation fair participation

- Sacramento Region 511 Rideshare marketing and match listing services
- Sacramento Region Commuter Club
- Vanpool promotion
- Emergency Guaranteed Ride Home services
- Transit information services for the general public
- TDM outreach for major capital projects
- Media releases, including Public Service Announcements, cable, radio and newspaper advertisements and articles
- Outreach to jurisdictions, employers and schools
- Quarterly employer TSM meetings, including training seminars for Employee Transportation Coordinators
- New employee outreach, including information packets with alternative transportation information
- Speaking engagements

Examples of seasonal TDM promotions and marketing campaigns implemented in Placer County include:

- Spare the Air, including free fare and incentive campaigns
- Summer Youth Bus Pass
- Bucks for Bikes
- May is Bike Month bike to work day events
- Earth Days
- Capitol Corridor holiday shopper program and kids ride free on weekends
- Way to Go-Walk to School days

TDM Partnerships

Partnering occurs with other on-going and seasonal campaigns with similar messages. This helps leverage resources for greater impact. PCTPA is an active partner in SACOG's Transportation Demand Management Working Group. This group coordinates and develops alternative transportation marketing strategies that are promoted by member organizations. Examples of

recent regional efforts include the Commuter Club and Bike Month. PCTPA has a strong working partnership with the City of Roseville and their large employer based network of businesses. PCTPA also works with the Capitol Corridor to promote passenger rail transportation as an alternative for placer County residents traveling to downtown Sacramento, Davis and to the Bay Area both for commute and recreational purposes. All of Placer County jurisdictions are members in the Transit Operators Working Group (TOWG), which serves as an advisory group for implementing the recommendations of the Western Placer County Transit Marketing Study.

TDM Program Impacts

With a number of commuters using ridesharing arrangements and public transit, and an increasing percentages traveling outside peak periods, it is increasingly important to understand the effects traveler choices relate to external influences and public policy choices. Currently, the Sacramento region does not have a monitoring and measurement system in place to assess progress or long-term effectiveness of existing TDM programs. At one time, placement surveys were used to assess whether persons registering for ridesharing were placed into alternate modes of commuting. These surveys were, however, discontinued several years ago by SACOG. The current means of assessing program effectiveness is to use the results of the decennial Census Household Travel Survey. SACOG has recently assembled a Regional Transportation Monitoring Report documenting transportation data and trends in the Sacramento region from 2002 to 2009. The Monitoring Report provides a useful understanding of how the transportation system in the region is being used; and what changes and trends are in evidence. SACOG anticipates the Regional Transportation Monitoring Report will be updated every two years. The report will provide a resource to track and monitor the progress of transportation system performance.

TSM ACTION PLAN

Short and Long Range

1. Work cooperatively with neighboring jurisdictions to implement ITS improvements that would support TSM efforts in the region. *(PCTPA, SACOG, TRPA, NCTC, EDCTC, Sierra County, Caltrans)*

2. Continue to work cooperatively with SACOG, SMAQMD, and the City of Roseville on implementation and enhancement of regional rideshare programs that encourage the use of alternative modes of transportation. *(SACOG, SMAQMD, PCTPA, City of Roseville, local employers)*

3. Continue to work cooperatively with area school districts on outreach to children in educating them about the benefits realized through the use of alternative transportation. *(PCTPA, school districts, transit operators)*

4. Promote alternative modes of transportation to help meet the transportation needs of rural agricultural workers in Placer County. *(PCTPA, transit operators, agricultural industry, Placer County Farm Bureau, Placer County Agricultural Commissioner, Placer County Agriculture Department, Caltrans, SACOG)*

5. Implement traffic flow improvements on regionally significant roadways. *(PCTPA, jurisdictions, Caltrans)*

6. Improve and expand public transportation systems (bus and rail) as feasible, to maintain existing and increase new ridership. *(PCTPA, CCJPA, transit operators)*

7. Develop and expand facilities to support the use of alternative transportation such as pedestrian and bicycle facilities, park-and-ride lots, and intermodal transfer stations. *(PCTPA, CCJPA, jurisdictions, Caltrans)*

8. Increase the awareness to media, employers and the general public of alternative transportation options in Placer County through outreach, educational and incentive programs. *(PCTPA, jurisdictions, transit operators)*

9. Encourage SACOG to develop a periodic regional survey of traveler choices, which would monitor trends in traveler choices related to external influences and the impact of public policy programs. *(SACOG, jurisdictions, transit operators, PCTPA, Caltrans)*

10. Promote a transportation system which minimizes the dependency of long-distance, single-occupant vehicle trips and vehicle miles traveled in Placer County toward achieving SACOG's 10 percent regional trip reduction goal. *(SACOG, jurisdictions, transit operators, PCTPA, Caltrans)*

TSM PROJECTS

There are a few projects specifically designated TSM in the RTP, as shown below. There are, however, many other projects that are consistent with the TSM action plan including passenger rail, public transit, and non-motorized projects. See those sections of the Action Element for applicable project lists.

Table 6.7-3
TSM Projects List

Lead Agency	SACOG Project ID	SACOG MTP	SACOG MTIP	Project Title	Project Description	Year Complete	Status	Current Year (2010) $	Expenditure Year $
Placer County Transportation Planning Agency	PLA25468	09-00	11-00	Placer County Congestion Management Program	The Placer County Congestion Management Program (CMP) provides educational and outreach efforts regarding alternative transportation modes, with a specific emphasis on marketing of public transit services to employers, residents and the school community. CMP activities are coordinated with the City of Roseville and SACOG's Regional Rideshare / TDM Program.	2014	Programmed	$570,428	$667,320
Placer County Transportation Planning Agency	PLA25140	07-00		Congestion Management Program (CMP) activities (2014-2035)	Congestion Management Program activities for educational & outreach to reduce traffic congestion & drive alone auto trip making in Placer County. Both City of Roseville & PCTPA are implementing agencies.	2014-2035	Planned	$2,500,000	$5,696,920
							2010-2015	$689,476	$938,602
							2016-2024	$1,071,429	$2,441,537
							2025-2035	$1,309,524	$2,984,101
							Total	$3,070,428	$6,364,240

6.8 Transportation Safety & Security

This chapter addresses transportation safety and security as required under SAFETEA-LU and California's Strategic Highway Safety Plan.

Transportation safety and security is a critical component of the RTP; it encompasses multiple elements of the plan and addresses all modes, facilities and services. This chapter's focus is on increasing the safety of the transportation system for all users; and on increasing the ability of the transportation system to support homeland security and to safeguard the personal security for all users.

PCTPA ROLE

Over the past decade, Placer County has experienced tremendous growth and transformation from a rural landscape to a more urban one. Where once local roads were used mainly to transport goods to market or to move farm machinery from location to location, these same roads must now accommodate commute and recreational trips that may conflict with older, rural transportation patterns. The influx of growth presents new safety and security concerns for all transportation system users.

PCTPA's role in transportation safety and security is limited to essentially four roles:

- Provide a policy forum to help develop a coordinated, countywide consensus on transportation safety and security issues;
- Serve as a resource of information on transportation system conditions and the types of responses that might be useful in an emergency;
- Assist in the planning and programming of transportation infrastructure improvements; and
- Find opportunities to leverage resources, projects and planning functions that can enhance or provide benefit to transportation safety and security efforts.

Freeway Service Patrol

An example of a mitigation effort currently being implemented by PCTPA is the Freeway Service Patrol (FSP) Program, which specifically addresses traffic accidents and other incidents on area freeways in Placer County. FSP patrols the region's most congested freeway segments during the busiest times of the day, quickly clearing accidents and other incidents. FSP also assists motorists in trouble, removes dangerous road debris, and otherwise helps to make the County's freeways safer and less congested by reducing the chance of further accidents and bottlenecks caused by impatient drivers and gawkers.

TRANSPORTATION SAFETY

Historically, transportation safety has not been included as part of the transportation planning process. Rather, safety considerations have been viewed as a reactionary consideration.

Traffic Accident Trends

To adequately address safety in the planning process requires active monitoring of the transportation system for safety problems. This involves monitoring the number of crashes, injuries and fatalities associated with the operation of different transportation modes.

The National Highway Traffic Safety Administration (NHTSA) began tracking highway accident statistics in 1966. According to the NHTSA, traffic accidents, including fatalities and injuries, peaked in 1972 and have been slowly declining since. The lowest rate on record was experienced in 2008, an almost ten percent drop since 1966. Advancements in vehicle safety technology that prevents rollovers; an increase in seatbelt usage; new transportation safety educational programs, including drunk driving awareness campaigns; safer transportation facilities; in addition to fewer drivers on the road with more people choosing to use alternate modes of transportation due to higher fuel prices; have all cumulatively contributed to this decline. The NHTSA anticipates this downward trend to continue for the foreseeable future.

California has had a positive record in terms of traffic safety. The fatality rate per 100 million vehicle miles traveled (VMT) between 1995 to 2004 was 1.25, compared to the national rate at 1.46 for the same period. In 2008 the national fatality rate per 100 million VMT was 1.28, compared to California's rate at 1.04.

California Strategic Highway Safety Plan

Under SAFETEA-LU, States are required to develop Strategic Highway Safety Plans (SHSP). Each State must have a SHSP in place by October 1, 2007 to receive its full share of federal-aid transportation funds. Federal regulations require that metropolitan transportation planning agencies summarize the SHSP within their RTPs. Under the California Transportation Commission's (CTC) 2010 RTP Guidelines, RTPAs are held to the same requirement to address safety and security in the development of the RTP.

The California SHSP sets broad goals for safety; lays out a set of emphasis areas for action; and for each emphasis area recommends strategies; followed with a detailed implementation plan, which identifies specific actions and the agencies that will carry them out. The California Strategic Highway Safety Plan (SHSP) was completed in September 2006.

The California SHSP highlights challenges to roadway user safety; proposes strategies to reduce accidents, fatalities and injuries; serves as a guide for implementation of specific projects and activities through 2010. The SHSP goal for California is less than one roadway fatality per 100 million VMT. The rate in 2008 was 1.04 per 100 million VMT.

All safety emphasis areas from the SHSP are tied to elements of the 2035 RTP, as it relates to the State highway system, local streets and roads, as well as other transportation modes such as passenger rail, aviation, and the non-motorized system. Safety considerations are addressed in these respective chapters. The TSM and ITS chapters also briefly address the issue of safety.

Some emphasis areas also lend themselves for focus at the regional scale, and would be addressed in SACOG's 2035 MTP, while others are more local or site-specific, and addressed at the jurisdiction level. The California SHSP notes that regional and local agencies have the greatest ability to affect change are in education, engineering, and development of physical improvements to the transportation system, and this RTP places strong emphasis in both the Policy and Action Elements to address the issue of safety of the transportation system.

Causes & Types of Traffic Accidents

Having national data can help begin discussions about transportation safety; however, more detailed data is necessary to find safety solutions at the regional and local level. This section highlights safety statistics compiled by the California Highway Patrol (CHP) using the Statewide Integrated Traffic Records System (SWITRS) for Placer County and its jurisdictions, where available. Use of the SWITRS data will make Placer County jurisdiction safety projects competitive in pursuing federal and State safety funding such as the High Risk Rural Roads (HR3) program.

Major contributors to traffic accidents in Placer County include impaired driving, aggressive driving, which includes speeding and tailgating, failure to yield the right of way, running red lights and stop signs, inattentive driving, and unfamiliarity with traffic rules.

As can be seen in Table 6.8-1 below, fatal and injury collisions in Placer County have varied greatly over the past ten years, although generally mirroring the decline identified in national statistics. Fatal collisions peaked in 2002, with 2008 having the fewest fatal collisions; while injury collisions peaked in 2005, with fewest injury collisions occurring in 2008.

Table 6.8-1
Summary of Fatal & Injury Collisions for Placer County 1998 - 2008

Category	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Fatal Collisions	34	23	30	40	36	31	39	35	25	22
Persons Killed	41	24	32	48	41	34	47	39	28	24
Injury Collisions	1,501	1,583	1,605	1,628	1,678	1,603	1,693	1,521	1,524	1,418
Persons Injured	2,286	2,498	2,574	2,458	2,534	2,381	2,433	2,255	2,188	1,950

Notes: This data may be under reported for Non-CHP agencies due to a traffic collision report form revision.
Source: Statewide Integrated Traffic Records System, California CHP, March 2010.

The CHP has found that collisions typically result from a combination of three factors: the vehicle, the driver, and the road. In fatal or severe injury collisions, the collision is most likely to occur with a fixed object, rather than with another motor vehicle. The majority of fatal collisions are caused by driving or bicycling under the influence. In "all other collisions," motor vehicle collisions are most common, accounting for over half of all collisions; however, in rural areas of Placer County, animal-vehicle collisions are also commonplace. In all other collisions, unsafe speeds and improper turning account for nearly 50 percent of collisions; rear-end collisions are the second most common; and driving or bicycling under the influence account for less than 10 percent.

In addition to the data shown in Table 6.8-1, SWITRS data also identifies three locations in Placer County where truck collisions have consistently occurred between 2002 to 2006:

- SR193 and Sierra College Boulevard: 7 – 8 collisions
- Baseline and Fiddyment Roads: 7 – 8 collisions
- Auburn-Folsom Road and Douglas Boulevard: 2 collisions

It should be noted that the collision locations identified above do not necessarily reflect the inherent safety of the road facilities, and should not be considered a substitute for an approved safety analysis.

Shown in Table 6.8-2 is data on fatal collisions for select State highways within Placer County, for the period 2003 through 2007.

Table 6.8-2
Fatal Collisions on Placer County Highways & Intersections

State Route	2003	2004	2005	2006	2007	Total
I-80	6	7	8	5	3	**29**
SR 65	4	0	5	2	1	**12**
SR 49	2	1	2	2	0	**7**
SR 28	1	0	2	3	0	**6**
All State Highways	20	10	20	13	5	**68**
Non-State Highways	7	9	10	16	6	**48**
Intersection	3	2	2	3	0	**10**

Source: Placer County Individualized Traffic Safety Report and Accident Summaries, SACOG, October 2009.

State Highway System

Caltrans monitors safety statistics and motorist complaints to determine State highway locations that are functioning below acceptable safety standards. Once a safety problem is identified, its resolution becomes a first priority to receive funding.

Caltrans performs safety screens of State highways to identify traffic safety, enforcement activities, or future improvements to eliminate or reduce the number and / or severity of traffic accidents at locations:

- Fatal and injury accident rate;
- Roadway width on two or three lane conventional highways where shoulder widths are less than standard;
- Pedestrian and bicyclist needs; and
- Other vehicular safety issues.

Caltrans also inspects every bridge under State jurisdiction at least once every two years for potential safety issues, and inspects a majority of locally owned bridges that are not part of the State highway system.

Placer County

Placer County has developed the Traffic Accident Analysis System (TAAS) to monitor traffic safety on the County roadway network. TAAS allows for an annual review of the CHP traffic accident reports. Categories reviewed include intersections (with broadside collisions or with right of way violations), roadway segments, run off the road, wet pavement, snow or ice, motorcycle, bicycle, and pedestrian. High incidence locations are subsequently identified and reviewed to determine whether changes or improvements should be undertaken, for example changes to traffic control, signage or striping at the location or if the development of a safety project is needed.

TRANSPORTATION SECURITY

Security issues within the context of the transportation system refers to potential personal and homeland security threats. Placer County is vulnerable to many types of potentially catastrophic incidents. Incidents could include significant transportation accidents, natural disasters (earthquake, floods, and wild fires), sabotage, civil unrest, hazardous materials spills, environmental hazards, criminal activity, or acts of terrorism.

Transportation can play multifaceted roles in responding to such incidents and emergencies. Every day, jurisdictions and agencies handle incidents such as accidents on the transportation system. Other examples of support functions that the transportation system can play in an incident or emergency response include:

- Allowing traffic signals to extend the red or green cycle time to allow large numbers of vehicles or pedestrians to proceed in one direction;
- Deploying traffic personnel to problem intersections to manually direct traffic;
- Deploying various methods to direct traffic, such as portable signs, cones or barrels;
- Installing permanent or portable changeable message signs along major routes that could be used to provide the public up-to-date information;
- Using road shoulders to increase vehicle capacity of evacuation routes;
- Using contra flow lanes to move large numbers of vehicles in one direction;
- Using public transit to assist in the evacuation of the public, if necessary; and

- Using transportation facilities, such as rail stations or major transit centers as potential staging areas for medical and food supplies.

Placer County Office of Emergency Services

Organizational response to a security incident and disaster is the responsibility of the Placer County Office of Emergency Services (OES). Under the California Emergency Services Act, the Placer County OES directs the County's overall emergency response to natural disasters, man-made incidents, or acts of terrorism, in cooperation with local jurisdictions and agencies; and also coordinates on-going preparedness, including emergency drills and simulations with agencies, including those that provide transportation services. The coordination role OES serves allows law enforcement and emergency response to occur in an expeditious manner. At the same time, the role OES provides allows the transportation system to continue to function and to handle the possibly overwhelming public response to a major incident or emergency.

CAL FIRE

The primary goal of fire protection in California is to safeguard a wide range of assets that include: life and safety, structures, range, recreation, hydroelectric power, fire-flood watersheds, soil erosion, water storage, water supply, scenic, timber, air quality, historic buildings, non-game wildlife, game wildlife and infrastructure.

Placer County is covered under the Nevada-Yuba-Placer Fire Management Plan prepared by CALFIRE in 2006. For areas within California, including Placer County, CALFIRE has identified “fire hazard severity zones.” Areas of highest priority are where risk to damage to infrastructure for delivery of emergency and other critical services is considered greatest, threatening both people and their assets. This would include water supply, electrical transmission, and transportation facilities. Since 2001, Placer County has experienced four major fires. Placer County is rated by CALFIRE as an area with moderate to a high level fire hazard risk.

TRANSPORTATION SAFETY & SECURITY ACTION PLAN

Short and Long Range

1. Reduce accident rates to below the statewide average or better through implementation of safety improvements and measures. *(PCTPA, jurisdictions, transit operators, Caltrans)*

2. Encourage jurisdictions to develop a systematic approach to identify and review existing or potential high incident accident locations, including rural areas to prevent animal-vehicle collisions. *(Jurisdictions, transit operators, CCJPA, Caltrans, CHP, PCTPA and SACOG)*

3. Prioritize projects that implement preventative and routine maintenance and address safety standards. *(Jurisdictions, transit operators, CCJPA, Caltrans, PCTPA and SACOG)*

4. Prioritize infrastructure in need of replacement, relocation or upgrade to meet current safety and design standards, including implementation of safety measures, enforcement, and educational activities. *(Jurisdictions ,transit operators, CCJPA, Caltrans, CHP, PCTPA and SACOG)*

5. Continue to participate in the SHSP planning process and various interagency coordination efforts to exchange information on ongoing safety activities and best practices, as well as identify training opportunities, and exercise capabilities. *(Jurisdictions, transit operators, CCJPA, Caltrans, CHP, PCTPA and SACOG)*

6. Encourage a regional approach to maximize public outreach and education and related enforcement initiatives that target high risk behavior issues and that improve safe driving practices. *(Jurisdictions, CCJPA, Caltrans, CHP, PCTPA and SACOG)*

7. Encourage jurisdictions and transportation agencies to continue to coordinate with the Placer County OES and CAL FIRE on emergency preparedness activities. *(Jurisdictions, transit operators, Caltrans, CHP, Placer County OES,CAL FIRE, PCTPA)*

8. Encourage the preparation of transportation security assessments, and emergency preparedness plans, including continuity of operations, business resumption and recovery. *(Jurisdictions, transit operators, CCJPA, Caltrans, CHP, PCTPA and SACOG)*

9. Improve the security preparedness of transportation facilities. *(Jurisdictions, transit operators, CCJPA, Caltrans, CHP, PCTPA and SACOG)*

TRANSPORTATION SAFETY & SECURITY PROJECTS

The 2035 RTP continues the commitment to improve transportation safety and security for the region. The scope of the RTP goes beyond specific funding for safety and security projects. It emphasizes collaboration amongst many stakeholders, Caltrans, SACOG, local jurisdictions, public transit operators, law enforcement, and emergency responders, including Placer County OES. The result of this collaboration is consistent with the goals of the California SHSP.

There are a few projects specifically designated as transportation safety projects in the RTP. These are identified in Table 6.8-3. There are also many other projects that are consistent with the Transportation Safety & Security Action Plan, which are included in the action plans for regional roads, passenger rail, public transit, non-motorized system, TSM and ITS. See sections of the Action Element for applicable project lists. Examples of these projects include improvements to pedestrian and bicycle facilities; traffic calming measures, elimination of roadside hazards, and improved intersection controls, among others. In addition, safety and security standards are considered as part of every transportation project design. Activities within this can range from construction of

median barriers, guardrails, crash cushions, red-light cameras, skid-resistant pavements, signage and markings to erosion control to prevent landslides.

Table 6.8-3
Transportation Safety & Security Projects List

Lead Agency	SACOG Project ID	SACOG MTP	SACOG MTIP	Project Title	Project Description	Year Complete	Status	Current Year (2010) $	Expenditure Year $
Caltrans Division of Rail	CAL18768	'07-00	11-00	Dinky Way Grade Crossing	In the City of Colfax, at the intersection of Dinky Way & UPRR: Eliminate hazardous at railroad grade crossing. (US DOT RR crossing # 753152B)	2010	Programmed	$550,000	$550,000
Caltrans District 3	CAL20394	07-00	11-00	ED/Pla/But Guardrail	In El Dorado, Placer, and Butte counties at various locations install metal beam guardrail & end treatments. Placer locations: Pla-193-7.96/8.00, 2 miles west of I-80 near Summer Star Lane	2011	Programmed	$1,026,000	$1,067,040
Caltrans District 3	CAL20405	07-00	11-00	Rumble Strips	In Placer County install rumble strips per SHOPP - Collision Reduction - on Pla-80 from Applegate Road overcrossing to SR174 junction (part of a larger group of District 3 projects).	2012	Programmed	$200,000	$216,320
Placer County Dept of Public Works	PLA25433	07-00	11-00	Foresthill Road Safety	On Foresthill Road 3.2 miles east of its intersection with I-80, improve horizontal geometry of three curves; repave and apply a micro-surface friction course; increase sight distance and add acceleration lane. HSIP3-03-030.	2013	Programmed	$1,000,000	$1,124,864
Placer County Dept of Public Works	PLA25432	07-00	11-00	Rollins Lake Road Shoulder Widening and Guardrail Improvements	Rollins Lake Road for two miles north of its intersection with SR174, including its intersection with Norton Grade Road. Construct segments of shoulder widening and guardrail; realign roadway intersection; install speed limit and curve warning signage. HSIP3-03-032.	2013	Programmed	$1,110,200	$1,248,824
Placer County Dept of Public Works	PLA25384	'07-00	11-00	Foresthill Road Safety Improvements	Foresthill Road from Lower Lake Clementine Road to Old Auburn Road: Increase sight distance; construct acceleration lane.	2013	Programmed	$1,082,000	$1,217,103
Caltrans District 3	CAL17380	'07-00	11-00	SACOG Region Emergency Repair Program	Lump Sum - Emergency Repair (excluding Federal Emergency Relief Program funds) for non-capacity increasing projects only.	2015	Programmed	$400,000	$486,661
							2010-2015	$5,368,200	$5,910,812
							2016-2024	$0	$0
							2025-2035	$0	$0
							Total	$5,368,200	$5,910,812

6.9 Intelligent Transportation Systems

This chapter describes Intelligent Transportation Systems (ITS). The chapter also describes the process that defines how agencies and systems are interconnected through the development of a statewide architecture, and integrated regional and local systems.

INTELLIGENT TRANSPORTATION SYSTEMS (ITS)

Intelligent Transportation Systems (ITS) are a collection of roadway and transit management strategies, communication systems, computer technologies, electronics, monitoring instrumentation, and other applications to improve the safety, operational effectiveness, and efficiency of the existing surface transportation system. ITS is not a mode of transportation itself. Examples of ITS programs include regional traveler information, traffic signal control, transit management, ramp metering, incident management, and emergency management.

ITS ARCHITECTURE & REGIONAL PLANNING

The Transportation Equity Act for the 21st Century (TEA-21) requires ITS projects funded from the Highway Trust Fund to conform to the National ITS Architecture. The ITS architecture involves a process that defines how agencies and systems are interconnected. The intent is to foster the development of a statewide architecture, and integrated regional and local ITS systems.

TAHOE GATEWAY ITS STRATEGIC DEPLOYMENT PLAN (SDP)

PCTPA coordinated ITS planning for El Dorado, Nevada, Placer and Sierra Counties (see Figure 6.9a). This effort was coordinated with the ITS planning begun by the Tahoe Regional Planning Agency (TRPA) for the Tahoe Basin. In 2002, the Tahoe Gateway Counties ITS Strategic Deployment Plan (SDP) was adopted by the four Regional Transportation Planning Agencies.[1] It addresses the unique aspects of the rural environment where challenges include rapid changes in weather, limited alternative routes and difficulties in developing effective communication systems.

The SDP will undergo periodic review for consistency with regional goals. Updates to the SDP will occur to accurately reflect the region's existing ITS capabilities and future plans. SACOG is responsible for maintaining the Tahoe Gateway Regional ITS Architecture and making the physical changes required to maintain the architecture. PCTPA provides for ongoing coordination and information sharing on ITS technologies among the four counties, and act as liaison with SACOG.

SACOG ITS STRATEGIC DEPLOYMENT PLAN

The ITS Strategic Deployment Plan for the Sacramento region was prepared by SACOG in 2005, and replaces the 1996 Early Deployment Plan and updates the Sacramento ITS Regional

[1] El Dorado County Transportation Commission, Nevada County Transportation Commission, PCTPA, and Sierra County Transportation Commission

Architecture completed in 2001. The SDP brings the Sacramento region into full compliance with architecture requirements; provides a vision for ITS; outlines a program of low, medium and high priority projects; identifies probable costs; and establishes a plan for managing, integrating and operating the ITS elements in the region. The SDP also incorporates recent efforts to demonstrate the interrelation between land use and transportation improvements, and address ways in which advanced technologies can improve both mobility and air quality in the region.

ITS NEEDS ASSESSMENT

The SDP is the Tahoe Gateway Counties ITS implementation guide. It identifies regional transportation needs and ITS Elements to meet them. The Regional ITS Architecture is a core component of the SDP.

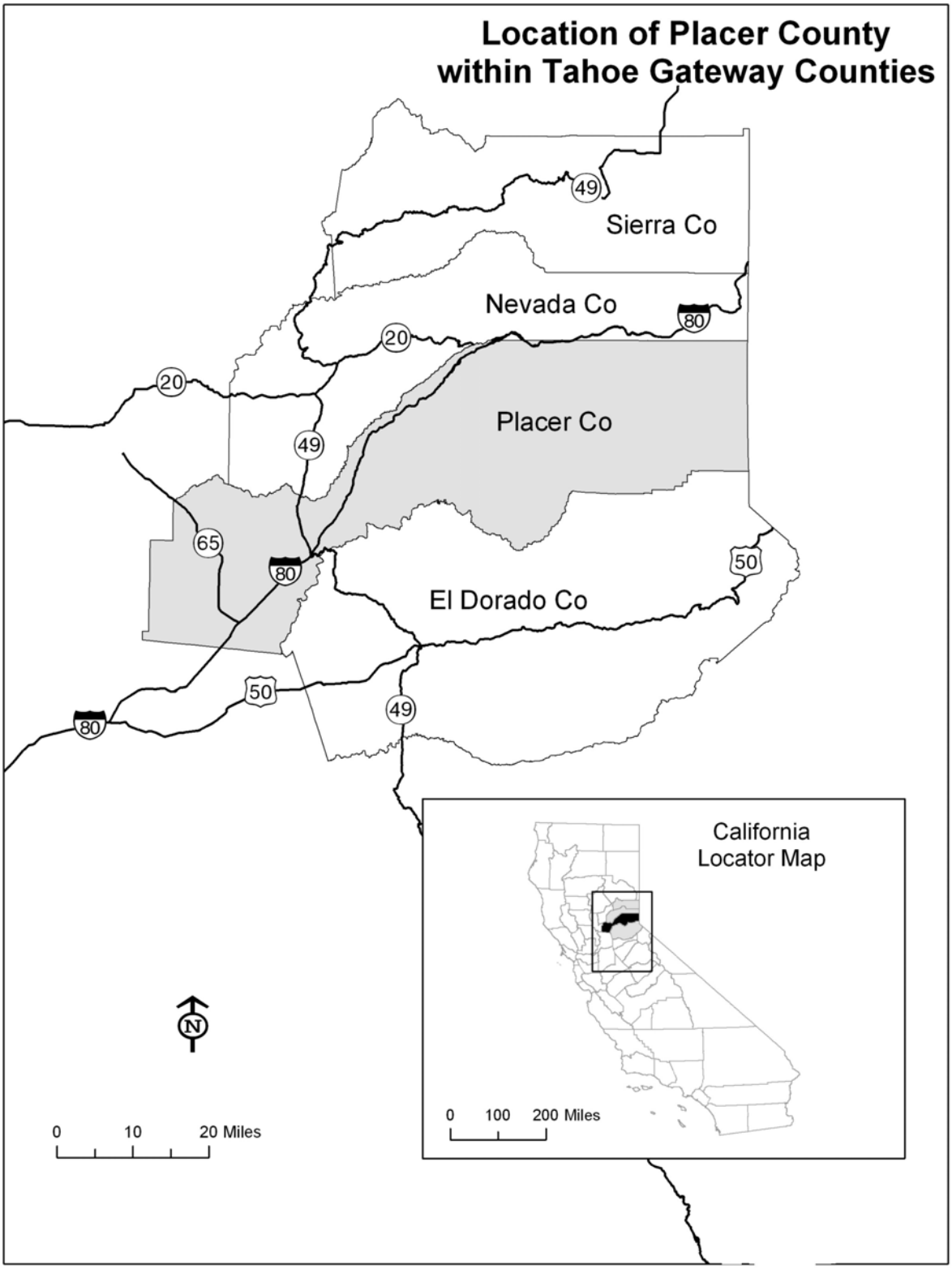
The following list summarizes the high priority need areas in the Tahoe Gateway Region (in no particular order):

- Enhanced traveler information within and beyond project boundaries;
- Improved cooperation and coordination among transportation agencies and others;
- Improved traffic flow and system operation monitoring;
- Advanced technology uses to more effectively and efficiently operate traffic signal systems;
- Coordinated, efficient transit and public transportation systems;
- Coordinated incident/emergency management plans and procedures (including HAZMAT);
- Improved traveler safety; and
- Enhanced access and availability of tourist information.
- Accurate, early traffic information to commercial vehicle operators
- Active fleet management of state/locally owned highway maintenance vehicles
- Improved integration of information and systems to better manage the transportation assets

SACRAMENTO TRANSPORTATION AREA NETWORK (STARNET)

SACOG is working with partner agencies to implement ITS project called STARNET system. STARNET is an information exchange network and operations coordination framework that will be used by operators of transportation facilities and emergency responders in the Sacramento region. STARNET was identified as a high priority project for the Sacramento region in the ITS SDP, and became operational in 2008.

Figure 6.9
Location of Placer County within Tahoe Gateway Counties



STARNET builds upon previous ITS investments using existing field infrastructure and central systems, with little or no modification. As part of STARNET implementation, interfaces will be developed to existing systems to enable real-time sharing of data and live video, provide data and video to the public via the 511 regional travel information system, and provide operations and emergency responders with a map based regional transportation management display.

SACRAMENTO REGIONAL TRANSPORTATION MANAGEMENT CENTER (RTMC)

The Sacramento Regional Transportation Management Center (RTMC) is location in Rancho Cordova, California. The RMTC serves as the hub of all highway traffic operations in Caltrans District 3, monitoring the state highway transportation system and disseminating information as needed. The California Highway Patrol (CHP) communication center is also located at the RTMC.

ROSEVILLE INTELLIGENT TRANSPORTATION SYSTEM

Roseville's Intelligent Transportation System is used to notify the general motoring public about current traffic conditions, such as delays, road closures, accidents and special events. In March 2008, the City installed its first permanent Changeable Message Sign on Galleria Boulevard (after existing SR65 traveling southbound toward the Galleria Mall).

ITS ACTION PLAN

Short Range

1. Maximize the operating efficiency of the existing surface transportation system by incorporating ITS strategies where feasible. *(PCTPA, El Dorado County, Nevada County, Sierra County, jurisdictions, SACOG, Caltrans)*

2. Improve the safety of travel into, through, and out of the Tahoe Gateway Region. *(PCTPA, El Dorado County, Nevada County, Sierra County, jurisdictions, Caltrans)*

3. Ensure that accurate and reliable traveler information regarding traffic and weather conditions is available to those entering the region as well as those traveling within the region. *(PCTPA, El Dorado County, Nevada County, Sierra County, jurisdictions, SACOG, Caltrans)*

4. Provide more effective and convenient transit services. *(PCTPA, El Dorado County, Nevada County, Sierra County, jurisdictions, transit operators, SACOG)*

5. Ensure efficient commercial vehicle operations into, through and out of the Tahoe Gateway Region. *(PCTPA, El Dorado County, Nevada County, Sierra County, jurisdictions, Caltrans)*

6. Ensure the long-term viability of ITS in the Tahoe Gateway Region. *(PCTPA, El Dorado County, Nevada County, Sierra County, jurisdictions, Caltrans, FHWA)*

7. Maintain an ITS program that is compatible and supported by National ITS efforts. *(PCTPA, El Dorado County, Nevada County, Sierra County, jurisdictions, SACOG, Caltrans, FHWA)*

8. Coordinate with communication utilities to include rural broadband, where possible, as part of the implementation of jurisdiction ITS projects. *(PCTPA, jurisdictions, communication utilities)*

Long Range

1. Continue implementation (deployment, operations, and maintenance) of the Tahoe Gateway Counties ITS. *(PCTPA, El Dorado County, Nevada County, Sierra County, jurisdictions, Caltrans, SACOG, FHWA)*

2. Continue implementation (deployment, operations, and maintenance) of the Sacramento Region ITS. *(PCTPA, El Dorado County, Sacramento County, Sutter County, Yolo County, Yuba County, jurisdictions, Caltrans, SACOG, FHWA)*

3. Continue regional ITS management via each member County, neighboring regions, and other agencies, organizations, and individuals. *(PCTPA, El Dorado County, Nevada County, Sierra County, jurisdictions, Caltrans, SACOG, FHWA)*

4. Mainstream or incorporate ITS technologies into the planning process as stand-alone projects and/or as part of larger transportation projects. *(PCTPA, El Dorado County, Nevada County, Sierra County, jurisdictions, Caltrans, SACOG, FHWA)*

5. Ensure that the Regional ITS Architecture Maintenance Plan continues to be implemented. *(PCTPA, El Dorado County, Nevada County, Sierra County, jurisdictions, Caltrans, SACOG, FHWA)*

ITS PROJECTS

Table 6.9-1
ITS Projects List

Lead Agency	SACOG Project ID	SACOG MTP	SACOG MTIP	Project Title	Project Description	Year Complete	Status	Current Year (2010) $	Expenditure Year $
SACOG	VAR11000	'07-00	'09-10	STARNET Integration	Develop & install an information exchange system--the Sacramento Transportation Area Network, or STARNET--& connect 18 traffic & emergency centers. (Emission Benefits in kg/day: 223 ROG, 223 NOx, 330 CO)	2011	Programmed	$5,345,419	$5,559,236
Caltrans District 3	CAL18781	'07-00	11-00	Install TMS Units	In Placer, Sacramento & Colusa Counties, at various locations - Install Transportation Management System (TMS) Units for monitoring congestion & delay.	2012	Programmed	$7,817,659	$8,455,580
City of Roseville Dept of Public Works	PLA25406	'07-00	11-00	West Roseville CMS Installation Project	In Roseville, install Changeable Message Signs (CMS) on S/B Foothills Boulevard south of Vineyard Road & E/B Baseline Road east of Fiddyment Road to reduce traffic congestion by improving traffic information dissemination per the ITS Master Plan.	2012	Programmed	$300,000	$324,480
City of Roseville Dept of Public Works	PLA25288	'07-00	11-00	Roseville Fiber Optics Project	In Roseville, install fiber optic conduit, cable & pull-boxes along: Cirby Way, Rocky Ridge Drive, Old Auburn Road, South Cirby Way, Roseville Parkway, Blue Oaks Boulevard, Fiddyment Road, Baseline Road, Woodcreek Oaks Boulevard, Junction Boulevard & Foothills Boulevard (Emission reduction benefits (kg/day): ROG 0.32, NOx 0.32).	2012	Programmed	$940,000	$1,016,704
Caltrans District 3	CAL18784	'07-00	11-00	ITS Installation - Various locations	In El Dorado, Nevada & Placer Counties at various locations on U.S. 50, I-80, SR89 & SR267 - install Intelligent Transportation Systems.	2013	Programmed	$4,606,000	$5,181,124
							2010-2015	$19,009,078	$20,537,123
							2016-2024	$0	$0
							2025-2035	$0	$0
							Total	$19,009,078	$20,537,123

6.10 Recreational Travel

This chapter documents recreational travel and tourism data for Placer County and transportation facility needs and services to accommodate this important segment of travel.

EXISTING RECREATIONAL TRAVEL SETTING

Placer County is home to recreational areas and activities that entertain, relax, and reinvigorate local residents as well as visitors from nearby and tourists from afar. For many, Placer County's natural, outdoor recreation setting is the defining characteristic of the region. The area's recreational offerings benefit the community socially as well as economically.

Much of the recreational travel and tourism data for Placer County collected and reported in this chapter is derived from the *Placer County Travel Industry Assessment and Detailed Economic Impact Estimates 2002 - 2008p*, prepared by Dean Runyon Associates (March 2009) for the Placer County Office of Economic Development, Placer Valley Tourism, Placer County Visitors Bureau, and the North Lake Tahoe Resort Association.

Visitor Regions

Three distinct "visitor" regions can be found in Placer County – The Valley, Gold Country, and High County. Each contains a rich resource of diverse attractions.

The Valley comprises the westernmost reaches of the county including lands on the Sacramento Valley floor up to the low foothills of the Sierra Nevada range. The area is largely comprised of three cities: Lincoln, Rocklin, and Roseville. The Valley has been marketing "lifestyle" tourism, principally team sports and recreation venues, supported by high quality shopping, dining, gaming, and golf and lodging facilities.

The Gold Country region comprises the foothills of the Sierra-Nevada from just below the City of Auburn up to the High Sierra snow- belt. The Gold Country possesses a wide range of recreation opportunities from dispersed outdoor activities, touring to agricultural and leisure destinations and festivals, cultural and heritage attractions including historic town sites, and arts events and galleries.

The High Country comprises the western slopes of the High Sierra, the Lake Tahoe Basin, and adjacent alpine destinations. Lake Tahoe and the surrounding alpine environment is an internationally-known destination.

The Placer County recreation and tourism industry has three primary marketing organizations supporting the visitor regions: Placer Valley Tourism (PVT), the Placer County Visitors Bureau (PCVB) and the North Lake Tahoe Resort Association (NLTRA). Secondary organizations that promote tourism and recreational travel to Placer County include: cities, chamber of commerce's, downtown merchants associations, Placer Grown, Placer Arts, Sierra Gateway

Business Association, Sierra Nevada Arts Alliance, hospitality sector tourism businesses, lodging, retail and restaurants, team sports organizations, not-for-profit organizations, destination resort companies, recreation providers

Existing Recreational Attractions & Destinations

Recreational travelers and tourists within and through Placer County are drawn by a diversity of assets which include the area's endowment of lakes, rivers, and parkland; numerous opportunities for year-round outdoor recreational activities; natural, scenic wonders; world-class competitive sports venues; the historic Gold Country; family-owned wineries; cut-your-own Christmas tree farms; a multitude of arts and unique cultural festivals; conferences and events, educational opportunities; and for gaming enthusiasts casino gambling.

Placer County seems to have something for almost every outdoor recreational activity: winter opportunities - skiing, snowboarding, snow mobiling, ice skating, snow tubing and sleigh riding; summer opportunities – golf, rock climbing, hiking, camping, fishing, boating, swimming, water-skiing, river rafting, endurance sports, mountain biking, paved bike trails, horseback riding, hunting, recreational mineral collecting (gold panning), , bungee jumping, hot air ballooning, and off-highway vehicle (OHV) recreation

Diverse natural areas include Lake Tahoe, Tahoe National Forest, Folsom Lake State Recreation Area, the Auburn State Recreational Area, the American River Canyon, and the Bear River. There are over 3000 campgrounds and Recreational Vehicle (RV) sites in Placer County. There are also sites available at private campgrounds, RV parks, and lands and reservoirs managed by water purveyors. The U.S. Forest Service and California State Department of Parks and Recreation manage over one-third of the camping sites, with convenient access to numerous outdoor recreation activities such as fishing, boating, and hiking. The High Country with a larger portion of publicly managed land has the highest number of campgrounds. In contrast, the Valley and Gold Country's campsites are more oriented to RV campgrounds.

Currently, 12 active family owned and operated wineries and vineyards can be found in Placer County. Most of the vineyards existing today were started in the late 1990s, and became wineries in the early 2000's. Placer County wineries are notable in that a very high proportion of wine production is sold on site or otherwise in restaurants and retail establishments throughout the County. Visitors to Placer County are a primary source of wine sales. Marketing events, such as the Placer Hills Winery Tour, and through the Placer Wine and Grape Association, enhance Placer County as a popular travel destination. Nearly all offer wine tasting and tours by appointment, though on-site visitor facilities are limited. Placer County adopted in September 2008 a winery ordinance regarding allowable activities for winery operations such as public visits, tasting, sales and tours.

Placer County's gaming industry began when The United Auburn Indian Community opened the *Thunder Valley Casino* in unincorporated Placer County near Lincoln, in June 2003, attracting thousands of visitors, most notably, from the Sacramento region and the San Francisco Bay Area. Today the casino offers a variety of gaming, entertainment, dining, and lodging

opportunities. Future development plans include a 400-room hotel and multipurpose entertainment center and will become the largest resort facility in the County.

There are a wide variety of lodging accommodations found in Placer County, distributed through hotels, motels, beds and breakfast inns, rented condominium villages and single family vacation homes. As of 2009, the largest accommodations (defined as 50 units and above) are distributed as follows: in the Valley there are 2256 rooms, with Thunder Valley Casino, near Lincoln, the largest resort; in the Gold Country there are 494 rooms; and in the High Country, there are 1705 rooms, with the Resort in Squaw Valley the largest.

One of the biggest recreational draws in Placer County is the Lake Tahoe Basin. The Sierra Nevada Mountains offer the largest concentration of world-class ski resorts in the western United States. For example, Squaw Valley USA hosted the 1960 Olympics and hosts the National Alpine Championships.

Lake Tahoe's North Shore and Western Shore are in Placer County and are characterized by permanent and seasonal homes, visitor accommodations, and other commercial development. A large percentage of the housing serves as vacation homes or as vacation rental properties; in 2003, nearly 69 percent were not owner occupied, indicating that year-round residents have been replaced by vacation, rental and seasonal use.

There are also on average 25 public events held per year in Placer County. Some are held each year to attract visitors from outside the Placer County, while other events attract mostly local residents, such as farmers markets.

Recreational Travel Characteristics

The past decade has seen a shift in recreational travel trends that affect the demand for destination areas such as Placer County – particularly demand from travelers from other parts of the United States and international locations.

Demographic trends that affect recreational travel include an aging and increasingly educated population, more dual-earner households, and increasing disposable income.

American households are more likely to take more frequent, long weekend, short trips closer to home. Extended, multi-destination, long-distance travel has been on the decline since 2001. More than half of all frequently travel trips in the United States are now for two days or less, with only 20 percent trips lasting a week or more. Entertainment is an increasingly important component of this travel.

Travel for meetings, conferences and conventions also declined after 2001. Growth is associated with economic activity. This market is now growing again. Travelers are now often extending business trips to include leisure travel activities adjacent to major metropolitan areas. Business trips are also more likely to include family members than in the past; however, the majority of business trips are still taken by solo travelers.

Travel associated with organized group/membership had been increasing through the 1990s, however, growth essentially stopped after 2001. Long term increases should continue, as it is highly correlated to the aging of the population and increasing incomes. Much of this travel occurs during the summer, is very value-oriented providing a packaged experience of education and entertainment. Agritourism is a growing segment of this market.

The preferred travel season for most Americans is June, July and August when well over a third of leisure travel occurs. Family travel in particular is oriented to these three summer months. Spring and fall travel tend to be somewhat more popular among empty nesters. Gaming-oriented travel occurs year-around; meetings/convention travel is more oriented to fall and spring.

Other factors that affect recreational travel decisions include competition from other leisure, recreation and educational activities. Travel costs and traffic congestion are also important considerations as they affect the ability of visitors to travel to an area, and are particularly important for those traveling from 100 or more miles away.

The California Trade and Commerce Agency defines tourism as leisure vacation travel over 50 miles in length requiring an overnight stay. Recreation is defined as leisure activities in which participants travel less than 50 miles and do not require an overnight stay.

Visitors (i.e. tourists) travel to and within Placer County for a variety of recreational activities and attractions that are dispersed throughout the county. The land's three distinct geographical areas, Valley, Gold Country (Sierra-Nevada foothills), and the High Country (North Lake Tahoe), attract visitors year-round. Although recreational travel/tourism is significant in all three areas, experience and empirical data shows that the majority of recreational trips are destined for the North Lake Tahoe area in the High Country.

According to recent surveys, the majority of visitors to the North Lake Tahoe area come from within a three hour drive typically, the Sacramento region and the San Francisco Bay Area. Travelers from elsewhere in California and other states visit Placer County as part of their itinerary. International travel to Placer County comes primarily from Canada and Mexico, but also from Japan and the United Kingdom.

Visitors within the two to three hour drive comprised 71% of the wintertime visitors and 68% of the summertime visitors. Of wintertime survey respondents, 43% came from the S.F. Bay Area, and 28% came from another state; in the summertime, it was 36% and 32%, respectively. Visitors coming from the Greater Tahoe/Sierra Nevada area comprised only 3% each season. Visitors coming from all other parts of California comprised 21% (winter) and 25% (summer) of those surveyed. The remaining 5% (winter) and 6% (summer) of visitors were international.

The majority of recreational trips in Placer County are seasonal, primarily ski trips to the North Lake Tahoe area in the wintertime. Historically, the Saturdays of the Martin Luther King, Jr. and Presidents' Day holiday weekends (in January and February, respectively) are the highest peak

volumes of the year.[1] Based on the 1996-1998 surveys, 59% of the wintertime visits to North Lake Tahoe were for skiing. Visiting family/friends was a distant second reason, comprising 10% of wintertime trips. In the summertime, the top reason that out-of-state visitors came to North Lake Tahoe was to attend conventions or seminars; although for many Californians camping and day hiking are favored, The top reasons that visitors came from the Bay Area to visit were rest and relaxation (19%) and visiting family/friends (18%).

Recreational Trips & Traffic

Travel by personal automobiles and recreational vehicles are the predominant means of transport for tourism and recreation both statewide and within the region. Thus, recreational travel relies primarily on state, regional, and local roadways.

Reno-Tahoe International Airport (RTIA), with about 160 daily departures, offers the most direct scheduled passenger air service within close proximity to the High Country region of Placer County (about 50 miles from RTIA to Tahoe City). Even when traveling by air, most visitors also incorporate a private or rental automobile in their travel. The 1996-1998 surveys found that 97% of visitors from the Bay Area traveled to the North Lake Tahoe area by car, and 2% by commercial or chartered aircraft. Twenty-two percent of out-of-state visitors came by car and 77% came by commercial or chartered aircraft. Although much less utilized, other modes include regional and local transit service, rail, and bicycling.

Besides supporting recreational travel for destinations within the county, Placer County provides routes for tourists to connect to other popular destinations, such as South Lake Tahoe, Sacramento, Reno, and San Francisco. For millions of recreational travelers each year, Placer County serves as a travel-through route rather than a destination. For example, according to the California Department of Transportation (Caltrans) records for 2001, seven million non-resident vehicles entered the county at the California Welcome Center located at the Foresthill exit on Interstate-80, signifying the large volume of visitor traffic that passes through the county each year. For county residents working in the recreation and tourism industry, recreational destinations are also employment destinations. As a result, high volume recreational travel routes can have an associated commuter use.

Peak traffic congestion times in the North Tahoe area are highly correlated to seasonal recreational travel (as opposed to daily commuter travel), and occur within relatively limited time periods. According to the *North Tahoe Regional Traffic Management Plan*[2], peak traffic congestion occurs predominantly during ten peak weekends and holidays in the winter, and during approximately eight weeks in the summer. Winter weather conditions also contribute to traffic delays. For example, Caltrans chain control checkpoints (for Donner Summit) and interstate closures, which are indispensable for driver safety, can cause some traffic congestions and delay. During the peak seasons, traffic congestion and delay is common along portions of all the regions major roadways.

[1,2] *North Tahoe Regional Traffic Management Plan*, LSC Transportation Consultants, Inc., February 19, 2003.

To alleviate these congestion conditions, the County, Caltrans, and/or private businesses (e.g. ski resorts and lodging operations) set up independent traffic control programs. For example, winter traffic control programs are put in place at the Tahoe City "Wye" (intersection of State Routes 89 and 28) and at Alpine Meadows Road/State Route 89. Traffic signals have been installed at Squaw Valley Road/ State Route 89, at Northstar Drive/ State Route 267, and at State Route 89/28 at Fanny Bridge to reduce or eliminate the need for seasonal manual traffic control programs. According to the *North Tahoe Regional Traffic Management Plan*, much of the existing peak traffic delay experienced along Interstate 80 and State Routes 89, 28, and 267 can be attributed to peak traffic volumes generated from ski area parking lots that cannot be accommodated adequately (i.e. without long delays) by the available roadway capacity. Another significant congestion spot is Fanny Bridge, which carries State Route 89 over the Truckee River. This is the sole northern access to Lake Tahoe's West Shore, and is second only to Interstate 80 for level of traffic volumes in the North Tahoe/Truckee region. Fanny Bridge is a tourist spot in its own right, known for its views of fish passage in the Truckee River. The combination of pedestrian, automobile, and bicycle traffic contributes to traffic congestion and delays. During peak times it is not uncommon for northbound traffic queues to extend over three miles, generating delays of up to an hour or more.

Recreational travel to Placer County is also done by rail. Two Amtrak trains serve Placer County: the Capital Corridor and the California Zephyr. The Capitol Corridor train route runs from San Jose in Santa Clara County to Auburn in Placer County, and includes stops around the San Francisco Bay Area, Davis, and Sacramento. Within Placer County the Capitol Corridor train stops at stations in Roseville and Rocklin as well as Auburn. Amtrak/Capitol Corridor feeder bus service offers connections east to Grass Valley/Nevada City, Colfax, Truckee, and on to Reno; north to Redding; and loops south from Sacramento to South Lake Tahoe and on to Carson City. Through the Capitol Corridor route, Placer County offers direct connections to many recreational and tourist destinations in the region, as well as offers rail access for visitors coming to Placer County. The Capitol Corridor is also an established train for business travelers and students traveling between the S.F. Bay Area, the University of California, Davis, the state capitol, and adjacent areas.

Amtrak's California Zephyr route travels from Emeryville to Chicago, and stops in Placer County at Roseville and Colfax. Major stops outside Placer County include Sacramento, Reno, Salt Lake City, Denver, Omaha, and finally Chicago's historic Union Station. The Zephyr is used primarily for recreational travel.

Recreational Travel Economic Impacts

The California Trade and Commerce Agency's Division of Tourism (CalTour) estimates that the travel industry and associated recreation in California generates approximately $55.2 billion annually (6.5 percent of the gross state product) and supports almost 700,000 jobs statewide, making California first in the nation for travel earnings, domestic visitors and overseas visitors.

Tourism and recreational travel are an integral part of the regional economy, contributing millions of dollars to the Placer County economy each year; providing business opportunities, employment, and tax revenue for many local communities.

Direct travel spending in Placer County for 2008 was $787 million, growing by an average annual rate of 3.8 percent per year from 2003 to 2008. Total earnings represented $425 million. Accommodation and food service represented the majority of $163 million in other sales. Local and state tax receipts from tourism and recreation, not including property taxes, amounted to $43.9 million. Travel spending in 2007 averaged about $3641 per Placer County household.

Recreation and travel industry employment stayed relatively flat between 2003 to 2008, employing 14,150 people, with direct employment at 9460 people, distributed as follows in Placer County: 4500 in the High Country, 2250 in the Gold Country, and 2700 in the Valley. Most people are primarily employed in accommodation and food services, with the remainder in recreation, entertainment and the arts.

Based on surveys of visitor perceptions, traffic congestion has a negative impact on economic growth in recreational travel and tourism. Past surveys indicate that traffic congestion is one of the reasons that tourism is not growing in relation to population growth.[3]

RECREATIONAL TRAVEL NEEDS ASSESSMENT

The following lists the key areas of concern for recreational travel needs in Placer County (listed in no particular order):

- Providing timely and accurate information about road and traffic conditions, particularly in winter;
- Providing options to driving private/personal car;
- Increasing use of transit services (e.g. buses, rail, shuttles), especially by visitors (tourists) and commuters in the recreation/tourism industry;
- Providing an intermodal transit center in the North Tahoe area;
- Providing shuttle service to/from airports to reduce use of rental cars;
- Ease recreational travel congestion on Interstate 80 within the constraint of not expanding roadway;
- Ease episodic recreational travel congestion by increasing shifts to off-peak travel;
- Improving access into and within the region for all modes of recreational travel, which attracts many local and out-of-region visitors; and
- Addressing rural traffic conflicts attributable to agritourism traffic.

[3] *Placer County General Plan - Background Report*, Volume I, August 16, 1994.

RECREATIONAL TRAVEL ACTION PLAN

Short and Long Range

1. Promote and use intelligent transportation systems (ITS) to improve recreational travel. *(PCTPA, jurisdictions, Caltrans, SACOG, TRPA, FHWA)*

2. Work with SACOG and other regional partners to implement and expand the 511 traveler information system (electronic information system) so it can be used to provide accurate and timely information on roads, traffic, transit, and alternative routes. *(SACOG, Caltrans, PCTPA, transit operators)*

3. Provide education and marketing of alternatives to the personal automobile. *(PCTPA, employers, resorts, TNT TMA, transit operators, United Auburn Indian Community of the Auburn Rancheria)*

4. Identify public infrastructure in need of expansion, as well as maintenance and repair to support tourism and recreation. *(PCTPA, jurisdictions, Caltrans, transit operators)*

5. Expand the availability of alternative transportation options (transit, rail, bike, pedestrian, airport shuttles) to driving the personal (private or rental) automobile. *(Transit operators, PCTPA, jurisdictions, Capitol Corridor, employers, resorts, United Auburn Indian Community of the Auburn Rancheria)*

6. Provide coordinated feeder transit services to parks and attractions. *(Transit operators, resorts, employers, Caltrans, United Auburn Indian Community of the Auburn Rancheria)*

7. Coordinate transportation planning with the tourism and resort industry to cooperatively develop, recommend, and implement transportation-related programs for improving recreational travel. *(Resorts, employers, Caltrans, TNT TMA, transit operators, United Auburn Indian Community of the Auburn Rancheria)*

8. Identify opportunities for joint projects and activities to maximize the effectiveness of limited funding opportunities. *(PCTPA, jurisdictions, Caltrans, SACOG, TNT TMA, resorts, employers, United Auburn Indian Community of the Auburn Rancheria)*

9. Work with primary marketing organizations to develop travel guides, way finding signage and to designate tourism routes. *(PCTPA, jurisdictions, Caltrans, SACOG, TNT TMA, resort, business and merchant associations, visitors bureau, chambers of commerce's, recreation providers, United Auburn Indian Community of the Auburn Rancheria)*

RECREATIONAL TRAVEL PROJECTS

While there are no projects listed in the RTP as specific only to travel for recreation, there are a variety of projects that support improvements to recreational travel including those in the regional roadways, public transit, aviation, passenger rail, non-motorized, TSM, and ITS chapters of the Action Element.

6.11 Integrated Land Use, Air Quality & Transportation Planning

This chapter identifies the need for an interdisciplinary approach to integrate land use, transportation, and air quality planning efforts with one another to improve mobility throughout Placer County and the Sacramento region. In addition, this chapter acknowledges the need to integrate and evaluate natural resource considerations, such as habitat conservation, into the transportation and land use planning processes.

OPPORTUNITIES & CONSTRAINTS (ISSUES & NEEDS)

Placer County possesses an array of development patterns ranging from fast-growing suburban areas to the west, year-round tourist destinations in Lake Tahoe to the east, and small bustling foothill towns in between. The Placer region continues to develop as a result of constant pressure for urban growth throughout California and specifically within the six-county Sacramento metropolitan area. As the need to move people and goods increases along with stringency of air quality regulations, the importance of developing balanced land use patterns and coordinated transportation networks remains critical within the region and beyond.

The escalating growth in population, housing, and employment in Placer County brings increasing demand for the planning and installation of infrastructure needed to effectively transport people and their goods between the places in which they live, work, shop, recreate, obtain services, and go to school. This demand to provide access between different land uses is directly related to the quality of life provided within Placer County. Quality of life can also be affected by the levels of air quality which are greatly influenced by our land use and transportation decisions. As a result, maintenance of this quality of life occurs cumulatively through the region-wide coordination of the land use, air quality, and transportation planning processes. However, integration of these processes is not without certain opportunities and constraints.

One of the prime motivations for the establishment of PCTPA in 1975 was to provide a forum for interjurisdictional coordination on county-wide issues. Interjurisdictional coordination is a key component of an effective and efficient transportation system, and remains the underlying strategy for integration of land use, transportation, and air quality planning efforts. Planning agencies and jurisdictions in Placer County must work together to support and encourage land use patterns that promote alternatives to driving alone while preserving the natural and cultural resources that are so attractive to existing residents, newcomers, and visitors alike. Land use decisions are made relatively quickly – in contrast to transportation projects that may take decades to fund, design, and implement. A continuous dialogue, interdisciplinary approach, and proactive strategy will be needed to keep land use decision-making and transportation investments in step with one another to improve mobility throughout the region.

State Strategic Growth Plan

January 2006, the Governor proposed a comprehensive Strategic Growth Plan to invest in transportation, education, water, public safety and public service infrastructure to meet the needs of California over the next 20 years. It is estimated the State faces more that $500 billion in various infrastructure needs over this period, including transportation. The Strategic Growth Plan is considered the first phase of a 20-year investment strategy to meet expected infrastructure needs, while accommodating California's growing population and also ensuring continued economic growth. Voter approval of Proposition 1B in 2006, authorized $19.9 billion in general obligation bonds to fund and leverage further investment to rebuild and maintain the state's transportation system over the next decade.

California Wildlife Action Plan

In 2000, Congress enacted the State Wildlife Grants Program to support programs that benefit wildlife and habitats, particularly those addressing "species of greatest conservation need." The California Department of Fish and Game (CDFG) completed the California Wildlife Action Plan in September 2006.

The Action Plan takes an ecosystem approach to conservation issues, considering the needs of select wildlife species inhabitating nine geographic regions of the state. For Placer County, this would include the Sierra Nevada region. The Action plan identifies several threats or "stressors," each with significant consequences for species, ecosystems and habitats. For the Sierra Nevada region: growth and development can eliminate or fragment important habitats, disrupt migration routes, and decrease remaining natural areas; limited water resources and conflicting demands between urban and agricultural uses and wildlife can lead to insufficient water allocations for species of concern; and invasive plant and animal species and pathogens are also contributing to a decline in the state's wildlife species. Integrating wildlife conservation into land use decisions, developing habitat mitigation guidelines, preserving agricultural foraging areas, encouraging coordination and cooperative efforts among resource agencies and landowners, are just a few examples that local and regional agencies can implement to conserve California's wildlife.

Regional Planning

Impacts resulting from major land use and transportation decisions extend beyond any single jurisdictional boundary. As people continue to work and shop outside the county in which they live, traffic congestion and air quality issues are shared throughout many of the region's jurisdictions. Regional planning efforts that address land use, transportation, and air quality issues are crucial to maintaining an acceptable quality of life for residents inside and outside of Placer County.

SACOG Blueprint

Placer County and its incorporated areas continue to work with the Sacramento Area Council of Governments (SACOG) through a cooperative regional planning effort called "Blueprint." The Blueprint was adopted in April 2004 by SACOG. Jurisdictions have subsequently adopted its implementation strategies. Blueprint planning integrates land use development and housing to transportation and air quality planning, considering these needs simultaneously, while focusing on the principles of "smart growth." The Blueprint approach fosters more efficient land use patterns and transportation systems that improve mobility and reduce dependency on single-occupant vehicle trips; reduce congestion; increase transit use, walking and bicycling; encourage infill development; accommodate an adequate supply of housing for all incomes; reduce impacts on valuable habitat and productive farmland; improve regional air quality; increase efficient use of energy and other resources; and result in safer neighborhoods.

Placer County Conservation Plan

Another example of regional planning is the Placer County Conservation Plan, a Habitat Conservation Plan under the federal Endangered Species Act and a Natural Community Conservation Plan under California's Natural Community Conservation Planning Act.
The Conservation Plan covers approximately 201,000 acres of western Placer County, and is intended to directly provide regulatory coverage for 34 special status species and for federally regulated wetlands, as well as indirectly protect, restore and manage the habitat of hundreds of other native plants, fish and wildlife species dependent on the same habitat. The Conservation Plan is designed to avoid potential conflicts between the County's growth areas and unique ecological assets, while clearing regulatory obstacles toward development. Participating agencies include SPRTA. The Plan would aid SPRTA in planning for the Placer Parkway, a transportation corridor that will link SR65 with SR99/70 in Sutter County.

Rural & Urban Development

With a mix of both urban and rural development in Placer County, there currently exists a wide range of transportation services provided. In general, the more urbanized areas have a greater demand for transportation services and therefore possess more extensive infrastructure and opportunity for use of alternative transportation modes. But as both rural and urban areas experience their own levels of growth, there exists opportunities in each of these areas to consider how land use decisions and transportation choices affect one another. Conscious design of both rural and urban communities can help encourage people to use alternative modes of transportation including walking, riding bicycles, riding the bus, taking light rail, riding the train, or ridesharing. While rural portions of Placer County will always demand less transportation services than urbanized areas, it remains that the more people walk, bike, or ride the bus, the more congestion and air pollution are reduced.

SACOG Rural-Urban Connections Strategy

Placer County and its incorporated areas continue to work with the Sacramento Area Council of Governments (SACOG) on rural-urban transportation issues, through a multi-faceted planning effort known as the Rural-Urban Connections Strategy ("RUCS). It is expected that the RUCS project will result in an economic and environmental sustainability strategy for rural areas. As the strategy continues to be developed the RTP as well as local jurisdiction plans will incorporate applicable elements.

General Plans

As the constitution of development within any California jurisdiction, the general plan provides policies to guide the land use and circulation patterns within a given city or county. In addition, goals and policies related to air quality are typically found within the general plan. The general plan must reflect both the anticipated level of land development and the road system necessary to serve that level. Currently, all of Placer County's jurisdictions have adopted general plans which contain the mandated land use and circulation elements and which also contain policies and goals for improving air quality.

State law requires all approved development projects to be consistent with a jurisdiction's adopted general plan policies. This essential and required relationship provides an ongoing opportunity for integration of land use and transportation planning as development projects are approved and as changes and updates are made to the General Plans of any of Placer County's seven jurisdictions. As land use and transportation projects in Placer County are planned, General Plan policies related to land use, transportation, and air quality for the respective jurisdiction will be consistently considered in order to ensure compliance with these policies during the project approval process.

Economic Development

Every jurisdiction within Placer County has some form of economic development authority. It is the nature of these authorities to attract development of appropriate need and scale to their respective jurisdiction for the benefit of the local economy. While the need and scale may vary between rural and urban areas, the basic factors that attract development often remain constant. These factors include whether or not the appropriate land uses and transportation services are provided to serve the needs of a prospective development. In addition, specific air quality regulations may be a factor for prospective commercial and industrial developments if they produce emissions. These factors provide reason and opportunity for economic development authorities throughout Placer County to participate in and encourage the integration of land use, transportation, and air quality planning efforts.

Transportation Funding Resources

There are many more transportation projects in Placer County than there are funds available to implement them. Future funding sources for state and local projects will continue to be dependent on the condition of the state budget and the state legislature's development of statewide transportation funding programs. Funding and construction of transportation projects needed to serve new developments will continue to be provided by developers to the extent possible, while innovative approaches to transportation funding and development of new funding sources will be needed to provide for the multi-modal transportation needs of the residents of Placer County. Coordinated transportation and land use planning efforts will be essential in order to maintain minimum levels of service on those roadways potentially impacted by future developments.

Environmental Considerations

Current growth rates in Placer County and surrounding counties in the Sacramento region have resulted in increasing vehicle miles traveled, making it difficult for the region to meet state and Federal air quality standards. Other environmental constraints also affect how transportation and land use projects are planned in Placer County, including sensitive plant and animal species, wetlands and vernal pool locations, noise impacts, archeological/historic resources, geologic issues, and drainage. In order to limit the effects of increased population growth on air quality and global climate, and to limit the impacts of transportation projects on the environment, it is important that local and regional land use, transportation, and air quality planning are closely coordinated.

PLANNING STRATEGIES

One of the overall goals of the RTP Policy Element is to integrate land, air, and transportation planning, in order to build and maintain the most efficient and effective transportation system possible while achieving the highest possible environmental quality standards. With this goal in place, strategies must be developed consistent with supporting policies and objectives of this plan as well as with applicable land use and air quality policies and regulations of other agencies and member jurist dictions.

Interjurisdictional Coordination

Interjurisdictional coordination is necessary to ensure connectivity of roads, transit, bicycle and pedestrian paths, and other transportation systems to provide continuity and access between communities. Coordination is also critical for addressing transportation-related regional impacts, such as air quality, congestion, and preservation of natural and cultural resources. Furthermore, in a time of limited financial resources, coordination is even more important to ensure that those funds that are available for transportation projects are spent in the most efficient and effective

manner possible. Intergovernmental coordination furthers this goal by developing county-wide transportation priorities, implementing studies and projects in cooperation with other counties, facilitating joint transportation projects, and anticipating and mitigating impacts of governmental decisions of one jurisdiction on another.

PCTPA has a variety of venues to promoting interjurisdictional coordination. The Technical Advisory Committee (TAC), which includes public works representatives from all member jurisdictions, meets monthly to discuss project delivery, funding opportunities, air quality, and other relevant regional transportation issues. Regular meetings are also held with the members of the Transit Operators Working Group (TOWG), which includes representatives from all of the transit operators and PCTPA member jurisdictions. This group coordinates transit marketing, planning, and related subjects. Caltrans and SACOG also participate in the TAC and the TOWG.

Coordination within Placer County and with the other SACOG jurisdictions, as well as the Bay Area, Nevada County, and the Tahoe Regional Planning Area (TRPA), will be crucial in the effort to address transportation challenges along key corridors such as Interstate 80, State Route 49, and State Route 65. Coordination among regional agencies such as Caltrans, SACOG, Placer County Air Pollution Control District (PCAPCD), Sacramento Metropolitan Air Quality Management District (SMAQMD), the California Air Resources Board, and others will also play an important role. PCTPA will continue to "encourage jurisdictions to require land uses which produce significant trip generation to be served by transportation corridors with adequate capacity and design standards to provide safe usage for all modes of travel," consistent with Policy 9.A.3.

Corridor Preservation

Corridor preservation is a means of coordinating transportation planning with land use planning by minimizing development in areas which are likely to be required to meet future transportation needs. Preserving land for the eventual construction of large transportation projects can help to prevent inconsistent development, minimize or avoid environmental, social, and economic impacts, reduce displacement, prevent the foreclosure of desirable location options, permit orderly project development, and reduce costs.

Corridor preservation should occur when the multimodal planning process has indicated the need for additional transportation facilities in an area where significant development has not yet taken place. It may be especially important in those areas of Placer County which are beginning to experience development pressures. Only as part of a multi-jurisdictional planning effort, can successful corridor preservation occur. The Placer Parkway project is a prime example of an existing effort underway in Placer County.

Interim tools such as general plan designations, zoning controls, and access management, should be used to help secure future right of way for essential transportation corridors. This strategy is consistent with Policy 9.A.4 in Chapter 5 which encourages "jurisdictions to protect corridors and rights-of-way, when identified, for future expressway and highway corridors through the

adoption of specific plans and general plans." Permanent tools such as acquisition, development easements, and development agreements should also be used when possible.

Infrastructure Investments

Where existing infrastructure cannot efficiently provide for the transportation needs of new development, additional investments in infrastructure should be made to ensure levels of service are not compromised. Providing adequate corridor infrastructure that meets existing and future needs is essential for successful transportation networks. However, simply building more roadways is not always the best solution when financial resources, environmental impacts, and smart growth concepts are considered.

Consistent with policies contained in this plan, PCTPA will continue to encourage jurisdictions to develop local roadways that complement planned growth patterns and economic development programs. Jurisdictions will also be encouraged to review and assess the impact of new development proposals on transit system demand and supply as well as air quality. Requirements of public transit and facilities for pedestrian and bicycle activities should also be considered as jurisdictions require street patterns for new roadways, especially in commercial, industrial, and high-density residential areas. Furthermore, coordination between agencies on the timing of roadway construction where utilities and other facilities are planned will be necessary to provide the most cost-effective solution to providing needed infrastructure.

Support Higher Density, Transit Oriented Development (TOD) & Infill Projects

Placement of higher residential and employment densities and mixed use development in areas served by transit and bikeways can create "activity centers" where neighborhood shopping and services are located within convenient travel distances from residences. Areas with higher residential and employment densities tend to better support transit ridership and present greater opportunities for pedestrian-friendly design. Providing greater convenience and accessibility to transit to a greater number of people through thoughtful and coordinated transportation and land use planning is a sure way to improve local transportation systems and air quality conditions while also providing benefits to the local economy. Planning for projects in areas where infrastructure, utilities, and transportation systems currently exist can help to immediately increase residential and employment densities near transit services. Known as infill development, these types of projects can create opportunities for increasing transit ridership in certain areas while utilizing existing infrastructure and resources.

The California Statewide Infill Potential Project, completed in 2006, prepared a statewide inventory of potential infill sites, including currently vacant ("infill") parcels, as well as sites that are occupied but potentially appropriate for redevelopment. The project identified for Placer County approximately 503 infill sites covering 1329 acres, as follows by jurisdiction:

	Infill Acres
Auburn	225
Colfax	43
Lincoln	49
Loomis	430
Rocklin	170
Roseville	412
Total	**1329**

Examples of both transit oriented and infill development are occurring across the nation with both urban and suburban examples located here in Northern California. A representative example of what could occur in the Placer County region is the Village Center of the West Roseville Specific Plan approved in 2004 and currently under construction. The most notable feature is the Village Center, an interactive mixed-use neighborhood of retail, office, community services, public spaces, parks and natural areas integrated with a variety of housing types on approximately 121 acres. The mix, density and interface between these uses create an urban form that is pedestrian friendly.

SACOG examined three areas within Placer County for their different land use and density characteristics to test the relationship to vehicles miles traveled (VMT). Table 6.11-1 summarizes this analysis.

Table 6.11-1
Land Use Characteristics for Prototype Areas Per VMT Group

VMT Group	Prototype Area	Density	Street Pattern	Transit Proximity	Mix Use Index	Bike / Walk Mode Share	Transit Mode Share
Low VMT	Central Auburn	13	23	91%	56	19.40%	2.80%
High VMT	Granite Bay	4	18	22%	23	5.50%	0.30%
High VMT	Lincoln	4	18	22%	23	5.50%	0.30%

Notes:
1. Density = Jobs + housing per acre at place of residence. Higher density = lower VMT.
2. Street pattern = density of good intersections at place of residence. Better street pattern = lower VMT.
3. Transit Proximity = Percent of households within 1/4 mile of nearest transit service. Higher proximity = lower VMT.
4. Mix Use Index = 0 for homogeneous development and to 100 for a balanced mix. More balanced the mix = lower VMT.
5. Bike / Walk Mode Share = regional average is 7.5 percent. Higher share in lower VMT areas.
6. Transit Mode Share = regional average is 1.2 percent. Higher share in lower VMT areas.

Source:
1. Connecting the "D's" to Vehicle Miles Traveled in the Sacramento Region, Presentation to SB 375 Regional Targets Advisory Committee, SACOG, Committee, February 2009,

Both written and financial support should be provided for infill and transit oriented projects in the Placer County region wherever feasible. This strategy is consistent with Policy 9.A.5 which encourages "jurisdictions to include transit-oriented development Blueprint principles in designing neighborhoods and communities to reduce vehicle miles traveled (VMT) and to deal with more short trips."

Prioritize Reduced Emission Projects

The Sacramento region, which includes Placer County, has the seventh worst air quality in the nation (*American Lung Association - for ozone, 2005),* with various air basins currently at non-attainment levels. With increasingly strict air quality conformity standards being implemented in the Sacramento region, ensuring that transportation projects do not significantly contribute to increased vehicle emissions is becoming more essential. Yet consistent growth pressures create demand for more transportation projects.

Prioritizing and recommending transportation projects that minimize vehicle emissions while providing cost effective movement of people and goods has become a policy outlined in this plan. Integration of transportation, air quality, and land use planning will become more evident as PCTPA continues to work with the PCAPCD and SACOG to develop plans that meet the performance standards of the California Clean Air Act and the Federal Clean Air Act Amendments. These agencies will also evaluate the impacts of each transportation plan and program on achievement of timely attainment of ambient air quality standards.

Support Regional Projects & Programs

Because the successes or failures of many transportation projects are shared across jurisdictional boundaries, coordination among local jurisdictions, SACOG, Caltrans, the California Transportation Commission, and other transportation agencies is essential in order to develop a regional planning and programming process that ensures that Placer County jurisdictions have maximum participation and control in the transportation decision-making process. Coordination of interjurisdictional transportation projects requires land use, air quality, and transportation planning considerations. By helping to facilitate the coordination and implementation of local, county-wide, and regional transportation programs, integrated transportation and land use planning can help to improve mobility and air quality while influencing sound land use decisions.

One of the objectives listed in this plan is to participate in state, multi-county and local transportation efforts to ensure coordination of transportation system expansion and improvements. Mechanism such as Memorandums of Understanding (MOU) and joint powers agreements between jurisdictions can be used to accomplish sound planning and implementation of multi-jurisdictional transportation projects and programs. PCTPA will strive to build coalitions with key private sector and community groups to involve the community in developing transportation solutions.

PCTPA is in a somewhat unusual position, representing the transportation interests from blend of urban and rural perspective. As such, PCTPA is represented in a number of forums and committees, including the Regional Transportation Planning Agency Group, Self-Help Counties Group, Regional-Caltrans Coordinating Group, California Transportation Commission, California Association of Councils of Government, and others; representing the interests of local jurisdictions in federal, State, and regional policy and funding decisions.

PCTPA also works very closely and continuously with the Sacramento Area Council of Governments (SACOG), as the Metropolitan Transportation Organization (MPO) for the Sacramento region, to implement federal and State transportation programs. While many of the interactions are specified under a Memorandum of Understanding, regional interests and overlapping jurisdictions provide additional need for close coordination; for example, the update of the Metropolitan Transportation Plan, as well as Blueprint planning efforts. In addition, PCTPA works in close coordination with the Placer County Air Pollution Control District (APCD) in regards to transportation/air quality issues.

By promoting a transportation system which facilitates a balance of jobs and housing in Placer County, reduced environmental and air quality impacts, as well as increased transportation efficiency for all transportation modes can be achieved. Such a system should provide effective, convenient, and regionally and locally coordinated transit services that connect residential areas with employment centers, serve key activity centers and facilities, and offer a viable option to the drive-alone commute to, from, and within Placer County. It should also reduce single-occupancy vehicle trips during non-commute periods by presenting a safe, convenient, and affordable means of reaching shopping, recreation, and medical-related destinations. Supporting projects that accommodate alternative modes of transportation such as pedestrian and bicycle activities and pursuing a regional approach to transit services in Placer County will be key components of this strategy.

INTEGRATED LAND USE, AIR QUALITY & TRANSPORTATION PLANNING ACTION PLAN

Short Range

1. Continue to coordinate with jurisdictions and agencies inside and outside of Placer County to help establish county-wide transportation priorities, implement studies and projects in cooperation with other counties, facilitate joint transportation projects, and anticipate impacts on Placer County from governmental decisions. (*PCTPA, jurisdictions, SACOG, Caltrans, PCAPCD, CCJPA, Nevada County, Sacramento County, El Dorado County, Yuba County, Sutter County*)

2. Review local general and specific plans, and land use entitlement applications for consistency with airport land use plans. (*PCTPA, jurisdictions*)

3. Seek grant funding to support transportation projects that benefit the environment, housing, sustainable communities, air quality, or reduced traffic congestion. (*PCTPA, jurisdictions, PCAPCD, Caltrans*)

4. Continue to participate in the SACOG regional Blueprint planning efforts. (*PCTPA, jurisdictions, SACOG*)

5. Develop guidelines and/or implement policies to prioritize transportation projects that have air quality benefits, while providing cost effective movement of people and goods. (*PCTPA, PCAPCD*)

6. Provide support for projects consistent with Placer County's Ozone Reduction Ordinance, and also lead to reduced Greenhouse Gas emissions. (*PCTPA, PCAPCD*)

7. Encourage jurisdictions to develop transportation corridors that complement Blueprint planned growth patterns, infill development, economic development programs, and requirements of infrastructure to support planned land uses. (*PCTPA, jurisdictions*)

8. Encourage jurisdictions to review and assess the impact of new development proposals consistency with Blueprint principles, and the impact on local circulation plans and transit system demand and supply. (*PCTPA, jurisdictions, transit operators*)

9. Continue active participation in local and regional coordinating groups as well as statewide forums to maximize opportunities for transportation improvements in Placer County. (*PCTPA*)

10. Provide written support for development projects which may increase residential and employment densities near existing transit and rail stations, as well as future rail stations that may emerge as a result of expansion of the Capitol Corridor service to Colfax, Soda Springs, Truckee, and Reno/Sparks. (*PCTPA*)

11. Plan for new/expanded facilities such as pedestrian and bicycle facilities, park-and-ride lots, and intermodal transfer stations where development projects will provide increased residential and/or employment densities. (*PCTPA, jurisdictions, Caltrans, CCJPA*)

12. Encourage thorough examination, context sensitive design, and mitigation of environmental impacts when planning and constructing transportation improvements through or near established residential communities. *(PCTPA, jurisdictions)*

13. Encourage jurisdictions to avoid or minimize impacts of transportation projects and programs on special-status plant populations, special-status fish and wildlife species and habitat, riparian and woodland communities, and waters of the United States. (*PCTPA, jurisdictions, Caltrans)*

14. Work with jurisdictions to include the needs of all transportation users in the planning, design, construction and maintenance of roadway (complete streets) and transit facilities where feasible. *(PCTPA, jurisdictions, transit operators, Caltrans)*

15. Encourage jurisdictions to consider multi-modal transportation facility proximity when siting educational, social service, and major employment and commercial facilities. *(PCTPA, jurisdictions, transit operators)*

16. Provide information and support services to jurisdictions regarding the countywide transportation impacts of local land use decisions. *(PCTPA, jurisdictions, transit operators, Caltrans))*

17. Where possible, support jurisdictions' efforts to maintain their adopted Level of Service (LOS) on local streets and roads in accordance with the applicable General Plan Circulation Element. *(PCTPA, jurisdictions)*

18. Encourage jurisdictions to require land uses which produce significant trip generation to be served by roadways with adequate capacity and design standards to provide safe usage for all modes of travel. *(PCTPA, jurisdictions, Caltrans)*

19. Encourage jurisdictions to include transit-oriented development Blueprint principles in designing neighborhoods and communities to reduce vehicle miles traveled (VMT) and to deal with more short trips.*(PCTPA, jurisdictions, transit operators, Caltrans)*

Long Range

1. Integrate land, air, and transportation planning, in order to build and maintain the most efficient and effective transportation system possible while achieving the highest possible environmental quality standards. (*PCTPA, jurisdictions, SACOG, PCAPCD, SMAQMD*)

2. Continue to coordinate with SACOG, the Placer County Air Pollution Control District, and the Sacramento Metropolitan Air Quality Management District to ensure transportation projects meet all applicable budgets for air quality conformity standards. (*PCTPA, PCAPCD, SMAQMD, SACOG*)

3. Encourage the use of general plan designations, zoning controls, access management, acquisition, development easements, and development agreements to help secure and protect future right of way for essential transportation corridors. (*PCTPA, jurisdictions*)

4. Coordinate and arrange for regional workshops focused on the incorporation of "smart growth" and transportation project planning. *(SACOG, PCTPA, jurisdictions, Caltrans)*

INTEGRATED LAND USE, AIR QUALITY & TRANSPORTATION PLANNING PROJECTS

Table 6.11-2 provides a list of integrated planning projects. In addition, a status of current regional and local land use, transportation and environmental planning documents and efforts are summarized in Appendix M.

Table 6.11-2
Integrated Land Use, Air Quality & Transportation Planning Projects List

Lead Agency	SACOG Project ID	SACOG MTP	SACOG MTIP	Project Title	Project Description	Year Complete	Status	Current Year (2010) $	Expenditure Year $
Sac. Metro Air Quality Management District	VAR56004	07-00	11-00	Urban Forest for Clean Air (Phases 1-3)	Evaluate the potential SIP control strategy to capture the effects of the urban forest on regional air quality.	2011	Programmed	$725,000	$754,000
South Placer Regional Transportation Authority				SR 65 HOV Lanes - PID / EA	Prepare PIS / EA evaluating the addition of High Occupancy Vehicle (HOV) lanes from I-80 to City of Lincoln.	2011	Planned	$234,000	$243,360
City of Roseville Dept of Public Works	PLA25339	'07-00	11-00	City of Roseville SRTS	Proposes a Safe Routes to School pilot program within Roseville beginning with the Dry Creek School District. It will develop a "SRTS Tool Box." The Tool Box would include strategies for education, encouragement, enforcement, engineering & evaluation. SRTSD50_0043	2012	Programmed	$215,000	$232,544
Placer County Transportation Planning Agency	PLA25413	'07-00	11-00	Plan, Program & Monitor (PPM) 2011 - 2015	PCTPA plan, program, monitor (PPM) for RTPA related activities for 2011 through 2015.	2011-2015	Programmed	$807,000	$944,076
Placer County Transportation Planning Agency	PLA25302	36708		OWP Administration (2011-2035)	PCTPA portion of Overall Work Program (OWP) administrative costs. Annual administrative cost approximately $34,074.	2011-2035	Planned	$817,770	$2,096,193
Placer County Transportation Planning Agency	PLA25139	07-00		Plan, Program & Monitor (PPM) 2016 - 2035	PCTPA PPM related activities for 2016 through 2035.	2015-2035	Planned	$2,505,682	$5,490,258
							2010-2015	$2,117,295	$2,523,345
							2016-2024	$1,434,221	$3,256,688
							2025-2035	$1,752,936	$3,980,397
							Total	$5,304,452	$9,760,431

CHAPTER 7
AIR QUALITY ELEMENT

The Federal Clean Air Act and the California Clean Air Act establish standards for air quality and govern air emissions throughout California. Responsibility for air quality planning and regulation in Placer County is borne by a variety of federal, state, regional, and local agencies. Air quality policy and regulation is critical to the RTP because on- and off-road vehicles contribute over two-thirds of pollution emissions.

This chapter describes federal and State air quality related law, the roles of air quality regulators, and the impact of these laws on the RTP. This chapter describes the required determination that must be made by the Sacramento Area Council of Governments that the RTP conforms to federal air quality regulations. This chapter also provides background information on global warming, climate change and greenhouse gas emissions.

7.1 Environmental Setting

Placer County is located within three separate air basins: Mountain Counties, Sacramento Valley Air Basins, and Lake Tahoe. Land area included in California air basins generally share similar meteorological and geographic conditions (air basins are defined in Section 39606 of the Health and Safety Code and the California Code of Regulations (CCR Title 17, Division 3, Chapter 1, Article 1). The most recent changes to air basin boundaries occurred in May 1996. Placer County totals 1,416 square miles, 65 percent (918 square miles) within the Mountain Counties Air Basin, 30 percent (426 square miles) within the Sacramento Valley Air Basin, and five percent (72 square miles) of which is located with the Lake Tahoe Air Basin.

The jurisdiction of PCTPA is defined in California Government Code Section 67910 as Placer County, exclusive of the Lake Tahoe Air Basin. The planning area of the RTP is coterminous with the jurisdiction of PCTPA. The Placer County RTP planning area is made up of the Mountain Counties Air Basin and the Sacramento Valley Air Basin and represents approximately 95 percent of the Placer County land area, or 1,344 square miles.

PCTPA is responsible for preparing an RTP for the portion of Placer County containing the Sacramento Valley Air Basin and the Mountain Counties Air Basin. Because the Lake Tahoe Air Basin is not within the jurisdiction of PCTPA, the Placer County 2035 RTP does not consider air quality conformity issues for the Lake Tahoe Air Basin. The Tahoe Regional Planning Agency (TRPA) has been designated the Metropolitan Planning Organization (MPO) for the Lake Tahoe Air Basin, and therefore, considers air quality conformity issues for this area.

The following is a description of the Mountain Counties and Sacramento Valley Air Basins.

MOUNTAIN COUNTIES AIR BASIN

The Mountain Counties Air Basin (MCAB) includes Plumas, Sierra, Nevada, Amador, Calaveras, Tuolumne, Mariposa counties, a portion of El Dorado and Placer County, excluding that portion included in the Lake Tahoe Air Basin as well as the southwestern portion of Placer County that is in the Sacramento Valley Air Basin. The MCAB includes both eastern and western slopes of the Sierra Nevada Mountains incorporating much of the Sierra foothills.

Elevation within the MCAB varies from less than 1,000 feet above sea level on the west to approximately over 6,000 feet on the east. The general climate in the MCAB varies considerably with elevation and proximity to the Sierra Nevada crest. The terrain features of the MCAB make it possible for various climates to exist in relatively close proximity. The pattern of mountains and hills causes a wide variation in rainfall, temperature, and localized winds throughout the MCAB. Temperature variations have an important influence on basin wind flow, dispersion along mountain ridges, and vertical mixing.

The Sierra Nevada receives large amounts of precipitation during winter, from storms originating in from the Pacific Ocean. Precipitation levels are high in the highest mountain elevations but decline rapidly toward the western portion of the basin. Winter temperatures in the mountains can be below freezing for weeks at a time, and substantial depths of snow can accumulate. In the western foothills, winter temperatures usually dip below freezing only at night and precipitation is mixed as rain or light snow. In the summer, temperatures in the mountains are mild, with daytime peaks in the 70s to low 80s F, but the western end of the county can routinely exceed 100 degrees F.

The local topography and meteorology conditions in the MCAB largely determine the effect of air pollutant emissions in the basin. Regional airflows are affected by the mountains and hills, which direct surface air flows, cause shallow vertical mixing, and hinder dispersion, thereby creating areas of high pollutant concentrations. Inversion layers, where warm air overlays cooler air, frequently occur and trap pollutants close to the ground. In the winter, these conditions can lead to carbon monoxide “hotspots” along heavily traveled roads and at busy intersections. During the summer’s longer daylight hours, stagnant air, high temperatures, and plentiful sunshine provide the conditions that can result in the formation of ozone.

SACRAMENTO VALLEY AIR BASIN

The Sacramento Valley Air Basin (SVAB) includes Tehama, Glenn, Butte, Colusa, Yolo, Sutter, Yuba, Sacramento, and Shasta Counties, and a portion of Solano County, as well as that portion of Placer County that lies west of Range 9 East, which is approximately three miles east of Auburn. The SVAB is bounded by the Sacramento Valley extending from the Sacramento River Delta north to Shasta County. The Placer County portion of the SVAB includes the eastern edge of the Sacramento Valley and the lower slopes of the Sierra Nevada.

Like the MCAB, the SVAB contains areas with differing climates. In general, this air basin has a mild climate that is characterized by hot, dry summers, and moist, mild winters. The north-

Figure 7-1
Air Basins in Eastern Placer County

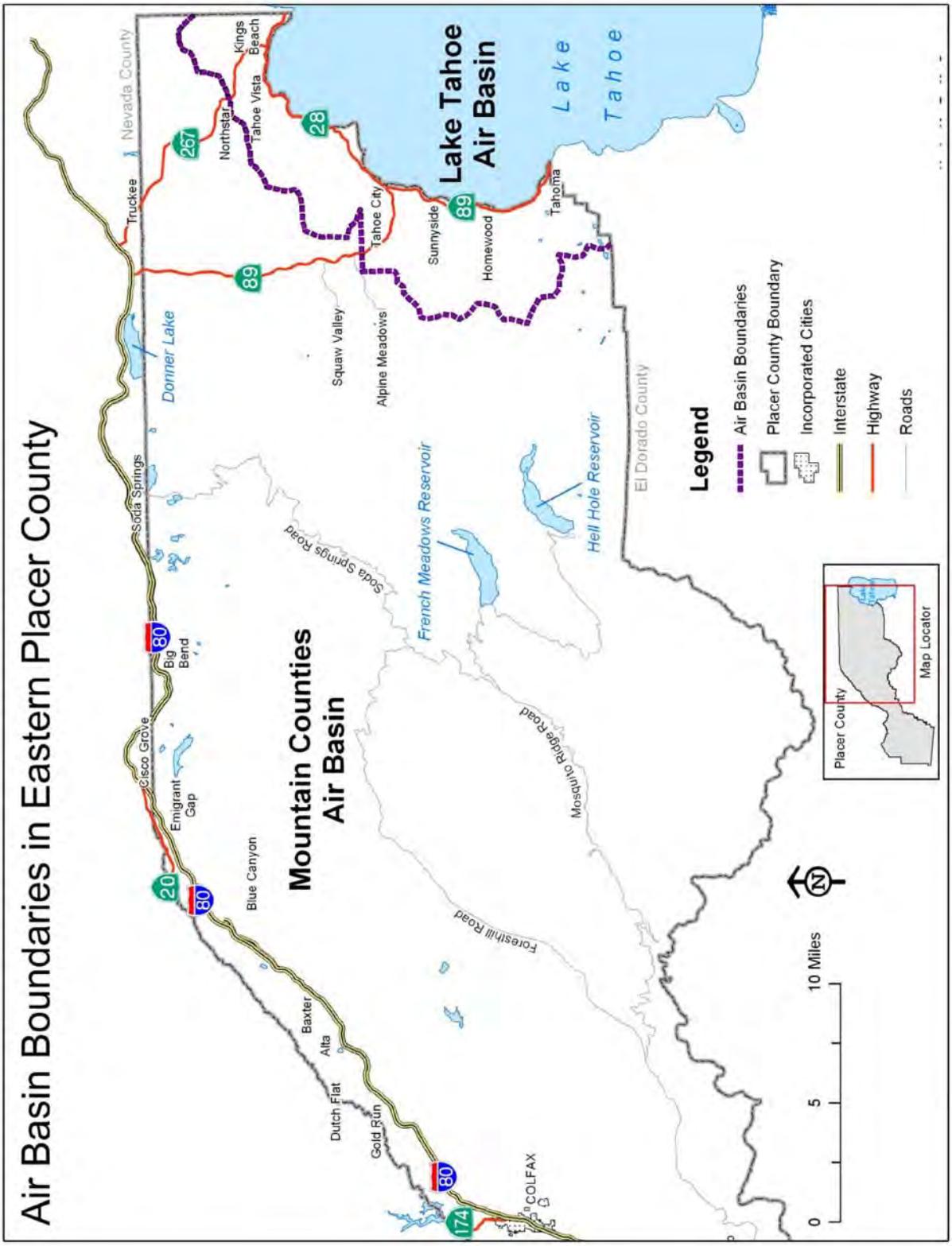
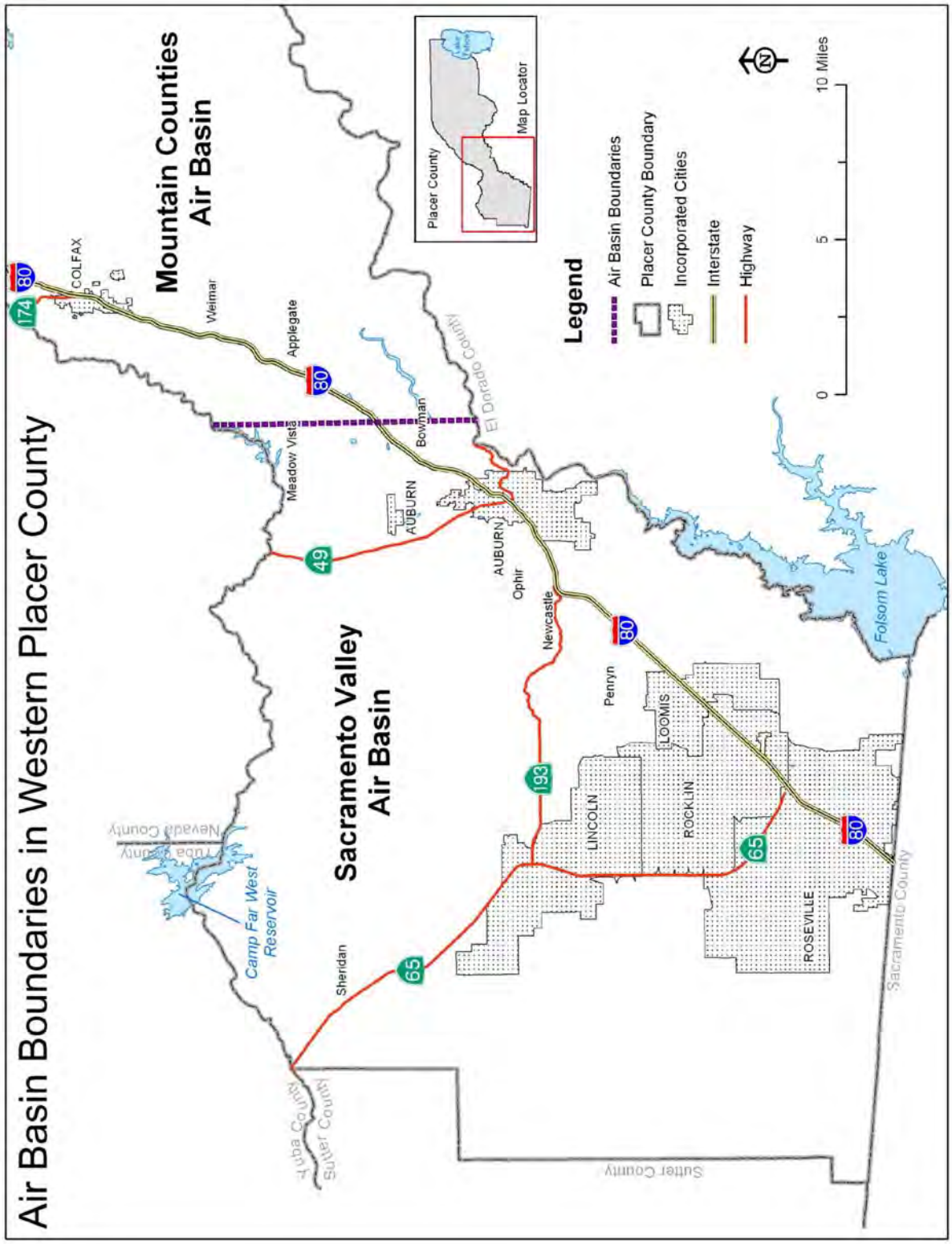


Figure 7-2
Air Basins in Western Placer County



south alignment of the valley, the coast range, and the Sierra Nevada mountains strongly influence wind flow in the valley. A sea-level gap in the coast range at the Carquinez Straits permits cool, marine air to flow occasionally into the valley during the summer season. This marine air lowers the temperature throughout the Sacramento-San Joaquin River Delta as far north as Sacramento. In the spring and fall, a large north-to-south pressure gradient develops over the northern part of the state. Air flowing over the Siskiyou Mountains to the north warms and dries as it descends to the valley floor.

The SVAB can experience temperatures exceeding 100° F, caused by airflow from sub-tropical high-pressure areas that bring light winds and humidity below 20 percent. Heavy fog occurs mostly in midwinter, and seldom in spring, summer or autumn. An occasional winter fog, under stagnant atmospheric conditions, may persist for several days. Light and moderate fogs are more frequent, and may come anytime during the wet, cold season. The fog is usually confined to early morning hours and dissipates by afternoon hours.

In the winter months, the SVAB experiences a high percentage of days with calm atmospheric conditions. These calm conditions result in stagnation of air and increased air pollution. Movement of air allows for the dispersion and subsequent dilution of air pollutants. Without movement, air pollutants can collect and concentrate in a single area, increasing the health hazards associated with air pollutants

The SVAB frequently experiences temperature inversions that inhibit the dispersion of pollutants. With inversions occurring near the ground, very little mixing or turbulence occurs, and high concentrations of pollutants may occur locally near major roadways. Elevated inversions, or inversions which occur higher in the atmosphere, can be generated by a variety of meteorological phenomena. Elevated inversions act as a lid (or upper boundary) and restrict vertical mixing. Below the elevated inversion, dispersion is not restricted. Mixing heights for elevated inversions are lower in the summer and more persistent. During summer months, low inversions over the SVAB are responsible for high levels of ozone in the SVAB.

7.2 Air Quality Regulatory Structure

FEDERAL CLEAN AIR ACT

The Federal Clean Air Act of 1970 (federal CAA) requires the U.S. Environmental Protection Agency (EPA) to establish national health-based air quality standards to protect against common air pollutants, often referred to as “criteria pollutants.” Criteria pollutants include ozone (smog), carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), lead (Pb), and particulate matter (PM). The EPA is responsible for enforcing the federal CAA, establishing national ambient air quality standards (NAAQS) for criteria pollutants, and regulating major air emission sources such as on- and off-road vehicles, power plants, industrial sources, and hazardous pollutants.

CALIFORNIA CLEAN AIR ACT

The California Clean Air Act (state CAA) of 1988 established AAQS for California that is more stringent than the national standards. In addition to the criteria pollutants regulated by the federal CAA, the state CAA adds three additional air pollutants, visibility reducing particles, sulfates, and hydrogen sulfide. The state CAA does not set a specific deadline by which California's AAQS must be met. However, it does require a five percent reduction in emissions per year, or "reasonably feasible" reductions until compliance with state standards is achieved.

The California Environmental Protection Agency, through the California Air Resources Board (CARB), implements the state CAA and sets state AAQS. The mission of the CARB is to protect the public health by regulating mobile sources of air pollution, including mobile sources, fuels, consumer products, and air toxics. In addition, the CARB oversees and assists local air pollution control districts.

LOCAL AND REGIONAL AIR QUALITY REGULATION

There are several additional regional and local agencies that are involved in the regulation of air quality that affect Placer County or that are involved in the implementation of polices that affect air quality.

Sacramento Area Council of Governments

SACOG is designated as the Metropolitan Planning Organization (MPO) for the El Dorado, Placer, Sacramento, Sutter, Yolo, and Yuba counties and prepares the Metropolitan Transportation Plan (MTP) for the Sacramento Region. In addition, SACOG, through a memorandum of understanding with PCTPA, governs federal transportation planning and programming for Placer County and is responsible for ensuring that the Placer County RTP conforms to the State Implementation Plan (SIP).

Placer County Transportation Planning Agency

The Placer County Transportation Planning Agency (PCTPA) is responsible for transportation planning within the Sacramento Valley and Mountain Counties Air Basin portions of Placer County, including preparation of the Regional Transportation Plan (RTP) for the county. PCTPA is designated as the Regional Transportation Planning Agency, Congestion Management Agency, and the Airport Land Use Commission for Placer County. As the designated Congestion Management Agency for Placer County, PCTPA is eligible to receive federal Congestion Management and Air Quality Funds for programs to reduce congestion and improve air quality, such as bikeways, pedestrian improvements, and alternative fuel for transit buses. PCTPA's role and responsibilities are described in greater detail in Chapter 2.

Placer County Air Pollution Control District

The Placer County Air Pollution Control District (PCAPCD) was created by state law to enforce local, state, and federal air pollution regulations in Placer County. The PCPACD is governed by a nine member board of directors containing three members of the County Board of Supervisors and a representative of the city council of each city within the county. The responsibilities of the APCD are set forth in §40001 of the California Health and Safety Code, which reads: "subject to the powers and duties of the state board, the (PCAPCD) shall adopt and enforce rules and regulations to achieve and maintain the state and national ambient air quality standards in all areas affected by emission sources under (its) jurisdiction, and shall enforce all applicable provisions of state and federal law."

Placer County and Cities within Placer County

Placer County contains six incorporated cities: Auburn; Colfax; Lincoln; Loomis; Rocklin; and Roseville. Placer County and these six cities do not directly regulate air quality within their jurisdictions. The county and cities each adopt policies to reduce air pollutant emissions as part of their general plans and other local programs.

AIR QUALITY PLANS AND PROGRAMS

State Implementation Plans

The federal CAA required states that exceed National Ambient Air Quality Standards (NAAQS) to prepare SIPs to demonstrate how the standards would be met. At the state and local level, the SIP is the principal mechanism for complying with the federal CAA. The SIP is a compendium of all of the state's rules, regulations, and air quality plans needed to meet NAAQS. Federal requirements relating to SIPs vary depending upon the degree of nonattainment severity. SIPS are amended on an ongoing basis as new rules and plans are adopted.

States were originally required to meet NAAQS by 1987. The federal CAA was amended several times after 1970 extending the deadlines by which attainment of NAAQS must be achieved. The 1990 amendments to the federal CAA established the following five categories of air pollution severity for ozone nonattainment areas: marginal; moderate; serious; severe; and extreme. Placer County and the several counties in the Sacramento region, referred to as the Sacramento Federal Ozone Nonattainment Area (SFONA), were designated severe nonattainment with respect to ozone. The 1990 federal CAA amendments also set specific planning requirements to ensure that the attainment goals are met.

Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan (2008)

On April 15, 2004, a new eight-hour NAAQS for ozone was implemented by EPA to replace the one-hour NAAQS. EPA made determinations of which areas violate the eight-hour ozone standard, effective June 15, 2004. As a result of the change from the one-hour to the eight-hour NAAQS, the Sacramento Region has received a "serious" nonattainment designation for ozone, with an attainment deadline of June 2013. The Clean Air Act permits a state to request that EPA reclassify or "bump-up" a nonattainment area to a higher classification and extend the time allowed for attainment. Reclassification is considered appropriate for nonattainment areas that must rely on longer term strategies to achieve the emission reductions needed for attainment. More stringent requirements are imposed with each higher classification.

The Sacramento regions needs to rely on the longer term emission reduction strategies from the State and federal mobile source control programs; therefore, the 2013 attainment date cannot be met. Consequently, CARB on behalf of the air districts in the Sacramento region requested EPA in February 2008, to a voluntary reclassification of the Sacramento Federal Ozone Nonattainment Area (SFONA) from a "serious" to a "severe" eight-hour ozone nonattainment area, with an extended attainment deadline of June 2019. The air districts that make up the SFONA prepared the *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan* (hereafter "SIP"). The SIP was adopted by the California Air Resources Board in March 2009. EPA issued its Final Rule approving the Sacramento region's request to reclassify the ozone non-attainment status from "serious" to "severe-15," effective June 4, 2010.

The SIP contains transportation control measures (TCMs) and land use measures that are intended to result in the reductions in the emissions of criteria pollutants to meet NAAQS by 2019. TCMs and land use measures contained in the SIP include: intelligent transportation systems (ITS); employer trip reduction regulations; transit service funding programs; high occupancy vehicle lanes; park and ride lots / transit centers; flexible work hours; vanpool assistance programs; transit oriented development policies; pedestrian and bikeway improvements; congestion management strategies; MTP regional funding programs; and other specific funding programs, including Freeway Service Patrol. TCMs and land use measures are implemented directly by the five air districts as well as the local jurisdictions within each air district. TCMs included in the SIP that are the responsibility of Placer County jurisdictions are shown in Table 7.1.

The SIP also includes several research and policy development TCMs that are currently in the study phase by SACOG. It is anticipated that future policies will be included in SACOG's MTP update and SIP, and as applicable the next update of the Placer County RTP.

Table 7.1
Placer Transportation Control Measures Included in the 8-Hour Ozone State Implementation Plan (SIP)

TCM ID	SACOG ID	Transportation Control Measure	Description	Placer Cost	Completion Year	Lead Agency
ITS-4	VAR11000	STARNET Implementation	Develop and install an information exchange system--the Sacramento Transportation Area Network, or STARNET--and connect 18 traffic and emergency centers.	0	2009	SACOG
TF-2	PLA19100	Improvements to Loomis Multimodal Center	Design and construct pedestrian and landscaping improvements at the multimodal center including a Class I bike facility adjacent to Taylor Rd. from downtown Loomis to Sierra College Blvd.	$659,225	2010	Town of Loomis
TR-1a	PLA25223	Auburn Transit Bus Replacement		$225,000	2008	City of Auburn
TR-1b	PLA25371	Roseville Transit Bus Purchase		$2,300,000	2009	City of Roseville
TR-1c	PLA25322	Roseville Transit Bus Replacement		$375,000	2008	City of Roseville
TR-2b	PLA25215	Roseville Operating Assistance		$145,000	2008	City of Roseville
AQ-2	SAC22090	SECAT	Heavy-Duty NOx control strategies; SECAT program; GIS Transit program (includes bus stop and centralized regional transit information system, and trip planning) Bus Replacement projects include: REG17782, YCT18087, UNI10441, SAC24145, **PCT10481**	$1,286,813	Annually thru 2018	SACOG
AQ-3	VAR56022	Spare the Air	Conduct the Spare the Air Education Program jointly funded by the Sacramento Metro AQMD, Yolo-Solano AQMD and the Placer County Air Quality Control District	$337,428	Annually thru 2018	SMAQMD
			Total	**$5,328,466**		

Source: Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan, SMAQMD, March 2009.

Local Land Use Plans

The population in Placer County has been growing at either the highest or second highest rate in the state of California over the past few years. In addition, job growth in Placer County was the fastest in the nation in 2003. Other parts of the Sacramento region have been experiencing similar rates of growth, increasing vehicles miles traveled and making it difficult for the region to meet state and NAAQS. In order to limit the effects of increased population on air quality, it is important that local and regional land use and air quality planning are closely coordinated.

California law requires cities and counties to prepare general plans to guide the physical development of their jurisdictions for approximately twenty years into the future. Air quality is normally addressed in the mandatory conservation element; however, many local jurisdictions have included separate air quality elements because of the importance of air quality in their areas.

Placer County last updated its general plan in 1994. Goals and policies relating to air quality are contained in the *Placer County General Plan - Natural Resources Element*, and are divided into Air Quality – General, and Air Quality - Transportation/Circulation. Placer County's air quality related goals include protecting local air quality and integrating air quality planning with local land use planning. In addition, Placer County adopted an *Ozone Reduction Ordinance* in October, 2003, to reduce emissions resulting from county operations. This ordinance could serve as a model for other local governments in the region.

The City of Roseville is the largest city in the county and contains one-third of the total county population. The *Roseville General Plan 2010* was adopted in 1992 with a technical update in 2003. The *Roseville General Plan 2010* contains an *Air Quality Element* with detailed air quality background information as well as a range of goals, policies, and implementation measures addressing air quality and greenhouse gases. Among the ongoing ten implementation measure categories included in the *Air Quality Element* are interagency coordination, which requires coordination with PCAPCD in enforcing federal and state air quality regulations and measures to reduce emissions from motor vehicles.

