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# Appendix 3: Circulation

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## **Appendix 3A: Angels Camp Functional System of Roadways**

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Angels Camp encompasses 19± miles of collector and local roadways (i.e., excluding State Routes 4 and 49) pursuant to the *City of Angels, Pavement Management Study*, (1999).

The functional classification of streets and highways in Angels Camp is as follows (Calaveras County 2006 Regional Transportation Plan, LSC Transportation Consultants, Inc.):

### **Arterial**

Arterials are roadways that are expected to provide relatively high speeds with minimum interference to the through-traffic flow or a low proportion of access points. Within Calaveras County, all State Routes are classified as Arterials. Arterial roadways within Angels Camp are:

- State Route 49
- State Route 4

### **Collectors**

Collectors move traffic from traffic generators such as residential areas or commercial centers, to other Collectors or Arterials. Collectors are generally located within residential areas, where they connect a number of Local Roads to other-Collectors. Collectors within the Angels Camp Sphere of Influence include:

- Angel Oaks Drive
- Booster Way (State Route 4 to Bret Harte Road)
- Bret Harte Road (Booster Way to State Route 49)
- Demarest Street
- Dogtown Road (State Route 49 to Fricot City Road)
- Finnegan Lane (State Route 49 to Gold Cliff Road)
- Gardner Lane (Murphys Grade Road to Dogtown Road)
- Gold Cliff Road (Finnegan Lane to Tuolumne Avenue)
- Greenhorn Creek Road
- Kurt Drive (State Route 4 to Suzanne Drive)
- Mark Twain Road (Crystal Street to State Route 49)
- Murphys Grade Road
- Stanislaus Avenue (Gold Cliff Road to State Route 49)
- Stockton Road (Angels Oaks Drive to State Route 49)

## **Local Roads**

The Local Road system primarily provides access to residential property and other areas that are not directly served by the Collector or Arterial system. Local Roads within Angels Camp are all roads not classified under the Arterial or Collector categories. There are approximately 123 Local Roads within Angels Camp. Local Roads are listed **Table 3A**. Not all listed Local Roads are city-owned and/or maintained.

## **Other**

As used in the Angels Camp General Plan, **“Connector”** (or connecting roadway) is a *descriptive* term for an Arterial, Collector or Local Road that connects two roadways together. “Connector” is *not* a functional roadway classification and, as such, does not have specified construction standards. Construction standards are based on the connecting roadway’s status as an Arterial, Collector, or Local Road.

The City’s functional roadway classification for roads that serve both Angels Camp and Calaveras County (i.e., Murphys Grade Road, Dogtown Road) may differ from the County’s classification. The City’s classification relates to how the road functions with respect to Angels Camp, while the County’s functional roadway classification is made in the context of how the road serves the County.

## **Scenic Roadways (County and State-Designated)**

A scenic route is one that traverses an area of outstanding scenic quality. There are currently no locally designated routes in Angels Camp. However, **Implementation Program 3.E.a** proposes an evaluation of the city’s roadways to identify those that may be suited for designation as scenic routes.

Pursuant to the 1996 Calaveras County General Plan, the following roadway segments, located within the Angels Camp Area of Interest, are identified as scenic highways:

- State Route 4 between the Stanislaus County Line and Angels Camp
- State Route 4 between Angels Camp and Murphys
- State Route 49 between San Andreas and Angels Camp
- State Route 49 between Angels Camp and New Melones

In addition to the preceding county-designated routes State Route 49 from the Tuolumne County line to the Amador County line and State Route 4 between Angels Camp and Arnold are eligible for the State Scenic Highways Designation. State Route 4 from Arnold to Markleeville has been designated as Ebbets Pass National Scenic Byway. (Source: Calaveras County 2006 Regional Transportation Plan).