The other five Placer County cities, whose populations together combine to one third of the Placer County total, do not have air quality elements. However, each city does have policies in their circulation or natural resources elements to reduce emissions from mobile and stationary sources and to encourage coordination with federal, state, and regional air quality regulators.

Alternative Fuels

As part of the region's overall effort to meet the NAAQS by 2019 and achieve air quality conformity with transportation plans, SACOG partners with the local air districts to promote use of clean-fuel vehicles. One measure to promote the use of clean fuel vehicles is the Sacramento Emergency Clean Air Transportation (SECAT) Program. Substantial air quality benefits can be realized by accelerating fleet modernization with cleaner fuel technologies. The SECAT Program was created to provide incentives to on-road heavy-duty truck owners to purchase technologies to reduce NOx emissions, and to help replace older diesel transit buses. PCTPA has contributed CMAQ funds toward this program.

Auburn, Placer County and Roseville have also constructed CNG fueling stations in Auburn and Roseville, and Placer County is expanding its Auburn facility. Placer County has also completed the first phase of a CNG facility in the North Lake Tahoe area. All three jurisdictions operate some CNG-fueled vehicles now and Placer County has made a commitment to completely convert their transit fleet to CNG within the next few years.

In addition, private companies in Placer County operate alternative fueling stations. PG&E operates a CNG fueling station in Auburn. Four gas stations in the Rocklin / Roseville area provide ethanol (E-85) fueling stations.

7.3 Air Quality Standards

National and state AAQS have been established by EPA and the CARB for criteria pollutants. The NAAQS have been divided into primary and secondary standards. Primary standards refer to levels of air quality to protect the public health. Secondary standards refer to levels of air quality to protect public welfare (e.g., agriculture, visibility, property) for any known adverse effects of a pollutant.

EPA sets NAAQS for five criteria pollutants: ozone, particulate matter (PM), carbon monoxide, nitrogen dioxide, and sulfur dioxide. The CARB established equal or more stringent AAQS for each of the national criteria pollutants, as well as for visibility-reducing particles, sulfates, hydrogen sulfide, lead, and vinyl chloride. Table 7.2 contains the national and state AAQS for each air pollutant regulated by the federal and state government.

Under State and federal law, the CARB is required to designate areas of the state as attainment, nonattainment, or unclassified with respect to NAAQS. An attainment designation signifies that pollutant concentrations do not exceed the standard during the required time period; nonattainment means that an area exceeds the standard one or more times during a year; and unclassified means that sufficient information is not available to support classification as attainment or nonattainment. Table 7.2 summarizes the status of the three Placer County air basins for each criteria pollutant under California and national standards.

Table 7.2
State and National Ambient Air Quality Standards for Criteria Pollutants

Averaging Time	California Standards		National Standards		
	Concentration	Method	Primary	Secondary	Method
Ozone (o_3)					
1 hour	0.09 ppm (180 μg/m^3)	Ultraviolet Photometry	---	Same as Primary 0.03 ppm (42 μg/m^{3}Standard	Ultraviolet Photometry
8 hour	0.07 ppm (137 μg/m^3)		0.075 ppm (147 μg/m^3)		
Respirable Particulate Matter (PM10)					
Annual Geometric Mean	20μg/m^3	Gravimetric or Beta Attenuation	---	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
24 hour	50 μg/m^3		150 μg/m^3		
Fine Particulate Matter (PM2.5)					
24 hour	No Separate State Standard		35 μg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
Annual Arithmetic Mean	12μg/m^3	Gravimetric or Beta Attenuation	15 μg/m^3		
Carbon Monoxide (CO)					
8 hour	9 ppm (10 μg/m^3)	Non-Dispersive Infrared Photometry	9 ppm (10 μg/m^3)	None	Non-Dispersive Infrared Photometry
1 hour	20 ppm (23 μg/m^3)		35 ppm (40 μg/m^3)		
8 Hour (Lake Tahoe)	6 ppm (7 μg/m^3)		---	---	---
Nitrogen Dioxide (NO_2)					

Annual Arithmetic Mean	0.03 ppm (57 μg/m^3)	Gas Phase Chemiluminescence	0.053 ppm(100 μg/m^3)	Same as Primary Standard	Gas Phase Chemiluminescence
1 hour	0.18 ppm (339 μg/m^3)		0.100 ppm (see footnote 8)	None	
Lead (see footnote 9)					
30 days average	1.5 μg/m^3	Atomic Absorption	---	---	---
Calendar Quarter	---		1.5 μg/m^3	Same as Primary Standard	High Volume Sampler and Atomic Absorption
Rolling 3-Month Average (see footnote 10)	---		0.15μg/m^3		
Sulfur Dioxide (SO_2)					
Annual Arithmetic Mean	---	Ultraviolet Fluorescence	0.030 ppm (80 μg/m$^{3)}$	---	Spectrophotometry (Pararosoaniline Method)
24 Hour	0.04 ppm (105 μg/m^3)		0.14 ppm (365 μg/m$^{3)}$	---	
3 Hour	---		---	0.5 ppm (1300 μg/m^3)	
1 Hour	0.25 ppm (665 μg/m^3)		---	---	---
Visibility Reducing Particles					
8 hour (10 am to 6 pm PST)	Extinction coefficient of 0.23 per kilometer-visibility of ten miles or more (for Lake Tahoe: 0.07-30 miles or more) due to particles when the relative humidity is less than 70 percent. Method: Beta Attenuation & Transmittance through Filter Tape.		No Federal Standards		
Sulfates					
24 Hour	25 μg/m^3	Ion Chromatography	No Federal Standards		
Hydrogen Sulfide					
1 Hour	0.03 ppm (42 μg/m^3	Ultraviolet Fluorescence	No Federal Standards		
Vinyl Chloride (see footnote 9)					
24 Hour	0.01 ppm (26 μg/m^3	Gas Chromatography	No Federal Standards		

Notes:

1. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter—PM10, PM2.5, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 μg/m3 is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the EPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the EPA.
8. To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010).
9. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
10. National lead standard, rolling 3-month average: final rule signed October 15, 2008.

Source:

1. California Air Resources Board, February 2010.

Table 7.3
Attainment Status by Placer County Air Basin

CRITERIA POLLUTANT	NATIONAL & STATE DESIGNATION					
Sacramento Valley Air Basin	**Severe (8 hr) Nonattainment**	**Nonattainment**	**Attainment**	**Unclassified/ Attainment**	**Unclassified**	**No Standard**
Ozone	●	⊙				
Carbon Monoxide			⊙	●		
Nitrogen Dioxide			⊙	●		
Sulfur Dioxide			⊙		●	
PM10		⊙			●	
PM2.5		●	⊙			
Sulfates			⊙			●
Lead			⊙			●
Hydrogen Sulfide					⊙	●
Visibility Reducing Particulates					⊙	●

Mountain Counties Air Basin	**Severe (8 hr) Nonattainment**	**Nonattainment**	**Attainment**	**Unclassified/ Attainment**	**Unclassified**	**No Standard**
Ozone	●	⊙				
Carbon Monoxide				●	⊙	
Nitrogen Dioxide			⊙	●		
Sulfur Dioxide			⊙		●	
PM10		⊙			●	
PM2.5				●	⊙	
Sulfates			⊙			●
Lead			⊙			●
Hydrogen Sulfide					⊙	●
Visibility Reducing Particulates					⊙	●

Lake Tahoe Air Basin	**Severe (8 hr) Nonattainment**	**Nonattainment**	**Attainment**	**Unclassified/ Attainment**	**Unclassified**	**No Standard**
Ozone		⊙		●		
Carbon Monoxide			⊙	●		
Nitrogen Dioxide			⊙	●		
Sulfur Dioxide			⊙●			
PM10		⊙			●	
PM2.5			⊙	●		
Sulfates			⊙			●
Lead			⊙			●
Hydrogen Sulfide					⊙	●
Visibility Reducing Particulates					⊙	●

⭘ Federal Standard

Federal Designation Definitions
Nonattainment: any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant.
Attainment: any area (other than an area identified in clause (i)) that meets the national primary or secondary ambient air quality standard for the pollutant.
Unclassifiable: any area that cannot be classified on the basis of available information as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant.

⊙ State Standard

State Designation Definitions
Unclassified: a pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.
Attainment: a pollutant is designated attainment if the state standard for that pollutant was not violated at any site in the area during a three-year period.
Nonattainment: a pollutant is designated nonattainment if there was at least one violation of a State standard for that pollutant in the area.

Note:
1. EPA designated new PM2.5 effective December 14, 2009.

Sources:
1. The Green Book Nonattainment Areas for All criteria Pollutants, EPA, January 2010.
2. Area Designations for State Ambient Air Quality Standards, CARB, December 2009.

7.4 Criteria Pollutants of Concern

The criteria pollutants of primary concern for Placer County are discussed below.

OZONE

In the stratosphere, ozone (O_3) protects the earth from the sun's ultraviolet rays, but in lower levels of the atmosphere, ozone is considered an air pollutant and is one of the main components of smog. Ozone is not directly emitted, but is formed in the atmosphere over several hours from reactions of various “precursors” in the presence of sunlight. Nitrogen oxides (NOx) and reactive organic gasses (ROG) are the primary reactive compounds, or precursors, contributing to the formation of ozone. Tail-pipe emissions from on- and off-road vehicles are responsible for 70 percent of the ozone precursors in the Sacramento region.

Short-term exposure to ozone, which is a strongly oxidizing form of oxygen, results in: injury and damage to the lung; decreases in pulmonary function; and impairment of immune mechanisms. Children and persons with a pre-existing respiratory disease (e.g., asthma, chronic bronchitis, and emphysema) are at greater risk. In addition, negative effects on vegetation have been documented at ozone concentrations below NAAQS.

EPA adopted a new eight-hour ozone standard on March 12, 2008 is slightly more stringent than the old standard adopted in 1997. The new standard is 0.075 parts per million (ppm), slightly

lower than the old standard of 0.08 ppm. CARB has set a more stringent eight-hour state AAQS for ozone at 0.07 ppm.

Currently, the Sacramento region's ozone pollution ranks seventh worst in the United States. Table 7.4 provides historical air quality data for the Spare the Air Program in Placer County, showing the number of ozone exceedances under national and State one and eight-hour standards.

Table 7.4
National and State Ozone Exceedance Days for Placer County

Type	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997
State 1-hour Ozone	N/A	16	23	5	32	28	21	22	38	35	26	29	25	10
Federal 1-hour Ozone	N/A	0	2	0	2	1	0	1	5	1	1	3	7	0
Federal 8-hour Ozone	N/A	12	18*	4**	34	22	16	18	31	27	19	28	Standard not in effect***	

Notes:
1. ***** A new federal 8-hour ozone standard of 0.075 parts per million (ppm) began in 2008.
2. ****** The federal 8-hour ozone standard of 0.084 ppm was in effect from 1999 to 2007.
3. The federal 1-hour ozone standard was revoked on June 15, 2005; however, it still has regulatory applicability in some areas.

Source:
1. Placer County Air Pollution Control District, Sacramento Metropolitan Air Quality Management District, and CARB.

PARTICULATE MATTER 10 MICRONS OR LESS

Particulate matter refers to inhalable particles that are less than 10 microns in diameter (PM10). Particulates are classified as primary or secondary depending on their origin. Primary particles are unchanged after being directly emitted (e.g., road dust) and are the form of PM10 that are most commonly analyzed and modeled. Because it is emitted directly and has limited dispersion characteristics, primary PM10 is considered a localized pollutant. Primary PM10 sources are derived from both human and natural activities. A significant portion of PM10 sources is generated from a variety of human activity. These types of activities include agricultural operations, industrial processes, combustion of wood and fossil fuels, construction and demolition activities, and entrainment of road dust into the air. Natural biogenic sources also contribute to the overall PM10 problem. Natural sources include windblown dust and wildfires.

Secondary PM10 sources emit into the atmosphere air contaminants that form or help form PM10. Hence, these pollutants are considered precursors to PM10 formation. These secondary PM10 pollutants include emissions of ROG, NOx, and sulfur oxides (SOx). Control measures that reduce PM10 precursor emissions tend to have a beneficial impact on ambient PM10 levels.

Increases in mortality have been associated with very high 24-hour concentrations of PM10, with some increased risk of mortality at lower concentrations. Small increases in mortality appear to

exist at even lower levels. Risks to sensitive individuals increase with consecutive, multi-day exposures to elevated PM concentrations. The research also indicates that aggravation of bronchitis occurs with elevated 24-hour PM10 levels, and small decreases in lung function take place when children are exposed to lower 24-hour peak PM10 levels. Lung function impairment persists for 2-3 weeks following exposure to PM10.

PARTICULATE MATTER 2.5 MICRONS OR LESS

In July 1997, the EPA adopted new air quality standards for particulate matter. The EPA established annual and 24-hour standards for the fine fraction of particulates which are 2.5 microns or less in size. It revised the primary (health-based) PM standards in 2006 by adding a new annual PM2.5 standard set at 15 µg/m3 and a new 24-hour PM2.5 standard set at 65 µg/m3. Based on health studies conducted, PM2.5 is considered to be more adverse to human health than any other pollutant.

The EPA also revised the secondary (welfare-based) standards by making them identical to the primary standards. The purpose of the secondary standards in combination with the federal regional haze program is intended to provide protection against the major PM related welfare effects, such as visibility impairment, soiling and materials damage. Other recent changes made by the EPA include rules to address the monitoring network design for the new PM2.5 standards and to improve visibility by requiring states to develop programs to help reduce regional haze.

The EPA issued final nonattainment designations for the new PM2.5 standard in October 2009. The SVAB portion of Placer County has been designated as nonattainment by EPA for the new PM2.5 standard. The air districts and SACOG will need to develop a PM2.5 SIP, including a transportation conformity budget, by November 2012. Emission inventories for PM2.5 will have to be established and control measures developed to bring the region into attainment.

CARBON MONOXIDE

Carbon monoxide (CO) is formed by the incomplete combustion of carbon containing fuels. Because it is directly emitted from combustion engines, carbon monoxide can have adverse localized impacts, primarily in areas with heavy traffic congestion. CO is considered a localized pollutant because it is emitted directly, rather than formed in the atmosphere, and it has limited dispersion characteristics.

CO affects human health relating to blood; blood's affinity to CO is over 200 times higher than blood's affinity for oxygen, resulting in the displacement of oxygen from blood. As the level of CO in the blood increases, the level of oxygen decreases. This condition places at risk angina patients, persons with other cardiovascular diseases or with chronic obstructive lung disease, asthmatics and fetuses. Symptoms of exposure may include headaches, dizziness, sleepiness, nausea, vomiting, confusion, and disorientation.

Primary and secondary NAAQS for CO is 35 ppm for a one-hour period and 9 ppm averaged over an eight hour period. The Air Resources Board has established a state AAQS of 20 ppm for a one-hour period and 9 ppm averaged over an eight hour period.

OTHER CRITERIA POLLUTANTS

The other criteria air pollutants are nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead (Pb). The NAAQS for NO_2 have as their objective the prevention of respiratory disease, odor, and ozone creation. NAAQS for SO_2 are designed to prevent health risks and improve visibility. The standards for ambient Pb concentrations are set to protect against toxic health effects of this substance. The adverse environmental effects of NO_2, and SO_2 go beyond public health, odor, and visibility impacts. Their ability to react with atmospheric water vapor to create acid rain results in accelerated weathering of stone and masonry structures and facilities, enhanced leaching of nutrients and toxic substances in soils, and direct damage to vegetation and aquatic biota. Monitored NO_2, SO_2, and Pb concentrations in the area have not exceeded state or federal standards in the past five years.

CUMULATIVE DEGRADATION OF AIR QUALITY

Emissions associated with local development and development throughout the SVAB and MCAB, combined with those of the San Francisco Bay Area which migrate east with prevailing winds, cumulatively degrade air quality throughout both air basins. Adherence to the SIP for the region will help reduce cumulative air quality impacts. The topography and meteorology of the region, combined with population-related emissions increases, are expected to result in continued violations of ozone and PM standards. In addition, potential violations of CO standards could occur due to increases in traffic volumes associated with regional population growth.

7.5 Air Quality Conformity Determination

DEFINITION OF CONFORMITY

The 1990 amendments to the federal CAA included provisions requiring that actions by the federal government not undermine state or local efforts to achieve and maintain NAAQS. These are often referred to as requirements for general conformity. Conformity determinations are made by comparing a federal action to the requirements of the SIP. The federal CAA contains specific conformity provisions for transportation related federal actions, which include regional transportation plans involving programs and projects that will receive federal funds. This ensures that transportation activities will not cause new air quality violations, worsen existing violations, or delay the timely attainment of the relevant NAAQS. Conformity currently applies under EPA rules to areas that are designated as nonattainment. Under the transportation conformity provisions of the federal CAA, the determination of conformity is made by the agency responsible for the project. Transportation conformity is required under CAA Section 176(c).

PLACER RTP CONFORMITY RESPONSIBILITY

In the case of the Placer County RTP, the conformity determination is made by the SACOG who is the MPO for the region (the SVAB and MCAB portion of Placer County). SACOG performs a quantitative analysis of emissions resulting from the programs and projects contained in the

Metropolitan Transportation Plan (MTP) and the Metropolitan Transportation Improvement Program (MTIP), as amended, including programs and projects contained in the Placer County RTP, and compare this calculation to the NAAQS for this region. It is the responsibility of SACOG to ensure that the RTP conforms to the SIP and to make the necessary conformity findings relating to the SFONA that area required under Section 176(c) of the federal CAA.

The conformity tests used for the Sacramento region vary by pollutant, and include ROG and NOx for the SFONA, CO for the CO Maintenance Area, and Particulate Matter for the PM10 and PM2.5 Nonattainment Areas**.** The emission budgets used in the conformity determination are from the 8-Hour Ozone SIP adopted by CARB in March 2009. EMFAC 2007 was used to develop the emission estimates for the conformity determinations.

Virtually all of the 2035 RTP projects are either included in the 2035 MTP and short-term projects (2010 – 2015) are programmed in the MTIP. The conformity analysis performed on the 2035 RTP projects relies on a previous emissions analysis approved by the SACOG Board of Directors in January 2010 as part of Amendment #23 to the 2009/2012 MTIP and Amendment #2 to the 2035 MTP (see Appendix N). SACOG will complete an air quality conformity analysis on the 2011/2014 MTIP and Amendment #3 to the 2035 MTP by October 2010.Most of the projects in the 2011/2014 are carried over from the 2009/2012 MTIP. A separate conformity analysis will address the new PM2.5 designation. Federal approval of the conformity findings is expected by December 2010.

RTP POLICY RELATING TO AIR QUALITY CONFORMANCE

The RTP contains many goals and policies to reduce vehicle trips and improve air quality. The goal areas containing the most explicit policies relating to air quality are: Non-motorized Transportation, Transportation Systems Management, and Integrated Land Use, Air Quality, and Transportation Planning. The Action Element also contains action plans that are intended to further the RTP's air quality-related goals and policies. The action plans include both short-term and long-term steps for each transportation mode.

The projects contained in the 2035 RTP are included in the 2035 MTP. The majority of short-term projects are programmed in the 2009/2012 MTIP through Amendment #40 and carried over to the new 2011/2014 MTIP. The projects in the 2035 RTP do not interfere with the timely implementation of any transportation control measures (TCMs) in the approved SIP. The 2035 RTP promotes travel and development patterns consistent with the 2035 MTP and facilitate the attainment of air quality measures contained in the SIP.

Transportation projects in Placer County, which are exempt from a regional emissions analysis for PM2.5, may require a qualitative hot spot analysis if they meet any of the criteria established for a project of air quality concern as described in EPA's final rule and EPA / FHWA guidance issued in March 2006. SACOG's Regional Planning Partnership committee, in its air quality conformity and consultation role, uses the EPA / FHWA guidance to make the findings for transportation projects in Placer County.

7.6 Global Warming, Climate Change & Greenhouse Gas

BACKGROUND

Climate change is considered a global problem and GHG emissions are considered global pollutants, unlike criteria air pollutants such as ozone and carbon monoxide, which are pollutants of regional and local concern.

In May 2008 the California Transportation Commission (CTC) added an Addendum to the 2007 Regional Transportation Plan Guidelines requiring that RTPs address the issue of Climate Change and Greenhouse Gas emissions. This section of the Air Quality Element addresses this requirement.

GLOBAL WARMING, CLIMATE CHANGES & GREENHOUSE GAS

Atmospheric greenhouse gases (GHGs) and clouds within the earth's atmosphere influence the temperature of the planet. GHGs and clouds absorb most of the outgoing infrared radiation from the earth's surface that would otherwise escape into space. This process is known as the Greenhouse Effect. GHGs and clouds, in turn, radiate some heat back to the earth's surface and some out to space. The resulting balance between incoming solar radiation and outgoing radiation from both the earth's surface and the atmosphere keeps the planet habitable.

Anthropogenic GHGs released into the atmosphere enhance the Greenhouse Effect by absorbing additional radiation that would otherwise escape into space, thereby causing planet temperatures to increase and changes in the earth's climate. The California Climate Change Center reports that temperatures in the State are expected to rise 4.7 to 10.5 degrees Fahrenheit by the end of the century.

The anthropogenic produced GHGs responsible for increasing the Greenhouse Effect and their relative contribution to global climate change, in terms of CO2 equivalent, are as follows: carbon dioxide (CO2) at 53 percent; methane (CH4) at 17 percent; near-surface ozone (O3) at 13 percent; nitrous oxide (N2O) at 12 percent; and chlorofluorocarbons (CFCs) at 5 percent. These are the GHGs referenced in the Kyoto Agreement and in the international guidance on the development of national inventories provided by the Intergovernmental Panel on Climate Change.

According to the California Energy Commission (CEC), the most common anthropogenic GHG is CO2, which constitutes approximately 84 percent of GHG emissions produced in California. Worldwide, California ranks as the 12th to 16th largest emitter of CO2 and is responsible for approximately two percent of the worlds CO2 emissions.

Impact of Global Warming and Climate Change on the Transportation System

California is extremely susceptible to a wide range of climate change effects. Examples include: increase in temperatures, earlier snowpack melt, changed precipitation patterns, increased severity of wildfires, and extreme weather events. These effects have potentially negative impacts on the transportation system including heat waves causing roadways to buckle, fire damaged watersheds that result in mudslides, and flooded highways and roads.

FUEL CONSUMPTION

Increasing GHG emissions are primarily associated with the burning of fossil fuels and deforestation, as well as agricultural activity and the decomposition of solid waste. The United States, with approximately five percent of the world's population, accounts for approximately 25 percent of the world's petroleum-based fuel consumption, or about 21 million barrels per day. Most of the increase in world oil demand comes from the transportation sector. Two-thirds of the nations petroleum-based fuel consumption is in the transportation sector, about 14 million barrels per day. Over the last 20 years, California's consumption of transportation related fuels increased by 50 percent. Petroleum-based fuels currently provide approximately 96 percent of the State's transportation energy needs.

According to the California EPA, transportation is the State's largest source of CO2. If there are no significant policy or market changes, transportation related fuel consumption is projected to increase another 18 percent by 2025. The CEC estimates that if anticipated growth in VMT is not slowed, the increase will completely nullify the other advances that the State is seeking to control transportation related emissions, including lowering the carbon content of fuel.

Table 7.5 summarizes historical and projected fuel consumption for Placer County vehicles. The table also summarizes VMT by road system. During the period of the Plan (2005 to 2025), vehicle fuel consumption is anticipated to rise by 36 percent in Placer County, about double the projected statewide increase; whereas, VMT will increase from 37 to 49 percent for non-state and state highways respectively.

Table 7.5

Estimated & Projected Vehicle Fuel Consumption (Million Gallons) by Type & Vehicle Miles Traveled (VMT)(Millions) by Road System for Placer County

	2005	2008	2010	2015	2020	2025	2030
Vehicle MPG	17.991	18.152	18.2	18.501	18.639	18.691	18.754
Gasoline	161.929	161.36	165.603	185.807	204.38	221.762	248.579
Diesel	35.25	32.615	35.187	39.185	43.227	47.074	51.71
Total FC	197.179	193.975	200.79	224.992	247.607	268.836	300.289
State HWG VMT	1,872.20	1,957.79	2,031.69	2,314.19	2,565.76	2,793.46	3,130.96
Non-State HWY VMT	1,607.68	1,547.98	1,606.41	1,829.78	2,028.69	2,208.72	2,475.57
Total VMT	3,479.88	3,505.77	3,638.10	4,143.97	4,594.45	5,002.18	5,606.53

Sources:

1. 2008 California Motor Vehicle Stock, Travel, and Fuel Forecast, Caltrans, June 2009.
2. Estimates of Highway Gasoline Use by County (1,000 Gallons), Caltrans, Revised November 2006.

Impact of Gas Prices on Transportation Behavior

In July 2008, SACOG examined the impact of increasing gas prices on transportation behavior to estimate the travel changes that may result. The test used MTP travel forecasts for 2018 and increased year 2018 gasoline prices by 66 percent (in 2005, real gasoline prices increased by about 70 percent to $4.25 / gallon). The test showed significant decreases in VMT and increases in transit trips due to increasing fuel costs; smaller changes in the expected directions for total trips. VMT per household decreased by about ten percent; transit trips increased by 12 percent; vehicle emission reduction varied by type of pollutant – CO2 decreased by nine percent, with ozone precursors decreasing by about six percent.

CALIFORNIA GREENHOUSE GAS EMISSION LEGISLATION

The State Legislature has adopted the public policy position that global warming is “a serious threat to the economic well-being, public health, natural resources, and the environment of California” (Health and Safety Code Section 38501).

The California legislature enacted AB 1493 in July 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Regulations adopted by CARB apply to 2009 and later model year vehicles. CARB estimates that the regulations will reduce GHG emissions from the light duty vehicle fleet by an estimated 18 percent in 2020 and 27 percent in 2030.

California Governor Schwarzenegger issued two Executive Orders regarding the greenhouse gas issue. S-3-05 (June 2005) calls for a coordinated approach to address the detrimental air quality effects of GHG and requires the following GHG emission reduction targets: by 2010 reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80 percent below 1990 levels. S-20-06 (October 2006) requires State

agencies to continue their cooperation to reduce GHG and to have a Climate Action Team develop by a plan by June 2009 that outlines a number of actions to reduce GHG emissions to meet the targets required in Executive Order S-3-05 are met.

In 2006, the California legislature adopted AB 32, also known as the California Global Warming Solutions Act of 2006. AB 32 requires the CARB to set statewide GHC emission reduction targets by 2010 and regional targets by 2011, which would achieve GHG emissions equivalent to statewide levels in 1990 by 2020.

Executive Order S-01-07 was approved by Governor in January 2007. S-01-07 mandates a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. It also requires that a Low Carbon Fuel Standard for transportation fuels be established for California.

In 2008, the California legislature adopted SB 375. SB 375 requires CARB to set targets for the purpose of reducing GHG emissions from passenger vehicles for 2020 and 2035. The targets only apply to the regions in the State covered by the 18 metropolitan planning organizations (MPOs). SB 375 requires that MPOs, as part of the RTP, to develop strategies to achieve the GHG emission reduction targets. CARB must propose draft targets by June 10, 2010, and adopt final targets by September 30, 2010. Under SB 375, a region must include a Sustainable Communities Strategy as the land use basis of the RTP. If the resulting plan does not meet the GHG targets required under AB 32, the MPO must then prepare an Alternative Planning Strategy that would demonstrate how the targets could be met through alternative development patterns, infrastructure, or additional transportation measures.

SB 97 charged the Governor's Office of Planning and Research (OPR) with the responsibility of preparing guidelines to mitigate GHG emissions identified through the California Environmental Quality Act (CEQA) review process, including the effects associated with transportation and energy consumption.

CALIFORNIA GREENHOUSE GAS EMISSION INVENTORY

CARB is responsible for developing the California Greenhouse Gas Emission Inventory. The Inventory accounts for all greenhouse (GHG) emissions within the State. The current inventory covers the years 1990 to 2004. Fuel combustion accounts for 85 percent of the GHG emissions within California. The majority of the emissions are CO2.

In 1990, the total statewide GHG emissions were 433.3 million metric tons (MMT) carbon dioxide equivalent. The transportation sector emitted 150.7 MMT or 25 percent of this total, with on-road sources contributing more than 70 percent of this inventory.

In 2004, the total statewide GHG emissions were 468.8 MMT. The transportation sector emitted 182.4 MMT or about 39 percent of this total, with on-road transportation contributing about 94 percent of this inventory. CARB's carbon calculator indicates that on a per capita basis an average Californian is responsible for about 6.7 tons of CO2 per year, with an average California

vehicle responsible for 3.7 tons of CO2 per year; and an average household at 10.9 tons of CO2 per year.

Forecasting the amount of emissions that would occur in year 2020 if no GHG actions are taken is necessary to assess the scope of the emission reductions the State has to make to return to the 1990 emissions level by 2020. This is forecast is known as "Business-as-Usual." The year 2020 forecast for statewide GHG emissions is 596.4 MMT. The transportation sector accounts for about 38 percent of this forecast total or 225.4 MMT, with on-road transportation representing about 93 percent of the transportation inventory. Within on-road transportation, about 76 percent is emitted by passenger vehicles, with the remainder from 24 percent heavy duty vehicles. The forecast assumes no change in vehicle fleet mix over time and assumes growth in VMT derived from regional transportation modeling.

REGIONAL GREENHOUSE REDUCTION TARGETS

Regional GHG targets for light and medium duty vehicles will be set by CARB. The targets will be included as part of the update of the SACOG MTP for years 2020 and 2035. The targets will become the benchmarks for the MTP's Sustainable Communities Strategy (SCS) or Alternative Planning Strategy (APS), and when met will allow the Sacramento region to take advantage of some CEQA streamlining options for residential development. SACOG currently estimates that the 2035 MTP will reduce GHG emissions on a per capita basis from 2005 levels by four percent in 2020 and by 13 percent in 2035. These estimates are summarized in Appendix O.

The challenge to reduce GHGs is to reduce the amount of fuel burned or to find a new fuel or technologies to meet the State's transportation energy needs. As part of the MTP update, SACOG is examining several scenarios to find a future transportation and land use development pattern that will minimize GHG emissions. In addition, vehicle and fuel technologies under CARB's global warming program will be included in the MTP analysis.

The scenarios under consideration focus on:

- The amount, location, and type of residential and commercial growth;
- The mix of road, transit, and non-motorized system investment; and
- The cost of travel by transit and auto.

These scenarios will be evaluated with all the performance measures from the MTP to keep the GHG target process in balance with other regional goals and objectives.

SACOG will be recommending to CARB GHG per capita targets of -7 percent for 2020 and -16 percent for 2035.

PLACER RTP GREENHOUSE GAS RESPONSIBILITY

CARB will give each region a target for GHG emissions. As the adoption of the regional GHG emission reduction targets will occur after the adoption of the 2035 RTP, the 2035 RTP does not address specific GHG emission reduction targets at this time. In the case of the Placer County RTP, the development of GHG reduction targets, strategies, and implementation responsibility is to be made by the SACOG, the MPO for the region. SACOG and PCTPA have executed a MOU, which establishes a framework for how SACOG will carry out its MPO responsibilities for Placer County. It is anticipated that SACOG will address GHG reduction targets in the development of its next MTP update. Consequently, the next generation of this RTP will need to address this issue as applicable.

The CTC guidance makes recommendations to reduce GHGs with specific targets. The 2035 RTP provides a starting place to work toward Placer County responsibility to address regional GHG targets; and is in alignment with the principles of AB 32 and SB 375. The 2035 RTP contains many goals and policies to reduce vehicle trips and improve air quality. The goal areas containing the most explicit policies relating to GHGs are: Non-motorized Transportation, Transportation Systems Management, and Integrated Land Use, Air Quality, and Transportation Planning. The Action Element also contains action plans that are intended to further the RTP's air quality-related goals and policies. The action plans include both short-term and long-term steps for each transportation mode.

7.7 Air Quality Action Plan

Short and Long Range

1. Solicit the input of the Placer County Air Pollution Control District on all transportation plans, programs and projects. *(PCTPA, jurisdictions, Caltrans, PCAPCD)*

2. Prioritize and recommend transportation projects that minimize vehicle emissions while providing cost effective movement of people and goods. *(PCTPA, jurisdictions, PCAPCD, SACOG)*

3. Continue to promote projects that can be demonstrated to reduce air pollution and greenhouse gases, maintain clean air and better public health, through programs and strategies, to green the transportation system. *(PCTPA, jurisdictions, PCAPCD, SACOG)*

4. Work with the Placer County Air Pollution Control District in developing plans that meet the standards of the California Clean Air Act and the Federal Clean Air Act Amendments, and also lead to reduced greenhouse gas emissions. *(PCTPA, jurisdictions, PCAPCD, SACOG)*

5. Work with the Sacramento Area Council of Governments to evaluate the impacts of transportation plans and programs on the timely attainment of ambient air quality standards; regional greenhouse gas emission reduction targets; and health risks of sensitive receptors from exposure to mobile source air toxics. *(PCTPA, jurisdictions, PCAPCD, SACOG)*

6. Ensure transportation planning efforts comply with SB375 and AB32. *(PCTPA, jurisdictions, transit operators, PCAPCD, Caltrans, SACOG)*

7. Participate in SACOG efforts to develop a Regional Climate Action Plan. *(PCTPA, jurisdictions, PCAPCD, SACOG)*

8. Expand the use of alternative fuels to reduce impacts on air quality and GHG emissions. *(PCTPA, jurisdictions, PCAPCD, SACOG)*

9. Encourage jurisdictions and Caltrans to develop a green construction policy, the recycling of construction debris to the maximum extent feasible, and to use the minimum feasible amount of GHG emitting materials in the construction of transportation projects. *(PCTPA, jurisdictions,Caltrans, PCAPCD, SACOG)*

10. Encourage jurisdictions and Caltrans to mainstream energy efficiency in transportation projects, using energy efficient lighting technology in traffic signals, crosswalk lights, street lighting, railroad crossing lights, and parking lot lights. *(PCTPA, jurisdictions,Caltrans, PCAPCD, SACOG)*

11. Encourage jurisdictions and Caltrans to use lighter colored pavement with increased reflectivity in pavement rehabilitation projects, to reduce the urban heat island effect. *(PCTPA, jurisdictions, Caltrans, PCAPCD, SACOG)*

12. Encourage jurisdictions and Caltrans to protect, preserve, and incorporate trees and natural landscaping into transportation projects to provide shade, buffer winds, encourage people to walk, and to sequester CO2. *(PCTPA, jurisdictions, Caltrans, PCAPCD, SACOG)*

7.8 Air Quality Projects

There are several projects included in the 2035 RTP specifically identified as air quality projects. These are shown in Table 7.6. For the most part, these are projects where PCTPA participates in larger regional programs sponsored by SACOG and the SMAQMD.

Table 7.6

Air Quality Projects List

Lead Agency	SACOG Project ID	SACOG MTP	SACOG MTIP	Project Title	Project Description	Year Complete	Status	Current Year (2010) $	Expenditure Year $
City of Auburn Dept. of Public Works	PLA25351	'07-00	11-00	Street Sweeper Replacement	Replace one existing 1992 Ford Tymco 600 sweeper, with a new clean diesel powered street sweeper. (Emissions Reductions in kg/day: NOx 0.08, PM10 0.16)	2011	Programmed	$282,040	$293,322
Sac. Metro Air Quality Management District	VAR56006	07-00	11-00	Regional Spare the Air Driving Reduction Program Phase 2	Sacramento Federal Nonattainment Area: Spare The Air Voluntary Driving Curtailment Program. [Continued from SAC21080, Larger MTP project is VAR56022] (Emission Benefits in kg/day: ROG 0.2, NOx 0.2). Placer County share only.	2013	Programmed	$263,100	$295,952
SACOG	VAR56037	'07-00	09-28	SECAT Program Phase 2	Heavy-Duty NOx control strategies; SECAT program; GIS Transit program (includes bus stop & centralized regional transit information system, & trip planning). Placer County Share only.	2013	Programmed	$1,315,550	$1,479,815
							2010-2015	$1,860,690	$2,069,088
							2016-2024	$0	$0
							2025-2035	$0	$0
							Total	$1,860,690	$2,069,088

CHAPTER 8
FINANCIAL ELEMENT

This chapter assesses the financial issues associated with implementing the transportation projects and programs that implement the goals, objectives, and policies contained in the 2035 RTP. This assessment includes an examination of current and potential funding sources; identifies transportation improvements that would be implemented under two alternative financial "availability" scenarios; and provides a summary of estimated revenues considered to be reasonably available to fund the implementation of the RTP.

It is important to emphasize that the RTP must be a financially constrained document, meaning that the amount of funding programmed must not exceed the amount of funding estimated to be reasonably available. This chapter demonstrates that requirement.

8.1 Assumptions

Preparing forecasts of anticipated transportation revenues is difficult at best, due to the ever changing transportation picture in California. A key task in the preparation of a long range transportation funding strategy is an assessment of revenue potentially available from existing federal and state programs and local sources. Existing funding program descriptions are provided in Appendix P. Several potential funding mechanisms are also introduced in Appendix P for informational purposes; they are not presented in this chapter as recommendations for the RTP.

EXISTING FUNDING OVERVIEW

Estimated transportation revenues used in this chapter are based on forecasts prepared by SACOG for the MTP update and for the 2011/2014 MTIP. In preparing the revenue forecasts, SACOG calculated the share of federal and state revenues that come to the Sacramento region, including the proportionate share of funds to Placer County, using historical precedence and federal and state mandated formulas.

Federal funding data is derived from the annual apportionments provided to SACOG by the federal funding agencies or from historic funding levels.

State funding largely comes from allocations from the Highway Trust Fund, the State Highway Account, the Public Transportation Account, and the new excise tax on gasoline. State funding data is derived primarily from the 2010 STIP fund estimate. SACOG also made adjustments to state funding levels to compensate for the recent passage of the State Transportation Finance package (ABx8 6, ABx8 9 and SB70), commonly described as the "gas tax swap."

SACOG has also revisited local revenue assumptions used in the 2035 MTP by reviewing historical trends for local revenues committed to transportation purposes. FHWA and FTA have expressed concern to SACOG that local revenues programmed in the MTIP do not fully reflect

recent changes in local economies. FHWA and FTA instructed SACOG to review the reasonableness of local revenues and demonstrate that they meet the requirements of fiscal constraint. In response, SACOG prepared a ten year local revenue history for all cities and counties in the Sacramento region. For the 2035 RTP, the histories for Placer County and its cities were tabulated and serve as a baseline for projecting local revenues. The local revenue data is derived from local budget information sent annually to the California State Controller.

KEY REVENUE ASSUMPTIONS

This section summarizes key revenue assumptions used in developing the revenue projections for the 2035 RTP. The revenue assumptions are based on those developed by SACOG for the MTP update and for the 2011/2014 MTIP.

Federal Funds

- **Federal Reauthorization:** Federal transportation funds are one of the largest sources of transportation funds that flow to Placer County. The current transportation bill known as the SAFETEA-LU expired on September 30, 2009 and has been extended via continuing resolutions. The revenue projections assumes reauthorization of federal transportation legislation by 2013 and that key existing funding programs and funding levels will remain largely unchanged from SAFETEA-LU. Funding is generated almost entirely by a federal motor fuel tax and distributed over twenty different programs for highway, transit, and safety programs that control application by facility type, permitted use, and geographic location.
- **Congestion Mitigation and Air Quality (CMAQ):** Placer County will continue to receive CMAQ funds in a manner consistent with historical apportionments. CMAQ funds are programmed up to the apportionment level.
- **Regional Surface Transportation Program (RSTP):** Placer County will continue to receive RSTP funds in a manner consistent with historical apportionments. RSTP funds are programmed up to the apportionment level. After completion of the 2010 census, it is assumed that Lincoln will become eligible for urban RSTP funds, rather than rural exchange funds.
- **Federal Highway Bridge Program (HBP):** The HBP program is administered by Caltrans and is used for repair, replacement, maintenance and upgrade of state and local bridges. Caltrans does not necessarily program HBP funds in the year proposed by a local agency. Rather, Caltrans programs the funds in the year available. The revenue projections assume that Placer County will continue to receive its share of funding for eligible bridge projects.
- **FHWA Discretionary Programs:** Funding for these programs vary—some are formula driven and others are nationally competitive. The projections assume that Placer County will continue to obtain modest “earmarks” through the annual Congressional appropriations process.

- **Federal Transit Administration (FTA):** Placer County will continue to receive FTA urban and rural formula funds in a manner consistent with historical apportionments. After completion of the 2010 census, it is assumed that Lincoln will become eligible for urban formula funds. FTA funds are used primarily for capital and preventive maintenance.

- **Safe Routes to School (Federal):** This is a competitive grant program administered by Caltrans that provides funding to remove barriers that currently prevent children from walking or bicycling to school. The revenue projections do not at this time include forecasts for this fund source.

- **Federal Airport Improvement Program (AIP):** The revenue projections assume future capital projects for Auburn Municipal and Lincoln Regional airports will continue to be eligible for AIP funds through the Federal Aviation Administration (FAA). Projects must be included in the State Capital Improvement Program (see Chapter 6.4 for aviation CIP list) to receive AIP funds, including State matching funds. The amount set-aside for State matching grants is determined by the CTC when it adopts the biennial Aeronautics Program. Generally, because of limited funding for airport improvements, Caltrans recommends highest priority be given to system-wide safety and capacity enhancing projects before recommending funding for regional and then local projects.

- **High Speed / Intercity Passenger Rail (HSIPR) Program:** CCJPA has applied for $57.2 million in FY 2010 HSIPR funds to improve track infrastructure between Roseville and the Donner Summit, which will allow CCJPA to increase train service to Placer County. The revenue projections do not at this time include forecasts for this fund source.

- **Innovative Management of Federal Funds:** There are several federal fund management strategies that are designed to provide states with greater flexibility in managing Federal-aid highway funds. The principal objective of these fund management strategies is to ease restrictions on the timing of obligations and reimbursements and to create a broader range of options for meeting federal participating cost match requirements. There are four strategies for managing federal funds: Advance Construction, Tapered Match. Flexible Match and Toll Credits. A discussion of use of toll credits can be also found under State funding below. Further discussion of the other strategies can be found in Appendix P. As applicable to the specific project, PCTPA will make use of these “cash flow” tools.

State Funds

- **Toll Credit in Lieu of Non-Federal Share Match:** FHWA recently approved $5.7 billion in toll credits to California from $7.1 billion in toll revenue expenditures the state made between 1992 and 2006. As a result, Caltrans has developed a two-year (FY 2011 to FY2012) demonstration program and implementation policies on the use of toll credits. Caltrans policy limits toll credits use to local projects funded with RSTP, CMAQ and off-federal aid system bridge projects funded by HBP. Caltrans policy requires each region to identify and present projects needing toll credits before October 1 each year. Toll credits

do not generate any new federal funding. Use of toll credits is limited to meet the non-federal match requirement of federal participating cost, and can be used on any phase that has not received authorization (E-76) by FHWA. It use will help those projects that would otherwise be delayed for lack of matching funds. Use of toll credits should not result in the redirection of non-federal funds away from transportation. As applicable to the specific project, PCTPA will make use of this "cash flow" tool.

- **Gas Tax Swap (New Gasoline Excise Tax Subvention):** Beginning in FY 2011, 44 percent of the revenues generated by the new 17.3 cent excise tax on gasoline will flow to the State Transportation Improvement Program (STIP) and 12 percent to the State Highway Operation and Protection Program (SHOPP) after transfers for transportation bond debt service payments. Aviation fuel is excluded from the motor fuel excise tax increase. The State Board of Equalization will adjust the excise tax annually to raise an equivalent amount of revenue to compensate for the loss of the gasoline sales tax.
- **State Highway Operations and Protection Program (SHOPP):** SHOPP is based on transfers from the State Highway Account, Federal Trust Fund, and the new excise tax on gasoline. The projections assume Caltrans projects that might reasonably attract future SHOPP funding.
- **Interregional Transportation Improvement Program (ITIP**): The ITIP is assumed to continue to receive 25 percent of the total State Transportation Improvement Program (STIP) allocations from the Highway Trust Fund, State Highway Account, Public Transportation Account, and the new excise tax on gasoline. The projections assume RTP projects that might reasonably attract future ITIP funding.
- **Regional Transportation Improvement Program (RTIP):** The RTIP is assumed to continue to receive 75 percent of the total STIP allocations from the Highway Trust Fund, State Highway Account, Public Transportation Account, and the new excise tax on gasoline. The projections assume the first five years reflect the amounts programmed in the 2010 STIP. PCTPA is not expecting to be able to program any new projects using RTIP funds until FY 2023/24. PCTPA has a current balance of approximately $53 million due to advances of Placer County STIP shares in 2002 for the Lincoln Bypass Phase 1 project.
- **Transportation Enhancement Activities Program (TEA):** This federal funding source is now programmed through the STIP. TEA funds have been folded in with RTIP funds. The projections assume the first five years reflect the amounts programmed in the 2010 STIP. To more quickly repay STIP funding advances for the Lincoln Bypass Phase 1 project, PCTPA is not assuming any future programming of any TEA projects.
- **State Transit Assistance (STA):** STA will receive $400 million for the remainder of FY 2010 and FY 2011. The STA will receive an infusion of Non-Article XIX revenues in FY 2012 and FY 2013. In FY 2011 and thereafter, 75 percent of the 1.75 percent increase in diesel sales tax revenues will be transferred from the PTA to STA.
- **Intercity Rail:** Intercity Rail capital revenues are included in the ITIP assumptions. Intercity Rail operations is based on historical share of state resources allocated to the CCJPA, and is assumed to be provided by the state to fully fund the Capitol Corridor's

Business Plan. The Business Plan assumes additional passenger rail service to Placer County.

- **State Highway Maintenance:** State Highway Maintenance will continue to receive transfers from the State Highway Account at an escalating rate indexed to inflation.
- **Highway-Railroad Grade Separation Program:** Current statutes require that $15 million be included in each annual state budget for grade separation projects under this program. The revenue projections do not currently include forecasts for this fund source, although Rocklin's Midas Avenue Grade Separation project may become potentially eligible in the future. The project is identified on the California Public Utilities Commission (CPUC) grade separation priority list.
- **Environmental Enhancement and Mitigation Program (EEM):** The annual program level available statewide is $10 million via competitive grants. Assuming it continues, $250 million is expected statewide by 2035. The revenue projections do not at this time include forecasts for this fund source.
- **Bicycle Transportation Account Program (BTA):** This is a competitive grant program that provides state funds for city and county projects that improve safety and convenience for bicycle commuters. The BTA requires jurisdictions to have an up-to-date Bicycle Master Plan. All Placer jurisdictions are eligible for funding from this source. The revenue projections do not at this time include forecasts for this fund source.
- **Recreational Trails Program:** This program is administered by the California State Department of Parks and Recreation to provide funds annually for recreational trails and trail-related transportation projects. The revenue projections do not at this time include forecasts for this fund source.
- **Safe Routes to Schools (State):** This is a competitive grant program administered by Caltrans that provides funding to remove barriers that currently prevent children from walking or bicycling to school. The revenue projections do not at this time include forecasts for this fund source.
- **Freeway Service Patrol (FSP):** The Freeway Service Patrol program is administered by the California Highway Patrol (CHP). The State FSP allocation for the Placer County FSP program is assumed at $200,000. There is a 25 percent match required to receive State funding. The majority of funding is allocated to FSP service as well as a budgeted allocation for CHP staff funding and administrative costs.
- **Traffic Congestion Relief Program (TCRP):** The TCRP was a one-time direction of surplus state funds to transportation purposes, which was suspended with the State's budget crisis back in 2003. Projects under this program are still pending. No projects are identified in Placer County. The revenue projections do not at this time include for forecasts for this fund source.
- **California High Speed Train Act (Proposition 1A):** Proposition 1A sets aside $190 million for the State's three intercity rail corridors, including the Capitol Corridor, to fund improvements that will enhance connections with the high speed train system. One-third or $47.5 is the maximum available for the Capitol Corridor. The revenue projections do not at this time include for forecasts for this fund source.

- **Public Transportation Modernization, Improvement, and Service Enhancement Account (PTMISEA):** PTMISEA appropriates Proposition 1B bond funds to eligible public transportation projects for capital purposes over a ten-year period through FY 2017/18. Funding for this program is allocated on a similar basis as the STA funding program.
- **Transit System Safety, Security and Disaster Response Account (TSSSDRA):** TSSSDRA appropriates Proposition 1B bond funds to eligible public transportation projects for capital projects that increase protection against security and safety threats over a ten-year period through FY2017/18. Funding for this program is allocated on a similar basis as the STA funding program.
- **California Aid to Airports Program (CAAP):** State funding constitutes a small portion of annual operational funding for the Auburn Municipal and Lincoln Regional airports. Placer County does not participate financially in operating the Blue Canyon Airport. All funds for Blue Canyon Airport are derived from the State and are used for operating and maintenance projects. The revenue projections do not at this time include forecasts for this fund source.

Regional Funds

- **Regional Transportation and Air Quality Mitigation Fee:** All Placer jurisdictions have developer impact fees to pay for the transportation impacts attributable to new growth, but funding regional facilities remain a challenge. Four Placer jurisdictions – Lincoln, Roseville, Rocklin, and Placer County – formed the South Placer Regional Transportation Authority (SPRTA) and established a Regional Transportation and Air Quality Mitigation Fee. The Regional Transportation and Air Quality Mitigation Fee will generate $191 million by 2022 for specified key projects, including Sierra College Boulevard improvements, I-80/Douglas Boulevard Interchange improvements, and the Lincoln Bypass, Placer Parkway, and rail and transit programs.
- **Highway 65 Interchange Joint Powers Authority (JPA) Fee Program:** The Highway 65 JPA Fee Program was created to fund interchange improvements along SR65 in the area of Rocklin, Roseville, and unincorporated Placer County. The program is managed by the City of Roseville. The revenue projections do not at this time include forecasts for this fund source.
- **Placer County / City of Roseville Joint Fee Program:** The Placer County / City of Roseville Joint Fee Program was implemented in 2004 to fund future traffic improvements along Baseline Road, Fiddyment Road, and Walerga Road. The development fees collected are used to fund only those capital improvements that require agency cooperation and joint funding. The revenue projections do not at this time include forecasts for this fund source.

Local Funds

- **Local Transportation Fund (LTF):** The revenue projections assume the ¼ percent general sales tax for transportation will remain in place at the existing rate. Under the Transportation Development Act (TDA), public transit has the first priority for these funds, but any amount available after all unmet transit needs that are reasonable to meet are provided may be spent on street and road purposes. For the long term, the revenue assumption considers the overall magnitude of population growth that will occur.
- **Local Transportation Fund – Bicycle and Pedestrian:** The TDA allows up to two percent of TDA funds to be set aside for bicycle and pedestrian projects.
- **Local Transportation Fund – Community Transit:** The TDA allows up to five percent of TDA funds to be set aside for community transit services provided by the Western Placer Consolidated Transportation Services Agency.
- **Gas Tax Subventions:** The State of California imposes an excise tax of 18 cents per gallon on motor fuel. These funds are then distributed by formula directly to cities and counties for street and road maintenance. Direct subventions to local jurisdictions are assumed to continue to flow to cities and counties based on existing formulas. In FY 2011 and thereafter, there will be a slight reduction in subventions due to the reduction in the diesel excise tax from 18 cents per gallon to 13.6 cents. This revenue will fluctuate with the revenue generated by the 1.75 percent increase in diesel sales tax for public transit as the State Board of Equalization makes adjustments to maintain overall revenue neutrality.
- **Gas Tax Swap (New Gasoline Excise Tax Subvention):** Beginning in FY 2011, the excise tax on gasoline will increase by 17.3 cents for a total excise tax of 35.3 cents per gallon. 44 percent of the revenues generated by the new excise tax on gasoline will flow to local jurisdictions for streets and roads to restore lost Proposition 42 funds, after transfers for transportation bond debt service payments. The State Board of Equalization will adjust the excise tax annually to raise an equivalent amount of revenue to compensate for the loss of the gasoline sales tax.
- **Local Streets and Roads:** This category contains all revenues from local sources dedicated to local streets and roads, including General Fund revenue. Assumptions are based on a ten-year historical average of budget information provided by local jurisdictions to the California State Controller. Funding is held flat through FY 2014. This category of funds increases the level of funding shown in the 2027 RTP due to capture of funds not previously included.
- **Caltrans Discretionary Funds:** The projections assume five percent of the statewide total goes to the SACOG region and a proportionate amount goes to Placer County based on its share of the regional population.
- **Transit Fares:** Funds generated by passenger fares on transit services are used to help fund system operating costs. Under the requirements of the TDA, fares must generate at least 10 percent of the operating revenue for rural and small urban transit systems in Placer County and 15 percent for Roseville Transit. Assumptions for transit fare

revenues are based on the historical average fare box recovery per operator, projected vehicle service hours, and operating costs per vehicle service hours for all Placer transit operators. Vehicle service hours are held flat through FY 2014.

- **Local Traffic Impact Fees:** Under state law, jurisdictions may impose fees at varying levels on development to mitigate traffic impacts to the roadway system generated by the new development. The fees collected through these programs, in addition to other funding sources, make it possible for jurisdictions to construct roads and other transportation facilities and improvements needed to accommodate the new development. Each jurisdiction in Placer County has in place a traffic impact fee program. The revenue projections do not at this time include for forecasts for this fund source.
- **Local Transportation Sales Tax:** Counties may impose a sales tax dedicated to transportation purposes with the approval of 2/3 of the county's voters. Placer County does not currently have a transportation sales tax, and the revenue projections do not at this time include forecasts for this potential fund source.
- **User Fees:** Some transportation providers and facilities may impose fees for the use of those facilities. User fees may include toll roads, parking fees, aircraft landing fees, airplane hangar / tenant rental fees, among others. The revenue projections do not at this time include forecasts for this fund source category.

Based on these assumptions, the following section assesses funding available for programmed and planned improvements for the planning period extending through 2035. SACOG's revenue forecast identifies a variety of available and committed funds and discretionary funds controlled by federal, state, regional, and local agencies. Two alternative financial availability scenarios are also provided to illustrate different approaches for developing a long-range transportation funding strategy for Placer County.

8.2 Estimated Revenues

Overall, economic conditions play a large role in determining the level of future revenues available for transportation. Based on current law, policy, and practice, and on estimates of future economic activity underlying the generation of tax revenue, forecasts of reasonably available revenue for the planning period are shown in Table 8-1.

Federal, State and local revenues are assumed to have an aggregate average growth rate of 4.05 percent for the 2010 – 2035 planning period. Average nominal growth rates by revenue source are identified in Appendix P. These growth rates were developed by SACOG for the 2011 MTP update and for the 2011/2014 MTIP and were used to escalate the revenues shown in the Placer County financial forecast.

Table 8.1

Placer County Financial Forecast

(Nominal Dollars in $ Millions)

Fund Category	Applicable Uses	RTP Planning Period Short 2010-2015	Mid 2016-2024	Long 2025-2035	Total
Federal Funds					
Federal Highway & Other	**Subtotal**	$59.6	$128.0	$268.1	$455.7
-Congestion Mitigation and Air Quality - (CMAQ)	Roads, Transit, Non-Motorized, TDM, TCM	$25.1	$55.3	$121.7	$202.1
-Regional Surface Transportation Program - (RSTP)	Roads, Transit, Non-Motorized, TDM, TCM	$17.1	$37.5	$82.5	$137.1
-FHWA Discretionary Programs	Highways	$17.4	$35.2	$63.9	$116.5
Federal Transit	**Subtotal**	$12.5	$27.7	$60.9	$101.1
-FTA 5307 - Urbanized Area Formula Program	Transit	$7.8	$16.6	$36.5	$60.9
-FTA 5311 (b) - Rural Transit Assistance Program	Transit	$2.4	$4.8	$10.6	$17.8
-FTA 5309 (c) - Bus Allocations	Transit	$2.7	$6.3	$13.8	$22.8
-FTA Discretionary Programs (5310, 5316 & 5317)	Transit	$0.0	$0.0	$0.0	$0.0
	Federal Subtotal	**$72.1**	**$155.7**	**$329.0**	**$556.8**
State Funds					
State Highway Operations and Protection Program - (SHOPP)	Highways	$192.1	$350.8	$599.8	$1,142.7
State Transportation Improvement Program - (STIP)	**Subtotal**	$51.1	$108.3	$268.2	$427.6
-Interregional - ITIP	Highways, Roads, Transit	$11.1	$23.5	$58.2	$92.8
-Regional - RTIP	Highways, Roads, Transit	$40.0	$84.8	$210.0	$334.8
State Transit Assistance - (STA)	Transit	$8.5	$19.6	$37.0	$65.1
State Highway Maintenance	Highways	$100.5	$176.8	$288.1	$565.4
State Freeway Service Patrol (FSP) Funds	Highways	$1.2	$1.8	$2.2	$5.2
PTMISEA	Transit	$7.2	$3.0	$0.0	$10.2
TSSSDRA	Transit	$1.2	$0.4	$0.0	$1.6
	State Subtotal	**$361.8**	**$660.7**	**$1,195.3**	**$2,217.8**
Local Funds					
Sales Tax		$92.9	$202.7	$405.2	$700.8
-Local Transportation Fund (LTF)	Roads, Transit, Non-Motorized, TDM, TCM	$92.9	$202.7	$405.2	$700.8
Gas Tax Subventions	Highways, Roads, Transit	$65.7	$114.4	$170.2	$350.3
Gas Tax Swap (Excise Tax Subventions)	Highways, Roads, Transit	$35.6	$76.2	$200.4	$312.2
Local Streets and Roads (3)	Roads, Transit, Non-Motorized, TDM, TCM	$395.6	$721.2	$1,224.2	$2,341.0
SPRTA Regional Transportation Fee Program (4)	Highways, Roads, Transit	$48.2	$142.8	$0.0	$191.0
Caltrans Discretionary Grants	Highways	$26.2	$46.8	$77.0	$150.0
Placer County APCD Clean Air Grant (5)	TDM, TCM	$0.2	$0.3	$0.3	$0.8
Transit Operator Fares	Transit	$10.2	$22.7	$54.4	$87.3
	Local Subtotal	**$674.6**	**$1,327.1**	**$2,131.7**	**$4,133.4**
Federal, State & Local Funds Total		**$1,108.5**	**$2,143.5**	**$3,656.0**	**$6,908.0**

Notes:

1. Revenue sources are considered draft and subject to change with new information. SACOG is currently compiling more detailed population data that may affect Placer County population shares throughout the RTP planning period. SACOG is also continuing to compile historical revenues data which could affect the share of some funds.
2. Nominal growth includes real growth (growth before adding inflation)plus inflation. Typically nominal growth rates are larger than real growth rates.
3. This category of funds increases the level of funding shown in the 2027 RTP due to capture of revenues not previously included.
4. 2010-2015 SPRTA includes cumulative $36 million revenue accrued prior to FY 2010.
5. Placer County APCD Clean Air Grant Funds per PCTPA Final Overall Work Program and Budget FY 2010/2011.

Sources:

1. Working Draft 2011 MTP Update - Placer County Financial Forecast, SACOG, May 2010.
2. Estimated State Transit Assistance Revenue 2009/2011, California Transit Association, June 2010.
3. FSP Budget History FY 07-08 through FY 10-11, PCTPA, August 2010.
4. SPRTA Fee Revenue by Jurisdiction, SPRTA, September 2010; & SPRTA Regional Transportation and Air Quality Mitigation Fee Program - Summary of Potential Allocations and Cash Flow, SPRTA, August 2010.
5. PCTPA Final Overall Work Program and Budget FY 2010/2011, PCTPA, May 2010.

8.3 Estimated Expenditures

Year of Expenditure Dollars

The Financial Element uses an inflation rate of 4.0 percent compounded annually to forecast highway and transit improvement costs in Year of Expenditure (YOE) dollars. The inflation rate is based on an average of the Construction Cost Index (CCI) over an eight year period. It should be noted that the inflation rate has varied considerably over the past decade. Appendix P summarizes the CCI from 2002 to 2010. The effect of inflation over the planning period is considered significant, particularly in the latter years where it erodes the value of money.

Estimated Programmed & Planned Expenditures

Table 8.2 summarizes the Action Element's projects into either programmed (or funded) and planned (or unfunded) categories by RTP planning period. Three planning periods are used in this analysis: short-range (pre-2015), a medium-range (2016 – 2024), and long-range (2025 – 2035). Appendix F provides the detailed programmed major projects list; Appendix G provides the planned major projects list.

Table 8.2
Summary of Estimated Total Expenditures
(Nominal Dollars)

Planning Period	Programmed / Funded Improvements	Planned / Unfunded Improvements	Total Expenditures By Planning Period
2010 - 2015	$1,264,888,537	$1,870,581,333	$3,135,469,870
2016 - 2024	$482,185,805	$3,062,798,250	$3,544,984,055
2025 - 2035	$1,830,928,730	$5,553,928,534	$7,384,857,264
Total	**$3,578,003,072**	**$10,487,308,117**	**$14,065,311,189**

Sources: 2035 RTP Updated Programmed & Planned Master Project Lists, PCTPA, August 2010.

There is approximately $14.1 billion in programmed and planned capital improvements included in the 2035 RTP. Approximately, $3.6 billion of the programmed improvements are funded or have budgetary commitments. Approximately, $10.5 billion represents planned (or unfunded) capital improvements. Many of the planned improvements shown in Table 8.2 are identified as "developer funded" or rely upon developer funding as the local match. This means that implementation of these planned improvements is ultimately predicated upon the timing of the new development.

Programmed or Funded Improvements

Programmed funds mean that the funds are budgeted or committed for projects and are included in the SACOG MTIP (as amended), the STIP, and the SHOPP. Appendix Q provides PCTPA's

assurance that funding sources identified are committed to by the appropriate funding agencies to carry out the projects programmed in the 2011/2014 MTIP. Funded projects can also include projects beyond the four year programming period of the MTIP, which are included in the region's financially constrained 2035 MTP. The programmed (or funded) list includes those projects that given the revenue assumptions contained in this Financial Element, PCTPA can reasonably expect to fund between now and 2035.

Planned or Unfunded Improvements

Planned (or unfunded) projects refer to projects for which a specific funding source has not yet been identified. The planned (or unfunded) list includes projects in PCTPA's 2027 RTP and SACOG's 2035 MTP, including the MTP's "vision" list, and reflect countywide aspirations of the type of regional transportation system jurisdictions and agencies want constructed and operated. Many of the planned projects are still in the conceptual phase; although the list also includes many projects that could be implemented if additional funding were to become available.

Financial Availability Scenario 1

Table 8.3 compares programmed (funded) and planned (unfunded) improvement expenditures to forecasted revenues.

Table 8.3

Scenario 1: Comparison of Total Revenues to Expenditures

(Nominal Dollars)

Planning Period	Total Expenditures	Programmed / Funded Improvements	Total Forecasted Revenues	Total Revenues to Total Expenditures Surplus / Deficit	Total Revenues to Programmed Expenditures Surplus / Deficit
2010 - 2015	3,135,469,870	1,264,888,537	1,108,500,000	($2,026,969,870)	($156,388,537)
2016 - 2024	3,544,984,055	482,185,805	2,143,500,000	($1,401,484,055)	$1,661,314,195
2025 - 2035	7,384,857,264	1,830,928,730	3,656,000,000	($3,728,857,264)	$1,825,071,270
Total	**14,065,311,189**	**3,578,003,072**	**6,945,400,000**	**($7,119,911,189)**	**$3,367,396,928**

As can be seen from Table 8.3, comparing total forecasted revenues to total programmed and planned expenditures results in a substantial deficit of approximately $7.1 billion accumulated over the entire planning period.

Table 8.3 also compares programmed (funded) projects only to forecasted revenues. There is a funding deficit of approximately $156.7 million shown in the short-term for programmed improvements if all projects go forward; although this deficit is considerably less when compared to total programmed and planned expenditures. After 2016, the revenue picture brightens considerably showing a surplus of revenues when compared to programmed projects

only. This means that some of the programmed improvements may need to be deferred (or reprogrammed) to beyond 2016 when additional revenues are forecasted to be available.

Basically, Table 8.3 shows that the reasonably available forecasted revenue is sufficient over the entire planning period to fund all currently programmed improvements. There is insufficient revenue, however, to fund the majority of planned improvements. Nearly two-thirds of the planned improvements will remain unfunded through 2035. This does not imply that these planned transportation projects will never be built, or that they are less important than the projects currently programmed; rather, it means that these projects at this time are not as high performing as the projects currently programmed.

Some portion of the post-2016 revenue surplus could be used to fund about a third of the planned improvements. The selection of which planned improvements move forward will be determined based on need, delivery, and adherence to the goals, objectives and policies identified in the RTP.

Financial Availability Scenario 2

There is a considerable caveat to the financial assessment described in Scenario 1. The revenue projections in Table 8.1 show approximately $2.3 billion available in local streets and roads revenue; revenue that was not previously captured in the 2027 RTP financial analysis. Many of the local fund sources that comprise this category could be used for other municipal purposes; for example, general fund revenues. Notwithstanding prior historical commitments of these funds for transportation purposes, general fund revenues could be reprogrammed to other important municipal functions through local jurisdiction policy decisions. Given the volatile nature of State budgetary issues and its significant impact on municipal and county budgets over the previous decade, it may be questionable whether this source of funds can continue to be reasonably available over the long term as the SACOG projections currently suggest.

Therefore, Table 8.4 presents a second financial assessment scenario that assumes that local and street revenues will not be available for transportation purposes over the planning period as used over the last decade.

Table 8.4

Scenario 2: Comparison of Total Revenues Minus Local Streets & Roads to Expenditures

(Nominal Dollars)

Planning Period	Total Expenditures	Programmed / Funded Improvements	Total Forecasted Revenues Minus Local Streets & Roads Revenues	Total Revenues to Total Expenditures Surplus / Deficit	Total Revenues to Programmed Expenditures Surplus / Deficit
2010 - 2015	3,135,469,870	1,264,888,537	712,900,000	($2,422,569,870)	($551,988,537)
2016 - 2024	3,544,984,055	482,185,805	1,422,300,000	($2,122,684,055)	$940,114,195
2025 - 2035	7,384,857,264	1,830,928,730	2,431,800,000	($4,953,057,264)	$600,871,270
Total	**14,065,311,189**	**3,578,003,072**	**4,604,400,000**	**($9,460,911,189)**	**$1,026,396,928**

Table 8.4 shows significant funding shortfalls when comparing programmed and planned improvement expenditures to forecasted revenues, minus local streets and roads funding. Likewise, when comparing revenues to programmed improvements only, a significant funding shortfall is projected for the short-term, with the revenue picture improving after 2016 despite the assumption that local streets and roads revenues are not reasonably available in this scenario. While a revenue surplus is shown after 2016, when compared to programmed improvements, the surplus will be insufficient to fund the majority of planned improvements.

Financial Availability Scenarios - Conclusion

Under either Scenario 1 or 2, a lack of funding to implement the majority of planned improvements will translate to reduced mobility for people and freight on the entire transportation system, with significant increases in traffic congestion particularly on local streets and roads, worsening air quality, reduced productivity and, ultimately, a lower quality of life for Placer residents. To keep pace with future transportation infrastructure needs, new funding mechanisms and innovative fund management strategies will need to be considered in order to implement planned improvements. Several new funding mechanisms and innovative fund management strategies are introduced in Appendix P for informational purposes. They are not, however, presented as recommendations for the 2035 RTP.

Aviation Expenditures & Airport Revenues

Table 8.5 compares aviation expenditures funding to forecasted airport revenues. This table shows funding shortfalls over the aviation planning period. This means that some of the improvements will need to be deferred or alternatively, new funding sources will need to be developed, or the airports will need to increase its share of local match to make up for the shortfall in aviation revenues.

Airport improvements must be included in the State Capital Improvement Program (see Chapter 6.4 for aviation CIP list) to receive Federal Airport Improvement Program (AIP) funds, including State matching funds. All of the aviation improvements identified this plan are shown either on the State's or local airport CIP list. The revenue projections assume future capital improvements for Auburn Municipal and Lincoln Regional airports will continue to be eligible for AIP funds through the Federal Aviation Administration (FAA).

Table 8.5

Aviation Expenditures to Revenues

Nominal Dollars

Planning Period	Total Expenditures	Forecasted Revenues			Total Revenues to Total Expenditures Surplus / Deficit
		Federal	State	Local	
2010 - 2015	$48,849,551	$39,539,165	$580,969	$4,397,542	($4,331,875)
2016 - 2024	$23,125,787	$15,833,650	$155,563	$977,788	($6,158,786)
2025 - 2035	$0	$0	$0	$0	$0
Total	**$71,975,338**	**$55,372,815**	**$736,532**	**$5,375,330**	**($10,490,661)**

Sources:

1. Auburn Municipal Airport Aviation Capital Improvement Program (AICP) 2010 - 2019, January 15, 2009; Auburn Municipal Airport Capital Improvement Plan 2010 - 2015, revised January 2010.
2. Lincoln Regional Airport Capital Improvement Program 2010 - 2025, December 16, 2009.
3. Capital Improvement Program, California Aviation System Plan 2010 - 2019, Caltrans, November 2009.

8.4 Conclusions

Based on the preceding revenue / expenditure analysis, the Placer County region will not have sufficient funding in place to implement all programmed and planned transportation projects during the horizon of the 2035 RTP. Shortfalls are especially severe if all planned improvements were assumed to move forward. Shortfalls also occur in the short-term for programmed improvements only; however, the forecast paints a more optimistic revenue future post-2016 to implement programmed improvements. The revenue forecast assumptions are dependent upon continued use of local funds dedicated to transportation purposes. As the analysis notes, this may be an overly optimistic assumption given the State of California's budgetary history and its impact upon local government finances.

In the short-term, it is likely that some programmed transportation investments will be deferred to post-2016. It also likely that the majority of planned improvements will need to be scaled back in scope or eliminated due to reduced revenues. Alternatively, to keep pace with future transportation infrastructure needs, new funding mechanisms and innovative fund management strategies will need to be considered in order to implement the planned improvements.

8.5 Financial Element Action Plan

Several actions are identified below to further support the objectives and policies contained within the Policy Element.

Short and Long Range

1. Promote funding of transportation projects identified in the RTP's Action Element consistent with the provisions included in the Plan's Policy Element. *(PCTPA, jurisdictions, transit operators, Caltrans)*

2. Maximize the use of federal and state transportation funding sources. *(PCTPA, jurisdictions, transit operators, Caltrans)*

3. Make the most efficient use of federal, state, regional and local transportation revenues and allocations in the programming and delivering projects. *(PCTPA, jurisdictions, Caltrans, SACOG)*

4. Encourage multi-agency packaging of projects for federal and State funding programs, where a regional strategy may improve chances of funding success. *(PCTPA, jurisdictions, Caltrans, SACOG)*

5. Assist local jurisdictions to identify and obtain federal and state grant funding. *(PCTPA)*

6. Develop and update the Regional Transportation Improvement Program, the Metropolitan Improvement Program, and the Project Delivery Plan. *(PCTPA, jurisdictions, Caltrans, SACOG)*

CHAPTER 9
ENVIRONMENTAL CONSIDERATIONS

SAFETEA-LU requires that the RTP include an environmental mitigation program that links transportation planning to the environment. This chapter serves this purpose. This chapter summarizes environmental considerations in the developing the 2035 RTP, including prior CEQA reviews and alternatives previously considered. This chapter also discusses program and project level activities that may potentially affect the environment; the recommended strategies needed to mitigate any resultant impacts; and summarizes potential growth related impacts of the Plan. Further, air quality documentation requirements to demonstrate the RTP's conformity to the SIP is described.

9.1 CEQA Review

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

To meet the requirements of CEQA and decision-making processes, state, regional, and local planning processes typically prepare an informational document known as an environmental impact report (EIR). An EIR can be used to provide a general environmental assessment of an overall program, such as the RTP, which would be subsequently implemented through a series of later actions or projects. This type of EIR is known as a Program EIR. Each of the later actions or projects would be required to comply with CEQA through appropriate environmental documentation that would "tier" off of the Program EIR.

Supplement to the 2027 RTP Program EIR and 2035 MTP Program EIR

Pursuant to CEQA Guidelines, a Final Supplemental Program EIR (State Clearinghouse #2001052072) for the 2027 Regional Transportation Plan (RTP) was prepared and certified by the PCTPA, the lead agency, in September 2005. The environmental effects of the 2027 RTP were discussed in this EIR. An Addendum #1 to the Final Supplemental Program EIR was approved in May 2006. Addendum #1 provided environmental clearance for a proposed Transportation Expenditure Plan and Retail Transaction and Use Ordinance, a local funding mechanism that would facilitate implementation of RTP projects.

A Final Program EIR (State Clearinghouse #2007012050) for the 2035 Metropolitan Transportation Plan was prepared and certified by the SACOG, the lead agency, in March 2008. SACOG prepares the MTP for the entire six-county region, and under Memorandum of Understanding with the PCTPA incorporates the Placer County RTP into the MTP. The environmental effects of the 2027 RTP projects, as updated and refined, plus several new projects, were discussed in this EIR.

Supplemental EIR for the 2035 RTP

CEQA Guidelines require that environmental documentation be prepared for any subsequent revisions, amendments, or updates to the RTP as well.

When an EIR has been prepared for a project or program, CEQA Guidelines provide several options for complying with succeeding environmental documentation. §15152(f) of the State CEQA Guidelines states in part:

"(f) A later EIR shall be required when the initial study or other analysis finds that the later project may cause significant effects on the environment that were not adequately addressed in the prior EIR.

Significant environmental effects have been adequately addressed if the lead agency determines that:

(A) they have been mitigated or avoided as a result of the prior environmental impact report and findings adopted in connection with that prior environmental report; or

(B) they have been examined at a sufficient level of detail in the prior environmental impact report to enable those effects to be mitigated or avoided by site specific revisions, the imposition of conditions, or by other means in connection with the approval of the later project."

A supplement to an EIR may be prepared if one or more of the following apply:

- substantial changes are proposed in the project (§15162(a)(1));
- substantial changes occur with respect to the circumstances under which the project is undertaken (§15162(a)(2));
- there is new information of substantial importance that changes the previous EIR's determinations of potential significance and/or the feasibility of mitigation measures or alternatives (§15162(a)(3)); and
- only minor additions or changes would be necessary to make the previous EIR adequately apply to the project in the changed situation. (§15163(a) (2)).

PCTPA's 2035 RTP update meets the criteria for preparation of a "supplement" to the 2027 RTP Program EIR because certain projects identified in the 2035 MTP and the 2035 RTP have not yet been implemented and were determined in the 2035 MTP to result in or contribute to significant and unavoidable impacts, and these impacts would not be mitigated or avoided by the 2035 RTP or by the imposition of conditions or mitigation measures likely to be established by the CEQA review.

While the 2035 RTP Update includes both revisions to projects and programs contained in the 2027 RTP as well as several new projects in the 2035 MTP, there are limited financial resources to deliver the proposed projects. The majority of the programmed projects have been proposed in previous RTPs, and are the candidates for any future limited funding. Further, the projects in the 2035 RTP cover the same transportation modes as identified in previous RTPs. Therefore,

preparation of a Supplemental Program EIR, based on the certified 2027 RTP Program EIR and the certified 2035 MTP Program EIR, meets CEQA guidelines.

Project Level Environmental Review of RTP Projects

The 2035 RTP is a long range planning and policy document that identifies both short and long term transportation needs and funding priorities for Placer County. The RTP is implemented through subsequent actions, or specific projects and programs, by local jurisdictions, transportation agencies and Caltrans.

The environmental analysis on the RTP concentrates on the long-term environmental countywide impacts of plan components. This environmental analysis provides the basis for further project level CEQA (and NEPA) compliance for implementation of specific projects and programs. Before commencing with any specific project or program an environmental review by the lead agency responsible for implementing the project would be required under CEQA. Under certain circumstances some projects may also be subject to environmental evaluation under NEPA when federal monies are involved in funding the project. It is anticipated that the RTP Supplemental EIR will assist PCTPA's member jurisdictions, transportation agencies, and Caltrans in future project specific environmental reviews through "tiering" once precise project scopes, designs, and locations are more clearly defined.

Inclusion of a project in the RTP does not foreclose meaningful consideration of project alternatives or mitigation measures before conducting the project level environmental review. Projects included in the 2035 RTP may be modified or not implemented depending upon on a number of factors considered during the environmental review.

Summary of Environmental Impacts and Recommended Mitigation

Appendix R summarizes and compares the environmental analysis incorporated in the 2027 RTP EIR and the 2035 MTP EIR. The table identifies the environmental impacts; the level of impact; and the recommended mitigation measures, which should be incorporated into the environmental documentation for specific projects. Lead agencies responsible for implementing projects will also be responsible for implementing and monitoring the recommended mitigation measures identified in the RTP and MTP EIRs for those projects, as applicable. Appendix R also provides the relationship between the mitigation measures to the goals and objectives of the 2035 RTP.

9.2 NEPA Review

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

The RTP itself is not subject to NEPA review. However, the RTP contains individual projects that when subsequently implemented, will use federal funds or will require federal approvals or

permitting actions. Any such projects will undergo individual NEPA evaluation by the appropriate lead agency at the time projects are initiated.

9.3 Air Quality Documentation

An air quality assessment is required for RTPs prepared by MPOs in nonattainment and maintenance areas. As described earlier (see Chapter 7), SACOG acts as the MPO for those portions of Placer County excluding Lake Tahoe and within the Federal Ozone Non-attainment Area. The PCTPA submits its RTP for inclusion into the SACOG Metropolitan Transportation Plan.

For air quality conformance, the PCTPA coordinates planning as follows:

- For federal air quality programs, SACOG is the lead agency.
- For state air quality programs, the county falls within the jurisdiction of the Placer County Air Pollution Control District (APCD).
- For monitoring purposes, portions of Placer County are within the boundaries of three Air Basins: the Sacramento Valley Air Basin, the Mountain Counties Air Basin, and the Lake Tahoe Air Basin.

FEDERAL NONATTAINMENT AND MAINTENANCE AREAS

The PCTPA jurisdiction and the RTP planning area covers Placer County exclusive of the Lake Tahoe Air Basin. Thus, the RTP planning area includes the Mountain Counties Air Basin and the Sacramento Valley Air Basin. These Air Basins are in nonattainment as follows:

- severe nonattainment (federal standard) and nonattainment (state standard) for ozone;
- nonattainment (federal standard) for PM2.5; and
- nonattainment (state standard) for PM_{10}.

See Chapter 7 for a more detailed discussion of air quality attainment status.

Conformance to the State Implementation Plan (SIP)

Because of the nonattainment status within its planning area, the Placer County RTP must indicate how the plan will conform to the SIP (State Implementation Plan), which is required by the federal Clean Air Act.

Chapter 7 of the 2035 RTP documents "air quality conformance." It discusses the environmental and regulatory setting for air quality in the planning area, including local and regional plans and programs and conformance standards. As described in Chapter 7, it is SACOG's responsibility to make the air quality conformity determination for the region, and to ensure that the RTP conforms to the SIP. Accordingly, it is SACOG's role to coordinate with

the regional Air Pollution Control District and the California Air Resources Board (ARB) to ensure conformity with the SIP.

TRANSPORTATION CONTROL MEASURES (TCMS)

Chapter 5 - Policy Element of the RTP contains goals and policies that promote transportation control measures (TCMs), i.e. projects or activities designed to reduce on-road vehicle emissions by reducing vehicular travel demand and traffic congestion. The following goals, in particular, contain policies supportive of TCM implementation (see Chapter 5 - Policy Element for complete goal statements, objectives, and policies):

- Goal 1: Highways/Streets/Roadways
- Goal 2: Public Transit
- Goal 3: Passenger Rail Transportation
- Goal 4: Aviation
- Goal 6: Non-motorized Transportation (Pedestrian, Bicycle, and Low Speed Vehicles)
- Goal 7: Transportation Systems Management (TSM)
- Goal 8: Recreational Travel
- Goal 9: Integrated Land Use, Air Quality, and Transportation Planning

The 2035 RTP includes short and long-term actions for implementing transportation control measures (TCMs) in the planning area. Applicable actions leading to TCM implementation can be found in Chapter 6 - Action Element under individual Action Plans (discussed by mode: Regional Road Network; Public Transit; Rail; Aviation; Goods Movement; Non-Motorized Transportation; Intelligent Transportation Systems; Recreational Travel; and Integrated Land Use, Air Quality, and Transportation Planning).

9.4 RTP ALTERNATIVES

The CEQA Guidelines require that an EIR describe a reasonable range of alternatives to the project, or alternative locations for the project, which could feasibly attain the basic objectives of the project; and evaluate the relative merits of the alternatives, with the discussion focusing on alternatives capable of either eliminating any of the project's significant adverse environmental effects, or reducing them to less-than-significant levels. CEQA Guidelines also require that the "No Project" alternative be included among the range of alternatives of considered.

SACOG launched the Blueprint process in 2002 to examine the impacts of alternative land use scenarios and the impacts on transportation and air quality. This effort culminated in a Blueprint concept map for year 2050 and a set of growth principles adopted by SACOG in December 2004. The land use pattern that forms the foundation for the adopted 2027 RTP and the 2035 MTP, and the proposed 2035 RTP is consistent with the Blueprint growth principles.

ALTERNATIVES FOR 2027 RTP

PCTPA's 2027 RTP EIR examined the impacts to five transportation alternatives identified below. Travel forecasts for these alternatives are summarized in Appendix S.

- Alternative 1 – Unconstrained Projects List: Alternative 1 is based on a scenario of unconstrained funding.
- Alternative 2 – Road Emphasis: Alternative 2 is based on a scenario that implements projects based on a road emphasis.
- Alternative 3 – Transit Emphasis: Alternative 3 is based on a scenario that implements projects with a transit and rail emphasis.
- Alternative 4 – No Project: The No Project Alternative consists of build-out of PCTPA's existing adopted RTP.
- 2027 RTP – Funding Constrained: This alternative represents the proposed and subsequently adopted 2027 RTP.

ALTERNATIVES FOR 2035 MTP

SACOG's 2035 MTP EIR examined the impacts to four regional transportation alternatives. These alternatives included the projects contained in PCTPA's 2027 RTP. The alternatives represented multi-modal scenarios focused on nine key corridors that comprise a large percentage of the region's existing travel. For Placer County, the I-80 and SR65 represented two of the nine corridors evaluated in the MTP alternatives.

The four MTP alternatives examined were the:

- No Project Alternative: The No Project Alternative represents the build-out of SACOG's 2006 MTP.
- Regional Alternative 1: Regional Alternative 1 is based on a scenario that emphasizes new and expanded auxiliary lanes, streetcars and bus rapid transit.
- Regional Alternative 2: Regional Alternative 2 is based on a scenario that emphasizes new and expanded major roads, freeways, including an extensive carpool network, and expansion of the light rail system
- Regional Alternative 3: Regional Alternative 3 is based on a scenario that emphasizes parallel road capacity development, freeway system optimization, an extensive carpool network (larger than Regional Alternative 2), and new and expanded express bus, streetcars and light rail network.

SCENARIO PLANNING FOR MTP UPDATE

SACOG is currently creating alternative land use and transportation scenarios for the next MTP update, scheduled for adoption in December 2011. This update will incorporate the Placer County 2035 RTP, and reflect development of an SB375 compliant MTP, including

recommendations on a regional Greenhouse Gas emissions target to the CARB and creating a sustainable communities strategy and alternative planning scenario, as necessary.

Several policy planning scenarios and combinations thereof are under current consideration in the development of the MTP update. The evaluation of the planning scenarios has been coordinated with the other large metropolitan planning organizations in California involved in setting Greenhouse Gas emission reduction targets required by SB375. This is being done to ensure some level of consistency and reasonableness in implementation.

The policy options under consideration by SACOG include the adopted 2035 MTP; as well as six other options that evaluate land use measures, further transportation system development and transit expansion, enhancement of TSM and TDM strategies, and transportation pricing policies, each which expands and enhances implementation over and above the 2035 MTP.

ANALYSIS OF POTENTIAL GROWTH RELATED IMPACTS OF 2035 RTP

Generally, it is land use development that generates the new travel demand and patterns that may require the need for new transportation facility capacity. Transportation is just one component of an overall infrastructure that serves to accommodate planned growth and land use development. An individual transportation project may remove an existing obstacle to growth and development; may accelerate growth in certain areas; slow growth in other areas; intensify growth in certain locations; or shift growth from one location to another, for example, into previously unserved or underserved areas. These potential growth related impacts would be evaluated in the environmental documentation of the individual transportation project or specific land use development.

The 2035 RTP has been developed as a response to the projected population of 570,709 persons in Placer County by 2035, which represents a 90 percent increase over year 2005 levels at 299,872. This increase of 270,837 persons in Placer County was assumed in SACOG's regional housing needs assessment. The 2035 RTP's consistency with SACOG growth forecasts and consequently, applicable Placer County jurisdiction housing elements, would constitute a growth accommodating transportation strategy rather than a growth inducing impact. The RTP provides improvements to keep pace, to the extent financially feasible, to accommodate the projected population growth, with no additional capacity that could induce growth beyond that projected by SACOG and in accordance with adopted local general plans. The RTP projects will likely make areas of potential growth more accessible through alternation and development of roadway and other transportation facilities. However, given the limited financial resources documented in this RTP, additional improvements may ultimately be needed to fully accommodate all of the transportation needs of this growing population.

Incorporation of Blueprint planning principals into local general plans has created a smart growth approach to land use and transportation planning. This will lead to a more compact development focus; a lower amount of urbanized land used for the forecast population; more land remaining in a naturalized state; more efficient use of existing infrastructure; shorter vehicle trips for urban activities; and fewer overall vehicle trips.

According to SACOG, the Blueprint land use pattern is directly responsible for about 75 percent of the improved performance of the 2035 MTP transportation system and not to specific transportation projects. The Blueprint land uses therefore become an important part of successfully implementing the 2035 RTP, and the integration of land uses (see Chapter 6.11) become a critical part of the RTP.

APPENDICES

APPENDIX A

PCTPA COMMUNITY INFORMATION AND PARTICIPATION PROGRAM

PCTPA's community information and participation program, in compliance with Title VI of the Civil Rights Act of 1964, is an on-going effort of informing, encouraging involvement, and inviting public and community participation in the transportation planning process. PCTPA's community information and participation program is consistent with SACOG's adopted Public Participation Program, as amended, and is approved annually by the PCTPA Board of Directors.

PCTPA's community information and participation program is multi-purposed:

- Provide information to the public about key countywide transportation projects, planning, and funding issues;
- Establish the process by which the public can express itself;
- Provide the public with opportunities to be involved in transportation planning;
- Ensure transportation projects and programs are genuinely reflective of the region's values as determined through public input; and
- Establish and continue good relationships with the public.

Community and Public Outreach

Community and public outreach is an ongoing effort that can occur in a variety of ways. PCTPA solicits input through various policy, technical, and public forums using the outreach efforts and techniques summarized below. Outreach to Native American tribal governments, specifically, the United Auburn Indian Community is included.

PCTPA seeks input and feedback from all members of the public, engages stakeholders potentially affected, especially groups considered traditionally underrepresented, such as low-income and minority groups (per FHWA and FTA guidance on Environmental Justice in compliance with Executive order 12898 issued in 1994) in the regional transportation planning process. Environmental Justice is also applicable at the project level when project sponsors are proposing a new project in a local community and federal funds are involved.

Board Meetings

PCTPA Board meetings are open to the public at a convenient and accessible location that complies with Brown Act and ADA requirements. Agendas are posted prior to public meetings.

Public Hearings, Informational Meetings, and Workshops

PCTPA conducts public hearings regarding the development and adoption of the Regional Transportation Plan, the Regional Transportation Improvement Program, and the annual unmet transit needs hearing. Additional public hearings, informational meetings, and workshops are held for specific planning activities and individual projects. Visualization techniques are often used, in the form of printed materials, graphics, mapped information, and power point presentations in narrative summary and bullet points. Sign-in sheets are used to update mailing/e-mail lists for future notification use and document distribution.

Availability of Information

Members of the public have access to technical and policy information and documents - through meeting agendas, which are mailed and distributed by e-mail; can be viewed online at PCTPA's website; and available for review at PCTPA during normal business hours.

Use of Technology

The community information and participation effort has been further enhanced by using technology to reach the public. Expansion of the agency's website on the internet provides citizens with greater access to agency and specific project information, documents, and planning activities. A monthly newsletter, "Planning Ahead," is e-mailed to transportation stakeholders, which provides up-to-date information about transportation issues, including project updates, funding issues, and other policy issues that affect Placer County. PCTPA also established a Facebook Group called, "Fix Placer Traffic," which enables PCTPA and residents to communicate quickly about a variety of transportation issues, with a link back to the PCTPA website so users can access additional information.

Open Houses

PCTPA Board members often host open houses in the area they represent. Open Houses allow the public to learn and ask questions about PCTPA planning and project activities.

Presentations

Upon request, PCTPA's speaker bureau conducts presentations to various community groups.

Media Relations

A greater emphasis is now placed on working with local media outlets - newspapers, radio, television/cable, and the internet. Also included, are reporter briefings, opinion editorial placements, letters to the editor, and editorial board meetings.

Local media is an important component of PCTPA's community information and participation program. It provides an ongoing, highly efficient, and effective tool to communicate important transportation and funding issues to the public.

Consultation and Coordination

Ongoing consultation and coordination breaks down barriers between agencies and jurisdictions; increases chances of reaching consensus; and creates the opportunity to diffuse potentially controversial issues.

Ongoing consultation and coordination occurs with officials responsible for other types of planning activities that are affected by transportation in the area. This includes a wide range of agencies such as Native American tribal governments; federal, state and regional land management, transportation, and environmental agencies; local jurisdictions; and project sponsors. PCTPA also depends on input and feedback from its own advisory committees.

APPENDIX B

INTERAGENCY & PUBLIC INVOLVEMENT PROCESS FOR 2035 RTP

Milestones

June 9, 2009	PCTPA Technical Advisory Committee interagency kickoff, process and schedule review.
February 9, 2010	PCTPA Technical Advisory Committee interagency review of draft Policy Element and Programmed Projects / Planned Projects RTP Master List.
March 24, 2010	PCTPA Board review of draft Policy Element and Programmed Projects / Planned Projects RTP Master List.
May 6, 2010	Notice of Preparation 30-day period (to June 7, 2010) requesting views of interested parties regarding the scope and content of the EIR.
May 11, 2010	PCTPA Technical Advisory Committee RTP update.
May 26, 2010	PCTPA Board RTP update.
June 9, 2010	PCTPA release of the draft 2035 RTP and Supplemental EIR for a 45 day public review period (ending July 23, 2010), including distribution of Notice of Availability to all stakeholder groups.
June 10, 2010	PCTPA Technical Advisory Committee interagency overview of draft 2035 RTP and Supplemental EIR.
June 15, 2010	PCTPA presentation on the draft 2035 RTP and Supplemental EIR to the Roseville Transportation Commission.
June 23, 2010	PCTPA public workshop on the draft 2035 RTP and public hearing on the draft Supplement Environmental Impact Report (SEIR).
August 17, 2010	Follow up e-mail communication with stakeholder groups that did not respond to the Notice of Availability offering an opportunity to hear a presentation on the 2035 RTP.

September 7, 2010	PCTPA Technical Advisory Committee Recommendation to PCTPA Board to Adopt 2035 RTP & to Certify the 2035 RTP SEIR
September 22, 2010	PCTPA certification of the Final SEIR and adoption of the 2035 RTP.

Other Venues for Public Involvement

Several ongoing PCTPA sponsored venues were used to provide input for preparation of the 2035 RTP and include:

- The annual unmet transit needs process involves several public workshops held in various locations in Placer County. The input from the most recent unmet transit needs process held in October 2009 and again in February 2010 was considered as the RTP was updated.
- The PCTPA's Board directors host transportation open houses that allow residents to discuss transportation issues impacting their community and the region. This input was included in the development of this RTP.
- The Fix Placer Traffic group on Facebook provides an online forum where the public can make comments and ask questions on PCTPA transportation projects and activities. This input was included in the development of this RTP.

RTP Distribution List

Sue Sholtis

From:	Sue Sholtis
Sent:	Thursday, June 10, 2010 10:15 AM
To:	Sue Sholtis
Subject:	NOTICE OF AVAILABILITY FOR PUBLIC REVIEW – DRAFT 2035 REGIONAL TRANSPORTATION PLAN (RTP) & DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT (SEIR)

Proposed Project: Draft 2035 Regional Transportation Plan (RTP) & Draft Supplemental Environmental Impact Report (SEIR) (SCH #2010052013).

Project Description: The Placer County Transportation Planning Agency (PCTPA) is responsible for developing and adopting a Regional Transportation Plan that provides policy guidance and identifies transportation improvements implementing a balanced, comprehensive, multi-modal transportation system for the Placer County region (excluding the North Lake Tahoe area). The RTP is an action-oriented document considering both short-term (pre-2015) and long-term (2016 – 2035) planning periods. The RTP must include three elements, a Policy Element, an Action Element and Financial Element. The purpose of the Draft 2035 RTP is to update the existing Placer County 2027 RTP, fulfill state and federal planning requirements, and ensure consistency with the Sacramento Area Council of Government's (SACOG) adopted 2035 Metropolitan Transportation Plan (MTP).

Public Review & Comment Period: Comments regarding the Draft 2035 RTP and Draft SEIR will be accepted beginning **June 9, 2010** to **July 23, 2010**.

Public Workshop & Public Hearing: The public workshop on the Draft 2035 RTP and the public hearing on the Draft SEIR will be held on **June 23, 2010** at the Placer County Board of Supervisors Chambers, 175 Fulweiler Avenue, Auburn, California. The public workshop and the public hearing will be timed items, with the workshop beginning at **9:30 a.m.** and the public hearing beginning immediately thereafter.

Document Availability:
To review a copy of the Draft 2035 RTP, or the Draft SEIR please visit PCTPA offices located at 299 Nevada Street, Auburn, California 95603.

To download a copy of the Draft 2035 RTP (or select chapters of the document) or the Draft SEIR please visit the PCTPA website located at http://www.pctpa.net. All files are in Adobe Acrobat PDF format.

To request a hard copy of the Draft 2035 RTP or the Draft SEIR please contact David Melko, Senior Transportation Planner, by phone at (530) 823-4090 or by e-mail at dmelko@pctpa.net.

⇨ **Please consider the environment before requesting a hard copy.**

1

Correspondence to United Auburn Indian Community of the Auburn Rancheria

From: Doug Elmets [Doug@elmets.com]
Sent: Thursday, August 26, 2010 9:01 PM
To: David Melko
Cc: Celia McAdam; Sue Sholtis
Subject: Re: Placer County Transportation Planning Agency - Draft 2035 Regional Transportation Plan

Thanks David; I will share the information with the Tribe.

Douglas Elmets
Elmets Communications
1530 J. Street, Suite 225
Sacramento, CA. 95814
916-329-9180 (office)
916-206-8662 (cell)
doug@elmets.com

On Aug 26, 2010, at 3:21 PM, "David Melko" <dmelko@pctpa.net> wrote:

> Hello!
>
> Your name was given to me by Celia McAdam as the contact for the United Auburn Indian Community of the Auburn Rancheria.
>
> The Placer County Transportation Planning Agency (PCTPA) would like to know whether the United Auburn Indian Community of the Auburn Rancheria would be interested in reviewing the 2035 Regional Transportation Plan or hearing a presentation on the Plan. I have attached the draft Plan's Executive Summary and a power point slide show presented to the PCTPA Board in June for your review.
>
> A Notice of Availability was sent out on June 10 to a rather large stakeholder distribution list, including various contacts representing the United Auburn Indian Community of the Auburn Rancheria. We are following up with stakeholders, including the United Auburn Indian Community of the Auburn Rancheria that did not respond to the Notice of Availability to ensure there is the opportunity to review or hear a presentation on the 2035 RTP if interested.
>
> Briefly, PCTPA is responsible for developing and adopting every five years a Regional Transportation Plan that provides policy guidance and identifies transportation improvements implementing a balanced, comprehensive, multi-modal transportation system for all of Placer County (excluding the North Lake Tahoe area). The RTP is an action-oriented document considering both short-term (pre-2015) and long-term (2016 - 2035) planning periods. The RTP includes three elements, a Policy Element, an Action

Element and Financial Element. The purpose of the draft 2035 RTP is to update the existing Placer County 2027 RTP (adopted in September 205), fulfill state and federal planning requirements, and ensure consistency with the Sacramento Area Council of Government's (SACOG) adopted 2035 Metropolitan Transportation Plan (MTP).
>
> I can provide you with a hard copy of the Plan or send you PDF files of select chapters of the document; or you can visit the PCTPA website located at http://www.pctpa.net <http://www.pctpa.net/> , and download a copy of the Draft 2035 RTP (or select chapters). All files are in Adobe Acrobat PDF format.
>
> After you review the Executive Summary and power point, we would really appreciate knowing whether you want to review the entire Plan or select chapters or would be interested in scheduling a presentation.
>
> Any feedback that you may have, even if the only comment is to say "no comments" would be greatly appreciated!
>
> Please feel free to contact me at this e-mail address or by phone at (530) 823-4090.
>
> Thank you for this consideration.
>
> David Melko
>
> Senior Transportation Planner
>
> <Executive Summary.pdf>
> <Power Point Presentation - Draft 2035 RTP.ppt>

ID	Code	Name	Organization	Title	Street Address	City	State	Zip	e-mail	Business Ph	Home Phone
489	Federal Agencies	Cesar Perez	Federal Highway Administration		650 Capitol Mall, Suite 4-100	Sacramento	CA	95814		(916) 498-5065	
831	Federal Agencies	Tom Cavanaugh	U.S. Army Corps of Engineers -- Sacramento District		1325 J Street	Sacramento	CA	95814			
770	Federal Agencies	Region 9	U.S. Environmental Protection Agency, Region 9		75 Hawthorne Street	San Francisco	CA	94105			
40	Federal Agencies	Bill Powell	U.S. Federal Transit Administration, Region 9		201 Mission Street, Suite1650	San Francisco	CA	94105 -1839			
771	Federal Agencies	Sacramento Office	U.S. Fish & Wildlife Service		2800 Cottage Way, Room W-2605	Sacramento	CA	95825			
772	Federal Agencies	Sacramento Area Office	U.S. NOAA - National Marine Fisheries Svc.		650 Capitol Mall, Suite 8-300	Sacramento	CA	95814 -4708			
331	Federal Agencies	Tom McClintock	U.S. Representative	4th District	4230 Douglas Blvd., Suite 200	Granite Bay	CA	95746		916.786.5560	
20	Interested Parties	Ann Kohl	Environmental Council of Sacramento		909 12th Street, Suite 100	Sacramento	CA	95814	kohl@cws.com	916.482.5211	
218	Interested Parties	Gary A Allen	Friends of Placer Co Communities		11205 Rosemary Drive	Auburn	CA	95603			
463	Interested Parties	Nancy Miller	Miller, Owen & Trost		428 J Street #400	Sacramento	CA	95814			
8	Interested Parties	Terry Davis	Placer Group Sierra Club -- Mother Lode Chapter		801 K Street, Suite 2700	Sacramento	CA	95814			
276	Interested Parties	Jack Wallace	Roseville Coalition of Neighborhood Associations (RCONA)		1116 Fairfield Ave.	Roseville	CA	95678		916.782.5924	
195	Interested Parties	Ernie McPherson	Roseville Coalition of Neighborhood Associations (RCONA)	Alternate	528 Alola Street	Roseville	CA	95678		916.782.6322	
905	Interested Parties	Marilyn Jasper	Sierra Club - Placer Club	Chair of Placer Group	3921 Dawn Drive	Loomis	CA	95650	mjasper@accessbee.com	916.652.7005	
184	Interested Parties	Ed Pandolfino, Ph.D.	Sierra Foothills Audubon Society	Chair, Placer Conservation Committee	5530 Delrose Ct.	Carmichael	CA	95608	ERPfromCA@aol.com		
198	Interested Parties	Eugene Booen	Sun City CRC		7352 Acorn Glen Loup	Roseville	CA	95747			
494	Libraries		Placer County Library		350 Nevada Street	Auburn	CA	95603			
710	Libraries		Placer County Library, Loomis		6050 Library Drive	Loomis	CA	95650			
715	Libraries		Placer County Library, Rocklin		5460 Fifth Street	Rocklin	CA	95677			

711	Libraries		Sutter County Library, Main Branch		750 Forbes Avenue	Yuba City	CA	95991			
712	Libraries		Sutter County Library, Pleasant Grove Branch		3093 Howsley Road	Pleasant Grove	CA	95668			
593	Local Jurisdictions	Megan Siren	City of Auburn		1225 Lincoln Way	Auburn	CA	95603			
35	Local Jurisdictions	Bernie Schroeder	City of Auburn		1225 Lincoln Way	Auburn	CA	95603			
773	Local Jurisdictions	Wilfred Wong	City of Auburn	Community Development Director	1225 Lincoln Way, Room 3	Auburn	CA	95603			
277	Local Jurisdictions	Jack Warren	City of Auburn Public Works Department		1225 Lincoln Way	Auburn	CA	95603			
51	Local Jurisdictions	Bruce Kranz	City of Colfax	City Manager	PO Box 702	Colfax	CA	95713			
163	Local Jurisdictions	Rodney Campbell	City of Lincoln	Director of Community Development	600 Sixth Street	Lincoln	CA	95650	planning@ci.lincoln.ca.us	(916) 645-3320	
227	Local Jurisdictions	James Estep	City of Lincoln	City Manager	600 Sixth Street	Lincoln	CA	95648	city_manager@ci.lincoln.ca.us	645-4070 ext. 211	
224	Local Jurisdictions	George Dellwo	City of Lincoln Community Development Dept.	Assistant Director	600 Sixth Street	Lincoln	CA	95648	gdellwo@ci.lincoln.ca.us	916.645.3320	
164	Local Jurisdictions	Bruce Burnworth	City of Lincoln Public Works Department	Director of Public Works	600 Sixth Street	Lincoln	CA	95650		(916) 645-8576	
511	Local Jurisdictions	Kent Foster	City of Rocklin	Public Works Director	3970 Rocklin Road	Rocklin	CA	95677	PublicWorksDept@ci.rocklin.ca.us	(916) 625-5500	
103	Local Jurisdictions	Carlos Urrutia	City of Rocklin	City Manager	3970 Rocklin Road	Rocklin	CA	95677			
142	Local Jurisdictions	David Mohlentrok	City of Rocklin		3970 Rocklin Rd	Rocklin	CA	95747			
876	Local Jurisdictions	Laura Webster	City of Rocklin		3970 Rocklin Road	Rocklin	CA	95677	LauraW@ci.rocklin.ca.us	916.625.5160	
502	Local Jurisdictions	Terry Richardson	City of Rocklin	Community Development Director	3970 Rocklin Road	Rocklin	CA	95677	terryr@rocklin.ca.gov		
708	Local Jurisdictions	Larry Wing	City of Rocklin Community Development Dept.	Engineering Services Manager	3970 Rocklin Road	Rocklin	CA	95677	larryw@ci.rocklin.ca.us	916.625.5140	
572	Local Jurisdictions	Scott Gandler	City of Roseville		316 Vernon Street	Roseville	CA	95658			
115	Local Jurisdictions		City of Roseville	City Manager	311 Vernon Street	Roseville	CA	95678		(916) 774-5362	

484	Local Jurisdictions	John Sprague	City of Roseville	Community Development Director	311 Vernon Street	Roseville	CA	95678		(916) 774-5334	
356	Local Jurisdictions	Kathy Pease	City of Roseville Community Development -- Planning	Administrative Analyst	311 Vernon Street	Roseville	CA	95678	kpease@roseville.ca.us	916.774.5276	
485	Local Jurisdictions	Paul Richardson	City of Roseville Planning Department		311 Vernon Street	Roseville	CA	95678	prichardson@roseville.ca.us		
529	Local Jurisdictions	Rob Jensen	City of Roseville Public Works Department	Director	311 Vernon Street	Roseville	CA	95678	rjensen@roseville.ca.us	916.774.5331	
751	Local Jurisdictions	Ellen Powell	City of Roseville, Office of the City Manager	Government Relations Manager	311 Vernon Street	Roseville	CA	95678	Epowell@roseville.ca.us	916.774.5219	
106	Local Jurisdictions	Claudette & Frank Weismantel	District 1 MAC		10029 Newton Street	Elverta	CA	95626			
809	Local Jurisdictions	Planning Department	Nevada County Community Development Agency		950 Maidu Avenue	Nevada City	CA	95959			
101	Local Jurisdictions	Christine Turner	Placer Co. Agricultural Commission	Agricultural Commissioner	11477 E. Ave.	Auburn	CA	95603	Cturner@placer.ca.gov	530.889.7372	
892	Local Jurisdictions	Richard Moorehead	Placer Co. Dept. of Public Works -- Transportation Division		3091 County Center Drive, Suite 220	Auburn	CA	95603	rmoorehe@placer.ca.gov	530.889.7514	
785	Local Jurisdictions	Tom Miller	Placer County	Executive Officer	175 Fulweiler Avenue	Auburn	CA	95603			
682	Local Jurisdictions	Will Dickinson	Placer County Department of Facilities Services	Deputy Director	11476 "C" Avenue	Auburn	CA	95603			
496	Local Jurisdictions	Phillip T. Vassion	Placer County Dept. of Public Works, Transportation Division	Associate Civil Engineer	3091 County Center Drive, Suite 220	Auburn	CA	95603			
162	Local Jurisdictions	Bob Patterson	Placer County Environmental Health		3091 County Center Dr. Suite 180	Auburn	CA	95603			
75	Local Jurisdictions	Jim Durfee	Placer County Facility Services	Director	11476 C Avenue	Auburn	CA	95603			
46	Local Jurisdictions	Bob Eicholtz	Placer County Fire Protection Planner	CA Dept of Forestry and Fire Protection	PC CDRA, 3091 County Center Drive	Auburn	CA	95603		886.3574	
185	Local Jurisdictions	David Snyder	Placer County Office of Economic Development	Executive Director	175 Fulweiler Ave.	Auburn	CA	95603		530.889.4017	
782	Local Jurisdictions	Michael Johnson	Placer County Planning Department	Director	3091 County Center Drive	Auburn	CA	95603	mjohnson@placer.ca.gov	530.886.3000	

410	Local Jurisdictions	Loren Clark	Placer County Planning Department.	Assist. Director	3091 County Center Dr.	Auburn	CA	95603	LClark@placer.ca.gov	530.886.3000	
631	Local Jurisdictions	Ken Grehm	Placer County Public Works Department	Director	3091 County Center Drive, Suite 220	Auburn	CA	95603			
917	Local Jurisdictions	Rick Dondro	Placer County Public Works Department		3091 County Center Drive, Suite 220	Auburn	CA	95603			
2	Local Jurisdictions	Richard Moorehead	Placer County Public Works, Transportation Division		3091 County Center Drive, Suite 220	Auburn	CA	95603	rmoorehe@placer.ca.gov	530.889.7514	
222	Local Jurisdictions	George Alves	Rural Lincoln Municipal Advisory Committee		630 Fowler Road	Newcastle	CA	95658	galves01@earthlink.net	916.748.8092 (wk)	
180	Local Jurisdictions	E. Howard Rudd	Rural Lincoln Municipal Advisory Committee	Alternate	5895 Mt. Vernon Road	Lincoln	CA	95648	howard@ehrudd.com	916.773.9330 (wk)	
814	Local Jurisdictions	Planning Department	Sacramento County Planning Department		827 7th Street, Room 230	Sacramento	CA	95814			
815	Local Jurisdictions	Public Works Department	Sacramento County Public Works Department		827 7th Street, Room 230	Sacramento	CA	95814			
407	Local Jurisdictions	Lisa Wilson	Sutter Co. Planning Dept.	Acting Planning Chief	1130 Civic Center Blvd., Suite E	Yuba City	CA	95993	lpurviswilson@co.sutter.ca.us	530.822.7400	
226	Local Jurisdictions	Al Sawyer	Sutter Co. Public Works Dept.	Director	1130 Civic Center Blvd., Suite D	Yuba City	CA	95993	asawyer@co.sutter.ca.us	530.822.7450	
909	Local Jurisdictions	Doug Gault	Sutter County	Public Works Director	1130 Civic Center Blvd.	Yuba City	CA	95993	dgault@co.sutter.ca.us	530.822.7450	
133	Local Jurisdictions	Larry Bagley	Sutter County -- Community Services Dept. -- Planning	Director	1130 Civic Center Blvd.	Yuba City	CA	95993	dstylos@co.sutter.ca.us	530.822.7400	
391	Local Jurisdictions	Larry T. Combs	Sutter County - County Administrative Officer	Ex Officio	1160 Civic Center Blvd.	Yuba City	CA	95993	lcombs@co.sutter.ca.us	530.822.7100	530.822.7103
422	Local Jurisdictions	Mark Quisenberry	Sutter County Agricultural Department		142 Garden Highway	Yuba City	CA	95991	MQuis@co.sutter.ca.us	530.822.7500	
779	Local Jurisdictions	Randy Cagle	Sutter County Community Services	Deputy Director	1160 Civic Center Blvd.	Yuba City	CA	95993			
90	Local Jurisdictions	Charles Vanevenhoven	Sutter County Fire Department	Chief	1130 Civic Center Blvd.	Yuba City	CA	95993		916.822.7400	
203	Local Jurisdictions	Flood Control	Sutter County Public Works Department		1160 Civic Center Blvd.	Yuba City	CA	95993			
63	Local Jurisdictions	Brian Fragiao	Town of Loomis		3665 Taylor Road	Loomis	CA	95650			
490	Local Jurisdictions	Perry Beck	Town of Loomis	Town Manager	3665 Taylor Road	Loomis	CA	95650	pbeck@loomis.ca.gov	916.652.1840	

913	Local Jurisdictions	Russ Kelley	Town of Loomis	Town Council	3665 Taylor Road	Loomis	CA	95650	ruskly@starstream.net		
822	Local Jurisdictions	Planning Department	Town of Loomis Planning Department		3665 Taylor Road	Loomis	CA	95650			
823	Local Jurisdictions	Public Works Department	Town of Loomis Public Works Department		3665 Taylor Road	Loomis	CA	95650			
828	Local Jurisdictions	George Brown	West Placer Municipal Advisory Committee		3858 St. Julian Way	Roseville	CA	95747			
923	Native American	Rhonda Morningstar Pope	Buena Vista Rancheria-Native American Contact	Chairperson	PO Box 162283	Sacramento	CA	95816	rhonda@buenavistatribe.us	916-491-0011	
920	Native American	Alice Wallace Moore	Native American Contact		19630 Placer Hills Road	Colfax	CA	95713		637-4279	
919	Native American	Rose Enos	Native American Contact		15310 Bancroft Road	Auburn	CA	95603		878-2378	
918	Native American	John Tayaba/Nicholas Fonseca	Shingle Springs Band of Miwok Indians	Chairperson	PO Box 1340	Shingle Springs	CA	95682		676-8010	
925	Native American	Nicholas Fonseca	Shingle Springs Band of Miwok Indians	Chairperson	PO Box 1340	Shingle Springs	CA	95682	nfonseca@ssband.org	676-8010	
928	Native American	Elaine Whitehurst	Shingle Springs/Miwok Indians						tutuwork@yahoo.com		
921	Native American	Christopher Suehead	Todd Valley Miwok-Maidu Cultural Foundation	Cultural Representative	PO Box 1490	Foresthill	CA	95631	tvmmcf@foothill.net		
927	Native American	Doug Elmets	United Auburn Indian Community	UAIC Public Affairs	10720 Indian Hill Road	Auburn	CA	9	doug@elmets.com	916-329-9180	
146	Native American	David Zweig/Jessica Tavares	United Auburn Indian Community of the Auburn Rancheria		10720 Indian Hill Road	Auburn	CA	95603	dzweig@analyticalcorp.com	883-2390	
924	Native American	Waldo Walker	Washoe Tribe of Nevada and California	Chairperson	919 Highway 395 South	Gardnerville	NV	89410	waldo.walker@washoetribe.us	775-265-4191	
926	Native American	Darrel Cruz	Washoe Tribe of Nevada and California	Cultural Resources Coordinator	919 Highway 395 South	Gardnerville	NV	89410	darrel.cruz@washoetribe.us	775-265-4191 x 1212	
325	Private Sector	John Costa	Building Industry Association - Superior California		1536 Eureka Road	Roseville	CA	95661	costaj@biasup.org	916.575.1430	
597	Private Sector		California Trucking Association		3251 Beacon Blvd.	West Sacramento	CA	95691			
688	Private Sector	William V. McIntosh	Pacific Gas & Electric		12182 Salada Court	Grass Valley	CA	95949			
38	Private Sector		Paratransit, Inc.		PO Box 231100	Sacramento	CA	95823			

705	Private Sector		Placer County Contractors Assoc.		231 Cherry Avenue, #101	Auburn	CA	95603			
727	Private Sector	Lauryl Hinerman	Placer County Tourism		106 Vernon Street	Roseville	CA	95678	lhinerman@placertourism.com	916.773.5400	
731	Private Sector	Robin Trimble	Rocklin Chamber of Commerce		3700 Rocklin Road	Rocklin	CA	95677			
677	Private Sector	Wendy Gerig	Roseville Chamber of Commerce		650 Douglas Blvd.	Roseville	CA	95678	wagerig@rosevillechamber.com	916.783.8136	
138	Private Sector	Matthew Mahood	Sacramento Metro Chamber	President	One Capitol Mall, Suite 300	Sacramento	CA	95814	mmahood@metrochamber.org	916.552.6808 x 105	916.443.2672
697	Private Sector	Dee Lund	Union Pacific Railroad		915 L Street, Suite 1180	Sacramento	CA	95814			
674	Private Sector	Wayne Horiuchi	Union Pacific Railroad		915 L Street, Suite 1180	Sacramento	CA	95814			
350	Regional Agencies	Kathryn Mathews	El Dorado Co Transportation Commission	Executive Director	2828 Easy Street, Suite 1	Placerville	CA	95667			
357	Regional Agencies	Keith Nesbitt	PCTPA Board		1225 Lincoln Way	Auburn	CA	95603	mr.auburn@sbcglobal.net		
253	Regional Agencies	Jim Holmes	PCTPA Board		175 Fulweiler Avenue	Auburn	CA	95603			
354	Regional Agencies	Kathy Lund	PCTPA Board		3970 Rocklin Road	Rocklin	CA	95679			
641	Regional Agencies	Tom Cosgrove	PCTPA Board		600 Sixth Street	Lincoln	CA	95648			
618	Regional Agencies	Kirk Uhler	PCTPA Board		175 Fulweiler Ave.	Auburn	CA	95603			
585	Regional Agencies	Suzanne Roberts	PCTPA Board		PO Box 1453	Colfax	CA	95173	suzannecolfax@yahoo.com		
230	Regional Agencies	Gina Garbolino	PCTPA Board		311 Vernon Street	Roseville	CA	95678	ggarbolino@roseville.ca.us		
444	Regional Agencies	Miguel Ucovich	PCTPA Board		3665 Taylor Road	Loomis	CA	95650			
548	Regional Agencies	Ron McIntyre	PCTPA Board		P.O. Box 5487	Tahoe City	CA	96145			
181	Regional Agencies	E. Maisch	PCWA		P.O. Box 6570	Auburn	CA	95603		530.823.4889	
796	Regional Agencies	David Breninger	PCWA	General Manager	144 Ferguson Road	Auburn	CA	95602			
687	Regional Agencies	William Morebeck	Placer County Agricultural Commission		4272 Garden Bar Road	Lincoln	CA	95648	william@psyber.com	916.645.8650	
139	Regional Agencies	Tom Christofk	Placer County Air Pollution Control District		3091 County Center Drive, Suite 240	Auburn	CA	95603	tchristofk@placer.ca.gov		

746	Regional Agencies	Brian Keating	Placer County Flood Control & Water Conservation District	District Engineer	3091 County Center Drive, Suite 220	Auburn	CA	95603			
728	Regional Agencies	Andrew Darrow	Placer County Flood Control and Water Conservation District		3091 County Center Drive, Suite 220	Auburn	CA	95603			
799	Regional Agencies	Gayle Garbolino-Mojica	Placer County Office of Education	Superintendent of Schools	360 Nevada Street	Auburn	CA	95603			
565	Regional Agencies	Samson Okhade	SACOG	Senior Planner	1415 L Street, Suite 300	Sacramento	CA	95814	sokhade@sacog.org		
368	Regional Agencies	Matt Carpenter	SACOG	Director of Community Planning & Operations	1415 L Street, Suite 300	Sacramento	CA	95814	mcarpenter@sacog.org	(916) 340-6229	
428	Regional Agencies	Mike McKeever	SACOG	Executive Director	1415 L Street, Suite 300	Sacramento	CA	95814	mmckeever@sacog.org	916.733.3205	
808	Regional Agencies	Hardy Acre	Sacramento International Airport	Manager	6900 Airport Boulevard	Sacramento	CA	95837			
22	Regional Agencies	Larry Robinson	Sacramento Metropolitan Air Quality Management District	Land Use and Transportation Program Coordinator	777 12th Street, 3rd Floor	Sacramento	CA	95814	lrobinson@airquality.org	916.874.4816	
141	Regional Agencies	Mike Wiley	Sacramento Regional Transit District		P.O. Box 2110	Sacramento	CA	95812-2110			
64	Regional Agencies	Brian Williams	Sacramento Transportation Authority	Executive Director	431 I Street, Suite 106	Sacramento	CA	95814-2320			
507	Regional Agencies	Linda Stackpoole	SPRTA Board		330 D Street	Lincoln	CA	95648	lstackpoole@ci.lincoln.ca.us	916.752.3410	916-645-8601
352	Regional Agencies	Peter Hill	SPRTA Board		3970 Rocklin Road	Rocklin	CA	95679	sandrad@ci.rocklin.ca.us	916.624.0764	
231	Regional Agencies	Jim Gray	SPRTA Board		311 Vernon Street	Roseville	CA	95678	jgray@roseville.ca.us		
42	Regional Agencies	Kirk Uhler	SPRTA Board		175 Fulweiler Ave.	Auburn	CA	95603	kuhler@placer.ca.gov	530.889.4010	
777	Regional Agencies	Jim Durfee	Western Placer Waste Mgmt Authority	Executive Director	3033 Fiddyment Road	Roseville	CA	95747			
633	Regional Agencies	Tim Johnson	Yuba-Sutter Economic Development Corporation		1227 Bridge Street, Suite C	Yuba City	CA	95991		530.751.8555	
769	State Agencies		California Air Resources Board		P.O. Box 2815	Sacramento	CA	95812			
730	State Agencies	Kurt Karperos	California Air Resources Board - Transportation Projects		PTSD/AQTPB P.O. Box 2815	Sacramento	CA	95812			

812	State Agencies	Headquarters	California Department of Fish and Game		1416 Ninth Street	Sacramento	CA	95814			
700	State Agencies	Sacramento Valley-Central Sierra Region 2	California Department of Fish and Game		1701 Nimbus Road, Suite A	Rancho Cordova	CA	95670		916/358-2898	
725	State Agencies		California Department of Forestry and Fire Protection		P.O. Box 944246	Sacramento	CA	94244 -2460			
805	State Agencies	Office of Historic Preservation	California Department of Parks and Recreation		P.O. Box 942896	Sacramento	CA	94296 -0001			
807	State Agencies	District 3	California Department of Transportation		P.O. Box 911	Marysville	CA	95901			
804	State Agencies	Division of Planning and Local Assistance	California Department of Water Resources	Central District	P.O. Box 942836	Sacramento	CA	94236			
694	State Agencies	Headquarters	California Department of Water Resources		P.O. Box 942836	Sacramento	CA	94236		916.327.1722	
741	State Agencies		California Energy Commission		l5l6 Ninth Street, MS-29	Sacramento	CA	95814 -5512		916/654-5000	
738	State Agencies		California Integrated Waste Management Board		P.O. Box 4025	Sacramento	CA	95812 -4025			
723	State Agencies	Ken Lewis	California Public Utilities Commission		505 Van Ness Avenue	San Francisco	CA	94102		415/703-3221	
802	State Agencies	Central Valley Region	California Regional Water Quality Control Board	Sacramento Main Office	11020 Sun Center Drive, #200	Rancho Cordova	CA	95670 -6114			
768	State Agencies	Jeff Pulverman	Caltrans -- District 3		P.O. Box 911	Marysville	CA	95901			
316	State Agencies	Jody Jones	Caltrans -- District 3	District Director	P.O. Box 911	Marysville	CA	95901	jody_jones@dot.ca.gov	530.741.4233	
795	State Agencies	Laura Rice	Caltrans -- District 3		P.O. Box 911	Marysville	CA	95901			
794	State Agencies	Harminder Basi	Caltrans -- District 3		P.O. Box 911	Marysville	CA	95901			
32	State Agencies	John Hoole, P.E.	Caltrans -- District 3	Local Assistance Program	P.O. Box 911	Marysville	CA	95901			
573	State Agencies	Aaron Cabaccang	Caltrans -- District 3 -- Sacramento Area Office		PO Box 911	Marysville	CA	95901		916.274.0612	
335	State Agencies	John Webb	Caltrans -- District 3 -- Sacramento Area Office	Environment al	2389 Gateway Oaks Drive, Suite 100	Sacramento	CA	95833			

754	State Agencies	Sandy Hesnard	Caltrans -- Division of Aeronautics		P.O. Box 942874 MS-40	Sacramento	CA	94274	sandy.hesnard@dot.ca.gov	916/654-5314	
155	State Agencies	Denise O'Connor	Caltrans -- North Region	Environmental Coordinator	P.O. Box 942874	Sacramento	CA	94274 -001	denise_o'connor@dot.ca.gov	916.653.3171	
446	State Agencies	Mike Forga	Caltrans -- Office of Special Funded Projects		P.O. Box 911	Marysville	CA	95901			
753	State Agencies	Ron Helgeson	Caltrans -- Planning		P.O. Box 942874	Sacramento	CA	94274		916/653-9966	
922	State Agencies	Colette Armao	Caltrans Division of Aeronautics	Placer County Liaison for RTP Review	P.O. Box 942874 MS-40	Sacramento	CA	94274	colette.armao@dot.ca.gov	916-654-5346	
670	State Agencies	Bill Donovan	CHP	Captain	9440 Indian Hill Road	Newcastle	CA	95658 -9304			
702	State Agencies		Department of Boating & Waterways		2000 Evergreen Street, Suite 100	Sacramento	CA	95815		916/263-4326	
737	State Agencies		Department of Conservation		801 K Street, MS-24-02	Sacramento	CA	95814		916/445-8733	
767	State Agencies	Banky Curtis	Department of Fish & Game, Region 2		1701 Nimbus Road	Rancho Cordova	CA	95670			
698	State Agencies		Department of Fish and Game Environmental Services Division		1416 Ninth Street, 13th Floor	Sacramento	CA	95814		916/653-1070	
761	State Agencies		Department of Health/Drinking Water		744 P Street	Sacramento	CA	95814		916/445-2519	
756	State Agencies	B. Noah Tilghman	Department of Parks and Recreation, Env. Stewardship Section		P.O. Box 942896	Sacramento	CA	94296		916/653-6725	
752	State Agencies		Department of Toxic Substances Control CTC - CEQA Tracking Center		P.O. Box 806	Sacramento	CA	95812 -0806		916.324.3119	
740	State Agencies	Debbie Treadway	Native American Heritage Commission		9l5 Capitol Mall, Room 364	Sacramento	CA	95814		916/653-4082	
695	State Agencies		Office of Emergency Services		3650 Schriever Ave	Mather	CA	95655		916.464.1014	
757	State Agencies		Office of Historic Preservation		P.O. Box 942896	Sacramento	CA	94296 -0001		916/653-6624	
248	State Agencies	Hans Kreutzberg	SHOP, Cultural Resources Program	Supervisor	1416 Ninth Street 1442-7	Sacramento	CA	95814	hkreu@ohp.parks.ca.gov		
759	State Agencies		State Water Resources Control Board Division of Water Quality		P.O. Box 942836	Sacramento	CA	94236		916/657-0912	

APPENDIX C

MAJOR EMPLOYERS LOCATED IN PLACER COUNTY

This list was developed using the Employment Development Department (EDD) database of major employers in California, and the Sacramento Business Journal lists of manufactures, private companies, and list of major employers.

EDD obtains its employer data from the America's Labor Market Information System (ALMIS) Employer Database, 2010 1st Edition. The Sacramento Business Journal conducts annual surveys of employers to obtain information for its lists.

Employer Name	Location	Industry
Adventist Health System	Roseville	Health Care
Alpine Meadows	Alpine Meadows	Skiing Centers and Resorts
Auburn Area Answering Service	Auburn	Paging and Answering Service
Club Cruise Inc.	Roseville	Travel Agencies and Bureaus
Coherent Inc.	Auburn	Medical Manufacturer
Cooks Collision Inc.	Roseville	Auto Body Repair
EMF Broadcasting	Rocklin	Radio Network
Formica Corporation	Rocklin	Plastic and Laminates Manufacturer
Hewlett-Packard Company	Roseville	Computer Services
John L. Sullivan Automotive Group	Roseville	Automobile Dealerships
John Mourier Construction Inc.	Roseville	Residential Construction and Development
Kaiser Permanente	Roseville	Health Care
NEC Electronics America Inc.	Roseville	Semiconductors
Nella Oil Company Group	Auburn	Gasoline Stations and Convenience Stores
Oracle	Rocklin	Software
Northern Video Systems Inc.	Rocklin	Network and Security Systems
Pacific MDF Products Inc.	Rocklin	Fiberboard Materials
PASCO Scientific	Roseville	Software
Placer County	Auburn	County Government
Placer County Office of Education	Auburn	Schools
PRIDE Industries In.	Roseville	Manufacturing
Progressive Technology	Rocklin	Machine Shops
Reeve-Knight Construction Inc.	Roseville	General Contractor and Construction Management

Resort at Squaw Creek	Olympic Valley	Resorts
Roseville Golfland - Sunsplash	Roseville	Water Parks
Roseville Toyota Scion	Roseville	Automobile Dealership
Sierra Community College District	Rocklin	Community College
Sierra Pacific Industries	Lincoln	Lumber Materials
Sure West Communications	Roseville	Communications
Sutter Roseville Medical Center	Roseville	Health Care
The Rice Company	Roseville	Commodities
Thunder Valley Casino	Lincoln	Casinos
Tilton Pacific Construction Inc.	Rocklin	General Contractor
United Natural Foods	Rocklin	Food Products Retail
USA Properties Fund Inc.	Roseville	Development, Construction and Property Management
Walmart Pharmacy	Roseville	Pharmacy

APPENDIX D

2035 MTP LAND USE ALLOCATION SUMMARY FOR PLACER COUNTY JURISDICTIONS

The following section summarizes the regional Land Use Allocation assumptions developed by SACOG for the MTP 2035 (MTP Appendix D2).

MTP 2035 Land Use Allocation

Since the adoption of the Blueprint Vision by the SACOG Board of Directors in December 2004, a number of jurisdictions in the region have begun implementing the Blueprint smart growth principles into their planning processes. The general plan and specific plan development activities occurring in the region by local jurisdictions are reflected in the 2035 land use assumptions and the population, housing and employment forecasts used for the MTP 2035.

Federal and State transportation planning guidance, require that land use assumptions used in the development of a long range transportation plan reflect a growth pattern that is most likely to occur, based on the best information available. Growth patterns are influenced through a combination of ongoing social, economic, market forces, and technological changes. Growth patterns are further regulated through zoning, land use plans and policies (many which reflect Blueprint principles), and decisions regarding development applications. Local government and other regional, state, and federal agencies also make decisions regarding the provision of infrastructure (e.g., transportation facilities, water facilities, sewage facilities) and protection of natural resources that may influence growth rates and the location of future development.
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The MTP's 2035 land use allocation was developed over two years (2005-2007) in cooperation with local jurisdictions. In 2005, a regional growth forecast of employment, population and housing was developed for the SACOG region by Stephen Levy of the Center for the Continuing Study of the California Economy (CCSCE). Development of the population, housing, and employment forecasts were done in consultation with the local jurisdictions. The SACOG Board of Directors adopted a regional forecast for the years 2013, 2018 and 2035 in March 2007. In September 2007 the SACOG Board of Directors adopted a revised 2035 forecast for use in developing the land use allocation of the MTP 2035. The forecast consisted of a projected economic growth rate that was tied to a demographic forecast, which was then tied to a forecast of the number of new housing units that will be needed throughout the region through 2035. The adopted forecast closely matched the 2035 projections released by the California Department of Finance in mid 2007.

In contrast to prior SACOG growth projections, the adopted land use assumptions, and the housing and employment projections for the MTP 2035 show considerable changes from the traditional approach to development. The focus of regional and local land use planning has shifted to more compact development with higher employment and housing densities. Within the Sacramento region, the majority of the growth is projected to occur in the region's central core

and inner suburbs; however, some outlying communities, such as in Placer County will experience faster growth that previously projected.

The following section summarizes the regional Land Use Allocation assumptions developed by SACOG for the MTP 2035 (Appendix D2) as it relates to the individual jurisdictions within Placer County.

Placer County – West Slope County Summary

Placer County is predominantly rural and much of the eastern half of the county is under federal ownership. The majority of the population and urban development is located in the western half of the county, concentrated primarily in and around the fast-growing cities of Roseville, Rocklin and Lincoln. This growth trend is projected to continue through 2035: 80 percent of the county's new development will occur in Lincoln, Roseville, and southwest unincorporated Placer County, with the majority of growth occurring through development of lands in and adjacent to existing city limits. This projected growth is, in part, the impetus behind the Placer County Conservation Plan, which is intended to address the impacts of new growth on habitat lands. All Placer cities through use of revitalization strategies are expected to see the infill and reinvestment in their downtowns and older transportation corridors.

Auburn

Auburn has experienced a slow pace of growth over the past fifteen years, which is expected to continue through 2035. Projected growth will occur through infill and redevelopment within the existing city limits. Though it covers a large area, Auburn's sphere of influence (SOI) has few large development parcels outside of the redevelopment potential along the Highway 49 corridor (north of the city limits). Large capacity-adding annexations are not projected to occur.

Auburn has historically maintained a strong balance of jobs to housing, due in part to its role as the county seat, a shopping and service destination for the surrounding rural areas, and as a stop along heavily-traveled tourist routes to the Sierra Nevada foothills and mountains. This ratio of jobs-to-housing is expected to remain jobs-heavy.

Colfax

Land development in Colfax is constrained by the city's topography and in recent years by its waste water treatment plant, which has reached capacity. For this reason, development for the past several years has been restricted to a few housing units per year. Colfax has historically maintained a strong jobs-housing balance, supported by tourism and surrounding rural populations.

Through 2035, Colfax is anticipated to grow slowly. New development is likely to be small-scale and a significant amount of it concentrated in and around the Interstate 80 and Highway 174 corridors. The historic downtown is also expected to see some infill growth, as the city's long-range planning efforts are focused on downtown revitalization and economic development.

Lincoln

The City of Lincoln has been one of the fastest growing cities in the Sacramento region for several years, more than tripling its population in the past seven years. The majority of the growth has been residential development in a few large specific plan areas, though commercial development has accelerated in the last three to four years.

Lincoln is expected to continue robust growth through 2035. In the early years of the planning period, the current city limits are expected to substantially build out. A small percentage of the city's growth will occur through continued small-scale infill and redevelopment in the downtown. Annexations are anticipated to occur throughout the planning period, with areas closest to the existing city limits (and within the existing SOI) annexing first, followed by lands further out. Large commercial, industrial and employment uses are planned for the areas along the SR 65 bypass. Throughout the expansion areas of the city (east and west), a minimum of 45 percent of the land area will be dedicated open space and parklands. Lincoln is anticipated to experience strong job growth into the future as it merges with the growing southwest Placer jobs center along the SR 65 corridor.

Loomis

The Town of Loomis is a small, rural community that has experienced very little growth in the past seven years despite its location in the fast-growing southwestern region of Placer County. Planning efforts aim to maintain the town's rural character overall, focusing primarily on infill and redevelopment of the downtown area.

Loomis' modest growth is projected to occur steadily though 2035. With no plans for expansion, the town's residential growth is limited to development of the remaining vacant rural residential lands, and redevelopment and infill in its downtown. Employment growth will be concentrated along the Interstate 80 corridor and in the downtown. The town's strong existing jobs-housing balance is expected to be maintained through 2035.

Rocklin

The City of Rocklin is surrounded on all sides by the cities of Lincoln and Roseville, the Town of Loomis, and the Roseville SOI. Residential development peaked in 2004 and has tapered significantly as only two new growth areas remain in the northern area of the city.

The City's Downtown Rocklin Plan will provide significant capacity for residential and employment growth added through small-scale infill and redevelopment. It is expected to be implemented slowly over the planning period. As in the rest of southwest Placer County, Rocklin has experienced consistent employment growth over the past several years. This trend is expected to continue given the rise of Rocklin and Roseville as a regional jobs center. Rocklin's employment will increase slightly through 2035 most of it concentrated in the SR 65 and Interstate 80 corridors. The city's jobs-to-housing ratio will also increase. Residential growth continues through 2035, although at a slower pace.

Roseville

Roseville sits at the heart of the southwest Placer employment center. Employment uses are concentrated in the areas around Interstate 80 and SR 65. While residential uses surround these areas, the majority of the city's housing is located west of the Interstate 80/SR 65 corridors. Over the past several years, the city experienced significant housing growth that did not keep up with employment growth. Jobs growth is expected to continue to outpace housing growth through 2035. Strong housing growth is also expected, with the city increasing its ratio of housing to jobs by 2035. Most housing growth in the early years of the planning period will occur within the existing city limits, through the building-out of approved specific plans. Through the latter half of the planning period, the city is expected to annex its western SOI, where a Memorandum of Understanding between Roseville and Placer County allows Roseville to lead urban development of the area. Development in this area will be primarily residential; with commercial growth will serve local residents and the surrounding southwest Placer developments. Redevelopment and infill, both mixed-use and residential, are anticipated to occur later in the planning period, focused on the city's older commercial and redevelopment corridors.

Unincorporated Placer

Historically, development in unincorporated Placer County was concentrated in rural communities, the majority of which are clustered along the Interstate 80 corridor. The employment boom in Roseville and Rocklin has contributed to the housing development boom in the rest of southwest Placer County. In addition, new development has been approved east of Lincoln and north of Auburn, and over the past decade, several development proposals have been filed with the county for urban-levels of development in the southwestern portion of the County (primarily south of Lincoln and west of Roseville).

By 2035, strong job growth is projected for the Roseville/Rocklin and McClellan Park (in northern Sacramento County) jobs centers. This job growth will be balanced by a high level of housing growth in southwest unincorporated Placer County. A significant amount of this new housing will be built at higher densities than housing developments of the past ten to fifteen years. While some rural residential development will continue to occur in the foothill communities, the concentration of the unincorporated population will shift towards the southwest valley area.

United Auburn Indian Community of the Auburn Rancheria

The United Auburn Indian Community of the Auburn Rancheria is located in the Sierra Nevada foothills near Auburn, California. Currently, the majority of tribal members reside in Placer and Nevada counties. The United Auburn Indian Community of the Auburn Rancheria owns the Thunder Valley Casino located near the northwest corner of Athens and Industrial Avenues in the Sunset Industrial Area of unincorporated Placer County. The Tribe is also proposing that 1,100 acres located in northwest Placer County be placed into federal trust for future tribal residential housing and tribal community use.

The development activities of the United Auburn Indian Community of the Auburn Rancheria is not explicitly included as part of SACOG's population, housing and employment projections. Rather, where existing residential and recreational development is located, SACOG assumes future growth to occur within that general area.

APPENDIX E

2005 PEAK PERIOD LEVELS OF SERVICE

Peak Period Vehicle Miles of Travel by Level of Service within Placer County[1]

	Level of Service A-C			Level of Service D-E			Level of Service F		
	Freeways	Other[2]	Total	Freeways	Other	Total	Freeways	Other	Total
West of SCB[3]	329,000	1,045,000	1,375,000	165,000	160,000	324,000	52,000	85,000	137,000
East of SCB	758,000	587,000	1,345,000	0	87,000	87,000	0	42,000	42,000

Percentage of Peak Period Vehicle Miles of Travel by Level of Service within Placer County

	Level of Service A-C			Level of Service D-E			Level of Service F		
	Freeways	Other	Total	Freeways	Other	Total	Freeways	Other	Total
West of SCB	60.4%	81.0%	74.9%	30.2%	12.4%	17.7%	9.4%	6.6%	7.4%
East of SCB	100.0%	84.9%	91.2%	0.0%	12.2%	5.9%	0.0%	5.9%	2.9%

Peak Period Vehicle Hours of Delay ≥ Level of Service D within Placer County

	Freeways	Other	Total
West of SCB	730	1,227	1,957
East of SCB	0	896	896
Total County	730	2,123	2,853

Notes:
[1]Data excludes Tahoe Basin.
[2]Other = major arterial roadways
[3]SCB = Sierra College Boulevard

Source: DKS Associates, 2005

APPENDIX F

2035 REGIONAL TRANSPORTATION PLAN PROGRAMMED MASTER PROJECTS LIST

Lead Agency	SACOG Project ID	SACOG MTP	SACOG MTIP	Project Title	Project Description	Year Complete	Current Year (2010) $	Expenditure Year $
City of Roseville Dept of Public Works	PLA25422	'07-00	11-00	2010 Douglas Boulevard Bonded Wearing Course	In Roseville on Douglas Boulevard, from Sierra Gardens to Sierra College, apply bonded wearing course.	2010	$1,986,850	$1,986,850
City of Roseville Dept of Public Works	PLA25428	07-00	09-26	Jobs for Main Street - Microsurfacing	In Roseville, application of microsurfacing to the following existing roadways: Church Street from Atkinson Street to Washington Boulevard; Baseline Road from Fiddyment Road to Foothills Boulevard; Junction Boulevard from Washington Boulevard to Foothills Boulevard; Foothills Boulevard from Junction Boulevard to Main Street / Baseline Road; Atlantic Street from Folsom Road to Eureka Road; and Pleasant Grove Boulevard from Foothills Boulevard to Roseville Parkway.	2010	$1,400,000	$1,400,000
City of Roseville Dept of Public Works	PLA25442	07-00	11-00	Riverside Avenue Storm Drain Improvement Project - Phase II	In Roseville on Riverside Avenue, Bonita Street, Clinton Avenue & Cherry Street, upgrade existing drainage infrastructure.	2010	$400,000	$400,000
Placer County Dept of Public Works	PLA25448	07-00	11-00	Bowman Road Bridge	Bridge No. 19C0062, Bowman Road, over UPRR, BNSF rail yards & Amtrak, 0.1 mile north of 19C0061. Preliminary Engineering & replace the existing structurally deficient bridge to bring it up to current standards. No additional lanes.	2010	$1,875,001	$1,875,001
Placer County Dept of Public Works	PLA25392	'07-00	11-00	Horseshoe Bar Road Curve Improvements	This project will improve roadway curves on Horseshoe Bar Road between Happy Road & Auburn-Folsom Road. Sight distance at problem curves will be improved by grading, widening shoulder, & vegetation removal.	2010	$785,000	$785,000
Placer County Transit	PCT10479	07-00	11-00	Sierra College Bus Stop Improvements	Entrance bus stop on the periphery of Sierra College campus along Rocklin Road.	2010	$113,095	$113,095
Caltrans District 3	CAL20394	07-00	11-00	ED/Pla/But Guardrail	In El Dorado, Placer, and Butte counties at various locations install metal beam guardrail & end treatments. Placer locations: Pla-193-7.96/8.00, 2 miles west of I-80 near Summer Star Lane	2011	$1,026,000	$1,067,040
Caltrans Division of Rail	CAL18768	'07-00	11-00	Dinky Way Grade Crossing	In the City of Colfax, at the intersection of Dinky Way & UPRR: Eliminate hazards at railroad grade crossing. (US DOT RR crossing # 753152B)	2011	$550,000	$572,000
Caltrans Headquarters	CAL18820	07-00	11-00	FTA Section 5310 Elderly & Disabled Transit Program Grouped Projects	Transit capital purchases, including large, medium, & small buses, minivans, bus lifts, scheduling software, mobile radios, & other equipment. Project cost is for Placer County only, non-profit is PRIDE Industries, Inc.	2011	$440,085	$457,688
City of Auburn Dept. of Public Works	PLA25399	'07-00	11-00	Auburn Transit Bus Replacement	Purchase 2 (two) 25' replacement buses.	2011	$166,500	$173,160
City of Auburn Dept. of Public Works	PLA25351	'07-00	11-00	Street Sweeper Replacement	Replace one existing 1992 Ford Tymco 600 sweeper, with a new clean diesel powered street sweeper. (Emissions Reductions in kg/day: NOx 0.08, PM10 0.16)	2011	$282,040	$293,322
City of Auburn Dept. of Public Works	PLA25459	'07-00	11-00	Auburn Transit - O&M (2011)	Operations & maintenance (O&M) for Auburn Transit bus service within the City of Auburn.	2011	$453,000	$471,120
City of Colfax Dept of Public Works	PLA25205	'07-00	11-00	Overlays & Pavement Rehabilitation	In Colfax, surface overlays, various dig-outs, & patching of failed substructure South Auburn Street north of SR174, North Main Street, Grass Valley Street, & Rocky Road.	2011	$300,000	$312,000
City of Lincoln Dept of Public Works	PLA25208	'07-00	11-00	Auburn Ravine Phase 2 Bike/Ped Bridge	Phase 2: Class I pedestrian/bikeway along Auburn Ravine paralleling Ferrari Ranch Road from Ingram Parkway west to SR 65 & bridge crossing over Auburn Ravine.	2011	$1,849,109	$1,923,073
City of Rocklin Division of Engineering	PLA25267	'07-00	11-00	Civic Center Drive	Civic Center Drive: Construct new two lane roadway from the intersection of Meyers Street / Rocklin Road to an intersection with Pacific Street. One or more phases of this project may require federal permitting.	2011	$2,698,000	$2,805,920

Lead Agency	SACOG Project ID	SACOG MTP	SACOG MTIP	Project Title	Project Description	Year Complete	Current Year (2010) $	Expenditure Year $
City of Rocklin Division of Engineering	PLA25357	'07-00	11-00	Safe School Route Phase 5	In downtown Rocklin: Construct new sidewalks & bicycle lanes on remaining unimproved existing streets, allowing access to Springview School, downtown, & adjacent residential neighborhoods. (Emission Benefits in kg/day: ROG 0.26, NOx 0.15, PM10 0.03)	2011	$2,989,955	$3,109,553
City of Rocklin Division of Engineering	PLA25502	07-00	11-00	Rocklin Road / Meyers Street Intersection Improvements	Construct a new roundabout at the intersection of Rocklin Road & Meyers Street.	2011	$963,205	$1,001,733
City of Rocklin Division of Engineering	PLA25503	07-00	11-00	Rocklin Road Pavement Rehabilitation	Reconstruct Rocklin Road from Granite Drive to Meyers Street & High Street to Pacific Street.	2011	$1,500,000	$1,560,000
City of Roseville Dept of Public Works	PLA25366	'07-00	11-00	Bicycle Detection	Traffic signal detection for bicycles at various locations in Roseville.	2011	$350,000	$364,000
City of Roseville Dept of Public Works	PLA25385	'07-00	11-00	I-80 To Royer Park Bikeway Phase 2 - Segment 2	Roseville, Harding Boulevard @ Dry Creek, I-80 to Royer Park: Construct class 1 bikeway in 2 phases. Phase 1 from I-80 to Harding Boulevard completed in 2004 (PLA20870) completed in 2004. Phase 2 construction is separated into 3 segments: Segment 2 is Located from East Street to Folsom Road.	2011	$413,592	$430,136
City of Roseville Dept of Public Works	PLA15710	'07-00	09-35	I-80 Eureka Road On-Ramp Improvements	In Roseville, Eureka Road at I-80: add 4th WB thru lane from 500' E of N. Sunrise to eastbound I-80 on-ramp, including Miners Ravine Bridge widening, & change existing #1 NB & SB thru lanes at Sunrise/Eureka to left turn lanes. HPP #2399	2011	$9,600,000	$9,984,000
City of Roseville Dept of Public Works	PLA25415	'07-00	11-00	Bus Purchase	Replace three (3) DAR style buses, with three low floor buses @ $130,000 each.	2011	$390,000	$405,600
City of Roseville Dept of Public Works	PLA25215	07-00	11-00	Operating Assistance JARC 5316	JARC funds to decrease headways on weekday Roseville Transit Local Route A from hourly to every half hour. The additional service will aid passengers taking transit to major employment centers & provide better connectivity to Sacramento Regional Transit & Placer County Transit.	2011	$229,119	$238,284
City of Roseville Dept of Public Works	PLA25404	'07-00	11-00	Repower/Rehab Buses	Repower/Rehab buses	2011	$1,215,000	$1,263,600
City of Roseville Dept of Public Works	PLA25200	'07-00	11-00	Roseville Transfer Point & Bus Stop Improvement Project	1. In Roseville, bus stop & pedestrian improvements along Riverside Avenue & completion of bike trail segment to Darling Way/Riverside Avenuenue;2. &, transfer point improvements at Sierra Gardens/Santa Clara Drive. LIMITS: 1. Riverside Avenue - Douglas to Darling (including ptn. of bike trail along Dry Creek);2. Sierra Gardens/Santa Clara. STREET NAME: Riverside Avenue	2011	$1,402,500	$1,458,600
Placer County Dept of Public Works	PLA25447	07-00	11-00	Bowman Road Bridge	Bridge No. 19C0061, Bowman Road, over UPRR, BNSF rail yards & AMTRAK, 0.1 miles south of 19C0062. Preliminary Engineering & rehabilitate or replace the existing structurally deficient bridge to bring up to current standards. No additional lanes.	2011	$1,875,001	$1,950,001
Placer County Dept of Public Works	PLA25444	07-00	11-00	Wise Road Bridge Replacement	Bridge No. 19C0035, Wise Road, over Auburn Ravine, between Millerton & Stone Road. Replace the existing 2 lane bridge with a new 2 lane bridge.	2011	$2,334,000	$2,427,360
Placer County Dept of Public Works	PLA25446	07-00	11-00	Auburn-Foresthill Road Bridge	Bridge No. 19C0060A, Auburn-Foresthill Road, over North Fork American River, east of I-80. LSSRP Seismic Retrofit.	2011	$91,888,011	$95,563,531
Placer County Dept of Public Works	PLA25427	07-00	11-00	Foresthill Passing Lane Modification Project	Project is Located on Foresthill Road 4.9 miles east of the intersection of I-80 and Auburn Ravine - Foresthill Road Exit, between PM 5.25 & 5.50. Project includes realigning & restriping of approximately 875lf of centerline to increase the horizontal curve from 560lf to 700lf; remove approximately 965lf of eastbound passing lane; extend approximately 413lf of westbound passing lane; and apply a microsurface friction course to entire project. Project also includes striping of approximately 1415lf of the south shoulder to maintain 12 - 14 foot maximum lane width.	2011	$125,000	$130,000
Placer County Transit	PCT10496	'07-00	11-00	Preventive Maintenance	In non-urbanized areas of Placer County: Preventive maintenance. (Includes TART as well.)	2011	$251,098	$261,142

Lead Agency	SACOG Project ID	SACOG MTP	SACOG MTIP	Project Title	Project Description	Year Complete	Current Year (2010) $	Expenditure Year $
Placer County Transit	PCT10494	'07-00	11-00	CNG Station Upgrade Phase 2	Dewitt Center in Auburn: Increase of CNG compressor capacity at Placer County CNG fueling station in Auburn. (Emissions Benefits in kg/day: 3.46 NOx, 0.12 PM10.) *Local Funds are Air District Funds*	2011	$576,809	$599,881
Placer County Transit	PCT10475	'07-00	11-00	Tahoe Truckee Jobs Access Reverse Commute Program	In Placer County, provide JARC operating assistance to Tahoe Area Regional Transit (part of Sacramento RT grant #CA-37-X065).	2011	$1,320,000	$1,372,800
Placer County Transit	PCT10500	07-00	11-00	Placer County Transit Replacement Buses	Purchase of 2 35' CNG replacement buses for Placer County Transit.	2011	$282,390	$293,686
Sac. Metro Air Quality Management District	VAR56004	07-00	11-00	Urban Forest for Clean Air (Phases 1-3)	Evaluate the potential SIP control strategy to capture the effects of the urban forest on regional air quality.	2011	$725,000	$754,000
SACOG	VAR11000	'07-00	'09-10	STARNET Integration	Develop & install an information exchange system--the Sacramento Transportation Area Network, or STARNET--& connect 18 traffic & emergency centers. (Emission Benefits in kg/day: 223 ROG, 223 NOx, 330 CO)	2011	$5,345,419	$5,559,236
Town of Loomis Dept of Public Works	PLA25252	'07-00	11-00	Swetzer Road / King Road Signalization	In Loomis, install signal that is synchronized with the UPRR railroad at the Swetzer Road & King Road intersection.	2011	$347,345	$361,239
Town of Loomis Dept of Public Works	PLA19100	'07-00	11-00	Loomis Rail Station Enhancements	Design & construct pedestrian & landscaping improvements at the multimodal center including a Class I bike facility adjacent to Taylor Road. from downtown Loomis to Sierra College Boulevard (Emission benefits in kg/day: 6 ROG, 8 NOx, 3 PM-10)	2011	$659,225	$685,594
Caltrans District 3	CAL20405	07-00	11-00	Rumble Strips	In Placer County install rumble strips per SHOPP - Collision Reduction - on Pla-80 from Applegate Road overcrossing to SR174 junction (part of a larger group of Caltrans District 3 projects).	2012	$200,000	$216,320
Caltrans District 3	CAL18767	'07-00	11-00	I-80 Operational Improvements/HOV - Phase 2	In Placer County, near Sacramento, phase 2, west of Sacramento/Placer County line to Miners' Ravine Bridge- Construct eastbound & westbound HOV lanes & auxiliary lanes, with bridge widening & ramp modifications.	2012	$47,576,532	$51,458,777
Caltrans District 3	CAL20398	07-00	11-00	I-80 Rehabilitation - SHOPP	In Auburn, Placer County, from 0.5 mile west of Ophir Road undercrossing to 0.1 mile east of Russell Road overcrossing, rehabilitate roadway (16.8/R19.0).	2012	$7,515,000	$8,128,224
Caltrans District 3	CAL18797	'07-00	11-00	I-80 HOV Lanes & Aux Lanes - Phase 3	Phase 3 of the Operational Improvement Project: On I-80, Construct east & west bound extensions of the HOV (High Occupancy Vehicle) lanes & auxiliary lanes from Miners' Ravine to SR 65, 1 mile east of the 65/80 Separation. Includes widening of Miners' Ravine Bridge in both directions.	2012	$33,848,000	$36,609,997
Caltrans District 3	CAL18781	'07-00	11-00	Install TMS Units	In Placer, Sacramento & Colusa Counties, at various locations - Install Transportation Management System (TMS) Units for monitoring congestion & delay.	2012	$7,817,659	$8,455,580
Caltrans District 3	CAL20442	'07-00	11-00	Upgrade MBGR End Treatments at Various locations	In El Dorado, Placer, Sutter, Butte & Nevada counties on SR 99, 20, 49 & 50 - Upgrade metal beam guard rail (MBGR) end treatments (approximately 50% of work in El Dorado, Placer & Sutter counties; 29% in Butte County; & 21% in Nevada County)..	2012	$5,170,000	$5,591,872
Caltrans District 3	CAL20422	07-00	11-00	I-80 Maintenance in Placer County	On I-80 in Placer County, 7 miles east of Auburn, from 1.7 miles west of Applegate Road overcrossing (Br #19-0130) to 0.2 mile east of Junction SR174 in Colfax: perform maintenance of asphalt & concrete overlay.	2012	$6,165,500	$6,668,605
Caltrans District 3	CAL20393	07-00	11-00	Sac/Pla/Nev Thin Friction Surface	In Sacramento, Placer & Nevada counties at various locations - place a thin high friction surface (SHOPP - Collision Reduction). In Placer County at Pla-80-8.87.	2012	$842,000	$910,707

Lead Agency	SACOG Project ID	SACOG MTP	SACOG MTIP	Project Title	Project Description	Year Complete	Current Year (2010) $	Expenditure Year $
Capitol Corridor Joint Powers Authority	CAL18320	'07-00	11-00	Roseville Third Track	Design & environmental for a third track to improve capacity on the UP mainline between Elvas Tower in Sac County & Roseville Station in Placer County. Extend freight lead track. Construct track and signal improvements. Possible relocation Roseville rail station to address conflicting train movements that affect capacity.	2012	$7,280,000	$7,874,048
City of Auburn Dept. of Public Works	PLA25247	'07-00	11-00	Auburn Ravine Bus Turnout / Bus Shelter	Construction of bus turnout & installation of bus shelter on Auburn Ravine Road in the City of Auburn.	2012	$175,000	$189,280
City of Auburn Dept. of Public Works	PLA25230	'07-00	11-00	Dairy Road Realignment	Roadway improvements along Dairy Road from Auburn Ravine to Luther Road, including realignment, bike lanes, bus turnouts, & sidewalks.	2012	$1,000,000	$1,081,600
City of Auburn Dept. of Public Works	PLA25229	'07-00	11-00	Nevada Street Improvements	Various improvements on Nevada Street from SR 49 to I-80, including widening 2 to 3 lanes, signalization, bike lanes, sidewalks, & bus turnouts.	2012	$225,000	$243,360
City of Auburn Dept. of Public Works	PLA25226	'07-00	11-00	Palm Avenue Sidewalks / Bicycle Lane	Installation of sidewalks & Class 2 bike lanes from SR 49 to Nevada Street.	2012	$889,090	$961,640
City of Colfax Department of Public Works	PLA25439	07-00	11-00	Grass Valley Street Railroad Crossing Pedestrian Improvements	Pedestrian improvements across UP railroad tracks to improve pedestrian safety.	2012	$244,000	$263,910
City of Colfax Dept of Public Works	PLA25024	'07-00	11-00	South Auburn Street Bike Lanes	On South Auburn Street from Mink Creek to Colfax/Grass Valley Overcrossing: Add bike lanes on both sides of street.	2012	$115,000	$124,384
City of Colfax Dept of Public Works	PLA25466	07-00	"11-00	Main & Grass Valley Signal Improvements	Design & construction of a new traffic signal & turn-lane at the intersection of Main Street & Grass Valley Street. (Emission reductions: ROG 16 lbs/yr; NOx 11 lbs/yr; CO 20 lbs/yr).	2012	$200,000	$216,320
City of Lincoln Dept of Public Works	PLA19070	'07-00	11-00	Ferrari Ranch Road at SR65 Bypass	In Lincoln, SR65 Lincoln Bypass at Ferrari Ranch Road: construct interchange.	2012	$14,495,628	$15,678,471
City of Lincoln Dept of Public Works	PLA25311	'07-00	11-00	NEV Transportation Project - Phase 2	In Lincoln: Various streets within Lincoln; striping, pavement markings, & signage on various roadways for NEV Transportation Project.	2012	$273,430	$295,742
City of Lincoln Dept of Public Works	PLA20810	'07-00	11-00	East Avenue	Reconstruct & restripe East Avenue 2-lane roadway from East 9th Street to SR193.	2012	$1,900,000	$2,055,040
City of Lincoln Dept of Public Works	PLA18710	'07-00	11-00	Industrial Boulevard	Industrial Boulevard, from Route 65 to 12 Bridges Drive: Widen from 2 to 4 lanes.	2012	$948,000	$1,025,357
City of Lincoln Dept of Public Works	PLA18790	'07-00	11-00	East Joiner Parkway	Widen East Joiner Parkway from 2 to 4 lanes from Del Webb Boulevard to Twelve Bridges.	2012	$1,104,290	$1,194,400
City of Lincoln Dept of Public Works	PLA19020	'07-00	11-00	Twelve Bridges Drive	Twelve Bridges Drive from Industrial Boulevard to SR 65 Interchange: widen from 2 to 4 lanes, including interchange improvements.	2012	$230,414	$249,216
City of Rocklin Division of Engineering	PLA25356	'07-00	11-00	NEV Lanes	Install striping, pavement markings, & signage to existing roadways to provide Neighborhood Electric Vehicle (NEV) access from residential areas within the City of Rocklin to downtown Rocklin & commercial areas. (Emission benefits in kg/day: ROG 3.29, NOx 2.88, PM10 1.56)	2012	$267,500	$289,328
City of Rocklin Division of Engineering	PLA25355	'07-00	11-00	Multi Modal Station Park-n-Ride Lot	In Rocklin, Rocklin Road adjacent to the UPRR tracks: Construct approximately 175 additional spaces, including lighting & landscaping, to the existing parking lot at the existing Rocklin Multi Modal station. (Emission Benefits in kg/day: ROG 0.46, NOx 0.49, PM10 0.38)	2012	$580,000	$627,328
City of Roseville Dept of Public Works	PLA19860	'07-00	11-00	Roseville Bikeway Master Plan Implementation	In Roseville, provide signs & striping for new class 2 & 3 bikeways.	2012	$105,000	$113,568
City of Roseville Dept of Public Works	PLA25214	'07-00	11-00	Roseville Transit ITS Project	To purchase & install electronic fare boxes, software, probes, software, automatic vehicle Location devices, mobile data computers, video security cameras & software, & digital reader board equipment for transfer points. [Project replaces PCT10430 & PCT10420]	2012	$1,100,000	$1,189,760
City of Roseville Dept of Public Works	PLA25381	'07-00	11-00	Westside Drive	City of Roseville: New N/S Road in West Roseville Specific Plan, west of Fiddyment Road, south of Blue Oaks Avenue, between Pleasant Grove & Blue Oaks.	2012	$3,500,000	$3,785,600

Lead Agency	SACOG Project ID	SACOG MTP	SACOG MTIP	Project Title	Project Description	Year Complete	Current Year (2010) $	Expenditure Year $
City of Roseville Dept of Public Works	PLA25386	'07-00	11-00	I-80 To Royer Park Bikeway Phase 2 - Segment 3	Roseville, Harding Boulevard @ Dry Creek, I-80 to Royer Park: Construct class 1 bikeway in 2 phases. Phase 1 from I-80 to Harding Boulevard completed in 2004 (PLA20870) completed in 2004. Phase 2 construction is separated into 3 segments: Segment 3 is Located from Folsom Road to Lincoln Street/Royer Park.	2012	$938,108	$1,014,658
City of Roseville Dept of Public Works	PLA25416	'07-00	11-00	South Placer Transportation Call Center	Operating cost contribution towards ADA complementary paratransit services provided for the South Placer Call Center.	2012	$187,500	$202,800
City of Roseville Dept of Public Works	PLA25339	'07-00	11-00	City of Roseville SRTS	Proposes a Safe Routes to School pilot program within Roseville beginning with the Dry Creek School District. It will develop a "SRTS Tool Box." The Tool Box would include strategies for education, encouragement, enforcement, engineering & evaluation. SRTSD50_0043	2012	$215,000	$232,544
City of Roseville Dept of Public Works	PLA25406	'07-00	11-00	West Roseville CMS Installation Project	In Roseville, install Changeable Message Signs (CMS) on S/B Foothills Boulevard south of Vineyard Road & E/B Baseline Road east of Fiddyment Road to reduce traffic congestion by improving traffic information dissemination per the ITS Master Plan.	2012	$300,000	$324,480
City of Roseville Dept of Public Works	PLA25288	'07-00	11-00	Roseville Fiber Optics Project	In Roseville, install fiber optic conduit, cable & pull-boxes along: Cirby Way, Rocky Ridge Drive, Old Auburn Road, South Cirby Way, Roseville Parkway, Blue Oaks Boulevard, Fiddyment Road, Baseline Road, Woodcreek Oaks Boulevard, Junction Boulevard & Foothills Boulevard (Emission reduction benefits (kg/day): ROG 0.32, NOx 0.32).	2012	$940,000	$1,016,704
City of Roseville Dept of Public Works	PLA25375	'07-00	11-00	Blue Oaks Extension	Roseville, Blue Oaks from 1300' west of Fiddyment to Hayden Pkwy., extend as 4 lanes. From Hayden Pkwy. to Westside extend as 2 lanes, including a 6 lane bridge over Kaseberg Creek.	2012	$9,700,000	$10,491,520
City of Roseville Dept of Public Works	PLA25500	07-00	11-00	Pedestrian Facilities Improvement Project	In Roseville, construct sidewalks along various arterial & collector roadways. (Emission benefits in (kg/day) 0.45 ROG, 0.27 NOx, 0.05 PM10).	2012	$522,450	$565,082
Placer County Dept of Public Works	PLA25126	'07-00	11-00	Coon Creek Regional Park Bike Trail Project	Placer County intends to construct multi-use trails, parking lot & staging area & related improvements. LIMITS: Garden Bar area of Placer County .25 miles north of Mears Road between the Cities of Lincoln & Auburn. STREET NAME: Mears Road	2012	$946,194	$1,023,403
Placer County Dept of Public Works	PLA25453	07-00	11-00	Yankee Slough Bridge Replacement	Bridge No.19C0129, Dowd Road, over Yankee Slough, just south of Dalby Road. Right-of-way & replace existing structurally deficient bridge with new 2 lane bridge.	2012	$2,341,000	$2,532,026
Placer County Dept of Public Works	PLA25474	07-00	11-00	Dowd Road Bridge Replacement	Bridge No. 19C0118, Dowd Road, over Markham Ravine, 0.5 miles south of Nicolaus Road. Replace existing 2 lane structurally deficient bridge with a new 2 lane bridge.	2012	$4,800,000	$5,191,680
Placer County Dept of Public Works	PLA25390	'07-00	11-00	Sheridan Elementary School Frontage Improvements SRTS	Sheridan ES & Lincoln MS: Improvements shall consist of a multi-purpose pedestrian path along the school frontage with curb ramps plus the installation of 2 4-way stops at the intersections of H Street/10th Street & Riosa Road/10th Street. (SRTS# S0203018)	2012	$329,800	$356,712
Placer County Dept of Public Works	PLA25128	'07-00	11-00	De La Salle Access Road	Construct De La Salle Access Road: new 4 lane road from Watt Avenue extension north to De La Salle University.	2012	$6,000,000	$6,489,600
Placer County Dept of Public Works	PLA25170	'07-00	11-00	Sunset Boulevard Phase 2	Sunset Boulevard, from Foothills Boulevard to Fiddyment Road: Construct a 2-lane road extension [PLA15410 is Phase 1.]	2012	$6,275,000	$6,787,040
Placer County Dept of Public Works	PLA15080	'07-00	11-00	Auburn-Folsom Road Widening	From Placer/Sacramento County line to Douglas Boulevard: Widen to 4 lanes & install a signal at Auburn-Folsom Road & Fuller Drive.	2012	$27,300,000	$29,527,680
Placer County Dept of Public Works	PLA25044	'07-00	11-00	Sunset Boulevard	Widen Sunset Boulevard from SR 65 to Cincinnati Avenue from two to four lanes. Project includes widening Industrial Boulevard / UPRR overcrossing from two to four lanes.	2012	$8,675,000	$9,382,880

Lead Agency	SACOG Project ID	SACOG MTP	SACOG MTIP	Project Title	Project Description	Year Complete	Current Year (2010) $	Expenditure Year $
Placer County Dept of Public Works	PLA25006	'07-00	11-00	TART CNG Facility Phase 2	TART Maintenance Facility, 870 Cabin Creek Road, Truckee, CA. Construct improvements to the TART CNG Fueling Facility (phase 2).	2012	$358,868	$388,152
Placer County Dept of Public Works	PLA25426	07-00	11-00	Cook Riolo Road Bridge	Bridge No. 19C0117, Cook Riolo Road, over Dry Creek, 1.0 mile south of Base Lane Road. Right-of-way & replace 2 lane bridge with a new 2 lane bridge.	2012	$9,146,051	$9,892,369
SACOG	VAR56028	'07-00	09-23	Universal Transit Fare Card	Universal Transit Fare Card Procurement & Implementation: Implement a Universal Transit Fare Card System (UTFS) in the SACOG region, including hiring a consultant. [This project has $537k STIP in 2010, but will implement AB3090 in order to use State Bond Transit in 2008] (Emission Benefits in kg/day: 0.06 ROG, 0.12 NOx). PCT and Roseville Transit participating Placer County transit operators.	2012	$10,450,583	$11,303,351
SACOG	VAR56041	07-00	11-00	Safe Routes to School	For all schools in the six-county region, including Placer County: create tools, programs, & materials that promote safe walking & bicycling; conduct outreach & educate partners (SRTS#S0203019).	2012	$240,000	$259,584
SACOG	VAR56036	07-00	11-00	SACOG New Freedom Funding FY 2007/2010	SACOG 5317 New Freedom funds for the Sacramento urbanized area for FFY 2007-2010. For Placer County, FY 2009 & FY2010 two-year application is for the WPCTSA.	2012	$324,412	$350,884
Town of Loomis Dept of Public Works	PLA25253	'07-00	11-00	Sierra College Boulevard / Bankhead Road Signalization	Signalize intersection at Sierra College Boulevard & Bankhead Road in Loomis.	2012	$300,000	$324,480
Town of Loomis Dept of Public Works	PLA25354	'07-00	11-00	King Road. / Swetzer Road. Signalization	Construct a new traffic signal at King Road & Swetzer Road & provide synchronization between this signal, the King Road & the Taylor Road traffic signals & the Union Pacific railroad crossing. (Emission benefits in kg/day ROG 2.35, NOx 0.75)	2012	$152,931	$165,410
Town of Loomis Dept of Public Works	PLA25182	'07-00	09-38	Multi-Modal Parking Facility - Phase 1	Multi-modal parking facility, bus stop & bicycle & pedestrian improvements on approximately 10 acres of Union Pacific property on Horseshoe Bar Road, adjacent to downtown Loomis. Phase 1 includes environmental, engineering & design, property acquisition & initial construction; future phases 2 & 3 cover construction only. Air quality emissions reduction is estimated at 1.0 kg per day.	2012	$1,402,232	$1,516,654
Town of Loomis Dept of Public Works	PLA25251	'07-00	11-00	Bankhead Road Widening	In Loomis, widen Bankhead Road to standard lane width, including possible construction of bike lanes.	2012	$600,000	$648,960
Caltrans District 3	CAL18826	'07-00	11-00	I-80 Rehabilitate Bridge Decks Near Roseville	Placer County, I-80 near Roseville at various locations from Auburn/Riverside Overcrossing to Weimar Cross Road - Rehabilitate bridge decks (PM 0.3/29.3).	2013	$16,184,000	$18,204,799
Caltrans District 3	CAL18829	'07-00	11-00	Upgrade MBGR End Treatments in Various Counties	In Sacramento, Placer, Yuba & Yolo Counties at various locations - Upgrade metal beam guard rail end treatments (project includes additional $2 million of OTS funds).	2013	$6,380,000	$7,176,632
Caltrans District 3	CAL18784	'07-00	11-00	ITS Installation - Various locations	In El Dorado, Nevada & Placer Counties at various locations on U.S. 50, I-80, SR89 & SR267 - install Intelligent Transportation Systems.	2013	$4,606,000	$5,181,124
Caltrans District 3	CAL18780	07-00	11-00	Various Counties Upgrade Guardrail	In Placer Counties on SR65 upgrade guardrail. Project includes other various counties in District 3.	2013	$2,843,400	$3,198,438
Caltrans District 3	CAL20439	07-00	11-00	Martis Creek Left-Turn Lane	Near Truckee on SR 267 at Martis Creek Lake Road, construct a left-turn lane pocket.	2013	$1,458,000	$1,640,052
City of Auburn Dept. of Public Works	PLA25255	'07-00	11-00	Auburn Infill Sidewalk Program	Construction of new curbs, gutters, & sidewalks that complete the existing sidewalk network, & connect existing areas throughout the City of Auburn.	2013	$200,000	$224,973
City of Auburn Dept. of Public Works	PLA25461	'07-00	11-00	Auburn Transit - O&M (2013)	Operations & maintenance (O&M) for Auburn Transit bus service within the City of Auburn.	2013	$473,000	$532,061

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City of Auburn Dept. of Public Works	PLA25471	07-00	36831	Nevada Street Pedestrian & Bicycle Facilities	Class 2 bike lane & adjacent sidewalks along Nevada Street from Placer Street to Fulweiler Avenue to allow for continuous pedestrian & bicycle access from Old Town Auburn to the Auburn Station & EV Cain Middle School. (Emission reduction benefits (kg/day) ROG 0.03, NOx 0.02, PM10 0.01).	2013	$444,526	$500,031
City of Lincoln Dept of Public Works	PLA18650	'07-00	11-00	Aviation Boulevard	Widen Aviation Boulevard from 2 to 4 lanes from Venture Drive to terminus 0.5 miles north of Venture Drive	2013	$850,000	$956,134
City of Roseville Dept of Public Works	PLA19841	'07-00	11-00	Roseville Maintenance Facility Upgrades	Exp& existing Vehicle Maintenance facility at City of Roseville Corporation Yard (2005 Hilltop Circle). Early funding will cover preliminary engineering/environmental studies for preferred sites.	2013	$2,710,000	$3,048,381
City of Roseville Dept of Public Works	PLA25323	'07-00	11-00	Sierra Gardens Transfer Point	Improve Sierra Gardens Transfer Point. Improvements may include new bus turnouts, shelters, restrooms, landscaping, lighting, crosswalks, sidewalks, & other pedestrian improvements such as bulb-outs. (Emission benefits in kg/day: 63 ROG, 63 NOx, 25 PM10.)	2013	$2,542,151	$2,859,574
City of Roseville Dept of Public Works	PLA25417	'07-00	11-00	Preventive Maintenance	FFY 2009 through FFY 2013 preventive maintenance.	2013	$1,311,750	$1,475,540
City of Roseville Dept of Public Works	PLA25465	07-00	11-00	Downtown Roseville Transportation Enhancement Project	In Roseville, conduct Washington Boulevard pedestrian/bike undercrossing study; improve Civic Center transit transfer facility; & construct other transit/bicycle/pedestrian related improvements.	2013	$793,750	$892,861
City of Roseville Dept of Public Works	PLA25377	'07-00	11-00	Market Drive	City of Roseville; Extend from Baseline Road to Pleasant Grove.	2013	$8,500,000	$9,561,344
City of Roseville Dept of Public Works	PLA25382	'07-00	11-00	Westside Drive	City of Roseville: New N/S Road in proposed new Sierra Vista Specific Plan, west of Fiddyment Road, between Baseline & Pleasant Grove.	2013	$4,000,000	$4,499,456
City of Roseville Dept of Public Works	PLA25469	07-00	11-00	Oak Street Extension of Miners Ravine Trail	In Roseville, extend Class 1 trail from Lincoln Street to Royer Park.	2013	$854,770	$961,500
City of Roseville Dept of Public Works	PLA25430	07-00	11-00	Washington Boulevard Bonded Wearing Course	In Roseville, on Washington Boulevard from Pleasant Grove Boulevard to Blue Oaks Boulevard: apply 1-inch bonded wearing course to existing street surface.	2013	$1,175,460	$1,322,233
Placer County Dept of Public Works	PLA20880	'07-00	11-00	Walerga Road Bridge Widening	In Placer County, West of Roseville, Walerga Road at Dry Creek: replace bridge & widen from 2 to 4 lanes.	2013	$20,200,000	$22,722,253
Placer County Dept of Public Works	PLA15120	'07-00	11-00	Bill Francis Drive	Construct 2-lane road from new Airport Road. to old Airport Road.	2013	$1,500,000	$1,687,296
Placer County Dept of Public Works	PLA16840	'07-00	11-00	Douglas Boulevard Widening	In Placer County, Douglas Boulevard: widen from 4 to 6 lanes from Cavitt Stallman Road south to Sierra College Boulevard (1,000+ feet).	2013	$500,000	$562,432
Placer County Dept of Public Works	PLA15420	'07-00	11-00	Walerga Road	Walerga Road: Widen & realign from 2 to 4 lanes from Baseline Road. to Placer / Sacramento County line.	2013	$13,781,700	$15,502,538
Placer County Dept of Public Works	PLA25432	07-00	11-00	Rollins Lake Road Shoulder Widening and Guardrail Improvements	Rollins Lake Road for two miles north of its intersection with SR174, including its intersection with Norton Grade Road. Construct segments of shoulder widening and guardrail; realign roadway intersection; install speed limit and curve warning signage. HSIP3-03-032.	2013	$1,110,200	$1,248,824
Placer County Dept of Public Works	PLA25433	07-00	11-00	Foresthill Road Safety	On Foresthill Road 3.2 miles east of its intersection with I-80, improve horizontal geometry of three curves; repave and apply a micro-surface friction course; increase sight distance and add acceleration lane. HSIP3-03-030.	2013	$1,000,000	$1,124,864
Placer County Dept of Public Works	PLA25384	'07-00	11-00	Foresthill Road Safety Improvements	Foresthill Road from Lower Lake Clementine Road to Old Auburn Road: Increase sight distance; construct acceleration lane.	2013	$1,082,000	$1,217,103
Placer County Dept of Public Works	PLA25472	07-00	11-00	Auburn-Folsom Road Class 2 Bike Lane	On Auburn-Folsom Road between Douglas Boulevard & Joe Rodgers Road, construct a Class 2 bike lane including signage & striping.	2013	$800,000	$899,891

Lead Agency	SACOG Project ID	SACOG MTP	SACOG MTIP	Project Title	Project Description	Year Complete	Current Year (2010) $	Expenditure Year $
Sac. Metro Air Quality Management District	VAR56006	'07-00	11-00	Regional Spare the Air Driving Reduction Program Phase 2	Sacramento Federal Nonattainment Area: Spare The Air Voluntary Driving Curtailment Program. [Continued from SAC21080, Larger MTP project is VAR56022] (Emission Benefits in kg/day: ROG 0.2, NOx 0.2). Placer County share only.	2013	$263,100	$295,952
SACOG	VAR56037	'07-00	09-28	SECAT Program Phase 2	Heavy-Duty NOx control strategies; SECAT program; GIS Transit program (includes bus stop & centralized regional transit information system, & trip planning). Placer County share only.	2013	$1,315,550	$1,479,815
Town of Loomis Dept of Public Works	PLA20910	'07-00	11-00	Taylor Road Bike & Turn Lane	In Loomis, Taylor Road from King Road to north town limits: add turn lane & bike lanes. STREET NAME: Taylor Road	2013	$690,000	$776,156
Town of Loomis Dept of Public Works	PLA25254	'07-00	11-00	Del Oro High School / Taylor Road Signalization	In Loomis, signalize the intersection at Del Oro High School & Taylor Road.	2013	$400,000	$449,946
Caltrans District 3	CAL17240	'07-00	11-00	SR65 Lincoln Bypass	Placer County, SR65: Construct a 4-lane expressway on a new alignment from Industrial Avenue to north of North Ingram Slough & continue north with 2 lanes to Sheridan. Also design & construct a Park & Ride facility at SR65 Bypass & Industrial Avenue. (Emission Reductions in kg/day: ROG 1, NOx 1.2, PM10 0.6.) HPP #1408	2014	$291,783,000	$341,344,840
Caltrans District 3	CAL20389	'07-00	11-00	SR193 Curve Improvement	Near Lincoln, from 0.1 mile west to 0.9 mile east of Clark Tunnel Road - Realign curve improvement (SHOPP Lump Sum - Collision Reduction) (PM 4.5/5.4).	2014	$12,586,000	$14,723,840
City of Auburn Dept. of Public Works	PLA25227	'07-00	11-00	Auburn Signalization & Traffic Calming	Installation of various traffic signals & traffic calming measures within the City of Auburn.	2014	$400,000	$467,943
City of Auburn Dept. of Public Works	PLA25233	'07-00	11-00	Central Auburn Roadway Network	Various roadway widening & new roadway construction as a result of new development & redevelopment in the central Auburn Area. One or more phases of this project may require federal permitting.	2014	$500,000	$584,929
City of Auburn Dept. of Public Works	PLA25256	'07-00	11-00	Auburn Sidewalk Reconstruction & Tree Planting	Removal & replacement of damaged sidewalks in various locations throughout the City of Auburn, including installation of irrigation & tree/landscape planting where separated sidewalks exists.	2014	$400,000	$467,943
City of Auburn Dept. of Public Works	PLA25353	'07-00	11-00	Auburn Multi Modal Station - Rail Platform Extension	At the existing Auburn Multi Modal Station: Obtain right-of-way & install rail platform extension . Funding is for planning / engineering & design / environmental phase only.	2014	$1,416,480	$1,657,081
City of Auburn Dept. of Public Works	PLA25441	07-00	11-00	Road Rehab & Overlays	In Auburn, various locations: perform pavement resurfacing and/or rehabilitation on the following urban roadways: Auburn-Folsom Road from Sunrise Ridge to Southridge, East Lincoln Way from Foresthill Avenue to Auburn City limits, and Dairy Road from Auburn Ravine to Luther Road.	2014	$363,768	$425,557
City of Auburn Dept. of Public Works	PLA25462	'07-00	11-00	Auburn Transit - O&M (2014)	Operations & maintenance (O&M) for Auburn Transit bus service within the City of Auburn.	2014	$487,000	$569,721
City of Colfax Dept of Public Works	PLA25158	'07-00	11-00	Downtown Colfax Bike Lane Extension	From Downtown Multi-modal station, construct bike path extension to the intersection of Main Street & SR174 (Main Street) at Depot.	2014	$562,500	$658,045
City of Colfax Dept of Public Works	PLA25238	'07-00	11-00	South Canyon Way / Illinois Town Road	Intersection improvements, including construction of a center turn lane, at South Canyon Way & Illinois Town Road in Colfax.	2014	$225,000	$263,218
City of Colfax Dept of Public Works	PLA25239	'07-00	11-00	South Canyon Way / Plutes Road	Intersection improvements, including the construction of a center turn lane at South Canyon Way & Plutes Road in Colfax.	2014	$225,000	$263,218
City of Colfax Dept of Public Works	PLA25240	'07-00	11-00	Canyon Creek Road Extension	Extension of Canyon Creek Road to City Limits. Improvements include curb, gutter, & sidewalk.	2014	$100,000	$116,986
City of Colfax Dept of Public Works	PLA25241	'07-00	11-00	Shadowwood Subdivision Local Road Network	Local road network within & around Shadowwood subdivision. Project may require Federal permitting.	2014	$260,000	$304,163
City of Colfax Dept of Public Works	PLA25242	'07-00	11-00	Plutes Road	Construction of new subdivision access road from Canyon Way to east City limits, including construction of culvert at Bunch Creek. Project may require Federal permitting.	2014	$1,087,500	$1,272,221

Lead Agency	SACOG Project ID	SACOG MTP	SACOG MTIP	Project Title	Project Description	Year Complete	Current Year (2010) $	Expenditure Year $
City of Colfax Dept of Public Works	PLA25243	'07-00	11-00	Illinois Town Road	Construction of new subdivision access road from Canyon Way to east City limits, including construction of culvert at Bunch Creek. Project may require Federal permitting.	2014	$1,147,500	$1,342,413
City of Colfax Dept of Public Works	PLA25244	'07-00	11-00	Colfax Pines Subdivision New Local Road	New Local road connecting Colfax Pines development to Iowa Hill Road. Project may require Federal permitting.	2014	$650,000	$760,408
City of Colfax Dept of Public Works	PLA25145	'07-00	11-00	Railroad Avenue Connector	Construct north south connector road on Railroad Avenue with pedestrian & bicycle improvements from Whitcomb to Grass Valley Street.	2014	$1,357,500	$1,588,083
City of Lincoln Dept of Public Works	PLA25464	07-00	09-38	G Street Bicycle/Pedestrian/NEV/ITS Improvements	Construct various pedestrian, bicycle, NEV, and ITS improvements along the Highway 65 / G Street corridor from Sterling Parkway to 7th Street. Improvements will consist of gap sidewalk construction, pedestrian improvements to railroad crossings, pedestrian crossings along Highway 65 / G Street, bicycle and NEV lanes, connection to the existing trail along Auburn Ravine east of Highway 65, roadway narrowing through the construction of landscape medians and frontage improvements where appropriate, and traffic signal interconnection and coordination along the corridor. The first step of the project will be to prepare a master plan identifying and analyzing the improvements needed along the corridor. Based on the results of the master plan the project will then be designed and constructed in phases as multiple City capital improvement projects.	2014	$3,288,796	$3,847,426
City of Lincoln Dept of Public Works	PLA25467	07-00	11-00	Ferrari Ranch Road Extension	Extend Ferrari Ranch Road from existing City limit near Caledon Circle to Moore Road (Village 7 boundary).	2014	$1,920,000	$2,246,128
City of Lincoln Dept of Public Works	PLA20750	'07-00	11-00	Airport Road	Reconstruct 1 mile of an existing 2-lane Airport Road from Nicolaus Road to Weco Access Road.	2014	$721,000	$843,468
City of Lincoln Dept of Public Works	PLA25497	07-00	11-00	Operating Assistance	In Lincoln: operating assistance for Lincoln Transit.	2014	$3,374,874	$3,948,125
City of Rocklin Division of Engineering	PLA25268	07-00	09-00	University Avenue - Phase 1	New road: 4 lanes from the intersection of Whitney Ranch Parkway, north to the extension of West Ranchview Drive.	2014	$2,500,000	$2,924,646
City of Rocklin Division of Engineering	PLA25270	'07-00	11-00	University Avenue - Phase 2	In Rocklin, University Avenue from the intersection of Sunset Boulevard / Atherton Road north to the intersection of Whitney Ranch Parkway: Construct a new four lane roadway. One or more phases of this project may require federal permitting.	2014	$4,500,000	$5,264,364
City of Rocklin Division of Engineering	PLA25025	'07-00	11-00	Whitney Ranch Parkway	In Rocklin, Whitney Ranch Parkway: construct new 6-lane facility from SR 65 to east of Wildcat Boulevard.	2014	$4,739,673	$5,544,747
City of Rocklin Division of Engineering	PLA19260	'07-00	11-00	Dominguez Road	In Rocklin, Dominguez Road: extend with 2 lanes from Granite Drive to Sierra College Boulevard, including new bridge over I-80.	2014	$11,000,000	$12,868,444
City of Rocklin Division of Engineering	PLA25156	'07-00	11-00	Sunset Boulevard	Sunset Boulevard: Widen to 6 lanes from north bound SR 65 ramp to West Stanford Ranch Road.	2014	$850,000	$994,380
City of Rocklin Division of Engineering	PLA20460	'07-00	11-00	Sierra College Boulevard	In Rocklin, Sierra College Boulevard from Aguilar Tributary to Nightwatch: widen from 2 to 4 lanes.	2014	$2,750,000	$3,217,111
City of Rocklin Division of Engineering	PLA15530	'07-00	11-00	Pacific Street	Widen Pacific Street to 4 lanes from Sierra Meadows to Loomis Town Limits.	2014	$6,000,000	$7,019,151
City of Rocklin Division of Engineering	PLA25374	'07-00	11-00	Whitney Ranch Parkway Interchange	Whitney Ranch Parkway & SR 65: construct full movement interchange.	2014	$20,000,000	$23,397,171
City of Rocklin Division of Engineering	PLA25499	07-00	11-00	Rocklin Road / Grove Street Roundabout	Convert existing signalized intersection at Rocklin Road / South Grove Street & the offset unsignalized intersection at Rocklin Road / Grove Street to a dual roundabout intersection. (Emission benefits (kg/day) ROG 0.32, NOx 0.40, PM10 0.07).	2014	$2,102,061	$2,459,114
City of Roseville Department of Public Works	PLA25470	07-00	11-00	Oakridge Drive Bridge Replacement	Bridge No. 19C0180. In Roseville, 0.2 miles north of Cirby Way on Oakridge Drive, replace existing narrow substandard bridge over Linda Creek with wider bridge to include bike lanes & sidewalks on both sides.	2014	$2,500,000	$2,924,646

Lead Agency	SACOG Project ID	SACOG MTP	SACOG MTIP	Project Title	Project Description	Year Complete	Current Year (2010) $	Expenditure Year $
City of Roseville Dept of Public Works	PLA25324	'07-00	11-00	Fuel Station Cover	Construct a fuel station cover.	2014	$1,965,000	$2,298,772
City of Roseville Dept of Public Works	PLA25380	'07-00	11-00	Westside Drive	City of Roseville: New N/S Road in proposed new Creekview Specific Plan, west of Fiddyment Road, north of Blue Oaks Avenue.	2014	$6,000,000	$7,019,151
City of Roseville Dept of Public Works	PLA25436	07-00	09-29	Atlantic Street Micropave	In Roseville, on Atlantic Street from V Street to I-80, remove and replace damaged pavement and microsurface roadway.	2014	$517,850	$605,811
City of Roseville Dept of Public Works	PLA25437	07-00	09-29	Baseline Road Micropave	In Roseville, on Baseline Road from Brady Lane to Fiddyment Road, remove and replace damaged pavement and microsurface roadway.	2014	$775,005	$906,646
City of Roseville Dept of Public Works	REG17928	'07-00	11-00	Louis/Orlando Transfer Point Improvements	In Roseville, on Louis Boulevard at Orlando Avenue: Develop & construct an improved transfer point & a 75-space park & ride facility. (Includes previously programmed PLA16080.)	2014	$4,937,500	$5,776,177
City of Roseville Dept of Public Works	PLA15720	'07-00	11-00	Eureka Boulevard	Widen Eureka Boulevard from 2 to 4 lanes, from Sierra College to City Limits.	2014	$500,000	$584,929
City of Roseville Dept of Public Works	PLA15850	'07-00	11-00	Roseville Road	Widen from 2 to 4 lanes from City Limits to Cirby Way. STREET NAME: Roseville Road.	2014	$5,000,000	$5,849,293
City of Roseville Dept of Public Works	PLA25498	07-00	11-00	Roseville Transit Preventive Maintenance	2011 through 2014 preventive maintenance.	2014	$2,000,000	$2,339,717
City of Roseville Dept of Public Works	PLA25501	'07-00	11-00	Washington Boulevard / Andora Undercrossing Improvement Project	In Roseville, widen Washington Boulevard from 2 to 4 lanes, including widening the Andora Underpass under the UPRR tracks, between Sawtell Road & just south of Pleasant Grove Boulevard,& construct bicycle & pedestrian improvements adjacent to roadway. (Emission benefits in kg/day: 0.9 ROG, 0.51 NOx, 0.16 PM10).	2014	$13,321,950	$15,584,797
City of Roseville Dept of Public Works	PLA25429	07-00	11-00	Industrial Avenue Rubberized Overlay	In Roseville, apply 2-inch gap graded rubberized asphalt to Industrial Avenue from Washington Boulevard to Justice Center Drive.	2014	$2,150,000	$2,515,196
Placer County Dept of Public Works	PLA15100	'07-00	11-00	Baseline Road	In Placer County, Baseline Road from Fiddyment Road to Watt Avenue: widen from 2 to 4 lanes.	2014	$6,462,500	$7,560,211
Placer County Dept of Public Works	PLA25473	07-00	11-00	Highway 49 Pedestrian Facilities & Landscaping	Construct pedestrian & landscaping facilities along SR49 from New Airport Road to Bell Road.	2014	$1,587,925	$1,857,648
Placer County Transit	PCT10493	'07-00	11-00	Preventive Maintenance & ADA Operations 2010-2014	Preventive Maintenance 2010 = $300,000 ADA Ops 2010 = $200,000; Preventive Maintenance 2011 = $324,890 ADA Ops 2011 = $206,700; Preventive Maintenance 2012 = $324,890 ADA Ops = $206,700; Preventive Maintenance 2013 = $324,890 ADA Ops 2013 = $206,700; & Preventive Maintenance 2014 = $324,890 ADA Ops = $206,700	2014	$3,282,952	$3,840,589
Placer County Transit	PCT10491	'07-00	11-00	Placer County Non-Urbanized Transit Operations	For the ongoing Operation of transit services within the non-urbanized area of Placer County.	2014	$3,290,175	$3,849,039
Placer County Transit	PCT10501	07-00	11-00	Placer County CNG Replacement Buses	Purchase of four (4) Compressed Natural Gas (CNG) buses to replace older vehicles currently in use by PCT. The new CNG buses will be used on regional transit routes connecting Rocklin, Lincoln, Loomis, Auburn & Placer County to Roseville & the Watt / I-80 Light Rail Station. (Emission benefits (kg/day) 3.16 NOx).	2014	$2,059,528	$2,409,356
Placer County Transportation Planning Agency	PLA25468	09-00	11-00	Placer County Congestion Management Program	The Placer County Congestion Management Program (CMP) provides educational and outreach efforts regarding alternative transportation modes, with a specific emphasis on marketing of public transit services to employers, residents and the school community. CMP activities are coordinated with the City of Roseville and SACOG's Regional Rideshare / TDM Program.	2014	$570,428	$667,320
Town of Loomis Dept of Public Works	PLA20920	'07-00	11-00	Horseshoe Bar Road	In Loomis, Horseshoe Bar Road from Walnut Extension to Taylor Road: add 1,000 feet of two-way left turn lane (for safety) & bike lanes.	2014	$700,000	$818,901

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Town of Loomis Dept of Public Works	PLA20900	'07-00	11-00	Taylor Road Improvements	In Loomis, Taylor Road from south town limits to King Road: add signals at three intersections, 2500 feet of two-way left turn lanes, bike lanes, sidewalk, curb, gutter & underground Drainage system. See note below. STREET NAME: Taylor Road Improvements.	2014	$1,600,000	$1,871,774
Western Placer CTSA	New10000	36708	11-00	Western Placer CTSA Operations	The Western Placer CTSA operates non-emergency medical transportation demand-response paratransit service; volunteer door-to-door transportation; & a voucher program within western Placer County.	2014	$2,000,000	$2,339,717
Caltrans District 3	CAL17380	'07-00	11-00	SACOG Region Emergency Repair Program	Lump Sum - Emergency Repair (excluding Federal Emergency Relief Program funds) for non-capacity increasing projects only.	2015	$400,000	$486,661
Caltrans District 3	CAL18828	'07-00	11-00	I-80 Vertical Clearance Improvements	Placer County, I-80 in & near Loomis at various locations from Brace Road to Magra Road - Improve vertical clearance (PM 8.1/37.8).	2015	$36,045,000	$43,854,254
Caltrans District 3	CAL20375	'07-00	11-00	Northstar Slope Stabilization	Near Truckee, from 1.2 miles east of Northstar Drive to Brockway Summit - Stabilize slopes, repair dikes & culverts, & place rock slope protection (PM 4.9/6.7). (Storm Water Mitigation)	2015	$7,510,000	$9,137,063
Caltrans Headquarters	VAR10050	'07-00	11-00	State SR Bridge Replacement Grouped Projects	In Placer County (for the SACOG Region), SR Bridge Replacement & Rehabilitation , non-capacity increasing only (includes seismic retrofit) lump sum projects. Detailed listing can be found on Bridge project list - projects with VAR10050 project id and can also be found at http://www.dot.ca.gov/hq/LocallPrograms/hbrr99/HBP_MPO.html.	2015	$9,067,193	$11,055,960
City of Auburn Dept. of Public Works	PLA25232	'07-00	11-00	Auburn Municipal Airport Area Local Road Network	Widening of existing roadways & construction of new Local roads in the Auburn Municipal Airport area as a result of new development. Federal permitting may be required for this project.	2015	$6,000,000	$7,299,917
City of Auburn Dept. of Public Works	PLA25460	'07-00	11-00	Auburn Transit - O&M FFY 2011 - FFY 2014	Operations & maintenance (O&M) for Auburn Transit bus service within the City of Auburn.	2015	$1,840,000	$2,238,641
City of Lincoln Dept of Public Works	PLA18720	'07-00	11-00	Industrial Boulevard	Industrial Boulevard, from 12 Bridges Drive to Athens Boulevard: Widen from 2 to 4 lanes.	2015	$1,876,246	$2,282,740
City of Rocklin Division of Engineering	PLA25151	'07-00	11-00	West Oaks Boulevard	West Oaks Boulevard: Construct new 4-lane extension from terminus to 4-lane portion to Whitney Ranch Parkway.	2015	$3,500,000	$4,258,285
City of Rocklin Division of Engineering	PLA15400	'07-00	11-00	Sierra College Boulevard	In Rocklin, widen Sierra College Boulevard to 6 lanes from I-80 to Aguliar Tributary.	2015	$3,800,000	$4,623,281
City of Rocklin Division of Engineering	PLA19230	'07-00	11-00	Argonaut Avenue	Construct Argonaut Avenue as 2 lanes from Yankee Hill Road to Del Mar Avenue, including a grade separation over UPRR tracks.	2015	$5,000,000	$6,083,265
City of Roseville Department of Public Works	PLA25438	07-00	11-00	Industrial Avenue Bridge Replacement	In Roseville, on Industrial Avenue replace existing 2-lane Bridge No. 19C-0046 over Pleasant Grove Creek with a new 4-lane bridge.	2015	$5,000,000	$6,083,265
City of Roseville Dept of Public Works	PLA19910	'07-00	11-00	Dry Creek Greenway Trail	In Roseville, along Dry Creek, Cirby Creek & Linda Creek, construct Class 1 Bike Trail.	2015	$2,265,875	$2,756,783
City of Roseville Dept of Public Works	PLA25209	'07-00	11-00	Galleria Boulevard/SR 65 Interchange Phase II Improvements	In Roseville, at existing interchange on SR 65/Galleria Boulevard/Stanford Ranch Road.: modify all on & off ramps to provide improved operations.	2015	$5,000,000	$6,083,265
City of Roseville Dept of Public Works	PLA25376	'07-00	11-00	Fiddyment Road	City of Roseville: Widen four lanes from Blue Oaks Boulevard to Baseline Road.	2015	$3,000,000	$3,649,959
City of Roseville Dept of Public Works	PLA25343	'07-00	11-00	Blue Oaks Extension & Widening	Blue Oaks, Widen: 4 lanes from Hayden Pkwy. to Westside; Extend: 4 lanes from Westside to Watt Avenue	2015	$12,500,000	$15,208,161
City of Roseville Dept of Public Works	PLA25378	'07-00	11-00	Santucci Boulevard	City of Roseville: Extend four lanes from Baseline Road to Blue Oaks Avenue.	2015	$6,500,000	$7,908,244
City of Roseville Dept of Public Works	PLA25379	'07-00	11-00	Pleasant Grove Boulevard	City of Roseville: Widen from Fiddyment Road to Watt Avenue	2015	$10,450,000	$12,714,023
City of Roseville Dept of Public Works	PLA19810	'07-00	11-00	Atkinson Street/PFE Road Widening	In Roseville, Atkinson Street/PFE Road: widen from two to four lanes from Foothills Boulevard to just south of Dry Creek.	2015	$7,000,000	$8,516,570
City of Roseville Dept of Public Works	PLA17950	'07-00	11-00	Cirby Way Widening	In Roseville, Cirby Way from Riverside Avenue to Regency Way: Widen from 4 to 5 lanes.	2015	$500,000	$608,326

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City of Roseville Dept of Public Works	PLA15600	'07-00	11-00	Sierra College Boulevard Widening	Sierra College Boulevard from Sacramento County line to Olympus Drive: widen to 6 lanes	2015	$1,661,100	$2,020,982
City of Roseville Dept of Public Works	PLA15660	'07-00	11-00	Baseline Road	In Roseville, from City Limits to West of Foothills Boulevard, widen Baseline Road. from 3 to 4 lanes.	2015	$5,000,000	$6,083,265
City of Roseville Dept of Public Works	PLA15760	'07-00	11-00	Pleasant Grove Boulevard Widening	In Roseville, from Foothills Boulevard to Wood Creek Oaks, widen Pleasant Grove Boulevard from 4 to 6 lanes.	2015	$600,000	$729,992
Placer County Dept of Public Works	PLA25445	07-00	11-00	Hampshire Rocks Road Bridge	Bridge No. 19C0042, Hampshire Rocks, over & just south of Dry Creek Road. Preliminary Engineering, right-of-way & replace the existing functionally obsolete bridge with a new 2 lane bridge.	2015	$4,900,000	$5,961,599
Placer County Dept of Public Works	PLA25449	07-00	11-00	Down Road Bridge Replacement	Bridge No. 19C0095, Dowd Road, over Coon Creek, 0.4 mile North Wise Road. Right-of-way & replace a structurally deficient bridge with a new 2 lane bridge.	2015	$5,675,000	$6,904,505
Placer County Dept of Public Works	PLA25450	07-00	11-00	Brewer Road Bridge Replacement	Bridge No. 19C0104, Brewer Road, over branch of Curry Creek, 2.2 mile north of Base Lane Road. Right-of-way & replace structurally deficient 2 lane structure with a new 2 lane structure.	2015	$1,760,000	$2,141,309
Placer County Dept of Public Works	PLA25476	07-00	11-00	Brewers Road Bridge Replacement	Bridge No. 19C0112, Brewers Road, over Kings Slough, 6.0 mile north of Base Lane Road. Right-of-way & replace structurally deficient 2 lane bridge with a new 2 lane bridge.	2015	$2,126,000	$2,586,604
Placer County Dept of Public Works	PLA25454	07-00	11-00	Brewer Road Bridge Replacement	Bridge No. 19C0138. Brewer Road, over Markham Ravine, 0.5 mile south of Nicolaus Road. Right-of-way & replace structurally deficient bridge with new 2 lane bridge.	2015	$1,568,000	$1,907,712
Placer County Dept of Public Works	PLA25475	07-00	11-00	Haines Road Bridge Replacement	Bridge No. 19C0145, Haines Road, over Wise Canal, 0.45 mile north of Bell Road. Right-of-way & replace the existing functionally obsolete 2 lane bridge with a new 2 lane bridge.	2015	$4,900,000	$5,961,599
Placer County Dept of Public Works	PLA25477	07-00	11-00	Alpine Meadows Road Bridge Replacement	Bridge No. 19C0151, Alpine Meadows Road, over Truckee River, 0.1 mile west of SR 89. Right-of-way & rehabilitation & shoulder widening of existing structurally deficient 2 lane bridge.	2015	$9,980,000	$12,142,196
Placer County Dept of Public Works	PLA25458	07-00	11-00	Bridge Preventive Maintenance	PM00013, Bridge Preventive Maintenance Program, various locations in Placer County. Refer to Caltrans District 03 Local Assistance HBP web site for list of bridges.	2015	$893,000	$1,086,471
Placer County Dept of Public Works	PLA15105	'07-00	11-00	Baseline Road Widening (West Portion)	Baseline Road. from Watt Avenue to Sutter County line: Widen from 2 to 4 lanes.	2015	$19,200,000	$23,359,736
Placer County Transportation Planning Agency	PLA25413	'07-00	11-00	Plan, Program & Monitor (PPM)	PCTPA plan, program, monitor (PPM) for RTPA related activities.	2015	$807,000	$981,839
Town of Loomis Dept of Public Works	PLA20890	'07-00	11-00	Sierra College Boulevard Widening	In Loomis, Sierra College Boulevard from railroad tracks (Taylor Road) to the north town limits, widen from 2 to 4 lanes & construct turn lanes, bike lanes, & landscaped median.	2015	$5,899,180	$7,177,254
Town of Loomis Dept of Public Works	PLA20960	'07-00	11-00	Sierra College Boulevard Widening	In Loomis, Sierra College Boulevard from Granite Drive to Bankhead Road: widen from 4 to 6 lanes.	2015	$3,600,000	$4,379,950
Town of Loomis Dept of Public Works	PLA15940	'07-00	11-00	Taylor Road Widening	Widen Taylor Road. from 2 to 4 lanes from Horseshoe Bar Road to King Road.	2015	$425,000	$517,077
Town of Loomis Dept of Public Works	PLA15250	'07-00	11-00	King Road	In Loomis, King Road: add turn lane from Sierra College Boulevard to Boyington Road.	2015	$809,000	$984,272
Town of Loomis Dept of Public Works	PLA15350	'07-00	11-00	Rocklin Road Widening	In Loomis, Rocklin Road from Barton Road to west town limits: widen from 2 to 4 lanes.	2015	$1,200,000	$1,459,983
Town of Loomis Dept of Public Works	PLA25290	'07-00	11-00	Orchard Place Subdivision Local Road Network	In Loomis, construct new Local road network as part of developing Orchard Place subdivision. Federal permitting may be required as part of this project.	2015	$191,400	$232,867
Town of Loomis Dept of Public Works	PLA25289	'07-00	11-00	Grove Subdivision Local Road Network	In Loomis, construct new Local road network as part of Grove subdivision off of Humphrey Road. Federal permitting may be required as part of this project.	2015	$261,000	$317,546
Caltrans District 3	CAL20420	07-00	11-00	SR89 - Squaw Valley to Nevada County Line Rehabilitation	Pla-89, near Truckee, from 0.2 mile of Squaw Valley Road to the Nevada County line: rehabilitate roadway (PM 13.5/21.7) - SHOPP Roadway Preservation CTIPS ID 120-0000-0066.	2016	$8,870,000	$11,223,380

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City of Lincoln Dept of Public Works	PLA25022	'07-00	11-00	Auburn Ravine Bike/Ped Bridge Phase 1	In Lincoln: Construction of multi-use bridge across Auburn Ravine: Preliminary Engineering, Environmental Documentation, Permitting, & Construction of Neighborhood Electric Vehicle (NEV) & pedestrian bridge crossing Auburn Ravine. Preliminary Engineering, Environmental Documentation, & Permitting for future vehicle bridge at same Location.	2016	$987,193	$1,249,114
City of Rocklin Division of Engineering	PLA25273	'07-00	11-00	Rocklin Road Widening	Widen Rocklin Road from 2 to 4 lanes from Loomis town limits to east of Sierra College Boulevard.	2016	$126,000	$159,430
City of Rocklin Division of Engineering	PLA19290	'07-00	11-00	Whitney Ranch Parkway	Whitney Ranch Parkway, construct new 4-lane facility from east of Old Ranch House Road to Whitney Oaks Drive	2016	$12,428,000	$15,725,385
City of Rocklin Division of Engineering	PLA19250	'07-00	11-00	Valley View Parkway	Valley View Parkway: Construct 2 lanes from Park Drive to Sierra College Boulevard	2016	$9,575,000	$12,115,430
City of Rocklin Division of Engineering	PLA19400	'07-00	36831	Rocklin Road	In Rocklin, Rocklin Road: widen to 6 lanes from Granite Drive to westbound I-80 ramps.	2016	$880,000	$1,113,481
City of Rocklin Division of Engineering	PLA19330	'07-00	11-00	Sierra College Boulevard	In Rocklin, Sierra College Boulevard: widen to 4 lanes from intersection with Valley View Parkway to Loomis Town limits (SPRTA Segment #2a).	2016	$8,650,000	$10,945,010
City of Rocklin Division of Engineering	PLA19360	'07-00	11-00	Sunset Boulevard	Widen Sunset Boulevard from 4 to 6 lanes from Stanford Ranch Road. to Topaz.	2016	$2,600,000	$3,289,829
City of Rocklin Division of Engineering	PLA15620	'07-00	11-00	Sunset Boulevard	Widen Sunset Boulevard from 4 to 6 lanes, from Topaz to S. Whitney Boulevard	2016	$2,700,000	$3,416,361
Placer County Dept of Public Works	PLA25463	07-00	11-00	Baseline Road Widening Phase 2 (West Portion)	Baseline Road. from Sutter County line to future 16th Street: Widen from 2 to 4 lanes.	2016	$29,000,000	$36,694,252
Placer County Dept of Public Works	PLA15270	'07-00	11-00	North Antelope Road	North Antelope Road: Widen from 2 to 4 lanes from Sacramento County line to PFE Road.	2017	$2,026,600	$2,666,867
Placer County Dept of Public Works	PLA25130	'07-00	11-00	Fiddyment Road Widening	Widen Fiddyment Road from 2 lanes to 4 lanes from Roseville City Limits to Athens Road.	2017	$11,550,000	$15,199,012
Placer County Dept of Public Works	PLA20700	'07-00	11-00	Watt Avenue	Watt Avenue, from Baseline Road. to Sacramento County Line: Widen from 2 to 4 lanes.	2017	$27,487,500	$36,171,675
Caltrans District 3	CAL20424	07-00	11-00	I-80 3-Mile Truck Climbing Lane	Near Colfax on I-80, from the Long ravine UP to east of Magra Road overcrossing: widen eastbound roadway for truck climbing lane, replace two structures, rehabilitate drainage & extend culverts, eliminate or construct westbound standard off/on ramps at Magra Road overcrossing (PM 35.1/38.0). (Project will use tapered match, matching FHWA discretionary IMD funds with State matching funds during later phases).	2018	$31,600,000	$43,246,782
Placer County Dept of Public Works	PLA15390	'07-00	11-00	Sierra College Boulevard	Widen Sierra College Boulevard from 2 to 4 lanes from SR193 to Loomis Town Limits.	2018	$13,000,000	$17,791,398
Placer County Dept of Public Works	PLA18490	'07-00	11-00	PFE Road Widening	PFE Road, from Watt Avenue to Walerga Road: Widen from 2 to 4 lanes & realign.	2018	$13,085,000	$17,907,726
Placer County Dept of Public Works	PLA25299	'07-00	11-00	Placer Parkway - Phase 1	Phase 1 of the Placer Parkway project, including Tier 2 environmental work, preliminary engineering, & construction to Located a roadway within the selected 500' wide approved Alternative 5 alignment corridor connecting SR. 65 (Whitney Ranch Pkwy) to Foothills Boulevard (replaces PLA25337 - Placer Ranch Parkway - $145 million). Additional Tier 2 work may be completed in increments by Local jurisdictions for subsequent phases of the Placer Parkway project.	2018	$70,000,000	$95,799,834
Placer County Dept of Public Works	PLA15220	'07-00	11-00	Foothills Boulevard	Foothills Boulevard: Construct as a 2 lane road from the City of Roseville to Sunset Boulevard	2019	$4,062,300	$5,781,920
City of Lincoln Dept of Public Works	PLA15970	'07-00	11-00	Nicolaus Road	Widen Nicolaus Road. from 2 to 4 lanes from Airport Road. to Aviation Boulevard	2020	$2,250,600	$3,331,438
City of Rocklin Division of Engineering	PLA25373	'07-00	11-00	Midas Avenue Grade Separation	Midas Avenue, from Pacific Street to Third Street, construct 2 lane grade separation of UP tracks including right of way.	2020	$8,750,000	$12,952,137
City of Rocklin Division of Engineering	PLA25345	'07-00	11-00	I-80 / Rocklin Road Interchange	In Rocklin: from Rocklin Road onto both westbound & eastbound I-80; construct a combination of loop/flyover ramps to eliminate left-turn movements.	2020	$29,850,000	$44,185,292

Lead Agency	SACOG Project ID	SACOG MTP	SACOG MTIP	Project Title	Project Description	Year Complete	Current Year (2010) $	Expenditure Year $
City of Rocklin Division of Engineering	PLA17820	'07-00	11-00	Pacific Street	On Pacific Street: Construct downtown improvements.	2020	$8,000,000	$11,841,954
City of Rocklin Division of Engineering	PLA17910	'07-00	11-00	Sunset Boulevard	Widen Sunset Boulevard bridge at UPRR from 4 to 6 lanes from South Whitney Boulevard to Pacific Street	2020	$2,600,000	$3,848,635
Placer County Dept of Public Works	PLA15300	'07-00	11-00	Parallel Road	In Placer County, east of Route 49, from Dry Creek Road to Quartz Road, construct a 2 lane road. Name of road shall be determined in the future.	2020	$6,025,000	$8,918,472
Placer County Transportation Planning Agency	PLA25440	07-00	09-37	SR65/I-80 Interchange Improvements (Phase 1)	Rebuild SR65/I-80 to improve movement from eastbound I-80 to northbound SR65 (Phase 1). (PA&ED of $3,899,700 to be matched at 10 percent with Toll Credits).	2020	$30,000,000	$44,407,329
Town of Loomis Dept of Public Works	PLA16350	'07-00	11-00	Horseshoe Bar Road @ I-80 Overcrossing Widening	Widen Horseshoe Bar Road. @ I-80 overcrossing 2 to 4 lanes & improve ramps.	2020	$15,000,000	$22,203,664
Placer County Dept of Public Works	PLA15070	'07-00	11-00	Auburn Ravine Road at I-80 Overcrossing	Auburn Ravine Road overcrossing over I-80 between Bowman Road to Lincoln Way: widen overcrossing from 2 to 4 lanes.	2033	$29,000,000	$71,476,751
South Placer Regional Transportation Authority / Placer County	PLA20721	'07-00	11-00	Placer Parkway Project	New 4 lane connector (ultimate 6 lanes freeway) in 500'- to 1,000'-wide corridor connecting SR 70/99 (between Riego Road & Sankey Road) to SR 65 (Whitney Ranch Parkway). (Note: as the project proceeds, Parkway segments will be administered by different lead agencies depending upon Location of the segment. In Placer County, it will be SPRTA or Roseville &/or Placer County; in Sutter County it will be Sutter County.)	2035	$660,000,000	$1,759,451,979
						2010-2015	$1,110,537,337	$1,264,888,537
						2016-2024	$351,103,193	$482,185,805
						2025-2035	$689,000,000	$1,830,928,730
						Total	$2,150,640,530	$1,030,928,730

Source:

1. 2009/12 MTIP through Amendment #39, SACOG, August 2010; MTIP Amendment #23 also constitutes Amendment #2 to MTP 2035.
2. 2011/14 MTIP, SACOG, July 2010; the 2011/14 MTIP also constitutes Amendment #3 to MTP 2035.
2 Appendix A1 - Draft Final MTP 2035 Public Transit Including Rail Projects & Appendix A2 - Draft Final MTP 2035 Bicycle, Pedestrian, Roads, & Other Projects, excel project list dated 9/24/09.
3. Capitol Corridor Business Plan Update Final FY 2010/11 - FY 2011/12, CCJPA, March 2010; and Capitol Corridor Service Expansion Program Environmental Assessment, CCJPA, August 2010.
4. Updated 2008 SHOPP Long Lead Projects List, Caltrans, January 2010.
5. 2008/09 - 2013/14 Caltrans Highway Bridge Program (VAR10050), 2009/12 MTIP Amendment #34, SACOG, April 6, 2010.
6. Call to Update Projects 2011/2014 MTIP, SACOG, April 20, 2010.

Notes:

1. Programmed funds mean that funds are budgeted / committed for projects & included in SACOG MTIP, STIP, and SHOPP.
2. Updates to the project list provided by PCTPA TAC, February 2010; subsequent updates by TAC members through June 2010.

APPENDIX G

2035 REGIONAL TRANSPORTATION PLAN
PLANNED MASTER PROJECTS LIST

Lead Agency	SACOG Project ID	SACOG MTP	Project Title	Project Description	Year Complete	Current Cost (2010) $	Expenditure Year $
City of Roseville Dept of Public Works	PLA25319	'07-00	Roseville Transit Buses	Replace 4 fixed route buses.	2011	$1,543,000	$1,604,720
Placer County Dept of Public Works		07-00		Bridge No. 19C0060, Auburn-Foresthill Road, over North Fork American River, east of I-80. Paint existing steel structure.	2011	$8,100,000	$8,424,000
South Placer Regional Transportation Authority			SR 65 HOV Lanes - PID / EA	Prepare PIS / EA evaluating the addition of High Occupancy Vehicle (HOV) lanes from I-80 to City of Lincoln.	2011	$234,000	$243,360
City of Auburn Dept. of Public Works	PLA25141	'07-00	Auburn Transit - Bus Replacement	Replacement of 2 30' passenger buses for Auburn Transit.	2012	$404,000	$436,966
City of Auburn Dept. of Public Works	PLA25143	'07-00	Auburn Transit - Bus Shelters	In Auburn, install bus shelters, signage & related amenities.	2012	$146,000	$157,914
City of Auburn Dept. of Public Works	PLA25144	'07-00	Auburn Transit - On-Board Surveillance	Install on-board surveillance systems on all Auburn Transit buses.	2012	$12,000	$12,979
City of Lincoln Dept of Public Works	PLA20210	'07-00	Lincoln Transit Buses	In Lincoln, purchase 8 replacement transit buses.	2012	$2,224,000	$2,405,478
City of Roseville Dept of Public Works	PLA25325	'07-00	Park & Ride	To develop & construct a new transfer point that will also include a 75-space park & ride facility.	2012	$8,300,000	$8,977,280
City of Roseville Dept of Public Works	PLA25320	'07-00	Roseville Transit Buses	Replace six (6) cutaway buses.	2012	$527,000	$570,003
City of Roseville Dept of Public Works	PLA25321	'07-00	Roseville Transit Buses	Replace five (5) 40 foot buses for commuter services.	2012	$2,224,000	$2,405,478
City of Lincoln Dept of Public Works	PLA18770	'07-00	Lincoln Pkwy.	Widen: 4 lanes from Sterling Pkwy. to Del Webb Boulevard	2013	$175,000	$196,851
Caltrans District 3	CAL18809	07-00	Roseville Third Main Track/Sacramento Layover Facility	Dedicated third mainline track and Sacramento area satellite maintenance facility and other associated improvements, which will permit service capacity increases for Capitol Corridor in Placer County, including possible relocation of the Roseville rail station.	2014	$250,800,000	$293,400,527
Caltrans District 3		07-00	SR65 Lincoln Bypass Phase 2	In Placer County, SR65: Right-of-way acquisition & construct a 4-lane expressway from North Ingram Slough to Sheridan.	2014	$55,000,000	$64,342,221
Caltrans District 3		07-00	SR193 Pavement Rehabilitation	Rehabilitate roadway from Sierra College to Newcastle.	2014	$5,000,000	$5,849,293
City of Colfax Dept of Public Works		07-00	S Auburn Street Pedestrian / Bicycle Improvements	Add bike lanes on both sides of South Auburn Street from Mink Creek to Colfax / Grass Valley overcrossing.	2014	$360,000	$421,149
City of Lincoln Dept of Public Works		07-00	SR193 Bridge Replacement at Auburn Ravine	Reconstruct SR193 Bridge over Auburn Ravine to provide 100 year flood capacity. Increase width to provide for combined bike lanes, NEV lanes and sidewalks. Bridge will include 2-12' northbound lanes, 1-12' southbound lane, Bridge will be approximately 280' in length. Eligible for HBP funding, however application has not been submitted	2014	$4,610,000	$5,393,048
City of Lincoln Dept of Public Works	PLA25168	'07-00	Ferrari Ranch Road	Widen: 4 lanes from E. Caledon Circle to Lincoln City limit.	2014	$1,000,000	$1,169,859
City of Lincoln Dept of Public Works	PLA25169	'07-00	Ferrari Ranch Road	Widen: 4 lanes from SR65 to SR193.	2014	$2,252,000	$2,634,521
Caltrans District 3	CAL18798	07-00	Auburn to Donner Summit Track Improvements Phases 1 & 2	Upgrade Donner Pass Summit (UP Line) double track: including addition of crossovers, notching of tunnels, reactivation & replacement of second mainline track between Auburn & Reno, Nevada	2015	$86,000,000	$104,632,150
Capitol Corridor Joint Powers Authority		07-00	Positive Train Control	Installation of positive train control (CCJPA's share to UPRR of the trackside infrastructure) along the Capitol Corridor route.	2015	$30,000,000	$36,499,587
City of Auburn Dept. of Public Works	PLA25228	'07-00	Bike Facilities	Construct: various bike lane facilities throughout the City of Auburn.	2015	$125,000	$152,082
City of Auburn Dept. of Public Works	PLA25234	'07-00	Baltimore Ravine Development	Local Road. Network: widening & construction of new Local roadways in the Baltimore Ravine area of Auburn as a result of new development.	2015	$2,000,000	$2,433,306
City of Colfax Department of Public Works		07-00	Colfax Gateway Project	Construct pedestrian and bicycle paths, sidewalks, park-and-ride lots, an "open air" museum, and landscaping near the Historic Freight Depot building.	2015	$500,000	$608,326

Lead Agency	SACOG Project ID	SACOG MTP	Project Title	Project Description	Year Complete	Current Cost (2010) $	Expenditure Year $
City of Colfax Dept of Public Works	PLA25235	'07-00	SR174	Intersection improvements: South Auburn Street & Central Avenue Includes signalization.	2015	$600,000	$729,992
City of Colfax Dept of Public Works	PLA25236	'07-00	SR174	Intersection improvements: South Auburn Street Includes signalization.	2015	$400,502	$487,272
City of Colfax Dept of Public Works	PLA25237	'07-00	SR174	Intersection improvements: South Auburn Street & WB I-80. Includes signalization.	2015	$420,000	$510,994
City of Colfax Dept of Public Works		07-00	Canyon Way	Intersection improvements at Canyon Way / I-80 overpass	2015	$400,500	$487,269
City of Colfax Dept of Public Works	PLA25245	'07-00	Illinois Town-Plutes-Canyon Creek Loop Local Road	Construct: subdivision access road from Canyon Way. to east City limits, including construction of culvert at Bunch Creek. Federal permitting may be required as part of this project.	2015	$2,400,000	$2,919,967
City of Colfax Dept of Public Works	PLA20430	'07-00	Rising Sun Road	Reconstruct & improve intersection at Ben Taylor Road., Church Street, & reconstruct Auburn Street from Grass Valley Street to SR. 174.	2015	$1,453,500	$1,768,405
City of Lincoln Dept of Public Works		07-00	Old Highway SR65 Bridge Replacement at Auburn Ravine	Reconstruct old SR65 Bridge over Auburn Ravine to provide 100 year flood capacity. Increase width to provide for combined bike lanes, NEV lanes and sidewalks. Bridge will include 2-12' northbound lanes, 1-12' southbound lane, Bridge will be approximately 280' in length. Eligible for HBP funding, however application has not been submitted.	2015	$5,000,000	$6,083,265
City of Lincoln Dept of Public Works	PLA18810	'07-00	E. Joiner Pkwy.	Widen: 4 lanes from Twelve Bridges Drive to Rocklin city limits.	2015	$450,000	$547,494
City of Lincoln Dept of Public Works	PLA25161	'07-00	12th Street	Widen: 4 lanes from East Avenue to Harrison Avenue	2015	$487,000	$592,510
City of Lincoln Dept of Public Works	PLA25162	'07-00	McCourtney Road	Widen: 4 lanes from 12th Street to north Lincoln city limits.	2015	$488,000	$593,727
City of Roseville Dept of Public Works		07-00	UP Railyard Bicycle/Pedestrian Bridge	Construct a bicycle/pedestrian bridge to span the UP Railyard.	2015	$4,000,000	$4,866,612
City of Roseville Dept of Public Works	PLA19470	'07-00	Woodcreek Oaks	Widen: 4 lanes from Canevari Drive to North Branch of Pleasant Grove Ck.	2015	$5,750,000	$6,995,754
City of Roseville Dept of Public Works	PLA15690	'07-00	Cirby Way	Widen: 6 lanes (from 4) from Regency Street to Oak Ridge Drive	2015	$2,000,000	$2,433,306
City of Roseville Dept of Public Works	PLA25211	'07-00	Galleria Boulevard	SR. 65 / Galleria Boulevard Interchange: re-stripe Galleria/ Stanford Ranch to 6 lanes; modify 3 NB & SB off ramps & SB Stanford Ranch Road. to NB 65 on ramp; add 2nd N/B Galleria to NB SR. 65 left-turn lane (Phase II)	2015	$4,000,000	$4,866,612
Placer County Dept of Public Works	PLA18390	'07-00	Dyer Pkwy.	Extend: 4 lanes west/north to Baseline Road. at Brewer Road. & east/north to Baseline Road. west of Fiddyment Road.	2015	$16,000,000	$19,466,446
Placer County Transit	PCT10492	'07-00	PCT Operations & Maintenance Facility	New office & maintenance building for PCT operations.	2015	$5,000,000	$6,083,265
Town of Loomis Dept of Public Works	PLA25279	'07-00	King Road	Exp & Culvert: Sucker Ravine & King Road. Ancillary Road. work may be included. Federal permitting may also be required as part of this project.	2015	$100,000	$121,665
City of Rocklin Division of Engineering	PLA25272	'07-00	Pacific Street	Widen: 6 lanes from SW of Sunset Boulevard to NE of Sunset Boulevard	2016	$300,000	$379,596
City of Lincoln Dept of Public Works	PLA18760	'07-00	E. Joiner Pkwy.	Widen: 6 lanes from Ferrari Ranch Road. to Sterling Pkwy. (Includes SR. 65 / UPRR overcrossing)	2017	$7,000,000	$9,211,522
Town of Loomis Dept of Public Works	PLA15290	'07-00	Boyington Road	Extend: 3 lanes from Horseshoe Bar Road. to King Road.	2017	$2,000,000	$2,631,864
Placer County Dept of Public Works	PLA20680	'07-00	Baseline Road	Widen: 6 lanes (from 2) from Watt Avenue to Fiddyment Road.	2018	$8,870,000	$12,139,207
Placer County Dept of Public Works	PLA20690	'07-00	PFE Road	Widen: 4 lanes from North Antelope Road. to Roseville City Limits.	2018	$1,514,700	$2,072,972
City of Lincoln Dept of Public Works	PLA18950	07-00	SR193 Widening	Widen: 4 lanes from Ferrari Ranch Road to Sierra College Boulevard.	2019	$6,000,000	$8,539,871
City of Lincoln Dept of Public Works	PLA20740	'07-00	Airport Road	New road: 2 lanes from Weco Access Road. to Wise Road.	2019	$5,500,000	$7,828,215
City of Lincoln Dept of Public Works	PLA18630	'07-00	Aviation Boulevard	New Road.: 4 lanes from terminus 0.5 miles north of Venture Drive to Wise Road.	2019	$4,000,000	$5,693,247
City of Lincoln Dept of Public Works	PLA25304	'07-00	Aviation Boulevard	Extend: 4 lanes from Venture Drive & Wise Road.	2019	$15,000,000	$21,349,677

Lead Agency	SACOG Project ID	SACOG MTP	Project Title	Project Description	Year Complete	Current Cost (2010) $	Expenditure Year $
City of Lincoln Dept of Public Works	PLA18910	'07-00	Nicolaus Road	Widen: 4 lanes from Joiner Pkwy. to Joiner Park	2019	$600,000	$853,987
City of Lincoln Dept of Public Works	PLA25305	'07-00	Oak Tree Extension	New road: 4 lane between Sierra College Boulevard & Wise Road. / SR. 65	2019	$35,000,000	$49,815,913
City of Lincoln Dept of Public Works	PLA25163	'07-00	Virginiatown Road	Widen: 4 lanes from McCourtney Road. to east Lincoln city limits	2019	$502,000	$714,503
City of Roseville Dept of Public Works	PLA15740	'07-00	Galleria Boulevard	Widen: 6 lanes from Berry to Roseville Pkwy.	2019	$1,500,000	$2,134,968
City of Roseville Dept of Public Works	PLA15810	'07-00	Roseville Pkwy.	Extend: 4 lanes from Washington Boulevard to Foothills Boulevard	2019	$6,000,000	$8,539,871
Caltrans District 3	CAL18799	07-00	UP Over/Under Crossing	Build over/undercrossing at Union Pacific crossing of Sierra College Boulevard	2020	$30,000,000	$44,407,329
City of Lincoln Dept of Public Works	PLA25166	'07-00	Twelve Bridges Drive	Widen: 6 lanes from SR. 65 Interchange to Lincoln Pkwy. (Includes interchange improvements)	2020	$2,252,000	$3,333,510
City of Rocklin Division of Engineering	PLA25154	'07-00	Rocklin Road	Extend: 2 lanes from current west terminus to South Whitney Boulevard	2020	$1,641,600	$2,429,969
City of Rocklin Division of Engineering	PLA19401	'07-00	Rocklin Road	Widen: 6 lanes from Aguilar Road / eastbound I-80 on-ramps to west of Sierra College Boulevard	2020	$1,600,000	$2,368,391
City of Rocklin Division of Engineering	PLA25275	'07-00	Rocklin Road	Extend: 2 lanes from current western terminus to Whitney Boulevard (Phase II)	2020	$1,400,000	$2,072,342
City of Roseville Dept of Public Works	PLA25318	'07-00	Dry Creek	Bikeway Trail: from Darling Way. to western Roseville City limits along Dry Creek.	2020	$5,500,000	$8,141,344
City of Roseville Dept of Public Works	PLA15890	'07-00	Sunrise Avenue	Widen: 6 lanes from Sacramento County line to Madden Lane.	2020	$5,000,000	$7,401,221
City of Roseville Dept of Public Works	PLA15910	'07-00	Taylor Road	Widen: 4 lanes from Roseville Pkwy. to I-80.	2020	$521,157	$771,440
City of Roseville Dept of Public Works	PLA15911	'07-00	Taylor Road	Widen: 4 lanes from I-80 to City Limits.	2020	$4,000,000	$5,920,977
City of Roseville Dept of Public Works	PLA25344	'07-00	Blue Oaks	Widen: 6 lanes (from 4) from Foothill to Crocker Ranch Road. & from 1300' W/O Fiddyment to Westside	2020	$11,000,000	$16,282,687
City of Roseville Dept of Public Works		'07-00	Foothills Boulevard	Widen: 6 lanes from Cirby to Misty Wood (just N/O Pleasant Grove Boulevard).	2020	$23,900,000	$35,377,838
Placer County Dept of Public Works	PLA25127	'07-00	Baseline Road	Widen from 4 to 6 lanes from Watt Avenue to Sutter County Line (Western Portion).	2020	$12,000,000	$17,762,931
Placer County Dept of Public Works	PLA20350	'07-00	Auburn Connector Roads	Adjacent to SR. 49 between I-80 & Dry Creek Road. - three new Local connector roads; 1) Quartz Drive Connector from SR. 49 to Locksley Lane, 2) Willow Creek Drive Connector from SR. 49 to 1st Street in Dewitt Center, & 3) Edgewood Road. Connector from SR. 49 to Alta Mesa Drive (City of Auburn) - state & Local funding only.	2020	$3,671,000	$5,433,977
Placer County Dept of Public Works	PLA25134	'07-00	Bell Avenue	I-80 / Bell Road. interchange: Capacity & operational improvements	2020	$3,000,000	$4,440,733
Placer County Dept of Public Works		07-00	Lincoln Way	Widen from 2 to 4 lanes from Russell Rd. to Ferguson Rd..	2020	$484,000	$716,438
Placer County Transportation Planning Agency	PLA19090	07-00	Placer County - Regional Rail Capital	Commuter rail station improvements & parking, right-of-way acquisition, trackwork & signals, grade crossing improvements, Placer County pro-rata share of maintenance facilities, rolling stock, other systemwide elements. Potential new stations: Bowman & Loomis.	2020	$45,510,000	$67,365,917
Town of Loomis Dept of Public Works	PLA25278	'07-00	Antelope Creek	Exp&/ Replace Culvert: along Antelope Creek at King Road., from Sierra College Boulevard to Vet Clinic. Ancillary Road. work may be included.	2020	$600,000	$888,147
Town of Loomis Dept of Public Works	PLA25260	'07-00	Barton Road	Widen to standard lane widths with the inclusion of bike lanes.	2020	$2,100,000	$3,108,513
Town of Loomis Dept of Public Works	PLA25277	'07-00	Brace Road	Bridge Replacement: at Secret Ravine & Brace Road. Ancillary Road. work may be included.	2020	$500,000	$740,122
Town of Loomis Dept of Public Works	PLA25258	'07-00	Brace Road. / Horseshoe Bar Road	Signalize intersection. Realign two existing intersections at the Location into one intersection, including related signalization improvements.	2020	$600,000	$888,147

Lead Agency	SACOG Project ID	SACOG MTP	Project Title	Project Description	Year Complete	Current Cost (2010) $	Expenditure Year $
Town of Loomis Dept of Public Works	PLA25274	'07-00	S. Holly Area	Local Road. Storm drainage Extension: In Loomis, extend Local Road. storm Drainage facility in the South Holly area. Ancillary Road. work may be included. Federal permitting may also be required as part of this project.	2020	$400,000	$592,098
Town of Loomis Dept of Public Works	PLA25280	'07-00	Sierra College Boulevard	Culvert Expansion: In Loomis, at Loomis Tributary & Sierra College Boulevard Ancillary Road. work may be included.	2020	$400,000	$592,098
Town of Loomis Dept of Public Works	PLA25276	'07-00	Sunrise-Loomis Subdivision	Local Road. Storm Drainage Upgrade: In Loomis, upgrade the Local Road. network storm Drainage facilities in the Sunrise-Loomis subdivision. Ancillary Road. work may be included. Federal permitting may also be required as part of this project.	2020	$500,000	$740,122
City of Lincoln Dept of Public Works		07-00	Nelson Lane Widening	Widen to four lanes from Lincoln Bypass to Nicolas Road.	2021	$6,000,000	$9,236,724
City of Lincoln Dept of Public Works	PLA25303	'07-00	Fiddyment Road	Widen: 4 lanes from East Catlett to Nicolaus Road.	2022	$20,000,000	$32,020,644
City of Roseville Dept of Public Works	PLA15830	'07-00	Roseville Pkwy.	Widen: 4 lanes from City Limits to Sierra College Boulevard	2022	$850,000	$1,360,877
Placer County Dept of Public Works		07-00	New Road	Construct a new 2-lane road between Kemper Rd. and Mt. Vernon Rd.	2022	$1,300,000	$2,081,342
City of Lincoln Dept of Public Works	PLA20780	'07-00	Gladding Pkwy.	New road: 2 lanes from Nicolaus Road. to East Avenue Includes overpass over UPRR & SR. 65 & connection to 12th Street	2024	$23,000,000	$39,828,558
City of Lincoln Dept of Public Works	PLA25164	'07-00	Joiner Pkwy.	Widen: 6 lanes from Nicolaus Road. to Ferrari Ranch Road.	2024	$3,440,000	$5,956,967
City of Lincoln Dept of Public Works	PLA20760	'07-00	Venture Drive	Widen: 4 lanes from Aviation Boulevard to Lakeside Drive	2024	$900,000	$1,558,509
Caltrans District 3		07-00	SR267 Widening	In eastern Placer County, widen SR267 from 2 lanes to 4 lanes from Nevada County line to Northstar Drive.	2025	$10,000,000	$18,009,435
City of Colfax Dept of Public Works	PLA20450	'07-00	Bicycle Improvements	Bicycle Path Network: Develop throughout Colfax, connecting to major transportation centers.	2025	$1,000,000	$1,800,944
Placer County Dept of Public Works	PLA25136	'07-00	Northstar Drive	Widen: 4 lanes from SR267 to Sawmill Flat Road (near Truckee)	2025	$3,234,300	$5,824,792
Town of Loomis Dept of Public Works	PLA25259	'07-00	Brace Road	Widen to standard lane widths with the inclusion of bike lanes.	2025	$1,000,000	$1,800,944
Town of Loomis Dept of Public Works	PLA25261	'07-00	I-80	Brace Road. Bridge Modification (To Caldrons standards).	2025	$10,000,000	$18,009,435
Town of Loomis Dept of Public Works	PLA25262	'07-00	King Road	Modify the existing King Road. overcrossing to accommodate freeway access for traffic from King Road. onto WB I-80. Provide a transition auxiliary lane on I-80 from King Road. to Horseshoe Bar interchange.	2025	$5,000,000	$9,004,718
Town of Loomis Dept of Public Works	PLA20510	'07-00	Sierra College Boulevard	New: 4 lane undercrossing at UPRR Crossing & Sierra College Boulevard	2025	$30,000,000	$54,028,305
Town of Loomis Dept of Public Works	PLA25269	'07-00	Taylor Road	Construct storm Drainage facility on Taylor Road. from King Road. to Sierra College Boulevard Ancillary Road. work may be included. Federal permitting may also be required as part of this project. Phase 1 is King Road. to Walnut Street, $800,000.	2025	$2,300,000	$4,142,170
City of Lincoln Dept of Public Works	PLA25310	'07-00	Wise Road	Realignment & overcrossing between SR65 Lincoln Bypass & existing SR65.	2026	$60,000,000	$112,378,875
City of Colfax Dept of Public Works	PLA25146	'07-00	S. Auburn Street	Grade Crossing between Tokeyana & South Auburn Street	2027	$3,000,000	$5,843,701
Placer County Dept of Public Works		07-00	Indian Hill Road	Widen from 2 to 4 lanes from Auburn City Limits to Newcastle.	2027	$8,000,000	$15,583,204
Placer County Dept of Public Works		07-00	SR49 Widening	Widen from 4 lanes to 6 lanes from Luther Road to Nevada Street.	2027	$10,000,000	$19,479,005
Placer County Dept of Public Works		07-00	SR49 Widening	Widen from 4 lanes to 6 lanes from Bell Road to Dry Creek Road.	2027	$10,000,000	$19,479,005
Tahoe Area Regional Transit	PCT10490	'07-00	TART Operations	TART operations (lump sum) on SR89 & SR267 corridors within Placer County/SACOG region.	2030	$22,000,000	$48,204,709

Lead Agency	SACOG Project ID	SACOG MTP	Project Title	Project Description	Year Complete	Current Cost (2010) $	Expenditure Year $
Town of Loomis Dept of Public Works	PLA25263	'07-00	Secret Ravine	Bike/Pedestrian Pathway: In Loomis, construct Class I bike & pedestrian facility along Secret Ravine creek system from north Town limits of Loomis to south Town limits of Loomis.	2030	$600,000	$1,314,674
Town of Loomis Dept of Public Works	PLA25264	'07-00	Antelope Creek	Bike/Pedestrian Pathway: In Loomis, construct Class I bike & pedestrian facility along Antelope Creek. Federal permitting may be required as part of this project.	2030	$500,000	$1,095,562
South Placer Regional Transportation Authority	CAL18796	07-00	SR65 HOV Lanes Project	SR65 HOV Lanes Project area: 6.5 miles of SR 65 from the Galleria Boulevard interchange to the Industrial Avenue interchange. The proposed project improvements include: preconstruction activities (PA&ED, PS&E, R/W support and construction support) for all phases of project; and construction of HOV lanes on SR65 from the end of the proposed lanes of the I-80/SR 65 Interchange Modification Project to the Industrial Avenue interchange, which is currently under construction.	2033	$109,270,000	$269,319,467
Caltrans District 3		07-00	I-80 HOV Lanes East of SR65	New HOV lanes - one each direction - on I-80 from SR65 east to SR49.	2035	$200,000,000	$533,167,266
City of Colfax Dept of Public Works		'07-00	SR174	Unspecified operational improvements at SR. 174 & I-80	2035	$3,000,000	$7,997,509
City of Lincoln Dept of Public Works	PLA25315	'07-00	Village 1-7, SUD A-C Local streets	Local roads for various villages & SUD including enhancements	2035	$118,000,000	$314,568,687
Placer County Dept of Public Works		'07-00	16th Street	New: 4 lanes from Sacramento/Placer County Line to Baseline Road.	2035	$7,500,000	$19,993,772
Placer County Transportation Planning Agency	PLA25292	'07-00	Placer County - Bus Rapid Transit Capital	Capital Costs for a three route bus rapid transit (BRT) system serving South Placer County; including planning & engineering & environmental studies, right-of-way acquisition, vehicles, related roadway improvements & signalization, park-&-ride facilities, signage, bus stop improvements, ITS elements, fare vending equipment. BRT Route 1 - CSUS Placer to Galleria to Watt/I-80 LRT station via I-80 HOV lane. BRT Route 2 - CSUS Placer Campus to Placer Vineyards to Watt/I-80 LRT station via Watt Avenue. BRT Route 3 - Galleria to Hazel & Sunrise LRT stations via Sierra College Boulevard/Hazel Avenue.	2035	$82,526,000	$220,000,809
South Placer Regional Transportation Authority			SR65/I-80 Interchange Modification	Project area: 3.3 mile of I/80 between Miners Ravine Bridge and approximately 0.2 mile west of Rocklin Road and 2.1 miles of SR65 between I-80 junction and approximately 1 mile to the north of Galleria Boulevard. The proposed project improvements include: (1) construction of a 2-lane bi-directional HOV direct connector on eastbound I-80 to northbound SR65 and southbound SR65 to westbound I-80; (2) replacement of the eastbound I-80 to northbound SR65 loop connector with a 3-lane flyover ramp; (3) ramp widening and additional lane at the southbound SR65 on-ramp from Galleria Boulevard; (4) connector widening with associated auxiliary lane at the westbound I-80 to northbound SR65 connector; (5) reconstruction and widening of the southbound SR65 to eastbound I-80 connector flyover; (6) widening of I-80 and SR65 and associated ramp realignments at Eureka Road, Taylor Road and Galleria Boulevard; (7) widening the East Roseville Viaduct; (8) replacement of the Taylor Road Overcrossing to accommodate widening I-80; (9) construction of HOV lanes on SR65 from the I-80/SR 65 interchange past the Galleria Boulevard interchange.	2035	$250,000,000	$666,459,083
Capitol Corridor Joint Powers Authority		07-00	Capitol Corridor Rail Replacement & Expansion	Lump-sum of capital improvements between Colfax & Davis	2010-2035	$120,720,000	$321,819,762
Capitol Corridor Joint Powers Authority		07-00	Capitol Corridor Operations & Maintenance	Capitol Corridor operations & equipment maintenance, funded by the State of California/ Caltrans Division of Rail.	2010-2035	$728,000,000	$1,940,728,849
Placer County Transportation Planning Agency		'07-00	Demand Response Bus Operations & Maintenance	Lump-sum for DAR operations & maintenance between 2010-2035.	2010-2035	$200,381,363	$534,183,918
Placer County Transportation Planning Agency		'07-00	Demand Response Bus Replacement & Expansion Vehicles	Lump-sum for DAR vehicles between 2010-2035.	2010-2035	$40,203,000	$107,174,618

Lead Agency	SACOG Project ID	SACOG MTP	Project Title	Project Description	Year Complete	Current Cost (2010) $	Expenditure Year $
Placer County Transportation Planning Agency	PLA25314	'07-00	Fixed Route Bus Capital, Operations & Maintenance	Lump-sum for fixed-route bus capital, operations & maintenance between 2010-2035.	2010-2035	$777,652,584	$2,073,094,512
Placer County Transportation Planning Agency		'07-00	Fixed Route Bus Replacement & Expansion Vehicles	Lump-sum for bus vehicles between 2010-2035.	2010-2035	$151,703,900	$404,417,768
Placer County Transportation Planning Agency	PLA25294	'07-00	Placer County - Bus Rapid Transit O&M	Annual operating & maintenance (O&M) cost ($5,704,000) specifically for a three route BRT system for fiscal years 2010 - 2035 for a TBD transit operator.	2010-2035	$142,600,000	$380,148,261
Placer County Transportation Planning Agency	PLA25302	07-00	OWP Administration (2011-2035)	PCTPA portion of Overall Work Program (OWP) administrative costs. Annual administrative cost approximately $34,133.	2011-2035	$817,770	$2,096,193
City of Lincoln Dept of Public Works		07-00	Lincoln Transit Operating Assistance	In Lincoln: operating funds for Lincoln Transit.	2013-2035	$20,265,000	$48,026,404
Placer County Transportation Planning Agency	PLA19760	'07-00	Placer County - CTSA Capital (2013-2035)	Capital costs for CTSA Article 4.5 & complementary ADA dial-a-ride services for TBD designated CTSA operating in Placer County; including vehicles, miscellaneous capital items & facilities expansion.	2013-2035	$71,811,000	$170,186,238
Placer County Transportation Planning Agency	PLA25300	'07-00	Placer County - Local Bus Service O&M (2013-2035)	Annual operation & maintenance (O&M) costs of Local fixed route bus, commuter / express bus, general public dial-a-ride services for a TBD transit operator serving Placer County & cities for fiscal years 2013-2035. Estimated annual O&M cost = $18,832,545.	2013-2035	$414,316,000	$981,895,274
Western Placer CTSA	PLA25250	'07-00	Placer County - CTSA O&M (2013-2035)	Annual operation & maintenance (O&M) costs for Article 4.5 Community Transit Services & complementary ADA dial-a-ride services for a TBD designated CTSA of Placer County serving Placer County & cities for fiscal years 2013-2035. Estimated annual O&M cost	2013-2035	$36,538,000	$86,592,093
Placer County Transportation Planning Agency	PLA25140	07-00	Congestion Management Program (CMP) activities (2014-2035)	Congestion Management Program activities for educational & outreach to reduce traffic congestion & drive alone auto trip making in Placer County. Both City of Roseville & PCTPA are implementing agencies.	2014-2035	$2,500,000	$5,696,920
Placer County Transportation Planning Agency	PLA25139	07-00	Plan, Program & Monitor (PPM)	PCTPA PPM related activities.	2015-2035	$2,505,682	$5,490,258
					2010-2015	**$991,581,756**	**$1,870,581,333**
					2016-2024	**$1,308,869,577**	**$3,062,798,250**
					2025-2035	**$2,172,835,225**	**$5,553,928,534**
					Total	**$4,473,286,558**	**$10,487,308,116**

Source:

1. Appendix A1 - Draft Final MTP 2035 Public Transit Including Rail Projects & Appendix A2 - Draft Final MTP 2035 Bicycle, Pedestrian, Roads, & Other Projects, excel project list dated 9/24/09.
2. Capitol Corridor Proposition 1A Improvement Program Preliminary Draft, CCJPA, February 2010.
3. 2027 RTP, PCTPA, September 2005.
4. Memorandum: Adoption if the Proposition 1A High Speed Passenger Train Program of Projects, CTC, May 2010.

Notes:

1. Planned projects are included in PCTPA's 2027 RTP and / or SACOG's MTP 2035 and are unfunded at the present time.
2. Updates to the project list provided by PCTPA TAC, February 2010; subsequent updates by TAC members through June 2010.

APPENDIX H

RTP OBJECTIVES & RELATED SHORT-RANGE & LONG-RANGE ACTIONS

The following table shows the links between the RTP goals and Objectives outlined in Chapter 5 - Policy Element and the short-range and long-range actions listed in the Action Element, as well as the Air Quality and Financial Elements.

Short-Range & Long-Range Actions	RTP Objective
GOAL 1: HIGHWAYS/STREETS/ ROADWAYS	
Short Range Action #1. Continually develop and implement innovative approaches to delivering projects (as shown in Table 6.1-3) as quickly and cost effectively as possible. *(PCTPA, project sponsors)*	**OBJECTIVE A:** Identify and prioritize improvements to the roadway system. **OBJECTIVE B:** Construct, maintain, and upgrade roadways to meet current safety standards.
Short Range Action #2. Identify and pursue additional funding sources, as appropriate. *(PCTPA, Caltrans, jurisdictions)*	**OBJECTIVE B:** Construct, maintain, and upgrade roadways to meet current safety standards.
Short Range Action #3. Obtain funding for and construct high priority regional road network projects shown in Figure 6.1c through 6.1e. *(PCTPA, SPRTA, Caltrans, jurisdictions)*	**OBJECTIVE A:** Identify and prioritize improvements to the roadway system. **OBJECTIVE B:** Construct, maintain, and upgrade roadways to meet current safety standards.
Short Range Action #4. Identify deficiencies and/or future congestion impacts on the regional road network. *(PCTPA, Caltrans, jurisdictions)*	**OBJECTIVE C:** To promote economic development, prioritize roadway maintenance and improvement projects on principal freight and tourist travel routes in Placer County.
Short Range Action #5. Maintain street and highway system, including vegetation management. *(Caltrans, jurisdictions)*	**OBJECTIVE B:** Construct, maintain, and upgrade roadways to meet current safety standards. **OBJECTIVE C:** To promote economic development, prioritize roadway maintenance and improvement projects on principal freight and tourist travel routes in Placer County.
Short Range Action #6. Identify and implement operational improvements on local streets and roads. *(Jurisdictions)*	**OBJECTIVE B:** Construct, maintain, and upgrade roadways to meet current safety standards.

Short-Range & Long-Range Actions	RTP Objective
Short Range Action #7. Implement capacity increasing strategies that encourage the use of alternative modes, such as High Occupancy Vehicle (HOV) lanes. *(PCTPA, Caltrans, jurisdictions)*	**OBJECTIVE A:** Identify and prioritize improvements to the roadway system. **OBJECTIVE B:** Construct, maintain, and upgrade roadways to meet current safety standards.
Short Range Action #8. Develop parallel capacity to I-80 and SR65 to reduce congestion and reliance on I-80 and SR65 for local trip purposes. *(PCTPA, SPRTA, jurisdictions)*	**OBJECTIVE A:** Identify and prioritize improvements to the roadway system. **OBJECTIVE B:** Construct, maintain, and upgrade roadways to meet current safety standards.
Short Range Action #9. Consider the concept of complete streets when developing and implementing local roadway improvement projects. *(Jurisdictions)*	**OBJECTIVE B:** Construct, maintain, and upgrade roadways to meet current safety standards.
Short Range Action #10. Improve select rural roads to an urban standard that serve new Blueprint development on the urban edge. *(Jurisdictions)*	**OBJECTIVE B:** Construct, maintain, and upgrade roadways to meet current safety standards.
Short Range Action #11. Continue to participate in the Caltrans systems planning and corridor planning processes. *(PCTPA, jurisdictions, Caltrans)*	**OBJECTIVE A:** Identify and prioritize improvements to the roadway system. **OBJECTIVE B:** Construct, maintain, and upgrade roadways to meet current safety standards.
Short Range Action #12. Consider access management strategies along older retail corridors to improve economic performance. *(Jurisdictions, transit operators, Caltrans)*	**OBJECTIVE C:** To promote economic development, prioritize roadway maintenance and improvement projects on principal freight and tourist travel routes in Placer County
Short Range Action #13. Maintain pavement conditions at a good or better Pavement Condition Index. *(Jurisdictions, Caltrans)*	**OBJECTIVE A:** Identify and prioritize improvements to the roadway system. **OBJECTIVE B:** Construct, maintain, and upgrade roadways to meet current safety standards.
Long Range Action #1. Construct the Placer Parkway connecting from SR 65 to SR 70/99. *(PCTPA, Caltrans, jurisdictions, other state/federal agencies)*	**OBJECTIVE C:** To promote economic development, prioritize roadway maintenance and improvement projects on principal freight and tourist travel routes in Placer County.
Long Range Action #2. Continue to implement the actions called for in the short range action plan. *(PCTPA, Caltrans, jurisdictions, other state/federal agencies)*	**OBJECTIVE C:** To promote economic development, prioritize roadway maintenance and improvement projects on principal freight and tourist travel routes in Placer County.

Short-Range & Long-Range Actions	RTP Objective
GOAL 2: PUBLIC TRANSIT	
Short Range Action #1. Continue to maximize the available Federal Transit Administration (FTA) funds through the Section 5311 (rural transit) and Section 5307 (urban transit) programs. and other FTA discretionary programs. *(PCTPA, transit operators)*	**FUNDING OBJECTIVE A:** Obtain funding of vital transportation needs through all conventional sources.
Short Range Action #2. Continue to maximize available State funds through the State Transit Assistance, bond programs, and other related funding programs. *(PCTPA, transit operators, CTSA)*	**FUNDING OBJECTIVE A:** Obtain funding of vital transportation needs through all conventional sources.
Short Range Action #3. Update the short range transit plans for Auburn, Lincoln, Roseville, Placer County, and the Western Placer CTSA. *(PCTPA, jurisdictions, transit operators, CTSA)*	**OBJECTIVE A:** Provide transit services that fulfill all "unmet transit needs that are reasonable to meet." **OBJECTIVE D:** Develop and encourage the use of public transit as a viable alternative to the automobile in order to maximize transit ridership.
Short Range Action #4. Monitor transit services regularly and make adjustments to routes and schedules to improve operational efficiency and on-time performance, and maintain a discipline of cost recovery, including meeting fare box recovery ratios as outlined in the Transportation Development Act and productivity standards established in the adopted Short Range Transit Plans. *(PCTPA, transit operators, CTSA)*	**OBJECTIVE B:** Tailor transit service provision to the area's population characteristics and special needs. **OBJECTIVE C:** Provide a transit system that is responsive to the needs of persons who rely on public transportation.
Short Range Action #5. Conduct an independent performance audit every three years of the activities of each of the five transit operators under PCTPA jurisdiction that it allocates LTF (funds). *(PCTPA, transit operators, CTSA)*	**OBJECTIVE C:** Provide a transit system that is responsive to the needs of persons who rely on public transportation.
Short Range Action #6. Conduct an independent financial audit annually of the TDA funds allocated to each jurisdiction to determine compliance with statutes, rules and regulations of TDA and the allocation instructions of PCTPA. *(PCTPA, jurisdictions, transit operators, CTSA)*	**OBJECTIVE C:** Provide a transit system that is responsive to the needs of persons who rely on public transportation.
Short Range Action #7. Continue to obtain public input on public transportation systems by holding annual unmet transit needs workshops and hearings. Implement expanded services to respond to needs that are reasonable to meet. *(PCTPA, transit operators, jurisdictions, CTSA)*	**OBJECTIVE A:** Provide transit services that fulfill all "unmet transit needs that are reasonable to meet." **OBJECTIVE B:** Tailor transit service provision to the area's population characteristics and special needs. **OBJECTIVE C:** Provide a transit system that is responsive to the needs of persons who rely on public transportation.

Short-Range & Long-Range Actions	RTP Objective
Short Range Action #8. Continue active participation in local and regional coordinating groups (e.g., SACOG Transit Coordinating Committee, Transit Operators Working Group, Best Step Transportation Collaborative). *(PCTPA, transit operators, CTSA)*	**OBJECTIVE E:** Coordinate various transportation services to maximize efficiency and convenience and minimize duplication of services.
Short Range Action Plan #9. Work with public transit operators and social service transportation providers to improve or increase transit services to rural areas of Placer County. *(PCTPA, transit operators, CTSA)*	**OBJECTIVE A:** Provide transit services that fulfill all "unmet transit needs that are reasonable to meet." **OBJECTIVE B:** Tailor transit service provision to the area's population characteristics and special needs. **OBJECTIVE C:** Provide a transit system that is responsive to the needs of persons who rely on public transportation.
Short Range Action #10. Implement and/or modify paratransit services to continually meet the requirements of the Americans with Disabilities Act. *(PCTPA, transit operators)*	**OBJECTIVE B:** Tailor transit service provision to the area's population characteristics and special needs. **OBJECTIVE C:** Provide a transit system that is responsive to the needs of persons who rely on public transportation.
Short Range Action #11. Continue to coordinate and consolidate social service transportation whenever possible. *(PCTPA, CTSA, social service agencies)*	**OBJECTIVE E:** Coordinate various transportation services to maximize efficiency and convenience and minimize duplication of services.
Short Range Action #12. Implement the recommendations outlined in the South Placer Regional Dial-a-Ride Study to avoid duplication and coordinate respective Dial-a-Ride services *(PCTPA, transit operators, CTSA)*	**OBJECTIVE B:** Tailor transit service provision to the area's population characteristics and special needs. **OBJECTIVE E:** Coordinate various transportation services to maximize efficiency and convenience and minimize duplication of services.
Short Range Action #13. Encourage the transit operators to work cooperatively to optimize service delivery, offer complementary services and fare media to improve ease of connectivity among transit systems. *(PCTPA, transit operators, CTSA)*	**OBJECTIVE B:** Tailor transit service provision to the area's population characteristics and special needs. **OBJECTIVE E:** Coordinate various transportation services to maximize efficiency and convenience and minimize duplication of services.
Short Range Action #14. Implement a discounted College Transit Pass Program in partnership with local colleges, universities, trade and technical schools to increase student awareness and use of Placer County public transit services. *(PCTPA, transit operators, Sierra Community College District, California State University Sacramento, other local colleges, universities, trade and technical schools)*	**OBJECTIVE A:** Provide transit services that fulfill all "unmet transit needs that are reasonable to meet." **OBJECTIVE B:** Tailor transit service provision to the area's population characteristics and special needs. **OBJECTIVE C:** Provide a transit system that is responsive to the needs of persons who rely on public transportation. **OBJECTIVE D:** Develop and encourage the use of public transit as a viable alternative to the automobile in order to maximize transit ridership.

Short-Range & Long-Range Actions	RTP Objective
Long Range Action #1. Continue to update the short range transit plans for the transit operators with continued emphasis on meeting the transit needs of the growing and changing population, public education, enhancing the convenience of regional travel, offering alternatives to the automobile, and improving connections between various modes of travel. *(PCTPA, transit operators, CTSA, jurisdictions)*	**OBJECTIVE A:** Provide transit services that fulfill all "unmet transit needs that are reasonable to meet." **OBJECTIVE B:** Tailor transit service provision to the area's population characteristics and special needs. **OBJECTIVE C:** Provide a transit system that is responsive to the needs of persons who rely on public transportation. **OBJECTIVE D:** Develop and encourage the use of public transit as a viable alternative to the automobile in order to maximize transit ridership. **OBJECTIVE E:** Coordinate various transportation services to maximize efficiency and convenience and minimize duplication of services.
Long Range Action #2. Pursue the recommendations outlined for Scenario 2 in the Transit Master Plan in the development of future transit services in Placer County through the year 2035, with a focus on coordination and integration opportunities. *(PCTPA, transit operators, CTSA, jurisdictions)*	**OBJECTIVE A:** Provide transit services that fulfill all "unmet transit needs that are reasonable to meet." **OBJECTIVE B:** Tailor transit service provision to the area's population characteristics and special needs. **OBJECTIVE C:** Provide a transit system that is responsive to the needs of persons who rely on public transportation. **OBJECTIVE D:** Develop and encourage the use of public transit as a viable alternative to the automobile in order to maximize transit ridership. **OBJECTIVE E:** Coordinate various transportation services to maximize efficiency and convenience and minimize duplication of services.
GOAL 3: PASSENGER RAIL TRANSPORTATION	
Short and Long Range Action #1. Seek funding through Caltrans to implement the CCJPA Business Plan and Capital Improvement Program, as continuously updated. *(PCTPA, CCJPA, Caltrans, jurisdictions)*	**OBJECTIVE A:** Provide more frequent, convenient, and reliable passenger rail service to and through Placer County.
Short and Long Range Action #2. Continue to partner with CCJPA to bring additional Capitol Corridor passenger rail service to western Placer County. *(PCTPA, CCJPA, Caltrans, jurisdictions, UPRR)*	**OBJECTIVE A:** Provide more frequent, convenient, and reliable passenger rail service to and through Placer County
Short and Long Range Action #3. Continue to partner with CCJPA to promote destination and rail travel to / from Placer County *(PCTPA and CCJPA)*	**OBJECTIVE A:** Provide more frequent, convenient, and reliable passenger rail service to and through Placer County.

Short-Range & Long-Range Actions	RTP Objective
Short and Long Range Action #4. Encourage expansion of the Capitol Corridor service to Colfax, Soda Springs, Truckee, and Reno/Sparks. *(PCTPA, CCJPA, Nevada County Transportation Commission, Caltrans, Washoe County Regional Transportation Commission, jurisdictions, UPRR)*	**OBJECTIVE A:** Provide more frequent, convenient, and reliable passenger rail service to and through Placer County.
Short and Long Range Action #5. Support Capitol Corridor program / project applications for high-speed rail funding from the Federal Railroad Administration (FRA). *(PCTPA, CCJPA, Nevada County Transportation Commission, Regional Transportation Commission, jurisdictions, federal representatives)*	**OBJECTIVE A:** Provide more frequent, convenient, and reliable passenger rail service to and through Placer County.
Short and Long Range Action #6. Support the allocation of Proposition 1A high speed rail bond funding to the Capitol Corridor from the California Transportation Commission. *(PCTPA and jurisdictions)*	**OBJECTIVE A:** Provide more frequent, convenient, and reliable passenger rail service to and through Placer County.
Short and Long Range Action #7. Pursue implementation of regional rail service between Auburn and Oakland. *(PCTPA, Regional Transit, Yolo County Transportation District, CCJPA, Solano Transportation Authority, Contra Costa Transportation Authority, Caltrans)*	**OBJECTIVE A:** Provide more frequent, convenient, and reliable passenger rail service to and through Placer County.
Short and Long Range Action #8. Continue to explore the feasibility of rail service between Marysville and Sacramento with stops in Lincoln and Roseville. *(PCTPA, Caltrans, Yuba County, jurisdictions)*	**OBJECTIVE A:** Provide more frequent, convenient, and reliable passenger rail service to and through Placer County.
Short and Long Range Action #9. Consider implementing new safety / quiet zones at at-grade rail crossings to eliminate train horn noise provided that the crossing accident rate meets Federal Railroad Administration (FRA) standards and supplemental or alternative safety measures are in place in accordance with the FRA Final Train Horn and Quiet Zone Rule (effective June 2005). *((PCTPA, jurisdictions, CCJPA, CPUC, Caltrans, FRA, UPRR)*	**OBJECTIVE A:** Provide more frequent, convenient, and reliable passenger rail service to and through Placer County
Short and Long Range Action #10. Continue to evaluate capital improvement requirements and amenities at passenger stations. *(PCTPA, jurisdictions, CCJPA, CPUC, Caltrans, FRA, UPRR)*	**OBJECTIVE A:** Provide more frequent, convenient, and reliable passenger rail service to and through Placer County

Short-Range & Long-Range Actions	RTP Objective
GOAL 4: AVIATION	
Short Range Action #1. Continue efforts to avoid conflicts over noise issues. *(PCTPA, jurisdictions, airport operators, vicinity property owners)*	**OBJECTIVE A**: Promote the development, operation, and maintenance of a regional system of airports. **OBJECTIVE B**: Update and revise Airport Master Plans as necessary. **OBJECTIVE C**: Promote and secure adequate air passenger, goods movement, and other aviation and air transportation services as part of a multi-modal transportation system. **OBJECTIVE D**: Promote the safe, orderly, and efficient use of airports and ensure compatible development around them via the Placer County Airport Land Use Compatibility Plan (PCALUCP).
Short Range Action #2. Continue to protect airspace and runway approaches. *(PCTPA, FAA, jurisdictions, airport operators, vicinity property owners)*	**OBJECTIVE A**: Promote the development, operation, and maintenance of a regional system of airports. **OBJECTIVE D**: Promote the safe, orderly, and efficient use of airports and ensure compatible development around them via the Placer County Airport Land Use Compatibility Plan (PCALUCP).
Short Range Action #3. Promote compatible land uses that are consistent with the Placer County Airport Land Use Compatibility Plan. *(PCTPA, airport operators, jurisdictions, Caltrans)*	**OBJECTIVE A**: Promote the development, operation, and maintenance of a regional system of airports. **OBJECTIVE D**: Promote the safe, orderly, and efficient use of airports and ensure compatible development around them via the Placer County Airport Land Use Compatibility Plan (PCALUCP).
Short Range Action #4. Continue to upgrade navigational equipment as needed. *(Jurisdictions, airport operators)*	**OBJECTIVE A**: Promote the development, operation, and maintenance of a regional system of airports.
Short Range Action #5. Promote public awareness of airport services and benefits for business, recreation and goods movement use. *(PCTPA, jurisdictions, airport operators)*	**OBJECTIVE A**: Promote the development, operation, and maintenance of a regional system of airports.
Short Range Action #6. Maintain and improve existing airport facilities in accordance with adopted airport master plans, as updated. *(Jurisdictions, airport operators)*	**OBJECTIVE A**: Promote the development, operation, and maintenance of a regional system of airports. **OBJECTIVE B**: Update and revise Airport Master Plans as necessary. **OBJECTIVE D**: Promote the safe, orderly, and efficient use of airports and ensure compatible development around them via the Placer County Airport Land Use Compatibility Plan (PCALUCP).

Short-Range & Long-Range Actions	RTP Objective
Short Range Action #7. Assist operators of public use airports in pursuing funding sources. *(PCTPA, airport operators)*	**OBJECTIVE A**: Promote the development, operation, and maintenance of a regional system of airports. **OBJECTIVE C**: Promote and secure adequate air passenger, goods movement, and other aviation and air transportation services as part of a multi-modal transportation system.
Short Range Action #8. Explore opportunities to improve passenger and cargo airport ground access to relieve potential bottlenecks around airports through local road and intersection improvements *(PCTPA, jurisdictions)*	**OBJECTIVE C**: Promote and secure adequate air passenger, goods movement, and other aviation and air transportation services as part of a multi-modal transportation system.
Short Range Action #9. Promote the development of general aviation airport security for functional areas such as personnel, aircraft, airports/facilities, surveillance, security plans and communications, and specialty operations. *(Caltrans Division of Aeronautics, jurisdictions)*	**OBJECTIVE C**: Promote and secure adequate air passenger, goods movement, and other aviation and air transportation services as part of a multi-modal transportation system.
Short Range Action #10. Participate in SACOG's development of the McClellan Field ALUCP update to ensure that any potential impacts from ongoing operations at McClellan Field to Placer jurisdictions are minimized, and update the Placer County ALUCP, as necessary. *(PCTPA, jurisdictions, SACOG, Sacramento County)*	**OBJECTIVE A**: Promote the development, operation, and maintenance of a regional system of airports. **OBJECTIVE B**: Update and revise Airport Master Plans as necessary **OBJECTIVE D**: Promote the safe, orderly, and efficient use of airports and ensure compatible development around them via the Placer County Airport Land Use Compatibility Plan (PCALUCP).
Short Range Action #11. Participate in Caltrans Division of Aeronautics regional and statewide aviation planning efforts. *(PCTPA, airport operators)*	**OBJECTIVE A**: Promote the development, operation, and maintenance of a regional system of airports.
Short Range Action #12. Work cooperatively with NCTC to address Truckee-Tahoe Airport ALUCP coordination issues. *(PCTPA, NCTC)*	**OBJECTIVE A**: Promote the development, operation, and maintenance of a regional system of airports. **OBJECTIVE D**: Promote the safe, orderly, and efficient use of airports and ensure compatible development around them via the Placer County Airport Land Use Compatibility Plan (PCALUCP).
Short Range Action #13. Encourage Placer County to initiate the State-mandated requirement to update its General Plan and supporting planning documents to be consistent with the Placer County ALUCP. *(PCTPA, Placer County)*	**OBJECTIVE D**: Promote the safe, orderly, and efficient use of airports and ensure compatible development around them via the Placer County Airport Land Use Compatibility Plan (PCALUCP).

Short-Range & Long-Range Actions	RTP Objective
Short Range Action #14. Prepare a comprehensive update of the Placer County ALUCP, once the Caltrans Division of Aeronautics State Handbook update is completed. *(PCTPA, jurisdictions, airport operators, Caltrans Division of Aeronautics, Sacramento County, SACOG))*	**OBJECTIVE A**: Promote the development, operation, and maintenance of a regional system of airports. **OBJECTIVE D**: Promote the safe, orderly, and efficient use of airports and ensure compatible development around them via the Placer County Airport Land Use Compatibility Plan (PCALUCP).
Long Range Action #1. Continue to implement the actions outlined in the short range action plan. *(PCTPA, jurisdictions, airport operators)*	**OBJECTIVE A**: Promote the development, operation, and maintenance of a regional system of airports. **OBJECTIVE B**: Update and revise Airport Master Plans as necessary. **OBJECTIVE C**: Promote and secure adequate air passenger, goods movement, and other aviation and air transportation services as part of a multi-modal transportation system. **OBJECTIVE D**: Promote the safe, orderly, and efficient use of airports and ensure compatible development around them via the Placer County Airport Land Use Compatibility Plan (PCALUCP).
Long Range Action #2. Encourage more flexible use of airport revenues for off-airport ground access projects *(PCTPA, jurisdictions, Caltrans, FAA)*	**OBJECTIVE A**: Promote the development, operation, and maintenance of a regional system of airports. **OBJECTIVE C**: Promote and secure adequate air passenger, goods movement, and other aviation and air transportation services as part of a multi-modal transportation system.
GOAL 5: GOODS MOVEMENT	
Short Range Action #1. Identify obstacles that prevent or impede goods movement. (PCTPA, jurisdictions, industry).	**OBJECTIVE A**: Promote a balance of roads, rail, airports, and pipelines for the improvement of goods transport. **OBJECTIVE B**: Mitigate conditions that transporters of goods deem dangerous or unacceptable.
Short Range Action #2. Encourage industry to maximize use of rail and air for the transportation of goods. *(PCTPA, jurisdictions)*	**OBJECTIVE A**: Promote a balance of roads, rail, airports, and pipelines for the improvement of goods transport.
Short Range Action #3. Support the development of grade separation projects where necessary. *(PCTPA, jurisdictions, Caltrans)*	**OBJECTIVE B**: Mitigate conditions that transporters of goods deem dangerous or unacceptable.
Short Range Action #4. Support the designation of hazardous waste routes by federal and state regulators. *(PCTPA, jurisdictions)*	**OBJECTIVE B**: Mitigate conditions that transporters of goods deem dangerous or unacceptable.

Short-Range & Long-Range Actions	RTP Objective
Short Range Action #5. Designate a subregional or countywide backbone truck route *system (PCTPA, jurisdictions, Caltrans)*	**OBJECTIVE A**: Promote a balance of roads, rail, airports, and pipelines for the improvement of goods transport. **OBJECTIVE B**: Mitigate conditions that transporters of goods deem dangerous or unacceptable.
Short Range Action #6. Maintain a balanced freight transportation system to provide for the safe and efficient movement of goods. *(PCTPA, jurisdictions, Caltrans)*	**OBJECTIVE A**: Promote a balance of roads, rail, airports, and pipelines for the improvement of goods transport.
Short Range Action #7. Support local development of truck parking *strategies (PCTPA, jurisdiction and industry)*	**OBJECTIVE A**: Promote a balance of roads, rail, airports, and pipelines for the improvement of goods transport. **OBJECTIVE B**: Mitigate conditions that transporters of goods deem dangerous or unacceptable.
Short Range Action #8. Specially designate roads that connect key agricultural producers with processing facilities and the regional road network. *(PCTPA, jurisdictions, agricultural industry, Caltrans)*	**OBJECTIVE A**: Promote a balance of roads, rail, airports, and pipelines for the improvement of goods transport. **OBJECTIVE B**: Mitigate conditions that transporters of goods deem dangerous or unacceptable.
Short Range Action #9. Act as a resource to local jurisdictions for interrelationship of industrial and wholesale land use and transportation planning. *(PCTPA)*	**OBJECTIVE A**: Promote a balance of roads, rail, airports, and pipelines for the improvement of goods transport.
Long Range Action #1. Continue to implement the actions outlined in the short-range action plan. *(PCTPA, Caltrans, jurisdictions, industry)*	**OBJECTIVE A**: Promote a balance of roads, rail, airports, and pipelines for the improvement of goods transport.
Long Range Action #2. Continue to support accelerating truck and rail modernization, with cleaner technologies, in order to reduce current and long-term impacts of the goods movement system on public health and air quality. *(PCTPA, SACOG, APCDs, jurisdiction and industry)*	**OBJECTIVE A**: Promote a balance of roads, rail, airports, and pipelines for the improvement of goods transport.
Long Range Action #3. Coordinate goods movement plans and projects. *(PCTPA, Caltrans, jurisdictions, SACOG)*	**OBJECTIVE A**: Promote a balance of roads, rail, airports, and pipelines for the improvement of goods transport.

Short-Range & Long-Range Actions	RTP Objective
GOAL 6: NON-MOTORIZED TRANSPORTATION AND LOW-SPEED VEHICLES	
Short Range Action #1. Identify issues and problems pertaining to non-motorized and low-speed transportation. *(PCTPA, jurisdictions)*	**OBJECTIVE A:** Plan and develop a continuous and easily-accessible non-motorized and low-speed vehicle system within the region. **OBJECTIVE B:** Provide a non-motorized and low-speed vehicle system that emphasizes the safety of people and property. **OBJECTIVE C:** Integrate non-motorized and low-speed vehicle facilities into a multi-modal transportation system that encourages alternatives to driving alone. **OBJECTIVE D:** Promote the development of multi-use trails in rural and other areas. **OBJECTIVE E:** Provide an informational/ educational program for motorists, bicyclists, and NEV users that identify the proper role and responsibilities of each in the transportation environment.
Short Range Action #2. Develop policies for the allocation of funds and processing of claims for non-motorized and low-speed projects. *(PCTPA, jurisdictions)*	**OBJECTIVE A:** Plan and develop a continuous and easily-accessible non-motorized and low-speed vehicle and low-speed vehicle system within the region. **OBJECTIVE B:** Provide a non-motorized and low-speed vehicle and low-speed vehicle system that emphasizes the safety of people and property. **OBJECTIVE C:** Integrate non-motorized and low-speed vehicle facilities into a multi-modal transportation system that encourages alternatives to driving alone. **OBJECTIVE D:** Promote the development of multi-use trails in rural and other areas.
Short Range Action #3. Promote non-motorized and low-speed transportation as a viable transportation control measure for the mitigation of air quality and congestion problems. *(PCTPA, jurisdictions, PCAPCD, SACOG)*	**OBJECTIVE C:** Integrate non-motorized and low-speed vehicle facilities into a multi-modal transportation system that encourages alternatives to driving alone. **OBJECTIVE D:** Promote the development of multi-use trails in rural and other areas.
Short Range Action #4. Ensure that jurisdictions have current Bikeway Master Plans that comply with State requirements. *(PCTPA, jurisdictions, Caltrans)*	

Short-Range & Long-Range Actions	RTP Objective
Short Range Action #5. Work with jurisdictions and Caltrans to connect the urbanized centers of the region through non-motorized and low-speed transportation facilities, with an emphasis on closing gaps. *(PCTPA, jurisdictions, Caltrans)*	**OBJECTIVE A:** Plan and develop a continuous and easily-accessible non-motorized and low-speed vehicle system within the region. **OBJECTIVE C:** Integrate non-motorized and low-speed vehicle facilities into a multi-modal transportation system that encourages alternatives to driving alone.
Short Range Action #6. Work with PCTPA member jurisdictions to encourage the development of support facilities, such as secure bicycle parking or storage lockers, shower and changing space, appropriate signage, and adequate lighting, at new commercial and industrial sites, transit centers, park-and-ride lots, and all transit buses. *(PCTPA, jurisdictions, Caltrans, transit operators)*	**OBJECTIVE A:** Plan and develop a continuous and easily-accessible non-motorized and low-speed vehicle system within the region. **OBJECTIVE B:** Provide a non-motorized and low-speed vehicle system that emphasizes the safety of people and property. **OBJECTIVE C:** Integrate non-motorized and low-speed vehicle facilities into a multi-modal transportation system that encourages alternatives to driving alone.
Short Range Action #7. Encourage PCTPA jurisdictions to evaluate the feasibility of installing Class II bike lanes as part of street overlay and maintenance projects. *(PCTPA, jurisdictions)*	**OBJECTIVE A:** Plan and develop a continuous and easily-accessible non-motorized and low-speed vehicle system within the region. **OBJECTIVE B:** Provide a non-motorized and low-speed vehicle system that emphasizes the safety of people and property. **OBJECTIVE C:** Integrate non-motorized and low-speed vehicle facilities into a multi-modal transportation system that encourages alternatives to driving alone.
Short Range Action #8. Pursue new revenue sources for non-motorized and low-speed transportation development. *(PCTPA, jurisdictions)*	**OBJECTIVE A:** Plan and develop a continuous and easily-accessible non-motorized and low-speed vehicle system within the region. **OBJECTIVE B:** Provide a non-motorized and low-speed vehicle system that emphasizes the safety of people and property. **OBJECTIVE C:** Integrate non-motorized and low-speed vehicle facilities into a multi-modal transportation system that encourages alternatives to driving alone. **OBJECTIVE D:** Promote the development of multi-use trails in rural and other areas.
Short Range Action #9. Review existing abandoned railroad corridors for possible conversion to non-motorized and low-speed vehicle transportation facilities. *(PCTPA, jurisdictions)*	**OBJECTIVE A:** Plan and develop a continuous and easily-accessible non-motorized and low-speed vehicle system within the region. **OBJECTIVE D:** Promote the development of multi-use trails in rural and other areas.

Short-Range & Long-Range Actions	RTP Objective
Short Range Action #10. Promote the beneficial aspects of non-motorized and low-speed transportation through Spare the Air, Bike-to-Work Month, and other similar programs. *(PCTPA, jurisdictions, Caltrans)*	**OBJECTIVE E:** Provide an informational/ educational program for motorists, bicyclists, and NEV users that identify the proper role and responsibilities of each in the transportation environment.
Short Range Action #11. Expand the use of the Safe Routes to Schools program, conducting bicycling and walking audits, in an effort to make bicycling, walking and crossing the street safer enroute to and from school. *(Jurisdictions, school districts, Caltrans, local law enforcement, CHP, PCTPA)*	**OBJECTIVE A:** Plan and develop a continuous and easily-accessible non-motorized and low-speed vehicle system within the region. **OBJECTIVE B:** Provide a non-motorized and low-speed vehicle system that emphasizes the safety of people and property. **OBJECTIVE C:** Integrate non-motorized and low-speed vehicle facilities into a multi-modal transportation system that encourages alternatives to driving alone.
Short Range Action #12. Encourage jurisdictions to identify and upgrade intersections that have sub-standard or are missing pedestrian crosswalks and curb cuts. *(Jurisdictions, Caltrans)*	**OBJECTIVE A:** Plan and develop a continuous and easily-accessible non-motorized and low-speed vehicle system within the region. **OBJECTIVE B:** Provide a non-motorized and low-speed vehicle system that emphasizes the safety of people and property.
Long Range Action #1. Continue to implement the actions outlined in the short range action plan. *(PCTPA, jurisdictions)*	**OBJECTIVE A:** Plan and develop a continuous and easily-accessible non-motorized and low-speed vehicle system within the region. **OBJECTIVE B:** Provide a non-motorized and low-speed vehicle system that emphasizes the safety of people and property. **OBJECTIVE C:** Integrate non-motorized and low-speed vehicle facilities into a multi-modal transportation system that encourages alternatives to driving alone. **OBJECTIVE D:** Promote the development of multi-use trails in rural and other areas. **OBJECTIVE E:** Provide an informational/ educational program for motorists, bicyclists, and NEV users that identify the proper role and responsibilities of each in the transportation environment.
GOAL 7: TRANSPORTATION SYSTEMS MANAGEMENT (TSM)	
Short and Long Range Action #1. Work cooperatively with neighboring jurisdictions to implement ITS improvements that would support TSM efforts in the region. *(PCTPA, SACOG, TRPA, NCTC, EDCTC, Sierra County, Caltrans)*	**OBJECTIVE C:** Promote the use of electronic information transfer systems to reduce work-related, education-related, and personal trips.

Short-Range & Long-Range Actions	RTP Objective
Short and Long Range Action #2. Continue to work cooperatively with SACOG, SMAQMD, and the City of Roseville on implementation and enhancement of regional rideshare programs that encourage the use of alternative modes of transportation. *(SACOG, SMAQMD, PCTPA, City of Roseville, local employers)*	**OBJECTIVE A:** Create a multi-modal transportation network between major residential areas, educational and recreational facilities, and employment centers. **OBJECTIVE B:** Advance the use of Transportation Demand Management (TDM) in a thorough, cost-effective manner.
Short and Long Range Action #3. Continue to work cooperatively with area school districts on outreach to children in educating them about the benefits realized through the use of alternative transportation. *(PCTPA, school districts, transit operators)*	**OBJECTIVE B:** Advance the use of Transportation Demand Management (TDM) in a thorough, cost-effective manner. **OBJECTIVE C:** Promote the use of electronic information transfer systems to reduce work-related, education-related, and personal trips.
Short Range and Long Range Action #4. Promote alternative modes of transportation to help meet the transportation needs of rural agricultural workers in Placer County. *(PCTPA, transit operators, agricultural industry, Placer County Farm Bureau, Placer County Agricultural Commissioner, Placer County Agriculture Department, Caltrans, SACOG)*	**OBJECTIVE A:** Create a multi-modal transportation network between major residential areas, educational and recreational facilities, and employment centers. **OBJECTIVE B:** Advance the use of Transportation Demand Management (TDM) in a thorough, cost-effective manner.
Short and Long Range Action #5. Implement traffic flow improvements on regionally significant roadways. *(PCTPA, jurisdictions, Caltrans)*	**OBJECTIVE A:** Create a multi-modal transportation network between major residential areas, educational and recreational facilities, and employment centers. **OBJECTIVE B:** Advance the use of Transportation Demand Management (TDM) in a thorough, cost-effective manner.
Short and Long Range Action #6. Improve and expand public transportation systems (bus and rail) as feasible, to maintain existing and increase new ridership. *(PCTPA, CCJPA, transit operators)*	**OBJECTIVE A:** Create a multi-modal transportation network between major residential areas, educational and recreational facilities, and employment centers. **OBJECTIVE B:** Advance the use of Transportation Demand Management (TDM) in a thorough, cost-effective manner.
Short and Long Range Action #7. Develop and expand facilities to support the use of alternative transportation such as pedestrian and bicycle facilities, park-and-ride lots, and intermodal transfer stations. *(PCTPA, CCJPA, jurisdictions, Caltrans)*	**OBJECTIVE A:** Create a multi-modal transportation network between major residential areas, educational and recreational facilities, and employment centers. **OBJECTIVE B:** Advance the use of Transportation Demand Management (TDM) in a thorough, cost-effective manner.
Short and Long Range Action #8. Increase the awareness to media, employers and the general public of alternative transportation options in Placer County through outreach, educational and incentive programs. *(PCTPA, jurisdictions, transit operators)*	**OBJECTIVE B:** Advance the use of Transportation Demand Management (TDM) in a thorough, cost-effective manner.

Short-Range & Long-Range Actions	RTP Objective
Short and Long Range Action #9. Encourage SACOG to develop a periodic regional survey of traveler choices, which would monitor trends in traveler choices related to external influences and the impact of public policy programs. *(SACOG, jurisdictions, transit operators, PCTPA, Caltrans)*	**OBJECTIVE B:** Advance the use of Transportation Demand Management (TDM) in a thorough, cost-effective manner.
Short and Long Range Action #10. Promote a transportation system which minimizes the dependency of long-distance, single-occupant vehicle trips and vehicle miles traveled in Placer County toward achieving SACOG's 10 percent trip reduction goal. *(SACOG, jurisdictions, transit operators, PCTPA, Caltrans)*	**OBJECTIVE A:** Create a multi-modal transportation network between major residential areas, educational and recreational facilities, and employment centers. **OBJECTIVE B:** Advance the use of Transportation Demand Management (TDM) in a thorough, cost-effective manner. **OBJECTIVE C:** Promote the use of electronic information transfer systems to reduce work-related, education-related, and personal trips.
Intelligent Transportation Systems Short Range Action #1. Maximize the operating efficiency of the existing surface transportation system by incorporating ITS strategies where feasible *(PCTPA, El Dorado County, Nevada County, Sierra County, jurisdictions, SACOG, Caltrans)*	**TSM OBJECTIVE C:** Promote the use of electronic information transfer systems to reduce work-related, education-related, and personal trips.
Intelligent Transportation Systems Short Range Action 2. Improve the safety of travel into, through, and out of the Tahoe Gateway Region. *(PCTPA, El Dorado County, Nevada County, Sierra County, jurisdictions, Caltrans)*	**TSM OBJECTIVE C:** Promote the use of electronic information transfer systems to reduce work-related, education-related, and personal trips. **RECREATIONAL TRAVEL OBJECTIVE A**: Incorporate access to recreational centers in the transportation infrastructure.
Intelligent Transportation Systems Short Range Action 3. Ensure that accurate and reliable traveler information regarding traffic and weather conditions is available to those entering the region as well as those traveling within the region. *(PCTPA, El Dorado County, Nevada County, Sierra County, jurisdictions, SACOG, Caltrans)*	**TSM OBJECTIVE C:** Promote the use of electronic information transfer systems to reduce work-related, education-related, and personal trips.
Intelligent Transportation Systems Short Range Action #4. Provide more effective and convenient transit services. *(PCTPA, El Dorado County, Nevada County, Sierra County, jurisdictions, transit operators, SACOG)*	**TSM OBJECTIVE C:** Promote the use of electronic information transfer systems to reduce work-related, education-related, and personal trips. **PUBLIC TRANSIT OBJECTIVE D:** Develop and encourage the use of public transit as a viable alternative to the automobile in order to maximize transit ridership.

Short-Range & Long-Range Actions	RTP Objective
Intelligent Transportation Systems Short Range Action #5. Ensure efficient commercial vehicle operations into, through and out of the Tahoe Gateway Region. *(PCTPA, El Dorado County, Nevada County, Sierra County, jurisdictions, Caltrans)*	**TSM OBJECTIVE C:** Promote the use of electronic information transfer systems to reduce work-related, education-related, and personal trips.
Intelligent Transportation Systems Short Range Action #6. Ensure the long-term viability of ITS in the Tahoe Gateway Region. *(PCTPA, El Dorado County, Nevada County, Sierra County, jurisdictions, Caltrans, FHWA)*	**TSM OBJECTIVE C:** Promote the use of electronic information transfer systems to reduce work-related, education-related, and personal trips.
Intelligent Transportation Systems Short Range Action #7. Maintain an ITS program that is compatible and supported by National ITS efforts. *(PCTPA, El Dorado County, Nevada County, Sierra County, jurisdictions, SACOG, Caltrans, FHWA)*	**TSM OBJECTIVE C:** Promote the use of electronic information transfer systems to reduce work-related, education-related, and personal trips.
Intelligent Transportation Systems Short Range Action #8. Coordinate with communication utilities to include rural broadband, where possible, as part of the implementation of jurisdiction ITS projects. *(PCTPA, jurisdictions, communication utilities)*	**TSM OBJECTIVE C:** Promote the use of electronic information transfer systems to reduce work-related, education-related, and personal trips.
Intelligent Transportation Systems Long Range Action #1. Continue implementation (deployment, operations, and maintenance) of the Tahoe Gateway Counties ITS. *(PCTPA, El Dorado County, Nevada County, Sierra County, jurisdictions, Caltrans, SACOG, FHWA)*	**TSM OBJECTIVE C:** Promote the use of electronic information transfer systems to reduce work-related, education-related, and personal trips.
Intelligent Transportation Systems Long Range Action #2. Continue implementation (deployment, operations, and maintenance) of the Sacramento Region ITS. *(PCTPA, El Dorado County, Sacramento County, Sutter County, Yolo County, Yuba County, jurisdictions, Caltrans, SACOG, FHWA)*	**TSM OBJECTIVE C:** Promote the use of electronic information transfer systems to reduce work-related, education-related, and personal trips.
Intelligent Transportation Systems Long Range Action #3. Continue regional ITS management via each member County, neighboring regions, and other agencies, organizations, and individuals. *(PCTPA, El Dorado County, Nevada County, Sierra County, jurisdictions, Caltrans, SACOG, FHWA)*	**TSM OBJECTIVE C:** Promote the use of electronic information transfer systems to reduce work-related, education-related, and personal trips.

Short-Range & Long-Range Actions	RTP Objective
Intelligent Transportation Systems Long Range Action #4. Mainstream or incorporate ITS technologies into the planning process as stand-alone projects and/or as part of larger transportation projects. *(PCTPA, El Dorado County, Nevada County, Sierra County, jurisdictions, Caltrans, SACOG, FHWA)*	**TSM OBJECTIVE C:** Promote the use of electronic information transfer systems to reduce work-related, education-related, and personal trips.
Intelligent Transportation Systems Long Range Action #5. Ensure that the Regional ITS Architecture Maintenance Plan continues to be implemented. *(PCTPA, El Dorado County, Nevada County, Sierra County, jurisdictions, Caltrans, SACOG, FHWA)*	**TSM OBJECTIVE C:** Promote the use of electronic information transfer systems to reduce work-related, education-related, and personal trips.
Transportation Safety & Security Action Plan Short and Long Range Action #1. Reduce accident rates to below the statewide average or better through implementation of safety improvements and measures. *(PCTPA, jurisdictions, transit operators, Caltrans*	**AVIATION OBJECTIVE D**: Promote the safe, orderly, and efficient use of airports and ensure compatible development around them via the Placer County Airport Land Use Compatibility Plan (PCALUCP). **GOODS MOVEMENT OBJECTIVE B**: Mitigate conditions that transporters of goods deem dangerous or unacceptable. **NON-MOTORIZED OBJECTIVE B:** Provide a non-motorized and low-speed vehicle and low-speed vehicle system that emphasizes the safety of people and property **INTEGRATED LAND USE, AIR QUALITY, AND TRANSPORTATION PLANNING OBJECTIVE B:** Provide transportation infrastructure that meets existing and future needs.

Short-Range & Long-Range Actions	RTP Objective
Transportation Safety & Security Action Plan Short and Long Range Action #2. Encourage jurisdictions to develop a systematic approach to identify and review existing or potential high incident accident locations, including rural areas to prevent animal-vehicle collisions. *(Local jurisdictions, transit operators, CCJPA, Caltrans, CHP, PCTPA and SACOG)*	**AVIATION OBJECTIVE D**: Promote the safe, orderly, and efficient use of airports and ensure compatible development around them via the Placer County Airport Land Use Compatibility Plan (PCALUCP). **GOODS MOVEMENT OBJECTIVE B**: Mitigate conditions that transporters of goods deem dangerous or unacceptable. **NON-MOTORIZED OBJECTIVE B:** Provide a non-motorized and low-speed vehicle and low-speed vehicle system that emphasizes the safety of people and property **INTEGRATED LAND USE, AIR QUALITY, AND TRANSPORTATION PLANNING OBJECTIVE B:** Provide transportation infrastructure that meets existing and future needs.
Transportation Safety & Security Action Plan Short and Long Range Action #3. Prioritize projects that implement preventative and routine maintenance and address safety standards. *(Local jurisdictions, transit operators, CCJPA, Caltrans, PCTPA and SACOG)*	**AVIATION OBJECTIVE C**: Promote and secure adequate air passenger, goods movement, and other aviation and air transportation services as part of a multi-modal transportation system. **GOODS MOVEMENT OBJECTIVE B**: Mitigate conditions that transporters of goods deem dangerous or unacceptable. **NON-MOTORIZED OBJECTIVE B:** Provide a non-motorized and low-speed vehicle and low-speed vehicle system that emphasizes the safety of people and property **INTEGRATED LAND USE, AIR QUALITY, AND TRANSPORTATION PLANNING OBJECTIVE B:** Provide transportation infrastructure that meets existing and future needs.
Transportation Safety & Security Action Plan Short and Long Range Action #4. Prioritize infrastructure in need of replacement, relocation or upgrade to meet current safety and design standards, including implementation of safety measures, enforcement, and educational activities. *(Local jurisdictions ,transit operators, CCJPA, Caltrans, CHP, PCTPA and SACOG)*	**AVIATION OBJECTIVE C**: Promote and secure adequate air passenger, goods movement, and other aviation and air transportation services as part of a multi-modal transportation system. **GOODS MOVEMENT OBJECTIVE B**: Mitigate conditions that transporters of goods deem dangerous or unacceptable. **NON-MOTORIZED OBJECTIVE B:** Provide a non-motorized and low-speed vehicle and low-speed vehicle system that emphasizes the safety of people and property **INTEGRATED LAND USE, AIR QUALITY, AND TRANSPORTATION PLANNING OBJECTIVE B:** Provide transportation infrastructure that meets existing and future needs.

Short-Range & Long-Range Actions	RTP Objective
Transportation Safety & Security Action Plan Short and Long Range Action #5. Continue to participate in the SHSP planning process and various interagency coordination efforts to exchange information on ongoing safety activities and best practices, as well as identify training opportunities, and exercise capabilities. *(Local jurisdictions, transit operators, CCJPA, Caltrans, CHP, PCTPA and SACOG)*	**AVIATION OBJECTIVE C**: Promote and secure adequate air passenger, goods movement, and other aviation and air transportation services as part of a multi-modal transportation system. **NON-MOTORIZED OBJECTIVE B:** Provide a non-motorized and low-speed vehicle and low-speed vehicle system that emphasizes the safety of people and property **INTEGRATED LAND USE, AIR QUALITY, AND TRANSPORTATION PLANNING OBJECTIVE B:** Provide transportation infrastructure that meets existing and future needs.

Short-Range & Long-Range Actions	RTP Objective
Transportation Safety & Security Action Plan Short and Long Range Action #6. Encourage a regional approach to maximize public outreach and education and related enforcement initiatives that target high risk behavior issues and that improve safe driving practices. *(Local jurisdictions, CCJPA, Caltrans, CHP, PCTPA and SACOG)*	**GOODS MOVEMENT OBJECTIVE B**: Mitigate conditions that transporters of goods deem dangerous or unacceptable. **NON-MOTORIZED OBJECTIVE E:** Provide an informational/ educational program for motorists, bicyclists, and NEV users that identify the proper role and responsibilities of each in the transportation environment.
Transportation Safety & Security Action Plan Short and Long Range Action #7. Encourage jurisdictions and transportation agencies to continue to coordinate with the Placer County OES and CAL FIRE on emergency preparedness activities. *(Local jurisdictions, transit operators, Caltrans, CHP, Placer County OES,CAL FIRE, PCTPA)*	**AVIATION OBJECTIVE C**: Promote and secure adequate air passenger, goods movement, and other aviation and air transportation services as part of a multi-modal transportation system. **AVIATION OBJECTIVE D**: Promote the safe, orderly, and efficient use of airports and ensure compatible development around them via the Placer County Airport Land Use Compatibility Plan (PCALUCP). **GOODS MOVEMENT OBJECTIVE B**: Mitigate conditions that transporters of goods deem dangerous or unacceptable. **NON-MOTORIZED OBJECTIVE B:** Provide a non-motorized and low-speed vehicle and low-speed vehicle system that emphasizes the safety of people and property **INTEGRATED LAND USE, AIR QUALITY, AND TRANSPORTATION PLANNING OBJECTIVE B:** Provide transportation infrastructure that meets existing and future needs.
Transportation Safety & Security Action Plan Short and Long Range Action #8. Encourage the preparation of transportation security assessments, and emergency preparedness plans, including continuity of operations, business resumption and recovery. *(Local jurisdictions, transit operators, CCJPA, Caltrans, CHP, PCTPA and SACOG)*	**AVIATION OBJECTIVE C**: Promote and secure adequate air passenger, goods movement, and other aviation and air transportation services as part of a multi-modal transportation system. **GOODS MOVEMENT OBJECTIVE B**: Mitigate conditions that transporters of goods deem dangerous or unacceptable. **NON-MOTORIZED OBJECTIVE B:** Provide a non-motorized and low-speed vehicle and low-speed vehicle system that emphasizes the safety of people and property **INTEGRATED LAND USE, AIR QUALITY, AND TRANSPORTATION PLANNING OBJECTIVE B:** Provide transportation infrastructure that meets existing and future needs.

Short-Range & Long-Range Actions	RTP Objective
Transportation Safety & Security Action Plan Short and Long Range Action #9. Improve the security preparedness of transportation facilities. *(Local jurisdictions, transit operators, CCJPA, Caltrans, CHP, PCTPA and SACOG)*	**AVIATION OBJECTIVE C**: Promote and secure adequate air passenger, goods movement, and other aviation and air transportation services as part of a multi-modal transportation system. **GOODS MOVEMENT OBJECTIVE B**: Mitigate conditions that transporters of goods deem dangerous or unacceptable. **NON-MOTORIZED OBJECTIVE B:** Provide a non-motorized and low-speed vehicle and low-speed vehicle system that emphasizes the safety of people and property **INTEGRATED LAND USE, AIR QUALITY, AND TRANSPORTATION PLANNING OBJECTIVE B:** Provide transportation infrastructure that meets existing and future needs.
GOAL 8: RECREATIONAL TRAVEL	
Short and Long Action #1. Promote and use intelligent transportation systems (ITS) to improve recreational travel. *(PCTPA, Caltrans, SACOG, TRPA, FHWA)*	**OBJECTIVE A**: Incorporate access to recreational centers in the transportation infrastructure.
Short and Long Range Action #2. Work with SACOG and other regional partners to implement and expand the 511 traveler information system (electronic information system) so it can be used to provide accurate and timely information on roads, traffic, transit, and alternative routes. *(SACOG, Caltrans, PCTPA, transit operators)*	**OBJECTIVE A**: Incorporate access to recreational centers in the transportation infrastructure.
Short and Long Range Action #3. Provide education and marketing of alternatives to the personal automobile. *(PCTPA, employers, resorts, TNT TMA, transit operators, United Auburn Indian Community of the Auburn Rancheria)*	**OBJECTIVE A**: Incorporate access to recreational centers in the transportation infrastructure.
Short and Long Range Action #4. Identify public infrastructure in need of expansion, as well as maintenance and repair to support tourism and recreation. *(PCTPA, jurisdictions, Caltrans, transit operators)*	**OBJECTIVE A**: Incorporate access to recreational centers in the transportation infrastructure.
Short and Long Range Action #5. Expand the availability of alternative transportation options (transit, rail, bike, pedestrian, airport shuttles) to driving the personal (private or rental) automobile. *(transit operators, PCTPA, jurisdictions, Capitol Corridor, employers, resorts, United Auburn Indian Community of the Auburn Rancheria)*	**OBJECTIVE A**: Incorporate access to recreational centers in the transportation infrastructure.
Short and Long Range Action #6. Provide coordinated feeder transit services to parks and attractions. *(transit operators, resorts, employers, Caltrans, United Auburn Indian Community of the Auburn Rancheria)*	**OBJECTIVE A**: Incorporate access to recreational centers in the transportation infrastructure.

Short-Range & Long-Range Actions	RTP Objective
Short and Long Range Action #7. Coordinate transportation planning with the tourism and resort industry to cooperatively develop, recommend, and implement transportation-related programs for improving recreational travel. (*resorts, employers, Caltrans, TNT TMA, transit operators United Auburn Indian Community of the Auburn Rancheria*)	**OBJECTIVE A**: Incorporate access to recreational centers in the transportation infrastructure.
Short and Long Range Action #8. Identify opportunities for joint projects and activities to maximize the effectiveness of limited funding opportunities. *(PCTPA, jurisdictions, Caltrans, SACOG, TNT TMA, resorts, employers, United Auburn Indian Community of the Auburn Rancheria)*	**OBJECTIVE A**: Incorporate access to recreational centers in the transportation infrastructure.
Short and Long Range Action #9. Work with primary marketing organizations to develop travel guides, way finding signage and to designate tourism routes. *(PCTPA, jurisdictions, Caltrans, SACOG, TNT TMA, resort, business and merchant associations, visitors bureau, chambers of commerce's, recreation providers, United Auburn Indian Community of the Auburn Rancheria)*	**OBJECTIVE A**: Incorporate access to recreational centers in the transportation infrastructure.
GOAL 9: INTEGRATED LAND USE, AIR QUALITY, AND TRANSPORTATION PLANNING	
Short Range Action #1. Continue to coordinate with jurisdictions and agencies inside and outside of Placer County to help establish county-wide transportation priorities, implement studies and projects in cooperation with other counties, facilitate joint transportation projects, and anticipate impacts on Placer County from governmental decisions. (*PCTPA, jurisdictions, SACOG, Caltrans, PCAPCD, CCJPA, Nevada County, Sacramento County, El Dorado County, Yuba County, Sutter County*)	**OBJECTIVE A**: Provide information and support services to jurisdictions regarding the countywide transportation impacts of local land use decisions. **OBJECTIVE B:** Provide transportation infrastructure that meets existing and future needs. **OBJECTIVE D:** Work with local jurisdictions, the Sacramento Area Council of Governments, Caltrans, the California Transportation Commission, and other transportation agencies to develop a regional planning and programming process to ensure that Placer County jurisdictions have maximum participation and control in the transportation decision-making process. **OBJECTIVE E:** Participate in state, multi-county, and local transportation efforts to ensure coordination of transportation system expansion and improvements.
Short Range Action #2. Review local general and specific plans, and land use entitlement applications for consistency with airport land use plans. (*PCTPA, jurisdictions*)	**OBJECTIVE A**: Provide information and support services to jurisdictions regarding the countywide transportation impacts of local land use decisions.
Short Range Action #3. Seek grant funding to support transportation projects that benefit the environment, housing, sustainable communities, air quality, or reduced traffic congestion. (*PCTPA, jurisdictions, PCAPCD, Caltrans*)	**OBJECTIVE B:** Provide transportation infrastructure that meets existing and future needs. **OBJECTIVE C:** Ensure that transportation projects do not contribute to increased vehicle emissions.

Short-Range & Long-Range Actions	RTP Objective
Short Range Action #4. Continue to participate in the SACOG regional Blueprint planning efforts. (*PCTPA, jurisdictions, SACOG*)	**OBJECTIVE A**: Provide information and support services to jurisdictions regarding the countywide transportation impacts of local land use decisions. **OBJECTIVE D:** Work with local jurisdictions, the Sacramento Area Council of Governments, Caltrans, the California Transportation Commission, and other transportation agencies to develop a regional planning and programming process to ensure that Placer County jurisdictions have maximum participation and control in the transportation decision-making process. **OBJECTIVE E:** Participate in state, multi-county, and local transportation efforts to ensure coordination of transportation system expansion and improvements.
Short Range Action #5. Develop guidelines and/or policies to prioritize transportation projects that have air quality benefits while providing cost effective movement of people and goods. (*PCTPA, PCAPCD*)	**OBJECTIVE C:** Ensure that transportation projects do not contribute to increased vehicle emissions.
Short Range Action #6. Provide support for projects consistent with Placer County's Ozone Reduction Ordinance, and also lead to reduced Greenhouse Gas emissions. (*PCTPA, PCAPCD*)	**OBJECTIVE C:** Ensure that transportation projects do not contribute to increased vehicle emissions.
Short Range Action #7. Encourage jurisdictions to develop roadways that complement Blueprint planned growth patterns, infill development, economic development programs , and requirements of infrastructure to support planned land uses. (*PCTPA, jurisdictions*)	**OBJECTIVE B:** Provide transportation infrastructure that meets existing and future needs. **OBJECTIVE E:** Participate in state, multi-county, and local transportation efforts to ensure coordination of transportation system expansion and improvements.
Short Range Action #8. Encourage jurisdictions to review and assess the impact of new development proposals consistency with Blueprint principles, and the impact on local circulation plans and transit system demand and supply. (*PCTPA, jurisdictions, transit operators*)	**OBJECTIVE A**: Provide information and support services to jurisdictions regarding the countywide transportation impacts of local land use decisions. **OBJECTIVE B:** Provide transportation infrastructure that meets existing and future needs. **OBJECTIVE C:** Ensure that transportation projects do not contribute to increased vehicle emissions.
Short Range Action #9. Continue active participation in local and regional coordinating groups as well as statewide forums to maximize opportunities for transportation improvements in Placer County. (*PCTPA*)	**OBJECTIVE B:** Provide transportation infrastructure that meets existing and future needs. **OBJECTIVE E:** Participate in state, multi-county, and local transportation efforts to ensure coordination of transportation system expansion and improvements.

Short-Range & Long-Range Actions	RTP Objective
Short Range Action #10. Provide written support for development projects which may increase residential and employment densities near existing transit and rail stations, as well as future rail stations that may emerge as a result of expansion of the Capitol Corridor service to Colfax, Soda Springs, Truckee, and Reno/Sparks. (*PCTPA*)	**OBJECTIVE A**: Provide information and support services to jurisdictions regarding the countywide transportation impacts of local land use decisions.
Short Range Action #11. Plan for new/expanded facilities such as pedestrian and bicycle facilities, park-and-ride lots, and intermodal transfer stations where development projects will provide increased residential and/or employment densities. (*PCTPA, jurisdictions, Caltrans, CCJPA*)	**OBJECTIVE B:** Provide transportation infrastructure that meets existing and future needs.
Short Range Action #12. Encourage thorough examination, context sensitive design, and mitigation of transportation impacts when planning and constructing transportation improvements through or near residential communities. *(PCTPA, jurisdictions)*	**OBJECTIVE A**: Provide information and support services to jurisdictions regarding the countywide transportation impacts of local land use decisions. **OBJECTIVE C:** Ensure that transportation projects do not contribute to increased vehicle emissions.
Short Range Action #13. Encourage jurisdictions to avoid or minimize impacts of transportation projects and programs on special-status plant populations, special-status fish and wildlife species and habitat, riparian and woodland communities, and waters of the United States. *(PCTPA, jurisdictions, Caltrans)*	**OBJECTIVE A**: Provide information and support services to jurisdictions regarding the countywide transportation impacts of local land use decisions. **OBJECTIVE E:** Participate in state, multi-county, and local transportation efforts to ensure coordination of transportation system expansion and improvements.
Short Range Action #14. Work with jurisdictions to include the needs of all transportation users in the planning, design, construction and maintenance of roadway (complete streets) and transit facilities where feasible. *(PCTPA, jurisdictions, transit operators, Caltrans)*	**OBJECTIVE A**: Provide information and support services to jurisdictions regarding the countywide transportation impacts of local land use decisions. **OBJECTIVE B:** Provide transportation infrastructure that meets existing and future needs.
Short Range Action #15. Encourage jurisdictions to consider multi-modal transportation facility proximity when siting educational, social service, and major employment and commercial facilities. *(PCTPA, jurisdictions, transit operators)*	**OBJECTIVE A**: Provide information and support services to jurisdictions regarding the countywide transportation impacts of local land use decisions. **OBJECTIVE B:** Provide transportation infrastructure that meets existing and future needs. **OBJECTIVE C:** Ensure that transportation projects do not contribute to increased vehicle emissions.
Short Range Action #16. Provide information and support services to jurisdictions regarding the countywide transportation impacts of local land use decisions. *(PCTPA, jurisdictions, transit operators, Caltrans))*	**OBJECTIVE A**: Provide information and support services to jurisdictions regarding the countywide transportation impacts of local land use decisions. **OBJECTIVE C:** Ensure that transportation projects do not contribute to increased vehicle emissions.

Short-Range & Long-Range Actions	RTP Objective
Short Range Action #17. Where possible, support jurisdictions' efforts to maintain their adopted Level of Service (LOS) on local streets and roads in accordance with the applicable General Plan Circulation Element. *(PCTPA, jurisdictions) (PCTPA, jurisdictions)*	**OBJECTIVE A**: Provide information and support services to jurisdictions regarding the countywide transportation impacts of local land use decisions. **OBJECTIVE B:** Provide transportation infrastructure that meets existing and future needs.
Short Range Action #18. Encourage jurisdictions to require land uses which produce significant trip generation to be served by roadways with adequate capacity and design standards to provide safe usage for all modes of travel. *(PCTPA, jurisdictions, Caltrans)*	**OBJECTIVE A**: Provide information and support services to jurisdictions regarding the countywide transportation impacts of local land use decisions. **OBJECTIVE B:** Provide transportation infrastructure that meets existing and future needs.
Short Range Action #19. Encourage jurisdictions to include transit-oriented development Blueprint principles in designing neighborhoods and communities to reduce vehicle miles traveled (VMT) and to deal with more short trips.*(PCTPA, jurisdictions, transit operators, Caltrans)*	**OBJECTIVE A**: Provide information and support services to jurisdictions regarding the countywide transportation impacts of local land use decisions. **OBJECTIVE C:** Ensure that transportation projects do not contribute to increased vehicle emissions.
Long Range Action #1. Integrate land, air, and transportation planning, build and maintain the most efficient and effective transportation system possible while achieving the highest possible environmental standards. *(PCTPA, jurisdictions, SACOG, PCAPCD, SMAQMD)*	**OBJECTIVE A**: Provide information and support services to jurisdictions regarding the countywide transportation impacts of local land use decisions. **OBJECTIVE B:** Provide transportation infrastructure that meets existing and future needs. **OBJECTIVE C:** Ensure that transportation projects do not contribute to increased vehicle emissions. **OBJECTIVE E:** Participate in state, multi-county, and local transportation efforts to ensure coordination of transportation system expansion and improvements.
Long Range Action #2. Continue to coordinate with SACOG, the Placer County Air Pollution Control District, and the Sacramento Metropolitan Air Quality Management District to ensure transportation projects meet all applicable budgets for air quality conformity standards. *(PCTPA, jurisdictions, SACOG, PCAPCD, SMAQMD)*	**OBJECTIVE C:** Ensure that transportation projects do not contribute to increased vehicle emissions.

Short-Range & Long-Range Actions	RTP Objective
Long Range Action #3. Encourage the use of general plan designations, zoning controls, access management, acquisition, development easements, and development agreements to help secure future right of way for essential transportation corridors. *(PCTPA, jurisdictions)*	**OBJECTIVE A**: Provide information and support services to jurisdictions regarding the countywide transportation impacts of local land use decisions. **OBJECTIVE B:** Provide transportation infrastructure that meets existing and future needs. **OBJECTIVE E:** Participate in state, multi-county, and local transportation efforts to ensure coordination of transportation system expansion and improvements.
Long Range Action #4. Coordinate and arrange for regional workshops focused on the incorporation of "smart growth" and transportation project planning. *SACOG, PCTPA, jurisdictions, Caltrans)*	**OBJECTIVE A**: Provide information and support services to jurisdictions regarding the countywide transportation impacts of local land use decisions. **OBJECTIVE E:** Participate in state, multi-county, and local transportation efforts to ensure coordination of transportation system expansion and improvements.
Air Quality Element Short and Long Range Action #1. Solicit the input of the Placer County Air Pollution Control District on all transportation plans, programs and projects. *(PCTPA, jurisdictions, PCAPCD)*	**INTEGRATED LAND USE, AIR QUALITY, AND TRANSPORTATION PLANNING OBJECTIVE C:** Ensure that transportation projects do not contribute to increased vehicle emissions.
Air Quality Element Short and Long Range Action #2. Prioritize and recommend transportation projects that minimize vehicle emissions while providing cost effective movement of people and goods. *(PCTPA, jurisdictions, PCAPCD, SMAQMD, SACOG)*	**INTEGRATED LAND USE, AIR QUALITY, AND TRANSPORTATION PLANNING OBJECTIVE C:** Ensure that transportation projects do not contribute to increased vehicle emissions. **PUBLIC TRANSIT OBJECTIVE D:** Develop and encourage the use of public transit as a viable alternative to the automobile in order to maximize transit ridership.
Air Quality Element Short and Long Range Action #3. Continue to promote projects that can be demonstrated to reduce air pollution and greenhouse gases, maintain clean air and better public health, through programs and strategies, to green the transportation system. *(PCTPA, jurisdictions, PCAPCD, SMAQMD, SACOG)*	**INTEGRATED LAND USE, AIR QUALITY, AND TRANSPORTATION PLANNING OBJECTIVE C:** Ensure that transportation projects do not contribute to increased vehicle emissions. **PUBLIC TRANSIT OBJECTIVE D:** Develop and encourage the use of public transit as a viable alternative to the automobile in order to maximize transit ridership
Air Quality Element Short and Long Range Action #4. Work with the Placer County Air Pollution Control District in developing plans that meet the standards of the California Clean Air Act and the Federal Clean Air Act Amendments, and also lead to reduced greenhouse gas emissions. *(PCTPA, jurisdictions, PCAPCD, SMAQMD, SACOG)*	**INTEGRATED LAND USE, AIR QUALITY, AND TRANSPORTATION PLANNING OBJECTIVE C:** Ensure that transportation projects do not contribute to increased vehicle emissions. **PUBLIC TRANSIT OBJECTIVE D:** Develop and encourage the use of public transit as a viable alternative to the automobile in order to maximize transit ridership

Short-Range & Long-Range Actions	RTP Objective
Air Quality Element Short and Long Range Action #5. Work with the Sacramento Area Council of Governments to evaluate the impacts of each transportation plan and program on the timely attainment of ambient air quality standards, and regional greenhouse gas emission reduction targets; and health risks of sensitive receptors from exposure to mobile source air toxics. *(PCTPA, jurisdictions, PCAPCD, SMAQMD, SACOG)*	**INTEGRATED LAND USE, AIR QUALITY, AND TRANSPORTATION PLANNING OBJECTIVE C:** Ensure that transportation projects do not contribute to increased vehicle emissions.
Air Quality Element Short and Long Range Action #6. Ensure transportation planning efforts comply with SB375 and AB32. *(PCTPA, jurisdictions, transit operators, PCAPCD, Caltrans, SACOG)*	**INTEGRATED LAND USE, AIR QUALITY, AND TRANSPORTATION PLANNING OBJECTIVE C:** Ensure that transportation projects do not contribute to increased vehicle emissions.
Air Quality Element Short and Long Range Action. Participate in SACOG efforts to develop a Regional Climate Action Plan. *(PCTPA, jurisdictions, PCAPCD, SACOG)*	**INTEGRATED LAND USE, AIR QUALITY, AND TRANSPORTATION PLANNING OBJECTIVE C:** Ensure that transportation projects do not contribute to increased vehicle emissions.
Air Quality Element Short and Long Range Action #8. Expand the use of alternative fuels to reduce impacts on air quality and GHG emissions. *(PCTPA, jurisdictions, PCAPCD, SMAQMD, SACOG)*	**INTEGRATED LAND USE, AIR QUALITY, AND TRANSPORTATION PLANNING OBJECTIVE C:** Ensure that transportation projects do not contribute to increased vehicle emissions.
Air Quality Element Short and Long Range Action #9. Encourage jurisdictions and Caltrans to develop a green construction policy, the recycling of construction debris to the maximum extent feasible, and to use the minimum feasible amount of GHG emitting materials in the construction of transportation projects. *(PCTPA, jurisdictions, Caltrans, PCAPCD, SACOG)*	**INTEGRATED LAND USE, AIR QUALITY, AND TRANSPORTATION PLANNING OBJECTIVE C:** Ensure that transportation projects do not contribute to increased vehicle emissions.
Air Quality Element Short and Long Range Action #10. Encourage jurisdictions and Caltrans to mainstream energy efficiency in transportation projects, using energy efficient lighting technology in traffic signals, crosswalk lights, street lighting, railroad crossing lights, and parking lot lights. *(PCTPA, jurisdictions, Caltrans, PCAPCD, SACOG)*	**INTEGRATED LAND USE, AIR QUALITY, AND TRANSPORTATION PLANNING OBJECTIVE C:** Ensure that transportation projects do not contribute to increased vehicle emissions.
Air Quality Element Short and Long Range Action #11. Encourage jurisdictions and Caltrans to use lighter colored pavement with increased reflectivity in pavement rehabilitation projects, to reduce the urban heat island effect. *(PCTPA, jurisdictions, Caltrans, PCAPCD, SACOG)*	**INTEGRATED LAND USE, AIR QUALITY, AND TRANSPORTATION PLANNING OBJECTIVE C:** Ensure that transportation projects do not contribute to increased vehicle emissions.

Short-Range & Long-Range Actions	RTP Objective
Air Quality Element Short and Long Range Action #12. Encourage jurisdictions and Caltrans to protect, preserve, and incorporate trees and natural landscaping into transportation projects to provide shade, buffer winds, encourage people to walk, and to sequester CO2. *(PCTPA, jurisdictions, Caltrans, PCAPCD, SACOG)*	**INTEGRATED LAND USE, AIR QUALITY, AND TRANSPORTATION PLANNING OBJECTIVE C:** Ensure that transportation projects do not contribute to increased vehicle emissions.
GOAL 10: FUNDING	
Regional Roadway Short Range Action #2. Identify and pursue additional funding sources, as appropriate. (*PCTPA, Caltrans, jurisdictions*)	**OBJECTIVE A:** Obtain funding of vital transportation needs through all conventional sources. **OBJECTIVE B:** Develop innovative funding sources for vital transportation needs where conventional funding sources are insufficient to do so.
Regional Roadway Short Range Action #3. Obtain funding for and construct high priority regional road network projects shown in Figure 3-1. *(PCTPA, SPRTA, Caltrans, jurisdictions)*	**OBJECTIVE A:** Obtain funding of vital transportation needs through all conventional sources.
Public Transit Short Range Action #1. Continue to maximize the available Federal Transit Administration (FTA) funds through the Section 5311 (rural transit) and Section 5307 (urban transit) programs, and other FTA discretionary programs. (*PCTPA, transit operators*)	**OBJECTIVE A:** Obtain funding of vital transportation needs through all conventional sources. **OBJECTIVE B:** Develop innovative funding sources for vital transportation needs where conventional funding sources are insufficient to do so.
Public Transit Short Range Action #2. Continue to maximize available State funds through the State Transit Assistance, bond programs, and other related funding programs. *(PCTPA, transit operators, CTSA)*	**OBJECTIVE A:** Obtain funding of vital transportation needs through all conventional sources.
Public Transit Short Range Action #6. Conduct an independent financial audit annually of the TDA funds allocated to each jurisdiction to determine compliance with statutes, rules and regulations of TDA and the allocation instructions of PCTPA. *(PCTPA, jurisdictions, transit operators, CTSA)*	**OBJECTIVE A:** Obtain funding of vital transportation needs through all conventional sources.
Passenger Rail Short and Long Range Action #1. Seek funding through Caltrans to implement the CCJPA Business Plan and Capital Improvement Program, as continuously updated. *(PCTPA, CCJPA, Caltrans, jurisdictions)*	**OBJECTIVE A:** Obtain funding of vital transportation needs through all conventional sources. **OBJECTIVE B:** Develop innovative funding sources for vital transportation needs where conventional funding sources are insufficient to do so.

Short-Range & Long-Range Actions	RTP Objective
Passenger Rail Short and Long Range Action #5. Support Capitol Corridor program / project applications for high-speed rail funding from the Federal Railroad Administration (FRA). *(PCTPA, CCJPA, , jurisdictions, federal representatives)*	**OBJECTIVE A:** Obtain funding of vital transportation needs through all conventional sources. **OBJECTIVE B:** Develop innovative funding sources for vital transportation needs where conventional funding sources are insufficient to do so.
Passenger Rail Short and Long Range Action #6. Support the allocation of Proposition 1A high speed rail bond funding to the Capitol Corridor from the California Transportation Commission *(PCTPA and jurisdictions)*	**OBJECTIVE A:** Obtain funding of vital transportation needs through all conventional sources.
Aviation Short Range Action #7. Assist operators of public use airports in pursuing funding sources. *(PCTPA, airport operators)*	**OBJECTIVE A:** Obtain funding of vital transportation needs through all conventional sources. **OBJECTIVE B:** Develop innovative funding sources for vital transportation needs where conventional funding sources are insufficient to do so.
Aviation Long Range Action #2. Encourage more flexible use of airport revenues for off-airport ground access projects *(PCTPA, jurisdictions, Caltrans, FAA)*	**OBJECTIVE A:** Obtain funding of vital transportation needs through all conventional sources. **OBJECTIVE B:** Develop innovative funding sources for vital transportation needs where conventional funding sources are insufficient to do so.
Non-Motorized Transportation and Low-Speed Vehicles Short Range Action #2. Develop policies for the allocation of funds and processing of claims for non-motorized and low-speed projects. *(PCTPA, jurisdictions)*	**OBJECTIVE A:** Obtain funding of vital transportation needs through all conventional sources.
Non-Motorized Transportation and Low-Speed Vehicles Short Range Action #8. Pursue new revenue sources for low speed and non-motorized transportation development. *(PCTPA, jurisdictions)*	**OBJECTIVE A:** Obtain funding of vital transportation needs through all conventional sources. **OBJECTIVE B:** Develop innovative funding sources for vital transportation needs where conventional funding sources are insufficient to do so.
Recreational Travel Short and Long Range Action #8. Identify opportunities for joint projects and activities to maximize the effectiveness of limited funding opportunities. *(PCTPA, jurisdictions, Caltrans, SACOG, TNT TMA, resorts, employers, United Auburn Indian Community of the Auburn Rancheria)*	**OBJECTIVE A:** Obtain funding of vital transportation needs through all conventional sources. **OBJECTIVE B:** Develop innovative funding sources for vital transportation needs where conventional funding sources are insufficient to do so.
Integrated Land Use, Air Quality, and Transportation Planning Short Range Action #3. Seek grant funding to support transportation projects that benefit the environment, housing, sustainable communities, air quality, or reduced traffic congestion. *(PCTPA, jurisdictions, PCAPCD, Caltrans)*	**OBJECTIVE A:** Obtain funding of vital transportation needs through all conventional sources. **OBJECTIVE B:** Develop innovative funding sources for vital transportation needs where conventional funding sources are insufficient to do so.

Short-Range & Long-Range Actions	RTP Objective
Financial Element Short and Long Range Action #1. Promote funding of transportation projects identified in the RTP's Action Element consistent with the provisions included in the Plan's Policy Element. *(PCTPA, jurisdictions, transit operators, Caltrans)*	**OBJECTIVE A:** Obtain funding of vital transportation needs through all conventional sources. **OBJECTIVE B:** Develop innovative funding sources for vital transportation needs where conventional funding sources are insufficient to do so.
Financial Element Short and Long Range Action #2. Maximize the use of federal and state transportation funding sources. *(PCTPA, jurisdictions, transit operators, Caltrans)*	**OBJECTIVE A:** Obtain funding of vital transportation needs through all conventional sources.
Financial Element Short and Long Range Action #3. Make the most efficient use of federal, state, regional and local transportation revenues and allocations in the programming and delivering projects. *(PCTPA, jurisdictions, Caltrans, SACOG)*	**OBJECTIVE A:** Obtain funding of vital transportation needs through all conventional sources.
Financial Element Short and Long Range Action #4. Encourage multi-agency packaging of projects for federal and State funding programs, where a regional strategy may improve chances of funding success. *(PCTPA, jurisdictions, Caltrans, SACOG)*	**OBJECTIVE A:** Obtain funding of vital transportation needs through all conventional sources.
Financial Element Short and Long Range Action #5. Assist local jurisdictions to identify and obtain federal and state grant funding. *(PCTPA)*	**OBJECTIVE A:** Obtain funding of vital transportation needs through all conventional sources. **OBJECTIVE B:** Develop innovative funding sources for vital transportation needs where conventional funding sources are insufficient to do so.
Financial Element Short and Long Range Action #6. Develop and update the Regional Transportation Improvement Program, the Metropolitan Improvement Program, and the Project Delivery Plan *(PCTPA, jurisdictions, Caltrans, SACOG)*	**OBJECTIVE A:** Obtain funding of vital transportation needs through all conventional sources. **OBJECTIVE B:** Develop innovative funding sources for vital transportation needs where conventional funding sources are insufficient to do so.

APPENDIX I

SACOG SACSIM Travel Model Summary

SACOG uses a regional travel demand model, known as the Sacramento Regional Travel Simulation Model (SACSIM). The 2035 RTP uses transportation data produced by SACOG's SACSIM travel demand model for the 2035 MTP.

The 2035 MTP uses estimates of population, employment and travel patterns for 2005, as the "base year," and future estimates of these same parameters, including transportation system improvements contained in the 2035 MTP, to forecast average weekday travel patterns for a series of future years.

The SACSIM travel demand model produces estimates of daily vehicle miles traveled (VMT), total number of vehicle trips, and total person trips, including public transit ridership.

SACSIM uses land use inputs (socioeconomic data) by parcel for trip generation. These socioeconomic data are expressed in terms of households, employment, and a representative population file, which is consistent with the land use data, and reflects the demographic forecasts adopted by the SACOG Board for use in development of the 2035 MTP.

The SACSIM model consists of four sub-models to account for different types of travel occurring in the Sacramento region:

1. An activity-based tour sub-model, which accounts for all household-generated travel within the region (except airport passenger trips) by creating a one-day activity and trip travel schedule for each person;
2. A commercial vehicle sub-model which accounts for all travel by commercial vehicles, including trips by large trucks;
3. An airport passenger ground-access model, which accounts for travel by air passengers to the Sacramento International Airport; and
4. An external travel sub-model, which accounts for all travel within the region by travelers with origins or destinations outside the region, or travelers through the region.

The travel demand estimates from the four submodels are combined to represent total weekday travel demand in the Sacramento region.

SACSIM also incorporates a mode choice model, which determines how travel destinations are reached by the region's residents and employees.

Existing highway, transit, bike, and walk systems in the Sacramento region are represented in detailed link and node computer networks. Link types include freeway, freeway ramp, expressway, arterial and collector. Future year road and transit networks were developed for the 2035 MTP. The model uses equilibrium, a capacity sensitive assignment methodology. Data

from the model for the emission estimates differentiates between peak and off-peak volumes and speeds. In addition, the model is reasonably sensitive to changes in time and other factors affecting travel choices.

The travel demand model produces estimates of travel demand, traffic volumes, speeds, and transit ridership for the A.M. three-hour peak period, P.M. three-hour peak period, a five hour midday period, and a thirteen-hour late evening / early morning. Daily forecasts are calculated by summing the four time periods.

The SACSIM model was validated in 2007 for the 2005 base year. The model was validated by comparing its estimates of peak, off-peak and daily traffic levels to available peak and off peak traffic counts. The results from model validation / calibration are analyzed for reasonableness and compared to historical trends. Information on the characteristics and constraints of the transportation system and resident's travel survey data were also collected.

The 2007 validation meets standard criteria for replicating total traffic volumes on various road types and for percent error on links. The validation also meets standard criteria for percent error relative to traffic counts. The EPA air quality conformity regulation (93.122 b 3) states that Highway Performance Monitoring System (HPMS) estimates of vehicle miles traveled (VMT) shall be considered the primary measure of VMT within a non-attainment area for the classes of roadways included in HPMS. The regulation also allows locally developed count-based programs.

SACOG uses both HPMS estimates and a database of local traffic counts. HPMS is based on average annual daily traffic. SACOG's models are validated for typical weekday conditions, and many counts exist on non-HPMS segments, which are extremely useful for model validation. HPMS-based estimates of VMT by county are also used as a secondary source in validation of the travel demand model.

The SACSIM model has been extensively tested and validated by SACOG staff. In 2008, the model was the subject of a peer review of independent experts, conducted as part of the Transportation Model Improvement Program. Documentation of the model's function, validation and sensitivity test results, and results of the independent peer review are available from SACOG upon request.

APPENDIX J

Current Road Miles & Daily Vehicle Miles of Travel (VMT) for Placer County

	Rural Maintained Miles	Rural Daily VMT (1000)	Urban Maintained Miles	Urban Daily VMT (1000)	Total Maintained Road Miles	Total Daily VMT (1000)
Placer County*	922.07	797.58	133.83	601.00	1,055.90	1,398.58
Auburn	1.59	1.36	60.02	144.19	61.61	145.55
Colfax	11.74	9.15	0.00	0.00	11.74	9.15
Lincoln	157.17	55.18	12.30	12.48	169.47	67.67
Loomis	0.00	0.00	33.67	98.72	33.67	98.72
Rocklin	11.06	16.35	132.83	409.71	143.90	426.06
Roseville	5.53	15.54	422.07	2,184.42	427.61	2,199.96
State Highway	112.48	2,450.42	41.85	2,639.90	154.33	5,090.32
State Park	9.10	0.82	0.00	0.00	9.10	0.82
Other Federal**	316.78	9.76	0.00	0.00	316.78	9.76
Total	**1,547.52**	**3,356.16**	**836.57**	**6,090.42**	**2,384.11**	**9,446.59**

Road Miles by Functional Classification		
Interstate	47.01	18.68
Other FWY & EXP	0.00	5.98
Other Principal Arterial	8.32	45.27
Minor Arterial	61.41	84.74
Major Collector	101.22	135.57
Minor Collector	200.04	
Local	1,129.53	546.33
Total	**1,547.53**	**836.57**

Highway Congestion Summary	
Daily Vehicle Hours of Delay	502
Congested Directional Miles	8.3

Note:
Placer County ranks 19 out 27 counties statewide.

Notes:
*943.75 road miles for unincorporated Placer County excludes Tahoe area, based on County GIS data.
**US Army COE, US Bureau of Reclamation, and US Forest Service roads.
Maintained road miles data is derived from the Highway Performance Monitoring System (HPMS).

Source: 2008 California Public Road Data, Caltrans, 2009.

APPENDIX K

Current Traffic Data & Performance Measures

Location	Percent Trucks	Peak Directional Split	Peak Hour Traffic	Average Annual Daily Traffic	Volume Over Capacity	Level of Service	Hours of Daily	Hours of Peak Hour	Minutes of Delay Daily	Minutes of Delay Peak Hour	Minutes of Delay per Vehicle Peak Hour	of Delay per Person Peak Hour	Vehicle Travel Time (minutes) Peak Hour	Distressed Pavement (Lane Miles)	Reported Collision Rate Percent
Sacramento/Placer County Line to SR65	6%	56%	13,700	170,000	1.22	F	4,849	727	395,652	48,002	3.19	2.90	7.35	11.00	-24%
SR65 Junction to Sierra College Blvd Interchange	6%	60%	10,800	122,000	1.06	F	393	79	32,046	5,184	0.44	0.40	3.70	4.00	-57%
I-80 to Washington Blvd	4%	56%	8,200	108,000	0.9	F	909	182	74,155	11,996	1.33	1.21	4.73	8.26	-56%
Washington Blvd to Industrial Ave	5%	58%	5,500	69,000	0.88	D	452	90	36,921	5,973	0.99	0.90	4.64	12.90	-34%
Industrial Ave to Ferrari Ranch Road	7%	61%	4,450	55,000	NA	D	236	47	19,252	3,114	0.64	0.58	1.90	12.96	108%
Ferrari Ranch Road to Gladding Road	10%	61%	2,650	22,800	NA	F	364	73	29,728	4,809	1.65	1.50	4.17	14.43	23%
Gladding Road to Riosa Road	12%	61%	1,900	18,700	0.65	E	88	35	7,180	2,323	1.11	1.01	9.90	21.75	-49%
I-80/SR49 Interchange to Bell Road	3%	68%	5,900	51,000	NA	D	985	325	80,386	21,456	3.31	3.01	8.06	9.00	25%
Bell Road to Placer/Nevada County Line	3%	66%	2,750	29,000	0.46	C	92	30	7,480	1,997	0.66	0.60	5.38	20.00	25%
SR174 Junction at I-80 in Colfax to Main Street	4%	60%	1,500	14,000	0.56	D	-	-	-	-	-	-	-	-	-27%
Main Street in Colfax to Placer/Nevada County Line	4%	60%	600	5,300	0.24	D	-	-	-	-	-	-	-	-	12%

Notes:

1. Peak Direction Split: the percentage of total traffic in the heaviest traveled direction during the peak hour.
2. Average Annual Daily Traffic (AADT): the average number of vehicles per day in both directions.
3. Volume over Capacity (V/C): the volume of traffic compared to the capacity of the roadway.
4. Reported Level of Service (LOS) is for the typical most congested daily peak travel period.
5. Delay is the average additional travel time by vehicles or persons traveling under 60 mph.
6. Peak Hour is during PM.
7. Distressed pavement is categorized as major (severe cracking and likely poor ride) or minor (moderate cracking and have poor ride) structural distress.
8. Reported Collision Rate: percentage above or below the statewide average for fatal, injury and property damage only collisions on comparable facilities.

Sources:

1. Interstate 80 and Capital City Freeway Corridor System Management Plan, Caltrans District 3, May 2009.
2. State Route 65 Corridor System Management Plan, Caltrans District 3, May 2009.
3. State Route 49 Corridor System Management Plan, Caltrans District 3, May 2009.
4. Draft Transportation Corridor Concept Report State Route 174, Caltrans District 3, February 2010.

Travel Mode Shares by Placer County Community Area - 2005

Community Area	Work Mode Share (%)			Non-Work Mode Share (%)		
	Auto Share	Transit Share	Bike / Walk Share	Auto Share	Transit Share	Bike / Walk Share
Auburn	95.4	0.9	3.8	92.8	0.1	7.1
Colfax	97.1	0.6	2.3	97.4	0.0	2.6
Foresthill	98.2	0.5	1.3	99.0	0.0	1.0
Granite Bay	97.7	1.0	1.3	96.8	0.0	3.2
Lincoln	97.5	0.7	1.8	94.0	0.0	5.9
Loomis	97.6	0.9	1.5	96.6	0.0	3.3
North Auburn	96.2	0.7	3.1	95.3	0.0	4.6
Placer County - High Country	31.7	0.1	68.2	80.7	0.0	19.3
Rocklin	96.9	1.0	2.1	94.5	0.1	5.5
Roseville East	94.1	1.9	4.0	92.0	0.6	7.4
Roseville West	96.5	1.3	2.2	94.2	0.2	5.6
Sheridan	98.5	0.9	0.6	98.3	0.0	1.7
West Placer	97.1	2.1	0.8	98.3	0.0	1.7

Source: SACSIM07 regional Travel Demand Simulation Model, SACOG, 2009.

Note: Community Area refers to SACOG's 2007 Regional Analysis District.

APPENDIX L

2027 Forecasted Traffic Data & Performance Measures

Location	Peak Hour Traffic	Average Annual Daily Traffic	Volume Over Capacity - No Build	Level of Service - No Build	Volume Over Capacity - Build	Level of Service - Build
Sacramento/Placer County Line to SR65	20,890	259,300	1.86	F	1.2	F
SR65 Junction to Sierra College Blvd Interchange	16,470	186,100	1.59		1.21	F
I-80 to Washington Blvd	15,580	205,200	1.37	F	1.14	F
Washington Blvd to Industrial Ave	11000	138,000	1.41	F	0.98	E
Industrial Ave to Ferrari Ranch Road	7,500	94,095	NA	F	0.99	E
Ferrari Ranch Road to Gladding Road	5,080	63,695	NA	F	0.97	E
Gladding Road to Riosa Road	4,510	56,580	0.84	E	0.86	D
I-80/SR49 Interchange to Bell Road	8,555	73,950	NA	E	NA	E
Bell Road to Placer/Nevada County Line	4,125	42,750	0.73	D	0.71	D
SR174 Junction at I-80 in Colfax to Main Street	2,250	21,000	0.84	E	0.84	D
Main Street in Colfax to Placer/Nevada County Line	900	7,950	0.37	E	0.37	D

Notes:

1.. Peak Hour is during PM.
2. Average Annual Daily Traffic (AADT): the average number of vehicles per day in both directions.
3. Volume over Capacity (V/C): the volume of traffic compared to the capacity of the roadway.
4. Reported Level of Service (LOS) is for the typical most congested daily peak travel period.
5. Build forecast traffic data for State Route 65 assumes the Lincoln Bypass.

Sources:

1. Interstate 80 and Capital City Freeway Corridor System Management Plan, Caltrans District 3, May 2009.
2. State Route 65 Corridor System Management Plan, Caltrans District 3, May 2009.
3. State Route 49 Corridor System Management Plan, Caltrans District 3, May 2009.
4. Draft Transportation Corridor Concept Report State Route 174, Caltrans District 3, February 2010.

Travel Mode Shares by Placer County Community Area - 2035

Community Area	Work Mode Share (%)			Non-Work Mode Share (%)		
	Auto Share	Transit Share	Bike / Walk Share	Auto Share	Transit Share	Bike / Walk Share
Auburn	94.3	1.4	4.3	92.8	0.1	7.1
Colfax	96.1	1.2	2.7	97.4	0.0	2.6
Foresthill	95.4	1.6	3.0	98.8	0.0	1.2
Granite Bay	96.4	1.9	1.7	96.6	0.1	3.3
Lincoln	95.5	1.8	2.7	93.9	0.4	5.7
Loomis	96.5	1.9	1.7	96.2	0.2	3.7
North Auburn	94.9	1.1	4.0	95.1	0.0	4.9
Placer County - High Country	28.2	0.3	71.6	80.1	0.0	19.9
Rocklin	95.1	2.2	2.6	94.0	0.4	5.6
Roseville East	90.0	4.5	5.4	90.3	1.3	8.4
Roseville West	93.6	3.5	2.9	93.7	0.8	5.5
Sheridan	97.3	1.1	1.6	98.2	0.0	1.8
West Placer	94.0	3.2	2.7	93.7	0.7	5.6

Source: SACSIM07 regional Travel Demand Simulation Model, SACOG, 2009.

Note: Community Area refers to SACOG's 2007 Regional Analysis District.

APPENDIX M

STATUS OF CURRENT PLANNING EFFORTS IN PLACER COUNTY

PLAN	STATUS
Auburn General Plan	Housing Element update adopted in October 2004; no other updates planned.
Colfax General Plan	Update in progress, anticipated to be completed in 2010.
Lincoln General Plan	General Plan update adopted March 2008.
Loomis General Plan	Last updated in 2003. No updates planned. Public Review Draft Housing Plan released February 2010.
Placer County General Plan	Last comprehensive update in 1994. Community plans are being updated, but no comprehensive update planned. Housing Element update adopted in May 2009.
Rocklin General Plan	Draft General Plan completed in 2005; environmental review is underway. Housing Element update adopted December 2009.
Roseville General Plan	Technical update completed in 2003. Plan amendment initiated in 2004.
Short Range Transit Plans for Auburn Transit, Lincoln Transit, Placer County Transit, Roseville Transit, and CTSA	Plans completed December 2004. SRTP updates scheduled for 2010 Lincoln Transit SRTP update completed in April 2009.
TART Systems Plan	Plan completed in 2005.
Transit Master Plan for South Placer County	Adopted June 2007.
South Placer Regional Dial-A-Ride Study: Final Report	Adopted August 2007.
South Placer County Bus Rapid Transit Service Plan: Final Report	Adopted November 2008.
Placer County Airport Land Use Compatibility Plan	Adopted October 2000.
Lincoln Regional Airport Master Plan	Completed in 2008.
Auburn Airport Master Plan	Completed in 2007.
Tahoe Gateway Counties ITS Strategic Plan	Completed in 2002.
Sacramento ITS Strategic Deployment Plan	Completed in 2005.

Auburn-Oakland Regional Rail Service Implementation Plan Final Report	Completed October 2005.
Reno Rail Extension Concept	Completed March 2005.
Reno-Truckee-North Tahoe Commuter Service Implementation Plan	Completed in 2004.
Placer Parkway Final Tier 1 EIS / Program EIR	EIR certification and Preferred Alternative selected in December 2009; FHWA issued Record of Decision in May 2010.
Western Placer County Coordinated Transit Marketing Plan	Completed in 2003.
North Tahoe Coordinated Transit Marketing Plan	Completed June 2004.
Southwest Placer County Transportation Study	Completed in 2004.
City of Auburn Bikeway Master Plan	Completed April 2002.
City of Colfax Bikeway Master Plan	Update completed October 2008.
City of Lincoln Bikeway Master Plan	Update completed April 2005.
Town of Loomis Bikeway Master Plan	Update scheduled for completion in 2010.
City of Roseville Bikeway Master Plan	Update completed in 2008.
Dry Creek Greenway Regional Vision	Completed 2004.
Dry Creek Greenway Trail Feasibility Study	Completed March 2009.
Placer County Regional Bikeway Plan	Completed September 2002.
Pedestrian Master Plan, Pedestrian Design Guidelines, and ADA Transition Plan	Plans are scheduled for completion in 2010.
SACOG Metropolitan Transportation Plan 2035	Adopted March 2008.
SACOG Regional Goods Movement Study Phase Three Report Revised Draft Goods Movement Action Plan	Completed July 2008.
Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan	March 2009.
TRPA Lake Tahoe Regional Transportation Plan, Mobility 2030	Adopted July 2008.
Capitol Corridor Intercity Passenger Rail Service Business Plan Update FY 2010-11 – FY 2011-12	Adopted February 2010.

Major Residential Development Projects

SACOG has been working with local jurisdictions to identify major development projects that would need to be considered in the development of growth allocations for the 2011 MTP update. The attached table summarizes major residential development projects and their status for each Placer County jurisdiction.

MAJOR RESIDENTIAL DEVELOPMENT PROJECTS	STATUS
Rocklin – Clover Valley Specific Plan	Adopted
Placer County – Placer Vineyards Specific Plan	Adopted
Placer County – Regional University Specific Plan	Adopted
Placer County – Riolo Vineyards Specific Plan	Adopted
Auburn – Baltimore Ravine	Application submitted (In-Process)
Lincoln – Village 7 Specific Plan	Application submitted (In-Process)
Roseville – Creekview Specific Plan	Application submitted (In-Process)
Roseville – Sierra Vista Specific Plan	Application submitted (In-Process)
Roseville – Fiddyment Ranch Specific Plan Amendment	Application submitted (In-Process)
Lincoln – Village 1	Pre-Application Phase
Lincoln – Village 2	Pre-Application Phase
Loomis – Village at Loomis	Pre-Application Phase
Placer County – Curry Creek	Pre-Application Phase
Placer County – Forest Ranch	Pre-Application Phase

Source: Addendum to Land Use Framework for Alternative Scenarios for the 2011 MTP Update – Working Draft, SACOG, June 2010.

APPENDIX N

Conformity Determination for Amendment #2 to SACOG's 2035 Metropolitan Transportation Plan and Amendment #23 to the 2009/12 Metropolitan Transportation Improvement Program

Summary

The results of the emissions analysis show that Amendment #2 to the 2035 MTP and Amendment #23 to the 2009/12 MTIP meet the emissions conformity tests based on the Transportation Conformity requirements found in the Federal Clean Air Act, Section 176(c) (42 U.S.C. 7506(c)), and Title 40, Code of Federal Regulations (CFR), Part 93, Subpart A for the federally-designated nonattainment areas as noted in the following section.

Introduction

The following is the air quality conformity determination on Amendment #2 to the 2035 Metropolitan Transportation Plan (MTP) and Amendment #23 to the 2009/12 Metropolitan Transportation Improvement Program (MTIP) (Attachment E) for the following stated designation areas:

- 8-Hour Ozone (including the ROG and NOx precursors) Severe Nonattainment Area, including
  - The Sacramento Metropolitan Area (Sacramento, Yolo and portions of El Dorado, Placer, Sutter and Solano Counties), and
  - The Sutter Buttes Area (Sutter County)
- Carbon Monoxide (CO) Maintenance Area (Sacramento, Yolo and a portion of Placer Counties),
- Particulate Matter (PM_{10}) Moderate Nonattainment Area (Sacramento County), and the
- Fine Particulate Matter ($PM_{2.5}$) Nonattainment Areas, which includes the
  - Sacramento Area (Sacramento and portions of Yolo, Sutter, Placer and El Dorado Counties)
  - Yuba City-Marysville Area (portions of Sutter and Yuba Counties)

The SACOG Board of Directors is scheduled to act on this conformity determination at its January 21, 2010 meeting. For this conformity determination, the conformity analysis performed for the MTIP is consistent with the analysis performed for the MTP. The attached air quality conformity determination has been prepared in accordance with the conformity requirements as found in the Federal Clean Air Act, Section 176(c) (42 U.S.C. 7506(c)), and Title 40, CFR, Part 93, Subpart A (93.109).

Background:

Federal regulations require that the Sacramento Area Council of Governments (SACOG) prepare air quality conformity determinations for its transportation plans and programs. The purpose of the conformity determination is to ensure that SACOG's plans and programs "conform" to all applicable federal air quality requirements. Based on guidance found in the Federal Clean Air Act, Section 176(c) (42 U.S.C. 7506(c)), and Title 40, Code of Federal Regulations, Part 93, Subpart A, conformity determinations must be based upon the most recent estimates of on-road vehicle-based emissions. The emissions estimates must also be based upon the most recent population, employment, travel and congestion forecasts from SACOG, acting as the federally designated metropolitan planning organization (MPO) for the Sacramento region.

SACOG has developed an emissions conformity procedure based on the modeling requirements contained in the Federal Clean Air Act, Section 176(c) (42 U.S.C. 7506(c)), and Title 40, CFR, Part 93, Subpart A. These regulations require us to develop a series of forecasting model runs for the Sacramento air quality planning areas, using our SACSIM travel demand model, whenever we prepare a conformity determination. This model uses estimates of population, employment and travel patterns for 2005, as the "Base Year," and future estimates of these same parameters for a series of future years. The future years are designated as "milestone" or "horizon" years for certain types of pollutant emissions, under U.S. Environmental Protection Agency (EPA) regulations. The travel demand models are used to estimate daily vehicle miles traveled (VMT) in five-mile-per-hour increments for each model run. The total number of trips for each model run is

also generated. Daily VMT and total trips from each model run are then used as inputs to our vehicle-emissions forecasting model, EMFAC2007. The EMFAC2007 model forecasts emissions based on the travel-related forecasts from both models.

Conformity Approach

The last conformity determination for the Sacramento ozone nonattainment area, CO attainment area and PM_{10} moderate nonattainment area was adopted by the SACOG Board of Directors on March 20, 2008 and approved by FHWA/FTA on May 16, 2008. (93.114).

The conformity tests for the Sacramento ozone nonattainment, CO attainment and PM_{10} and $PM_{2.5}$ nonattainment areas consist of a quantitative emissions analysis (budget test for ozone and CO and a build vs no-build test for PM_{10} and $PM_{2.5}$), as shown in Tables 2 & 3.

The conformity determination for the Sutter Buttes ozone nonattainment area does not require a quantitative regional emissions analysis because the transportation projects and planning assumptions for both the "Build" and "No-build" scenarios for all potential analysis years are exactly the same [93.119 (g) (2)].

Financial Constraint

SACOG is required to demonstrate financial constraint for Amendment #2 to the 2035 Metropolitan Transportation Plan (MTP) and Amendment #23 to the 2009/12 Metropolitan Transportation Improvement Program (MTIP)–in other words, show that it is reasonable to assume that funds will be available to pay for the projects included in Amendment #2 to the 2035 Metropolitan Transportation Plan (MTP) and Amendment #23 to the 2009/12 Metropolitan Transportation Improvement Program (MTIP). Approximately $41.7 billion has been identified that will come to the region to pay for transportation investments between 2008-2035. A summary of how these funds will be spent is shown in chapter 2 of the MTP. Chapter 3 of the MTP includes a discussion (starting on page 3-2) of how the MTP 2035 meets the test of financial constraint: for each year of the MTP, the expected revenue available is equal to or greater than the level of expenditures. Detailed revenue estimates by year are shown in the table in Appendix C of the MTP. Appendix D lists the assumptions behind the revenue estimates that have been developed for the MTP 2035 (93.108).

Inclusion of all Federal and Regionally Significant Projects

Amendment #2 to the 2035 Metropolitan Transportation Plan (MTP) and Amendment #23 to the 2009/12 Metropolitan Transportation Improvement Program (MTIP) includes all federal and regionally significant projects expected to occur in the nonattainment and maintenance areas as noted in the introduction above (93.106).

Design, Content, and Scope of Projects

The design, content, and scope of projects included in Amendment #2 to the 2035 Metropolitan Transportation Plan (MTP) and Amendment #23 to the 2009/12 Metropolitan Transportation Improvement Program (MTIP)are included in the attached list showing modeled projects. Information provided on project design and scope allow adequate representation in the travel model to determine the intersections between regionally significant facilities, route options, travel times, transit ridership and land use.

Latest Planning Assumptions

The emission estimates developed for this conformity determination were based on the latest revised population and employment projections for the Sacramento and Yuba/Sutter areas that were adopted by the SACOG Board of Directors on September 20, 2007. A list of the assumptions used in developing this conformity determination can be found in Table 4. (93.110 a, b).

Land Use Assumptions

The land use development scenarios produced for Amendment #2 to the 2035 Metropolitan Transportation Plan (MTP) and Amendment #23 to the 2009/12 Metropolitan Transportation Improvement Program (MTIP) and this conformity determination are consistent with the future transportation system alternatives developed. The 2035 land use allocation was developed over two years (2005-2007) in cooperation with local jurisdictions. In 2005, a regional growth forecast of employment, population and households was developed for the SACOG region by Stephen Levy of the Center for the Continuing Study of the California Economy (CCSCE). The SACOG Board of Directors adopted this regional forecast for use in developing the land use allocation of the MTP 2035. This forecast consisted of a projected economic growth rate that was tied to a demographic forecast, which was then tied to a forecast of the number of new housing units that will be needed throughout the region through 2035. The adopted forecast closely matches the 2035 projections released by the California Department of Finance in mid 2007.

Growth rates and patterns with an area are influenced by various local, regional and national forces that reflect ongoing social, economic and technological changes. Ultimately, the amount and location of population growth and economic development that occurs with a specific area is determined by market forces, and regulated by city and county governments through zoning, land use plans and policies and decisions regarding development applications. Local government and other regional, state and federal agencies also make decisions regarding the provision of infrastructure (e.g. transportation facilities, water facilities, sewage facilities) and protection of natural resources that may influence growth rates and the location of future development.

The 28 jurisdictions in the Sacramento Region are at various stages of updating or augmenting their local land use plans. Since the adoption of the Blueprint Vision by the SACOG Board of Directors in December 2004, a number of jurisdictions in the region have begun implementing the Blueprint smart growth principles into their planning processes. The general plan and specific plan development activities occurring in the region by the local jurisdictions, plus anticipated changes to general plans which are currently under consideration and likely to be adopted in the foreseeable future, are reflected in the 2035 land use assumptions that accompany the population, housing and employment forecasts for the MTP 2035.

In developing the MTP 2035 land use allocation, SACOG worked with each of the local jurisdictions to develop a growth forecast and accompanying land use allocation that reflects each of their Blueprint implementation efforts. At the same time, the MTP 2035 land use assumptions must reflect the growth pattern that is most likely to occur, based on the best information available (93.122). The resulting growth patterns are a combination of local policies, many of which reflect or are influenced by Blueprint principles, and leavened by market forces and issues such as flooding and habitat conservation.

In contract to the growth projections used for the 2006 MTP, the adopted land use and accompanying housing and employment projections for the MTP 2035 show considerable changes from the traditional approach to development. With many smart growth principles now incorporated, the focus of regional and local land use

planning has shifted to more compact development with higher employment and housing densities. However, while more of the project growth occurs in the central core and inner suburbs, a growth pattern which is generally consistent with the Blueprint principles, some outlying communities will experience faster growth than previously projected.

A discussion of the land use allocation at the jurisdictional level is included in Appendix K of the MTP 2035 (93.122 b 1 iii[2]).

Latest Emissions Model

One of the critical inputs into determining emissions associated with the 2035 MTP is the selection of which emissions factors to use. For purposes of this conformity determination, EMFAC 2007 was used, as provided to SACOG by the California Air Resources Board (CARB) along with revised emission factors dated January 24, 2002, which were also provided to SACOG by CARB (93.111). Quantitative emissions analyses have been prepared for the Sacramento nonattainment, maintenance, and moderate areas, as shown in Tables 2 & 3.
On January 31, 2006, CARB submitted a letter to EPA and to the California Division of the FHWA indicating the State's intention to update future revisions to EMFAC. These EMFAC updates would reflect, among other new information, updated vehicle fleet data every three years. In California, Metropolitan Planning Organizations and Air Districts have not been able to update vehicle fleet data embedded into EMFAC. The EPA/USDOT January 18, 2001, guidance on latest planning assumptions and EPA's July 2004 final rule, indicate that new vehicle registration data must be used when it is available prior to the start of new conformity analyses and that states should update the data at least every five years. The State reaffirmed their commitment to keeping the latest planning assumptions included in EMFAC updated on a three year cycle in the April 18, 2007 EMFAC submittal letter. The next update to the planning assumptions in EMFAC is expected in 2010, which would most likely also include updates to the emissions factors of the model as well. As noted above (under "Latest Planning Assumptions"), EMFAC 2007 was used in this conformity analysis, which was begun on June 4, 2009.

Modeling Documentation

SACOG uses the SACSIM travel demand model. The model was validated in 2007 for the 2005 base year. The latest planning assumptions used in the transportation model validation and conformity analysis is summarized in Table 4.

SACOG's traffic model uses land use inputs (socioeconomic data) by parcel for trip generation. These socioeconomic data are expressed in terms of households and employment, and a representative population file which is consistent with the land use data and reflects the demographic forecasts adopted by the SACOG Board for use in development of the long range transportation plan.

SACOG's SACSIM model consists of four sub-models to account for different types of travel in the region: an activity-based tour sub-model which accounts for all household-generated within the region, except airport passenger trips; a commercial vehicle sub-model which accounts for all travel by commercial vehicles, including trips by large trucks; an airport passenger ground-access model, which accounts for travel by air passengers to the Sacramento International Airport; and an external travel sub-model, which accounts for all travel within the region by travelers with origins or destinations outside the region, or travelers through the region. The travel demand estimates from the four submodels are combined to represent total weekday travel demand in the SACOG region.

The highway, transit and bike and walk systems in the SACOG region are represented in detailed link-and-node computer networks. Link types include freeway, freeway ramp, expressway, arterial and collector. Current and future-year road networks were developed from the MTP. The model uses equilibrium, a capacity sensitive assignment methodology, and the data from the model for the emission estimates differentiates between peak and off-peak volumes and speeds. In addition, the model is reasonably sensitive to changes in time and other factors affecting travel choices. The results from model validation/calibration were analyzed for reasonableness and compared to historical trends.

The travel demand model estimates travel demand and traffic volumes for the A.M. three-hour peak period, P.M. three-hour peak period, a five-hour midday period, and a thirteen-hour late evening/early morning. Daily forecasts are calculated by summing the four time periods.

SACOG completed the development of the SACSIM travel demand model and its validation to a new base year of 2005 in 2007. The model was validated by comparing its estimates of peak, off-peak and daily traffic levels to available peak and off peak traffic counts. The 2007 validation meets standard criteria for replicating total traffic volumes on various road types and for percent error on links. The validation also meets standard criteria for percent error relative to traffic counts.

The conformity regulation (93.122 b 3) states that Highway Performance Monitoring System (HPMS) estimates of vehicle miles traveled (VMT) shall be considered the primary measure of VMT within a non-attainment area for the classes of roadways included in HPMS. The regulation also allows locally-developed count-based programs. SACOG uses both HPMS estimates and a database of local traffic counts. Some of the reasons for this are: HPMS is based on average annual daily traffic, while SACOG's models are validated for typical weekday conditions, and many counts exist on non-HPMS segments, and are extremely useful for model validation. HPMS-based estimates of VMT by county are used as a secondary source in validation of SACOG travel demand models.

The model has been extensively tested and validated by SACOG staff. In 2008, the model was the subject of a peer review of independent experts, conducted as part of FHWA's Transportation Model Improvement Program. Documentation of the model's function, validation and sensitivity test results, and results of the independent peer review are available from SACOG. (93.111).

Estimates of regional transportation-related emissions, for serious, severe, or extreme ozone nonattainment areas, that are used to support conformity determinations, must be made in accordance with the procedures laid out in the Federal Clean Air Act, Section 176(c) (42 U.S.C. 7506(c)), and Title 40, Code of Federal Regulations, Part 93, Subpart A. The Sacramento ozone nonattainment area is currently classified as a serious ozone nonattainment area. SACOG's SACSIM Travel Demand model, which was used to develop transportation-related emissions for the Sacramento nonattainment areas, currently meets all the modeling requirements, as set forth in the Federal Clean Air Act, Section 176(c) (42 U.S.C. 7506(c)), and Title 40, Code of Federal Regulations, Part 93, Subpart A. The SACSIM model was used to develop ROG, NOx and CO emissions for the Sacramento ozone nonattainment and carbon monoxide maintenance areas, respectively. The EPA's AP-42 emissions model was used to develop PM_{10} emissions for the PM_{10} nonattainment area (Sacramento County only).

Consultation

Review of this document is part of the conformity consultation process as required under section 93.105 (a) (2), 93.105 (c) (1), and 93.105 (e) and is consistent with the public involvement procedures under 23 CFR 450 (93.112). This draft air quality conformity analysis is being circulated for thirty days to give all affected

parties an opportunity to comment. The SACOG Board of Directors is scheduled to act on these conformity determinations at its January 21, 2010 meeting. Any comments received by SACOG during the comment period will be included, along with staff's responses, with the final conformity submittal package.

The Regional Planning Partnership (Partnership), a committee established by the SACOG Board of Directors to review all conformity determinations and assumptions, was asked to review and approve a set of assumptions for use in future conformity determinations. Those assumptions have been incorporated into this conformity determination. The Partnership approved the use of assumptions associated with this conformity determination at its May 27, 2009 meeting (See Table 4).

Implementation of Transportation Control Measures

Appendix D of the 2009 Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan includes 43 transportation control measures for the SACOG Region. At this time, since the SIP was just adopted within the last eight months, all projects are either on track to be completed according to the schedule shown in the SIP, are scheduled to be completed at a later date or are ongoing projects. A more detailed status report of the transportation control measures will accompany all future conformity determinations (§93.113).

Air Quality Emissions Analysis

In order for SACOG to make a conformity determination on Amendment #2 to the 2035 MTP and Amendment #23 to the 2009/12 MTIP, a quantitative emissions analysis must be performed for the Sacramento air quality planning areas. SACOG has completed a quantitative emissions analysis for Reactive Organic Gases (ROG) and Oxides of Nitrogen (NOx) for the Sacramento ozone nonattainment areas, CO maintenance area, PM_{10} moderate area, and Sutter Buttes ozone nonattainment area as shown below and in Tables 2 & 3.

Years of Analysis - SACOG prepares estimates of emissions for the Sacramento air quality planning areas for the analysis years described below. Estimates of emissions are prepared in accordance with the conformity regulations found in the Federal Clean Air Act, Section 176(c) (42 U.S.C. 7506(c)), and Title 40, Code of Federal Regulations, Part 93, Subpart A.

The analysis years of 2010, 2011, 2014, 2017, 2018, 2025, and 2035 were chosen for the Sacramento air quality planning areas because 2010 is the first milestone year for PM_{10} and also represents one of the two milestone years for CO, 2011 is the first analysis year for ozone, 2014 and 2017 represent two milestone years for ozone and 2018 is the new attainment date for ozone and is also a milestone year for CO and PM_{10}. The year 2025 was chosen because it represents a horizon year as specified under section 93.106 (a)(1). The year 2035 is used because it represents the last year of the transportation plan's forecast period and, therefore, is required to be an emission analysis year, as specified under section 93.106 (a)(iv) of the conformity regulation.

Analysis Techniques - The analysis techniques that were used for generating Reactive Organic Gases (ROG), Nitrogen Oxides (NOx), and Carbon Monoxide (CO) emissions for this conformity submittal are documented below. Specifically, SACOG employed its "SACSIM" travel demand model for the Sacramento ozone nonattainment area to generate trips and daily vehicle miles traveled (VMT) for each alternative scenario. The outputs from the SACMET model were then inputted into a PC-based version of EMFAC2007, which is used to generate emissions.

PM_{10} Analysis - In addition to the above pollutants analyzed, SACOG also performed a PM_{10} analysis for the Sacramento PM_{10} nonattainment area. The methodology employed (AP-42) was provided to SACOG by the EPA. Emission projections of PM_{10} were made for the years 2010, 2018, 2025 and 2035, as shown in Table 3.

SACRAMENTO EMISSIONS CALCULATIONS

In order to prepare an emissions conformity analysis on Amendment #2 to the 2035 MTP and Amendment #23 to the 2009/12 MTIP, SACOG prepares estimates of emissions for the Sacramento and Yuba/Sutter air quality planning areas for the following analysis years: 2010, 2011, 2014, 2017, 2018, 2025, and 2035, depending on the pollutant in question. Estimates of emissions are prepared in accordance with the conformity regulations found in the Federal Clean Air Act, Section 176(c) (42 U.S.C. 7506(c)), and Title 40, Code of Federal Regulations, Part 93, Subpart A.

Once the analysis years have been selected, SACOG uses its SACSIM travel demand model to generate daily vehicle miles traveled (VMT) and total trips for each analysis year in question using population and employment assumptions, as shown in Table 1. The outputs from the transportation models are then inputted into a PC-based version of EMFAC2007, which is used to generate emissions.

EMISSION FORECASTS FOR AMENDMENT #2 TO THE 2035 MTP AND AMENDMENT #23 TO THE 2009/12 MTIP FOR THE SACRAMENTO OZONE, CO AND PM-10 AIR QUALITY PLANNING AREAS

1. Emissions Budget Test For Ozone (ROG and NOx) and Carbon Monoxide (CO)

Under the emissions budget test, all future year ROG and NOx, emissions associated with Amendment #2 to the 2035 MTP and Amendment #23 to the 2009/12 MTIP must be equal to or less than the budgets established in the Sacramento Regional Nonattainment Area 8-Hour Ozone State Implementation Plan (SIP) for the Sacramento ozone nonattainment area and for CO emissions less than the CO maintenance budgets established in the 2004 Revision to the California State Implementation Plan for Carbon Monoxide, January 30, 2006. The emissions budgets in the 8-Hour Ozone SIP for 2011, 2014 and 2017 were found adequate by EPA effective August 12, 2009.

As can be seen from Table 2, ROG, NOx and CO emissions associated with Amendment #2 to the 2035 MTP and Amendment #23 to the 2009/12 MTIP are indeed less than the budgets contained in the SIPs for the Sacramento nonattainment areas for all future years.

2. Build vs. No-Build Test for PM-10

Under the Build vs. No-Build test for PM-10, PM-10 emissions must either be less in the future when compared against the Base Year or less in "Amendment #2 to the 2035 MTP and Amendment #23 to the 2009/12 MTIP" (Amendment) vs. "No Amendment #2 to the 2035 MTP and Amendment #23 to the 2009/12 MTIP" (No Amendment). Table 3 shows that PM-10 emissions are projected to increase significantly in future years. The reason for the increase in PM-10 emissions in the future is because of the methodology used to project PM-10 emissions. We are required to use EPA's PM-10 forecasting methodology (AP-42), which relies solely on daily VMT. With daily VMT projected to increase significantly in the future, so will PM-10 emissions. However, the conformity test for PM-10 requires that either of two tests be met: either the "Amendment" results in less emissions than the "No

Amendment" scenario in future years, or the future year emissions are less than the 2005 Base Year levels. In our case, the "MTP" yields less PM-10 emissions in the future than the "No Amendment" scenario, so one of the tests is met and, therefore, we have met the conformity test for PM-10 for Amendment #2 to the 2035 MTP and Amendment #23 to the 2009/12 MTIP.

EMISSION FORECASTS FOR THE SUTTER BUTTES OZONE NONATTAINMENT AREA

The Sutter Buttes area is an unusual case. A regional emission analysis under Section 93.122 of the Conformity Regulations is not required for the Sutter Buttes ozone nonattainment area because the transportation projects and planning assumptions for the area would be the same for all analysis years. This is because there are no existing or planned transportation facilities within the Sutter Buttes ozone nonattainment area. The Sutter Buttes ozone nonattainment area is comprised solely of the top of a mountain in Sutter County, and is located entirely on private property with no public access. The air quality monitor placed atop the Buttes registers the area as exceeding Federal ozone standards even though there are no sources of pollutant emissions within the nonattainment area itself.

The conformity determination requirement for the Sutter Buttes has been met without any further emissions analysis because the planning assumptions in both the "Build" and "No-Build" scenarios would be exactly the same for all potential analysis years [93.122(g)(2)], and consequently the emissions predicted in the "Build" scenario are not greater than the emissions predicted in the "No-Build" scenario for all analysis years [93.119 (a)].

Transit Operating Policies and Ridership

Prior to any transportation conformity modeling, SACOG incorporates any changes to fares or levels of service to the transit operating systems within the Sacramento and Yuba/Sutter planning areas for conformity [93.110 (c)]. There have been regionwide changes to transit fares due to both the economic downturn and the state funding situation (see below) since the last conformity submittal. The last conformity determination for the Sacramento ozone nonattainment area, CO attainment area, PM_{10} moderate and Yuba/Sutter ozone nonattainment areas was adopted by the SACOG Board of Directors on March 20, 2008. (93.114).

Since April 2009, most of the transit operators throughout the region have raised fares. In April, Yolobus and E-Tran raised their fixed route bus fares from $1.50 to $2.00 and $1.50 to $2.25 respectively. In September, Folsom raised its fares from $2.25 to $2.50. In July, Placer County Transit and El Dorado County Transit raised their fares from $1.00 to $1.25 and from $1.25 to $1.50 respectively. Placer Commuter Express approved a 5% increase to commuter fares effective July 1, 2009. RT raised basic fares from $2.25 to $2.50 effective September 1, 2009 and eliminated transfers (both within RT system and from external systems).

Transit ridership within the SACOG conformity areas has modestly increased overall from about 38.8 million in FY 2006/07 to approximately 40.1 million passenger trips in FY 2007/08. This represents an increase in ridership of approximately 3.3%. The following chart shows the changes in ridership from FY 2006/07 to FY 2007/08 for the major transit systems within the SACOG conformity planning areas.

Sacramento	06/07 Actual Ridership	07/08 Actual Ridership
Placer County Transit	381,757	437,987
Folsom	71,802	79,028
Paratransit	776,524	792,521

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Regional Transit Bus System	17,461,487	17,465,817
Regional Transit Light Rail	14,489,691	15,484,670
Roseville Transit	373,425	371,142
Unitrans	3,173,916	3,136,916
Yolobus	1,362,732	1,485,322
Yuba/Sutter		
Yuba/Sutter Transit Authority	757,136	876,176
Total Ridership (passenger trips)	**38,848,470**	**40,129,579**

The 2035 MTP is guided by six principles –all of which support transit- listed below:

1. Smart Land Use: Design a transportation system to support good growth patterns, including increased housing and transportation options, focusing more growth inward and improving the economic viability of rural areas.

2. Environmental Quality and Sustainability: Minimize direct and indirect transportation impacts on the environment for cleaner air and natural resource protection.

3. Financial Stewardship: A transportation system that delivers cost-effective results that are feasible to construct and maintain.

4. Economic Vitality: Efficiently connect people to jobs and get goods to market.

5. Access and Mobility: Improve opportunities for businesses and citizens to easily access goods, jobs, services and housing.

6. Equity and Choice: Provide real, viable travel choices for all people throughout our diverse region.

Public Participation Process

SACOG follows the procedures outlined in the Public Participation Plan for amendments requiring a conformity analysis. Please refer to the public involvement section of the amendment for more details. SACOG's Public Participation Plan (PPP), adopted July 19, 2007 and updated January 2009, outlines the techniques employed by SACOG to help facilitate public participation during the development of the 2035 MTP, and any amendments, and solicitation of projects for the Metropolitan Transportation Improvement Program. SACOG's Public Participation Plan provides for early and continuing participation in our long-range transportation plans, our project-selection or "programming" process (i.e., Federal TIP), and the air-quality "conformity" determination and environmental reviews associated with these plans and programs.

Resolution of Approval for Amendment #2 to the 2035 MTP and Amendment #23 to the 2009/12 MTIP

A copy of the resolution of adoption finding that Amendment #2 to the 2035 MTP and Amendment #23 to the 2009/12 MTIP meet federal conformity requirements, is included as Attachment D, for your review and comment. The SACOG Board is scheduled to act on this conformity submittal at its January 21, 2010, meeting.

Conclusions

The results of the emissions analysis show that Amendment #2 to the 2035 MTP and Amendment #23 to the 2009/12 MTIP meet the emissions conformity tests based on the Transportation Conformity requirements found in the Federal Clean Air Act, Section 176(c) (42 U.S.C. 7506(c)), and Title 40, Code of Federal Regulations, Part 93, Subpart A for both the Sacramento ozone, carbon monoxide and PM-10 air quality planning areas and the Sutter Buttes ozone nonattainment area.

TABLE 1

Population and Employment Assumptions and VMT Estimates

	2011	2014	2017	2018	2025	2035
[1]VMT	63,367,000	66,319,000	69,760,000	70,666,000	77,702,000	85,891,000
[1]Trips	13,680,566	14,349,828	15,214,118	15,442,235	17,086,271	19,134,752
[1]Vehicles	1,951,922	2,051,942	2,180,431	2,214,676	2,462,209	2,768,455
[2]Population	2,486,316	2,602,935	2,726,481	2,769,200	3,052,136	3,350,091
[2]Employment	1,165,323	1,220,809	1,266,829	1,282,426	1,378,700	1,536,097

Source:
1 - VMT/Trips/Vehicles were taken from 2009/2012 MTIP EMFAC runs in August 2009.

2 - Population and Employment for year 2011 were taken from 2004 SACOG Projections. All years following were interpolated to scale up to the year 2035 projection data from the SACOG 2035 Metropolitan Transportation Plan.

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Source:
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2 - Population and Employment for year 2011 were taken from 2004 SACOG Projections. All years following were interpolated to scale up to the year 2035 projection data from the SACOG 2035 Metropolitan Transportation Plan.

TABLE 3

PM-10 BUILD VS NO-BUILD CONFORMITY TEST FOR AMENDMENT #2 TO THE 2035 METROPOLITAN TRANSPORTATION PLAN (MTP) AND AMENDMENT #23 TO THE 2009/12 METROPOLITAN TRANSPORTATION IMPROVEMENT PROGRAM (MTIP)

	2010		2018		2025		2035	
EMISSION CATEGORY	NO AMENDMENT	AMENDMENT	NO AMENDMENT	AMENDMENT	NO AMENDMENT	AMENDMENT	NO AMENDMENT	AMENDMENT
PM-10	8.01	7.98	9.23	9.08	10.29	10.02	11.10	10.66

Nonattainment area for PM-10 is Sacramento County only. The Build vs No-Build Test is used for PM-10 conformity findings because ARB has not established any PM-10 budgets for Sacramento County.

TABLE 4

Summary of Latest Planning Assumptions that were used to develop MTP 2035 and 2009/12 MTIP Conformity Determinations

On May 27, 2009, SACOG's RPP approved a list of assumptions to use in developing the air quality conformity determinations associated with future amendments to the MTP 2035 and the 2009/12 MTIP.	
Assumption 1	The SACOG Board of Directors adopted a new set of population, housing, and employment projections for the years 2013, 2018 and 2035 at its March 17, 2007 meeting to be used for all future conformity determinations. The SACOG Board previously adopted population and employment numbers for the year 2035 at its December 14, 2006 meeting, replacing earlier projections dating from December 16, 2004. Projections for all other milestone years will be interpolated using the 2013, 2018 and 2035 numbers, plus the base year (2005) datasets.
Assumption 2	EMFAC 2007 will be used to develop emission estimates for the conformity determinations associated with upcoming amendments of the MTP 2035 and the 2009/12 MTIP. The emission budgets used in the conformity determinations are from the new 8-Hour Ozone SIP adopted by the California Air Resources Board (CARB) on March 26, 2009. Official use of thes budgets became final upon the U.S. Environmental Protection Agency's (EPA) making an adequacy finding on the budgets effective August 12, 2009.
Assumption 3	SACOG will use the most recent emission control factors supplied by the California Air Resources Board (CARB) for use in any future conformity determinations.
Assumption 4	SACOG will claim emission reduction credits from the implementation of Congestion Mitigation and Air Quality (CMAQ) projects upon proper documentation.
Assumption 5	SACOG will continue to incorporate emissions estimates for that part of Solano County within the Sacramento federal ozone nonattainment area in all future conformity determinations as agreed to under SACOG's existing Memorandum of Understanding (MOU) with the Metropolitan Transportation Commission (MTC).
Assumption 6	SACOG will claim emission reduction credits from the implementation of the Sacramento Emergency Clean Air and Transportation (SECAT) program upon proper documentation.

APPENDIX O

SACOG SB375 PRELIMINARY ESTIMATES OF BENEFITS FOR 2035 MTP

Name	Land Use Measures	Transportation Projects	TSM / TDM Strategies	Pricing Policies	Transportation Indicators				
					Pass Veh GHG Per Capita	Pass Veh VMT Per Capita	Transit Trips Per Capita	Bike / Walk Trips Per Capita	Congested VMT Per Capita
Base Year: 2005	None	None	None	None	24.9	24.2	0.049	0.804	1.58
Adopted MTP: 2020	Primarily Consistent with Blueprint	Per Adopted RTP	Per Adopted RTP	None	-4.0%	-2.0%	31.0%	6.0%	11.0%
Adopted MTP: 2035	Blueprint	Per Adopted RTP	Per Adopted RTP	None	-12.6%	-10.0%	77.0%	14.0%	19.0%

Notes:

1. The results for the Transportation Indicators are based on SACOG's travel demand forecasting model (SACSIM) or were manually calculated.
2. Effects of TSM / TDM Strategies and Pricing Policies were not modeled. Effectiveness of these strategies and policies in reducing GHG emissions was based on information provided in the "Moving Cooler: An Analysis of Transportation Strategies for Reducing Greenhouse Gas Emissions," Cambridge Systematics, 2009; as well as the MTC RTP.
3. Passenger vehicle GHG emissions were estimated using EMFAC2007 and Sacramento vehicle activity forecasts without accounting for the State's non-SB375 GHG policy initiatives (i.e., low carbon fuels and Pavley vehicle fleet initiatives).
4. The percentage reduction in passenger vehicle GHG as shown should not be taken as the recommended SB375 GHG reduction target.

Sources:

1. SACOG MPO Planning Scenarios: Preliminary Calculation of Benefits for Conceptual Policy Options - Preliminary Draft - For Discussion Only, SACOG, January 2010 *(used only for 2005 base year)*
2. Summary SACOG SB375 GHG Reduction Planning Scenarios, SACOG, May 2010.

APPENDIX P

FINANCIAL ELEMENT - DETAILED DESCRIPTIONS OF FUNDING PROGRAMS & REVENUE & PROJECT COST ESCALATION

FEDERAL

Regional Surface Transportation Program (RSTP)

RSTP was established by the 1991 Federal Intermodal Surface Transportation Efficiency Act (ISTEA) and continued with the passage of TEA 21 in 1997 and SAFEATEA-LU in 2005. RSTP is the most flexible of the Federal transportation funding programs. A broad variety of transportation projects and modes, are eligible on federal-aid roads and all bridges.

Examples of projects eligible for RSTP include highway projects; bridges (including construction, reconstruction, seismic retrofit and painting); transit capital improvements; carpool, parking, bicycle, and pedestrian facilities; safety improvements and hazard elimination; research; traffic management systems; surface transportation planning; transportation enhancement activities and control measures; and wetland and other environmental mitigation.

80% of the STP apportionment is distributed among the urbanized and non-urbanized areas of the State through Metropolitan Planning Organizations and Regional Transportation Planning Agencies. The remainder goes directly to counties in a formula equal to 110% of the Federal Aid Urban/Federal Aid Secondary (FAU/FAS) funding in place prior to 1991. The maximum federal reimbursement rate is 88.53 percent.

Congestion Mitigation and Air Quality Program (CMAQ)

The Congestion Mitigation and Air Quality (CMAQ) Improvement Program was established by the 1991 Federal Intermodal Surface Transportation Efficiency Act (ISTEA) and was re-authorized with the passage of TEA-21 in 1997 and SAFETEA-LU in 2005. Funds are directed to transportation projects and programs which contribute to the attainment of maintenance of National Ambient Air Quality Standards in non-attainment or air quality maintenance areas for ozone, carbon monoxide, or particulate matter under provisions in the federal Clean Air Act. As part of the Sacramento Valley air basin, which is in non-attainment for ozone, Placer County is eligible for CMAQ funds.

Eligible federal-aid projects include public transit improvements; high occupancy vehicles (HOV) lanes; Intelligent Transportation Infrastructure (ITI); traffic management and traveler information systems (i.e., electric toll collection systems; employer-based transportation management plans and incentives; traffic flow improvement programs (signal coordination);

fringe parking facilities serving multiple occupancy vehicles; shared ride services; bicycle and pedestrian facilities; flexible work-hour programs; outreach activities establishing Transportation Management Associations (TMAs); fare/fee subsidy programs; and under certain conditions, PM-10 projects. The maximum federal reimbursement rate is 88.53 percent.

Transportation Enhancement Activities Program (TE)

Federal Transportation Enhancement Activity funds are to be used for transportation-related community-based capital improvement projects that expand travel choices and enhance the transportation experience by improving quality-of-life (cultural, historic, aesthetic and environmental) aspects in or around transportation facilities. Projects must be over and above required mitigation and normal transportation projects, and the project must be directly related to the surface transportation system. The projects should have a quality-of-life benefit while providing the greatest benefit to the greatest number of people.

Under TE funding is divided into the following four shares:

- Regional
- Conservation Lands
- Caltrans
- Statewide Transportation Enhancement

Regional Transportation Planning Agencies receive 75% of the TEA dollars in California, which are distributed to regions as part of the County Shares in the State Transportation Improvement Program (STIP) funds. The remaining 25% goes to the State. The maximum federal reimbursement rate is 88.53 percent.

National Highway System (NHS)

The National Highway System program provides funding for the 163,000 mile of the National Highway System. The NHS system consists of interstate highways and major primary roads. NHS funds are distributed based on a formula including each state's lane-miles of principal arterials, vehicle miles, and diesel fuel use. States may transfer up to 50 percent of NHS funds to other road programs or transit, and up to 100 percent of these funds in states with Clean Air Act non-attainment areas with approval of the U.S. Secretary of Transportation.

Highway Bridge Replacement and Rehabilitation Program (HBRR)

The intent of the Highway Bridge Replacement and Rehabilitation program is to rehabilitate or replace bridges that are unsafe because of structural deficiencies, physical deterioration, or functional obsolescence.

Deficient highway bridges eligible for replacement or rehabilitation must be over waterways, other topographical barriers, other highways, or railroads. HBRR funds may be used for:

- The total replacement of a structurally deficient or functionally obsolete highway bridge on any public road with a new facility constructed in the same general traffic corridor;
- The rehabilitation that is required to restore the structural integrity of a bridge on any public road, as well as the rehabilitation work necessary to correct major safety (functional) defects;
- The replacement of low-water crossings;
- Bridge painting and bridge railing replacement;
- Seismic retrofit;
- Engineered scour countermeasures, and
- Bridge approach barrier and railing replacement.

Funding is distributed by continuous competitive project selection through Caltrans and requires non-federal matching funds. The maximum federal reimbursement rate is 88.53 percent.

Highway Safety Improvement Program (HSIP)

SAFETEA-LU established the Highway Safety Improvement Program (HSIP) as a core federal-aid program. The HSIP purpose is to achieve a significant reduction in traffic fatalities and serious injuries on all public roads through implementation of infrastructure-related highway safety improvements. The HSIP has several program features, including the Railroad/Highway At-Grade Crossings and High-Risk Rural Roads programs. The federal reimbursement rate is 90 percent.

Railroad/Highway At-Grade Crossing Program (Section 130)

The purpose of this program, which is also known as Section 130, is to reduce the number and severity of highway accidents by eliminating hazards to vehicles and pedestrians at existing railroad crossings. To be eligible the project location must be a public road on both sides of the intersection and must be included on California's Section 130 Priority List. Railroad/highway at-grade crossing improvement projects include, but are not limited to, installation and upgrade of

railroad protection systems to a state-of-the-art condition at grade crossings and grade crossing eliminations. Projects are evaluated under existing conditions and any roadway widening projects to improve roadway capacity will not be considered. The project must be delivered in the year programmed. Additionally, locations that are funded will not be eligible for a subsequent project for ten years. The program is competitive and the federal reimbursement rate is 100 percent.

High-Risk Rural Roads Program (HR3)

The purpose of the High-Risk Rural Roads Program is to correct or improve hazardous roadway locations or features to reduce the frequency and severity of accidents on rural roads. The project must be located on a rural major collector, a rural minor collector, or a rural local road. The program is competitive and the federal reimbursement rate is 90 percent.

Hazard Elimination Safety Program (HES)

The purpose of this program is to eliminate or reduce the number and severity of traffic accidents at hazardous locations. To be eligible for federal HES funds, the project must be located on any local road. Projects must correct an identified safety hazard or problem.

Safe Routes to School Program (SR2S)

Caltrans has established a “Safe Routes to School” construction program utilizing federal transportation funds for construction of bicycle and pedestrian safety and traffic calming projects, or outreach programs that promote walking and bicycling through education, encouragement and enforcement. The intent of the program is to increase the number of children in grades K-8 to walk or bicycle to school by removing barriers that currently prevent them from doing so. To be eligible for SR2S funds, the project must be located on either a state highway or local road. Projects must correct an identified safety hazard or problem on a route that students use for trips to, and from, school. The SR2S program was created as a subset of the Hazard Elimination Safety (HES) program. The program is competitive and the federal reimbursement rate is 100 percent.

Emergency Relief Program (ER)

The ER Program is intended to assist local agencies when local resources are inadequate to cope with disasters or catastrophic failures. For a declared disaster, ER funds are intended to aid state and local highway agencies in paying unusually heavy expenses or repairing serious damage to Federal-aid highways resulting from natural disasters or catastrophic failure. Only work that exceeds heavy maintenance, is extraordinary, and restores the facility to its previous level of service is eligible.

The annual amount available to an individual state varies each year depending on disasters experienced by the sates.

Highways for LIFE Pilot Program (HFL)

FHWA's new Highways for LIFE program is a competitive discretionary program, that provides funding for projects with the purpose of advancing longer-lasting highway infrastructure using innovations to accomplish fast construction of efficient and safe highways and bridges. An eligible project include construction, reconstruction or rehabilitates a federal-aid highway, and employs innovative technologies, manufacturing processes, financing, or construction methods that improve safety, decrease construction congestion, and improve overall highway quality. Agencies that have not received HFL grants in the past are given preference. Funding projects in as many states is an important factor in the selection process

Federal Discretionary Programs

There are a number of highway, transit, and rail discretionary programs available to California applicants authorized by various sections of SAFETEA-LU. Funding for these programs vary—some are formula driven and others are nationally competitive. Funds are distributed over the six-year life of SAFETEA-LU.

The following are some of the programs with a brief description:

Corridors and Borders: Provides funds to states for coordinated planning, design and construction of transportation corridors of national significance, economic growth or interregional or international trade.

Transportation and Community and System Preservation Pilot Program: Researches relationships between transportation, community preservation and the environment and funds projects to address transportation efficiency and community system preservation.

National Scenic Byways: Provides funding for eligible scenic byway projects along All-American Roads or designated scenic byways and for the planning, design and development of State scenic byway programs.

Public Lands Highways: Provides funding for eligible transportation projects within, adjacent to, or providing access to the areas served by federal public lands highways.

Interstate Maintenance Discretionary: Provides funding for resurfacing, restoring, rehabilitating and reconstructing, including adding travel lanes, of the interstate system, including interchanges and overcrossings along the system.

Intelligent Transportation System Deployment: Provides funds for ITS integration and deployment projects—funding and projects are congressionally designated.

Federal Demonstration Program (High Priority Projects)

A demonstration project is specifically established and funded by Congress through federal law. Demonstration projects are generally provided as part of the periodic transportation authorization acts or the annual transportation appropriation acts. The federal reimbursement rate is typically 80 percent; however, demonstration funds provided by legislation may not be enough to fully fund a project. Demonstration projects are initiated by Congress, usually at the request of constituents within a given congressional district. The Federal Demonstration Program has provided funding toward the Interstate 80 operation improvement projects and the Lincoln Bypass (CHECK?).

FTA Job Access Reverse Commute Section 5316

The federal Job Access Reverse Commute program was authorized under TEA 21 and continued under SAFETEA-LU, awarding competitive grants to local agencies to improve access to employment areas, particularly for those transitioning from welfare programs and eligible low-income individuals. Examples of funded programs include extended hours and routes on transit systems to serve employment areas.

FTA New Freedom Section 5317

The New Freedom program was authorized under SAFETEA-LU and provides funding to assist transit operators to provide new and continuing transportation services for individuals with disabilities above and beyond the minimum currently required by the Americans with Disabilities Act of 1990.

FTA Section 5307

Formerly known as the Section 9 program, Section 5307 provides capital assistance funds, including preventative maintenance, for transit services in urbanized areas by formula. In Placer County, the 2000 Federal census expanded the urbanized area from Roseville/Rocklin to add Loomis and Auburn and unincorporated urban Placer County for eligibility for these funds. Because the FTA sees the overall Sacramento urbanized area as a single unit, Section 5307 funds are funneled to these areas via the Sacramento Regional Transit District.

FTA Section 5308

Known as the Clean Fuels program, Section 5308 provides capital grants to purchase clean fuel vehicles and related facilities. In the past, Congress transferred program funding to the Section 5309 Bus Discretionary program.

FTA Section 5309

Capital investment grants for bus and rail modernization, fixed guideway facilities, and New Start projects.

FTA Section 5311

Formerly known as the Section 18 program, Section 5311 provides operating and capital assistance funds for transit services in non-urbanized/rural areas by formula. Colfax, Lincoln, and rural Placer County are eligible for these funds. Caltrans administers this program, with the assistance of regional transportation planning agencies, which develop the annual Program of Projects.

FTA Section 5310

Section 5310 provides competitive grants on a statewide basis for capital improvements to transit services specifically targeted to the elderly and disabled. Examples of successful applications are typically new accessible transit vehicles, particularly vans and small busses. Caltrans administers this program in California, with the assistance of regional transportation planning agencies. The maximum federal reimbursement rate is 88.53 percent.

High Speed / Intercity Passenger Rail (HSIPR) Program

As State intercity passenger rail funds have become ever more uncertain, new federal funding sources administered through the Federal Railroad Administration (FRA) have been launched by Congress. The High Speed / Intercity Passenger Rail (HSIPR) Program is funded with $8 billion from the American Reinvestment and Recovery Act (ARRA). HSIPR is a two phased program. The first phase focuses on job creation, while the second phase focuses on corridor development. HSIPR allows for prior non-federal fund expenditures since 2004 to be included as match, although matching funds are not required. Prior Capitol Corridor Joint Powers Authority (CCJPA) funds and that of its project partners can be used to match future HSIPR grants. Over the next five years, HSPIR will be supplemented through the Passenger Rail Investment and Improvement Act (PRIIA). Successfully pursuing these federal funds will be contingent on stable and reliable State funding sources.

Federal Airport Improvement Program (AIP)

The Federal AIP provides funding directly to federally designated airports for the planning and development of public-use airports that are in the National Plan of Integrated Airport Systems (NPIAS). The federal share of eligible project costs is up to 95 percent. California typically matches approximately 2.5 percent, with local agencies funding the remaining 2.5 percent match. Eligible projects include improvements related to enhancing airport safety, capacity, security, and environmental concerns. In general, sponsors can use AIP funds on most airfield capital improvements or repairs, except for terminal hangers, and non-aviation development.

Innovative Management of Federal Funds

There are several federal fund management strategies that are designed to provide states with greater flexibility in managing Federal-aid highway funds. The principal objective of these fund management strategies is to ease restrictions on the timing of obligations and reimbursements and to create a broader range of options for meeting federal participating cost match requirements. These strategies are commonly referred to as "cash flow" tools.

There are four strategies for managing federal funds, which are summarized below:

Advance Construction: Advance Construction (AC) allows a sponsor to begin a project even if the sponsor does not currently have sufficient Federal-aid obligational authority to cover the federal share of the project's costs. A sponsor may also elect to obligate funds for an AC project in stages. This is called Partial Conversion of Advance Construction (PCAC).

Tapered Match: With tapered match, the non-federal matching requirement applies to the aggregate cost of a project rather than on a payment-by-payment basis.

Flexible Match: Flexible match allows a sponsor to substitute private and other donation of funds, materials, land, and services for the non-federal share of funding highway projects.

Toll Credits: States may use revenue from toll credits toward the non-federal matching share. FHWA recently approved $5.7 billion in toll credits to California from $7.1 billion in toll revenue expenditures the state made between 1992 and 2006. As a result, Caltrans has developed a two-year (FY 2011 to FY2012) demonstration program and implementation policies on the use of toll credits. Further discussion in this Appendix can be found under State funding.

STATE

State funding also comes largely from the fuel tax, augmented by contribution from the state sales tax on motor fuel via Proposition 42. State funds are combined with funding from various federal programs through the biennial State Transportation Improvement Program (STIP) programming process and apportioned to the state highway system, rail projects, and other projects throughout the state on the basis of a geographically based formula. State programs of interest to Placer County include:

State Transportation Improvement Program (STIP)

The STIP is a multi-year capital improvement program that assists state and local entities to plan and implement transportation improvements and to utilize resources in a cost effective manner. All STIP projects must be capital projects (including project development costs) needed to improve transportation. These projects generally may include, but are not limited to, improving state highways, local roads, public transit, intercity rail, pedestrian and bicycle facilities, grade separations, transportation system management, transportation demand management, soundwalls, intermodal facilities, safety, and environmental enhancement and mitigation, including TEA projects.

STIP funding is split 25% to the Interregional Transportation Improvement Program (ITIP) for projects nominated by Caltrans, and 75% to County Shares for the state's 58 counties for projects nominated in each county's Regional Transportation Improvement Program (RTIP), as decided by regional agencies. The overall STIP is adopted by the California Transportation Commission (CTC), which can accept or reject each RTIP and ITIP in its entirety.

State Highway Operations and Protection Program (SHOPP)

The SHOPP is a ten year program developed by Caltrans for the expenditure of transportation funds for major capital improvements that are necessary to preserve and protect the state highway system. Projects included in the SHOPP are limited to capital improvements relative to maintenance, safety and operations, and rehabilitation of state highways and bridges which do not add capacity to the system. Caltrans updates the SHOPP periodically. The RTP includes the programmed portion of the SHOPP as well as planned investments over a ten year horizon.

Local Transportation Fund (LTF)

The Transportation Development Act (TDA) of 1971 added ¼% to the statewide sales tax to fund transit services throughout the state. These monies, known as the Local Transportation Fund, are returned to the county of origin for use to operate the transit systems in that area. The funds are administered by the regional transportation planning agency in accordance with TDA regulations. While the primary focus of the LTF is transit service, there are provisions for use of

the funds for other transportation modes. For example, under Section 3 of the TDA statute, regions may elect to set aside up to two percent of the LTF for pedestrian and bicycle projects, and under Article 4.5, regions may elect to set aside up to five percent of the LTF for Consolidated Transportation Service Agency (CTSA). In regions with less than 500,000 population, some funds may also be used for street and road purposes upon completion of an annual unmet transit needs process.

Funding levels vary both annually and by locale, depending on the sales tax generated.

State Transit Assistance (STA) Fund

In addition to the LTF, the Transportation Development Act (TDA) of 1971 also established a program of direct subvention for transit services through state generated funding, known as the Public Transportation Account (PTA). Funds are allocated through the annual state budget. Distribution is calculated by the State Controller and administered by the regional transportation planning agency. Funds are distributed under Section 99313 of the Public Utilities Code based on population, and under Section 99314 based on the fares generated by the various transit operators. Due to State budgetary issues the STA program has been deferred to FY 2013/14.

Highway-Railroad Grade Separation Program

The purpose of this program is to improve safety and to expedite the movement of vehicles by eliminating highway-rail crossings at grade. Agencies with jurisdiction over public roadways that cross railroad tracks are eligible to receive funds under this program. Three types of projects are considered: 1) the alteration or reconstruction of existing grade separations; 2) the construction of new grade separations to eliminate existing or proposed grade crossings; 3) the removal or relocation of roads or tracks to eliminate existing grade crossings. Projects must be included on the Public Utilities Commission list for eligibility, and are selected for funding on a competitive basis by Caltrans.

Current statutes require that $15 million be included in each annual state budget for grade separation projects under this program. In general, State participation per project is limited to $5 million or 80 percent of the project cost, whichever is less.

Environmental Enhancement and Mitigation Program (EEM)

The purpose of the EEM Program is to mitigate environmental impacts or new or modified public transportation facilities beyond the mitigation level required by the project's environmental document. Projects must provide mitigation or enhancement in addition to the mitigation required as part of the transportation projects to which they are related. Funding is distributed on a competitive basis and is administered jointly by the Resource Agency and

Caltrans. There are three categories of EEM funding: Highway Landscape and Urban Forestry, Resource Lands, and Roadside Recreational.

Bicycle Transportation Account Program (BTA)

The BTA is intended to provide funds for bicycle transportation, which is recognized as an important and low cost mode of public transportation. The BTA provides funds to local agencies for projects that improve safety and convenience for bicycle commuters. To be eligible for BTA funding, cities and counties must have an adopted Bicycle Transportation Plan that has been approved by the appropriate regional transportation planning agency and Caltrans. Funding is awarded by competitive grant and administered by Caltrans. Applicants provide a match of at least 10 percent of the total project cost.

Traffic Congestion Relief Program (TCRP)

The TCRP was a one-time direction of surplus state funds to transportation purposes. At an overall total of more than $5.3 billion, funding was been provided for selected projects that will relieve traffic congestion, improve goods movement, and provide connectivity between systems. However, none of the named projects were in Placer County.

The TCRP program does, however, include approximately $1.5 billion generated through the dedication of the sales tax on motor fuel over five years (2001/02 through 2005/06), distributed 40% to augment the STIP, 40% to cities and counties for continued local street and road maintenance, and 20% to augment the Public Transportation Account.

State budget problems, starting in FY 2002/03, have necessitated the suspension of the TCRP program, and borrowing from the State Highway Account to cover previously approved expenditures. The long-term fate of the TCRP program remains unclear, but the overall direction appears to be to repay loans and replace funds to the State Highway Account over the long term.

Proposition 1B Bonds (Prop 1)

The Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006 authorizes $19.9 billion in general obligation bonds to fund projects to relieve congestion, facilitate goods movement, improve air quality, and enhance the safety and security of the transportation system. The following summarizes several of the key Prop 1 bond programs of interest to Placer jurisdictions:

<u>Corridor Mobility Improvement Account (CMIA) - $4.5 billion:</u> This fund is for traffic congestion on the state highway system, or major access routes to the state highway system on the local road system that relieves congestion. Key requirements include:

- Projects must be nominated jointly by Caltrans and the regional transportation planning agency
- Projects should be on or of benefit to specified corridors of statewide interest. In Placer, those corridors include I-80 and SR 65.
- Projects must be under construction by December 31, 2011. Therefore, as a practical matter, projects should have at least a completed Project Study Report (PSR) or, preferably, a completed environmental document.
- A north/south split, wherein 60% of the funds go to Southern California and 40% to Northern California, is applied.
- Criteria focus on projects that will make the most positive improvements to corridor congestion soonest and most cost-effectively.

Public Transit and Intercity Rail Account - $4 billion: Of the $4 billion, $400 million is directed to intercity rail, of which $125 million will be for intercity rail cars and locomotives. The remaining $3.6 billion will be allocated to jurisdictions by the regional transportation planning agencies via the existing State Transit Assistance formulas. Because these funds are distributed by formula, Placer is guaranteed its fair share.

California Ports and Trade Infrastructure - $2 billion: These funds are allocated by the CTC for improvements along federally designated trade corridors and require a 50 percent match, which can come from any other funding source, such as federal earmarks, STIP, and local impact fees.

State Transportation Improvement Program (STIP) Augmentation - $2 billion: These funds would re-infuse the STIP with some of the funding that had been borrowed away over the past five years. With a formula distribution to all regional transportation planning agencies around the state, it ensures equitable distribution. 25 percent of the funds for the STIP are provided to Caltrans for use in the Interregional Transportation Improvement Program (ITIP). 75 percent of the funds are divided up amongst regional agencies, such as PCTPA, to program in our county's Regional Transportation Improvement Program (RTIP). Placer's county share will be counted against the large advance for the programming of the Lincoln Bypass, which reduces the debt to just under $53 million.

Local Streets and Roads - $2 billion: These are one-time discretionary funds, which are split equally between cities and counties, with funds allocated according to long-established formulas developed by the California Association of Counties and the League of California Cities. There is a minimum guarantee of $400,000. Eligible projects include road maintenance and rehabilitation, and also allow money to be used for transit, congestion, and safety projects.

Highway-Rail Grade Crossing Safety - $250 million: These funds are allocated to Caltrans to administer a competitive program for high-priority grade separation projects pursuant to current statute. A dollar-for-dollar match is required. $100 million of these funds will be allocated by the CTC outside of the current process, but are directed to focus on crossing in ozone non-attainment areas and crossings that delay access to emergency services.

Local Bridge Seismic Retrofit Account - $125 million: Funds are allocated to provide the 11.5 percent match for the Federal Highway Bridge Replacement and Repair program for the seismic work on local bridges, ramps, and overpasses as determined by Caltrans.

State Highway Operation Preservation Program (SHOPP) - $750 million: These funds are allocated by the CTC for maintenance and safety projects on the state highway system. $250 million of these funds must be used for Intelligent Transportation Systems and Traffic Light Synchronization on the state highway system. These funds will be provided to Caltrans.

Transit Safety and Disaster Preparedness: $1 billion: These funds are allocated to capital projects that increase protection against security and safety threats to public transportation systems.

Toll Credit in Lieu of Non-Federal Share Match

The Transportation Equity Act for the 21st Century (TEA-21) allowed states to use certain toll revenue expenditures as a credit toward the non-federal matching share of some highway and transit programs. FHWA recently approved $5.7 billion in toll credits to California from $7.1 billion in toll revenue expenditures the state made between 1992 and 2006. As a result, Caltrans has developed a two-year (FY 2011 to FY2012) demonstration program and implementation policies on the use of toll credits. Caltrans will develop permanent policies after the demonstration period concludes. Caltrans policy limits toll credits use to local projects funded with RSTP, CMAQ and off-federal aid system bridge projects funded by HBP. Caltrans policy requires each region to identify and present projects needing toll credits before October 1 each year.

Toll credits do not generate any new federal funding. Use of toll credits is limited to meet the non-federal match requirement of federal participating cost for apportionments and obligational authority (OA) available in any given year. Toll credits can be used on any phase that has not received authorization (E-76) by FHWA. It use will help those projects that would otherwise be delayed for lack of matching funds. Use of toll credits should not result in the redirection of non-federal funds away from transportation.

Fuel Taxes

The State of California imposes an excise tax of 18 cents per gallon on motor fuel. These funds are then distributed by formula directly to cities and counties for street and road maintenance.

Motor Vehicle Fees

Vehicle registration and drivers license fees are deposited into the State's Motor Vehicle Account and are used to fund California Air Resource Board (CARB), California Highway Patrol (CHP) and Department of Motor Vehicle (DMV) programs and activities. Any balance from this account is deposited into the State Highway Account. Vehicle license fees are deposited into the State's Motor Vehicle License Fee Account and are used to fund Department of Motor Vehicle (DMV) programs and activities, and are also distributed based on population to cities and counties as local general funds.

California Aid to Airports Program (CAAP)

The CAAP encompasses several programs administered by Caltrans Division of Aeronautics. These include: discretionary grants for capital improvements supporting land acquisition, airport development for non-NPIAS airports, and preparation of an ALUCP; annual grants of $10,000 each to general aviation airports; an airport loan program consisting of low-interest simple loans for revenue generating projects such as hanger construction; and matching funds at 2.5 percent for Federal Aviation Administration (FAA) AIP grants at NPIAS airports.

REGIONAL

South Placer Regional Transportation Authority Regional Transportation and Air Quality Mitigation Fee

In 2002, four Placer jurisdictions – Lincoln, Roseville, Rocklin, and Placer County – formed the South Placer Regional Transportation Authority (SPRTA) and established a Regional Transportation and Air Quality Mitigation Fee. The Regional Transportation and Air Quality Mitigation Fee will generate $191 million by 2022 for specified key projects, including Sierra College Boulevard improvements, I-80/Douglas Boulevard Interchange improvements, and the Lincoln Bypass, Placer Parkway, and rail and transit programs.

Highway 65 Joint Powers Authority Fee Program

The cities of Rocklin and Roseville along with Placer County formed the Highway 65 Joint Powers Authority Fee Program to fund interchange improvements along SR65 in the area of Rocklin, Roseville, and unincorporated Placer County. The interchanges include: Stanford Ranch / Galleria Boulevard, Pleasant Grove Boulevard, Blue Oaks Boulevard, and Sunset Boulevard. The fee program assesses fair share costs to each jurisdiction on their impact on the individual improvements from new development. The fee program is managed by the City of Roseville.

Placer County / City of Roseville Joint Fee Program

The Placer County / City of Roseville Joint Fee Program was implemented in 2004 to fund future traffic improvements along Baseline Road, Fiddyment Road, and Walerga Road. The fee program assesses fair share costs to each jurisdiction on their impact on the individual improvements from new development. The development fees collected are used to fund only those capital improvements that require agency cooperation and joint funding.

LOCAL

Transit Fares

Funds generated by passenger fares on transit are used to help fund that transit system. Under the requirements of the TDA, fares must generate at least 10% of the operating revenue for rural transit systems and for CTSA services, and 15% for others.

General Funds

At the discretion of the City Council or Board of Supervisors, city and county general funds generated primarily from property and local sales taxes may be used to augment transportation funding. With high demand on such funds, and generally low availability, general funds are not considered a strong source of transportation funding.

Traffic Impact Fees

Under state law, jurisdictions may impose fees on new development to mitigate their impacts on local services. One common impact fee is for traffic generated by the new development on the road system. The fees collected through these programs, in addition to other funding sources, make it possible for jurisdictions to construct roads and other transportation facilities and improvements needed to accommodate the new development. Each jurisdiction in Placer County has in place a traffic impact fee program.

Fees must be backed by a traffic study that provides a nexus of the improvements to the traffic generated by the development, as required by AB 1600. Fees are imposed on a new development based on its Dwelling Unit Equivalent (DUE), which is a factor for a particular land use category that takes into account the number of trips made within the afternoon peak hour, the average trip length in miles, and the percentage of new trips resulting from that land use. Trip generation rates for various land use categories are provided by the Institute of Transportation Engineers (ITE) "Trip Generation Manual, 7th Edition."

Traffic Mitigation Measures

Traffic mitigation decisions are, by necessity, made on a case-by case basis. Each development project is unique, and the extent and types of traffic mitigation measures selected for a project will be determined by the projected traffic characteristics of the project as well as the site in which it is located. Additionally, some development projects offer special traffic mitigation challenges and some measures will be better able than others to accomplish mitigation needs. Traffic mitigation is typically imposed through the environmental review process or as conditions of development approval.

Community Facilities Districts

In 1982, the Mello-Roos Community Facilities Act of 1982 was created to provide an alternate method of financing needed improvements and services. The Mello-Roos Community Facilities Act of 1982 allows any county, city, special district, school district or joint powers authority to establish a Community Facilities District (CFD), which allows for financing of public improvements or services when no other source of funding is available. CFDs are normally formed in undeveloped areas and are used to build streets, install water and sewer system, and other basic infrastructure so that new homes or commercial space can be built. CFDs are also used in older areas to finance new schools or other additions to the community. A CFD is created by a sponsoring local government agency. The proposed district would include all properties that benefit from the improvements to be constructed or the services to be provided. A CFD cannot be formed without a two-thirds majority vote of residents living within the proposed boundaries. Or, if there are fewer than 12 residents, the vote is instead conducted of current landowners.

Special Benefit Assessment Districts

The passage of Proposition 218 on November 6, 1996, established a strict definition of "special benefit," which applies to any new or increased assessments proposed after that date. In a reversal of previous law, a local agency is now prohibited by Proposition 218 from including the cost of any general benefit in an assessment apportioned to individual properties. Assessments are limited to those necessary to recover the cost of the special benefit provided the property. A special benefit means "a particular and distinct benefit over and above general benefits conferred on real property located in the district or the public at large. General enhancement of property value does not constitute special benefit. An example of a special benefit could include a transportation improvement meeting the specific traffic needs within a geographic area. A special benefit assessment district cannot be formed without a two-thirds majority vote of residents living within the proposed assessment district boundaries

Exactions

An exaction may include a variety of development fees, construction of a public improvement or amenity as well as dedications, easements or a conveyance of land; for example, rights-of-way for a new road or widening of an existing road. Exactions are often demanded as permit conditions of development.

OTHER POTENTIAL FUNDING MECHANISMS

Tier 2 Fee Program

The new growth from major development anticipated in southwestern Placer County will require additional transportation infrastructure, particularly the Placer Parkway. The Tier 2 Fee Program would apply to development within the following areas proposed for new development: Placer Vineyards, Curry Creek, Regional University, Placer Ranch, Sierra Vista, Brookfields, Creek View, the area covered under the Roseville Memorandum of Understanding (MOU), and the Lincoln General Plan expansion areas. The Fee Program is intended to accommodate the roadway capacity needs of new growth in southern Placer County. The Fee Program would be imposed through development agreements. Projects without development agreements that proceed under adopted General Plans are proposed to not be subject to the Tier 2 Fee. A Capital Improvement Program (CIP) is currently under development that would be implemented prior to construction of these new developments. The Tier 2 Fee is estimated to generate about $480 million.

Local Transportation Sales Tax

Since 1984, state law has permitted counties to impose a sales tax dedicated to transportation purposes with the approval of a majority of the county voters.

In 1995, however, it was determined by the State Supreme Court that transportation sales taxes were special taxes and under Proposition 62, would require a 2/3 majority vote. This has made subsequent transportation sales tax approvals significantly more difficult. Nine counties - Santa Clara, Alameda, Riverside, San Diego, San Francisco, San Mateo, San Bernadino, Contra Costa, and Sacramento - have passed sales tax extensions since 1995. Only Marin and Sonoma Counties have been able to pass new sales tax measures in the last decade.

As of 2004, 18 counties have passed transportation sales taxes, representing 85 percent of the State's population, generating billions of dollars for transportation purposes in those counties. Should Placer pursue and pass a transportation sales tax, it is estimated it could generate $930 million to $1.25 billion over 30 years.

Local Option Motor Vehicle Fuel Tax

The State has raised the gas tax through the passage of Proposition 111 in 1990, rising to 18 cents per gallon. Senate Bill 215 authorizes counties to hold an election to tax local sales of gasoline. An increase in fuel tax requires a 2/3 approval of the general electorate. The statutes do not limit the amount of tax increase that may be voted upon. One advantage to a motor vehicle fuel tax is that it is user oriented. Fuel consumption is related to roadway use, thus users bear the burden of costs commensurate with their use.

User Fees

Some transportation providers and facilities may impose fees for the use of those facilities. Such user fees may include parking fees, airport landing fees, airplane hangar rental fees, and so on.

The recent state budget crisis has given rise to the concept of toll roads and high occupancy toll (HOT) lanes, which are both forms of user fees. In these scenarios, drivers would pay to use either totally separate facilities (toll roads) or to access high occupancy vehicle lanes in a single occupant vehicle (HOT lanes). Placer facilities that could lend themselves to this type of approach would be Placer Parkway (toll road or HOT lanes) and I-80 (HOT lanes only).

Public/Private Partnerships

Public/private partnerships involve cooperative development of projects involving the efforts of a private company and a public agency. Examples of joint development include the private development of a public facility, cooperative financing of public facilities, transfer of development rights, and density bonuses. The legal basis for joint development depends on the circumstances of the agreement; however, generally the authority to require dedication of land or exactions as a condition of development derives from the agency's police power to protect public interests.

Peak Hour Congestion Pricing

This is a fee charged to those using transportation facilities during the peak period. As a user charge, it is neither a tax nor a toll and, therefore, not subject to state or federal tax restrictions. Congestion pricing, while raising additional funds, has secondary benefits for transportation systems. The imposition of user charges creates a disincentive to the use of transportation systems during peak periods. This provides motivation for transportation system users to spread their use to non-peak periods. As a result, the system demand is more evenly distributed, thus creating greater efficiency of use.

Bond Measures

Cities and counties may issue general obligation bonds payable through increased property taxes by a 2/3 majority vote of the general electorate. These bonds may be used to fund government services, including transportation improvements.

REVENUE ESCALATION

Estimated transportation revenues used in the 2035 RTP are based on preliminary forecasts prepared by SACOG for the 2011 MTP update and for the 2011/2014 MTIP. The table below identifies the average nominal growth rates for the 2010 – 2035 planning period developed by SACOG to escalate the revenues in the Placer County financial forecast.

Revenue Escalation			
Revenue Source	**2035 MTP**		**2011 MTP Update**
	Previous MTP	**Adjustment Basis**	**Average Nominal Growth Rates (%) for 2010-2035**
Federal			
Federal Highway & Other			5.02%
-Congestion Mitigation and Air Quality (CMAQ)	3.20%	Avg. CCI+CPI	5.38%
-Regional Surface Transportation Program (RSTP)	3.40%	CCI	5.33%
-Federal Discretionary Programs	3.2% and 3.4%.	Avg. CCI+CPI and CCI	4.00%
Federal Transit (Formula to Region)			8.00%
-FTA 5307 - Urbanized Area Formula Program	2.9% and 3.5%	CPI and wages	5.77%
-FTA 5309 (a) - Rail and Fixed Guideway Modernization	3.40%	CCI	6.00%
-FTA 5309 (b) - New Rail Starts	3.20%	Avg. CCI+CPI	7.00%
-FTA 5311 (b) - Rural Transit Assistance Program	2.90%	CPI	6.00%
-FTA 5316 - Job Access and Reverse Commute Program	3.20%	Avg. CCI+CPI	6.00%
-FTA 5317 - New Freedom	3.20%	Avg. CCI+CPI	4.00%
Federal Transit (Non-Formula to Region)			
-FTA 5310 - Elderly and Disabled Specialized Transit Program	2.90%	CPI	6.00%
-FTA 5309 (c) - Bus Allocations	3.40%	CCI	6.00%
State			
State Highway Operations and Protection Program (SHOPP)	3.40%	CCI	3.02%
State Transportation Improvement Program - (STIP)			6.07%

-Interregional - ITIP	3.40%	CCI	6.07%
-Regional - RTIP	3.40%	CCI	6.07%
Traffic Congestion Relief Program - (TCRP)	3.20%	Avg. CCI+CPI	7.57%
State Transit Assistance (STA)	3.50%	Wages	3.55%
State Highway Account	NA	NA	NA
Intercity Rail	3.20%	Avg. CCI+CPI	4.87%
State Highway Maintenance	3.50%	Wages	2.84%
PTMISEA	NA	NA	-0.24%
Local			
Sales Tax			5.68%
-Local Transportation Fund (LTF)	3.20%	Avg. CCI+CPI	4.33%
Gas Tax Subventions	3.20%	Avg. CCI+CPI	2.04%
Developer Fees			NA
-Impact Fees	3.20%	Avg. CCI+CPI	NA
-In-Kind Projects	3.20%	Avg. CCI+CPI	3.16%
General Funds and Special Fees			NA
-Special District Funds	3.20%	Avg. CCI+CPI	NA
-General Funds - Roads	3.20%	Avg. CCI+CPI	NA
-General Funds - Transit	3.20%	Avg. CCI+CPI	NA
Caltrans Discretionary Grants	3.40%	CCI	2.52%
Transit Fares	3.40%	NA	6.76%
Federal, State, and Local Funds			4.05%
Source: Working Draft 2011 MTP Update - Placer County Financial Forecast, SACOG, May 2010.			

PROJECT COST ESCALATION

ESTIMATE YEAR OF EXPENDITURE DOLLARS

The Financial Element uses an inflation rate of 4.0 percent compounded annually to forecast highway and transit improvement costs in Year of Expenditure (YOE) dollars. The inflation rate is based on an average of the Construction Cost Index (CCI) over an eight year period. The table below shows the CCI from 2002 to 2010.

To calculate the project costs in year of expenditure dollars at this inflation rate, the cost for each project shown in current year (2010) dollars was inflated by 4.0 percent compounded annually from the base year (2010) to the anticipated year of project implementation using the following formula:

YOE$ = ACYD *(1.0 + 0.04) ^n

Where:
YOE$ = year of expenditure dollars
ACY$ = annualized current year dollars
N = number of years from base year (2010)

Construction Cost Index (CCI) for Inflation

Date	20 Cities	San Francisco	Average	Percent (%) Change	
May-02	6512.21	7660.08	7086.15	0.00000%	
May-03	6641.98	7822.94	7232.46	2.06480%	
May-04	7064.14	8106.55	7585.35	4.87918%	
May-05	7398.03	8260.41	7829.22	3.21508%	
May-06	7690.72	8445.69	8068.21	3.05254%	
May-07	7942.00	9116.72	8529.36	5.71564%	
May-08	8140.61	9174.42	8657.52	1.50257%	
May-09	8573.87	9748.42	9161.15	5.81725%	
May-10	8761.47	9885.92	9323.70	1.77434%	
Average	**8590.63**	**9777.64**	**9184.14**		
34.54%	*8 yr % change for 20 cities average*			*3.63%*	*Annual*
29.06%	*8 yr % change for San Francisco average*			*4.32%*	*Annual*
31.58%	*8 yr % change for average*			*3.95%*	*Annual*

Source:

1. CCI is based on May 12, 2002; May 12, 2003; May 10, 2004; May 2, 2005; May 8, 2006; May 14, 2007; May 12, 2008; May 4, 2009; and May 10, 2010 McGraw Hill Construction ENR.

APPENDIX Q

MTIP Submittal Assurance

PLACER COUNTY TRANSPORTATION PLANNING AGENCY (PCTPA)

As the Lead Agency for the projects proposed for inclusion in the 2011/14 Metropolitan Transportation Improvement Program (MTIP), PCTPA possesses the legal authority to finance, acquire and construct the proposed projects.

PCTPA will cause work on the projects proposed for inclusion in the MTIP to be commenced on the schedule identified by this agency, and to be completed with reasonable diligence. PCTPA will also notify SACOG when changes in the description, costs or funding sources for projects proposed for inclusion in the MTIP are made by this agency.

PCTPA certifies that the funding sources identified to carry out the proposed program of projects are committed by the appropriate funding agency(ies). PCTPA understands that, if SACOG staff cannot verify that the funds identified have been committed, that SACOG staff will request that PCTPA provide evidence of funding commitment before the proposed projects are included in the MTIP.

I certify that the information contained in the attached program of projects is accurate and that I am authorized on behalf of this lead agency to file this program of projects and make these assurances.

Signed: .....

Date: May 18, 2010

Printed (Name and Title): Celia McAdam, AICP, Executive Director

APPENDIX R

Summary of Impacts and Mitigation Measures 2035 MTP and 2027 RTP and Relationship to 2035 RTP

SUMMARY OF IMPACTS AND MITIGATION MEASURES 2035 MTP AND 2027 RTP AND RELATIONSHIP TO 2035 RTP									
2035 MTP Impact	**2035 MTP Significance**	**2035 Mitigation Measure**	**Significance After Mitigation**	**2027 RTP Impact**	**2027 RTP Significance**	**2027 Mitigation Measure**	**Significance After Mitigation**	**2027 RTP EIR Monitoring Measure***	**Relationship to 2035 RTP Goal & Objectives**
3.1 POPULATION AND HOUSING									
Impact POP – 1: Inducement of substantial population growth.	Less than significant.	No mitigation is required.	N/A	**3.1-1** Overall population, housing and employment growth, and dispersion in Placer County.	Potentially significant.	**3.11(a) Jurisdictions** shall monitor transportation impacts of local land use decisions. The RTP is intended to mitigate the impact of planned growth consistent with local general plans and EIRs. Should the local general plans be amended, local jurisdictions are required to evaluate proposed amendments to determine whether additional action needs to be taken.	Reduced to less than significant.	The applicable Placer County agencies shall be responsible for population and housing mitigation adherence as part of plan amendments.	Goal 1, Objective A; & Goal 9, Objective A, B & D
Impact POP – 1: Inducement of substantial population growth.	Less than significant.	No mitigation is required.	N/A	**3.1-2** Changes in the distribution of the population within Placer County.	Less than significant.	None required.	Less than significant.		Goal 9, Objective A
Impact POP – 2: Displacement of substantial numbers of existing housing or people, necessitating the construction of replacement housing elsewhere.	Potentially significant at the project level.	Mitigation Measure POP – 1: Develop and Implement a Relocation Plan.	Potentially significant at the project level.	**3.1-3 Existing** housing within Placer County in the immediate vicinity of planned improvements.	Less than significant.	None required.	Less than significant.		Goal 9, Objectives A & B
3.2 LAND USE PLANNING									
Impact LU - 4: Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.	Less than significant.	No mitigation is required.	N/A	**3.2-1** Conflict with adopted environmental and planning documents within and affecting Placer County.	Less-than-significant.	**3.2-1(a)** Individual projects included within the 2027 RTP shall be reviewed for consistency by local jurisdictions and, as appropriate, transportation agencies, with applicable local and state plans, programs and policies at the time the individual projects are implemented.	Less-than-significant.	The applicable Placer County agencies shall be responsible for land use planning mitigation adherence through land use planning project review.	Goal 1, Objective A; & Goal 9, Objectives A & B
Impact LU - 5: Conflict with an Applicable Habitat Conservation Plan or Natural Community Conservation Plan.	Potentially significant at the project level.	**Mitigation Measure LU - 3:** Conduct Site-Specific Review of Project Design Improvements to Determine Conflict with NCHCP.	Potentially significant at the project level.						Goal 9, Objectives A & B
		Mitigation Measure LU - 4: Amend NCHCP before Building conflicting transportation projects.							Goal 9, Objectives A & B

SUMMARY OF IMPACTS AND MITIGATION MEASURES 2035 MTP AND 2027 RTP AND RELATIONSHIP TO 2035 RTP

2035 MTP Impact	2035 MTP Significance	2035 Mitigation Measure	Significance After Mitigation	2027 RTP Impact	2027 RTP Significance	2027 Mitigation Measure	Significance After Mitigation	2027 RTP EIR Monitoring Measure*	Relationship to 2035 RTP Goal & Objectives
Impact LU - 1: Physical Division of an Established Community by Highway and Road Projects.	Potentially significant at the project level.	**Mitigation Measure LU – 1a:** Conduct Site-Specific Review of Project Design Improvements to Determine Effects on Established Communities.	Potentially significant at the project level.						Goal 9, Objectives A & B
		Mitigation Measure LU – 1b: Conduct Site-Specific Review of Project Design Improvements to Determine Effects on Established Communities and Design Project Improvements to Avoid or Minimize Physical Division of an Existing Community.							Goal 9, Objectives A & B
		Mitigation Measure LU - 2: Initiate a "Complete Streets" Technical Assistance Program.							Goal 6, Objective C; & Goal 9, Objectives A & B
Impact LU - 2: Physical Division of an Established Community by Transit Projects.	Less than significant.	No mitigation is required.	N/A	**3.2-2** Disruption of the natural ecology and community development patterns along various roadways.	Significant and unavoidable.	**3.2-2(a) Where** vegetation removal occurs, areas outside the travel way should be revegetated with comparable size and species of trees and shrubs to the extent feasible.	Significant and unavoidable.	The project proponent or local jurisdiction shall be responsible for revegetation, alignment review, safety measure implementation, and access maintenance mitigation adherence.	Goal 1, Objectives A & B; Goal 2, Objective B; & Goal 9, Objectives A & B
Impact LU - 3: Physical Division of an Established Community by Bicycle and Pedestrian Projects.	Less than significant.	No mitigation is required.	N/A			**3.2-2(b)** Whenever feasible, specific roadway alignments shall be designed to avoid existing structures.			Goal 6, Objectives A - D; & Goal 9, Objectives A & B
						3.2-2(c) Implement safety procedures including warning signs, traffic cones, flaggers, traffic regulating devices, as necessary.			Goal 1, Objective B
Impact LU-6: Concurrent implementation of the proposed plan and forecast development of residential and employment land uses would result in expansion of urban areas and changes in land use and the character of neighborhoods and districts in the Sacramento Region.	Significant and unavoidable.	**Mitigation Measure LU-6:** Continue to Implement the Sacramento Region's Blueprint growth strategy through the Community Design Grant Program and other Implementation Programs.	Significant and unavoidable.						Goal 9, Objectives A & B
		Mitigation Measure AG – 3: Identify Open Spaces Areas to be Preserved through Dedication or Fee Payment.							Goal 9, Objectives A & B
						3.2-2(d) Individual projects should be designed to minimize long-term community disruption by maintaining access between residential and community services.			Goal 2, Objective B; & Goal 9, Objectives A & B

SUMMARY OF IMPACTS AND MITIGATION MEASURES 2035 MTP AND 2027 RTP AND RELATIONSHIP TO 2035 RTP

2035 MTP Impact	2035 MTP Significance	2035 Mitigation Measure	Significance After Mitigation	2027 RTP Impact	2027 RTP Significance	2027 Mitigation Measure	Significance After Mitigation	2027 RTP EIR Monitoring Measure*	Relationship to 2035 RTP Goal & Objectives
Impact AG-2: Conflict with existing zoning for agricultural use, or a Williamson Act contract.	Potentially significant at the project level.	**Mitigation Measure AG - 4:** Obtain Appropriate Permits, and Minimize Impacts of Agricultural Zoning Conflicts.	Potentially significant at the project level.	**3.2-3:** Disturbance or loss of significant agricultural resources in the county.	Potentially significant.	**3.2-3(a)** Individual projects shall be consistent with federal, state, and local policies that preserve agricultural lands and support the economic viability of agricultural activities, as well as policies that provide compensation for property owners if preservation is not feasible.	Significant and unavoidable.	The applicable Placer County agencies shall be responsible for project review and other specified measures for agricultural lands preservation.	Goal 1, Objective C; & Goal 9, Objectives A & B
Impact AG-3: Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use.	Potentially significant at the project level.	**Mitigation Measure AG - 2:** Evaluate the Potential for Direct Farmland Conversion at the Project Level and Avoid, Minimize, and Compensate for Loss of Farmland.	Potentially significant at the project level.			**3.2-3(b)** For projects in agricultural areas, project implementing agencies shall contact the California Department of Conservation and each county's Agricultural Commissioner's office to identify the location of prime farmlands and lands that support crops considered valuable to the local or regional economy. Individual projects shall be consistent with federal, state, and local policies that preserve agricultural.			Goal 9, Objectives A & B
		Mitigation Measure AG - 5: Design Project Improvements to Minimize Impacts on Open Space and Agriculture.				**3.2-3(c) Prior** to final approval of each project, the implementing agency shall establish conservation easement programs to mitigate impacts to prime farmland.			Goal 9, Objectives A & B
						3.2-3(d) Prior to final approval of each project, the implementing agency shall avoid impacts to prime farmlands or farmlands that support crops considered valuable to the local or regional economy.			Goal 9, Objectives A & B
						3.2-3(e) Prior to final approval of each project, the implementing agency shall encourage enrollments of agricultural lands into the Williamson Act program.			Goal 9, Objectives A & B
3.3 TRANSPORTATION									
Impact TRN-2: Substantial Decrease in Transit or Non-Motorized Trips.	Less than significant.	No mitigation is required.	N/A	**3.3-1** Effects on traffic conditions and transit use.	Less than significant.	None required.	Less than significant.		Goal 2, Objectives A - E; & Goal 6, Objectives A - C
Impact TRN-1: Substantial Increase in Vehicle Miles Traveled Per Household.	Less than significant.	No mitigation is required.	N/A						Goal 7, Objective B
				3.3-2 Effects on improving transportation system performance.	Considered beneficial.	None required.	Considered beneficial.		NA
Impact TRN-3: Substantial Increase in Congested Vehicle Miles Traveled per Household.	Significant and unavoidable.	**Mitigation Measure ENE – 8:** Adopt Transportation Pricing Policy.	Significant and unavoidable.	**3.3-3 Resolve** LOS deficiencies on several roadways.	Potentially significant and unavoidable.	**3.3-3 (a)** The jurisdictions shall continuously monitor and model the transportation network in order to evaluate LOS deficiencies.	Significant and unavoidable.	The applicable Placer County agencies shall be responsible for transportation mitigation through specified LOS monitoring measures.	Goal 1, Objective A; Goal 7, Objective B; & Goal 9, Objective A

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		Mitigation Measure ENE - 9: Create Public Education Program on Individual Transportation Behavior and Climate Change.							Goal 7, Objectives A - C; & Goal 9, Objective C
		Mitigation Measure ENE – 11: Adopt Regional Parking Regulation Policy to Provide Incentives for Use of Alternative Modes.							Goal 7, Objective B; & Goal 9, Objective C
		Mitigation Measure ENE – 12: Adopt Safe Routes to School Policy and Implement Pilot Program and Conduct Workshop with Cities, Counties and School Districts to Identify other Opportunities for Collaboration that may reduce Greenhouse Emissions.							Goal 6, Objectives A - C
		Mitigation Measure ENE – 15: Adopt a "Complete Streets" Policy.							Goal 6, Objective C; & Goal 9, Objectives A & B
		Mitigation Measure LU - 2: Initiate a "Complete Streets" Technical Assistance Program.							Goal 6, Objective C; & Goal 9, Objectives A & B
				3.3-4 Resolve Identified Deficiencies in the Areas of Public Transportation, Non-Motorized Transportation, Aviation, and Transportation Systems Management.	Potentially significant and unavoidable.	**3.3-4(a)** The ongoing update of the jurisdictions' general plans and community plans, in addition to future plan revisions, shall fully integrate the adopted programs, policies, and improvements of the RTP, as appropriate.	Significant and unavoidable.	The applicable Placer County agencies shall be responsible for transportation mitigation measure adherence as part of plan amendments and updates.	Goal 2, Objectives A - E; Goal 4, Objectives A - D; Goal 6, Objectives A - D; Goal 7, Objectives A - C; & Goal 9, Objectives B & D
						3.3-4(b) In conjunction with updating local general plans, the jurisdictions should consider the development of programs and design standards to facilitate viable pedestrian and non-motorized travel.			Goal 6, Objectives A - D; & Goal 9, Objectives A, B & D
3.4 AIR QUALITY									
				3.4-1 Motor vehicle emissions increases on various roadways which would impede the attainment of air quality standards.	Significant and unavoidable.	**3.4-1(a)** Implement development of planned railway projects.	Significant and unavoidable.	The applicable Placer County agencies shall be responsible for ensuring air quality mitigation measure adherence as part of railway project implementation.	Goal 3, Objective A; & Goal 9, Objectives C & D
						3.4-1(b) The jurisdictions shall fully implement the policies that set trip reduction goals for facilities and operations, develop a model program to attain the goals, and monitor the results. The program may include flexible and compressed work schedules, commuter matching services for van share and rideshare programs, telecommuting, preferential carpool/vanpool parking, parking pricing, and transit subsidies.			Goal 2, Objective D; Goal 7, Objective B; & Goal 9, Objective C

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						3.3-1(c) The jurisdictions should consider conversion of their vehicles to use Clean Alternative Fuels/Low Emissions Vehicles (CAF/LEV), such as those utilizing methanol, ethanol, natural gas, electric power, propane, and reformulated gasoline, in accordance with the Placer County Air Quality Attainment Plan.			Goal 9, Objectives C & D
						3.3-1(d) The jurisdictions should cooperate with the business and commercial community to plan and implement the infrastructure needed for CAF/LEV use, and that is designed to accelerate the introduction of CAF/LEV technologies. The jurisdictions should also encourage responsible agencies to streamline procedures for reviewing and permitting such facilities.			Goal 7, Objective A; & Goal 9, Objective C
						3.3-1(e) The jurisdictions should pursue adequate funding through all available funding sources for transit so that transit is a viable transportation alternative.			Goal 2, Objectives A & C; & Goal 10, Objectives A & B
Impact AIR - 1: Construction and operation of MTP 2035 projects could result in increases in criteria pollutants due to vehicle emissions.	Less than significant.	No mitigation is required.	N/A	**3.4-2** Construction of the proposed highway improvements would result in additional short-term emissions of CO, PM_{10}, ROG, and NO_x.	Short-term significant and unavoidable.	**3.4-2(a)** Caltrans, jurisdictions, and other agencies with responsibility for implementing projects included in the RTP and RTIP should ensure that all construction contracts include the following or substantially similar or improved requirements of contractors:	Short-term significant and unavoidable.	The applicable Placer County agencies shall be responsible for ensuring air quality mitigation adherence by implementing construction dust and emissions reduction measures.	Goal 9, Objectives C - E
Impact AIR-5: Construction of MTP 2035 projects would increase short-term air emissions.	Potentially significant at the project level.	**Mitigation Measure AIR-4:** Implement construction activity mitigations and provide documentation of compliance.	Potentially significant at the project level.			1. The contractor shall water in late morning and at the end of the day all earth surfaces during clearing, grading, earthmoving, and other site preparation activities.			Goal 9, Objectives A & C
						2. The contractor shall use tarpaulins or other effective covers for haul trucks which travel on public streets.			Goal 9, Objectives A & C
						3. The contractor shall sweep streets adjacent to the project at the end of the day.			Goal 9, Objectives A & C
						4. The contractor shall schedule clearing, grading, and earthmoving activities during periods of low wind speeds and restrict those construction activities during high wind conditions with wind speeds greater than 20 mph average during an hour.			Goal 9, Objectives A & C

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						5. The contractor shall control construction and site vehicle speed to 15 mph on unpaved roads.			Goal 9, Objectives A & C
						6. Construction equipment operators shall shut off equipment when not in use to avoid unnecessary idling. As a general rule, vehicle idling should be kept below 10 minutes.			Goal 9, Objectives A & C
						7. The contractor's construction equipment shall be properly maintained and in good operating condition.			Goal 9, Objectives A & C
						8. During smog season (May through October), the construction period shall be lengthened so as to minimize the number of vehicles and equipment operating at the same time.			Goal 9, Objectives A & C
						9. The contractors should utilize new technologies to control ozone precursor emissions as they become available and feasible.			Goal 9, Objectives A & C
						10. Construction equipment shall utilize low sulfur fuels.			Goal 9, Objectives A & C
						11. Contractors shall discontinue operations during second stage smog alerts.			Goal 9, Objectives A & C
						12. Truck wheel washers shall be installed before the roadway entrance at construction sites.			Goal 9, Objectives A & C
						13. Paving, curbing, or vegetative stabilization of the unpaved areas adjacent to roadways on which vehicles would potentially drive shall be required.			Goal 9, Objectives A & C
						3.4-2(b) The jurisdictions shall adopt and implement a policy to require as part of the review and approval process for land use entitlements, that construction or demolition projects and operations that disturb earth materials or transport them have a dust control and mitigation plan to control and monitor dust emissions. The jurisdictions shall further require that the plan be approved by the Placer County APCD. The plan is to include the use of such measures as watering or dust suppressant use, covering or protection of storage piles, provisions for stopping operations on windy days, covering of open haul trucks, and sweeping and cleaning operations.			Goal 9, Objectives A & C

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						3.4-2(c) The jurisdictions shall adopt a policy to review street and road cleaning operations to minimize dust generation, especially during summer and autumn dry seasons.			Goal 9, Objectives A & C
				3.4-3 Development of the proposed highway improvements could result in additional short-term emissions of asbestos.	Significant.	**3.4-3(a)** The jurisdictions shall adopt a policy to require, as a part of the review and permit processes, that demolition of structures be performed in accordance with state regulations pertaining to asbestos removal and release of asbestos fibers to the ambient air.	Significant and unavoidable.	The applicable Placer County agencies shall be responsible for ensuring air quality mitigation adherence by implementing asbestos emissions reduction measures.	Goal 9, Objectives A, C & D
Impact AIR-2: Implementation of the MTP 2035 could result in the exposure of sensitive receptors to potentially substantial pollutant concentrations of carbon monoxide and particulate matter.	Potentially significant at the project level.	**Mitigation Measure AIR-2:** Conduct CO and PM_{10} Hotspot Analyses.	Potentially significant at the project level.						Goal 9, Objective C
Impact AIR-3: Implementation of MTP 2035 projects could result in exposure of sensitive receptors to health risks from mobile source air toxics.	Potentially significant at the project level.	**Mitigation Measure AIR-3:** Conduct MSAT Analyses.	Potentially significant at the project level.						Goal 9, Objective C
Impact AIR-4: Implementation of MTP 2035 projects could create objectionable odors affecting a substantial number of people.	Potentially significant at the project level.	None proposed.	Potentially significant at the project level.						Goal 9, Objective C
3.5 NOISE									
Impact NOI-1: Exposure of Noise Sensitive Land Use to Noise and Vibration From Construction Activities.	Potentially significant at the project level.	**Mitigation Measure NOI-1:** Employ Noise-Reducing Construction Practices.	Potentially significant at the project level.	**3.5-1** Grading and construction activities associated with the proposed projects identified in the 2027 RTP would intermittently and temporarily generate noise.	Potentially significant.	**3.5-1(a)** Project-implementing agencies shall comply with all local sound control and noise level rules, regulations, and ordinances.	Significant and unavoidable.	The applicable Placer County agencies shall be responsible for ensuring noise mitigation adherence by implementing sound control and noise level rules, regulations, and ordinances measures.	Goal 9, Objective A
						3.5-1(b) Project implementing agencies shall limit the hours of construction to between 6:00 a.m. and 8:00 p.m. on Monday through Friday and between 7:00 a.m. and 8:00 p.m. on weekends.			Goal 9, Objective A

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						3.5-1(c) Equipment and trucks used for project construction shall utilize the best available noise control techniques (including mufflers, use of intake silencers, ducts, engine enclosures and acoustically attenuating shields or shrouds) in order to minimize construction noise impacts.			Goal 9, Objective A
						3.5-1(d) Impact equipment (e.g., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electrically powered wherever feasible to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatically powered tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about ten dBA. External jackets on the tools themselves shall be used where feasible, and this could achieve a reduction of five dBA. Quieter procedures will be used such as drilling rather than impact equipment whenever feasible.			Goal 9, Objective A
						3.5-1(e) Project-implementing agencies shall ensure that stationary noise sources will be located as far from sensitive receptors as possible. If they must be located near existing receptors, they shall be adequately muffled.			Goal 9, Objective A
						3.5-1(f) The project implementing agencies shall designate a complaint coordinator responsible for responding to noise complaints received during the construction phase. The name and phone number of the complaint coordinator will be conspicuously posted at construction areas and on all advanced notifications. This person will be responsible for taking steps required to resolve complaints, including periodic noise monitoring, if necessary.			Goal 9, Objective A
						3.5-1(g) Noise generated from any rock-crushing or screening operations performed within 3,000 feet of any occupied residence shall be mitigated by the project proponent by strategic placement of material stockpiles between the operation and the affected dwelling or by other means approved by the local jurisdiction.			Goal 9, Objective A

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						3.5-1(h) Project implementing agencies shall direct contractors to implement appropriate additional noise mitigation measures including, but not limited to, changing the location of stationary construction equipment, shutting off idling equipment, rescheduling construction activity, notifying adjacent residents in advance of construction work, and installing acoustic barriers around stationary construction noise sources to comply with local noise control requirements.			Goal 9, Objective A
						3.5-1(i) Project implementing agencies shall implement use of portable barriers during construction of subsurface barriers, debris basins, and storm water drainage facilities.			Goal 9, Objective A
						3.5-1(j) No pile-driving or blasting operations shall be performed within 3,000 feet of an occupied residence on Sundays, legal holidays, or between the hours of 8:00 p.m. and 8:00 a.m. on other days. Any variance from this condition shall be obtained from the project proponent and must be approved by the local jurisdiction.			Goal 9, Objective A
						3.5-1(k) Wherever possible, sonic or vibratory pile drivers shall be used instead of impact pile drivers (sonic pile drivers are only effective in some soils). If sonic or vibratory pile drivers are not feasible, acoustical enclosures shall be provided as necessary to ensure that pile driving noise does not exceed speech interference criterion at the closest sensitive receptor.			Goal 9, Objective A
						3.5-1(l) In residential areas, pile driving shall be limited to daytime working hours.			Goal 9, Objective A
						3.5-1(m) Engine and pneumatic exhaust controls on pile drivers shall be required as necessary to ensure that exhaust noise from pile driver engines are minimized to the extent feasible.			Goal 9, Objective A
						3.5-1 (n) Where feasible, pile holes shall be pre-drilled to reduce potential noise and vibration impacts.			Goal 9, Objective A

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Impact NOI-2: Exposure of Noise Sensitive Land Use to Increased Noise from the Operation of Expanded Roadway and Highway Facilities.	Less than significant.	No mitigation is required.	N/A	**3.5-2** Noise-sensitive land uses could be exposed to noise in excess of normally acceptable noise levels.	Potentially significant.	**3.5-2(a)** As part of the appropriate environmental review of each project, a project specific noise evaluation shall be conducted and appropriate mitigation identified and implemented.	Significant and unavoidable.	The applicable Placer County agencies shall be responsible for ensuring noise mitigation adherence by implementing sound control and noise evaluation, attenuation, disturbance and separation measures.	Goal 9, Objective A
Impact NOI-3: Exposure of Noise Sensitive Land Use to Increased Noise from the Operation of New Roadway and Highway Facilities.	Significant and unavoidable.	**Mitigation Measure NOI-2:** Employ Measures to Reduce Noise from Transportation Systems.	Significant and unavoidable.			**3.5-2(b)** Project implementation agency shall construct vegetative earth berms or add vegetation to attenuate roadway noise from residences.			Goal 9, Objectives A & B
Impact NOI-4: Exposure of Noise Sensitive Land Use to Increased Noise from the Operation of Expanded or Transit Operations.	Significant and unavoidable.	**Mitigation Measure NOI-2:** Employ Measures to Reduce Noise from Transportation Systems.	Significant and unavoidable.			**3.5-2(c)** Project implementation agencies shall employ land use planning measures, such as zoning, restrictions on development, site design, and use of buffers to ensure that future development is compatible with adjacent transportation facilities.			Goal 2, Objective B; & Goal 9, Objectives A - D
						3.5-2(d) Project implementation agencies shall maximize the distance between noise-sensitive land uses and new roadway lanes, roadways, rail lines, transit centers, park-n-ride lots, and other new noise generating facilities.			Goal 2, Objective B; & Goal 9, Objectives A & B
						3.5-2(e) Project implementation agencies shall construct sound-reducing barriers between noise sources and noise-sensitive land uses. Sound barriers can be in the form of earth-berms or soundwalls. Constructing roadways below-grade of the existing sensitive land uses also creates an effective barrier between the roadway and sensitive receptors. A sound wall shall be constructed, if the following criteria are met:			Goal 9, Objectives A & B
						1. Residential property built prior to the freeway or prior to a major widening, and;			Goal 9, Objective A
						2. The freeway segment identified shall have an hourly noise level that exceeds the 67-decibel (Leg) threshold, and the soundwall must be able to achieve at least a five-decibel reduction, and in accordance with Caltrans requirements, the costs to implement a soundwall are limited to $35,000 per residential unit (1987 dollars).			Goal 9, Objective A

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						3.5-2(f) Project implementation agencies shall improve the acoustical insulation of dwelling units where setbacks and sound barriers do not sufficiently reduce noise.			Goal 9, Objective A
				3.6 WATER RESOURCES					
Impact HYD-4: Substantial Increased Runoff Resulting in Flooding.	Potentially significant at the project level.	**Mitigation Measure HYD-3:** Implement Measures to Maintain Water Quality after Construction.	Potentially significant at the project level.	**3.6-1** Increased Flooding Hazards.	Potentially significant.	**3.6-1(a)** Transportation network improvements shall comply with local, state, and federal floodplain regulations. Projects requiring federal approval or funding shall comply with Executive Order 11988 on Floodplain Management, which requires avoidance of incompatible floodplain development, restoration and preservation of the natural and beneficial floodplain values, and maintenance of consistency with the standards and criteria of the National Flood Insurance Program.	Less than significant.	The applicable Placer County agencies shall be responsible for ensuring water resource mitigation adherence by implementing water quality, flood reduction, stormwater management and drainage measures.	Goal 9, Objective A
		Mitigation Measure HYD-4: Conduct Project-Level Drainage Studies				**3.6-1(b)** Proposed transportation improvements shall avoid flood hazard areas where possible.		.	Goal 9, Objective A
Impact HYD-7: Impact Due to Construction in the Floodplain.	Significant.	**Mitigation Measure HYD-6:** Avoid Restriction of Flood flows and Obtain Agency Approval of Construction with 100-Year Floodplains.	Less than significant.			**3.6-1(c)** Projects shall be designed so that they do not increase downstream flooding risks by substantially increasing peak runoff volumes. This could be achieved by increasing the size of local flood control facilities serving the project area(s), or by including detention ponds in designs for roadway medians, parking areas, or other facilities.			Goal 9, Objective A
Impact HYD-8: Impact Due to Inundation by Dam or Levee Failure.	Potentially significant at the project level.	**Mitigation Measure HYD-7:** Design Projects to Pass Flows in the Event of Levee or Dam Failure.	Potentially significant at the project level.			**3.6-1(d)** Projects shall be designed to allow lateral transmission of stormwater flows across transportation corridors with no increased risk of upstream flooding. Culverts and bridges shall be designed to adequately carry drainage waters through project sites. The bottom of overpass structures shall be elevated at least one foot above the 100-year flood elevation at all stream and drainage channel crossings. Transportation infrastructure must be designed to prevent elevating the 100-year flood plain in residential areas.			Goal 9, Objective A
						3.6-1(e) All roadbeds for new highway and rail transit facilities shall be elevated at least one foot above the 100-year base flood elevation.			Goal 1, Objective B; Goal 3, Objective A; & Goal 9, Objective A

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						3.6-1(f) Natural riparian conditions near construction sites shall be maintained, wherever possible, to minimize effects at stream crossings. Single-span bridges should be used whenever feasible.			Goal 9, Objective A
						3.6-1(g) Improvement projects on existing facilities shall include upgrades to storm water drainage facilities to accommodate increased runoff volumes. These upgrades may include construction of detention basins or structures that will delay peak flows and reduce velocity. System designs shall be designed to eliminate increases in peak flow rates from current levels.			Goal 9, Objectives A & B
						3.6-1(h) Prior to construction, a drainage study shall be conducted for each new project. Drainage systems shall be designed to maximize the use of detention basins, vegetated areas, and velocity dissipaters to reduce peak flows where possible.			Goal 9, Objective A
Impact HYD-1: Construction-Related Impacts on Water Quality.	Potentially significant at the project level.	**Mitigation Measure GEO-3:** Obtain and Implement the Requirements of the NPDES Permit into the Design of Site-Specific Projects that Would Disturb 1 or More Acres.	Potentially significant at the project level.	**3.6-2** Surface Water Quality Affected by Increased Urban and Construction Runoff.	Less than-significant.	**3.6-2(a)** Transportation improvements shall comply with federal, state, and local regulations regarding storm water management. State-owned freeways must comply with the Storm Water Discharge NPDES permit for Caltrans facilities.	Less than-significant.	The applicable Placer County agencies shall be responsible for ensuring water resource mitigation adherence through compliance with federal, state, and local regulations and Storm Water Discharge NPDES permits.	Goal 9, Objective A
		Mitigation Measure HYD-1: Implement a Spill Prevention and Control Program.				**3.6-2(b)** Project implementation agencies shall ensure that new facilities include water quality control features such as drainage channels, detention basins, and vegetated buffers, to prevent pollution of adjacent water resources by runoff. Wherever feasible, detention basins shall be equipped with oil and grease traps which will be cleaned regularly.			Goal 9, Objectives A & B
Impact HYD-3: Water Quality Degradation Due to Urban Runoff as a Result of Increased Impervious Surfaces.	Potentially significant at the project level.	**Mitigation Measure HYD-3:** Implement Measures to Maintain Water Quality after Construction.	Potentially significant at the project level.			**3.6-2(c)** Project implementation agencies shall ensure that operational best management practices for street cleaning, litter control, and catch basin cleaning are provided to prevent water quality degradation.			Goal 9, Objective A

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Impact HYD - 6: Water Quality Impacts from Discharges to 303(d) Listed Water Bodies.	Potentially significant at the project level.	**Mitigation Measure HYD-3:** Implement Measures to Maintain Water Quality after Construction.	Potentially significant at the project level.			**3.6-2(d)** SWPPPs shall be submitted to the SWRCB prior to the commencement of construction activities for proposed transportation improvement projects. Best management practices shall be implemented for construction site erosion and spill control.			Goal 9, Objective A
						3.6-2(e) Projects requiring the discharge of dredged or fill materials into U.S. waters, including wetlands, shall comply with applicable regulations including the requirement to obtain a permit from the U.S. Army Corps of Engineers and the RWQCB in compliance with Sections 404 and 401 of the federal Clean Water Act.			Goal 9, Objective A
Impact HYD-5: Reduction in Groundwater Recharge as a Result of Increased Impervious Surfaces.	Potentially significant at the project level.	**Mitigation Measure HYD-5:** Design and Install Infiltration Systems.	Potentially significant at the project level.	**3.6-3** Increased Impervious Surfaces Reduce Groundwater Infiltration.	Potentially significant.	**3.6-3(a)** Drainage of roadway runoff shall be designed to run through grass median strips, contoured to provide adequate storage capacity and to provide overland flow, detention, and infiltration before it reaches culverts. Detention basins and ponds, aside from controlling runoff rates, can also remove particulate pollutants through settling.	Less than significant.	The applicable Placer County agencies shall be responsible for ensuring water resource mitigation adherence by implementing runoff, erosion control, sediment control, discharge and detention measures.	Goal 9, Objective A
						3.6-3(b) Proper erosion control measures shall be implemented during construction, such as jute netting, straw mulches, chemical mulches, temporary retention ponds, or quick revegetation. Other control measures include limiting the amount of exposed area and preventing construction vehicles and equipment from passing through or near natural drainages.			Goal 9, Objective A
						3.6-3(c) Long-term sediment control shall include an erosion control and revegetation program designed to allow reestablishment of native vegetation on slopes in undeveloped areas.			Goal 9, Objective A
						3.6-3(d) In areas where habitat for fish and other wildlife would be threatened by transportation facility discharge, alternate drainage ways shall be sought to protect sensitive fish and wildlife populations. Heavy-duty sweepers, with disposal of collected debris in sanitary landfills, should be used to effectively reduce annual pollutant loads. Catch basins and storm drains should be cleaned and maintained on a regular basis.			Goal 9, Objective A

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						3.6-3(e) Detention basins, infiltration strips, and other features to facilitate groundwater recharge shall be incorporated into the design of new freeway and roadway facilities whenever feasible.			Goal 9, Objectives A & B
Impact HYD-2: Water Quality Impacts from Construction below the Water Table.	Potentially significant at the project level.	**Mitigation Measure HYD-2:** Comply with Provisions for Dewatering.	Potentially significant at the project level.	**3.6-4** Groundwater Impacts Due To Installation of Transportation Infrastructure.	Less than-significant levels.	**3.6-4(a)** Project implementation agencies shall avoid designs that require continual dewatering for the life of the project, where possible. For projects requiring continual dewatering facilities, project implementation agencies shall ensure that projects implement monitoring systems, including long-term administrative procedures, to ensure proper operations for the life of the project. Construction designs should comply with appropriate building codes and standard practices including the Uniform Building Code.	Less than-significant levels.	The applicable Placer County agencies shall be responsible for ensuring water resource mitigation adherence by ensuring implementation of monitoring systems and compliance of building codes and standard practices.	Goal 9, Objective A
3.7 BIOLOGICAL RESOURCES									
Impact BIO-4: Disturbance or Loss of Waters of the United States (Including Wetlands).	Potentially significant at the project level.	**Mitigation Measure BIO-8:** Identify and Delineate Waters of the United States (Including Jurisdictional and Isolated Wetlands).	Potentially significant at the project level.	**3.7-1** Adverse Impacts to Wetlands and Special Status Plant Species, Animal Species, and Habitat.	Significant and unavoidable.	**3.7-1(a)** Mitigation for impacts to wetlands and special status species would be determined based on the impact assessments developed for each proposed project prior to implementation. Mitigation would be determined in consultation with the appropriate federal, state, and local agency representatives and would be consistent with all applicable laws and regulations.	Significant and unavoidable.	The applicable Placer County agencies shall be responsible for ensuring biological resource mitigation adherence based on impact assessments in consultation with appropriate agencies, laws and regulations.	Goal 9, Objective A
		Mitigation Measure BIO-9: Avoid and Minimize Disturbance of Waters of the United States, Including Wetland Communities.							Goal 9, Objective A
		Mitigation Measure BIO-10: Compensate for the Loss of Wetland Habitat.							Goal 9, Objective A
Impact BIO-1: Potential Disturbance or Loss of Special-Status Plant Populations as a Result of Highway Projects.	Potentially significant at the project level.	**Mitigation Measure BIO-1:** Document Special-Status Plant Populations.	Potentially significant at the project level.						Goal 9, Objective A
		Mitigation Measure BIO-2: Avoid or Minimize Impacts on Special-Status Plant Populations by Redesigning the Project, Protecting Special-Status Plant Populations, and Developing a Transplantation Plan (If Necessary and Approved by Resource Agencies).							Goal 9, Objective A

SUMMARY OF IMPACTS AND MITIGATION MEASURES 2035 MTP AND 2027 RTP AND RELATIONSHIP TO 2035 RTP

2035 MTP Impact	2035 MTP Significance	2035 Mitigation Measure	Significance After Mitigation	2027 RTP Impact	2027 RTP Significance	2027 Mitigation Measure	Significance After Mitigation	2027 RTP EIR Monitoring Measure*	Relationship to 2035 RTP Goal & Objectives
Impact BIO-2: Potential Introduction or Spread of Noxious Weeds.	Potentially significant at the project level.	**Mitigation Measure BIO-3:** Conduct a Noxious Weed Survey and Document Noxious Weed Infestation.	Potentially significant at the project level.						Goal 9, Objective A
		Mitigation Measure BIO-4: Avoid the Dispersal of Noxious Weeds into Uninfested Areas.							Goal 9, Objective A
Impact BIO-3: Loss or Disturbance of Riparian Communities.	Potentially significant at the project level.	**Mitigation Measure BIO-5:** Identify and Document Riparian Habitat.	Potentially significant at the project level.						Goal 9, Objective A
		Mitigation Measure BIO-6: Avoid and Minimize Disturbance of Riparian Communities.							Goal 9, Objective A
		Mitigation Measure BIO-7: Compensate for the Loss of Riparian Community.							Goal 9, Objective A
Impact BIO-5: Potential Disturbance or Loss of Special-Status Wildlife Species and Their Habitat.	Potentially significant at the project level.	**Mitigation Measure BIO-11:** Document Special-Status Wildlife Species and Their Habitats.	Potentially significant at the project level.						Goal 9, Objective A
		Mitigation Measure BIO-12: Avoid and Minimize Impacts on Special-Status Wildlife Species by Redesigning the Project, Protecting Special-Status Wildlife Habitat, and Developing a Mitigation Monitoring Plan (If Necessary).							Goal 9, Objective A
		Mitigation Measure BIO-13: Coordinate with Resource Agencies and Develop Appropriate Compensation Plans for State- and Federal-Listed Wildlife Species.							Goal 9, Objective A
Impact BIO-6: Potential Disturbance and Loss of Common Wildlife Species.	Less than significant.	No mitigation is required.	N/A						Goal 9, Objective A
Impact BIO-7: Potential Direct and Indirect Impacts on Special-Status Fish Species.	Potentially significant at the project level.	**Mitigation Measure BIO-14:** Assess and Document Habitat for Special-Status Fish Species.	Potentially significant at the project level.						Goal 9, Objective A
		Mitigation Measure BIO-15: Avoid and Minimize Impacts on Special-Status Fish and Their Habitat.							Goal 9, Objective A
		Mitigation Measure BIO-16: Consult with NMFS or USFWS when Listed Fish Species May Be Affected, and Initiate Essential Fish Habitat Consultation with NMFS when Chinook Salmon May Be Affected.							Goal 9, Objective A

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2035 MTP Impact	2035 MTP Significance	2035 Mitigation Measure	Significance After Mitigation	2027 RTP Impact	2027 RTP Significance	2027 Mitigation Measure	Significance After Mitigation	2027 RTP EIR Monitoring Measure*	Relationship to 2035 RTP Goal & Objectives
Impact BIO-8: Conflict with Local Policies or Ordinances Protecting Biological Resources.	Potentially significant at the project level.	**Mitigation Measure BIO-17:** Review Local City and County Policies, Ordinances, and Conservation Plans and Comply with Requirements.	Potentially significant at the project level.						Goal 9, Objective A
Impact BIO-9: Removal or Disturbance of Oak Woodland Communities and Individual Native Oak Trees.	Potentially significant at the project level.	**Mitigation Measure BIO-17:** Review Local City and County Policies, Ordinances, and Conservation Plans and Comply with Requirements.	Potentially significant at the project level.						Goal 9, Objective A
		Mitigation Measure BIO-18: Install Temporary Construction Barrier Fencing to Protect Native Oak Trees Adjacent to the Construction Zone.							Goal 9, Objective A
3.8 CULTURAL AND HISTORIC RESOURCES									
Impact CR-4: Proposed Projects May Occur Near Some Architectural (Built Environment) Resources.	Potentially significant at the project level.	**Mitigation Measure CR-5:** Conduct Historic Inventory and Evaluation for Architectural Resources.	Potentially significant at the project level.	**3.8-1** Development of Highway, Arterial, Bridge Crossing and Transit Projects May Impact Historic Resources.	Less than significant.	**3.8-1(a)** As part of the appropriate environmental review of an individual project, the project implementation agencies shall identify potential impacts to historic resources. A record search at the appropriate Information Center shall be conducted to determine whether the project area has been previously surveyed and whether resources were identified. As necessary, prior to construction activities, the project implementation agencies shall obtain a qualified architectural historian to conduct historic architectural surveys as recommended by the Archaeological Information Center. In the event the records indicate that no previous survey has been conducted, the Information Center will make a recommendation on whether a survey is warranted based on the sensitivity of the project area for cultural resources.	Less than significant.	The applicable Placer County agencies shall be responsible for ensuring cultural and historic resource mitigation adherence by conducting a record search, or through surveys conducted by a qualified architectural historian to determine and identify resources. Recommendations by the Archaeological Information Center will determine if a survey is needed.	Goal 9, Objective A

SUMMARY OF IMPACTS AND MITIGATION MEASURES 2035 MTP AND 2027 RTP AND RELATIONSHIP TO 2035 RTP									
2035 MTP Impact	**2035 MTP Significance**	**2035 Mitigation Measure**	**Significance After Mitigation**	**2027 RTP Impact**	**2027 RTP Significance**	**2027 Mitigation Measure**	**Significance After Mitigation**	**2027 RTP EIR Monitoring Measure***	**Relationship to 2035 RTP Goal & Objectives**
						3.8-1(b) The project implementation agencies shall comply with Section 106 of the National Historic Preservation Act if federal funding or approval is required. This law requires federal agencies to evaluate the impact of their actions on resources included in or eligible for listing in the National Register of Historic Places. Federal agencies must coordinate with the State Historic Preservation Officer in evaluating impacts and developing mitigation. These mitigation measure may include, but are not limited to the following: the project implementation agencies shall carry out the maintenance, repair, stabilization, rehabilitation, restoration, preservation, conservation, relocation, or reconstruction of any impacted historic resource, which shall be conducted in a manner consistent with the Secretary of the Interior's Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings. In some instances, the following mitigation measure may be appropriate in lieu of the previous mitigation measure: the project implementation agencies shall secure a qualified environmental agency and/or architectural historian, or other such qualified person to document any significant historical resource(s), by way of historic narrative, photographs, or architectural drawings, as mitigation for the effects of demolition of a resource will not mitigate the effects to a point where clearly no significant effect on the environment would occur.			Goal 9, Objective A
Impact CR-1: Potential for Damage to or Destruction of Archaeological Resources during Specific Project Construction.	Potentially significant at the project level.	**Mitigation Measure CR-1:** Conduct Cultural Resource Inventories Concurrently with Environmental Review.	Potentially significant at the project level.	**3.8-2** Construction Activities Involving Excavation and Earthmoving May Encounter Archaeological Resources.	Potentially significant.	**3.8-2(a)** As part of the appropriate environmental review of individual projects, the project implementation agencies shall consult with the Native American Heritage Commission to determine whether known sacred sites are in the project area, and identify the Native American(s) to contact to obtain information about the project site.	Less than significant.	The applicable Placer County agencies shall be responsible for ensuring cultural and historic resource mitigation adherence by consulting with the Native American Heritage Commission to identify and determine sacred sites.	Goal 9, Objective A

SUMMARY OF IMPACTS AND MITIGATION MEASURES 2035 MTP AND 2027 RTP AND RELATIONSHIP TO 2035 RTP

2035 MTP Impact	2035 MTP Significance	2035 Mitigation Measure	Significance After Mitigation	2027 RTP Impact	2027 RTP Significance	2027 Mitigation Measure	Significance After Mitigation	2027 RTP EIR Monitoring Measure*	Relationship to 2035 RTP Goal & Objectives
Impact CR-2: Potential for Damage to or Destruction of Previously Undiscovered Buried Archaeological Sites or Unique Paleontological Resources.	Potentially significant at the project level.	**Mitigation Measure CR-2:** Stop Work If Archaeological Materials Are Discovered during Construction.	Potentially significant at the project level.			**3.8-2(b)** Prior to construction activities, the project implementation agencies shall obtain a qualified archaeologist to conduct a record search at the appropriate Information Center of the California Archaeological Inventory to determine whether the project area has been previously surveyed and whether resources were identified.			Goal 9, Objective A
		Mitigation Measure CR-3: Conduct Project-Specific Paleontological Resource Assessments Concurrently with Environmental Review.				**3.8-2(c)** As necessary prior to construction activities, the project implementation agencies shall obtain a qualified archaeologist or architectural historian (depending on applicability) to conduct archaeological and/or historic architectural surveys as recommended by the Information Center. In the event the records indicate that no previous survey has been conducted, the Information Center shall make a recommendation on whether a survey is warranted based on the sensitivity of the project area for cultural resources.			Goal 9, Objective A
						3.8-2(d) If the record search indicates that the project is located in an area rich with cultural materials, the project proponent shall retain a qualified archaeologist to monitor any subsurface operations, including but not limited to grading, excavation, trenching, or removal of existing features of the subject property.			Goal 9, Objective A
						3.8-2(e) Construction activities and excavation shall be conducted to avoid cultural resources (if found). If avoidance is not feasible, further work may need to be done to determine the importance of a resource. The project implementation agencies shall obtain a qualified archaeologist familiar with the local archaeology, and/or an architectural historian should make recommendations regarding the work necessary to determine importance. If the cultural resource is determined to be important under state or federal guidelines, impacts on the cultural resource shall be mitigated.			Goal 9, Objective A

SUMMARY OF IMPACTS AND MITIGATION MEASURES 2035 MTP AND 2027 RTP AND RELATIONSHIP TO 2035 RTP

2035 MTP Impact	2035 MTP Significance	2035 Mitigation Measure	Significance After Mitigation	2027 RTP Impact	2027 RTP Significance	2027 Mitigation Measure	Significance After Mitigation	2027 RTP EIR Monitoring Measure*	Relationship to 2035 RTP Goal & Objectives
						3.8-2(f) The project implementation agencies shall stop construction activities and excavation in the area where cultural resources are found until a qualified archaeologist can determine the importance of these resources.			Goal 9, Objective A
Impact CR-2: Potential for Damage to or Destruction of Previously Undiscovered Buried Archaeological Sites or Unique Paleontological Resources.	Potentially significant at the project level.	**Mitigation Measure CR-2:** Stop Work If Archaeological Materials Are Discovered during Construction.	Potentially significant at the project level.	**3.8-3** Construction activities involving excavation and earthmoving may encounter paleontological materials.	Potentially significant.	**3.8-3(a)** As part of the appropriate environmental review of individual projects, the project implementation agencies shall obtain a qualified paleontologist to identify and evaluate paleontological resources where potential impacts are considered high; the paleontologist shall also conduct a field survey in these areas.	Significant and unavoidable.	The applicable Placer County agencies shall be responsible for ensuring cultural and historic resource mitigation adherence by obtaining a qualified paleontologist to identify, evaluate and conduct field surveys when necessary to determine potential impacts.	Goal 9, Objective A
		Mitigation Measure CR-3: Conduct Project-Specific Paleontological Resource Assessments Concurrently with Environmental Review.							Goal 9, Objective A
						3.8-3 (b) Construction activities shall avoid known paleontological resources, especially if the resources in a particular lithic unit formation have been determined through detailed investigation to be unique. If avoidance is not feasible, paleontological resources shall be excavated by the qualified paleontologist and given to a local agency, State University, or other applicable institution, where they could be displayed.			Goal 9, Objective A

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2035 MTP Impact	2035 MTP Significance	2035 Mitigation Measure	Significance After Mitigation	2027 RTP Impact	2027 RTP Significance	2027 Mitigation Measure	Significance After Mitigation	2027 RTP EIR Monitoring Measure*	Relationship to 2035 RTP Goal & Objectives
Impact CR-3: Potential for Damage to or Destruction of Previously Undiscovered Human Remains.	Potentially significant at the project level.	**Mitigation Measure CR-4:** Stop Work If Human Remains Are Discovered during Construction.	Potentially significant at the project level.	**3.8-4** Construction activities involving excavation and earthmoving may encounter human remains.	Less than significant.	3.8-4(a) As part of the appropriate environmental review of individual projects, the project implementation agencies, in the event of discovery or recognition of any human remains (other than in a dedicated cemetery) during construction or excavation activities associated with the project shall cease further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the coroner of the county in which the remains are discovered has been informed and has determined that no investigation of the cause of death is required.	Less than significant.	The applicable Placer County agencies shall be responsible for ensuring cultural and historic resource mitigation adherence by ceasing further excavation or disturbance to the site if any human remains are discovered. If Native American remains are found, the coroner shall contact the Native American Heritage Commission to notify the proper descendants, and make a recommendation of how to dispose of the remains. If a descendant is not identified, the landowner shall obtain a Native American monitor and rebury the remains in a location that is not subject to further subsurface disturbance.	Goal 9, Objective A

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2035 MTP Impact	2035 MTP Significance	2035 Mitigation Measure	Significance After Mitigation	2027 RTP Impact	2027 RTP Significance	2027 Mitigation Measure	Significance After Mitigation	2027 RTP EIR Monitoring Measure*	Relationship to 2035 RTP Goal & Objectives
						If the remains are of Native American origin, the coroner shall contact the Native American Heritage Commission in order to ascertain the proper descendants from the deceased individual. The coroner shall make a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods. The recommendation may include obtaining a qualified archaeologist or team of archaeologists to properly excavate the human remains. If the Native American Heritage Commission is unable to identify a descendant; or the descendant failed to make a recommendation within 24 hours after being notified by the commission; or the landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner, then: the landowner or his authorized representative shall obtain a Native American monitor, and an archaeologist if recommended by the Native American monitor, and rebury the Native American human remains and any associated grave goods, with appropriate dignity, on the property and in a location that is not subject to further subsurface disturbance.			Goal 9, Objective A
3.9 AESTHETICS									
Impact AES-1: Substantial adverse effect on a scenic vista within the MTP Plan Area.	Potentially significant at the project level.	**Mitigation Measure AES – 1a:** Reduce Visibility of Construction Staging Areas and Re-vegetate Exposed Earth Surfaces.	Potentially significant at the project level.	**3.9-1** Alteration of Placer County Visual Character Due to Plan Implementation.	Less than significant.	**3.9-1(a)** Prior to implementation of individual roadway improvement projects proposed for state or county scenic routes, further study shall be completed to determine the specific visual effects of these projects, and appropriate project-specific mitigation measures shall be proposed to reduce these impacts.	Less than significant.	The applicable Placer County agencies shall be responsible for ensuring aesthetic resource mitigation adherence by conducting further studies of individual projects proposed for scenic routes, project specific mitigation measures shall be proposed to reduce these impacts.	Goal 9, Objective A

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2035 MTP Impact	2035 MTP Significance	2035 Mitigation Measure	Significance After Mitigation	2027 RTP Impact	2027 RTP Significance	2027 Mitigation Measure	Significance After Mitigation	2027 RTP EIR Monitoring Measure*	Relationship to 2035 RTP Goal & Objectives
		Mitigation Measure AES – 1b: Determine Specific Visual Effects Associated with Proposed Improvement Projects.				**3.9-1(b)** Where feasible, native vegetation shall be reintroduced along rural roadways after implementation of proposed roadway improvement projects to integrate the proposed projects with the existing visual character of the surrounding area.			Goal 9, Objectives A & B
Impact AES-3: Substantial degradation of visual character or quality within the MTP Plan Area.	Potentially significant at the project level.	**Mitigation Measure AES - 3:** Design Projects to be Visually Compatible with Surrounding Areas.	Potentially significant at the project level.						Goal 9, Objective A
		Mitigation Measure AES - 4: Develop Design Guidelines that Make Project Elements Visually Compatible with Surrounding Areas.							Goal 9, Objective A
Impact AES-5: Construction of soundwalls would affect view and change visual character in transportation corridors.	Potentially significant at the project level.	**Mitigation Measure AES - 8:** Construct Soundwalls to complement the surrounding landscape.	Potentially significant at the project level.						Goal 9, Objective A
		Mitigation Measure AES - 9: Include landscaping for soundwalls to complement the landscape of surrounding areas.							Goal 9, Objective A
Impact AES-2: Short- and long-term damage to scenic resources within the MTP Plan Area.	Potentially significant at the project level.	**Mitigation Measure AES - 2:** Implement Applicable Local Policies and Standard Measures to Protect Scenic Vistas, Scenic Resources and Visual Character.	Potentially significant at the project level.						Goal 9, Objective A
Impact AES-4: Creation of a new source of light or glare.	Potentially significant at the project level.	**Mitigation Measure AES - 5:** Plant Trees along Transportation Corridors to Reduce Sun Glare.	Potentially significant at the project level.	**3.9-2** Increase the amount of light and glare present in some areas of Placer County.	Less than significant.	None required.	Less than significant.		Goal 9, Objectives A & B
		Mitigation Measure AES - 6: Design Structures to Avoid or Reduce Impacts Resulting from Glare.							Goal 9, Objective A
		Mitigation Measure AES - 7: Design Lighting to Meet Minimum Safety and Security Standards.		**3.9-3** Reduced amount of open space in Placer County, thereby contributing to the cumulative loss of existing open space views within the region.	Less than significant.	None required.	Less than significant.		Goal 1, Objective B; & Goal 9, Objective A
3.10 UTILITIES AND SERVICES									

SUMMARY OF IMPACTS AND MITIGATION MEASURES 2035 MTP AND 2027 RTP AND RELATIONSHIP TO 2035 RTP

2035 MTP Impact	2035 MTP Significance	2035 Mitigation Measure	Significance After Mitigation	2027 RTP Impact	2027 RTP Significance	2027 Mitigation Measure	Significance After Mitigation	2027 RTP EIR Monitoring Measure*	Relationship to 2035 RTP Goal & Objectives
Impact PS - 1: Construction and implementation of the projects included in the MTP for 2035 could affect the level of police, fire, and medical services and could limit access to schools, libraries and parks within the MTP Plan Area.	Potentially significant at the project level.	**Mitigation Measure PS-1:** Ensure that road and railroad encroachment permits are obtained and that traffic control plans are prepared and implemented.	Potentially significant at the project level.	**3.10-1** Construction and implementation of the projects included in the 2027 RTP could affect the level of police, fire, and emergency medical services in Placer County**.**	Less than significant.	**3.10-1(a)** Identification of all roadway locations where special construction techniques (e.g., directional drilling or night construction) would be used to minimize impacts to traffic flow.		The applicable Placer County agencies shall be responsible for ensuring utilities and services resource mitigation adherence by identifying roadway locations with special construction techniques will be used to minimize impacts to traffic flow.	Goal 1, Objective B; & Goal 9, Objective A
Impact PS - 2: The MTP for 2035 would result in the need for, or the expansion of schools, libraries and parks.	Less than significant.	No mitigation is required.	N/A			**3.10-1(b)** Development of circulation and detour plans to minimize impacts to local street circulation. This may include the use of signing and flagging to guide vehicles through and/or around the construction zone.			Goal 1, Objective B; & Goal 9, Objective A
Impact PS -3: Roadway congestion could affect response times and access for emergency fire, police and ambulance services.	Less than significant.	No mitigation is required.	N/A			**3.10-1(c)** Scheduling of truck trips outside of peak morning and evening commute hours.			Goal 1, Objective B; Goal 5, Objective B; & Goal 9, Objective A
						3.10-1(d) Limiting of lane closures during peak hours to the extent possible.			Goal 1, Objective B; Goal 5, Objective B; & Goal 9, Objective A
						3.10-1(e) Usage of haul routes minimizing truck traffic on local roadways to the extent possible.			Goal 1, Objective B; Goal 5, Objective B; & Goal 9, Objective A
						3.10-1(f) Inclusion of detours for bicycles and pedestrians in all areas potentially affected by project construction.			Goal 1, Objective B; & Goal 9, Objective A
						3.10-1(g) Installation of traffic control devices as specified in the California Department of Transportation Manual of Traffic Controls for Construction and Maintenance Work Zones.			Goal 1, Objective B; & Goal 9, Objective A

SUMMARY OF IMPACTS AND MITIGATION MEASURES 2035 MTP AND 2027 RTP AND RELATIONSHIP TO 2035 RTP									
2035 MTP Impact	**2035 MTP Significance**	**2035 Mitigation Measure**	**Significance After Mitigation**	**2027 RTP Impact**	**2027 RTP Significance**	**2027 Mitigation Measure**	**Significance After Mitigation**	**2027 RTP EIR Monitoring Measure***	**Relationship to 2035 RTP Goal & Objectives**
						3.10-1(h) Development and implementation of access plans for highly sensitive land uses such as police and fire stations, transit stations, hospitals, and schools. The access plans would be developed with the facility owner or administrator. To minimize disruption of emergency vehicle access, affected jurisdictions shall be asked to identify detours for emergency vehicles, which will then be posted by the contractor. Notify in advance the facility owner or operator of the timing, location, and duration of construction activities and the locations of detours and lane closures.			Goal 1, Objective B; & Goal 9, Objective A
						3.10-1(i) Storage of construction materials only in designated areas.			Goal 1, Objective B; & Goal 9, Objective A
						3.10-1(j) Coordination with local transit agencies for temporary relocation of routes or bus stops in works zones, as necessary.			Goal 1, Objective B; Goal 2, Objective D; & Goal 9, Objective A
						3.10-1(k) Projects identified in the RTP that require police protection, fire service, and emergency medical service shall coordinate with the local fire department and police department to ensure that the existing public services and utilities would be able to handle the increase in demand for their services. If the current level of services at the project site are found to be inadequate, infrastructure improvements and personnel requirements for the appropriate public service shall be identified in each project's CEQA review.			Goal 9, Objectives A & B
						3.10-1(l) The growth inducing potential of individual projects shall be carefully evaluated so that the full implications of the project are understood. Individual environmental documents shall quantify indirect impacts (growth that could be facilitated or induced) on public services and utilities. Lead and responsible agencies should then make any necessary adjustments to the applicable general plan.			Goal 9, Objectives A & B

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2035 MTP Impact	2035 MTP Significance	2035 Mitigation Measure	Significance After Mitigation	2027 RTP Impact	2027 RTP Significance	2027 Mitigation Measure	Significance After Mitigation	2027 RTP EIR Monitoring Measure*	Relationship to 2035 RTP Goal & Objectives
Impact USS - 1: Exceedances of capacity of regional landfills due to solid waste generated by construction and implementation of MTP projects.	Less than significant.	No mitigation is required.	N/A	**3.10-2** Construction and implementation of the projects included in the 2027RTP could affect the demand for power, solid waste, wastewater, and drinking water services in Placer County.	Less than significant.	**3.10-2(a)** Projects identified in the RTP that require wastewater service, solid waste collection, or potable water service shall coordinate with the local public works department to ensure that the existing public services and utilities would be able to handle the increase. If the current infrastructure servicing the project site is found to be inadequate, infrastructure improvements for the appropriate public service or utility shall be identified in each project's CEQA documentation.	Less than significant.	The applicable Placer County agencies shall be responsible for ensuring utilities and services resource mitigation adherence by ensuring that existing public services and utilities will withstand the increase; if inadequate, infrastructure improvements will be identified.	Goal 9, Objectives A & B
Impact USS - 2: Disruption of or Interference with the Provision of Utility Services i.e., Electricity, Natural Gas, Telephone Service, and Cable and Satellite Television) due to construction and implementation of MTP projects.	Potentially significant at the project level.	**Mitigation Measure USS - 1:** Coordinate with utility service providers to locate and avoid impacts to utility lines.	Potentially significant at the project level.						Goal 9, Objective A
Impact USS - 3: Incremental increase in demand for potable water due to construction and implementation of MTP projects.	Potentially significant at the project level.	**Mitigation Measure USS - 2:** Ensure Adequate Water Supply Services Are Provided for MTP Projects.	Potentially significant at the project level.			**3.10-2(b)** Wherever feasible, reclaimed water instead of potable water shall be used for landscaping purposes.			Goal 9, Objectives A
						3.10-2(c) Each of the proposed projects identified in the RTP shall comply with applicable regulations related to solid waste disposal.			Goal 9, Objectives A
						3.10-2(d) The construction contractor shall work with the County Recycling Coordinator to ensure that source reduction techniques and recycling measures are incorporated into project construction.			Goal 9, Objectives A
						3.10-2(e) The amount of solid waste generated during construction will be estimated prior to construction, and appropriate disposal sites will be identified and utilized.			Goal 9, Objectives A

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2035 MTP Impact	2035 MTP Significance	2035 Mitigation Measure	Significance After Mitigation	2027 RTP Impact	2027 RTP Significance	2027 Mitigation Measure	Significance After Mitigation	2027 RTP EIR Monitoring Measure*	Relationship to 2035 RTP Goal & Objectives
Impact USS - 2: Disruption of or Interference with the Provision of Utility Services i.e., Electricity, Natural Gas, Telephone Service, and Cable and Satellite Television) due to construction and implementation of MTP projects.	Potentially significant at the project level.	**Mitigation Measure USS - 1:** Coordinate with utility service providers to locate and avoid impacts to utility lines.	Potentially significant at the project level.	**3.10-3** Construction of projects included in the RTP may uncover and potentially sever underground utility lines (sewer, gas, electricity, telephone and water).	Less than significant.	**3.10-3(a)** Prior to construction, the implementing agency or contractor shall identify the locations of existing utility lines. Avoidance of all known utility lines during construction shall also be implemented.	Less than significant.		Goal 9, Objectives A & B
3.11 ENERGY CONSUMPTION AND DEPENDENCE									
Impact ENE - 3: Effects on Electricity Demand.	Less than significant.	No mitigation is required.	N/A	**3.11-1** The implementation of the 2027 RTP will impact electricity demand by creating additional transportation routes and facilities that will require electricity service.	Less than significant.	**3.11.1(a)** For any project anticipated to require substantial electrical usage, the project implementation agency shall submit projected electricity demand calculations to the local electricity provider for its analysis. Any infrastructure improvements necessary for project construction shall be completed according to the specifications of the electricity provider. **3.11.1(b)** Use of solar powered lighting shall be undertaken as feasible to reduce the electricity demand on the local service provider.	Less-than-significant	The applicable Placer County agencies shall be responsible for ensuring energy consumption and dependence resource mitigation adherence by calculating and analyzing electricity demand for projects requiring substantial electrical usage, based on specifications of the electricity provider.	Goal 9, Objectives A Goal 9, Objectives A
Impact ENE - 2: Effects of Operation on Overall Regional Energy Usage.	Less than significant.	No mitigation is required.	N/A	**3.11-2** The implementation of the 2027 RTP will impact natural gas demand by creating additional transportation routes and facilities in the County that may require natural gas service.	Less than significant.	**3.11.2.(a)** For any project anticipated to require natural gas, the project implementation agency will submit projected natural gas demand calculations to the local natural gas provider for analysis. Any infrastructure improvements necessary for project construction shall be completed according to the specifications of the natural gas provider.	Less than significant.	The applicable Placer County agencies shall be responsible for ensuring energy consumption and dependence resource mitigation adherence by submitting and analyzing projected natural gas demand calculations according to specifications of the local provider.	Goal 5, Objective A; & Goal 9, Objectives A
Impact ENE - 1: Construction Effects on Regional Energy Usage.	Significant and unavoidable at program level and potentially significant at project level.	**Mitigation Measure ENE – 1:** Incentives for Energy Conservation Practices.	Significant and unavoidable at program level and potentially significant at project level.	**3.11-3** The implementation of the 2027 RTP could impact petroleum and diesel demand by changing travel patterns, characteristics, and behaviors in Placer County which will reduce the amount of petroleum or diesel for operation compared to the No Project Option.	Considered beneficial.	None required.	Considered beneficial.		Goal 7, Objective B; Goal 9, Objectives A & B

SUMMARY OF IMPACTS AND MITIGATION MEASURES 2035 MTP AND 2027 RTP AND RELATIONSHIP TO 2035 RTP

2035 MTP Impact	2035 MTP Significance	2035 Mitigation Measure	Significance After Mitigation	2027 RTP Impact	2027 RTP Significance	2027 Mitigation Measure	Significance After Mitigation	2027 RTP EIR Monitoring Measure*	Relationship to 2035 RTP Goal & Objectives
Impact ENE - 4: Effects on Climate Change and Global Warming.	Less than significant.	**Mitigation Measure ENE – 6:** Develop Regional Climate Change Action Plan.	N/A						Goal 9, Objective C
		Mitigation Measure ENE – 7: Create Alternative Fuel Vehicle and Infrastructure Toolkit for Local Governments.							Goal 9, Objectives C & D
		Mitigation Measure ENE – 8: Adopt Transportation Pricing Policy.							Goal 7, Objective B; & Goal 9, Objective C
		Mitigation Measure ENE – 9: Create Public Education Program on Individual Transportation Behavior and Climate Change.							Goal 7, Objectives B & C; Goal 9, Objective C
		Mitigation Measure ENE – 10: Provide Funding for Workshop on Global Climate Change for Local Government Officials and Create GHG Emissions Reduction Strategies Toolkit.							Goal 9, Objectives C & D; Goal 10, Objective A
		Mitigation Measure ENE – 11: Adopt Regional Parking Regulation Policy to Provide Incentives for Use of Alternative Modes.							Goal 7, Objective B; & Goal 9, Objective C
		Mitigation Measure ENE – 12: Adopt Safe Routes to School Policy and Implement Pilot Program and Conduct Workshop with Cities, Counties and School Districts to Identify other Opportunities for Collaboration that may reduce Greenhouse Emissions.							Goal 6, Objective C; Goal 7, Objective B; & Goal 9, Objective C
		Mitigation Measure ENE – 13: Enhance I-PLACE3S Model to Assess Greenhouse Gas Impacts and Opportunities for Small-Scale Power Generation.							Goal 9, Objective C
		Mitigation Measure ENE – 14: Establish a baseline for SACOG's own GHG Impacts.							Goal 9, Objectives C & D
		Mitigation Measure ENE – 15: Adopt a "Complete Streets" Policy.							Goal 6, Objective C; & Goal 9, Objectives A & B
		Mitigation Measure ENE – 16: Recommend Draft Transportation Control Measures to Comply with the Federal Clean Act in order to Reduce GHG Emissions.							Goal 9, Objective C
		Mitigation Measure AG - 1: Develop Rural-Urban Connections Strategy and Create Best Practices Toolkit.							Goal 9, Objectives B & E
		Mitigation Measure LU - 2: Initiate a "Complete Streets" Technical Assistance Program.							Goal 6, Objective C; & Goal 9, Objectives A & B

SUMMARY OF IMPACTS AND MITIGATION MEASURES 2035 MTP AND 2027 RTP AND RELATIONSHIP TO 2035 RTP

2035 MTP Impact	2035 MTP Significance	2035 Mitigation Measure	Significance After Mitigation	2027 RTP Impact	2027 RTP Significance	2027 Mitigation Measure	Significance After Mitigation	2027 RTP EIR Monitoring Measure*	Relationship to 2035 RTP Goal & Objectives
				3.12 HAZARDOUS MATERIALS TRANSPORT					
				3.12-1 Construction and maintenance activities associated with the implementation of the RTP could potentially result in solvent and architectural coating use that may be considered hazardous if not used, stored, or disposed of properly.	Potentially significant.	**3.12-1(a)** Materials that are left over upon the completion of projects included in the 2027 RTP shall be stored properly and used for other transportation projects or purposes. Such use or reuse would reduce the amount of excess materials that would require disposal.	Significant and unavoidable.	The applicable Placer County agencies shall be responsible for ensuring hazardous materials transport resource mitigation adherence by properly storing materials and using them for other transportation projects or purposes.	Goal 1, Objective B; & Goal 9, Objective A
						3.12-1(b) Project implementing agencies shall take steps to minimize the risk associated with handling hazardous materials in the process of facility construction.			Goal 1, Objective B; & Goal 9, Objective A
				3.12-2 Implementation of the RTP could potentially result in decreased safety risks due to the transport of hazardous materials.	Considered beneficial.		Considered beneficial.		Goal 1, Objective B; & Goal 9, Objective A
				RECREATION					
Impact REC - 1: Increased Use or Degradation of Recreation Facilities.	Less than significant.	No mitigation is required.	N/A						Goal 8, Objective A
				GEOLOGY, SEISMICITY & SOILS					
Impact GEO-1: Potential Structural Damage and Injury Caused by Fault Rupture.	Potentially significant at the project level.	**Mitigation Measure GEO-1:** Implement Seismic Design Standards into Site-Specific Project Design.	Potentially significant at the project level.						Goal 9, Objective A
Impact GEO - 2: Potential Structural Damage and Injury from Ground Shaking.	Potentially significant at the project level.	**Mitigation Measure GEO-1:** Implement Seismic Design Standards into Site-Specific Project Design.	Potentially significant at the project level.						Goal 9, Objective A
Impact GEO-3: Potential Structural Damage and Injury from Development on Materials Subject to Liquefaction.	Potentially significant at the project level.	**Mitigation Measure GEO-2:** Conduct Site-Specific Geotechnical Evaluations for Projects that Require Design of Earthworks and Foundations and Implement the Recommendations.	Potentially significant at the project level.						Goal 9, Objective A
Impact GEO-4: Potential Structural Damage as a Result of Development on Expansive Soils.	Potentially significant at the project level.	**Mitigation Measure GEO-1:** Implement Seismic Design Standards into Site-Specific Project Design.	Potentially significant at the project level.						Goal 9, Objective A
		Mitigation Measure GEO-2: Conduct Site-Specific Geotechnical Evaluations for Projects that Require Design of Earthworks and Foundations and Implement the							Goal 9, Objective A

SUMMARY OF IMPACTS AND MITIGATION MEASURES 2035 MTP AND 2027 RTP AND RELATIONSHIP TO 2035 RTP

2035 MTP Impact	2035 MTP Significance	2035 Mitigation Measure	Significance After Mitigation	2027 RTP Impact	2027 RTP Significance	2027 Mitigation Measure	Significance After Mitigation	2027 RTP EIR Monitoring Measure*	Relationship to 2035 RTP Goal & Objectives
		Recommendations.							
Impact GEO-5: Potential Accelerated Runoff, Erosion, and Sedimentation from Construction Activities.	Potentially significant at the project level.	**Mitigation Measure GEO-3:** Obtain and Implement the Requirements of the NPDES Permit into the Design of Site-Specific Projects that Would Disturb 1 or More Acres.	Potentially significant at the project level.						Goal 9, Objective A
		Mitigation Measure GEO-4: Comply with County and City Grading Ordinances.							Goal 9, Objective A
		Mitigation Measure GEO-5: Implement the Geotechnical Report Recommendations.							Goal 9, Objective A
Impact GEO-6: Inconsistency of Project with County and City Policies for Development in Geologically Hazardous Areas.	Potentially significant at the project level.	**Mitigation Measure GEO-1:** Implement Seismic Design Standards into Site-Specific Project Design.	Potentially significant at the project level.						Goal 9, Objective A
		Mitigation Measure GEO-2: Conduct Site-Specific Geotechnical Evaluations for Projects that Require Design of Earthworks and Foundations and Implement the Recommendations.							Goal 9, Objective A
		Mitigation Measure GEO-3: Obtain and Implement the Requirements of the NPDES Permit into the Design of Site-Specific Projects that Would Disturb 1 or More Acres.							Goal 9, Objective A
		Mitigation Measure GEO-4: Comply with County and City Grading Ordinances.							Goal 9, Objective A
		Mitigation Measure GEO-5: Implement the Geotechnical Report Recommendations.							Goal 9, Objective A

Note:
***** PCTPA shall be provided with mitigation measure compliance documentation where appropriate.

Sources:
1. Draft EIR for the MTP 2035, SACOG, October 2007.
2. Final Supplement Program EIR Placer County 2027 RTP, prepared by PlanWest Partners, Inc. for PCTPA, September 2005.
3. Draft Supplement Program EIR Placer County 2027 RTP, prepared by PlanWest Partners, Inc. for PCTPA, May 2005.

APPENDIX S

TRAVEL FORECASTS FOR RTP ALTERNATIVES

Travel demand modeling was conducted to evaluate the five 2027 RTP alternatives (each of these alternatives are described in detail in the 2027 RTP Draft Supplemental Environmental Impact Report). The evaluation compared three performance measures for each alternative: transit ridership; peak period vehicle-mile of travel (VMT) by level of service (LOS); and peak period vehicle hours of delay (VHD). The travel demand modeling results for the RTP planning area are as follows:

Year - RTP Alternative	VMT by LOS[1]	VHD[2]
2001 – No Project (2022 RTP)	3,310,000	2,853
2027 - Funding Constrained	6,415,000	19,167
2027 - Funding Unconstrained	6,601,000	15,497
2027 - Transit Emphasis	6,410,000	18,927
2027 – Roadway Emphasis	6,612,000	15,722

Notes:
[1] Vehicle miles of travel during a.m. and p.m. three-hour commute periods within Placer County, excluding Tahoe basin area.
[2] Vehicle hours of delay ≥LOS D during a.m. and p.m. three-hour commute periods within traffic analysis study area.
Source: DKS Associates, 2005.

The traffic model results show increases in both VMT and VHD over the No Project alternative, which will result in increased air pollutant emissions over the planning horizon. Higher VMT and VHD will result in higher vehicle emissions. The projected 2027 peak period vehicle miles of travel are comparable among the four alternatives, with the Transit Emphasis alternative and Funding Constrained alternative (6,410,000 and 6,415,000, respectively) being the lowest and the Roadway Emphasis alternative being the highest (6,612,000 miles). The projected 2027 peak period vehicle hours of delay are lowest for the Funding Unconstrained alternative (15,497) and highest for the Funding Constrained alternative (19,167).

The key conclusions of the travel demand analysis are (DKS Associates memorandum dated March 18, 2005):

- **Change between 2001 and 2007 conditions under Funding Constrained Alternative:** Traffic congestion levels would increase substantially by 2027 if only the transportation projects included in the Funding Constrained Alternative are implemented.
- **Comparison between 2027 conditions for Funding Constrained Alternative and Funding Unconstrained Alternative:** The added transportation projects in the Funding Unconstrained Alternative would significantly reduce traffic congestion from the projected levels under the Funding Constrained Alternative. However, congestion levels would still be substantially greater than today.
- **Comparison of 2027 conditions for the Roadway Emphasis Alternative to both the Funding Constrained Alternative and Funding Unconstrained Alternative:** The

added transportation projects in the Roadway Emphasis Alternative would reduce traffic volumes on some roadways but increase traffic volumes on others from those under the Funding Unconstrained Alternative. Thus this alternative would result in about the same overall congestion levels in Placer County as the Funding Unconstrained Alternative.

- **Comparison between 2027 conditions for the Transit Emphasis Alternative and the Funding Constrained Alternative:** The Transit Emphasis Alternative would substantially increase transit ridership in Placer County but would not significantly reduce traffic congestion levels.

Detailed descriptions of each alternative including transportation projects considered for each alternative are described in the 2027 RTP Supplemental Program Draft EIR.

APPENDIX T

Placer County 2035 Regional Transportation Plan Checklist

(Revised February 2010)

(To be completed electronically in Microsoft Word format by the MPO/RTPA and submitted along with the draft RTP to Caltrans)

Name of MPO/RTPA: Placer County Transportation Planning Agency (PCTPA)

Date Draft RTP Completed: June 9, 2010

RTP Adoption Date: September 22, 2010

What is the Certification Date of the Environmental Document (ED)? September 22, 2010

Is the ED located in the RTP or is it a separate document? Separate Document

By completing this checklist, the MPO/RTPA verifies the RTP addresses all of the following required information within the RTP.

Regional Transportation Plan Contents

General

		Yes/ No	Page #
1.	Does the RTP address no less than a 20-year planning horizon? (23 CFR 450.322(a))	Yes	Pages 1-3 & 6-1
2.	Does the RTP include both long-range and short-range strategies/actions? (23 CFR part 450.322(b))	Yes	Page 1-1 & Chapter 6
3.	Does the RTP address issues specified in the policy, action and financial elements identified in California Government Code Section 65080?	Yes	Chapters 5, 6 & 8
4.	Does the RTP address the 10 issues specified in the Sustainable Communities Strategy (SCS) component as identified in Government Code Sections 65080(b)(2)(B) and 65584.04(i)(1)? **(MPOs only) – *Applicable to SACOG***	No	-
	a. Identify the general location of uses, residential densities, and building intensities within the region? **(MPOs only)**	No	-

	Yes/ No	Page #
b. 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? **(MPOs only)**	No	-
c. Identify areas within the region sufficient to house an eight-year projection of the regional housing need for the region pursuant to Government Code Section 65584? **(MPOs only)**	No	-
d. Identify a transportation network to service the transportation needs of the region? **(MPOs only)**	Yes	Chapter 6
e. 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 Government Code Section 65080.01? **(MPOs only)**	No	-
f. Consider the state housing goals specified in Sections 65580 and 65581? **(MPOs only)**	No	-
g. Utilize the most recent planning assumptions, considering local general plans and other factors? **(MPOs only)**	Yes	Chapter 3 & Appendix M
h. 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 ARB? **(MPOs only)**	Yes	Chapters 3 & 7 & Appendix O
i. Provide consistency between the development pattern and allocation of housing units within the region (Government Code 65584.04(i) (1)? **(MPOs only)**	Yes	Chapter 3 & Appendix D
j. Allow the regional transportation plan to comply with Section 176 of the federal Clean Air Act (42 U.S.C. Section 7506)? **(MPOs only)**	Yes	Chapter & Appendix N
5. Does the RTP include Project Intent i.e. Plan Level Purpose and Need Statements?	Yes	Chapter 1
6. Does the RTP specify how travel demand modeling methodology, results and key assumptions were developed as part of the RTP process? (Government Code 14522.2) **(MPOs only)**	Yes	Page 6.1-8 & Appendix I

Consultation/Cooperation

1.	Does the RTP contain a public involvement program that meets the requirements of Title 23, CFR part 450.316(a)?	Yes	Pages 1-4, 2-14, Appendix A

		Yes/ No	Page #
2.	Did the MPO/RTPA consult with the appropriate State and local representatives including representatives from environmental and economic communities; airport; transit; freight during the preparation of the RTP? (23CFR450.316(3)(b))	Yes	Chapter 2 & Appendix B
3.	Did the MPO/RTPA who has federal lands within its jurisdictional boundary involve the federal land management agencies during the preparation of the RTP?	Yes	Chapter 2 & Appendix B
4.	Where does the RTP specify that the appropriate State and local agencies responsible for land use, natural resources, environmental protection, conservation and historic preservation consulted? (23 CFR part 450.322(g))	Yes	Chapter 2 & Appendix B
5.	Did the RTP include a comparison with the California State Wildlife Action Plan and (if available) inventories of natural and historic resources? (23 CFR part 450.322(g))	Yes	Chapters 6.11& 9
6.	Did the MPO/RTPA who has a federally recognized Native American Tribal Government(s) and/or historical and sacred sites or subsistence resources of these Tribal Governments within its jurisdictional boundary address tribal concerns in the RTP and develop the RTP in consultation with the Tribal Government(s)? (Title 23 CFR part 450.316(c))	Yes	Chapter 2, & Appendix B
7.	Does the RTP address how the public and various specified groups were given a reasonable opportunity to comment on the plan using the participation plan developed under 23 CFR part 450.316(a)? (23 CFR 450.316(i))	Yes	Chapter 2 & Appendix A & B
8.	Does the RTP contain a discussion describing the private sector involvement efforts that were used during the development of the plan? (23 CFR part 450.316 (a))	Yes	Chapters 2 & 6 & Appendix B
9.	Does the RTP contain a discussion describing the coordination efforts with regional air quality planning authorities? (23 CFR 450.316(a)(2)) **(MPO nonattainment and maintenance areas only) – *Applicable to SACOG***	Yes	Chapter 7
10.	Is the RTP coordinated and consistent with the Public Transit-Human Services Transportation Plan?	Yes	Chapter 6.2
11.	Were the draft and adopted RTP posted on the Internet? (23 CFR part 450.322(j))	Yes	Page ii-4 & Appendix A
12.	Did the RTP explain how consultation occurred with locally elected officials? (Government Code 65080(D)) **(MPOs only) – *Applicable to SACOG***	Yes	Chapter 2 & Appendix B

13.	Did the RTP outline the public participation process for the sustainable communities strategy? (Government Code 65080(E) **(MPOs only) – *Applicable to SACOG***	No / -

Modal Discussion

1.	Does the RTP discuss intermodal and connectivity issues?	Yes	Chapter 4

		Yes/ No	Page #
2.	Does the RTP include a discussion of highways?	Yes	Chapter 6.1
3.	Does the RTP include a discussion of mass transportation?	Yes	Chapter 6.2
4.	Does the RTP include a discussion of the regional airport system?	Yes	Chapter 6.4
5.	Does the RTP include a discussion of regional pedestrian needs?	Yes	Chapter 6.6
6.	Does the RTP include a discussion of regional bicycle needs?	Yes	Chapter 6.6
7.	Does the RTP address the California Coastal Trail? (Government Code 65080.1) **(For MPOs and RTPAs located along the coast only) - *Not Applicable***	No	NA
8.	Does the RTP include a discussion of rail transportation?	Yes	Chapters 6.3 & 6.5
9.	Does the RTP include a discussion of maritime transportation (if appropriate)?	No	NA
10.	Does the RTP include a discussion of goods movement?	Yes	Chapter 6.5

Programming/Operations

1.	Is a congestion management process discussed in the RTP? (23 CFR part 450.450.320(b)) **(MPOs designated as TMAs only) – *Applicable to SACOG***	Yes	Page 2-7
2.	Is the RTP consistent (to the maximum extent practicable) with the development of the regional ITS architecture?	Yes	Chapter 6.9
3.	Does the RTP identify the objective criteria used for measuring the performance of the transportation system?	Yes	Page 5-18 & Appendix K & L
4.	Does the RTP contain a list of un-constrained projects?	Yes	Chapter 6 & Appendix G

Financial

1.	Does the RTP include a financial plan that meets the requirements identified in 23 CFR part 450.322(f) (10)?	Yes	Chapter 8

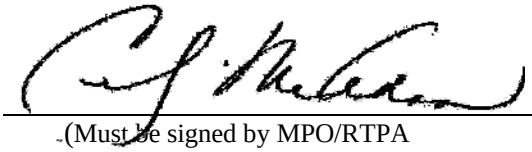
2.	Does the RTP contain a consistency statement between the first 4 years of the fund estimate and the 4-year STIP fund estimate? (2006 STIP Guidelines, Section 19)	Yes	Chapter 8
3.	Do the projected revenues in the RTP reflect Fiscal Constraint? (23 CFR part 450.322(f)(10)(ii))	Yes	Chapter 8
4.	Does the RTP contain a list of financially constrained projects? Any regionally significant projects should be identified. (Government Code 65808(3)(A))	Yes	Appendix F & Chapter 6.1
		Yes/ No	**Page #**
5.	Do the cost estimates for implementing the projects identified in the RTP reflect "year of expenditure dollars" to reflect inflation rates? (23 CFR part 450.322(f)(10)(iv))	Yes	Chapter 8
6.	After 12/11/07, does the RTP contain estimates of costs and revenue sources that are reasonably expected to be available to operate and maintain the freeways, highway and transit within the region? (23 CFR 450.322(f)(10)(i))	Yes	Chapter 8
7.	Does the RTP contain a statement regarding consistency between the projects in the RTP and the ITIP? (2006 STIP Guidelines section 33)	Yes	Chapters 2 & 6
8.	Does the RTP contain a statement regarding consistency between the projects in the RTP and the FTIP? (2006 STIP Guidelines section 19)	Yes	Chapters 2 & 6, Appendix F
9.	Does the RTP address the specific financial strategies required to ensure the identified TCMs from the SIP can be implemented? (23 CFR part 450.322(f)(10)(vi) (**nonattainment and maintenance MPOs only**)	Yes	Chapter 7

Environmental

1.	Did the MPO/RTPA prepare an EIR or a program EIR for the RTP in accordance with CEQA guidelines? - ***Draft Supplemental Environmental Impact Report SCH #2010052013, June 2010***	Yes	Separate Document
2.	Does the RTP contain a list of projects specifically identified as TCMs, if applicable?	Yes	Chapter 7
3.	Does the RTP contain a discussion of SIP conformity, if applicable? **(MPOs only)**	Yes	Chapter 7
4.	Does the RTP specify mitigation activities? (23 CFR part 450.322(f)(7))	Yes	Chapter 9 & Appendix R
5.	Where does the EIR address mitigation activities? **– *Draft Supplemental EIR, SCH #2010052013, June 2010***	Yes	Chapter 9 & Appendix R & Draft Supplemental EIR
6.	Did the MPO/RTPA prepare a Negative Declaration or a Mitigated Negative Declaration	No	NA

	for the RTP in accordance with CEQA guidelines?	
7.	Does the RTP specify the TCMs to be implemented in the region? **(federal nonattainment and maintenance areas only)) – *Applicable to SACOG***	Yes / Chapter 7

I have reviewed the above information and certify that it is correct and complete.



(Must be signed by MPO/RTPA Executive Director or designated representative)

September 3, 2010
Date

Celia McAdam, AICP
Print Name

Executive Director
Title

APPENDIX U

REFERENCES

1. California Aviation System Plan 2010 General Aviation System Needs Assessment Element, Caltrans Division of Aeronautics, September 2010.

2. I-80 High Occupancy Toll (HOT) Lane Feasibility Study, HNTB in association with Fehr & Peers and MIG prepared for SACOG and PCTPA, July 2010.

3. Forest Management: Current Conditions in the Forested Lands of the SACOG Region, TSS Consultants prepared for SACOG, July 2010.

4. Greenhouse Gas Options, SACOG, May 2010.

5. Placer County Economic Forecast, Caltrans, March 2010.

6. Caltrans District 3 Draft Mobility Action Plan, Caltrans, March 2010.

7. The California Essential Habitat connectivity Project: A Strategy for Conserving a Connected California, California Department of Fish and Game and Caltrans, February 2010.

8. 2009/2010 California County Projections Center for Continuing Study of the California Economy (Steve Levy Group).

9. California Statewide Local Streets and Roads Needs Assessment Final Report, Nichols Consulting Engineers, Chtd. Engineering & Environmental Services, October 2009.

10. California Aviation System Plan: 2010-2019 Capital Improvement Plan, Caltrans Division of Aeronautics, November 2009.

11. Rural Transportation Funding Handbook, SACOG, September 2009.

12. Climate Change and Rural Communities in the U.S., Draft Briefing Paper, Rural Policy Research Institute, August 2009.

13. 2008 California Motor Vehicle Stock, Travel and Fuel Forecast, Caltrans, June 2009.

14. The Greenhouse Gas Regional Inventory Protocol (GRIP), SACOG, May 2009.

15. Placer County Travel Industry Assessment and Detailed Economic Impact Estimates 2002 - 2008p, March 2009, Dean Runyon Associates.

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19. Impact of Gas Prices on Transportation Behavior: Staff Report, SACOG, July 2008.

20. Draft Briefing Book Rural-Urban Connections Strategy: Transportation, SACOG, October 2008.

21. 2008 California Strategic Highway Safety Summit, Caltrans, May 2008.

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27. Preferred Blueprint Alternative Special Report, SACOG, Revised June 2007.

28. The Placer County Conservation Plan, Placer County, June 2007.

29. Appendix H – Transportation: SACSIM Overview, 2035 MTP, SACOG, May 2007.

30. Transportation Planner's Safety Desk Reference – Companion to NCHRP Report 500 Guidance for Implementation of the AASHTO Strategic Highway Safety Plan, FHWA, January 2007.

31. California Strategic Highway Safety Plan, California Business, Transportation, and Housing Agency, September 2006.

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33. The Future of Infill Housing in California: Opportunities, Potential, Feasibility and Demand, University of California Berkley – California Statewide Infill Potential Project, 2006.

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Santa Barbara CAR FREE

Bicycling

Bicycling

Some of the finest year-round bicycling in the U.S. is available on and off road in the Santa Barbara area. Well-marked bike paths not only cover the waterfront, but extend west to Goleta and the University of California, Santa Barbara campus. See How to be Car Free for some suggestions and itineraries. Some bicycle services even offer delivery and pickup at your hotel.

You can bring your bike for free on all Amtrak Pacific Surfliner trains if you make an advanced reservation when ordering tickets. Read more on Amtrak.

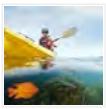
Bike Map

The Santa Barbara County Bike Map is available as a free iPhone app and Android app. A $2.95 printed map is available at County bike shops and the Downtown Santa Barbara Visitor Center. High-resolution pages can also be printed from the Traffic Solutions site.

Taking your Bike on the Train

You can bring your bike for free on all Amtrak Pacific Surfliner trains if you make an advanced reservation when ordering tickets. Read more on Amtrak's website here. Check out our video below on how to take your bike on the Amtrak Pacific Surfliner!

2016 Partners: Bicycling


Adventure Company of Santa Barbara

Wheel Fun Rentals

I Bike Santa Barbara

You can also take your bike on many other local transit services! For more information please see our page How to Take a Bike on Local Transit Services.

Bicycle Resources

Rentals

Cruisers Paradise

805-637-0579. Rents BMX and Cruiser bikes

Isla Vista Bicycle Boutique

805-968-3338. www.islavistabicycles.net. In Isla Vista near the University.

Open Air Bicycles

805-962-7000. openairbicycles.com. On State Street near the Arlington Theatre. Rental hybrid bikes.

Pedego Electric Bike Tours – Los Olivos

805-691-3045. www.pedegolosolivos.com. Electric Bike rentals and Wine Country Tours (early morning and mid-day). Several options to choose from including: short term rentals, organized tours, lunch excursions and corporate events. All bikes are extremely comfortable with 7-speed pedaling or wrist action throttle with quiet motor.

Santa Barbara Bikes To-Go

805-617-3364. www.sbbikestogo.com. Rent high-end and competitive road bikes or hybrid bikes. Free delivery to hotel, residence or Amtrak station.

Santa Barbara Pedicab

805-910-7334. www.sbpedicab.com. Call ahead or hail one down for a quick car-free ride. Or rent a bike and passenger trailer to pedal your own way and tote your friends and family along!

Velo Pro Cyclery

805-963-7775. www.velopro.com. Downtown at State and Ortega. Daily rate bike rentals from SB store location only.

Wheel Fun Rentals

805-966-2282. www.wheelfunrentalssb.com. Rent a mountain bike, beach cruiser, tandem or 4-wheel surrey.

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designed around various skill levels of cyclists.

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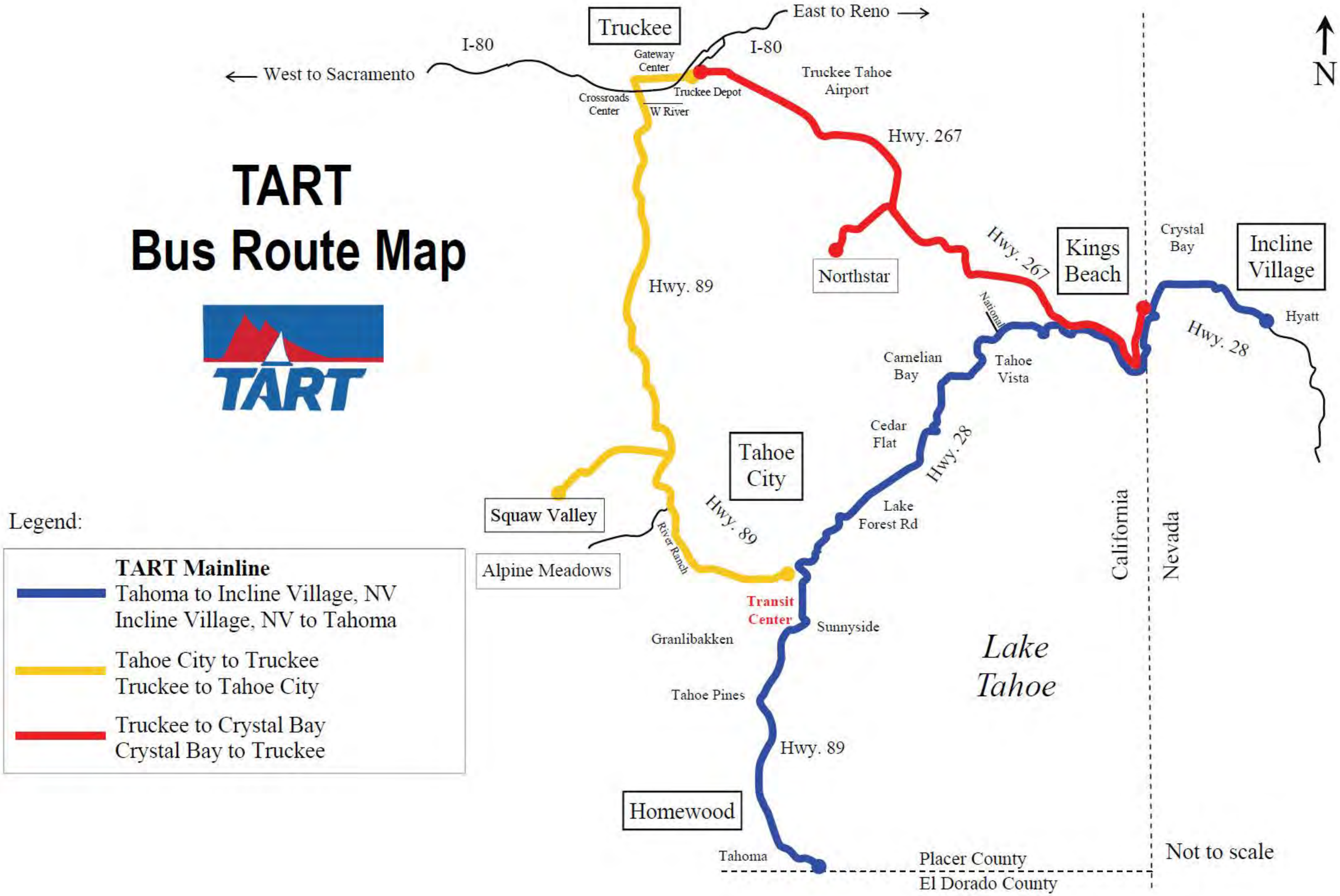
TART
Bus Route Map



Legend:

TART Mainline

Tahoma to Incline Village, NV
Incline Village, NV to Tahoma

Tahoe City to Truckee
Truckee to Tahoe City

Truckee to Crystal Bay
Crystal Bay to Truckee

Oct. 11, 2007

Santa Barbara CAR FREE

2016 Car Free Experience

2016 Take the Train and Show Your Ticket for the Santa Barbara Car Free Experience

Show your current Amtrak ticket (traditional paper, e-ticket, or mobile device) to Santa Barbara and enjoy special experiences through December 31, 2016.

See our 2016 hotel and activity partners listed below to learn more about their special offers. All inquires and reservations are made directly with them. Some restrictions apply.

See more about how to get here by Train or From the Airport.

See our new video featuring the SB Car Free Experience here!

SBCarFreeExperience 2016 Partners Map

All Bicycling Hotels Museums and Zoo On the Water Sip and Savor Tours

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Adventure Company of Santa Barbara

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Small luxury hotel with the charm of a Bed & Breakfast Inn. Garden pool, aviary, kitchen suites available. Located mid-town, minutes away from beaches, golf courses, historic attractions. Complime ...

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Best Western Plus Pepper Tree

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Brisas del Mar, Inn at the Beach

A Santa Barbara classic, Brisas del Mar, Inn at the Beach offers spacious guest rooms, suites, and penthouses, some with full kitchens and fireplaces. The hotel serves a complimentary deluxe continen ...

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Captain Jack's Tours & Events

Voted "The Best" Wine Tour Company in Santa Barbara by the Santa Barbara News-Press "Readers Choice Award" two years in a row. Wine tours start at $70 per person. Also offering ...

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Cheshire Cat Inn

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Year-round Whale Watching! Enjoy the comfort and safety of Santa Barbara's first and only hi-speed jet-powered catamarn. CONDOR Express easily accommodates 125 passengers with large viewing deck ...

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Franciscan Inn

Located just one block from the beach and marina. Two blocks from train depot. Walk to restaurants. Shuttle stops 2 blocks away. Trolley tour picks up at Inn. Many room styles all with designer touche ...

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Hotel Indigo Santa Barbara

Euro-style hotel has combined the historic beauty of the area with the architectural sophistication of contemporary design, offering hip, affordable accommodations for style-minded guests. Located one ...

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Hotel Santa Barbara

Hotel Santa Barbara is located in the heart of beautiful downtown Santa Barbara, and just 4 blocks from the Amtrak Station! Exceptional shopping, renowned cuisine and unforgettable museums and theatre ...

More »

I Bike Santa Barbara

Single-day bike tours of Santa Barbara's beautiful wine country; includes transport, bike and helmet, knowledgeable guide, picnic lunch at winery, wine tastings, and souvenir water bottle. Grea ...

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Inn by the Harbor

Nestled among lush gardens beneath the swaying palms, the Inn by the Harbor is an enchanting Santa Barbara hotel. Just a short walk from Santa Barbara's golden beaches, yacht harbor, and oceanfr ...

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Lavender Inn by the Sea

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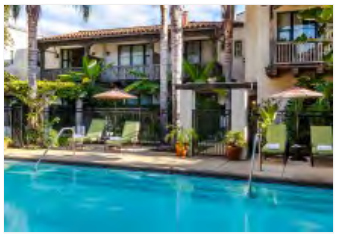

Spanish Garden Inn

The 23-room secluded Spanish Garden Inn offers guests an elegant and intimate retreat in the heart of Santa Barbara's historic Presidio District. Rooms include a complimentary deluxe continental break ...

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Santa Barbara offers the best sailing on the coast, calm waters, and great photography with the excitement of viewing sea lions, seals, dolphins and whales. This 41 foot Morgan Out-Island ketch featur ...

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The Eagle Inn is a small, romantic, quiet hotel in a great location, only two blocks from the beach, downtown State Street, the Funk Zone and the train station. Complimentary breakfast, beach cruiser ...

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The Upham Hotel is a 50-room, Victorian Bed & Breakfast style hotel on an acre of gardens, offering hospitality since 1871. Just two blocks from downtown Santa Barbara's famous State Street– ...

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Fun for the whole family from ages 0 to 99+. Pedal powered recreational cycles including Surreys, Quad Sport go-carts, Choppers, Slingshots and Deuce Coupe side-by-side tandems, plus bikes, rollerblad ...

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Multi-Modal Navigation Tools

Improving User Information For Walking, Cycling and Public Transit

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TDM Encyclopedia
Victoria Transport Policy Institute
~~~~~~~~~~~~~~~~~~~~~

Updated 23 March 2016

This chapter describes wayfinding improvements and other mulĕ-modal navigaĕon tools that provide guidance for walking, cycling, driving and public transit use.

Description

Mulĕ-modal Navigaĕon Tools can include signs, maps, guidebooks, smartphone applicaĕons, websites and electronic devices that provide informaĕon on journey planning, wayfinding and travel opĕons to a parĕcular desĕnaĕon, including pedestrian access, routes, schedules, fares, connecĕons, services, real ĕme arrival informaĕon, and key contact informaĕon. They can include Travel-ĕme Maps that indicate the ĕme needed to travel to a parĕcular desĕnaĕon by different modes (LighĔoot and Steinberg 2006). Navigaĕon Tools can be tailored for specific types of users or trips, such as commuters, tourists and other visitors, and people with disabiliĕes. To be effecĕve, these tools should anĕcipate travelers needs, providing desired informaĕon when users need it in formats that are easy to access and understand (Levinger and McGehee 2008).

For example, travelers should be easily able to:

- Find transportaĕon service providers' customer service website and telephone numbers.
- Plan a route from a parĕcular origin to a desĕnaĕon.
- Read route maps, schedules, fares and contact informaĕon in digital and printed materials.
- Find guidance for walking to and from bus stops, train staĕons, bikeshare docks and carshare locaĕons.
- Determine when the next bus or train will arrive.
- Navigate within a bus or train staĕon, including finding the correct plaĔorm and services such as washrooms, refreshments and telephones.
- Ideněfy which mode or combinaĕon of modes will work best for an individual's travel needs.

Intelligent Transportaĕon Systems can provide navigaĕon informaĕon through mobile telephones and other handheld devices that can access the Internet, determine their own locaĕon using GPS capabiliĕes, and provide services such as automaĕc electronic payment of Transit and Taxi fares, Public Bike rentals, and Parking. These can access websites that provide maps and transit service informaĕon, including routes, schedules, fares and real-ĕme bus or train arrival informaĕon (www.nextbus.com). Many newer mobile telephones can determine their own locaĕon, and so can guide users who would otherwise be lost.

Wayfinding refers to people's (parĕcularly pedestrian's) ability to navigate through an area, and to signs, maps, electronic devices, and other informaĕon resources that help orient visitors. Wayfinding is parĕcularly important when people walk or cycle through an unfamiliar area, and for traveling through transportaĕon terminals such as bus and train staĕons, and airports (AIGA 2005; Muhlhausen 2005).

A Mulĕ-Modal Access Guide (also called a Transportaĕon Access Guide) is a document that provides concise, customized informaĕon on how to access a parĕcular desĕnaĕon by various travel modes, with special consideraĕon of efficient modes such as walking, cycling and public transport. Such a guide typically includes:

- A map of the area, showing the desĕnaĕon, major roads, nearby landmarks, the closest rail staĕon or bus stops, and recommended cycling and walking routes.

- Informaěon about transit service frequency, fares, first and last runs, and public transportaěon schedules if possible; plus phone numbers and web addresses for transit service providers and taxi companies. Special transit schedule informaěon can be provided for Events that start and end at specified ěmes.

- Informaěon on how long it takes to walk from transit staěons, downtown area and other reference locaěons to your site. (e.g., "We are twenty minutes by bus from the airport, and five minutes by bike from downtown").

- Informaěon on how to reach the desěnaěon from major transportaěon terminals (bus and train staěons, airports, ferry terminals, etc.). For example, a Guide might include informaěon on airport shuĥle services and transit access.

- Access arrangements for people with disabiliěes on public transport routes and at train staěons (Universal Access).

- Availability of Bicycle Faciliěes, including secure bike parking, showers and change faciliěes.

- Automobile Parking availability and price.

Navigaěon Tools can range from a simple map printed on the back of business cards or event invitaěons, to a special brochure, map, Internet page, smartphone applicaěon or comprehensive informaěon packet. This informaěon can also be incorporated into other printed documents, including business cards, invitaěons, leĥerhead, brochures and catalogues. They can be included in welcome kits provided to new employees, with informaěon on telework and flexěme policies as well as travel opěons. Navigaěon Tools may include bicycle and transit maps, or informaěon on how to obtain such maps. Some Guides inteněonally exclude informaěon on automobile access and vehicle parking opěons to discourage driving.

Navigaěon Tools should be designed for various types of users, which may include staff, customers and clients, tourists and other visitors, conference aĥendees, delivery services, and people with disabiliěes. Different informaěon resources may be needed to accommodate different types of users, including special versions for people with disabiliěes, who speak a different language, who travel by a parěcular mode, or who travel from a parěcular area.

Developing Mulě-Modal Navigaěon Tools can be an opportunity to ideněfy ways to improve mobility opěons to your desěnaěon. For example, while gathering informaěon for a Guide you might find that it is currently difficult to walk from a nearby transit staěon to your site because sidewalks are in disrepair, that a shelter is needed at the closest bus stop, or that there is no secure place for visitors to store a bicycle. Guides should be revised as access opěons change (hopefully for the beĥer).

There is a growing movement to digitally map and record street infrastructure, in order to provide beĥer wayfinding and navigaěng informaěon. Open Street Map is one such plaĚorm that is documeněng this criěcal informaěon. There is enormous poteněal for this data to change the way users travel as they can make more informed choices when journey planning. For example, Open Street Map notes sidewalk size, thus allowing pedestrians to gauge the walking environment of a neighborhood.

How It Is Implemented

Navigaěon Tools can be developed by transport planning agencies, transit agencies facility managers, private companies or a Transportaěon Management Associaěon. This informaěon can be incorporated into exisěng documents, such as brochures and invitaěons. All staff who work with clients and visitors should be familiar with mulě-modal access opěons so they can advise callers on how to arrive by various modes.

Travel Impacts

Mulĕ-Modal Navigaĕon Tools can increase use of alternaĕve modes and reduce automobile travel. Providing beĥer informaĕon and more accessible, convenient ways to plan journeys changes the psychology of 'waiĕng for the bus or train'. Users feel more secure knowing when their train or is guaranteed to arrive and feel more comfortable navigaĕng a transit system as a result. Ulĕmately, travel impacts vary, depending on condiĕons, including the quality of alternaĕve modes and the degree to which inadequate informaĕon and encouragement limits their use. One case study found that providing high quality Navigaĕon Tools resulted in a 17% shift from automobile to walking, cycling or transit as employees' primary commute mode (RTA, 2003). This probably represents the higher end of travel impacts, since it applied when a worksite locaĕon was moving. Relaĕvely large impacts may be achieved if Navigaĕon Tools are implemented as part of comprehensive TDM programs that include a variety of improved travel services, inceněves and markeĕng acĕviĕes. For more informaĕon on the travel impacts of improved user informaĕon see TDM Markeĕng.

Table 1 Travel Impact Summary

Objec ve	Ra ng	Comments
Reduces total traffic.	2	Supports use of alternaĕve modes.
Reduces peak period traffic.	2	"
Shifts peak to off-peak periods.	1	May include informaĕon on flexĕme.
Shifts automobile travel to alternaĕve modes.	2	Supports use of alternaĕve modes.
Improves access, reduces the need for travel.	3	"
Increased ridesharing.	2	"
Increased public transit.	2	"
Increased cycling.	2	"
Increased walking.	2	"
Increased Telework.	1	May include informaĕon on telework opĕons.
Reduced freight traffic.	1	May include informaĕon on delivery opĕons.

Raĕng from 3 (very beneficial) to –3 (very harmful). A 0 indicates no impact or mixed impacts.

Benefits and Costs

By improving travel opĕons and supporĕng use of more efficient travel modes, Mulĕ-Modal Navigaĕon Tools tend to support virtually all TDM objecĕves. Their cost is usually limited to the financial cost of producing this materials, and some of these costs can often be incorporated into exisĕng document and website producĕon budgets. Navigaĕon Tool producĕon costs are often repaid many ĕmes over for a parĕcular organizaĕon (e.g., business or campus) if they result in even a small reducĕon in automobile trips and parking demand.

Table 2 Benefit Summary

Objec ve	Ra ng	Comments
Congesĕon Reducĕon	2	Supports use of alternaĕve modes.
Road & Parking Savings	2	"
Consumer Savings	2	"
Transport Choice	3	"
Road Safety	2	"
Environmental Protecĕon	2	"
Efficient Land Use	2	"
Community Livability	2	"

Raĕng from 3 (very beneficial) to –3 (very harmful). A 0 indicates no impact or mixed impacts.

Equity Impacts

By improving travel opĕons, Mulĕ-Modal Navigaĕon Tools tend to help achieve equity objecĕves. They can be parĕcularly beneficial to people with disabiliĕes and other non-drivers. By providing beĥer informaĕon, mulĕ-modal navigaĕon tools can make journey planning and travel more safe, convenient and accessible.

Table 3 Equity Summary

Criteria	Ra ng	Comments
Treats everybody equally.	2	Supports use of alternaĕve modes.
Individuals bear the costs they impose.	2	"
Progressive with respect to income.	3	"
Benefits transportaĕon disadvantaged.	3	"
Improves basic mobility.	3	"

Raĕng from 3 (very beneficial) to –3 (very harmful). A 0 indicates no impact or mixed impacts.

Applications

Mulĕ-Modal Navigaĕon Tools can be implemented by virtually any type of organizaĕon, but are parĕcularly appropriate for TMAs, businesses and Campuses which aĥract large numbers of visitors, and are located in areas with diverse travel opĕons. A growing number of private companies and start up enterprises are creaĕng mulĕ-modal trip planners (see References and Resources for specific examples).

Table 4 Application Summary

Geographic	Ra ng	Organiza on	Ra ng
Large urban region.	3	Federal government.	1
High-density, urban.	3	State/provincial government.	2
Medium-density, urban/suburban.	3	Regional government.	2
Town.	2	Municipal/local government.	2
Low-density, rural.	2	Business Associaĕons/TMA.	3
Commercial center.	3	Individual business.	3
Resideněal neighborhood.	3	Developer.	3
Resort/recreaĕon area.	3	Neighborhood associaĕon.	2
College/university communiĕes.	3	Campus.	3

Raĕngs range from 0 (not appropriate) to 3 (very appropriate).

Category

Mulĕ-Modal Navigaĕon Tools Increase Travel Opĕons

Relationships With Other TDM Strategies

Mulĕ-Modal Navigaĕon Tools support and are supported by a wide range of TDM strategies, including Transit Encouragement Programs, Walking and Cycling Encouragement, Nonmotorized Transportaĕon Planning, TDM Markeĕng, Commute Trip Reducĕon programs, Special Event Transport Management, Tourist Transport Management, Parking Management, Campus Transport Management, Transit Oriented Development, Locaĕon Efficient Development and New Urbanism.

Stakeholders

Mulĕ-Modal Navigaĕon Tools development usually involves local planners, facility managers, transit agencies, private agencies (e.g., software developers) and user groups (e.g., a local cycling organizaĕon).

Barriers To Implementation

Common barriers include a lack of leadership and funding, and ignorance by top decision-makers about alternaĕve modes.

Best Practices

Mulĕ-Modal Navigaĕon Tools should be concise and easy to use. Consider the needs and abiliĕes of different types of visitors. Survey visitors to determine how they currently travel, what they know about their transport opĕons to your site, and any transportaĕon barriers they face.

Stakeholders should be involved in developing Mulĕ-modal Navigaĕon Tools. Produce draft materials. Ask stakeholders to review them and suggest improvements. These stakeholders may include:

- Staff who will use and distribute travel informaĕon, such as recepĕonists, personnel managers, sales staff, event organisers.
- Users, such as employees, clients, customers, delivery vehicle drivers, event parĕcipants, and others.
- Staff and visitors with disabiliĕes.
- Public transport operators and the local planning officials.

Use graphic images as much as possible, including maps and symbols with bright colors. Coordinate Navigaĕon Tools, for example, by using the same symbol on maps and direcĕonal signs. Provide phone numbers or web addresses for public transit and local taxi companies. A variety of informaĕon resources may be needed to accommodate different groups. Be sure to update these resources as needed.

Be as specific as possible. Provide informaĕon on which train or bus to take, where to get off, and which street to walk on, and where to turn. For example write, “Take the Yellow line to Victoria Staĕon (call 567-8910 for schedule and fare informaĕon). Trains run every 5 minutes on weekdays, and every 15 minutes weekends and evenings. We are a 5-minutes walk from Victoria Staĕon. Use the First Avenue Exit. Walk six block west. Turn right on Smith Street (at the fire staĕon), walk two blocks and turn left onto Royal Avenue where the road forks (in front of Oak Elementary School). We are located three blocks west, on the right-hand side of the street.”

Provide encouragement. Incorporate informaĕon about using alternaĕve modes such as walking, cycling and transit, and the benefits that result, including financial savings, reduced stress and increased physical exercise (TDM Markeĕng). Highlight appropriate fare discounts. For example, a Mulĕ-modal Access Guide to a medical center might remind visitors of discounts available to seniors, while a Guide to a recreaĕon center might remind visitors of discounts available to students.

Staff who produce informaĕon materials, such as invitaĕons and catalogues, can have standard mulĕ-modal guidance informaĕon ready to incorporate into documents as needed.

Transportaĕon agencies and authoriĕes should make their route and schedule data public, so that private companies can make use of their data to create innovaĕve trip planning tools. Mobile applicaĕons like Ridescout, the Transit App and Next Bus have taken advantage of transportaĕon data to improve how travelers access and consider their transportaĕon opĕons.

Wayfinding Is Not Signage: Signage Plays An Important Part Of Wayfinding – But There's More
By John Muhlhausen, Signs of the Times magazine

Even though signage plays an important role in wayfinding, the process doesn't rely exclusively on signs.

The term "wayfinding" was first used in 1960 by architect Kevin Lynch in The Image of the City, where he referred to maps, street numbers, direcĕonal signs and other elements as "way-finding" devices. This narrow descripĕon may explain the current misunderstanding that wayfinding is esseně ally the same as "signage."

The two terms are not synonymous. Signmakers deal with designing, fabricaĕng and installing signs. However, wayfinding used to navigate unfamiliar environments, doesn't rely exclusively on signs.

This disĕncĕon gained acceptance in the early '70s when researchers discovered that, to understand how people find their way, they first need to understand the underlying process. Architect and environmental psychologist Romedi Passini arĕculated spaĕal problem-solving in his books, Wayfinding in Architecture and Wayfinding, People, Signs and Architecture, which he co-authored with wayfinding planner Paul Arthur.
Passini and Arthur described wayfinding as a two-stage process during which people must solve a wide variety of problems in architectural and urban spaces that involve both "decision making" (formulaĕng an acĕon plan) and "decision execuĕng" (implemeněng the plan).

People who find themselves in unfamiliar environments need to know where they actually are in the complex, the layout of the complex, and the locaĕon of their desĕnaĕon in order to formulate their acĕon plans. En route to their chosen desĕnaĕons, people are helped or hindered prior to their visit, the building's architecture and signage. The physical environment, including posiĕve effect in how users perceive the wayfinding system--if it seems easy to use or not.

Faulty sign design can cause navigaĕon problems in unfamiliar environments. Some signs lack "conspicuity," or visibility, because leĥering lacks legibility when viewed from a distance. Others contain inaccurate, ambiguous or unfamiliar messages; many are obscured by obstrucĕons or contain reflecĕve surfaces, which hinder comprehension. Consequently, many people don't read signs--often it's easier to ask for direcĕons.

Because wayfinding problems aren't confined to signs alone, they typically can't be solved by adding more signs. Instead, such problems can be unraveled by designing an environment that ideněfies logical traffic paĥerns that enable people to move easily from one spot to another without confusion. Signs cannot be a panacea for poor architecture and illogical space planning.

Four Elements
Wayfinding needs are best resolved during iniĕal planning stages through a collaboraĕve effort by all design professionals--architects, designers and signmakers--to address a project's total environmental communicaĕon. The primary generator of environmental communicaĕon, architecture delineates spaĕal organizaĕon, desĕnaĕon zones and informaĕon sequencing--factors that spell wayfinding's success or failure. Effecĕve architectural wayfinding clues, provided by roads, building layouts, corridors and lighĕng, furnish cogniĕve maps that allow people to quickly grasp the environment. To furnish architectural clues:

- Clearly ideněfy arrival points.
- Provide convenient parking and accessible walkways located adjacent to each public entry.
- Locate informaĕon desks within each public entry visible from the front door.
- Place elevator lobbies so they can be seen upon entering the building.
- Use consistent lighĕng, floor coverings and architectural finishes in primary public corridor systems.
- Situate memorable landmarks along corridors and at key decision points.

- Design public waiěng areas that are visually open to corridors.
- Disěnguish public from non-public corridors by using varied finishes, colors and lighěng
- Harmonize floor numbers between connecěng buildings.

Graphic Communicaěon

Graphics, such as signs, color coding, maps, banners, brochures and Websites, provide orientaěon, direcěon, ideněficaěon and regulatory informaěon. To achieve effecěve graphic communicaěon:

- Standardize names for all buildings, services and desěnaěons, and display them consistently on all graphics applicaěons.
- Use easily understood "plain" language.
- Size messages and signs appropriately for viewing distances.
- Select leĥerforms and color combinaěons that comply with Americans with Disabiliěes Act (ADA) Accessibility Guidelines (see New Face to ADA).
- Furnish generous spacing between leĥers, words and message lines.
- Provide standardized "you are here" maps of the project that include an overall map of the complex and more detailed maps of specific areas.
- Train aĥendants to mark individualized paths on hand-held maps for lost or disoriented visitors.
- Place maps at all parking exits, building entrances and major interior decision points.
- Orient maps with building layouts, such as denoěng on maps that "up is ahead."
- Establish consistency in sign placements and graphics layouts.
- Code areas by using color and memorable graphics.
- Use established pictographs with words to facilitate comprehension of wriĥen messages.
- Establish a floor numbering system that relates to a building's main entry and indicate on directories which floors are above and below grade.

Audible Communicaěon

Audible communicaěon, as interpreted through verbal instrucěons, PA systems, elevator chimes and water fountains, plays an important role in wayfinding. Recognizing that 50% of the American populaěon is funcěonally illiterate (according to a recent study published by the U.S. Department of Educaěon) and that another 15% possess other perceptual or cogniěve impairments, audible communicaěon fills an important role in any wayfinding soluěon. To establish effecěve audible communicaěon:

- Install audible sounds at signaled intersecěons to indicate safe ěmes to cross the street.
- At all public entries and informaěon desks, provide aĥendants trained as professional greeters who are thoroughly familiar with the facility.
- Furnish self-help telephones at all informaěon desks.
- Provide paěent-transport personnel whose purpose is to guide visitors to their desěnaěons.
- Standardize names for all buildings, services and desěnaěons, and use them consistently in verbal communicaěon.
- Equip elevators with audible chimes.
- Posiěon audible landmarks, such as water fountains, at waiěng areas.
- Employ audible signs to help locate informaěon desks, elevators, rest rooms and other key desěnaěons.

Tacěle Communicaěon

Tacěle communicaěon, achieved by raised leĥers, Braille, knurled door knobs and textured floor coverings assists all visitors, not only the disabled. To incorporate tactual devices into a wayfinding system:

- Establish "shorelines" and "trails" between major desěnaěons and informaěon areas using materials having differing resiliency's, such as concrete and carpet.
- Install "rumble strips" at the landings of stairs and escalators.

- Furnish knurled door knobs at all non-public doors.
- Provide a raised star symbol on elevator control panels to indicated the ground floor.
- Supply raised leĥers and Grade 2 Braille at elevators and on signs ideněfying permanent desěnaěons.
- Install interacěve audio-tacěle maps at public entrance lobbies.

Consistent Clues
Architects, designers and signmakers must work together from the beginning of a project to create a total environmental statement that provides consistent clues. So, the next ěme a client asks for wayfinding signage. tell them that wayfinding is not signage – it's more.

Helsinki's ambiěous plan to make car ownership pointless in 10 years
By, Adam Greenfield, The Guardian Ciěes

The Finnish capital has announced plans to transform its exisěng public transport network into a comprehensive, point-to-point "mobility on demand" system by 2025 – one that, in theory, would be so good nobody would have any reason to own a car.

Helsinki aims to transcend conveněonal public transport by allowing people to purchase mobility in real ěme, straight from their smartphones. The hope is to furnish riders with an array of opěons so cheap, flexible and well-coordinated that it becomes compeěěve with private car ownership not merely on cost, but on convenience and ease of use.

Subscribers would specify an origin and a desěnaěon, and perhaps a few preferences. The app would then funcěon as both journey planner and universal payment plaĚorm, kniħ ng everything from driverless cars and nimble liĥle buses to shared bikes and ferries into a single, supple mesh of mobility. Imagine the popular transit planner Citymapper fused to a cycle hire service and a taxi app such as Hailo or Uber, with only one payment required, and the whole thing run as a public uělity, and you begin to understand the scale of ambiěon here.

That the city is serious about making good on these inteněons is bolstered by the Helsinki Regional Transport Authority's rollout last year of a strikingly innovaěve minibus service called Kutsuplus. Kutsuplus lets riders specify their own desired pick-up points and desěnaěons via smartphone; these requests are aggregated, and the app calculates an opěmal route that most closely saěsfies all of them. All of this seems cannily calculated to serve the mobility needs of a generaěon that is comprehensively networked, acutely aware of motoring's ecological footprint, and – if opinion surveys are to be trusted – not parěcularly interested in the joys of private car ownership to begin with. Kutsuplus comes very close to delivering the best of both worlds: the convenient point-to-point freedom that a car affords, yet without the onerous environmental and financial costs of ownership (or even a Zipcar membership).

But the fine details of service design for such schemes as Helsinki is proposing maĥer disproporěonately, parěcularly regarding price. As things stand, Kutsuplus costs more than a conveněonal journey by bus, but less than a taxi fare over the same distance – and Goldilocks-style, that feels just about right. Providers of public transit, though, have an inherent obligaěon to serve the eněre ciězenry, not merely the segment who can afford a smartphone and are comfortable with its use. (In fairness, in Finland this really does mean just about everyone, but the point stands.) It maĥers, then, whether Helsinki – and the graduate engineering student the municipality has apparently commissioned to help it design its plaĚorm – is proposing a truly collecěve next-generaěon transit system for the eněre public, or just a high-spec service for the highest-margin customers.
It remains to be seen, too, whether the scheme can work effecěvely not merely for relaěvely compact central Helsinki, but in the lower-density municipaliěes of Espoo and Vantaa as well. Nevertheless,

with the capital region's arterials and ring roads as choked as they are, it feels imperaĕve to explore anything that has a realisĕc prospect of reducing the number of cars, while providing something like the same level of service.

To be sure, Helsinki is not proposing to go enĕrely car-free. (Many people in Finland have a summer coĥage in the countryside, and rely on a car to get to it.) But it's clear that urban mobility badly needs to be rethought for an age of commuters every bit as networked as the vehicles and infrastructures on which they rely, but who retain expectaĕons of personal mobility entrained by a century of private car ownership. Helsinki's iniĕaĕve suggests that at least one city understands how it might do so.

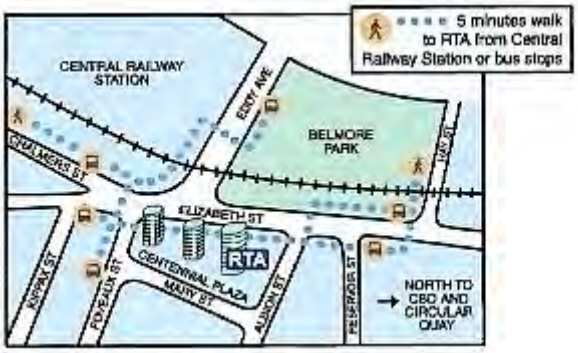
Examples and Case Studies

To find examples of Mulĕ-Modal Navigaĕon Tools, simply perform an Internet search on “direcĕons, map, bus”.

Business Card Information

Figure 1 illustrates a simple transit access direcĕon map printed on the back of business cards used by RTA employees.

Figure 1 Business Card Map



This illustrates transit travel direcĕons printed on the back of business cards.

Chicago Bike Guide (www.chicagobikeguide.com)

A mobile phone applicaĕon that helps cyclists navigate around the city of Chicago using a mobile phone. Users only pay for the data transfer. The system provides:

- Cycle route shown on a map
- Descripĕon of the route
- The desĕnaĕon on a map
- Bike safe routes
- Divvy Bikeshare docks and staĕons
- Chicago Transity Authority and Metra staĕons
- Points of interest
- Geotagging capabiliĕes
- Uĕlizes phone user’s current locaĕon data

Users indicate their origin and desĕnaĕon by keying in an address or a locaĕon search. The system indicates the most direct and safest route opĕon with maps on the telephone screen. It is easy to move the map view and zoom in and out as needed. The system indicates the distance and expected travel ĕme. The route planner can be downloaded at hĥp://www.chicagobikeguide.com

Parent Resource Center Map, Bus & Driving Directions (www.parentresource.on.ca/map.html)

The Parent Resource Centre is located on the first floor of the apartment building (300 Goulburn Private) at the south-west corner of Goulburn Private and Mann Avenue in Sandy Hill. The Centre’s own entrance faces Goulburn Private and is

close to Mann Avenue.

By bus: Take bus route #16 to Chapel and Mann. Walk east on Mann one block to Goulburn Private. If you are using the Transitway, the Parent Resource Centre is about a ten minute walk from Lees Staĕon

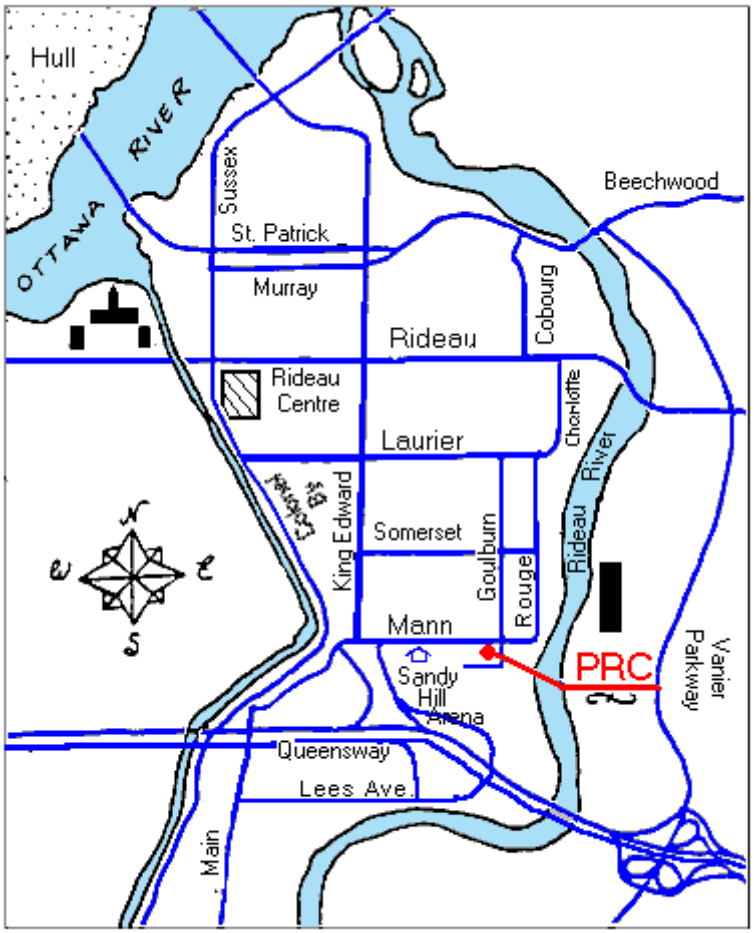
By car: If coming from the east and heading west on the Queensway, use the Nicholas-Mann exit and take the right lane (Mann) exit. At the second set of traffic lights, turn right at Mann Avenue, drive up the hill to stop sign at Chapel and Mann. Proceed one more block along Mann to Goulburn Private.

If you are coming from the west end of Oĥawa and heading east on the Queensway, use the Nicholas-Lees Avenue off-ramp and keep to the right (Lees Ave. exit). At the stop sign, turn left onto Lees Avenue and proceed over the Queensway to intersect with Mann Avenue at the second set of traffic lights. Turn right at Mann Avenue, drive up the hill to stop sign at Chapel and Mann. Proceed one more block along Mann to Goulburn Private.

If you are not using the Queensway, Mann Avenue can be reached several ways, including from Main Street via Greenfield, from King Edward Avenue and from Range Road.

Parking: There is three-hour street parking on Mann Avenue or other streets in the neighbourhood. Parking is longer on Goulburn Private and Wiggins Private (look for posted restricĕons).

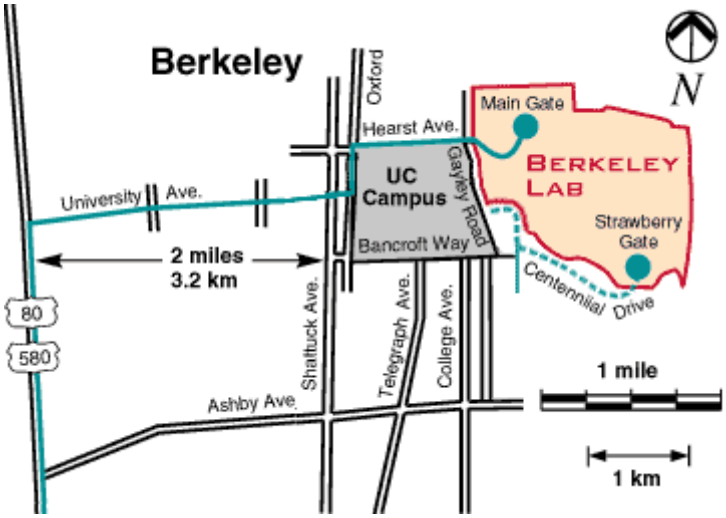
If you need help with direcĕons, call (613) 565-2467.



Source: MAPART C. HULETT Adapted by: Starling Access Services

Lawrence Berkeley Laboratory (www.lbl.gov/Workplace/Transportation.html)

The Laboratory is in Berkeley on the hillside directly above the campus of the University of California at Berkeley. Our address is 1 Cyclotron Road, Berkeley CA 94720. To make the Lab easily accessible, the Lab has its own shuĥle service that takes people around the site and to downtown Berkeley and the BART staĕon there. Parking spaces are difficult to find here and you will need to prearrange for a parking permit from the person you are visiĕng.



San Francisco Airport to the Lab by Commercial Shu le Bus

A number of shuĥle van companies provide service from the San Francisco airport. Some travel directly to your parĕcular point of desĕnaĕon. Others drop off their passengers at central points in the East Bay. The airport website has more specific informaĕon on “ground transport.”

San Francisco to the Lab by BART

Much easier than traveling by car. Allow yourself 50 minutes for the eněre trip from downtown San Francisco. Go to any of the BART staĕons. Purchase a ĕcket for $5.30 (the cost of a round-trip between downtown SF and Berkeley as of October 2000). Get on the Richmond line. Take the Richmond line to the downtown Berkeley exit -- not the North Berkeley exit, and not the Ashby exit, just the Berkeley exit. Get off at the Berkeley exit, go up to the street level, and find our shuĥle bus stop. It is on the north side of Center Street at its intersecĕon with Shaĥuck Avenue next to the bank automaĕc teller machine. You can then take the shuĥle bus to the Lab; see the direcĕons for using our shuĥle.

More informaĕon about BART, including an interacĕve map of the system and its schedules, is available on the Web (www.bart.gov).

NextBus (www.nextbus.com)

NextBus combines Global Posiĕoning System (GPS) data with predicĕve software to give public transit passengers accurate arrival ĕme predicĕons for the next few vehicles, accessible through the Internet (including mobile telephone screens) and bus stop signs.

This helps overcome a major barrier to public transit use, unnecessary waiĕng. NextBus allows users to decide whether to rush to a bus stop, wait, or choose another route or mode.

RideScout (www.ridescoutapp.com)

Ridescout is a smartphone applicaĕon that aggregates travel opĕons like bikeshare, carshare, transit, taxi, driving, cycling and walking into a single interface. By collecĕng all services into a single interface, users can ideněfy which mode is best suited for their given circumstance. The app also features real-ĕme informaĕon, journey planning tools and a noĕficaĕon service that sends users a ping when it’s ĕme to leave for to catch the bus or train. Ridescout is the ‘one-stop shop’ of trip-planning apps. Creator and Founder, Joseph Kopser remarked in The Atlaněc Ciĕes, "Our vision statement is seamless door-to-door transportaĕon," […] "What I mean by that is every safe, legal, and reliable way that's out there, we want to bring to you in the palm of your hand or onto your desktop so you can have all your opĕons."

Trimet Trip Planner (www.trimet.org/ride/planner_form.html)
Portland's Trimet Trip Planner has always been at the forefront of digital trip planning in America. In 2011, it was the first US transit agency to produce a trip planner that combined walking, cycling and transit direcĕon into sequenĕal journey. The planner also features an elevaĕon chart, to accommodate a user's cycling preferences and carshare locaĕons.

Wit and Humor
A young man got a flat ĕre while driving at night on a back road. He tried to fix it, but found that the car had no jack. Then he noĕced the light of a farmhouse farther up the road. As he walked toward it he thought to himself, Suppose the farmer isn't home? Suppose he won't answer the door? Suppose if I ask him for a jack he won't let me borrow it? Suppose he doesn't trust me? Why doesn't he like me? – The more he thought the more upset he got. Finally he reached to the farmhouse door and knocked. When the farmer opened the door, the young man yelled, "O.K. YOU CAN JUST KEEP YOUR OLD JACK!" and stomped away.

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Our mission: *to encourage car free, carefree travel to and around Santa Barbara for cleaner air and a healthier planet.*

Our partnership: *we are a cooperative project, founded in 1998 and led by Santa Barbara County Air Pollution Control District with support from more than 100 businesses, agencies, organizations and individuals.*

Hop on the electric shuttle...

Stroll up State Street for shopping and dining...

Bike along the beach and waterfront...

What We Do

- ***Show how to be car free:*** on our website and signature map, rack cards, and other materials, we provide info on biking, walking, buses, shuttles, trains, planes, limos, taxis, boats, tours and itineraries, plus downloadable maps, self-guided walking tours, and more.
- ***Offer specials:*** hotel and activity discounts and special Amtrak® offers.
- ***Support the car free vacation!***

Relax... and let someone else do the driving...

Awards and Recognition

- 2014 Horizon Interactive Media Prize for the Santa Barbara Car Free "Take the Train" video series
- 2009 **National Clean Air Excellence Award** from the US Environmental Protection Agency (USEPA); one of only 15 initiatives honored in the US.
- 2004 Environmental (Earth Day) Award from USEPA Region IX.
- 2004 Marketing Excellence Award for *"Best Niche Marketing: Eco-Tourism"* from California Travel and Tourism Commission.
- Featured in numerous books, publications, travel websites, and blogs.

Contact

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Train

What could be better than a train ride along the scenic California coast to begin your vacation? Read a book instead of struggling with street maps. Have a meal, or take a nap. You will arrive rested and ready to begin. Many hotels offer free pick-up and drop-off service, ask when making your reservations.

Santa Barbara lies along the West Coast Amtrak route. The train station is conveniently located in downtown Santa Barbara, an easy walk, or 50-cents shuttle ride from many downtown attractions. Additional stations are located nearby in Carpinteria and in Goleta near the airport.

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The Pacific Surfliner now offers a transfer ticket program with the local transit service, the Santa Barbara Metropolitan Transit District (SBMTD). See this post for more information.

California Deals to see a complete list of deals.

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Select your route and dates. For schedules and information go to Amtrak's Pacific Surfliner or San Joaquin. **Three day advance reservations are required** and some restrictions apply. See blackout dates below.

Register

Have your schedule and payment information ready and register below on this website at least three days before you plan to travel.
Upon registration confirmation, you will be given a link to Amtrak's website.

Purchase

Follow the link provided to Amtrak's website and click "Book it Now." You must select a Pacific Surfliner or San Joaquin train to be eligible for the discount. There is no promotional code for use at a later time and you may not use the discount for purchase on board the train, at any station or to purchase of a gift certificate.

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This offer is valid for sale through December 17, 2016 and for travel between January 4, 2016 and December 20, 2016 on the Pacific Surfliner or San Joaquin and associated thruway buses (except not valid on the 7000-8999 thruway series) **to or from** any Amtrak station **in Santa Barbara County**: Santa Barbara, Goleta, Carpinteria, Solvang, Buellton, Lompoc, Surf, Guadalupe and Santa Maria.

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- March 24-25 and 28, 2016
- May 27, and May 30, 2016
- July 1, and July 4, 2016
- September 2, and September 5, 2016
- October 10, 2016
- November 22-23, and November 26-28, 2016

Offer is valid for 20 percent off of the best available regular adult fare. The discount will only be applied when the "adult" passenger type is selected. The offer **can't** be combined with any other discounts. Up to 2 children ages 2-12 may accompany each adult at half of the regular (full, not discounted) adult fare. Offer is valid for business class travel upon full payment of applicable accommodation charges. Once travel has begun, no changes to the itinerary are permitted, fares, routes and schedules are subject to change without notice, other restrictions may apply.

See Official Terms and Conditions below. For train schedules and general information, see Amtrak.com.

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Official Terms and Conditions

THIS OFFER IS EXCLUSIVELY AVAILABLE AFTER REGISTERING AT WWW.SANTABARBARACARFREE.ORG OR WWW.SANTABARBARAFAMILYFUN.COM. THIS OFFER IS VALID FOR SALE BETWEEN 04JAN16- 17DEC16 AND VALID FOR TRAVEL BETWEEN 07JAN16- 20DEC16. BLACKOUTS APPLY ON THE FOLLOWING DATES: 12FEB16, 15FEB16, 24-25MAR16, 28MAR16, 27MAY16, 30MAY16, 01JUL16, 04JUL16, 02SEP16, 05SEP16, 10OCT16, 22-23NOV16, and 26-28NOV16. ADVANCE RESERVATIONS ARE REQUIRED A MINIMUM OF THREE (3) DAYS PRIOR TO TRAVEL. UP TO 2 CHILDREN AGES (2-12) MAY ACCOMPANY EACH ADULT AT HALF THE REGULAR FULL ADULT RAIL FARE. THIS OFFER IS VALID FOR TRAVEL TO/FROM THE FOLLOWING SANTA BARBARA COUNTY STATIONS ONLY: CARPINTERIA, SANTA BARBARA, GOLETA, GUADALUPE, LOMPOC-SURF, SOLVANG, SANTA MARIA, AND BUELLTON. SEATING IS LIMITED; SEATS MAY NOT BE AVAILABLE ON ALL DAYS. FARES ARE SUBJECT TO AVAILABILITY. THIS OFFER IS VALID FOR TRAVEL ON THE SAN JOAQUIN, PACIFIC SURFLINER, AND ASSOCIATED THRUWAYS; EXCEPT NOT VALID ON THE 7000-8999 THRUWAYS. THIS OFFER IS ALSO VALID FOR TRAVEL ON THE COAST STARLIGHT (BETWEEN SAN LUIS OBISPO, CA – LOS ANGELES ONLY). THIS OFFER IS VALID FOR COACH SEATS; UPGRADE TO BUSINESS CLASS ACCOMMODATIONS ARE AVAILABLE UPON FULL PAYMENT OF ACCOMMODATION CHARGES. THIS OFFER IS NOT VALID FOR SLEEPER ACCOMMODATION UPGRADES. IN ADDITION TO THE DISCOUNT RESTRICTIONS; THIS OFFER IS ALSO SUBJECT TO ANY RESTRICTIONS, BLACKOUTS, AND REFUND RULES THAT APPLY TO THE TYPE OF FARE PURCHASED. FARES, ROUTES AND SCHEDULES ARE SUBJECT TO CHANGE WITHOUT NOTICE. ONCE TRAVEL HAS BEGUN; NO CHANGES TO THE ITINERARY ARE PERMITTED. THIS OFFER IS NOT COMBINABLE WITH ANY OTHER DISCOUNT OFFER. AMTRAK, PACIFIC SURFLINER, SAN JOAQUIN, AND COAST STARLIGHT ARE REGISTERED SERVICE MARKS OF THE NATIONAL RAILROAD PASSENGER CORPORATION.

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CHOOSING AND INSTALLING GEOTHERMAL HEAT PUMPS

These geothermal heating and cooling units installed in the basement of a new home are tied to a complex array of underground coils to keep indoor temperatures comfortable. | Photo courtesy of ©iStockphoto/BanksPhotos

When selecting and installing a geothermal heat pump, consider the heating and cooling efficiency, the economics of the system, and your site's characteristics. Be sure to find a qualified installer.

HEATING AND COOLING EFFICIENCY OF GEOTHERMAL HEAT PUMPS

The heating efficiency of ground-source and water-source heat pumps is indicated by their coefficient of performance (COP), which is the ratio of heat provided in Btu per Btu of energy input. Their cooling efficiency is indicated by the Energy Efficiency Ratio (EER), which is the ratio of the heat removed (in Btu per hour) to the electricity required (in watts) to run the unit.

Look for the ENERGY STAR® label, which indicates that the unit meets ENERGY STAR criteria. Manufacturers of high-efficiency geothermal heat pumps (GHPs) voluntarily use the EPA ENERGY STAR label on qualifying equipment and related product literature. Many GHPs carry the U.S. Department of Energy (DOE) and Environmental Protection Agency (EPA) ENERGY STAR label.

ECONOMICS OF GEOTHERMAL HEAT PUMPS

Although the purchase and installation cost of a residential GHP system is often higher than that of other heating and cooling systems, properly sized and installed GHPs deliver more energy per unit consumed than conventional systems. For further savings, GHPs equipped with a device called a "desuperheater" can heat household water. In the summer cooling period, the heat that is taken from the house is used to heat the water for free. In the winter, water heating costs are reduced by about half.

Depending on factors such as climate, soil conditions, the system features you choose, and available financing and incentives, you may recoup your initial investment in two to ten years through lower utility bills. And -- when included in a mortgage -- your investment in a GHP will produce a positive cash flow from the beginning. For example, if the extra $3,500 cost of the GHP will add $30 per month to each mortgage payment, the energy cost savings will easily exceed that added mortgage amount over the course of each year.

On a retrofit, the GHP's high efficiency typically means much lower utility bills, allowing the investment to be recouped in two to ten years. It may also be possible to include the purchase of a GHP system in an "energy-efficient mortgage" that would cover this and other energy-saving improvements to the home. Banks and mortgage companies can provide more information on these loans.

There are also special financing and incentives available to help offset the cost of adding a GHP to your home. These provisions are available from federal, state, and local governments; power providers; and banks or mortgage companies that offer energy-efficient mortgage loans for energy-saving home improvements. Be sure the system you're interested in qualifies for available incentives before you make your final purchase.

EVALUATING YOUR SITE FOR A GEOTHERMAL HEAT PUMP

Shallow ground temperatures are relatively constant throughout the United States, so geothermal heat pumps (GHPs) can be effectively used almost anywhere. However, the specific geological, hydrological, and spatial characteristics of your land will help your local system supplier/installer determine the best type of ground loop for your site.

GEOLOGY

Factors such as the composition and properties of your soil and rock (which can affect heat transfer rates) require consideration when designing a ground loop. For example, soil with good heat transfer properties requires less piping to gather a certain amount of heat than soil with poor heat transfer properties. The amount of soil available contributes to system design as well -- system suppliers in areas with extensive hard rock or soil too shallow to trench may install vertical ground loops instead of horizontal loops.

HYDROLOGY

Ground or surface water availability also plays a part in deciding what type of ground loop to use. Depending on factors such as depth, volume, and water quality, bodies of surface water can be used as a source of water for an open-loop system, or as a repository for coils of piping in a closed-loop system. Ground water can also be used as a source for open-loop systems, provided the water quality is suitable and all ground water discharge regulations are met.

Before you purchase an open-loop system, be sure your system supplier/installer has fully investigated your site's hydrology, so you can avoid potential problems such as aquifer depletion and groundwater contamination. Antifreeze fluids circulated through closed-loop systems generally pose little to no environmental hazard.

LAND AVAILABILITY

The amount and layout of your land, your landscaping, and the location of underground utilities or sprinkler systems also contribute to your system design. Horizontal ground loops (generally the most economical) are typically used for newly constructed buildings with sufficient land. Vertical installations or more compact horizontal "Slinky™" installations are often used for existing buildings because they minimize the disturbance to the landscape.

INSTALLING GEOTHERMAL HEAT PUMPS

Specialized technical knowledge and equipment is needed to properly install the piping, so a GHP system installation is not a do-it-yourself project. To find a qualified installer, contact your local utility company, the International Ground Source Heat Pump Association, or the Geothermal Heat Pump Consortium for their listings of qualified installers in your area. Installers should be certified and experienced. Ask for references from owners of systems that are several years old, and check them.

The ground heat exchanger in a GHP system is made up of a closed or open loop pipe system. Most common is the closed loop, in which high density polyethylene pipe is buried horizontally at 4 to 6 feet deep or vertically at 100 to 400 feet deep. These pipes are filled with an environmentally friendly antifreeze/water solution that acts as a heat exchanger. In the winter, the fluid in the pipes extracts heat from the earth and carries it into the building. In the summer, the system reverses and takes heat from the building and deposits it to the cooler ground.

The air delivery ductwork distributes the heated or cooled air through the house's ductwork, just like conventional systems. The box that contains the indoor coil and fan is sometimes called the air handler because it moves house air through the heat pump for heating or cooling. The air handler contains a large blower and a filter just like conventional air conditioners.

Most geothermal heat pumps are automatically covered under your homeowner's insurance policy. Contact your insurance provider to make sure. Even if your provider will cover your system, it is best to inform them in writing that you own a new system.

BENEFITS OF GEOTHERMAL HEAT PUMP SYSTEMS

The biggest benefit of GHPs is that they use 25% to 50% less electricity than conventional heating or cooling systems. This translates into a GHP using one unit of electricity to move three units of heat from the earth. According to the EPA, geothermal heat pumps can reduce energy consumption -- and corresponding emissions -- up to 44% compared with air-source heat pumps and up to 72% compared with electric resistance heating with standard air-conditioning equipment. GHPs also improve humidity control by maintaining about 50% relative indoor humidity, making GHPs very effective in humid areas.

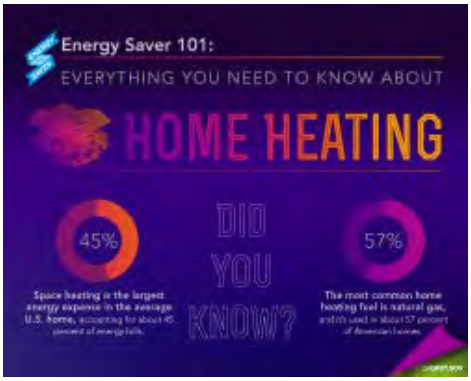
Geothermal heat pump systems allow for design flexibility and can be installed in both new and retrofit situations. Because the hardware requires less space than that needed by a conventional HVAC system, the equipment rooms can be greatly scaled down, freeing space for productive uses. GHP systems also provide excellent "zone" space conditioning, allowing different parts of your home to be heated or cooled to different temperatures.

GHP systems have relatively few moving parts and those parts are sheltered inside a building, so the systems are durable and highly reliable. The underground piping often carries warranties of 25 to 50 years, and the heat pumps often last 20 years or more. They usually have no outdoor compressors, so GHPs are not susceptible to vandalism. In addition, the components in the living space are easily accessible, which increases the convenience factor and helps ensure that the upkeep is done on a timely basis.

GHPs have no outside condensing units like air conditioners, so there's no concern about noise outside the home. A two-speed GHP system is so quiet inside a house that users usually do not know it is operating.

Learn More Links

- Federal tax credits for geothermal heat pumps
- Geothermal heat pumps
- Heat pump systems
- Air-source heat pumps
- Ductless mini-split heat pumps
- Absorption heat pumps
- Operating and maintaining your heat pump.



Energy 101: Geothermal Heat Pumps

REBATES & TAX CREDITS

Federal tax credits are available for geothermal heat pumps through 2016. Learn more.

Federal tax credits are also available for other efficient heating and cooling systems. Learn more.

Also find state or local incentives.

CAREERS & INTERNSHIPS

CONTACT US

Office of Energy Efficiency & Renewable Energy
Forrestal Building
1000 Independence Avenue, SW
Washington, DC 20585

ABOUT THIS SITE

Web Policies

Privacy

No Fear Act

Whistleblower Protection

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ENERGY DEPARTMENT

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FOIA

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Privacy Program

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Evaporative Coolers
Fireplaces and Wood Burning Stoves
Firewood
Geothermal Heat Pumps
Thermostats
Radiant Heating
Wholehouse Fans
Window AC
Consumer Tips

Other Places to Visit...

International Ground Source Heat Pump Association
Note: This organization has listings of designers and certified installers

CaliforniaGeo

GeoExchange

Geothermal Genius

U.S. Department of Energy
Information for Consumers on Geothermal Heat Pumps.

Geothermal or Ground Source Heat Pumps

Heat pumps move heat from one place to another - from outside to inside a home, for example. That's why they're called "heat pumps."

We explained the way that they work in the section "Central HVAC." Here's a simplified version of how a heat pump works:

All heat pumps have an outdoor unit (called a condenser) and an indoor unit (an evaporator coil).

A substance called a *refrigerant* carries the heat from one area to another. When compressed, it is a high temperature, high-pressure liquid. If it is allowed to expand, it turns into a low temperature, low pressure gas. The gas then absorbs heat.

In the winter the normal heat pump system extracts heat from outdoor air and transfers it inside where it is circulated through your home's ductwork by a fan.

Even cold air contains a great deal of heat; the temperature at which air no longer carries any heat is well below -200 degrees Fahrenheit. But the coldest temperature ever recorded in the lower 48 states was -70 degrees, recorded at Roger Pass, Montana on January 20, 1954. Obviously in such weather, a heat pump would have to work pretty hard to produce 68-degree temperatures inside your home.

That's why geothermal heat pumps are so efficient.

Geothermal heat pumps are similar to ordinary heat pumps, but instead of using heat found in outside air, they rely on the stable, even heat of the earth to provide heating, air conditioning and, in most cases, hot water.

From Montana's minus 70 degree temperature, to the highest temperature ever recorded in the U.S. - 134 degrees in Death Valley, California, in 1913 - many parts of the country experience seasonal temperature extremes. A few feet below the earth's surface, however, the ground remains at a relatively constant temperature. Although the temperatures vary according to latitude, at six feet underground, temperatures range from 45 degrees to 75 degrees Fahrenheit.

Ever been inside a cave in the summer? The air underground is a constant, cooler temperature than the air outside. During the winter, that same constant cave temperature is warmer than the air outside.

That's the principle behind geothermal heat pumps. In the winter, they move the heat from the earth into your house. In the summer, they pull the heat from your home and discharge it into the ground.

The earth's constant temperature is what makes geothermal heat pumps one of the most efficient, comfortable, and quiet heating and cooling technologies available today. While they may be more costly to install initially than regular heat pumps, they can produce markedly lower energy bills - 30 percent to 40 percent lower, according to estimates from the U.S. Environmental Protection Agency, who now includes geothermal heat pumps in the types of products rated in the EnergyStar® program. Because they are mechanically simple and outside parts of the system are below ground and protected from the weather, maintenance costs are often lower as well.

As an added benefit, systems can be equipped with a device called a "desuperheater" can heat household water, which circulates into the regular water heater tank. In the summer, heat that is taken from the house and would be expelled into the loop is used to heat the water for free. In the winter, the desuperheater can reduce water-heating costs by about half, while a conventional water heater meets the rest of the household's needs. In the spring and fall when temperatures are mild and the heat pump may not be operating at all, the regular water heater provides hot water.

How Do They Compare?

Surveys taken by utilities have found that homeowners using geothermal heat pumps rate them highly when compared to conventional systems. Figures indicate that more than 95 percent of all geothermal heat pump owners would recommend a similar system to their friends and family.

Cost

You will have to add the cost of **drilling** to the total amount of the project. The final cost will depend on whether your system will drill vertically deep underground or will put the loops in a horizontal fashion a shorter distance below ground. The cost of drilling also will vary depending on the terrain and other local factors.

Durability

Geothermal heat pumps are durable and require little maintenance. They have fewer mechanical components than other systems, and most of those components are underground, sheltered from the weather. The underground piping used in the system is often guaranteed to last 25 to 50 years and is virtually worry-free. The components inside the house are small and easily accessible for maintenance. Warm and cool air are distributed through ductwork, just as in a regular forced-air system.

Since geothermal systems have no outside condensing units like air conditioners, they are quieter to operate.

How Do They Work?

Remember, a geothermal heat pump doesn't create heat by burning fuel, like a furnace does. Instead, in winter it collects the Earth's natural heat through a series of pipes, called a loop, installed below the surface of the ground or submersed in a pond or lake. Fluid circulates through the loop and carries the heat to the house. There, an electrically driven compressor and a heat exchanger concentrate the Earth's energy and release it inside the home at a higher temperature. Ductwork distributes the heat to different rooms.

In summer, the process is reversed. The underground loop draws excess heat from the house and allows it to be absorbed by the Earth. The system cools your home in the same way that a refrigerator keeps your food cool - by drawing heat from the interior, not by blowing in cold air.

The geothermal loop that is buried underground is typically made of high-density polyethylene, a tough plastic that is extraordinarily durable but which allows heat to pass through efficiently. When installers connect sections of pipe, they heat fuse the joints, making the connections stronger than the pipe itself. The fluid in the loop is water or an environmentally safe antifreeze solution that circulates through the pipes in a closed system.

Another type of geothermal system uses a loop of copper piping placed underground. When refrigerant is pumped through the loop, heat is transferred directly through the copper to the earth.

Types of Loops

Geothermal heat pump systems are usually not do-it-yourself projects. To ensure good results, the piping should be installed by professionals who follow procedures established by the International Ground Source Heat Pump Association (IGSHPA). Designing the system also calls for professional expertise: the length of the loop depends upon a number of factors, including the type of loop configuration used; your home's heating and air conditioning load; local soil conditions and landscaping; and the severity of your climate. Larger homes requiring more heating or air conditioning generally need larger loops than smaller homes. Homes in climates where temperatures are extreme also generally require larger loops.

Here are the typical loop configurations:

Horizontal Ground Closed Loops

This type is usually the most cost effective when trenches are easy to dig and the size of the yard is adequate. Workers use trenchers or backhoes to dig the trenches three to six feet below the ground in which they lay a series of parallel plastic pipes. They backfill the trench, taking care not to allow sharp rocks or debris to damage the pipes. Fluid runs through the pipe in a closed system. A typical horizontal loop will be 400 to 600 feet long for each ton of heating and cooling.

Vertical Ground Closed Loops

This type of loop is used where there is little yard space, when surface rocks make digging impractical, or when you want to disrupt the landscape as little as possible. Vertical holes 150 to 450 feet deep - much like wells - are bored in the ground, and a single loop of pipe with a U-bend at the bottom is inserted before the hole is backfilled. Each vertical pipe is then connected to a horizontal underground pipe that carries fluid in a closed system to and from the indoor exchange unit. Vertical loops are generally more expensive to install, but require less piping than horizontal loops because the Earth's temperature is more stable farther below the surface.

Pond Closed Loops

This type of loop design may be the most economical when a home is near a body of water such as a shallow pond or lake. Fluid circulates underwater through polyethylene piping in a closed system, just as it does through ground loops. The pipes may be coiled in a slinky shape to fit more of it into a given amount of space. Since it is a closed system, it results in no adverse impacts on the aquatic system.

In a few places, developers have installed large community loops, which are shared by all of the homes in a housing project.

CALIFORNIA
ENERGY COMMISSION

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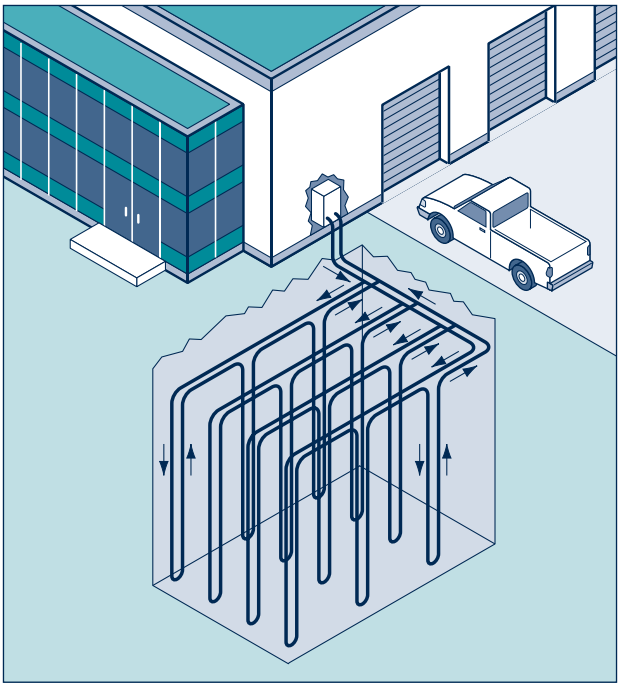
OFFICE OF GEOTHERMAL TECHNOLOGIES

Environmental and Energy Benefits of Geothermal Heat Pumps

Geothermal heat pumps are among the most energy- and cost-efficient heating and cooling systems available today. They use less electricity and produce fewer emissions than conventional systems, reduce air and water pollution, and provide a comfortable indoor environment for building occupants. Nearly 500,000 geothermal heat pumps are being used today for heating and cooling throughout the United States in residential, commercial, and government buildings.



Geothermal heat pumps use the stable temperature of the ground (vertical boreholes typically are 100 to 400 feet deep) as a heat source to warm buildings in winter and as a heat sink to cool them in summer.

Overview

Geothermal heat pumps (GHPs) represent a major clean energy technology. As a commercially viable technology now, GHPs are well positioned to help our nation achieve the increasingly desirable benefits of more efficient, clean energy technologies. While the consumer benefits from the economic and comfort-related benefits of using GHPs, everyone benefits from the substantial environmental and energy benefits resulting from GHP use, especially as GHPs become more widespread in the market. The geothermal heat pump is ideal for residential, commercial, and government building applications. Understanding the environmental and energy benefits of GHPs helps broaden appreciation of the overall potential of this outstanding technology.

Achieving the present market penetration level of nearly 500,000 GHP installations reduces U.S. greenhouse gas emissions by over 1 million metric tons of carbon dioxide each year. In a landmark technical report (source: "Space Conditioning: The Next Frontier," EPA 430-R-93-004, April 1993), the U.S. Environmental Protection Agency (EPA) found that GHPs are the most energy efficient, environmentally clean, and cost-effective space-conditioning systems available. The EPA also found that GHPs offer the lowest carbon dioxide emissions and lowest overall environmental cost of all the residential space-conditioning technology readily available today. The few emissions that are released occur at the power plant, where they are carefully monitored and controlled.

Nearly 500 schools nationwide depend on GHPs for heating and cooling. GHPs use less energy and produce fewer emissions than their traditional HVAC counterparts.

Energy Under Foot

Resource Conservation

Over two-thirds of the nation's electrical energy and over 40% of natural gas consumption is used in buildings. Space heating and cooling and water heating account for over 40% of the electric power used in residential and commercial buildings. By decreasing or offsetting the amount of energy needed for space conditioning and water heating, the nation has a major energy-saving opportunity.

GHPs, also known as GeoExchange℠ systems, move the heat from the earth (or a groundwater source) into the home in the winter, and pull the heat from the house and discharge it into the ground in the summer. The underground (or underwater) piping loops serve as a heat source in the winter and a heat sink in the summer. In essence, it's the same heat-exchanging process used by the common refrigerator or air conditioner.

> *"GHP systems have the lowest carbon dioxide emissions of all technologies analyzed, and the lowest overall environmental cost."*
>
> EPA, 1993

While many parts of the country experience seasonal temperature extremes—from scorching heat in the summer to sub-zero cold in the winter—a few feet below the earth's surface the ground remains at a relatively constant temperature.

Because a GHP system is so efficient, it uses a lot less energy to maintain comfortable indoor temperatures. This means that less energy—often created from burning fossil fuels—is needed to operate a GHP. According to the EPA, geothermal heat pumps can reduce energy consumption—and corresponding emissions—up to 44% compared to air-source heat pumps and up to 72% compared to electric resistance heating with standard air-conditioning equipment for residential applications.

Environmental Benefits

Greenhouse Gas Mitigation and Emissions Reductions

Nearly 40% of all U.S. emissions of carbon dioxide are the result of using energy to heat, cool, and provide hot water for buildings. This is about the same percentage that the transportation sector contributes. The EPA found that under most electricity generating scenarios, GHP systems have the lowest carbon dioxide emissions of all technologies analyzed, and the lowest overall environmental cost (source: "Space Conditioning: The Next Frontier").

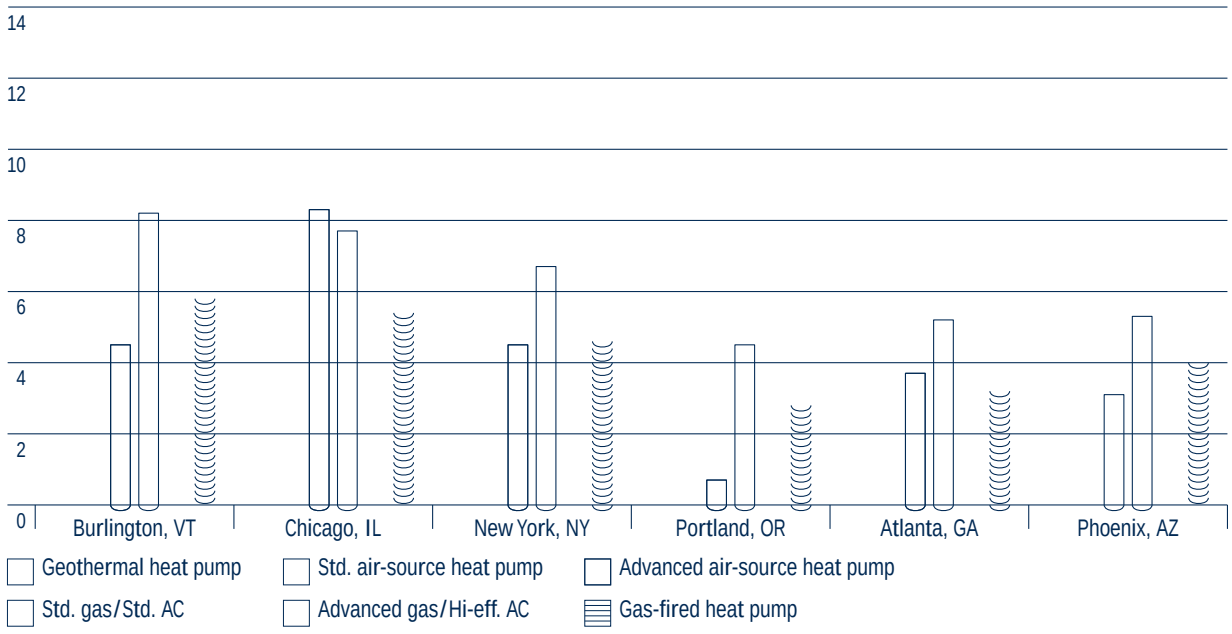
Over an average 20-year lifespan, every 100,000 units of nominally sized residential GHPs will save more than 24 trillion BTUs of electrical energy, and save consumers approximately $500 million in heating and cooling costs at current prices. And over the same period, these 100,000 units reduce greenhouse gas emissions by almost 1.1 million metric tons of carbon equivalents.

Ozone Layer Damage

GHPs minimize ozone layer destruction by using factory-sealed refrigeration systems that will seldom or never have to be recharged. GHPs typically use less

Annual Carbon Dioxide Emissions from Space Conditioning Equipment by Region
(in thousands of kilograms per year)

Source: EPA, 1993



refrigerant than conventional air-conditioning systems. And using factory-sealed refrigeration systems also reduces leak potential from field connections and increases reliability.

Human Health and Comfort

GHPs are safe and clean because there are no combustion flames, no flues, and no odors; just safe, reliable operation year after year. And compared to most conventional HVAC systems, GHPs deliver constant comfort and improved humidity benefits, especially with 2-speed fan GHP systems. GHPs are quiet too; there's no noisy outdoor compressor.

GHP systems themselves are environmentally friendly—when properly installed, there is no danger of GHPs polluting ground water sources. The fluid in the ground-loop heat exchangers is typically an environmentally safe, water-based antifreeze solution. A recent EPA analysis ("Evaluation of Consequences of Antifreeze Spills from Geothermal Heat Pumps," undated EPA report released in late 1998, GPO#1998-615-003/60624) found that the human health risk from ingesting groundwater contaminated by a GHP antifreeze leak is low.

DOE Role

In 1994, the U.S. Department of Energy (DOE), working closely with the EPA, Edison Electric Institute, Electric Power Research Institute, International Ground Source Heat Pump Association (IGSHPA), National Rural Electric Cooperative Association, and industry, helped to create the Geothermal Heat Pump Consortium (GHPC). The GHPC launched the National Earth Comfort Program, designed to foster the development of a fast-growing, self-sustaining, national GHP industry infrastructure. DOE has also supported research and development activities, especially through IGSHPA; the American Society of Heating, Refrigeration, and Air-Conditioning Engineers; the National Ground Water Association; and DOE's national laboratories. The work has targeted several areas of GHP technology, lowering the cost of ground heat exchangers, and developing advanced design software.

In partnership with the GHPC, DOE's Office of Geothermal Technologies seeks to increase annual installations of GHP systems to about 400,000 by 2005 and reach about 2 million installed (cumulative) that same year. Achieving the goal of 400,000 annual installations by 2005 will save consumers over $400 million per year in energy bills and reduce U.S. greenhouse gas emissions by over 1 million metric tons of carbon each year.

PIX06570

This commercial-sized GHP unit, installed in Cavett Elementary School, Lincoln, Nebraska, provides reliable year-round comfort.

Impressive Market Growth

The present installation base of nearly 500,000 GHP systems comprises just a fraction of the technology's potential applications. Today, GHPs represent a rapidly growing sector of the heating and cooling industry. In 1997, the GHPC reported an annual growth rate of 22%. GHP sales grew even faster—24%—during the first quarter of 1998, according to data collected by the Air Conditioning and Refrigeration Institute.

> *"The geothermal heat pump is ideal for residential, commercial, and government building applications."*

A tremendous opportunity exists to reduce energy use and carbon emissions significantly by the accelerated and expanded deployment of GHP systems.

Case Study—Fort Polk Army Base

A great example of a large-scale application of GHPs is the highly successful project at Fort Polk, Louisiana, where 4,003 U.S. Army housing units at Ft. Polk were converted to GHPs. Since the new systems were installed, service calls on hot summer days have dropped from 90 per day to almost zero, testifying to the reliability of GHP systems.

Data were collected on the utility feeders serving the housing area, and on a sample of apartments before, during, and after the retrofits. The GHPs and other efficiency measures reduced electrical consumption by 26 million kWh (average of 6,445 kWh per housing unit) or 32% of the pre-retrofit consumption, as well

as 100% of natural gas consumption. It also reduced summer peak demand by 7.5 megawatts, which is 43% of the pre-retrofit electrical consumption in family housing, and improved the load factor from 0.52 to 0.62. These energy savings correspond to an estimated reduction in carbon dioxide emissions of 22,400 tons per year, which gives project participants "green" bragging rights immediately.

As demonstrated by this Fort Polk project, GHPs shave peak loads and improve load factors. At Fort Polk, the whole-house load factor for a house with gas heating and water heating was 0.32 versus 0.60 for the GHP house.

Financed by Co-Energy Group, a GHP energy service company, the project bears no up-front costs to the government. The $18 million contract was signed in February 1994, and the installation was completed in August 1996. The contractor will receive payments amounting to 80% of the energy savings while providing maintenance during the life of the 20-year contract. For maintenance, the Army will pay Co-Energy about 18 cents per square foot per year, saving the Army about 22% compared with previous maintenance costs.

> *"GHPs can reduce energy use by 23% to 44% compared to advanced air-source heat pumps, and by 63% to 72% compared to electric resistance heating and standard air-conditioning equipment."*

At the time of installation, this project was the nation's largest energy savings performance contract (ESPC). Since this pioneer GHP project, both DOE and the Department of Defense have established a "Super ESPC" program. The agencies, through a competitive bid process, prequalify energy service companies based on past performance and their ability to finance work. Once selected, these energy service companies will be able to sign contracts with any federal agency within a matter of months—much quicker than the normal bid process. DOE's Federal Energy Management Program and Office of Geothermal Technologies have developed a technology-specific Super ESPC for geothermal heat pumps for all federal agencies.

The Fort Polk project received Vice President Al Gore's Hammer Award in 1997 for "hammering away at building a better government"—one that works better and costs less. This award, one of the Clinton Administration's highest, is given to individuals or groups who have demonstrated exemplary reinvention of government.

For More Information

The following organizations serve as excellent resources for information on geothermal energy and its various applications.

U.S. Department of Energy (DOE)
Office of Geothermal Technologies, EE-12
1000 Independence Avenue, SW
Washington, DC 20585-0121
(202) 586-5340
http://www.eren.doe.gov/geothermal/

The Energy Efficiency and Renewable Energy Clearinghouse (EREC)
P.O. Box 3048
Merrifield, VA 22116
(800) DOE-EREC (363-3732)
Fax: (703) 893-0400
E-mail: doe.erec@nciinc.com
http://www.eren.doe.gov/consumerinfo/

Geo-Heat Center
Oregon Institute of Technology
3201 Campus Drive
Klamath Falls, OR 97601-8801
(503) 885-1750
http://www.oit.osshe.edu/~geoheat/

Geothermal Heat Pump Consortium, Inc. (GHPC)
701 Pennsylvania Avenue, NW
Washington, DC 20004-2696
(888) ALL-4-GEO (255-4436)
http://www.geoexchange.org/

International Ground Source Heat Pump Association (IGSHPA)
490 Cordell South
Stillwater, OK 74078-8018
(405) 744-5175
(800) 626-4747
http://www.igshpa.okstate.edu/

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GEOTHERMAL HEAT PUMPS

Energy 101: Geothermal Heat Pumps

Watch how geothermal heat pumps heat and cool buildings by concentrating the naturally existing heat contained within the earth -- a clean, reliable, and renewable source of energy.

Geothermal heat pumps (GHPs), sometimes referred to as GeoExchange, earth-coupled, ground-source, or water-source heat pumps, have been in use since the late 1940s. They use the constant temperature of the earth as the exchange medium instead of the outside air temperature. This allows the system to reach fairly high efficiencies (300% to 600%) on the coldest winter nights, compared to 175% to 250% for air-source heat pumps on cool days.

Although many parts of the country experience seasonal temperature extremes -- from scorching heat in the summer to sub-zero cold in the winter—a few feet below the earth's surface the ground remains at a relatively constant temperature. Depending on latitude, ground temperatures range from 45°F (7°C) to 75°F (21°C). Like a cave, this ground temperature is warmer than the air above it during the winter and cooler than the air in the summer. The GHP takes advantage of this by exchanging heat with the earth through a ground heat exchanger.

As with any heat pump, geothermal and water-source heat pumps are able to heat, cool, and, if so equipped, supply the house with hot water. Some models of geothermal systems are available with two-speed compressors and variable fans for more comfort and energy savings. Relative to air-source heat pumps, they are quieter, last longer, need little maintenance, and do not depend on the temperature of the outside air.

A dual-source heat pump combines an air-source heat pump with a geothermal heat pump. These appliances combine the best of both systems. Dual-source heat pumps have higher efficiency ratings than air-source units, but are not as efficient as geothermal units. The main advantage of dual-source systems is that they cost much less to install than a single geothermal unit, and work almost as well.

Even though the installation price of a geothermal system can be several times that of an air-source system of the same heating and cooling capacity, the additional costs are returned to you in energy savings in 5 to 10 years. System life is estimated at 25 years for the inside components and 50+ years for the ground loop. There are approximately 50,000 geothermal heat pumps installed in the United States each year. For more information, go to:

TYPES OF GEOTHERMAL HEAT PUMP SYSTEMS

There are four basic types of ground loop systems. Three of these -- horizontal, vertical, and pond/lake -- are closed-loop systems. The fourth type of system is the open-loop option. Which one of these is best depends on the climate, soil conditions, available land, and local installation costs at the site. All of these approaches can be used for residential and commercial building applications.

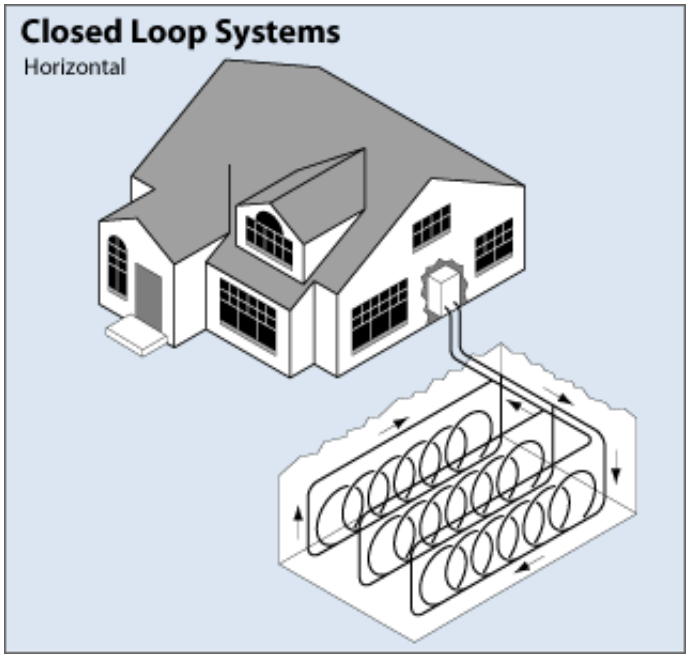
CLOSED-LOOP SYSTEMS

Most closed-loop geothermal heat pumps circulate an antifreeze solution through a closed loop -- usually made of plastic tubing -- that is buried in the ground or submerged in water. A heat exchanger transfers heat between the refrigerant in the heat pump and the antifreeze solution in the closed loop. The loop can be in a horizontal, vertical, or pond/lake configuration.

One variant of this approach, called direct exchange, does not use a heat exchanger and instead pumps the refrigerant through copper tubing that is buried in the ground in a horizontal or vertical configuration. Direct exchange systems require a larger compressor and work best in moist soils (sometimes requiring additional irrigation to keep the soil moist), but you should avoid installing in soils corrosive to the copper tubing. Because these systems circulate refrigerant through the ground, local environmental regulations may prohibit their use in some locations.

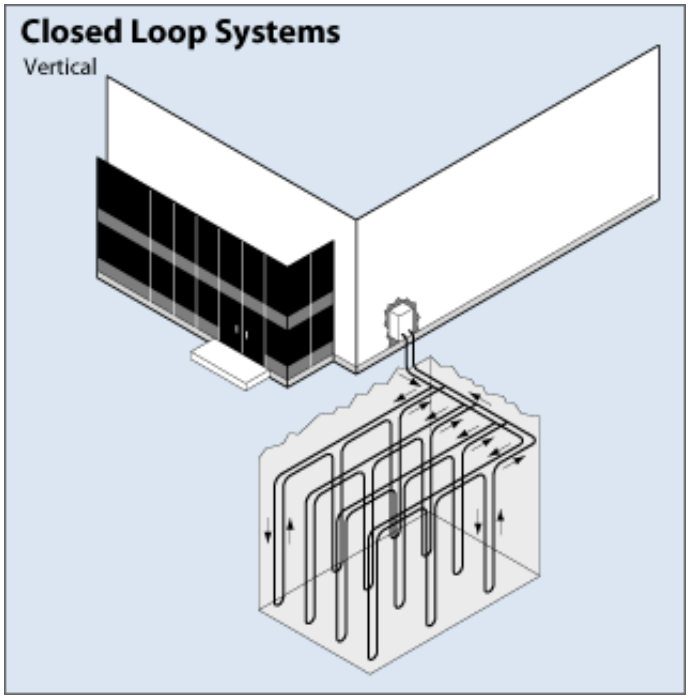
HORIZONTAL

This type of installation is generally most cost-effective for residential installations, particularly for new construction where sufficient land is available. It requires trenches at least four feet deep. The most common layouts either use two pipes, one buried at six feet, and the other at four feet, or two pipes placed side-by-side at five feet in the ground in a two-foot wide trench. The Slinky™ method of looping pipe allows more pipe in a shorter trench, which cuts down on installation costs and makes horizontal installation possible in areas it would not be with conventional horizontal applications.



VERTICAL

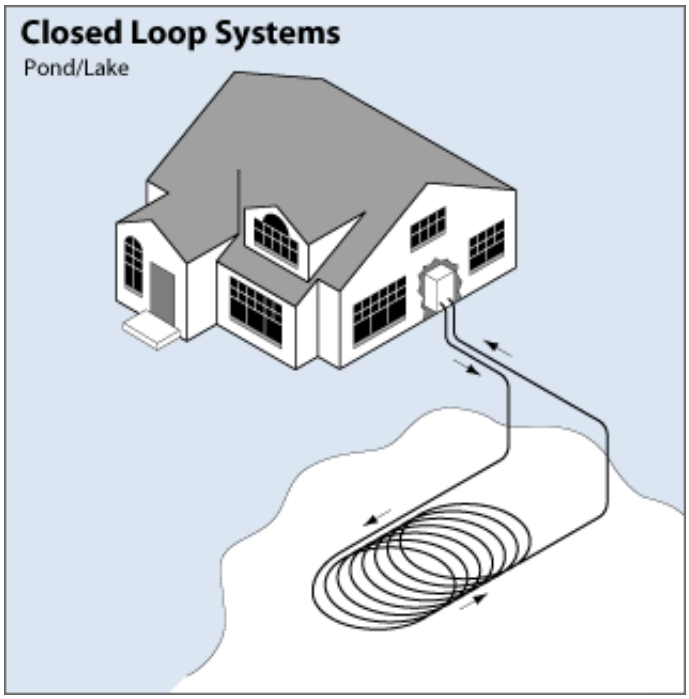
Large commercial buildings and schools often use vertical systems because the land area required for horizontal loops would be prohibitive. Vertical loops are also used where the soil is too shallow for trenching, and they minimize the disturbance to existing landscaping. For a vertical system, holes (approximately four inches in diameter) are drilled about 20 feet apart and 100 to 400 feet deep. Into these holes go two pipes that are connected at the bottom with a U-bend to form a loop. The vertical loops are connected with horizontal pipe (i.e., manifold), placed in trenches, and connected to the heat pump in the building.



POND/LAKE

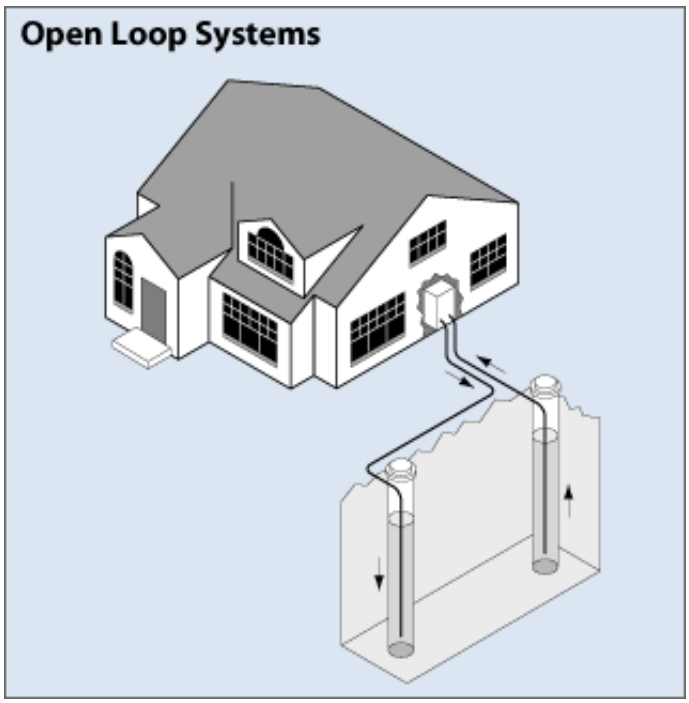
If the site has an adequate water body, this may be the lowest cost option. A supply line pipe is run underground from

the building to the water and coiled into circles at least eight feet under the surface to prevent freezing. The coils should only be placed in a water source that meets minimum volume, depth, and quality criteria.



OPEN-LOOP SYSTEM

This type of system uses well or surface body water as the heat exchange fluid that circulates directly through the GHP system. Once it has circulated through the system, the water returns to the ground through the well, a recharge well, or surface discharge. This option is obviously practical only where there is an adequate supply of relatively clean water, and all local codes and regulations regarding groundwater discharge are met.



HYBRID SYSTEMS

Hybrid systems using several different geothermal resources, or a combination of a geothermal resource with outdoor air (i.e., a cooling tower), are another technology option. Hybrid approaches are particularly effective where cooling needs are significantly larger than heating needs. Where local geology permits, the "standing column well" is another option. In this variation of an open-loop system, one or more deep vertical wells is drilled. Water is drawn from the bottom of a standing column and returned to the top. During periods of peak heating and cooling, the system can bleed a portion of the return water rather than reinjecting it all, causing water inflow to the column from the surrounding aquifer. The bleed cycle cools the column during heat rejection, heats it during heat extraction, and reduces the required bore depth.

Learn More | Links

- Federal tax credits for geothermal heat pumps
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- Air-source heat pumps
- Ductless mini-split heat pumps
- Absorption heat pumps
- Operating and maintaining your heat pump

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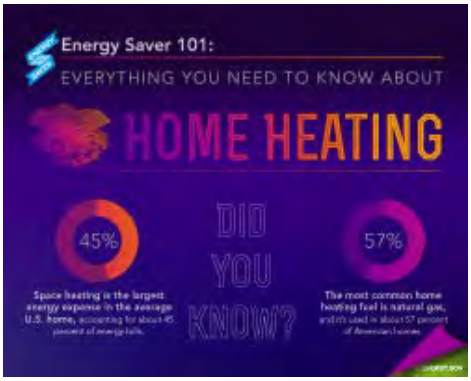

REBATES & TAX CREDITS

Federal tax credits are available for geothermal heat pumps through 2016. Learn more.

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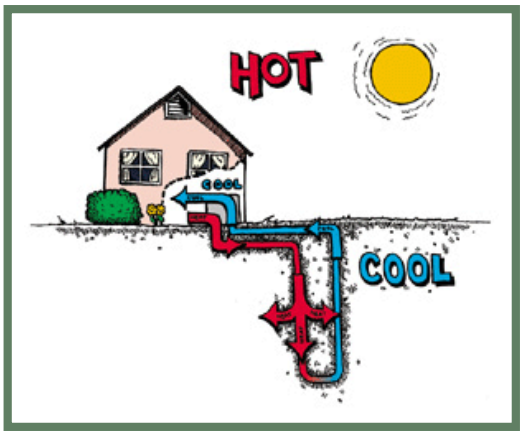
What is a ground source heat pump?

Ground source heat pumps (GSHPs) are electrically powered systems that tap the stored energy of the greatest solar collector in existence: the earth. These systems use the earth's relatively constant temperature to provide heating, cooling, and hot water for homes and commercial buildings.



How do ground source heat pumps work?

Ground source heat pumps can be categorized as having closed or open loops, and those loops can be installed in three ways: horizontally, vertically, or in a pond/lake. The type chosen depends on the available land areas and the soil and rock type at the installation site. These factors will help determine the most economical choice for installation of the ground loop.

Closed loop systems can be water-based or refrigerant-based. For water-based, water or antifreeze solution is circulated through plastic pipes buried beneath the earth's surface. Refrigerant-based relies on refrigerant – typically R-410A – directly flowing through copper tubing buried in the ground. During the winter, the fluid collects heat from the earth and carries it through the system and into the building. During the summer, the system reverses itself to cool the building by pulling heat from the building, carrying it through the system and placing it in the ground. This process creates free hot water in the summer and delivers substantial hot water savings in the winter.

Open loop systems operate on the same principle as closed loop systems and can be installed where an adequate supply of suitable water is available and open discharge is feasible. Benefits similar to the closed loop system are obtained.

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Savings / Costs

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Frequently Asked Questions

General:

How efficient is a GSHP?

The GSHP is one of the most efficient residential heating and cooling systems available today, with heating efficiencies 50 to 70% higher than other heating systems and cooling efficiencies 20 to 40% higher than available air conditioners. That directly translates into savings for you on your utility bills.

Can one system provide both space heating and cooling for my home? And what about heating hot water?
Yes. A GSHP can be a combination heating/cooling and hot water heating system. You can change from one mode to another with a simple flick on your indoor thermostat. Using a desuperheater, some GSHPs can save you up to 50% on your water-heating bill by preheating tank water.

How does a GSHP system heat water for my home?
Using what is called a desuperheater, GSHPs turn waste heat to the task of heating hot water. During the summer, when the system is in cooling mode, your hot water is produced free as a byproduct of the thermal process. In winter, with the heating mode, the desuperheater heats a portion of your hot water. Desuperheaters are standard on some units, optional on others. Stand-alone systems that will heat water all year around can be purchased.

How much space does a GSHP unit require?
Most of a GSHP installation is underground. Inside the house, the heat pump units are about the same size as a traditional heating and cooling unit.

How long will my GSHP system last?
GSHPs are durable and highly reliable. The GSHP contains fewer mechanical components, and all components are either buried in the ground or located inside the home, which protects them from outside conditions. The underground pipe carries up to a 50-year warranty.

How noisy is the GSHP unit?
GSHPs are very quiet, providing a pleasant environment inside & outside of the home. GSHPs have no noisy fan units to disturb outdoor activities, on or near the patio.

How safe are GSHPs?
GSHP systems are safe and protected. With no exposed equipment outdoors, children or pets cannot injure themselves or damage exterior units. GSHPs have no open flame, flammable fuel or potentially dangerous fuel storage tanks.

What about comfort?
A GSHP system moves warm air (90-105(F) throughout your home or business via standard ductwork. An even comfort level is created because the warm air is moved in slightly higher volumes and saturates the building with warmth more evenly. This helps even out hot or colds spots and eliminates the cold air blasts common with fossil fuel furnaces.

How effective is this underground system?
The buried pipe, or ground loop, is the most recent technical advancement in heat pump technology. Recently, new heat pump designs and improved buried pipe materials have been combined to make GSHP systems the most efficient heating and cooling systems available.

Are GSHP systems guaranteed?
Nearly all GSHP system manufacturers offer a warranty for major components that is equivalent to the warranties for conventional heating and cooling systems. Manufacturers of plastic pipe used for ground loops warrant their products for 50 years.

Can these systems be used for commercial, industrial, or apartment requirements?
Yes! Many GSHP systems are being installed using a multitude of systems hooked up to an array of buried vertical or horizontal loops. This simplifies zone control and internal load balancing.

What are the advantages to an HVAC dealer?
GSHP systems create a huge retrofit market not subject to wild fluctuations in housing construction. There is also ample opportunity for stable growth benefiting the dealer and his employees. In addition, these systems are relatively maintenance-free, requiring only regular filter changes. This means fewer maintenance and support calls. There is no outside equipment, so wear and tear is less.

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Savings / Costs:

How will I save money with a GSHP?
GSHPs save money, both in operating costs and maintenance costs. Investments can be recouped in as little as three years. There is a positive cash flow, since the energy savings usually exceeds payment on the system.

How much does a GSHP cost?
The initial investment for a GSHP system is greater than that of a conventional system. However, when you consider the operating costs of a geothermal heating, cooling, and water heating system, energy savings quickly offset the initial difference in purchase price.

What other costs are there besides the GSHP system?
You can expect an installation charge for any electrical work, ductwork, water hook-up, and other provisions or adaptations to your home that are required. Your installer can estimate these costs in advance.

How **would increased use of GSHP systems affect electricity cost and availability?**
The reduced peak load requirements would allow utilities to serve more customers and to lower fixed costs per customer, thus offsetting some increased variable costs. This would result in less cost per kilowatt, since fixed investment for new capacity is high.

Does my state offer any incentives for installing a GSHP system?
Some utilities offer rebates or incentives to their customers who purchase GSHPs. To see what your state has to offer **click here**.

Some manufacturers and companies have cost and/or savings calculators on their Web sites. Please see our **Links** page.

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Installation:

Are GSHP systems difficult to install?
Most units are easy to install, especially when they are replacing another forced-air system. This is known as a retrofit. GSHPs can be installed in areas unsuitable for fossil fuel furnaces because there is no combustion and thus no need to vent exhaust fumes. Ductwork must be installed in homes without an existing air distribution system. Your dealer or installer can assess the cost of installing ductwork.

Can I install a ground source heat exchanger myself?
It's not recommended. Thermal fusion of the pipe, drilling and trenching are procedures best handled by licensed professionals. Nonprofessional installations may result in less than optimum performance, which could cancel out anticipated savings

How far apart are trenches and vertical boreholes spaced?
Trenches are spaced four to five feet apart while boreholes are spaced ten to fifteen feet apart.

How long does it take to install a horizontal system?
This depends on soil conditions, length and depth of pipe, and equipment required. A typical installation can be completed in one or two days.

How long does it take to install a vertical system?
With the vertical installation, time varies with conditions on the site such as type and depth of the overburden, type and hardness of the bedrock, and the presence of aquifers. Typical drilling times are one or two days; total installation can usually be accomplished in two days.

What are the advantages and disadvantages of the horizontal and vertical installations, respectively?
Horizontal installations are simpler, requiring lower-cost equipment. However, they require longer lengths of pipe due to seasonal variations in soil temperature and moisture content. Since a horizontal heat exchanger is laid out in trenches, a larger area is usually required than for a vertical system. Where land is limited, vertical installations or a compact Slinky™ horizontal installation can be ideal. If regional soil conditions include extensive hard rock, a vertical installation may be the only available choice. Vertical installations tend to be more expensive due to the increased cost of drilling versus trenching, but since the heat exchanger is buried deeper than with a horizontal system, vertical systems are usually more efficient and can get by with less total pipe. Your GSHP contractor will be able to help you decide which configuration

best meets your specific needs.

How can I be sure the pipe is installed properly?
Use a reputable contractor. Don't be afraid to ask for and use references. Reputable dealers and loop installers will be happy to give names and phone numbers for you to call and confirm their capabilities. Find out where the installer received training, whether he or she is IGSHPA-accredited, and how many systems he or she has installed. Also, check with your utility company representative for names of installers. A list of **IGSHPA-trained and accredited installers is available on our website.**

Is it advisable to install a GSHP system large enough to handle my total heating needs?
GSHP systems are generally sized to meet all your cooling needs. Depending on heating needs, a GSHP system usually supplies 80-100 percent of your design heating load. Sizing the system to handle your entire heating needs may result in slightly lower heating costs, but the savings may not offset the added total of the larger system. Special consideration should be given to systems in the north where multiple capacity units should be considered to handle the large variation between heating and cooling loads. Your dealer/installer should provide a heating and cooling load calculation to guide your equipment selection.

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Environment / Climate:

How do GSHPs protect the environment?
GSHP systems conserve natural resources by providing climate control very efficiently-thus also lowering emissions. GSHPs also minimize ozone layer destruction by using factory-sealed refrigeration systems, which will seldom or never have to be recharged.

What are the environmental benefits of GSHP systems?
Currently installed systems are making a huge difference in our environment! The systems are eliminating more than three million tons of carbon dioxide and is equivalent of taking 650,000 automobiles off the road. GSHP systems conserve energy and, because they move heat that already exists rather than burning something to create heat, they reduce the amount of toxic emissions in the atmosphere. They use renewable energy from the sun, and because the system doesn't rely on outside air, it keeps the air inside of buildings cleaner and free from pollens, outdoor pollutants, mold spores, and other allergens.

Do soil freezing conditions create any problems?
Not if a system is properly designed and installed. The three to four foot depths allow the sun to melt the frozen soil during the summer. Adequate length per ton capacity prevents objectionable soil movement.

Does this mean that in extremely cold climates additional heat sources are necessary?
All systems require an emergency back up. Heat pumps can provide all the heat necessary even in the coldest weather. An economic analysis by your contractor should dictate what portion of the heat should be provided by the heat pump and what portion by auxiliary means.

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Concerning Your Home:

Will my existing ductwork function with this system?
Yes, in most cases. Your dealer or installer will be able to determine ductwork requirements and if any minor modifications are needed.

Will an underground loop affect my lawn or landscape?
No. Research has shown that loops have no adverse effects on grass, trees, or shrubs. Most horizontal installations require trenches about six inches wide. Temporary bare areas can be restored with grass seed or sod. Vertical loops require little space and do not damage lawns significantly.

My yard contains many shade trees. Will this affect ground temperature and my ability to use it as an energy source?
Not at all. The system is installed deep enough that it utilizes constant ground temperature.

Can a GSHP system be added to my fossil fuel furnace?
Yes. Called dual systems, they can easily be added to existing furnaces for those wishing to have a dual-fuel heating system. Dual-fuel systems use the GSHP system as the main heating source, and a fossil fuel furnace as a supplement in extremely cold weather should additional heat be needed.

Will I have to add insulation to my home if I install one of these systems?
Ground source heat pump systems will reduce your heating and cooling costs regardless of how well your home is insulated. However, insulating and weatherizing are key factors in gaining the maximum amount of savings from any type of heating and cooling system.

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Residential

Benefits

Great savings

Environmental friendly

Residential

A GSHP system can be installed in a residential structure of any size, anywhere, whether it is single-family or multi-family. GSHPs can be installed on almost any size lot: under lawns, landscaped areas, driveways, or the house itself. An existing house can be retrofitted with a GSHP using the ductwork that is already there. Your dealer/installer will be able to determine ductwork requirements and if any minor modifications are needed. Home builders and homeowners can both take advantage of the special financing that is offered in many locations on a GSHP either through the utility or manufacturer.

The Department of Energy (DOE) and the Environmental Protection Agency (EPA) have both endorsed ground source heat pump systems as among the most energy efficient and environmentally friendly heating, cooling, and water heating systems available. In a 1993 report, the EPA concluded that geothermal technologies represent a major opportunity for reducing national energy use and pollution, while delivering comfort, reliability and savings to homeowners.

Ground Source Heat Pumps offer great benefits:

- Can be a combination heating/cooling and hot water heating system
- Some can save you up to 50% on your water-heating bill by preheating tank water
- Made of mechanical components that are either buried in the ground or located inside the home
- About the same size as a traditional heating/cooling unit
- Pipe carries up to a 50-year warranty
- Can cut energy consumption by 20 to 50% and reduce maintenance costs
- Keep the air warmer in the winter (90 -105i F) and at a more consistent temperature throughout the home, eliminating the hot and cold spots common with other systems
- Very quiet, providing a pleasant environment inside & outside the home
- No noisy fan units to disturb outdoor activities
- No exposed equipment outdoors; children or pets cannot injure themselves or damage exterior units
- No open flame, flammable fuel or potentially dangerous fuel storage tanks

GSHPs offer great savings:

- One of the most efficient residential heating and cooling systems available today
- Heating efficiencies 50 to 70% higher than other heating systems and cooling efficiencies 20 to 40% higher than available air conditioners
- Save money in operating and maintenance costs
- Investments recouped in only a few years
- Positive cash flow; energy savings usually exceed the cost of the system
- Some utilities offer rebates or incentives to their customers who purchase GSHPs. To see what your state has to offer **click here**.
- Many heat pump manufacturers, local utilities, and lending institutions have special financing for homeowners who are installing GSHPs

GSHPs are environmentally friendly:

- Conserve natural resources by providing climate control efficiently and thus lowering emissions
- Minimize ozone layer destruction by using factory-sealed refrigeration systems, which will seldom or never have to be recharged
- Uses underground loops to transfer heat, with no external venting and no air pollution

Residential

Benefits

Great savings

Environmental friendly

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MEMO

Date: August 19, 2015
To: **Gene Wilson**
California Clean Energy Committee
From: **Alea German**
Davis Energy Group
Subject: New Construction Analysis Modeling Results

Introduction

The intent of this exercise was to evaluate efficiency measures for new construction homes in the Los Angeles area and identify a package of efficiency, demand response, and onsite generation measures which results in neutral or lower life-cycle cost relative to a business-as-usual basecase. The National Renewable Energy Laboratory's BEopt[1] v2.3 building simulation software was used for analysis purposes. BEopt allows for detailed inputs of building measure specifications and costs, utility rates, and financial terms. The sequential search optimization technique used by BEopt finds minimum-cost building designs at different target energy-savings levels.

Baseline Model Development & Assumptions

The California Energy Commission's (CEC's) two prototype[2] single family homes were used for this evaluation: a 2,100-ft2 one-story plan and a 2,700-ft2 two-story plan. These prototypes are used by the CEC to develop and evaluate energy efficiency measures for the Title-24 standards rulemaking process. Both buildings were evaluated with 3 bedrooms and 2 bathrooms. Window areas are 17.3% of floor area for the one-story and 20% of floor area for the two-story.

All building characteristics for the basecase reflect the prescriptive package in the 2013 Title-24 energy code[3]. Appliance, lighting, and plug load energy use as well as thermostat setpoints of 76℉ cooling and 71℉ heating are based on the assumptions used for the Department of Energy's Building America program[4].

Evaluation inputs are summarized in Table 1. Time dependent valuation (TDV)[5] energy, the energy metric used in California's Title-24 energy code, was used for optimizing energy savings. TDV energy use is calculated based on the 2013 Title-24 TDV multipliers for CA climate zone 9 (CZ09). A time-of-use (TOU) electricity rate was applied in the model which values electricity

[1] https://beopt.nrel.gov/home
[2] 2013 Residential Alternative Calculation Method Reference Manual for the 2013 Building Efficiency Standards. Appendix A5. California Energy Commission, June 2013. CEC-400-2013-003-CMF-REV.
[3] 2013 Building Energy Efficiency Standards for Residential and Nonresidential Buildings. Title 24 Part 6. California Energy Commission, May 2012. CEC-400-2012-004-CMF-REV2.
[4] "2014 Building America House Simulation Protocols", Eric Wilson, Cheryn Engebrecht, Scott Horowitz, and Robert Hendron. National Renewable Energy Laboratory, Technical Report NREL/TP 5500-60988. March 2014.
[5] "Time Dependent Valuation of Energy for Developing Building Efficiency Standards." Developed by E3 for the CEC. February 2011. http://www.energy.ca.gov/title24/2013standards/prerulemaking/documents/general_cec_documents/Title24_2013_TDV_Methodology_Report_23Feb2011.pdf

2-3 times higher during peak weekday afternoons than during off-peak hours. Utility efficiency incentives under the California Advanced Homes Program (CAHP) are not included because the incentive structure cannot be directly modeled in BEopt.

Table 1: Evaluation Assumptions in BEopt

Item	Specification
Evaluation Period	30 yrs
Inflation Rate	2.4%
Discount Rate (Real)	3%
Fuel Escalation (Real)	0%
Mortgage Term	30 yrs
Mortgage Interest Rate	4.1%
Electric Utility Rate	SCE Schedule TOU-D-T (Region 9)
Gas Utility Rate	$1.00/therm[6]
PV Incentives	New Solar Home Partnership @ $1.00/Watt DC[7,8]
Weather File	TMY3 - CA 2013 CZ09

Results

Figure 1 graphically demonstrates results from the BEopt optimization for the 2,100 ft^2 prototype (the graph looks similar for the 2,700 ft^2 prototype). On the x-axis is TDV energy and on the y-axis is annualized energy related costs, which include utility bills, capital costs of retrofit measures, equipment replacement costs and any residual value remaining at the end of the 30 year evaluation term.

There are three points of interest to identify in this graph. The reference Title-24 basecase home is shown with 0% TDV savings. The minimum cost case represents the package that results in the lowest annualized energy cost regardless of savings. The zero net energy (ZNE) case represents the maximum savings possible along the least cost curve, outlined in black on the graph. A summary of the building specifications for the basecase and the max savings case is presented in Table 2. Annualized cost results are presented in Table 3. There is a minimal trade-off in cost between the minimum cost and max savings case and therefore only the latter is presented for both prototypes. Incremental cost details are presented in the Appendix.

[6] BEopt does not have the ability to evaluate tiered gas rates. $1.00/therm reflects an estimated average based on recent SCG residential gas tariffs.
[7] The federal tax credit wasn't included because it's expiring at the end of 2016.
[8] $1.00/Watt is based on a Tier 1 incentive and the current incentive level (Level 7) as of 8/1/2015.

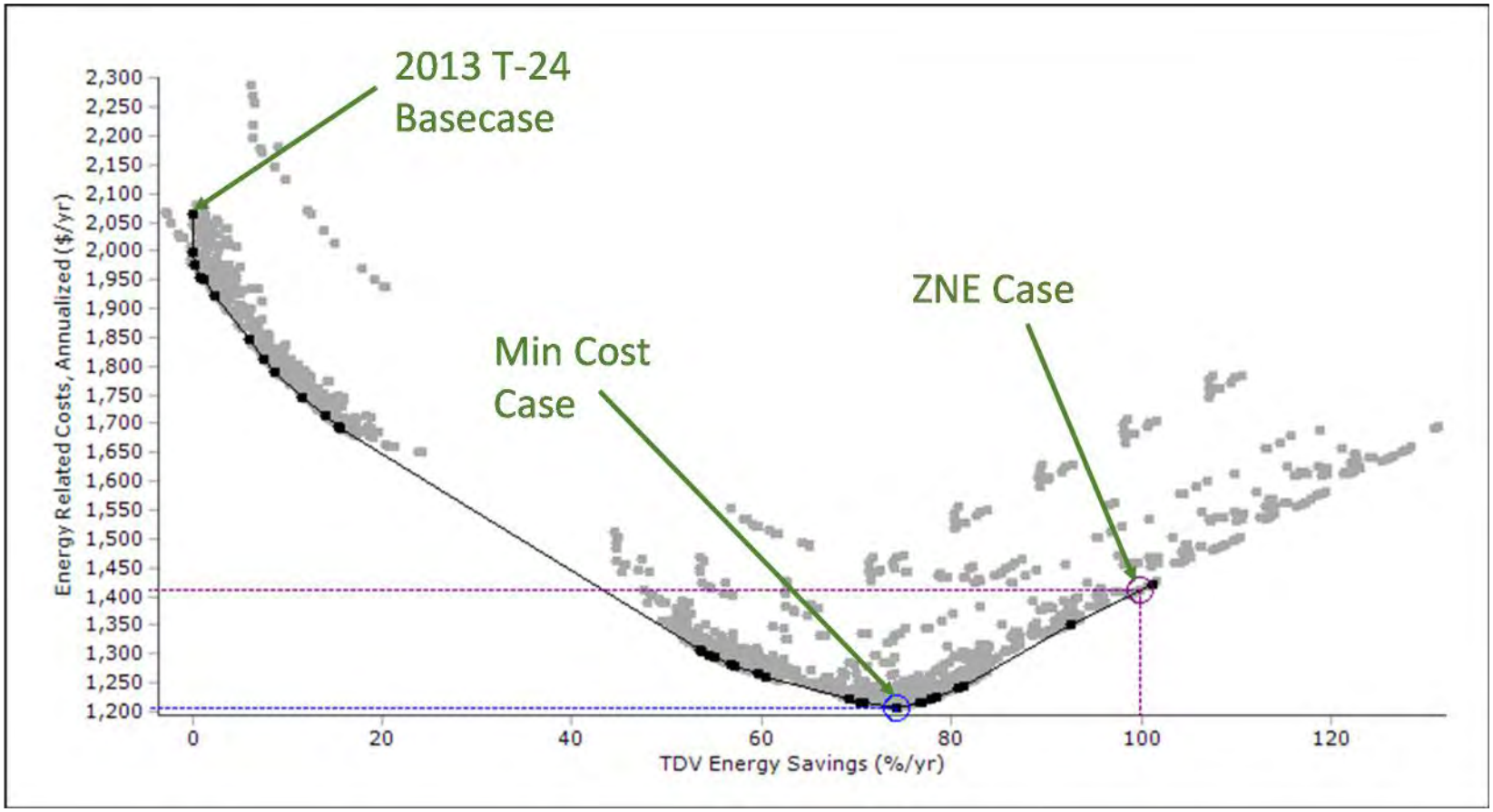

Figure 1: BEopt results for the 2,100 ft^2 prototype house

Table 2: Energy Efficiency Specifications

Building Component	2013 Title-24 Basecase	2,100 ft^2 ZNE Case	2,700 ft^2 ZNE Case
Envelope			
Exterior Walls	2x4 16"oc w/ R-15 cavity + 1" R-4 exterior insulation	2x6 16"oc w/ R-19 cavity + 2" R-8 exterior insulation	
Foundation Type & Insulation	Uninsulated slab		
Floor (Above Garage / Cantilever)	R-19 cavity insulation		R-30 cavity insulation
Roof/Ceiling Insulation	Vented attic w/ R-30	Vented attic w/ R-60	Vented attic w/ R-38
Roofing Material & Color	Comp. shingles, dark		
Radiant Barrier	Yes	None	
Window Properties	Non-metal 2 pane. U-value = 0.32; SHGC = 0.25		
Quality Insulation Inspection	No	Yes	
House Infiltration	5 ACH50	3 ACH50	
HVAC Equipment			
System Type & Description	Ducted FAU split system w/ gas furnace & A/C		
Heating Efficiency	78 AFUE		
Cooling Efficiency	14 SEER, 12.2 EER	16 SEER (2-stage)	21 SEER (variable speed)
Duct Location & Details	Attic, R-6, 6% Leakage	Ducts in conditioned space	
Mechanical Ventilation	Exhaust fans per ASHRAE 62.2		
Water Heating Equipment			
System Type & Efficiency	Gas storage, 0.615 EF	Gas tankless, 0.82 EF	
Solar DHW	None		
Distribution Type	Kitchen pipes insulated only	R-2 pipe insulation	
Appliance & Lighting			
Lighting Type	60% CFL	100% CFL	
Refrigerator	New fridge w/ side freezer, 25 ft^3	Upgrade to ESTAR	
Dishwasher	Standard		Upgrade to ESTAR
Cooking	Gas		
Clothes Washer	Standard	Upgrade to ESTAR	
Clothes Dryer	Gas		
Energy Mgmt. System	None	Yes (assume 5% plug load savings)	
Onsite Generation			
PV System	None	4.5 kW DC PV	5.0 kW DC PV
Demand Response			
Thermostat Control	Fixed 76°F cooling, 71°F heating		

Table 3: Analysis Results

Building Component	Basecase		ZNE Case	
	2,100 ft²	*2,700 ft²*	*2,100 ft²*	*2,700 ft²*
TDV Energy Savings	**-**	**-**	***100%***	***100%***
Incremental Initial Cost	**-**	**-**	***$28,068***	***$30,500***
Annual Utility Costs	***$1,909***	***$2,261***	***$249***	***$261***
Annual Energy Related Costs	***$2,064***	***$2,455***	***$1,412***	***$1,648***

Conclusions

These results demonstrate that there are zero net energy measure packages that result in lower lifecycle costs than a home that meets the minimum requirements of the 2013 Title-24 energy code. Results are very dependent on utility rates, measure costs, financing terms, and occupancy. The relative cost of efficiency versus onsite generation also impacts the results. An installed cost of $5.35/Watt[9] (not including incentives) was used in this analysis for PV. As that price increases (or efficiency prices go down), more efficiency measures and less PV will be included in the optimized packages.

High performance homes provide additional benefits to occupants aside from cost savings. Comfort can be greatly improved through high R-value and well-sealed envelope assemblies that reduce heating and cooling loads, reduce drafts and outdoor noise, and better regulate interior temperatures. Proper commissioning and maintenance of mechanical systems is vital to ensure that systems perform as expected maximizing both interior comfort and system longevity and durability.

There are challenges with widespread adoption of zero net energy homes. Not all builders are familiar with incorporating certain efficiency measures, for example ducts in conditioned space and continuous exterior wall insulation. Builders will need support in order to gain familiarity and comfortability with new practices. However, over time it's expected these new practices will become standard and incremental costs will decline. Validation of the benefits of high performance homes continues to be important at this stage and can be accomplished through pilot programs of advanced homes and large scale data collection on homes of various efficiency levels. Sizing PV systems for zero net energy on homes with mixed fuel sources is also a challenge as there is currently no mechanism to directly offset natural gas use with renewable electricity production. There are a number of activities underway or recently completed in California that are working to resolve these issues and provide the necessary support to the industry.

[9] http://www.gosolarcalifornia.org/

Appendix – Measure Costs

Costs from BEopt's library were used in all cases with the exception of PV costs which were based on current California installations for systems less than 10kW[10].

Table 4: 2,100 ft2 Prototype Incremental Cost Details

2013 Title-24 Basecase	ZNE Case Upgrade	Incremental Cost
R-15 walls + 1" R-4	R-19 walls + 2" R-8 & Quality Insulation Inspection (QII)	$679
R-30 attic insulation	R-60 attic insulation	$2,667
Radiant barrier	Remove radiant barrier	-434[1]
Standard house sealing	Reduced infiltration from 5 to 3 ACH50	$220
14 SEER 1-stage 3-ton A/C	16 SEER 2-stage 1.5-ton A/C	-$788[2]
Ducts in attic	Ducts in conditioned space	$528
Gas storage water heater	Gas tankless water heater	$473
No hot water pipe insulation	R-2 pipe insulation on all hot water pipes	$70
Lighting per T-24	100% CFL	$72
Std fridge	ENERGY STAR fridge	$234
Std clothes washer	ENERGY STAR washer	$72
No management system or feedback	Home energy management system	$200
No PV	4.5kW PV system	$24,075

[1]The heating benefits from removing the radiant barrier outweighed the cooling benefits from its inclusion.
[2]The savings from the load reductions from a 3-ton unit to a 1.5-ton unit are estimated to be greater than the incremental cost for the efficiency upgrade.

Table 5: 2,700 ft2 Prototype Incremental Cost Details

2013 Title-24 Basecase	ZNE Case Upgrade	Incremental Cost
R-15 walls + 1" R-4	R-19 walls + 2" R-8 & Quality Insulation Inspection (QII)	$1,162
R-30 attic insulation	R-38 attic insulation	$502
Radiant barrier	Remove radiant barrier	-300[1]
R-19 floor insulation	R-30 floor insulation	$67
Standard house sealing	Reduced infiltration from 5 to 3 ACH50	$283
14 SEER 1-stage 3.5-ton A/C	21 SEER variable-stage 2-ton A/C	$332[2]
Ducts in attic	Ducts in conditioned space	$465
Gas storage water heater	Gas tankless water heater	$473
No hot water pipe insulation	R-2 pipe insulation on all hot water pipes	$92
Lighting per T-24	100% CFL	$88
Std fridge	ENERGY STAR fridge	$234
Std dishwasher	ENERGY STAR dishwasher	$80
Std clothes washer	ENERGY STAR washer	$72
No management sytsem or feedback	Home energy management system	$200
No PV	5.0kW PV system	$26,751

[1]The heating benefits from removing the radiant barrier outweighed the cooling benefits from its inclusion.
[2]Includes cost savings from the load reductions from a 3.5-ton unit to a 2-ton unit.

[10] http://www.gosolarcalifornia.ca.gov/

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ENERGY STAR® CERTIFIED NEW HOMES

BETTER IS BETTER

When rigorous ENERGY STAR requirements are applied to new home construction, the result is a home built better from the ground up, delivering better durability, better comfort, and reduced utility and maintenance costs. This makes an ENERGY STAR certified home the simple choice for energy efficiency.

THE BENEFITS

You will see, feel, and hear the difference of the fully integrated approach to design and construction combined with tried-and-true best building practices that are applied to every ENERGY STAR certified new home.

REDUCED LEAKS AND DRAFTS

Comprehensive air sealing, quality-installed insulation, and high performance windows and doors minimize warm and cold spots.

MORE CONSISTENT TEMPERATURES

A high efficiency heating and cooling system, designed and installed for optimal performance, ensures better comfort in every room, year-round.

BETTER DURABILITY

A comprehensive water management system, including flashing, moisture barriers, and heavy-duty membranes, protects roofs, walls, and foundations from moisture damage.

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IMPROVED INDOOR AIR

A fresh-air system provides a controlled amount of outdoor air. Combined with a high-performance filter, this improves indoor air quality and reduces dust, pollen, and other allergens.

PEACE OF MIND

Trained and certified professionals perform independent inspections and testing, so you can sleep well knowing things were done right.

THE SAVINGS

AN ENERGY STAR CERTIFIED NEW HOME DELIVERS ENERGY SAVINGS UP TO **30%**

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California ENERGY STAR Program Requirements

The simple choice for energy efficiency.

Notification: Revision 08 of the ENERGY STAR Certified Homes program requirements is now available and can be used immediately by partners. The ENERGY STAR Partnership Agreement Terms and Commitments have also been updated and apply to all Builder and Rater partners.

Which Version of the Program Requirements Should I Use?

Use the table below to determine which version of the program to certify homes under. Note that EPA has created Version 3.1 of the Program Requirements for California to ensure that ENERGY STAR certified homes will continue to offer meaningful savings relative to non-certified homes, because California has adopted the more stringent 2013 Building Energy Efficiency Standards.

Version #	Applicable to Homes with the Following Permit Date	Version Description
Version 3	10/01/2012 to 03/31/2016	▪ ≥ 15% above 2008 Building Energy Efficiency Standards ▪ Size Adjustment Factor applied and enforced ▪ All checklists completed and enforced
Version 3.1	On or After 04/01/2016	▪ California Advanced Home Program (CAHP) score of ≤84 or ≥ 10% above 2013 Building Energy Efficiency Standards. ▪ All checklists completed and enforced

How to Certify a Home

Select the core energy efficiency measures

- Version 3 Program Requirements for California (183KB) — This document defines the core efficiency specifications under Version 3 of the program.
- Version 3.1 Program Requirements for California (129KB) — This document defines the core efficiency specification under Version 3.1 of the program.

Complete Mandatory Measures

Certification of a home also requires the completion of the following:

- Rater Design Review Checklist and Rater Field Checklist (632KB)
- HVAC Design Report (249KB)
- HVAC Commissioning Checklist (184KB)
- Water Management System Builder Requirements (120KB)

Sampling Protocol

'Sampling' allows builders who have demonstrated an ability to consistently meet the ENERGY STAR Program Requirements to minimize production interruptions and verification costs. For more information, see the California Home Energy Rating System Program Regulations. EXIT

Policy Changes and Clarifications

EPA periodically makes policy changes and clarifications, typically in response to a unique situation within a particular climate zone, and shares frequently–asked questions. See Recent Policy Changes and Clarifications.

Training Requirements and Resources

Version 3 includes new and more rigorous requirements for builders, Raters, and HVAC contractors. EPA requires that they each complete training on Version 3 to promote successful adoption and has created a number of resources to assist them in understanding the Program Requirements. Learn More

California Archives

- Summary of Public Comment Period for Draft Version 3 California Program Requirements (40KB) This document contains a summary of comments received during the California comment period, along with EPA's response to each point raised and the resulting policy change, if any.
- The draft Version 3.1 Program Requirements for California were available for comment from 10/20/2015 through 11/09/2015. During this period EPA did not receive any comments.
- Homes permitted between 01/01/2012 to 09/30/2012 were certified using the Version 2.5 Program Requirements.
- Homes permitted prior to 01/01/2012 were certified using the Version 2 Program Requirements.

California Program Requirements
ENERGY STAR Certified Homes, Version 3.1 (Rev. 08)

Eligibility Requirements

The following homes are eligible to earn the ENERGY STAR:

- Detached dwelling units [1] (e.g. single family homes); OR
- Dwelling units [1] in any multifamily building with 4 units or fewer; OR
- Dwelling units [1] in multifamily buildings with 3 stories or fewer above-grade [2,3]; OR
- Dwelling units [1] in multifamily buildings with 4 or 5 stories above-grade [2,3] that have their own heating, cooling, and hot water systems [4], separate from other units, and where dwelling units occupy 80% or more of the occupiable [3] square footage of the building [5]. When evaluating mixed–use buildings for eligibility, exclude commercial / retail space when assessing whether the 80% threshold has been met.

Dwelling units [1] in multifamily buildings that are not eligible to earn the ENERGY STAR through the Certified Homes Program may be eligible through the Multifamily High Rise Program. For more information, visit: www.energystar.gov/mfhr/eligibility

Note that compliance with these requirements is not intended to imply compliance with all local code requirements that may be applicable to the home to be built. [6]

Partnership, Training, and Credentialing Requirements

Builders, Raters, and HVAC contractors must meet the following requirements prior to certifying homes:

- Builders are required to sign an ENERGY STAR Partnership Agreement and complete the online Version 3 Builder Orientation, which can be found at www.energystar.gov/homesPA.
- HVAC installing contractors are required to be credentialed by an EPA-recognized HVAC Quality Installation Training and Oversight Organization (H-QUITO). An explanation of this process can be found at www.energystar.gov/newhomesHVAC.
- Raters and Field Inspectors are required to complete training, which can be found at www.energystar.gov/newhomestraining.

ENERGY STAR Certification Process

1. The certification process provides flexibility to select a custom combination of measures for each home that meets one of two performance targets, as assessed through energy modeling. Select one of the two following performance targets:
   a. A California Advanced Home Program (CAHP) score of ≤ 84, as determined by a CEC-approved software program. [7]
   b. Savings ≥10% above the 2013 Building Energy Efficiency Standards, as determined by a CEC-approved software program. [7]
2. Configure the preferred set of efficiency measures for the home to be certified and verify that the resulting performance meets or exceeds the applicable performance target using the applicable software program, as determined in Step 1.

   Note that, regardless of the measures selected, the Mandatory Requirements for All Certified Homes in Exhibit 1 are also required and impose certain constraints on the efficiency measures selected (e.g., insulation levels, insulation installation quality, window performance, duct leakage). Furthermore, on-site power generation may not be used to meet the performance target.
3. Construct the home using the measures selected in Step 2 and the Mandatory Requirements for All Certified Homes, Exhibit 1.
4. Using a Rater, verify that all requirements have been met in accordance with the Mandatory Requirements for All Certified Homes and with Data Input requirements and On-Site Inspection Procedures for California HERS Ratings. [8] The Rater is required to keep electronic or hard copies of the completed and signed Rater checklists and the HVAC Design Report.

   The Rater must review all items on the Rater checklists. Raters are expected to use their experience and discretion to verify that the overall intent of each inspection checklist item has been met (i.e., identifying major defects that undermine the intent of the checklist item versus identifying minor defects that the Rater may deem acceptable).

   In the event that a Rater finds an item that is inconsistent with the intent of the checklists, the home cannot earn the ENERGY STAR until the item is corrected. If correction of the item is not possible, the home cannot earn the ENERGY STAR. In the event that an item on a Rater checklist cannot be inspected by the Rater, the home also cannot earn the ENERGY STAR. The only exceptions to this rule are in the Thermal Enclosure System Section of the Rater Field Checklist, where the builder may assume responsibility for verifying a maximum of eight items. This option shall only be used at the discretion of the Rater. When exercised, the builder's responsibility will be formally acknowledged by the builder signing the checklist for the item(s) that they verified.

   In the event that a Rater is not able to determine whether an item is consistent with the intent (e.g., an alternative method of meeting a checklist requirement has been proposed), then the Rater shall consult their Provider. If the Provider also cannot make this determination, then the Rater or Provider shall report the issue to EPA prior to project completion at: energystarhomes@energystar.gov and will typically receive an initial response within 5 business days. If EPA believes the current program requirements are sufficiently clear to determine whether the intent has been met, then this guidance will be provided to the partner and enforced beginning with the house in question. In contrast, if EPA believes the program requirements require revisions to make the intent clear, then this guidance will be provided to the partner but only enforced for homes permitted after a specified transition period after the release of the revised program requirements, typically 60 days in length.

   This process will allow EPA to make formal policy decisions as partner questions arise and to disseminate these policy decisions through the periodic release of revised program documents to ensure consistent application of the program requirements.

California Program Requirements
ENERGY STAR Certified Homes, Version 3.1 (Rev. 08)

Exhibit 1: Mandatory Requirements for All Certified Homes

Party Responsible	Mandatory Requirements
Rater	• Completion of Rater Design Review Checklist • Completion of Rater Field Checklist
HVAC System Designer	• Completion of HVAC Design Report
HVAC Installing Contractor	• Completion of HVAC Commissioning Checklist
Builder	• Completion of Water Management System Builder Requirements

Effective Date

Exhibit 2 defines the implementation timeline for Version 3.1 of the California Program Requirements.

Exhibit 2: California ENERGY STAR Certified Homes Version 3.1 Implementation Timeline

Version #	Applicable to Homes with the Following Permit Date
CA v3.1	On or after 04/01/2016

Notes:

1. A dwelling unit, as defined by the 2012 IECC, is a single unit that provides complete independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking, and sanitation.
2. Any above-grade story with 20% or more occupiable space, including commercial space, shall be counted towards the total number of stories for the purpose of determining eligibility to participate in the program. The definition of an 'above-grade story' is one for which more than half of the gross surface area of the exterior walls is above-grade. All below-grade stories, regardless of type, shall not be included when evaluating eligibility.
3. Per ASHRAE 62.2-2010, occupiable space is any enclosed space inside the pressure boundary and intended for human activities or continual human occupancy, including, but not limited to, areas used for living, sleeping, dining, and cooking, toilets, closets, halls, storage and utility areas, and laundry areas.
4. Central domestic hot water systems are allowed if solar energy provides ≥ 50% of the domestic hot water for the residential units.
5. Units in multifamily buildings with 4 or 5 stories above-grade, including mixed–use buildings, that have their own heating, cooling, & hot water systems, separate from other units, *but where dwelling units occupy < 80%* of the residential (i.e., excluding commercial / retail space for mixed-use buildings) occupiable square footage of the building may earn the ENERGY STAR through either the Certified Homes Program or the Multifamily High Rise (MFHR) Program if permitted prior to July 1, 2012. Units in buildings of this type that are permitted after this date shall only be eligible to earn the ENERGY STAR through the MFHR Program.
6. Where requirements of the local codes, manufacturers' installation instructions, engineering documents, or regional ENERGY STAR programs overlap with the requirements of these guidelines, EPA offers the following guidance:
   a. Where the overlapping requirements exceed the ENERGY STAR guidelines, these overlapping requirements shall be met;
   b. Where overlapping requirements conflict with a requirement of the ENERGY STAR program (e.g., slab insulation is prohibited to allow visual access for termite inspections), then the conflicting requirement within these program requirements shall not be met. Certification shall only be allowed if the Rater has determined that no equivalent option is available that could meet the intent of the conflicting requirement (e.g., switching from exterior to interior slab edge insulation). Note that a home must still meet its performance target. Therefore, other efficiency measures may be needed to compensate for the omission of the conflicting requirement.
7. Information on the CAHP score and available rating software can be found at http://www.cahp-pge.com. CEC-approved computer programs can be found at: http://www.energy.ca.gov/title24/2013standards/2013_computer_prog_list.html.
8. The term 'Rater' refers to the person completing the third-party inspections required for certification. This person shall: a) be a certified Home Energy Rater, Rating Field Inspector, or an equivalent designation as determined by a Verification Oversight Organization such as RESNET; and, b) have attended and successfully completed an EPA-recognized training class. See www.energystar.gov/newhomestraining.

   Raters who operate under a Sampling Provider are permitted to verify the Minimum Rated Features of the home and to verify any Checklist Item designated "Rater Verified" using the CEC-approved sampling protocol for homes in CA. No parties other than Raters are permitted to use sampling. All other items shall be verified for each certified home. For example, no items on the HVAC Commissioning Checklist are permitted to be verified using a sampling protocol.
9. This Revision of the California Program Requirements is required to certify all homes permitted after 04/01/2016, but is allowed to be used for any home permitted or completed prior to this date. The Rater may define the 'permit date' as either the date that the permit was issued or the date of the contract on the home. In cases where permit or contract dates are not available, Providers have discretion to estimate permit dates based on other construction schedule factors. These assumptions should be both defensible and documented.

JULY 2012

The Value of Green Labels in the California Housing Market

An Economic Analysis of the Impact of Green Labeling on the Sales Price of a Home

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UNIVERSITY OF CALIFORNIA, BERKELEY, CA

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Nils Kok

Nils Kok currently holds positions as a visiting scholar at the Goldman School of Public Policy at the University of California at Berkeley, and as associate professor in Finance and Real Estate at Maastricht University, the Netherlands. His research on the intersection of sustainability and finance in the real estate sector has been rewarded with several international grants and prizes, and has appeared in leading academic journals. He communicates his ideas and findings in the global arena as a frequent speaker at academic and industry conferences and actively shares his expertise through workshops with investment practitioners and policy-makers. Nils is also the co-founder of the Global Real Estate Sustainability Benchmark (GRESB), a premier investor-led initiative to assess the environmental and social performance of the global real estate investment industry. More information and blog at www.nilskok.com.

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Matthew E. Kahn

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Financial support for this research has been provided by the San Francisco Department of the Environment and StopWaste.Org. Nils Kok is grateful for the financial support of the Netherlands Organization for Scientific Research (NWO). We thank the US Green Building Council and Build It Green for their generous supply of data. We are grateful to Kim Goodrich, Barry Hooper and Reuben Schwartz for their helpful comments. Owen Heary provided excellent research assistance. All errors pertain to the authors.

EXECUTIVE SUMMARY

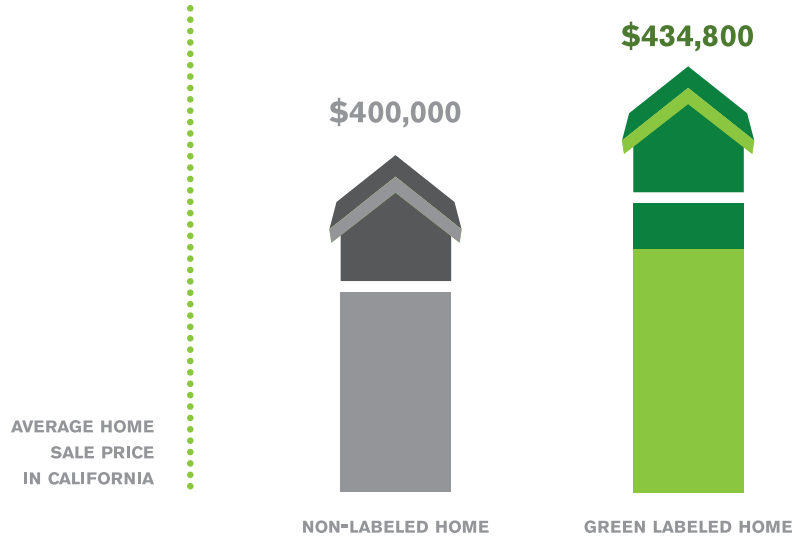
"The Value of Green Labels in the California Housing Market" is the first study to provide statistical evidence that, holding other factors constant, a green label on a single-family home in California provides a market premium compared to a comparable home without the label. The research also indicates that the price premium is influenced by local climate and environmental ideology. To reach these conclusions, researchers conducted an economic analysis of 1.6 million homes sold in California between 2007 and 2012, controlling for other variables known to influence home prices in order to isolate the added value of green home labels.

KEY FINDING: Green Home Labels Add 9 Percent Price Premium

This study, conducted by economists at the University of California, Berkeley and University of California, Los Angeles, finds that California homes labeled by Energy Star, LEED for Homes and GreenPoint Rated sell for 9 percent more (±4%) than comparable, non-labeled homes. Because real estate prices depend on a variety of factors, the study controlled for key variables that influence home prices including location, size, vintage, and the presence of major amenities such as swimming pools, views and air conditioning. Considering that the average sales price of a non-labeled home in California is $400,000, the price premium for a certified green home translates into some $34,800 more than the value of a comparable home nearby.

Green labeled homes sell at higher prices

A green label adds an average **9%** price premium to sale price versus other comparable homes.



GREEN LABELS FOR HOMES

Green home labels such as Energy Star, LEED for Homes, and GreenPoint Rated have been established to verify and communicate to consumers that a home is designed and built to use energy efficiently. Green homes also provide benefits beyond energy savings, such as more comfortable and stable indoor temperatures and more healthful indoor air quality. LEED and GreenPoint Rated homes also feature efficient water use; sustainable, non-toxic building materials; and other features that reduce their impact on the environment, such as proximity to parks, shops and transit.

EXPLAINING THE GREEN PREMIUM

This study yields two key insights into the effect of green labels on property values, and why these effects can be so significant. This is especially important in light of the fact that the added value of a green-labeled home far exceeds both the estimated cost of adding energy efficiency features to a home and the utility-bill savings generated by those improvements. Clearly, other factors are in play in producing this premium:

- The results show that the resale premium associated with a green label varies considerably from region to region in California, and is highest in the areas with hotter climates. It is plausible that residents in these areas value green labels more due to the increased cost of keeping a home cool.
- The premium is also positively correlated to the environmental ideology of the area, as measured by the rate of registration of hybrid vehicles. In line with previous evidence on the private value of green product attributes, this correlation suggests that some homeowners may attribute value to intangible qualities associated with owning a green home, such as pride or perceived status.

RESEARCH METHODOLOGY

The study, conducted by Matthew E. Kahn of UCLA and Nils Kok, visiting scholar at UC Berkeley and affiliated with Maastricht University in the Netherlands, examined all of the 1.6 million single-family homes sold between 2007 and 2012 in California. Of those homes, 4,321 were certified under Energy Star Version 2, GreenPoint Rated, or LEED for Homes. Seventy percent of the homes with a green label that were sold during this time period were new construction. The economic approach used, called “hedonic pricing analysis,” controlled for a large number of variables that affect real estate pricing, such as vintage, size, location (by zip code) and the presence of major amenities (e.g., pools, views, and air conditioning). The findings of this study echo the results of previous research in the commercial real estate sector, which has found that green labels positively affect rents, vacancy rates and transaction prices for commercial space in office buildings.

1. INTRODUCTION

Increased awareness of energy efficiency and its importance in the built environment have turned public attention to more efficient, "green" building. Indeed, previous research has documented that the inventory of certified green *commercial* space in the U.S. has increased dramatically since the introduction of rating schemes that attest to the energy efficiency or sustainability of commercial buildings (based on criteria published by the public and private institutions administering the rating schemes). Importantly, tenants and investors value the "green" features in such buildings. There is empirical evidence that "green" labels affect the financial performance of commercial office space: Piet Eichholtz *et al.* (2010) study commercial office buildings certified under the LEED program of the US Green Building Council (USGBC) and the Energy Star program of the EPA, documenting that these labels positively affect rents, vacancy rates and transaction prices.

Of course, private homeowners may be different from tenants and investors in commercial buildings, especially in the absence of standardized, publicly available information on the energy efficiency of homes. But in recent years, there has been an increase in the number of homes certified as energy efficient or sustainable based on national standards such as Energy Star and LEED and local standards such as GreenPoint Rated in California. By obtaining verification from a third party that these homes are designed and built to use energy and other resources more efficiently than prescribed by building codes, homes with "green" labels are claimed to offer lower operational costs than conventional homes. In addition, it is claimed that owners of such homes enjoy ancillary benefits beyond energy savings, such as greater comfort levels and better indoor environmental quality. If consumers observe and capitalize these amenities, hedonic methods can be used to measure the price premium for such attributes, representing the valuation of the marginal buyer (Patrick L. Bajari and Lanier C. Benkard, 2005, Sherwin Rosen, 1974).

In the European Union, the introduction of energy labels, following the 2003 European Performance of Buildings Directive (EPBD), has provided single-family homebuyers with information about how observationally identical homes differ with respect to thermal efficiency. Presumably, heterogeneity in thermal efficiency affects electricity and gas consumption. The EU energy label seems to be quite effective in resolving the information asymmetry in understanding the energy efficiency of dwellings: Dirk Brounen and Nils Kok (2011) estimate hedonic pricing gradients for recently sold homes in the Netherlands and document that homes receiving an "A" grade in terms of energy efficiency sell for a 10 percent price premium. Conversely, dwellings that are labeled as inefficient transact for substantial discounts relative to otherwise comparable, standard homes.

We are not aware of any large sample studies the United States that have investigated the financial performance of "green" homes. There is some information on the capitalization of solar panels in home prices; one study based in California documents that homes with solar panels sell for roughly 3.5 percent more than comparable homes without solar panels (Samuel R. Dastrup *et al.*, 2012). But unlike findings in previous research on the commercial real estate sector, there is a dearth of systematic evidence on the capitalization of energy efficiency and other sustainability-related amenities in asset prices of the residential building stock, leading to uncertainty among private investors and developers about whether and how much to invest in the construction and redevelopment of more efficient homes.[1]

[1] There are some industry-initiated case studies on the financial performance of "green" homes. An example is a study by the Earth Advantage Institute, which documents for a sample of existing homes in Oregon that those with a sustainable certification sell for 30 percent more than homes without such a designation, based on sales data provided by the Portland Regional Multiple Listing Service. However, the sources of the economic premiums are diverse, not quantified, and not based on rigorous econometric estimations.

This paper is the first to systematically address the impact of labels attesting to energy efficiency and other "green" features of single-family dwellings on the value of these homes as observed in the marketplace, providing evidence on the private returns to the investments in energy-efficient single-family dwellings, an increasingly important topic for the residential market in the U.S.

Using a sample of transactions in California, consisting of some 4,231 buildings certified by the USGBC, EPA, and a statewide rating agency, Build It Green, and a control sample of some 1.6 million non-certified homes, we relate transaction prices of these dwellings to their hedonic characteristics, controlling for geographic location and the time of the sale.

The results indicate the importance of a label attesting to the sustainability of a property in affecting the transaction price of recently constructed homes as observed in the marketplace, suggesting that an otherwise comparable dwelling with a "green" certification will transact for about 9 percent more. The results are robust to the inclusion of a large set of control variables, such as dwelling vintage, size and the presence of amenities, although we cannot control for "unobservables," such as the prestige of the developer and the relative quality of durables installed in the home.

In addition to estimating the average effect, we test whether the price premium is higher for homes located in hotter climates and in electric utility districts featuring higher average residential electricity prices. Presumably, more efficient homes are more valuable in regions where climatic conditions demand more cooling, and where energy prices are higher. In line with evidence on the capitalization of energy efficiency in commercial buildings (Piet Eichholtz *et al.*, in press), our results suggest that a label appears to add more value in hotter climates, where cooling expenses are likely to be a larger part of total housing expenses. This provides some evidence on the rationality of consumers in appropriately capitalizing the benefits of more efficient homes.

We also test whether the price of certified homes is affected by consumer ideology, as measured by the percentage of hybrid registrations in the neighborhood. A desire to be environmentally conscious may increase the value of "green" homes because it is a tangible signal of environmental virtue (Steven E. Sexton and Alison L. Sexton, 2011), and an action a person can take in support of their environmental commitment. The results show that the green premium is positively related to the environmental ideology of the neighborhood; green homes located in areas with a higher fraction of hybrid registrations sell for higher prices. Some homeowners seem to attribute non-financial utility to a green label (and its underlying features), which is in line with previous evidence on the private value of green product attributes (Matthew E. Kahn, 2007).

The remainder of this paper is organized as follows: Section 2 describes the empirical framework and the econometric models. Section 3 discusses the data, which represent a unique combination of dwelling-level transaction data with detailed information on "green" labels that have been assigned to a subsample of the data. In Section 4, we provide the main results of the analysis. Section 5 provides a discussion and policy implications of the findings.

2. METHOD AND EMPIRICAL FRAMEWORK

Consider the determinants of the value of a single-family dwelling at a point in time as a bundle of residential services consumed by the household (John F. Kain and John M. Quigley, 1970). It is well-documented in the urban economics literature that the services available in the neighborhood, such as schools, public transport and other amenities, will explain a large fraction of the variation in price (see, for example, Joseph Gyourko *et al.*, 1999). But of course, the dwelling's square footage, architecture and other structural attributes will also influence its value.

In addition to attributes included in standard asset pricing models explaining home prices, the thermal characteristics and other "sustainability" features of the dwelling may have an impact on the transaction price. These characteristics provide input, which combined with energy inputs, provide comfort (John M. Quigley and Daniel L. Rubinfield, 1989). However, the energy efficiency of homes (and their equipment) is often hard to observe, leading to information asymmetry between the seller and the buyer. In fact, homeowners typically have limited information on the efficiency of their own home; it has been documented that the "energy literacy" of resident households is quite low (Dirk Brounen *et al.*, 2011). Indeed, recent evidence shows that providing feedback to private consumers with respect to their energy consumption is a simple, but effective ''nudge'' to improve their energy efficiency (Hunt Allcott, 2011).

To resolve the information asymmetry in energy efficiency, and also in related "green" attributes, energy labels and green certificates have been introduced in commercial and residential real estate markets. The labels can be viewed as an additional step to enhance the transparency of resource consumption in the real estate sector. Such information provision may enable private investors to take sustainability into account when making housing decisions, reducing ostly economic research (Robert W. Gilmer, 1989). From an economic perspective, the labels should have financial utility for prospective homeowners, as the savings resulting from purchasing a more efficient home may result in lower operating costs during the economic life, or less exposure to utility cost escalation over time.[2] In addition, similar to a high quality "view," various attributes of homes, such as durability or thermal comfort, may not provide a direct cash flow benefit, but may still be monetized in sales transactions.

To empirically test this hypothesis, we relate the logarithm of the transaction price to the hedonic characteristics of single-family homes, controlling precisely for the variations in the measured and unmeasured characteristics of rated buildings and the nearby control dwellings, by estimating:

$$(1)\ \log(R_{ijt}) = \alpha green_{it} + \beta X_i + \gamma_{jt} + \varepsilon_{ijt}$$

In this formulation, R_{ijt} is the home's sales price commanded by dwelling i in cluster j in quarter t; X_i is the set of hedonic characteristics of building i, and ε_{ijt} is an error term. To control more precisely for locational effects, we include a set of dummy variables, one for each of the j zip codes. These zip-code-fixed effects account for cross-area differences in local public goods such as weather, crime, neighborhood demographics and school quality. To capture the time-variance in local price dynamics, we interact zip-code-fixed effects with year/month indicators; the transaction prices of homes are thus allowed to vary by each month during the time period, in each specific location. This rich set of fixed effects allows for local housing market trends and captures the value of time-varying local public goods, such

[2] For the commercial real estate market, a series of papers that study investor and tenant demand for "green" office space in the U.S. show that buildings with an Energy Star label–indicating that a building belongs to the top 25 percent of the most energy-efficient buildings–or a LEED label have rents that are two to three percent higher as compared to regular office buildings. Transaction prices for energy-efficient office buildings are higher by 13 to 16 percent. Further analyses show that the cross-sectional variation in these premiums has a strong relation to real energy consumption, indicating that tenants and investors in the commercial property sector capitalize energy savings in their investment decisions (Piet Eichholtz *et al.*, 2010; in press).

as crime dynamics or the growth or decline of a nearby employment district. $green_i$ is a dummy variable with a value of one if dwelling i is rated by the EPA, USGBC or Build It Green, and zero otherwise. $\alpha, \beta, \gamma_{jt}$ are estimated coefficients. α is thus the average premium, in percent, estimated for a labeled building relative to those observationally similar buildings in its geographic cluster—the zip code. Standard errors are clustered at the zip code level to control for spatial autocorrelation in prices within zip codes.

In a second set of estimates, we include in equation (1) additional interaction terms where we interact "green" with a vector of locational attributes:

$$(2)\ \log(R_{ijt}) = \alpha_0\, green_{it} + \alpha_1\, N\, green_{it} + \beta X_i + \gamma_{jt} + \varepsilon_{ijt}$$

We estimate equation (2) to study whether the "green label" premium varies with key observables such as climatic conditions and local electricity prices.[3] We posit that green homes will be more valuable in areas that experience more hot days and areas where electricity prices are high. Presumably, the present value of future energy savings is highest in those regions, which should be reflected in the value attributed to the "green" indicator.

A second interaction effect addressed in this study is whether the capitalization effect of green labels is larger in communities that reveal a preference for "green products." A desire to appear environmentally conscious or to act on one's environmental values may increase the financial value of "green" homes because it is a signal of environmental virtue.[4] Our proxy for environmental idealism is the Toyota Prius share of registered vehicles in the zip code (these data are from the year 2007).[5] Last, we test for whether the green home premium differs over the business cycle. The recent sharp recession offers significant variation in demand for real assets, which may affect the willingness to pay for energy efficiency and other green attributes.

Anecdotally, we know that the green homes in our sample are mostly "production homes" and not high-end custom homes—many large residential developers, such as KB Homes, are now constructing Energy Star and GreenPoint Rated homes. But, it is important to note that we do not have further information on the characteristics of the developers of "green" homes and conventional homes. Therefore, we cannot control for the possibility that some developers choose to systematically bundle green attributes with other amenities, such more valuable appliances in green homes or a higher-quality finishing. We assume that such unobservables are not systematically correlated with green labels. Otherwise, we would overestimate the effects of "green" on housing prices.

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[3] In model (2), we replace the zip-code-fixed effects for county fixed effects, as data on Prius registrations, electricity prices and the clustering of green homes is measured at the zip code level. To further control for the quality of the neighborhood and the availability of local public goods, we include a set of demographic variables from the Census bureau, plus distance to the central business district (CBD) and distance to the closest public transportation hub.

[4] This is comparable to private investors' preference for socially responsible investments (Jeroen Derwall *et al.*, 2011).

[5] See Matthew E. Kahn (2007) for a discussion of Prius registrations as proxy for environmentalism.

3. DATA

A. Green Homes: Measurements and Data Sources

In the U.S., there are multiple programs that encourage the development of energy efficient and sustainable dwellings through systems of ratings to designate and publicize exemplary buildings. These labels are asset ratings: snapshots in time that quantify the thermal and other sustainability characteristics of the building and predict its energy performance through energy modeling. They neither measure actual performance, nor take occupant behavior into account. The Energy Star program, jointly sponsored by the U.S. Environmental Protection Agency and the U.S. Department of Energy, is intended to identify and promote energy-efficient products, appliances, and buildings. The Energy Star label was first offered for residential buildings in 1995.[6]

The Energy Star label is an asset rating touted as a vehicle for reducing operational costs in heating, cooling, and water-delivering in homes, with conservation claims in the range of 20 to 30 percent, or $200 to $400 in annual savings. In addition, it is claimed that the label improves comfort by sealing leaks, reducing indoor humidity and creating a quieter environment. But the Energy Star label is also marketed as a commitment to conservation and environmental stewardship, reducing air pollution.

In a parallel effort, the US Green Building Council, a private non-profit organization, has developed the LEED (Leadership in Energy and Environmental Design) green building rating system to encourage the "adoption of sustainable green building and development practices." Since adoption in 1999, separate standards have been applied to new buildings and to existing structures.

The LEED label requires sustainability performance in areas beyond energy use, and the requirements for certification of LEED buildings are substantially more complex than those for the award of an Energy Star rating. The certification process for homes measures six distinct components of sustainability: sustainable sites, water efficiency, materials and resources, indoor environmental quality, innovation, as well as energy performance. Additional points can be obtained for location and linkages, and awareness and education.[7]

Whereas LEED ratings for commercial (office) space have diffused quite rapidly over the past 10 years (see Nils Kok *et al.*, 2011, for a discussion), the LEED for Homes rating began in pilot form only in 2005, and it was fully balloted as a rating system in January 2008.

It is claimed that LEED-certified dwellings reduce expenses on energy and water, have increased asset values, and that they provide healthier and safer environments for occupants. It is also noted that the award of a LEED designation "demonstrate[s] an owner's commitment to environmental stewardship and social responsibility."

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[6] Under the initial rating system, which lasted until 2006, buildings could receive an Energy Star certification if improvements were made in several key areas of the home, including high-performance windows, tight constructions and ducts, and efficient heating and cooling equipment. An independent third-party verification by a certified Home Energy Rater was required. Homes qualified under Energy Star Version 1 had to meet a predefined energy efficiency score ("HERS") of 86, equating more than 30 percent energy savings as compared to a home built to the 1992 building code. From January 2006 until the end of 2011, homes were qualified under Energy Star Version 2. This version was developed in response to increased mandatory requirements in the national building codes and local regulations, as well as technological progress in construction practices. The updated guidelines included a visual inspection of the insulation installation, a requirement for appropriately sized HVAC systems, and a stronger promotion of incorporating efficient lighting and appliances into qualified homes. An additional "thermal bypass checklist" (TBC) became mandatory in 2007. As of 2012, Energy Star Version 3 has been in place, including further requirements for energy efficiency measures and strict enforcement of checklist completion.

[7] For more information on the rating procedures and measurements for LEED for Homes, see: http://www.usgbc.org/DisplayPage.aspx?CMSPageID=147.

In addition to these national programs intended for designating exemplary performance in the energy efficiency and sustainability of (single-family) homes, some labeling initiatives have emerged at the city or state level. In California, the most widely adopted of these is GreenPoint Rated, developed by Build It Green, a non-profit organization whose mission is to promote healthy, energy- and resource-efficient homes in California.

The GreenPoint Rated scheme is comparable to LEED for Homes, including multiple components of "sustainability" in the rating process, with minimum rating requirements for energy, water, indoor air quality, and resource conservation. Importantly, the GreenPoint Rated scheme is available not just for newly constructed homes, but it is applicable to homes of all vintages. The label is marketed as "a recognizable, independent seal of approval that verifies a home has been built or remodeled according to proven green standards." Comparable to other green rating schemes, proponents claim that a GreenPoint rating can improve property values at the time of sale.

B. Data on Homes Prices and Their Determinants

We obtain information on LEED-rated homes and GreenPoint Rated homes using internal documentation provided by the USGBC and Build It Green, respectively. Energy-Star-rated homes are identified by street address in files available from local Energy Star rating agencies. We focus our analysis on the economically most important state of California, covering the 2007–2012 time period.

The number of homes rated by the "green" schemes is still rather limited – 4,921 single-family homes rated with GreenPoint Rated and 489 homes rated with LEED for Homes (as of January 2012). The number of homes that obtained an Energy Star label is claimed to be substantially larger, but we note that data on Energy Star Version 1 has not been documented, and information on homes certified under Energy Star Version 2 is not stored in a central database at the federal level. Therefore, we have to rely on information provided by consultants who conduct Energy Star inspections. We obtained details on 4,938 single-family dwellings that have been labeled under the Energy Star Version 2 program.

We matched the addresses of the buildings rated in these three programs as of January 2012 to the single-family residential dwellings identified in the archives maintained by DataQuick. The DataQuick service and the data files maintained by DataQuick are advertised as a "robust national property database and analytic expertise to deliver innovative solutions for any company participating in the real estate market."[8] Our initial match yielded 8,243 certified single-family dwellings for which an assessed value or transaction price, and dwelling characteristics could be identified in the DataQuick files; of those homes, 4,231 transacted during the sample period.[9]

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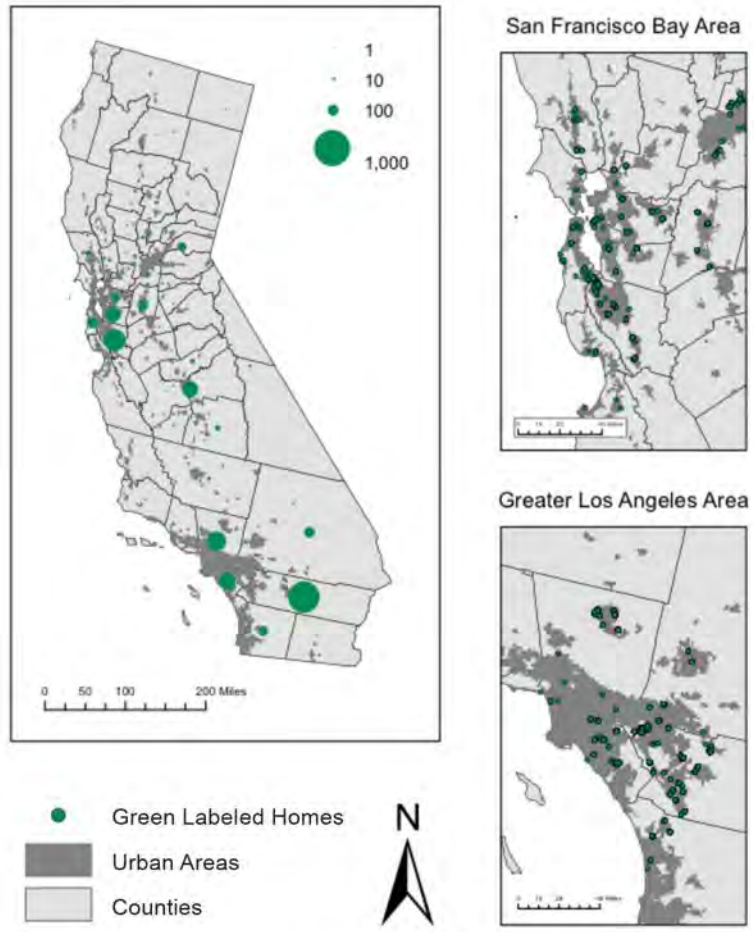
[8] DataQuick maintains an extensive micro database of approximately 120 million properties and 250 million property transactions. The data has been extensively used in previous academic studies. See, for example, Raphael W. Bostic and Kwan Ok Lee (2008) and Fernando Ferreira *et al.* (2010).

[9] We were not able to match the remaining 2,105 certified properties to the DataQuick files. Reasons for the missing observations include, for example, properties that were still under construction, and incomplete information on certified properties.

Figure 1 shows the geographic distribution of the certified homes in our sample. There is a clustering of "green" rated homes in certain areas, such as the Los Angeles region and the San Francisco region. The geographic distribution is correlated with higher incomes (e.g., in the San Francisco Bay Area), but also with higher levels of construction activity in recent years (e.g., in the Central Valley). As shown by the maps, in the case of Los Angeles, many of the "green label" homes are built in the hotter eastern part of the metropolitan area. It is important to note that there is little new construction in older, richer cities such as Berkeley and Santa Monica (Matthew E. Kahn, 2011). This means that it is likely to be the case that there will be few single-family "green homes" built in such areas.

FIGURE 1. Certified Homes in California (2007-2012)



Sources: Build It Green, EPA, and USGBC

To investigate the effect of energy efficiency and sustainability on values of dwellings as observed in the market, we also collect information on all non-certified single-family dwellings that transacted during the same time period, in the same geography. In total, there are nearly 1.6 million dwellings in our sample of green buildings and control buildings with hedonic and financial data.

Besides basic hedonic characteristics, such as vintage, size and presence of amenities, we also have information on the time of sale. Clearly, during the time period that we study, many homes in our geography were sold due to financial distress (i.e., foreclosure or mortgage delinquency). This, of course, has implications for the transaction value of homes (John Y. Campbell *et al.*, 2011). We therefore create an indicator for a "distressed" sale, based on information provided by DataQuick.

We also collect data on environmental ideology, proxied by the registration share of Prius vehicles in each zip code.[10] Local climatic conditions are assessed by the total annual cooling degree days at the nearest weather station (measured by the longitude and latitude of each dwelling and each weather station) during the year of sale.[11] Information on electricity prices is collected at the zip code level.[12]

C. Descriptive Statistics

Table 1 summarizes the information available on the samples of certified and non-certified dwellings. The table reports the means and standard deviations for a number of hedonic characteristics of green buildings and control buildings, including their size, quality, and number of bedrooms, as well as indexes for building renovation, the presence of on-site amenities (such as a garage or carport, swimming pool, or presence of cooling equipment), and the presence of a "good" view.[13]

Simple, non-parametric comparisons between the samples of certified and non-certified homes show that transaction prices of "green" homes are higher by about $45,000, but of course, this ignores any observable differences between the two samples. Indeed, green homes are much younger—70 percent of the dwellings in the green sample have been constructed during the last five years.

More than two-thirds of the stock of "green" homes are those certified by Energy Star, but there is substantial overlap among the green certifications—about 20 percent of the green homes have multiple labels.

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[10] We calculate the Toyota Prius share of registered vehicles from zip code totals of year 2007 automobile registration data (purchased from R.L. Polk).

[11] Data retrieved from http://www.ncdc.noaa.gov/cdo-web/.

[12] Data retrieved from http://www.energy.ca.gov/maps/serviceareas/electric_service_areas.html. We thank the California Energy Commission for providing a list containing each zip code in California and the corresponding local electric utility provider.

[13] DataQuick classifies the presence and type of view from the property. A "good" view includes the presence of a canyon, water, park, bluff, river, lake or creek.

4. RESULTS

Table 2 presents the results of a basic regression model relating transaction prices of single-family dwellings to their observable characteristics and a "green" rating. Zip-code-fixed effects account for cross-area differences in local public goods, such as weather, crime, neighborhood demographics and school quality. The analysis is based upon more than 1.6 million observations on rated and unrated dwellings. Results are presented for ordinary least squares regression models, with errors clustered at the zip code level. Coefficients for the individual location clusters and the time-fixed effects are not presented.

Column 1 reports a basic model, including some hedonic features: dwelling size in thousands of square feet, the number of bed and bathrooms, and the presence of a garage or carport. We also include zip-year/month fixed effects. The model explains about 85 percent of the variation in the natural logarithm of home prices.

Larger homes command higher prices; 1,000 square feet increase in total dwelling size (corresponding to an increase of about 50 percent in the size of typical home) leads to a 31 percent higher transaction price. Controlling for dwelling size, an additional bathroom adds about 10 percent to the value of a home, and a garage yields about 6 percent, on average.

In column 2, we add a vector of vintage indicators to the model. Relative to homes constructed more than 50 years ago (the omitted variable), recently developed homes fetch significantly higher prices. The relation between vintage and price is negative, but homes constructed during the 1960-1980 period seem to transact at prices similar to very old ("historic") homes. Renovation of dwellings is capitalized in the selling prices, although the effect is small; prices of renovated homes are just one percent higher.[14]

Column 3 includes a selection of dwelling amenities in the model. The results show that homes that were sold as "distressed," for example following mortgage default, transact at a discount of 16 percent, on average. The presence of a swimming pool, cooling system or a "view" contributes significantly to home prices.

Importantly, holding all hedonic characteristics of the dwellings constant, column 4 shows that a single-family dwelling with a LEED, GreenPoint Rated or Energy Star certificate transacts at a premium of 12 percent, on average. This result holds while controlling specifically for all the observable characteristics of dwellings in our sample. The "green" premium is quite close to what has been documented for properties certified as efficient under the European energy labeling scheme. A sample of 32,000 homes classified with an energy label "A" transacted for about 10 percent more as compared to standard homes (Dirk Brounen and Nils Kok, 2011). In the commercial property market, "green" premiums have been documented to be slightly higher – about 16 percent (Piet Eichholtz, *et al.*, 2010).

[14] We replace the original "birth year" of a home with the renovation date in the analysis, so that vintage better reflects the "true" state of the home. This may explain the low economic significance of the renovation indicator.

A. Robustness Checks

In Table 3, the green rating is disaggregated into three components: an Energy Star label, a LEED certification, and a GreenPoint Rated label. The (unreported) coefficients of the other variables are unaffected when the green rating is disaggregated into these component categories. The estimated coefficient for the Energy Star rating indicates a premium of 14.5 percent. The GreenPoint Rated and LEED rating are associated with insignificantly higher transaction prices. Energy efficiency is an important underlying determinant of the increased values for "green" certified dwellings.[15] But of course, sample sizes for homes certified under the alternative rating schemes are quite limited, and just a small fraction of those homes transacted over the past years. An alternative explanation for the lack of significant results for the GreenPoint Rated and LEED schemes is the still limited recognition of those "brands" in the marketplace.[16]

The downturn in housing markets and the subsequent decrease in transaction prices may also have an impact on the willingness to pay for more efficient, green homes. It has been documented that prices are more procyclical for durables and luxuries as compared to prices of necessities and nondurables (see Mark Bils and Peter J. Klenow, 1998). To control for the time-variation in the value attributed to "green," we include interaction terms of year-fixed effects and the green indicator in column 4. When interaction terms of year-fixed effects are included in the model (the years 2007 and 2012 are omitted due to the lack of a sufficient number of observations in those years), we document substantial variation in the premium for green dwellings over the sample period. In the first years of the sample, labeled homes sold for a discount, albeit insignificantly (which may be related to the lack of demand for newly constructed homes during that time period), whereas the premium is large and significant in later years. The parallel with the business cycle suggests that, among private homeowners, demand for "green" is lower in recessions, but increases as the economy accelerates. This is contrasting evidence for the commercial market: It has been documented that green-certified office buildings experienced rental decreases similar to conventional office buildings during the most recent downturn in the economy (Eichholtz *et al.*, in press).

As noted in Table 1, most homes certified by one of three rating schemes have been constructed quite recently – some 70 percent of the green homes were constructed less than six years ago. Recognizing this point, we seek a similar control sample of non-certified single-family transactions, restricting the analysis to dwellings that are five years old or younger.[17]

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[15] The fundamental energy efficiency requirement is identical across the three different labeling schemes, and the mechanisms for verification are almost entirely similar. The three labels require design for 15 percent energy savings beyond building code requirements and all schemes require various on-site verifications to confirm the delivered home was built to that standard. GreenPoint Rated and LEED offer the highest number of credits for exceeding that minimum requirement. Energy Star rated homes are thus not necessarily better energy performers as compared to the other rating schemes.

[16] The Energy Star label is recognized by more than 80 percent of U.S. households, and 44 percent of households report they knowingly purchased an Energy Star labeled product in the past 12 months (see http://www.cee1.org/eval/00-new-eval-es.php3). Energy Star is one of the most widely recognized brands in the U.S. While similar data is not available for GreenPoint Rated or LEED, both were introduced as building labels much more recently, and do not benefit from near ubiquitous cobranding in consumer products.

[17] Quite clearly, this paper mostly deals with labeled developer homes rather than existing homes that went through the labeling process. As noted in Section 2, this raises the possibility of a "developer effect" in explaining the price variation between "green" and conventional homes. More information on the identity of developers of labeled and non-labeled homes would allow us to further disentangle this effect, but we have information on the developers of green homes only. About one third of the homes in the labeled sample have been constructed by KB Homes. Regressions that exclude homes constructed by KB Homes lead to similar results, with the green premium decreasing to about 6 percent.

Table 4 presents the results of this simple robustness check. Control variables, location-fixed effects and time-fixed effects are again omitted. The results presented in Table 4 are not consistently different from the results in Table 3, but the green premium is slightly lower: On average, green-rated homes that were constructed during the last five years transact at a premium of some 9 percent. The Energy Star label is significantly different from zero. We note that the estimated coefficient for the LEED rating indicates a premium of some 10 percent in transaction prices, but this is not statistically significant at conventional levels.

B. Testing for Heterogeneity in "Green Label" Capitalization

As demonstrated in the statistical models reported in Tables 2–4, there is a statistically significant and rather large premium in the market value for green-certified homes. The statistical analysis does not identify the source of this premium, or the extent to which the signal about energy efficiency is important relative to the other potential signals provided by a building of sufficient quality to earn a label. Of course, the estimates provide a common percentage premium in value for all rated dwellings. But the value of green certification may be influenced by factors related to the location of homes: Figure 1 suggests that the distribution of green-rated dwellings is not random within urban areas in California, and this may affect the geographic variation in the value increment estimated for green-certified homes. For example, non-financial utility attributed to "green" certification may be higher for environmentally conscious households (comparable to the choice for solar panels, see Samuel R. Dastrup *et al.*, 2012, for a discussion) or in areas where such homes are clustered (This peer effect is referred to as "conspicuous conservation" in a recent paper by Steven E. Sexton and Alison L. Sexton, 2011).

But, the financial utility of more efficient homes may also be affected by other factors related to the location of a dwelling. The financial benefits of a more efficient home should increase with the temperature of a given location, keeping all other things constant. (Presumably, more energy is needed for the heating of dwellings in areas with more heating degree days, and more energy is needed for the cooling of buildings in areas with more cooling degree days.) To test this hypothesis, we interact the green indicator with information on cooling degree days for each dwelling in the transaction year, based on the nearest weather station in the database of the National Oceanic and Atmospheric Administration (NOAA). Similarly, in areas with higher electricity costs, the return on energy efficiency should be higher. We therefore interact the climate variable with information on the retail price of electricity in the electric utility service area.

Table 5 presents a set of models that include a proxy for ideology, green home density, climatic conditions and local electricity prices. In this part of the analysis, we seek to (at least partially) distinguish the effects of the energy-saving aspect of the rating from other, intangible effects of the label itself. The results in column 1 show that more efficient homes located in hotter climates (e.g., the Central Valley) are more valuable as compared to labeled homes constructed in more moderate climates (e.g., the coastal region). At the mean temperature level (6,680 cooling degree days), the green premium equals about 10 percent. But for every 1000 cooling degree day increase, the premium for certified homes increases by 1.3 percent, keeping all other things constant. **This result suggests that private homeowners living in areas where cooling loads are higher are willing to pay more for the energy efficiency of their dwellings.**[18]

[18] While we do not have household level data on electricity consumption, the "rebound effect" would predict that such homeowners might respond to the relatively lower price of achieving "cooling" by lowering their thermostat. In such a case, the actual energy performance of the buildings would not necessarily be lower, because of this behavioral response.

In column 2, we add an interaction of climatic conditions with local electricity prices. (In models 2-4, we control for location using county-fixed effects.) Presumably, energy savings are more valuable if the price of electricity per kWh is higher. **However, our results do not show a difference in the capitalization of energy savings between consumers paying high rates** (the maximum rate in our sample equals 0.27 cent/kWh) **and those paying lower rates** (the minimum rate in our sample equals 0.07 cent/kWh). This may be because the true driver of consumer behavior is their overall energy outlay rather than the unit cost per kWh.

In Column 3, we include the share of Prius registrations for each zip code in the sample, interacted with the indicator for green certification. Quite clearly, the capitalization of "green" varies substantially by heterogeneity in environmental idealism: **In areas with higher concentrations of hybrid vehicle registrations, the value attributed to the green certification is higher.** These results on the larger capitalization effect of green homes in more environmentally conscious communities are consistent with empirical work on solar panels (Samuel R. Dastrup, *et al.*, 2012) and theoretical work on the higher likelihood for the private provision of public goods by environmentalists (Matthew J. Kotchen, 2006).

In column 4, we include a variable for the "density" of green homes in a given street and zip code, and built by the same developer. One could argue that in areas with a larger fraction of green homes, there is a higher value attributed to such amenity by the local residents. Households who purchase a home on this street know that their neighbors also will be living in a "green" home and this will create a type of Tiebout sorting as those who want to live near other environmentalists will be willing to pay more to live there. In this sense, the "green label" density acts as a co-ordination device. However, competition in the share of green homes in a given neighborhood may also negatively affect the willingness to pay for "green," as such feature is becoming a commodity (see Andrea Chegut *et al.*, 2011, for a discussion).

When including the density indicator, the point estimate for green certification does not change significantly, but the coefficient on green home density is pointing to a negative relation between the intensity of local green development and the transaction increment paid for green homes. This finding is not significant, but the sign of the coefficient is in line with evidence on green building competition in the UK. As more labeled homes are constructed, the *marginal* effect relative to other green homes becomes smaller, even though the *average* effect, relative to non-green homes, remains positive.

5. DISCUSSION AND CONCLUSIONS

A. Costs and Benefits of Green Homes

The economic significance of the "green" premium documented for labeled homes is quite substantial. **Considering that the average transaction price of a non-labeled home equals $400,000 (see Table 1), the incremental value of 9 percent for a certified dwelling translates into some $34,800 more than the value of a comparable dwelling nearby**.

Of course, this raises the issue of relative input costs. The increment in construction costs of more efficient, "green" homes is open to popular debate, and there is a lack of consistent and systematic evidence. Anecdotally, a recent industry report shows that estimated cost to reach a *modeled* energy efficiency level of 15 percent above California's 2008 energy code is between $1,600 and $2,400 for a typical 2,000 sq. ft. dwelling, depending on the climate zone. To reach a *modeled* energy efficiency level of some 35 percent above the 2008 code, estimated costs range from $4,100 to $10,000 for a typical 2,000 sq. ft. dwelling, again depending on the climate zone.[19] (Some of these costs are offset by incentives, and it is estimated that about one-third of the costs could be compensated for by rebates.) These admittedly rough estimates suggest that the capitalization of energy efficiency features in the transaction price (about $35,000) far exceeds the input cost for the developer (about $10,000, at most).

From the perspective of a homeowner, the benefits of purchasing a labeled home, or of "greening" an existing dwelling, include direct cost savings during tenure in the home. Indeed, we document some consumer rationality in pricing the benefits of more efficient homes, as reflected in the positive relation between cooling degree days in a given geography and the premium rewarded to a certified home. Presumably, the capitalization of the label should at least reflect the present value of future energy savings. Considering that the typical utility bill for single-family homes in California equals approximately $200 per month, and savings in a more efficient home are expected to yield a 30 percent reduction in energy costs, the annual dollar value of savings for a typical consumer is some $720. Compared to the increment for green-labeled homes documented in this paper, that implies a simple payback period of some 48 years.

Quite clearly, there are other (unobservable) features of green homes that add value for consumers. This may include savings on resources other than energy, such as water, but the financial materiality of these savings is relatively small. However, **there are also other, intangible benefits of more efficient homes, such as better insulation, reducing draft, and more advanced ventilation systems, which enhance indoor air quality. These ancillary benefits may be appealing to consumers through the comfort and health benefits they provide.**

The results documented in this paper also show that the premium in transaction price associated with a green label varies considerably across geographies. **The premium is positively related to the environmental ideology of the neighborhood.** In line with previous evidence on the private value of green product attributes, some homeowners seem to attribute non-financial utility to a green label (and its underlying features), explaining part of the premium paid for green homes.

[19] Source: Gabel Associates, LLC. (2008). "Codes and Standards: Title 24 Energy-Efficient Local Ordinances."

B. Conclusion

Buildings are among the largest consumers of natural resources, and increasing their energy efficiency can thus play a significant role towards achieving cost savings for private consumers and corporate organizations, and can be an important step in realizing global carbon reduction goals. With these objectives in mind, an ongoing effort has sought to certify buildings that have been constructed more efficiently. Considering the lack of "energy literacy" among private consumers, if homebuyers are unaware of a building's steady state (modeled) energy consumption, then they will most likely not appropriately capitalize energy savings in more efficient dwellings.

Comparable to evidence documented for the commercial sector in the U.S., and for the residential sector in Europe, the results in this paper provide the first evidence on the importance of publicly providing information about the energy efficiency and "sustainability" of structures in affecting consumer choice. Green homes transact for significantly higher prices as compared to other recently constructed homes that lack sustainability attributes. This is important information for residential developers and for private homeowners: Energy efficiency and other green features are capitalized in the selling price of homes.

We note that the green homes in our sample are not high-end, custom homes, but rather "production homes" built by large developers. From the developer's perspective, there are likely to be economies of scale from producing green homes in the same geographic area. If green communities command a price premium and developers enjoy cost savings from producing multiple homes featuring similar attributes, then for-profit developers will be increasingly likely to build such complexes. This has implications for the green premium, as the marginal effect relative to other green homes becomes smaller.

The findings in this paper also have some implications for policy makers. Information on the energy efficiency of homes in the U.S. residential market is currently provided just for exemplary dwellings.[20] **The mandatory disclosure of such information for all homes could further consumers' understanding of the energy efficiency of their (prospective) residence, thereby reducing the information asymmetry that is presumably an important explanation for the energy-efficiency gap.** An effective and cheap market signal may trigger investments in the efficiency of the building stock, with positive externality effects as a result.

Of course, we cannot disentangle the energy savings required to obtain a label from the unobserved effects of the label itself, which could serve as a signaling measure of environmental ideology and other non-financial benefits from occupying a green home. Future research should incorporate the *realized* energy consumption in green homes and conventional homes to further disentangle these effects. Reselling of green-labeled homes will also offer an opportunity to further study the value persistence of certified homes, unraveling the effect of developer quality on the green premium documented in this paper.

It also important to note that this paper focuses just on the market for owner-occupied single-family dwellings. While this represents an important fraction of the housing market, the market for rental housing has been growing considerably over the course of the housing crisis, and represents the majority of the housing stock in large U.S. metropolitan areas such as New York and San Francisco. Addressing the signaling effect of "green" labels for tenants in multi-family buildings should thus be part of a future research agenda.

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[20] At the time of writing, the City and County of San Francisco's Office of the Assessor-Recorder is beginning to record and publish the presence or absence of green labels in the county property database. Their stated objective is to increase the incentive to make green upgrades in new and existing properties by using transparency to increase market actors' ability to act upon label information.

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TABLE 1. Comparison of Green-Labeled Buildings and Nearby Control Buildings
(standard deviations in parentheses)

	RATED BUILDINGS	CONTROL BUILDINGS
Sample Size	4,321	1,600,558
Sales Price	445.29	400.51
(thousands of dollars)	(416.58)	(380.47)
Assessed Value	425.95	355.21
(thousands of dollars)	(376.86)	(347.34)
Dwelling Size	2.06	1.80
(thousands of sq. ft.)	(0.69)	(0.86)
Lot Size	8.40	16.94
(thousands of sq. ft.)	(14.01)	(41.23)
Age	1.68	32.23
(years)	(9.49)	(24.39)
VINTAGE:		
Vintage < 6 years	0.70	0.18
(percent)	(0.46)	(0.38)
Vintage > 5 years < 11	0.00	0.08
(percent)	(0.02)	(0.28)
Vintage >10 years < 21	0.00	0.11
(percent)	(0.00)	(0.31)
Vintage > 20 years < 31	0.00	0.14
(percent)	(0.02)	(0.35)
Vintage > 30 years < 41	0.00	0.12
(percent)	(0.02)	(0.33)
Vintage > 40 years < 51	0.00	0.09
(percent)	(0.02)	(0.29)
Vintage > 50 years	0.01	0.20
(percent)	(0.08)	(0.40)
Renovated Building	0.04	0.12
(percent)	(0.19)	(0.33)
Garage	0.15	0.61
(number)	(0.55)	(0.94)
Number of Bedrooms	2.64	2.96
(percent)	(1.63)	(1.18)
Number of Bathrooms	2.03	2.11
(percent)	(1.26)	(0.94)
GREEN LABEL		
Energy Star	0.68	-
(percent)	(0.47)	-
GreenPoint Rated	0.47	-
(percent)	(0.50)	-
LEED for Homes	0.03	0.49
(percent)	(0.16)	(0.50)
Multiple Certifications	0.17	0.39
(percent)	(0.38)	(0.49)
Distressed Sale	0.08	0.11
(1 = yes)	(0.26)	(0.31)
Cooling Equipment	0.45	0.02
(1 = yes)	(0.50)	(0.15)
Swimming Pool	0.01	0.42
(1 = yes)	(0.09)	(0.41)
View	0.00	6.37
(1 = yes)	(0.02)	(4.34)
Prius Registration Share	0.45	14.94
(percent x100)	(0.38)	(1.37)
Cooling Degree Days Per Year	6.86	
(thousands)	(3.86)	
Electricity Price	15.06	
(cents/kWh)	(0.84)	

	RATED BUILDINGS	CONTROL BUILDINGS
TRANSACTION YEAR		
2007	0.01	0.13
(percent)	(0.09)	(0.34)
2008	0.04	0.19
(percent)	(0.20)	(0.39)
2009	0.15	0.23
(percent)	(0.36)	(0.42)
2010	0.55	0.21
(percent)	(0.50)	(0.41)
2011	0.23	0.21
(percent)	(0.42)	(0.41)
2012	0.01	0.02
(percent)	(0.08)	(0.14)

TABLE 2. Regression Results
Dwelling Characteristics, Amenities, and Sales Prices
(California, 2007 - 2012)

	(1)	(2)	(3)	(4)
Green Rating				0.118***
(1 = yes)				[0.023]
Dwelling Size	0.309***	0.289***	0.273***	0.273***
(thousands of sq. ft.)	[0.008]	[0.008]	[0.007]	[0.007]
Number of Bathrooms	0.095***	0.070***	0.066***	0.066***
	[0.005]	[0.005]	[0.005]	[0.005]
Number of Bedrooms	0.015***	0.019***	0.022***	0.022***
	[0.003]	[0.003]	[0.003]	[0.003]
Number of Garages	0.059***	0.062***	0.058***	0.058***
	[0.005]	[0.005]	[0.005]	[0.005]
AGE#				
New Construction		0.248***	0.190***	0.186***
(1 = yes)		[0.017]	[0.016]	[0.016]
1 – 2 years		0.259***	0.209***	0.206***
(1 = yes)		[0.015]	[0.015]	[0.015]
2 – 3 years		0.239***	0.223***	0.221***
(1 = yes)		[0.015]	[0.015]	[0.015]
3 – 4 years		0.207***	0.219***	0.219***
(1 = yes)		[0.014]	[0.014]	[0.014]
4 – 5 years		0.195***	0.213***	0.213***
(1 = yes)		[0.014]	[0.014]	[0.014]
5 – 6 years		0.186***	0.203***	0.203***
(1 = yes)		[0.014]	[0.014]	[0.014]
6 – 10 years		0.191***	0.193***	0.193***
(1 = yes)		[0.014]	[0.014]	[0.014]
10 – 20 years		0.158***	0.149***	0.149***
(1 = yes)		[0.012]	[0.012]	[0.012]
20 – 30 years		0.072***	0.064***	0.064***
(1 = yes)		[0.011]	[0.011]	[0.011]
30 – 40 years		0.009	0.001	0.001
(1 = yes)		[0.010]	[0.010]	[0.010]
40 – 50 years		0.007	-0.002	-0.002
(1 = yes)		[0.008]	[0.007]	[0.007]
Renovated		0.012**	0.011**	0.011**
(1 = yes)		[0.005]	[0.005]	[0.005]
Distressed Sale			-0.161***	-0.161***
(1 = yes)			[0.003]	[0.003]
View			0.063***	0.063***
(1 = yes)			[0.011]	[0.011]
Swimming Pool			0.086***	0.086***
(1 = yes)			[0.005]	[0.005]
Cooling Systems			0.060***	0.060***
(1 = yes)			[0.008]	[0.008]
TIME-ZIP-FIXED EFFECTS	Y	Y	Y	Y
Constant	11.743***	11.651***	11.795***	11.681***
	[0.203]	[0.177]	[0.161]	[0.163]
N	1,609,879	1,609,879	1,609,879	1,609,879
R^2	0.849	0.854	0.864	0.864
Adj R^2	0.856	0.861	0.871	0.871

Notes:

Omitted variable: vintage > 50 years

Regressions include: fixed effects by quarter year, 2007I–2012I, interacted with fixed effects by zip code. (Coefficients are not reported.)

Standard errors, clustered at the zip code level, are in brackets. Significance at the 0.10, 0.05, and 0.01 levels are indicated by *, **, and ***, respectively.

TABLE 3. Regression Results
Green Labeling Schemes and Sales Prices
(Energy Star, GreenPoint Rated and LEED for Homes)

	(1)	(2)	(3)	(4)
Energy Star	0.145***			
(1 = yes)	[0.027]			
GreenPoint Rated		0.024		
(1 = yes)		[0.024]		
LEED for Homes			0.077	
(1 = yes)			[0.082]	
Green*Year 2008				-0.011
(1 = yes)				[0.057]
Green*Year 2009				0.052
(1 = yes)				[0.033]
Green*Year 2010				0.144***
(1 = yes)				[0.024]
Green*Year 2011				0.131***
(1 = yes)				[0.029]
Time-ZIP-Fixed Effects	Y	Y	Y	Y
Control Variables	Y	Y	Y	Y
Constant	11.759***	11.778***	11.795***	11.668***
	[0.162]	[0.162]	[0.161]	[0.165]
N	1,609,879	1,609,879	1,609,879	1,609,879
R^2	0.871	0.871	0.871	0.871
Adj R^2	0.864	0.864	0.864	0.864

Notes:

Regressions include: fixed effects by quarter year, 2007I–2012I, interacted with fixed effects by zip code; as well as vintage, amenities and other measures reported in Table 2 (column 4). (Coefficients are not reported.)

Standard errors, clustered at the zip code level, are in brackets. Significance at the 0.10, 0.05, and 0.01 levels are indicated by *, **, and ***, respectively.

TABLE 4. Regression Results
Robustness Check: Recently Constructed Homes#

	(1)	(2)	(3)	(4)
Green Rating	0.087***			
(1 = yes)	[0.018]			
Energy Star		0.112***		
(1 = yes)		[0.017]		
GreenPoint Rated			-0.016	
(1 = yes)			[0.026]	
LEED for Homes				0.097
(1 = yes)				[0.074]
Time-ZIP-Fixed Effects	Y	Y	Y	Y
Control Variables	Y	Y	Y	Y
Constant	12.044***	12.059***	12.119***	12.114***
	[0.245]	[0.240]	[0.222]	[0.223]
N	314,759	314,759	314,759	314,759
R^2	0.884	0.884	0.883	0.883
Adj R^2	0.899	0.899	0.899	0.899

Notes:

Sample restricted to dwellings constructed during the 2007-2012 period.

Regressions include: fixed effects by quarter year, 2007I–2012I, interacted with fixed effects by zip code; as well as vintage (ranging from 1–5 years), amenities and other measures reported in Table 2 (column 4). (Coefficients are not reported.)

Standard errors, clustered at the zip code level, are in brackets. Significance at the 0.10, 0.05, and 0.01 levels are indicated by *, **, and ***, respectively.

TABLE 5. Regression Results
Green Labels, Climatic Conditions, Electricity Costs, and Sales Prices#

	(1)##	(2)###	(2)###	(3)###
Green Rating	-0.013	0.098*	-0.057	0.082**
(1 = yes)	[0.026]	[0.054]	[0.039]	[0.033]
Green Rating*Cooling Degree Days	0.014***	0.006		
	[0.003]	[0.075]		
Green Rating*Cooling Degree Days*Electricity Price		-0.001		
		[0.005]		
Green Rating*Prius Registration			21.957***	
			[5.355]	
Green Rating*Green Density				-0.002
				[0.001]
Distance to Closest Rail Station		-0.004***	-0.004***	-0.004***
(in kilometers)		[0.001]	[0.001]	[0.001]
Distance to CBD		-0.001	-0.001	-0.001
(in kilometers)		[0.001]	[0.001]	[0.001]
Time-ZIP-fixed Effects	Y	N	N	N
Time-FIPS-Fixed Effects	N	Y	Y	Y
Control Variables	Y	Y	Y	Y
Constant	12.055***	12.494***	12.378***	12.759***
	[0.023]	[0.067]	[0.161]	[0.240]
N	323,840	238,939	242,678	286,325
R^2	0.877	0.758	0.758	0.747
Adj R^2	0.893	0.760	0.761	0.749

Notes:

Sample restricted to dwellings constructed during the 2007-2012 period.

Regression in column 1 includes fixed effects by quarter year, 2007I–2012I, interacted with fixed effects by zip code; as well as vintage, amenities and other measures reported in Table 2 (column 4). (Coefficients are not reported.)

Regressions in columns 2 - 4 include fixed effects by quarter year, 2007I–2012I interacted with fixed effects by Census tract; the following Census variables at the zip code level: percentage of the population with at least some college education, percentage blacks, and percentage Hispanics, percentage in age categories 18-64, > 64; as well as vintage, amenities and other measures reported in Table 2 (column 4). (Coefficients are not reported.)

Standard errors, clustered at the zip code level, are in brackets. Significance at the 0.10, 0.05, and 0.01 levels are indicated by *, **, and ***, respectively.

Going Solar

A Homebuilder's Guide to

Deciding to install solar or make your houses solar-ready involves gathering information from a number of sources and tailoring it to your location and circumstances. This guide can help you through that process. For more details, see *High-Performance Home Technologies: Solar Thermal & Photovoltaic Systems*. Go to Resources, page 8, for download information.

U.S. Department of Energy
Energy Efficiency and Renewable Energy
Bringing you a prosperous future where energy is clean, abundant, reliable, and affordable

How to Use This Guide

A Homebuilder's Guide to Going Solar is designed to help you assess the benefits to your business and customers of installing solar equipment or making your houses solar-ready. The information comes from studies of builders who have successfully integrated solar into their operations as well as conversations with builders and solar professionals. These studies and conversations indicate that builders want to know:

- Do solar economics work in my area?
- If not, are there other reasons to go solar?
- Is there a local support system of solar professionals I can call on to help me integrate solar seamlessly into my projects?

This effort to educate builders about solar is a work in progress. As you explore the possibility of going solar, we welcome your feedback about what information and resources were most useful to you. Send a message to solarbuilderfeedback@nrel.gov and tell us about your experiences.

SOLAR WATER HEATING SYSTEMS

Solar water heating (SWH) systems are reliable and economical appliances for heating domestic water. They typically consist of collectors, a controller, a storage tank, and—in most parts of the country—some sort of freeze protection.

SWH systems cost roughly $1,000 to $4,000, depending on the size and type of the system. However, when they are installed on new houses and the cost is included in the mortgage, the increase in the monthly payment is small. Because the federal income tax deduction for mortgage interest attributable to the solar system further reduces that increase, the solar investment often results in positive cash flow immediately. On a monthly basis, it's likely that your customers will save more than they pay from day one.

Manufacturers have developed packaged systems and streamlined installation processes, making it much easier to incorporate SWH into production building schedules. Studies show that homebuyers prefer homes that include SWH, and builders have found it more profitable to make SWH a standard feature than to offer it as an option.

Solar Design Associates/ PIX 15609

The building integrated solar water heating system on the White House uses solar absorber plates from SunEarth, Inc. in a low-profile, site-built installation designed to blend with the historically appropriate terne-coated copper standing-seam roof.

In most areas of the country, there are additional financial incentives for installing SWH. The best source for current information about incentives in your area is www.dsireusa.org.

SOLAR ELECTRIC (PHOTOVOLTAIC OR PV) SYSTEMS

Solar electric systems contain modules made up of photovoltaic (PV) cells that generate electricity when exposed to sunlight. They have no moving parts, require almost no maintenance, and last for decades. The PV cells generate direct current (DC) electricity, which is converted to alternating current (AC) electricity by an inverter.

Today's PV systems come in a range of efficiencies and configurations. PV systems with modules that are mounted over existing roofing are still the most common, but building integrated photovoltaic (BIPV) systems are gaining in popularity. In a BIPV system, the modules do double duty—they generate electricity AND function as a finish building material, usually roofing.

At first glance, PV systems look expensive—roughly $8 per watt installed or about $24,000 for a 3-kilowatt residential system. However, they are eligible for a number of federal, state, local, and utility financial incentives that can reduce the cost by half or more. The best source for current information about incentives in your area is www.dsireusa.org.

In addition, when PV systems are included as standard features in new, energy efficient homes, and the cost is included in the mortgage, homebuyers often realize positive cash flow from the first payment. See ***Do the solar economics work for my company and customers?***, page 3, for more details.

Premier Homes/PIX 15610

All the homes in this entry-level home development near Sacramento, California, include a building integrated photovoltaic (BIPV) system as a standard feature.

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Do the solar economics work for my company and customers?

If your customers' cash flows are positive from their first mortgage payment, going solar is an easy decision and an easy sell. Solar professionals can use computer models to calculate how much energy a given home requires and how much it will cost to get some or all of that energy from solar equipment. It is always cheaper to tweak the energy design of a home before construction begins, and computer models are perfect tools for this. Go to **LOCAL SOLAR SUPPORT SYSTEMS**, page 5, for help finding a local solar professional who offers this service.

Here are some of the variables that the computer model will take into account.

Rebates, tax credits, and other financial incentives. Incentives vary widely from one region to another, whether you're installing SWH or PV. Sources for information about financial incentives available in your area include:

- DSIRE (Database of State Incentives for Renewables and Efficiency, www.dsireusa.org). DSIRE is a comprehensive source of information on federal, state, local, and utility incentives that promote renewable energy and energy efficiency; it is updated regularly.
- Local electric and gas utilities. Some offer rebates or incentives for installing solar equipment. Visit www.dsireusa.org or check with your local utility.
- Local green building and solar organizations. See **LOCAL SOLAR SUPPORT SYSTEMS** on page 5 for more information.
- Local government and utility personnel. Some offer accelerated building permit processing and other green building and solar incentives.

Energy efficient mortgages. Energy efficient mortgages are available in all 50 states, and can make solar homes more affordable for buyers by including reduced monthly energy costs in the qualification process. Both PV and SWH systems are allowable expenses under the federal guidelines for energy efficient mortgages.

The cost of electricity and natural gas or propane. At current pricing for electricity and gas, homeowners can often achieve a positive cash flow on a solar system financed with a home mortgage from the first payment.

This table shows an example of a home in Hadley, Massachusetts, which is equipped with both PV and SWH systems and achieved positive cash flow from the first mortgage payment. Since the time of this analysis, utility rates have continued to rise and the homeowners' benefits have increased.

The pre-construction energy analysis estimated that this home with a PV system would consume 41% less energy than the benchmark Building America home. First year electrical savings were over 66%, in part because of the energy consciousness of the homeowners.

For more details, see *High-Performance Home Technologies: Solar Thermal & Photovoltaic Systems*. Go to Resources, page 8, for download information.

Added Costs	Dollars#
PV	$26, 445
Solar Water Heating	$7,808
Energy Efficiency	$5,848
Total	$40,101
Incentives	($11,370)
Net Costs	$28,731
Increased Monthly Mortgage*	$191
Savings	
PV	$430
Solar Water Heating	$172
Energy Efficiency	$1,985
Annual Total	$2,587
Monthly Savings	$216
Effect on Cash Flow	
Net Monthly Increased Cash Flow	+$25

#2006 analysis and energy costs
*7% loan amortized over 30 years

Namaste Solar Electric/PIX15611

In Colorado and many other parts of the country, generous financial incentives make solar systems more affordable.

YES **The economics work, and I'm ready to go solar.**
[Read LOCAL SOLAR SUPPORT SYSTEMS and FIND AN INSTALLER, page 5. Then go to Going Solar, page 6.]

NO **In my area, solar doesn't work on economics alone. What are some other reasons to go solar?**
[Go to Beyond Economics, page 4.]

> *"We set out to provide exceptional value for our customers by adding solar power, and in the process we did something exceptional for our business."*
>
> *John Suppes, founder and president of Clarum Homes, on his company's decision to include PV systems on their homes.*

Beyond Economics—Other Reasons to Go Solar

FOR THE BUILDER

Faster Sales

Solar homes sell at up to twice the rate of their conventional counterparts. Although the best data to date is from California, solar-equipped homes are proving popular in other parts of the country, even in depressed housing markets.

BP Solar/PIX15612

In some parts of the country, notably parts of California, solar homes sell more quickly than other homes.

More Satisfied Customers

Studies indicate that solar homeowners are more satisfied, and satisfied homeowners recommend their builder to others twice as often as neutral owners. Even when neighboring houses are energy efficient, consumers in communities that include solar equipment are more satisfied with their home purchases.

Streamlined Sales Process

Installing solar as a standard feature simplifies the buyer's decision-making process. Studies indicate that consumers prefer solar—both SWH and PV—as a standard feature, because it takes the guesswork out of their purchase.

Copyright 2008 Cheryl Ungar/PIX15613

All 42 homes in McStain Neighborhoods' Bradburn Village in Westminster, Colorado, feature photovoltaic systems as standard features.

More Profitable

Builders' experiences indicate that making solar equipment standard is more profitable than offering it as an option. In one California development, all 306 homes included solar hot water systems and 120 homes included PV systems. The builder found that it was more profitable to offer solar systems as standard features rather than options.

FOR THE BUYER

Faster Appreciation

Solar homes appreciate more quickly. Shea Homes houses in California equipped with solar went up in value by over 55%, compared to about 45% for a comparison conventional community.

GE Energy/PIX15614

Shea Homes included building integrated photovoltaic systems as standard equipment on homes in this California development.

Energy Price Stability

Heating water and generating electricity with the sun help homeowners manage the risks associated with future price shocks. Part of the cost of a home equipped with solar systems includes a locked-in energy price over the life of the solar equipment, because the "fuel"—sunshine—is free.

Lower Energy Bills

Homes with solar equipment have lower energy bills. Based on an analysis of utility bills, energy costs in a California development of solar homes were 14 to 54% lower than a comparison community.

> *"All 257 homes sold out in the first year they were on the market (rather than the three years planned). Prices were initially advertised as ranging from $379,000 to $499,000, but some units sold for as much as $600,000."*
>
> *John Suppes, President of Clarum Homes*

YES **I'm ready to go solar now.**
[Read LOCAL SOLAR SUPPORT SYSTEMS and FIND AN INSTALLER, page 5. Then go to Going Solar, page 6.]

NO **I'm not ready to install solar, but I am interested in making my houses solar-ready.**
[Read LOCAL SOLAR SUPPORT SYSTEMS and FIND AN INSTALLER, page 5. Then skip to Making Houses Solar-Ready, page 7.]

LOCAL SOLAR SUPPORT SYSTEMS

If you're new to solar, it can help to have an informational or professional support system (or both). Here are some tips for finding fellow solar enthusiasts.

Seek out green building or other groups in your area that offer local solar information or marketing support. In some locations, green builders and affiliated businesses have joined forces to share information about what works and what doesn't.

Check with local governments and building departments for green building programs. A study released by the American Institute of Architects in late 2007 (www.aia.org/release_112807_grcities) reports that nearly 40% of the U.S. population lives in a city with a green building program.

Several national organizations have local chapters you can join:

- Regional chapters of the American Solar Energy Society (www.ases.org/about/chapters.htm) often offer educational events for members and the general public.
- Members of regional chapters of the Solar Energy Industries Association (www.seia.org/statechapters.php) include installers and other solar professionals.
- Members of local chapters of the National Association of Home Builders that are affiliated with the Green Building Initiative (www.thegbi.org/residential/) may have local solar experience and contacts.
- The U.S. Green Building Council (www.usgbc.org) has local chapters, and now has a LEED™ (Leadership in Energy and Environmental Design) program for homes.

> *"[When we] hooked up the solar…we all stood there and watched the electric meter spin backward. My advice for builders considering solar is to find a good installation contractor and go for it."*
>
> *Joe Gregory, a residential production manager for Bob Ward Companies*

Photo courtesy of SunPower/PIX15615

As builders and consumers learn about the benefits of going solar, residential solar equipment becomes more common.

FIND AN INSTALLER

Teaming up with a reliable, experienced solar installer is the single most important strategy for solar success.

Choose an experienced local installer. Local green building or solar organizations can be valuable resources for finding established solar installers. Talk to other building professionals in your area. Patterns will emerge identifying the most professional and reliable solar companies.

Several national organizations maintain databases or membership directories of solar professionals:

- The American Solar Energy Society (ASES) is a national nonprofit organization dedicated to increasing the use of solar energy in the United States. Check with your local ASES chapter (www.ases.org/about/chapters.htm) for leads on local solar professionals.
- Findsolar.com (www.findsolar.com) is a national database of solar professionals sponsored by the American Solar Energy Society, the Solar Electric Power Association, and the U.S. Department of Energy.
- The Solar Energy Industries Association (SEIA) is a national trade association for the solar industry. Check with the SEIA chapter in your area (www.seia.org/statechapters.php) to find solar installers.

Sam Garst/PIX15616

Puget Sound Solar, the company that installed the PV system on the Garst home in Olympia, Washington, has NABCEP-certified installers on its staff.

Ask local solar companies if they have NABCEP-certified installers. The North American Board of Certified Energy Practitioners (NABCEP) certifies both SWH and PV installers. Go to www.nabcep.org to find certified installers in your area.

Check with community colleges, chapters of green building or trade organizations, and manufacturers for certification and/or training programs for solar professionals. Ask the installers what trainings they've taken or certifications they've earned and check out www.irecusa.org/courseCatalog.php?action=Search for training programs in your area.

Do your homework. Check references and professional credentials and affiliations for the solar companies you're considering. The solar industry and its allies, including the U.S. Department of Energy's Solar America Initiative, are working hard to develop codes and standards. If you're installing solar, we welcome your feedback at solarbuilderfeedback@nrel.gov.

Going Solar

Whether you intend to install solar as a standard feature or offer it as an option, following these simple steps will help ensure successful solar installations. Many builders find that making solar equipment standard on their homes is more profitable, and homebuyers prefer it because it simplifies purchasing decisions.

PV AND SWH BASICS

ALWAYS make energy efficiency improvements first. Energy efficiency is the most cost effective way to reduce utility bills and improve comfort. And the less energy a house requires, the smaller and less expensive the solar equipment will be.

Plan for solar during the site selection and design process. Orient streets and houses to take maximum advantage of the available solar resource.

Introduce the solar installer(s) and related subcontractors. Ideally, get all the related subcontractors in the same room for a planning session.

Keep solar roof areas unobstructed. South facing with no shade during the peak solar window (approximately 9:00 a.m. to 3:00 p.m.) is best, but a solar system will perform adequately at a less than optimal orientation and tilt. See *High-Performance Home Technologies: Solar Thermal & Photovoltaic Systems* for more details. Go to Resources, page 8, for download information. Add shading analysis sun chart and site assessments to your homeowner manuals.

Carefully assess present and future shading. Shading by maturing trees or nearby construction is far more likely to impact solar system performance than less-than-optimal orientation and tilt.

Model—or have your solar professional model—your project for performance, system sizing, and economics. See www.eere.energy.gov/buildings/tools_directory for a listing of free and available-for-purchase energy models and estimators.

Require quality assurance inspections. Especially with SWH systems, inspections greatly reduce failure rates.

Decker Homes/PIX15617

Although a south facing orientation is best, solar systems will perform well at different orientations, as this Ohio home demonstrates.

Spray paint or otherwise mark collector areas on roof to alert other trades. Roof vents, chimneys, gables, or other obstructions should all be located to the north of the planned solar installation.

Install collectors after roof and painting are completed if possible. If this isn't possible, protect them from overspray with plastic sheeting, and make sure someone has responsibility for removing plastic.

Place solar equipment parallel with and close to roof decks. Careful design and installation can reduce both aesthetic impact and wind loading.

Choose packaged systems if possible to take advantage of the economies and convenience of pre-engineering. Some manufacturers offer "plug-and-play" connectors that make installations faster and more durable.

Photo courtesy of SunPower Corporation/PIX15618

SunPower's SunTile® is a roof-integrated solar tile designed to blend into flat and S-tile roofs.

PV GUIDELINES

Today, there are different PV technologies to choose from, depending on the solar resource in your area, the amount of roof space available, and the products available through local solar companies.

Building-integrated photovoltaic (BIPV) systems double as building materials. BIPV products offer the convenience and economy of functioning as a building material—usually roofing—AND generating electricity.

SWH GUIDELINES

In most areas of the United States, SWH is a cost-effective technology for heating residential domestic water. SWH economics are usually better for homes with electric water heaters than gas water heaters. Here are some tips to avoid callbacks and ensure your customers years of inexpensive, trouble-free solar-heated water.

Only install systems that are Solar Rating and Certification Corporation (SRCC) certified (www.solar-rating.org). The SRCC provides independent certification of solar water and swimming pool heating collectors and systems. Some states (Florida, for example) require their own certification.

Install the simplest system that will work in your climate. In most areas of the United States, SWH must incorporate freeze protection.

Making Houses Solar-Ready

Your customers will appreciate your forethought in making their homes solar-ready, because it will save them time and hassle when they decide to install solar equipment. A solar-ready house will be easier to sell as energy prices rise and consumers become more aware of the environmental and climate consequences of various energy technologies. By making a home solar-ready, you are providing your customer an opportunity to increase the value of their investment.

Review "PV AND SWH BASICS" in the "Going Solar" section, page 6.

Design and plan the home as if you were going to install the solar equipment during construction.

Consider paying a local solar professional as a consultant to help with this process.

Leave unobstructed roof space for the collectors and/or array.

Plan ahead with various trades to avoid shading from vents, chimneys, etc.

R. Carter Scott/PIX15619

This Massachusetts development features PV systems on each house as standard equipment.

Clearly label all end points of wires or pipes.

Clearly label the location of structural reinforcements.

If standoff mounts or racks are required, install them before the final roofing material to ensure proper flashing.

In the homeowner's manual, document the intended placement for future solar equipment, including arrays, collectors, tanks, inverters, and switches.

Getting Ready for PV

Design space for inverters and disconnects near the main service panel.

Leave space in the main service panel to handle a power input breaker.

Pre-wire or install empty metal conduit from the roof to near the main service panel.

Install conduit from the inverter location to the main service panel.

Namaste Solar Electric/PIX15620

Retrofitting solar equipment to an existing house is easier and less disruptive if the original builder makes the house solar-ready.

Leave space in the breaker box for a double-pole 30 A breaker (solar electric feed).

Provide a vertical wall area to mount an inverter in the mechanical area of the house.

Minimize the distance (wire run) from the array to the inverter.

Install an electric disconnect switch for the future solar electric system.

Leave a copy of the wiring notes and diagrams in the electrical panel.

Post a sign or label on the electrical panel door indicating that the home is SOLAR READY.

Include system schematics, manufacturer's literature, installer's contact information, and any other pertinent paperwork in the homeowner's manual.

Getting Ready for SWH

Install 3/4″ copper pipe for both cold and heated water from the roof to the location of the hot water storage tanks.

Cap the pipe and install so that it is accessible on the top.

The bottom should dead end until the solar system is installed.

Insulate the pipe.

If required, run sensor wires parallel to the copper pipe.

Install electric cable if required for a future pump.

Leave space near the water heater for hot water tanks, valves, pumps, heat exchangers, expansion tanks, and other needed equipment.

Include system schematics, manufacturer's literature, installer's contact information, and any other pertinent paperwork in the homeowner's manual.

Eric Lee/PIX15621

New low-cost solar water heaters like the SunCache are coming on the market. Davis Energy Group, in partnership with SunEarth Inc., developed the SunCache, with significant support from the National Renewable Energy Laboratory.

I'm committed to going solar or solar-ready. What's next?

Clarum Homes/PIX15623

In this California community, unobtrusive PV systems quietly generate clean energy.

SELLING SOLAR

It's time to educate your staff—especially your sales staff—about the finer points of solar systems. Use this publication as a starting point, and consult *High-Performance Home Technologies: Solar Thermal & Photovoltaic Systems* for more details. See Resources, this page, for download information.

The strategies mentioned here are sales techniques that work for other solar builders.

Educate your sales force. Builders who successfully integrate solar agree that educating yourself, your staff, your subcontractors, and your customers is critical.

Use walk-throughs, models of house features, and model homes as education and sales tools, both for your sales force and your customers. Provide samples of solar systems for browsers to examine. If net metering makes it possible in your area, let visitors watch the electric meter spin backwards. It's a proven crowd pleaser.

groSolar®/PIX15622

Let prospective homebuyers see for themselves that solar installations need not detract from the appearance of a home.

Hold training sessions for consumers and tradespeople. Generate traffic through your models and educate potential customers at the same time. Manufacturers and installers often have excellent sales and training tools that they will share with their customers.

Hand out publications detailing the benefits of energy efficiency and solar technologies—yours or others. Reprints of articles about the benefits of going solar—especially if they mention you or your company—are powerful sales tools.

Advertising—energystar.gov has information about designing advertising. Emphasize your energy efficiency and solar features to set you apart from the competition.

Web site. Use your Web site to educate potential customers about your commitment to energy efficiency and solar technologies.

Compact discs. CDs offer an opportunity to provide lots of information in a tiny package.

Free publicity. Send out press releases; offer your services to print, radio, and TV journalists as an expert interviewee; invite the press to open houses and other events and functions. Editorial mentions are often far more powerful publicity than advertisements.

Sam Garst/PIX15624

For some homeowners, solar systems are an indication of their commitment to environmental protection and national energy security.

Offer energy efficiency guarantees. Some builders guarantee that their customers' utility bills will stay below a prescribed maximum. See www.eflhome.com, for example.

Publicize your affiliations with green building and solar organizations. These affiliations can increase your credibility among consumers.

Resources

Free download of Volume 6 of the Building America Best Practices Series, *High-Performance Home Technologies: Solar Thermal & Photovoltaic Systems* www.eere.energy.gov/buildings/building_america/pdfs/41085.pdf

Feedback on this document or your solar experiences
solarbuilderfeedback@nrel.gov

Database of solar and energy efficiency incentives
www.dsireusa.org

Study of green building programs
www.aia.org/release_112807_grcities

American Solar Energy Society
www.ases.org

Solar Energy Industries Association
www.seia.org

Findsolar.com
www.findsolar.com

The Green Building Initiative
www.thegbi.org

U.S. Green Building Council
www.usgbc.org

North American Board of Certified Energy Practitioners
www.nabcep.org

List of solar training programs
www.irecusa.org/courseCatalog.php?action=Search

List of energy models and software
www.eere.energy.gov/buildings/tools_directory

Solar Rating and Certification Corporation
www.solar-rating.org

Energy efficiency guarantees
www.eflhome.com

For more information contact:
EERE Information Center
1-877-EERE-INF (1-877-337-3463)
www.eere.energy.gov

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A Strong Energy Portfolio for a Strong America. Energy efficiency and clean, renewable energy will mean a stronger economy, a cleaner environment, and greater energy independence for America. Working with a wide array of state, community, industry, and university partners, the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy invests in a diverse portfolio of energy technologies.

CONSULTANT REPORT

THE CALIFORNIA ENERGY COMMISSION'S NEW SOLAR HOMES PARTNERSHIP PROGRAM CASE STUDY

Promoting Greener, Better Housing in California

Prepared for:

CALIFORNIA
ENERGY COMMISSION

Edmund G. Brown Jr., Governor

Prepared by:

Clean Energy States Alliance

MARCH 2015

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DISCLAIMER

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About the Clean Energy States Alliance: The Clean Energy States Alliance (CESA) is a national nonprofit coalition of public agencies and organizations working together to advance clean energy. CESA members—mostly state agencies—include many of the most innovative, successful, and influential public funders of clean energy initiatives in the country. CESA works with state leaders, federal agencies, industry representatives, and other stakeholders to develop and promote clean energy technologies and markets. CESA promotes information sharing, provides technical assistance, coordinates multistate collaborative projects, and communicates the positions and achievements of its members. For more information, visit www.cesa.org.

About the California Energy Commission: The California Energy Commission is the state's primary energy policy and planning agency. It has seven core responsibilities: advancing state energy policy, encouraging energy efficiency, certifying thermal power plants, investing in energy innovation, developing renewable energy, transforming transportation, and preparing for energy emergencies. The Energy Commission is the program administrator for the California New Solar Homes Partnership. For more information, visit www.energy.ca.gov.

About Peregrine Energy Group: Peregrine Energy Group is an energy consulting firm based in Boston, Massachusetts. Founded in 1992, Peregrine specializes in energy efficiency and renewable energy, and in the collection, analysis, and presentation of energy data. For more information, visit www.peregrinegroup.com.

ABSTRACT

This case study analyzes data from the California Energy Commission's New Solar Homes Partnership Program, part of California's comprehensive statewide solar program, the California Solar Initiative. At the time this study was conducted, the New Solar Homes Partnership Program had installed 14,100 solar energy systems totaling 45 megawatts of capacity. Key findings about market impacts of the program include the following:

- Fourteen times more solar energy systems have been installed in single-family homes than in multifamily homes.
- The majority of solar installations took place in Southern California, with market penetration reaching 27 percent of the new single-family homes with building permits issued in 2012.
- Program participation is distributed evenly across communities by income.
- The program primarily serves production homes, also known as subdivisions.
- Direct purchases have been the dominant finance structure, with leases becoming more common in the last two years and power purchase agreements remaining uncommon.
- The rebate design has helped lower-income residents, with affordable housing and multifamily housing receiving higher average rebates per watt of solar capacity.

Keywords: California Energy Commission, Clean Energy States Alliance, New Solar Homes Partnership Program, California Solar Initiative, solar power, zero-net-energy homes, production homes, custom homes, affordable housing, single-family homes, multi-family homes, rebates, incentives, net-energy metering

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Introduction

New homes in California are becoming more energy-efficient and have lower energy bills, thanks, in part, to the California Energy Commission's New Solar Homes Partnership (NSHP). This initiative provides financial incentives and other support to homeowners, builders, and developers to encourage the construction of new, energy-efficient solar homes. Because houses last for many decades, it makes sense to construct them so that the ongoing energy use and energy costs will be small.

The NSHP began in 2007 and has a 10-year goal of installing 360 megawatts (MW) of new residential solar capacity in California. It aims to have at least half of all new homes include solar by 2020. The long-term goal of the NSHP is to create a self-sustaining residential solar market in California.

As the state agency responsible for developing the energy efficiency standards for all new construction, the California Energy Commission administers the NSHP program. The NSHP is part of the state's comprehensive statewide solar program, the California Solar Initiative (CSI). The California Public Utilities Commission oversees a solar rebate program, also known as CSI, for commercial, agricultural, government, and existing residential projects that get electricity from one of three investor-owned utilities: Pacific Gas and Electric, San Diego Gas & Electric, and Southern California Edison. The program goals include installing 1,940 MW of new solar generation capacity by the end of 2016 and establishing a self-sufficient solar industry whereby solar energy systems are a viable mainstream option. This program is well on the way toward achieving those goals.

Figure 1: Lennar Homes Subdivision Shenandoah at Blackstone in El Dorado Hills

Photo Credit: Sherrill Neidich

The NSHP's more than 14,100 completed installations have led to the creation of more than 44 MW of installed residential solar capacity in California. The NSHP has 19,000 new homes under construction with a total solar capacity of more than 56 MW, and an additional 5,000 new homes in development.

Benefits to Homeowners From Solar and Energy Efficiency

Solar power combined with energy efficiency not only benefits the environment and strengthens the renewable energy market; it also has important financial benefits for homeowners. Homeowners save money on their utility bills because they are using less energy. Energy efficiency measures and solar energy systems also protect homeowners from rising energy costs. Furthermore, homeowners can qualify for federal income tax credits for solar energy systems and energy efficiency measures.

The NSHP focuses on new home construction as a way to lower the upfront installation costs of solar energy systems by incorporating the solar energy system design seamlessly into the design of a building and installing the solar energy system while all the other construction activities of the home are underway.

Figure 2: Affordable Housing Townhomes Project

Photo courtesy of Habitat for Humanity, East Bay

Eligibility Requirements

Only new residential construction projects qualify for NSHP incentives. Eligible projects include common areas of housing developments, total building renovations, and certain mixed-use projects. To be eligible for the program, the building must be within the electric service territories of Pacific Gas and Electric, San Diego Gas & Electric, or Southern California Edison.

The NSHP requires that projects meet minimum energy efficiency levels, and applicants are encouraged to achieve energy efficiency levels substantially greater than the current legal standard. The installed solar energy systems must also meet specific program requirements to qualify for an incentive.

Complete eligibility requirements, rules, and application guidelines are outlined in the *New Solar Homes Partnership Guidebook*.[1] The latest edition was released in August 2014.

Incentives

Unique from previous solar incentive programs, the NSHP and other CSI programs base the solar incentive on the expected performance of the solar energy system to be installed. This encourages high-quality installations with optimal designs. The NSHP also takes into account and offers higher incentives for qualified affordable housing projects, as well as for installations on buildings that achieve higher levels of energy efficiency. Energy efficiency measures are not eligible for NSHP incentives, but NSHP applicants are encouraged to seek out energy efficiency incentives offered by their utilities' new residential construction energy efficiency programs.

NSHP incentive levels will gradually decline in the coming years as the program achieves its megawatt capacity goals. NSHP incentives are paid once the solar energy system is installed and operational and has met all program requirements.

Evaluating Program Success

To better gauge the effect the NSHP has had on the new home market in California, the Clean Energy States Alliance (CESA) and Peregrine Energy Group analyzed data measuring the results of the NSHP in the first eight years.

Data were provided by the Energy Commission and was assessed in the following categories:

- Region

1 The *New Solar Homes Partnership Guidebook* is available on the Energy Commission's website at http://www.energy.ca.gov/2014publications/CEC-300-2014-001/CEC-300-2014-001-ED8-CMF.pdf

- Market penetration
- Household income
- Project category
- Building type
- Financing method

Summary Statistics

- Total number of solar energy systems installed: > 14,100
- Total installed capacity: > 45 megawatts (MW) AC
- Total project applications received: > 3,100 (~ 240 under review, 2,900 approved)
    - Corresponding number of systems: >38,200 (~5,000 under review, 33,100 approved)

Key Findings

- Fourteen times more solar energy systems have been installed in single-family homes through the NSHP than in multifamily residences.
- The majority of NSHP solar installations took place in Southern California. The market penetration in that region is quite high, reaching 27 percent of new single-family homes with building permits issued in 2012.
- Program participation is distributed evenly across communities by income.
- The program primarily serves production homes, also known as subdivisions.
- Direct purchases have been the dominant finance structure, with leases becoming more common in the last two years, and power purchase agreements (PPAs) remaining uncommon.
- The rebate design has helped lower-income residents. Affordable housing and multifamily housing received higher average rebates per watt of solar capacity.

The following pages provide an overview of the data analysis by category.[2]

Unless otherwise noted, the Energy Commission provided all data, which include the period from November 6, 2007, to October 28, 2014. The data provided by the Energy Commission include only approved projects and installed solar energy systems and do not include information on applications or projects under review.

Region

For this study, California was grouped into three main geographical regions: Northern, Central, and Southern California. The boundaries of these regions as defined by this report are outlined in the map below.

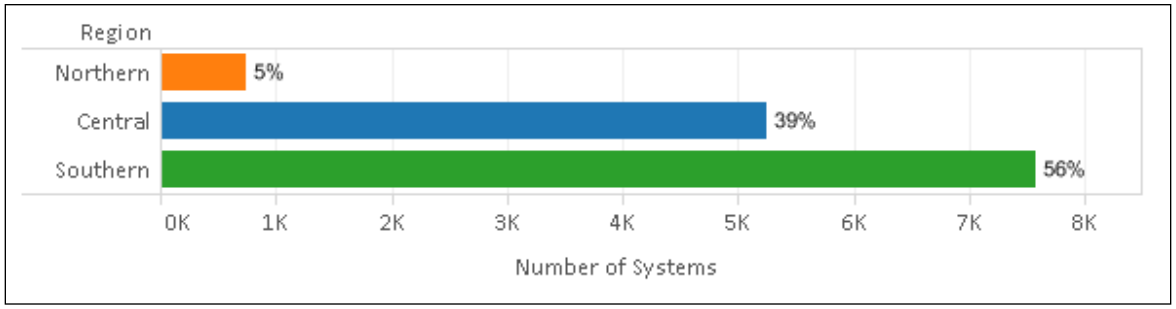
2 These statistics reflect NSHP participation at the time of publication. The analysis in this report was done using data that are several months old. Therefore the data analysis in the following pages indicates a total of 13,581 installed solar energy systems, with some minor variation due to data inconsistencies.

Figure 3: Geographic Regions of California

Source: Clean Energy States Alliance based on data provided by the California Energy Commission

The chart below shows installed solar energy systems by region.

Figure 4: Solar Installations by Region

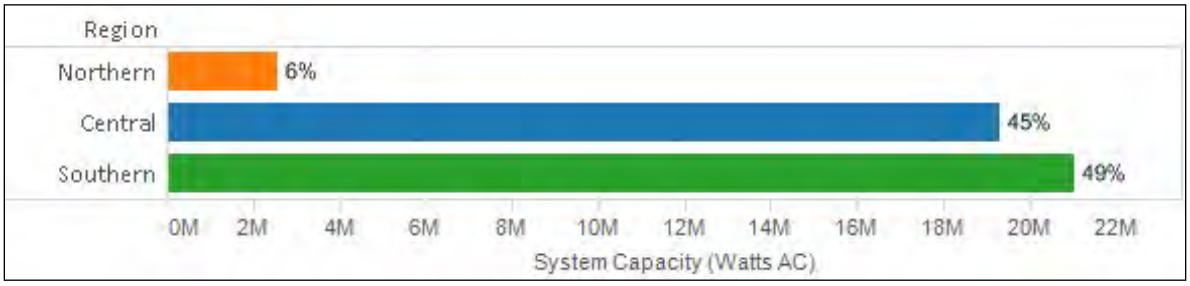


Source: Clean Energy States Alliance based on data provided by the California Energy Commission

Southern California has had the most NSHP systems overall (56 percent) and experienced especially impressive growth between 2012 and 2013. Before 2012, many production builders had projects focused in Central California. Thanks to a variety of factors, such as builder

education and outreach by solar retailers and installers, many production builders are offering solar energy systems in their Southern California communities. As cities, such as Lancaster, adopt increasingly stringent building requirements that require high levels of energy efficiency and solar energy system installations, this trend may continue.

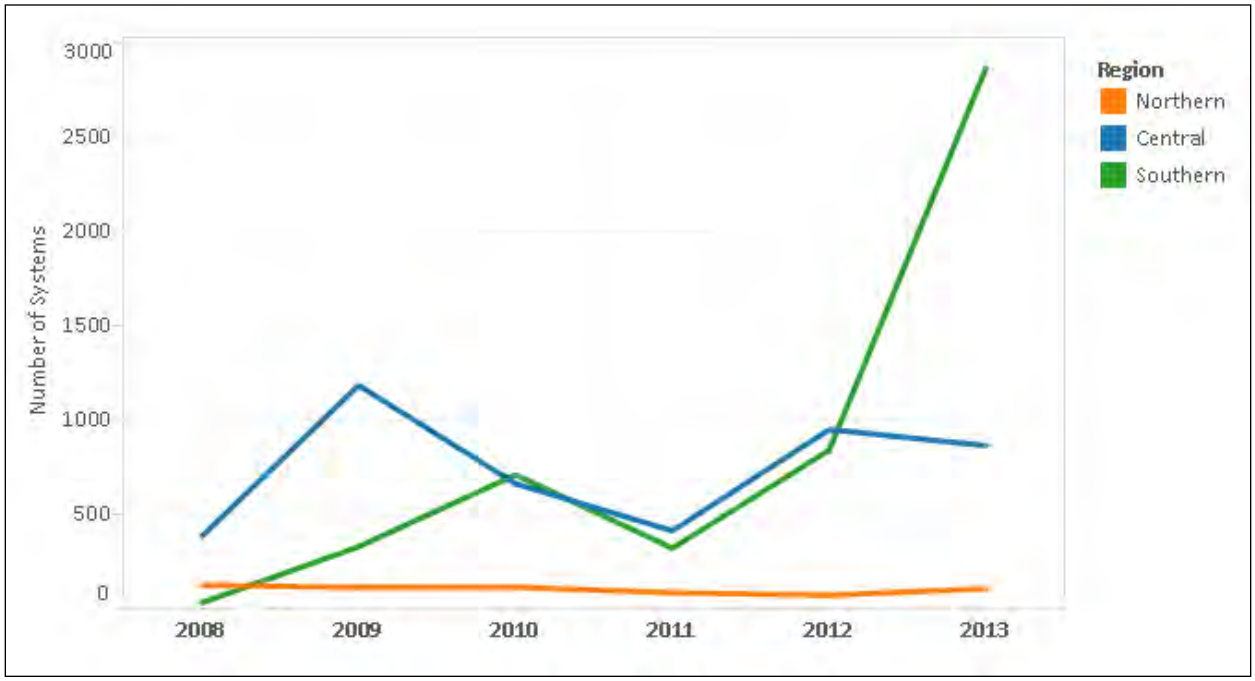
Figure 5: Installed Solar Capacity by Region



Source: Clean Energy States Alliance based on data provided by the California Energy Commission

A graph of installed solar capacity by region shows the same ranking among the regions. However, a smaller average system size in Southern California means that the installed solar capacity in Central California is nearly as great. Northern California ranks last, with the smallest percentage of installed capacity (5 percent) and the fewest installed systems (6 percent).

Figure 6: Solar Installations by Region by Year



Source: Clean Energy States Alliance based on data provided by the California Energy Commission

Northern California accounted for 5 percent of the total NSHP systems installed, and program participation has remained relatively even over the years.

Central California has had more dynamic growth trends, with a decrease in installations between 2009 and 2011 but with positive growth during the other years. Central California accounts for 39 percent of total NSHP systems installed.

Table 1: Solar Installations by Region by Year

Region	2008	2009	2010	2011	2012	2013	2014	Grand Total
Northern	125	113	114	85	72	107	130	746
Central	383	1,184	663	413	950	864	791	5,248
Southern	32	329	710	321	841	2,868	2,485	7,586

Source: Clean Energy States Alliance based on data provided by the California Energy Commission

Market Penetration

The research team assessed market penetration by calculating the number of systems installed as a percentage of the number of building permits issued for new, single-family homes in areas served by the program.[3] The analysis was limited to single-family homes because comparable program data and building permit data are available for only that building type. The analysis was performed for 2012 because the most complete data were available for that year.[4]

Table 2: Market Penetration – New Single-Family Homes, 2012

Region	Total Building Permits Issued	Permits in IOU Territories	NSHP Systems	NSHP Share of Potential Market
Northern California	8,558	5,732	440	8%
Central California	8,384	7,380	307	4%
Southern California	10,618	7,249	1,986	27%

Source: Clean Energy States Alliance based on data provided by the California Energy Commission

The NSHP had the highest market penetration in Southern California, reaching 27 percent of new single-family homes in 2012. Market penetration was 8 percent in Northern California and 4 percent in Central California.

Household Income

Solar energy systems installed through the NSHP were grouped according to the median household income of the ZIP code where the home is located. The income data come from the American Community Survey.

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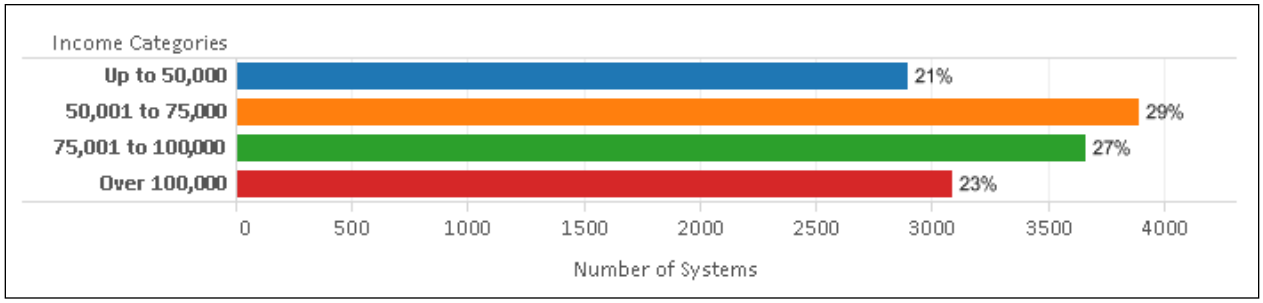
3 This analysis uses building permit data by county as reported by the Construction Industry Research Board.

4 The data in Tables 1 and 2 of this report do not match up because 1) the data in Table 2 include only single-family homes whereas the data in Table 1 include single- and multifamily homes; 2) the data are grouped differently by year—in Table 1, "year" refers to the year the system was installed, and in Table 2, "year" refers to the year the building permit was issued. Since systems are often installed a year or even two years after the permit is issued, the numbers per year won't match between the two tables.

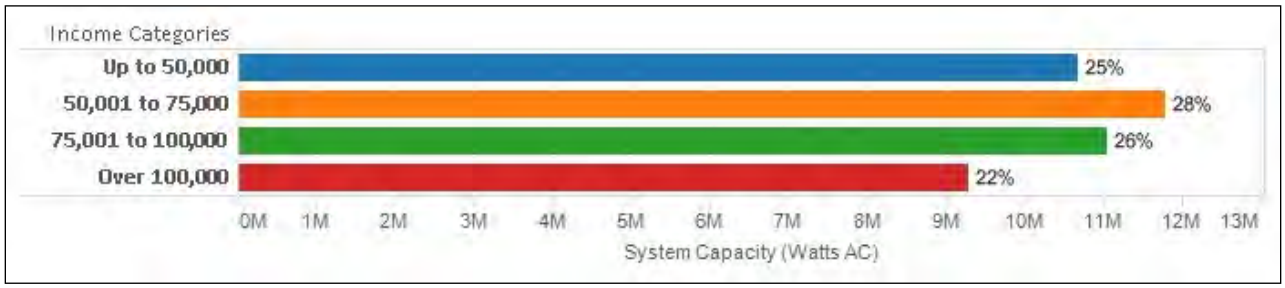
Figure 7: Solar Installations by Community Median Household Income



Source: Clean Energy States Alliance based on data provided by the California Energy Commission

A slight majority (56 percent) of NSHP installations have been in communities where the median household income is $50,000-100,000. Wealthier communities (those where the median household income is greater than $100,000) are participating at a slightly higher rate than communities with median household incomes less than $50,000.

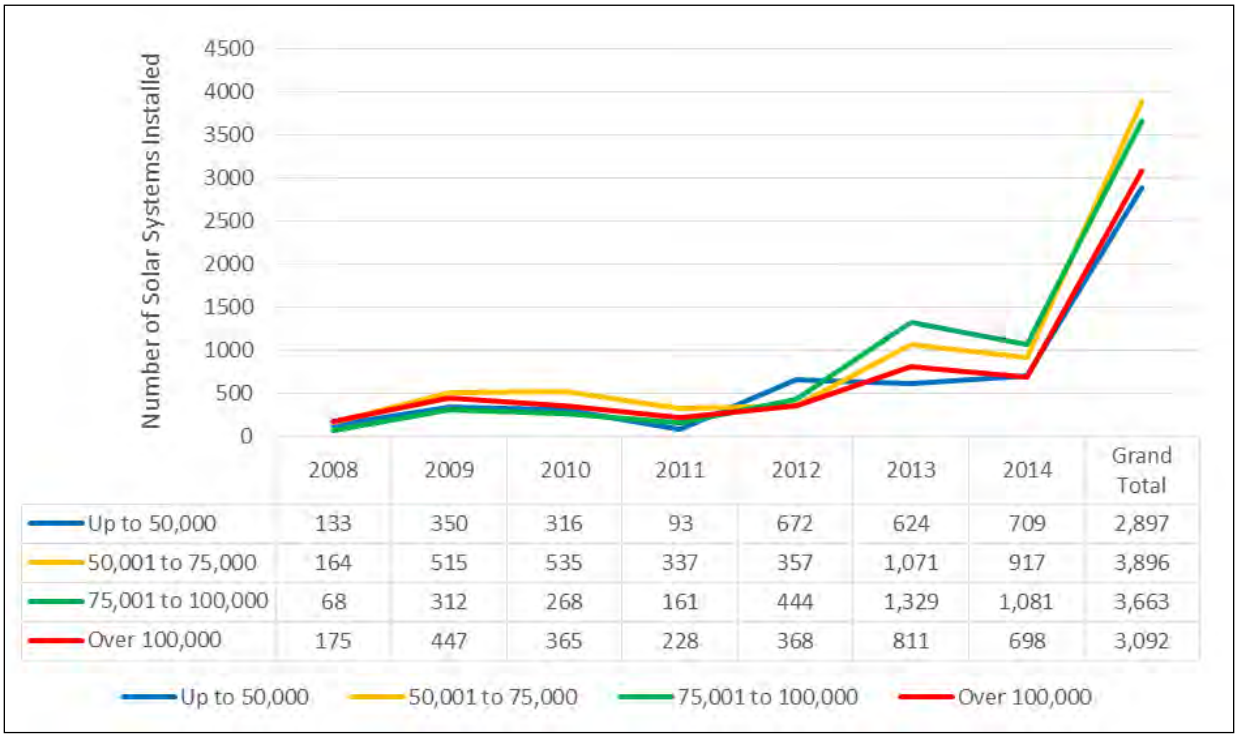
Figure 8: Installed Solar Capacity by Community Median Household Income



Source: Clean Energy States Alliance based on data provided by the California Energy Commission

Figures 7 and 8 show similar results. But because the average system size is greatest in communities with incomes up to $50,000, fully 25 percent of all capacity has been installed in those communities.

Figure 9: Solar Installations by Community Median Household Income by Year



	2008	2009	2010	2011	2012	2013	2014	Grand Total
Up to 50,000	133	350	316	93	672	624	709	2,897
50,001 to 75,000	164	515	535	337	357	1,071	917	3,896
75,001 to 100,000	68	312	268	161	444	1,329	1,081	3,663
Over 100,000	175	447	365	228	368	811	698	3,092

Source: Clean Energy States Alliance based on data provided by the California Energy Commission

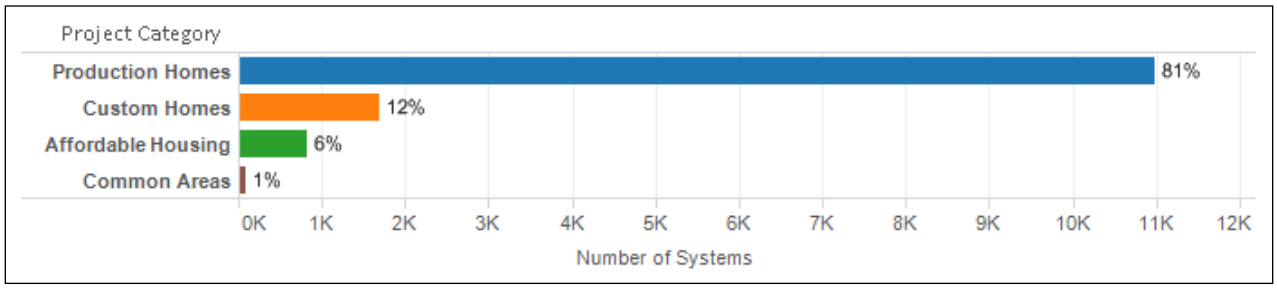
Overall, these data show strikingly similar trends in communities of all income levels.

Project Category

The NSHP has provided incentives to four types of building projects:

- Production homes, also known as subdivisions.
- Custom homes
- Affordable housing
- Common areas (an area within a multifamily building or development for use of the residents). Examples include recreation centers, hallways, security lighting, parking lots, and computer rooms.

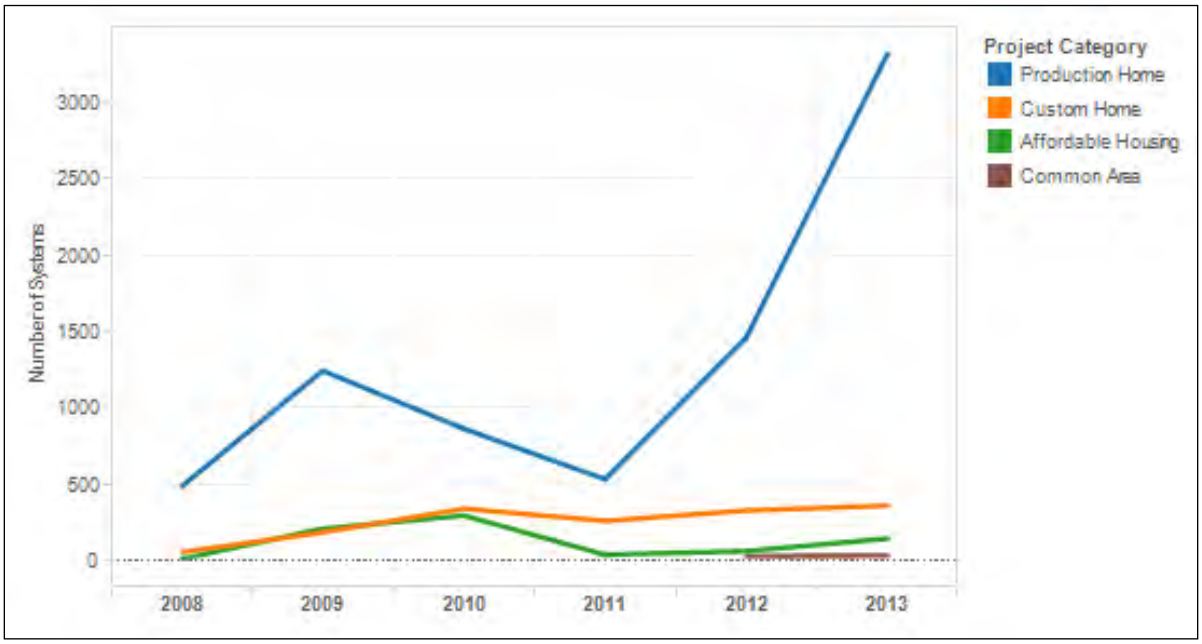
Figure 10: Solar Installations by Project Category



Source: Clean Energy States Alliance based on data provided by the California Energy Commission

Production homes are by far the most common category at 81 percent. Because production homes are the dominant form of housing in California and were the primary target audience of the NSHP, these data are not surprising. There were twice as many custom homes (12 percent) as there were affordable housing projects (6 percent). The smallest project category was common areas at 1 percent.

Figure 11: Solar Installations by Project Category by Year



Source: Clean Energy States Alliance based on data provided by the California Energy Commission

In addition to having the highest overall number of sites, production homes have also had the steepest growth curve. There was a decline in activity between 2009 and 2011, coinciding with California's largest ever housing downturn, followed by impressive growth from 2011 to the present as the new home market in California has picked up steam.

Growth trends have remained relatively steady with slight growth for custom homes. Affordable housing experienced a decline between 2010 and 2011 and has been increasing since then. Common area projects have not had high levels of participation and have seen minimal growth since 2012.

Table 3: Systems, Capacity, and Rebate Amount by Project Category

Project Category	Total Number of Systems	Total System Capacity (Watts AC)	Average System Capacity (Watts AC)	Average Rebate	Average Rebate per Watt[5]
Affordable Housing	826	6,935,394	8,396	$26,029	$3.10
Common Area	78	2,347,379	30,094	$72,031	$2.39
Custom Home	1,689	9,987,793	5,913	$12,794	$2.16
Production Home	10,989	23,21,763	2,150	$5,211	$2.42

Source: Clean Energy States Alliance based on data provided by the California Energy Commission

Common areas, which serve many people and may have specialized or energy-intensive purposes, had the highest average system capacity. Affordable housing units, which tend to house a higher number of people and may contain some shared community facilities, had the second highest average system capacity. Custom homes, which tend to be larger than production homes, have the third highest average system capacity, followed by production homes. The average rebates correlated in size to the average system capacity.

On a rebate-per-watt basis, affordable housing received the highest rebates, followed by production homes, common areas, and custom homes.

NSHP incentive rates were tied to only the energy efficiency of a project starting in 2012. Before 2012, incentive rates were based on the amount of solar to be installed in a project, meaning that larger projects such as subdivisions received

5 Current incentive rates range from $0.75/watt to $1.50/watt for market-rate housing projects and $1.50/watt to $1.85/watt for affordable housing projects.

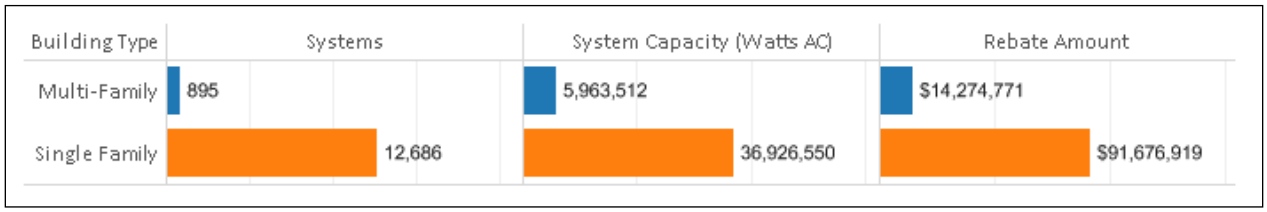
higher incentive rates than custom homes. This change in incentive structure could have favored production homes in the years prior to 2012.

As a percentage of the total installed program capacity, production homes are the largest portion at 55 percent. The second highest are custom homes at 23 percent, followed by affordable housing at 16 percent, and common areas at 5 percent.

Building Type (Single/Multifamily)

Many more single-family homes than multifamily buildings have installed solar energy systems through the NSHP, by a ratio of roughly 14:1. Out of the 13,581 total systems installed, 12,686 (93 percent) were on single-family homes, and 895 (7 percent) were on multifamily residences.

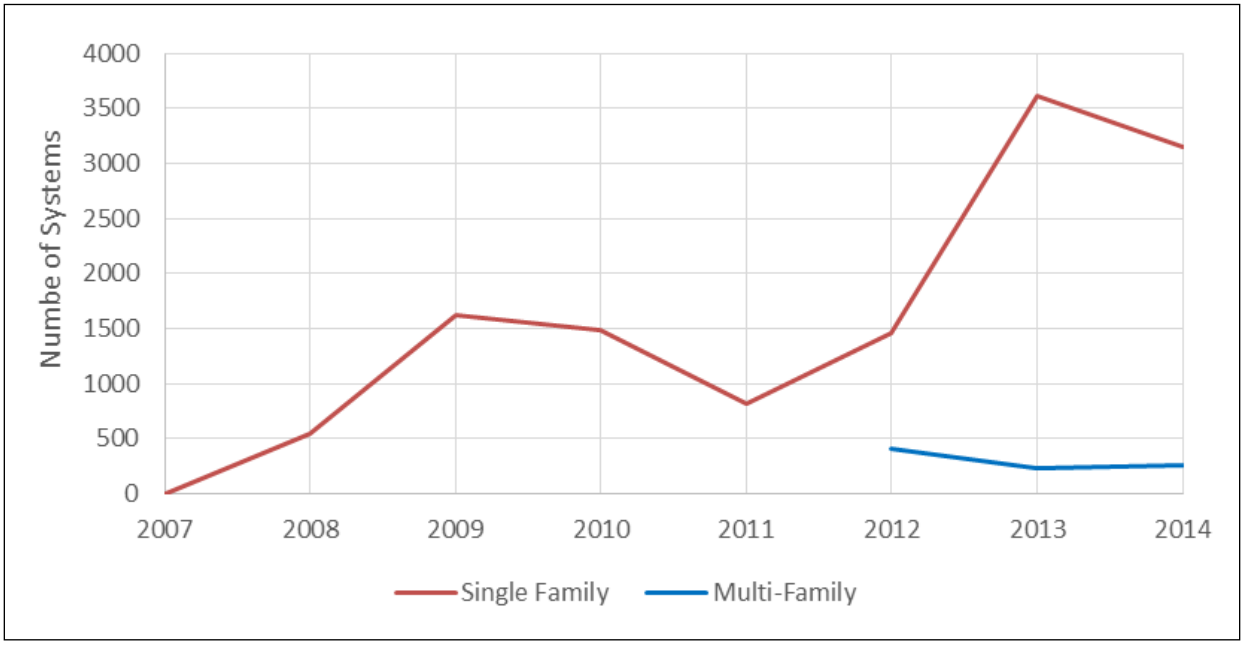
Figure 13: Solar Installations by Building Type



Source: Clean Energy States Alliance based on data provided by the California Energy Commission

A chart of installed solar energy systems by building type by year (Figure 14) shows that multifamily homes were slower to get involved in the NSHP program. This may have been due to other California Solar Initiative (CSI) programs that offered similar incentives for affordable housing projects without the increased energy efficiency requirements of the NSHP. Over time, decreasing CSI incentives and California's adoption of virtual net metering likely encouraged the participation of affordable housing projects seeking to install solar energy systems that would offset tenant electricity usage.

Figure 14: Solar Installations by Building Type by Year[6]



Source: Clean Energy States Alliance based on data provided by the California Energy Commission

Table 4: Rebate Amount, System Capacity, and Rebate per Watt by Building Type by Year

	Average Rebate Amount		Average System Capacity (Watts AC)		Average Rebate Per Watt	
Year of Payment	**Single Family**	**Multi-Family**	**Single Family**	**Multi-Family**	**Single Family**	**Multi-Family**
2007	$7,332		2,626		2.79	
2008	$6,932		2,481		2.79	
2009	$6,784		2,037		3.33	
2010	$10,022		3,496		2.86	
2011	$11,071		4,089		2.70	
2012	$9,085	$12,064	3,428	4,477	2.65	2.69
2013	$6,621	$20,108	2,805	7,945	2.36	2.53
2014	$5,014	$18,297	2,538	8,917	1.97	2.05
Total Program Averages	**$7,226**	**$15,949**	**2,910**	**6,666**	**$2.48/watt**	**$2.39/watt**

Source: Clean Energy States Alliance based on data provided by the California Energy Commission

6 There was limited multifamily participation in the NSHP prior to 2012, but those projects were not included due to data entry discrepancies.

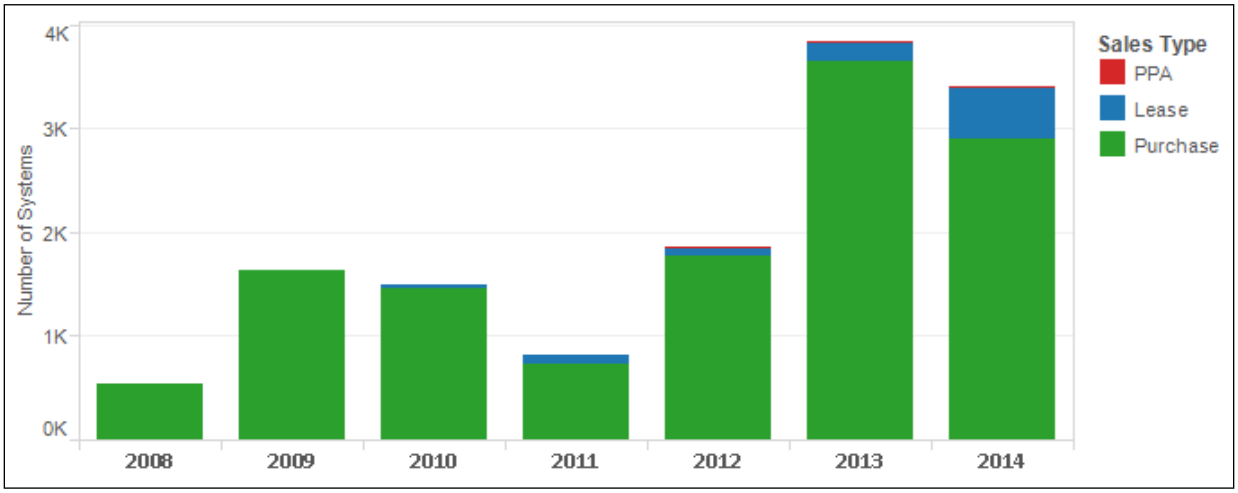
Systems installed on multifamily homes were more than twice as large on average as those installed on single-family residences. The average multifamily system was 6,666 watts, and the average single family system was 2,910 watts. Correspondingly, multifamily homes received average rebates that were twice as large as those received by single-family homes.

During the program, the average rebate-per-watt was $2.48 for single-family homes and $2.39 for multifamily buildings. During the three-year period between 2012 and 2014, when both single-family and multifamily projects received rebates, the average rebate per watt for single-family homes was $2.32/watt, and the average rebate per watt for multifamily buildings was slightly higher at $2.42/watt. Due to the program design, there is a lag of up to three years between the time the project is issued a reservation at a certain incentive rate and the payment is issued. Many of the systems above are from older reservations approved at higher incentive levels. As these projects expire out of the program and more systems are installed and submitted for payment, the average rebate per watt will decrease.

Sales Type

There are three ways that homeowners can finance solar installations: through the direct purchase of the solar system, through a lease arrangement, or through a power purchase agreement (PPA). Until 2010, direct purchases were the only financing option available for NSHP participants.

Figure 15: Solar Installations by Sales Type by Year



Source: Clean Energy States Alliance based on data provided by the California Energy Commission

Throughout the NSHP, purchases have been the most common financing method by far. Leases have grown in popularity, especially since 2013, but PPAs remain uncommon.

Table 5: Average System Capacity and Average Rebate by Financing Method

Financing Method	Average System Capacity (Watts AC)	Average Rebate ($)
Lease	3,013	6,820
PPA	7,020	16,302
Purchase	3,164	7,860

Source: Clean Energy States Alliance based on data provided by the California Energy Commission

The chart above shows a relationship between system capacity and financing method. Systems that were leased and purchased had roughly the same average capacity. A small number of customers opted to finance their solar installations through PPA financing. While the table shows they had projects that were twice as large on average as systems financed by leases and direct purchases, this is due to the influence of a few large systems among smaller systems in a small sample group.

Future Data Collection and Program Evaluation

This data analysis was completed using information provided by applicants in their NSHP program applications. As funding for the NSHP and the CSI is exhausted and those programs eventually end, the problem of continuing to collect data on solar energy systems installed in California will arise.

Foreseeing that the end of the CSI would end data collection on many solar installations, the California Public Utilities Commission required the investor-owned electric utilities (IOUs) to amend the customer net energy metering interconnection application requirements to include data fields being provided to the NSHP and the CSI. The decision also ordered the IOUs to create an online interconnection application, if not already available to customers, and to report that information regularly. The automated data collection process and regular reporting will be important for continuing to gauge the effect of the NSHP on the new solar homes market and for evaluating whether the program met the goals of creating a self-sustaining solar market and placing solar on 50 percent of new homes by 2020.

Conclusion

The New Solar Homes Partnership has been showing considerable growth and is moving the market for new homes in California toward greater energy efficiency and the incorporation of solar energy systems. The data analysis also indicates that the NSHP has been helping residents at all income levels. At this time, it is too early to draw final conclusions about the success of the program because it is only partially completed.

For More Information

The New Solar Homes Partnership website: http://www.gosolarcalifornia.org/about/nshp.php

New Solar Homes Partnership Guidebook, 8th Edition, August 2014. 113 pages. http://www.energy.ca.gov/2014publications/CEC-300-2014-001/CEC-300-2014-001-ED8-CMF.pdf. This guidebook details the eligibility requirements, rules, and process for reserving and claiming an incentive under the New Solar Homes Partnership Program.

ENERGY AWARE PLANNING GUIDE

COMMISSION REPORT

CALIFORNIA
ENERGY COMMISSION

Edmund G. Brown Jr., Governor

FEBRUARY 2011
CEC-600-2009-013

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ENERGY AWARE PLANNING GUIDE

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ENERGY AWARE PLANNING GUIDE

ABSTRACT

The *Energy Aware Planning Guide*, developed by the California Energy Commission in 1993 and updated in 2011, is a comprehensive resource for local governments seeking to reduce energy use, improve energy efficiency, and increase usage of renewable energy across all sectors. Wiser use of energy resources can lead to cost savings for local governments, residents, and businesses; reinvestment in the local economy; improved quality of life and public health; increased compliance with state and federal goals; and a more secure future. Additionally, strategies to reduce energy consumption promote progress towards aggressive greenhouse gas reduction goals laid out in Assembly Bill 32 (Núñez Chapter 488, Statutes of 2006), California's Global Warming Solutions Act. The *Energy Aware Planning Guide* presents a menu of strategies and best management practices to help local governments improve energy efficiency, reduce energy consumption through transportation and land use and enhance renewable sources of energy. Strategies explored include: transportation and land use changes; optimizing water use; building improvements; and other strategies. Each strategy section contains general plan language ideas; implementation ideas; case studies; and resources. The *Energy Aware Planning Guide* also contains supporting information and references to help local governments organize strategies into an *Energy Action Plan* and estimate the likely energy efficiency and greenhouse gas reduction impacts of their strategies.

Keywords: Energy efficiency, transit-oriented development, smart growth, best management practices, renewables, local government, transportation, land use, land use planning, buildings, greenhouse gases, electricity generation, adaptation planning, policy, climate change

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ENERGY AWARE PLANNING GUIDE
EXECUTIVE SUMMARY

Introduction

Welcome to the *Energy Aware Planning Guide,* developed by the California Energy Commission. Few people question the importance of energy to the state's economy and quality of life. In these rapidly changing times planning for an adequate, affortable, and environmentally appropriate supply of energy is essential. This guide provides a wide-ranging survey of ideas and information to assist in planning for energy at the local level. The guide touches on many of the critical energy issues facing planners and provides linkages to additional resources to pursue a greater level of detail on any particular topic.

Purpose

The purpose of the *Energy Aware Planning Guide* is to provide technical information to local governments seeking to improve energy efficiency, reduce energy use and greenhouse gas emissions, and enhance renewable sources of energy. The guide is organized into the following sections:

» **Section I –** Introduction.

» **Section II –** The Overview of California Energy Supplies provides basic information about the supply of major sources of energy used by California consumers and about the effect of consuming this energy.

» **Section III –** Create an *Energy Action Plan* presents a framework for inventorying sources and uses of energy at the municipal level, and identifying opportunity areas where energy production or use could be managed more wisely. Included are worksheets to help municipalities inventory energy use and reduce greenhouse gas emissions.

» **Section IV –** Meeting the California's Climate Challenge summarizes recent state requirements to reduce greenhouse gas emissions as stipulated in the Global Warming Solutions Act (Assembly Bill 32 (Núñez Chapter 488, Statutes of 2006)), the Sustainable Communities and Climate Protection Act (Senate Bill 375 (Steinberg, Chapter 728, Statutes of 2008)), and the California Environmental Quality Act. It also includes a guide to preparing community adaptation plans to assess and reduce potential impacts as a result of changes to our climate.

» **Section V –** Fully Integrated Planning describes the benefits of coordinating local and regional planning efforts, provides examples of successful integrated planning experiences, and lists resources for integrating planning practices.

» **Section VI –** Energy Aware Strategies presents a detailed inventory of methods to reduce energy use in land use, transportation, buildings, water use, and other community efforts. Each idea in the guide is called a Planning Opportunity Strategy and includes sample general plan language; implementation possibilities; energy, environmental and economic impacts; and notable cases and resources from California and elsewhere. At the end of each strategy section is a list of related strategies.

» Appendix A includes metrics useful for quantifying the energy and greenhouse gas reduction impacts of the energy aware strategies.

» Appendix B provides the Ahwahnee Principles for planning more livable communities. The Ahwahnee Principles are a simple, concise set of principles intended to guide local governments in the development of sustainable, resource-efficient communities.