**Table 3A: Angels Camp Local Roadways** (*Note: Not all roads listed are city owned and/or maintained*)

<p><b>A</b> Acorn Drive Alawa Place Albasio Court Alpine Avenue Amador Avenue Annalee Court Annalee Drive Anvil Court Avey Place Avey Ridge Road</p> <p><b>B</b> Baker Street North Baker Street South Bennett Street Birds Way Blair Mine Road Bragg Street Brunner Hill Road Bush Street</p> <p><b>C</b> Casey Street Catalpa Lane Centennial Road/Lane Chimney Hill Court Church Street Clifton Lane Copello Drive Cornelia Place Corral Loop Country Lane Crystal Street</p> <p><b>D</b> Dads Road Depot Road Deveggio Lane Dutsch Court</p> <p><b>E</b> East Street Easy Street Easy Circle Echo Street</p>	<p><b>E (cont'd)</b> El Dorado Court Elderberry Lane</p> <p><b>F</b> Fairview Court Fairview Drive Fairview Street Fiddlers Court Francis Street Foothill Village Drive</p> <p><b>G</b> Greenstone Way Grinding Rock Road</p> <p><b>H</b> Hardscrabble Street Harris Street Henry Place Highland Alley Hillcrest Street Hillside Court Holly Street</p> <p><b>J</b> Jumping Frog Way</p> <p><b>K</b> Kids Court Kirby Street</p> <p><b>L</b> Lakeview Court Leaf Court Lee Lane Lightner Place Lindsay Court Live Oak Court Live Oak Drive Love Street</p> <p><b>M</b> North Main Street South Main Street Madison Court</p>	<p><b>M (cont'd)</b> Martina Street Mary Belle Way Mayo Street McCauley Ranch Road Mill Road Minard Street Minna Street Mistletoe Court Miwuk Way Monte Verda Street Moose Trail Mountain View Street Myrtle Street</p> <p><b>N</b> North Star Loop</p> <p><b>O</b> Oak Court Oak Place Olivia Place Oneida Street</p> <p><b>P</b> Pacific Street Park Avenue Peri Street Perlina Terrace Pilot Knob Lane Pine Street Pioneer Mine Court Placer Avenue Pointe Drive Prospect Court Purdy Road</p> <p><b>Q</b> Quartz Mine Court</p> <p><b>R</b> Raggio Court Ramorini Lane Raspberry Lane Rock Forge Loop Rocky Ridge Road Rolleri Bypass Road</p>	<p><b>S</b> Sasa Place Sams Way San Joaquin Avenue Selkirk Ranch Road Sierra Avenue Slate Circle Smith Flat Road Smokehouse Court Sonora Street Springhouse Road Stelte Court Stone Corral Court Stork Road Sultana Lane South Summit Road Suzanne Court Suzanne Drive Sycamore Street</p> <p><b>T</b> Thistle Way Triple Lode Drive Tryon Court Tryon Road Tuolumne Avenue</p> <p><b>U</b> Utica Lane</p> <p><b>V</b> Vallecito Street/Road</p> <p><b>W</b> West Street Wilson Street</p>
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## **Appendix 3B: Road System Operating Conditions**

Operating conditions of roadways within Angels Camp are described in terms of the roadway's "Level of Service (LOS)." LOS is a qualitative measure of operation conditions along a given section of roadway based on a motorists' perceived ease of movement along a roadway.

### **Levels of Service, Defined**

<b>Level of Service</b>	<b>Traffic Conditions</b>
<b>A</b>	Free-flowing; low volume, high operating speed Uninterrupted flow, no restrictions on maneuverability Drivers maintain desired speeds, little or no delays
<b>B</b>	Stable flow condition, operating speeds beginning to be restricted
<b>C</b>	Stable flow, but speed and maneuverability restricted by higher traffic volumes Satisfactory operating speed for urban conditions Delays at signals
<b>D</b>	Approaching unstable flow; low speeds, major delays at signals Little freedom to maneuver
<b>E</b>	Lower operating speeds, volumes at or near capacity Unstable flow Major delays and stoppages
<b>F</b>	Forced flow conditions, low speeds, volumes below capacity—may be zero Stoppages for long periods due to "downstream" congestion

Source: (2007 Regional Transportation Plan)

### Existing Conditions

Caltrans data identifies the highest annual average daily traffic (ADT) volumes in the county at the SR 49/Murphys Grade Road intersection in Angels Camp (17,000 ADT). The second highest traffic volume is found near the intersection of SR 49 and SR4 South in Angels Camp (15,900 ADT). The proportion of all traffic consisting of trucks is highest on SR 49 in Angels Camp at the junction with SR 4 (1,431 ADT or 9%). Trucks represent 9.0% of all traffic on SR 49 through Angels Camp. The SR 4 South/SR 49 currently exceeds the LOS C standard.

The highest traffic counts along roadway segments occur on state highways, especially in San Andreas and Angels Camp. Other high volume roadways include Murphys Grade Road (3,600 ADT) near Murphys.

State Route 4 Levels of Service in and adjacent to Angels Camp are currently as follows:

- Between the Angels Camp city limits and Angels Camp city limits east – LOS C

State Route 49 Levels of Service in and adjacent to Angels Camp are currently as follows:

- Between Fourth Crossing Road and Brunner Hill Road at the north end of Angels Camp currently operates during PM peak hour traffic at LOS D (exceeding the LOS Capacity standard)
- SR 49 from SR 4 Junction South (Angels Camp) to Tuolumne County line – LOS C
- SR 4 between Angels Camp and Allen St (just west of Murphys) – LOS C
- Murphys Grade Road between Angels Camp and Murphys LOS C

Levels of Service at intersections in and around Angels Camp are as follows:

- Murphys Grade Road/Demarest St. and SR 4 - LOS B (AM and PM peak, summer weekdays)
- SR 4 South and SR 49 South – LOS C (AM peak, summer weekdays) and LOS F (PM peak, summer weekdays)

#### Future Conditions

RTP 2007 projects that average daily traffic generation will increase by 7.4 million trips between 2002 and 2025 and both roadway and intersection levels of service will be exceeded on most key state highway segments and at approximately nine major intersections in the county.

RTP 2007 Future Conditions projections are based on an average annual population growth rate of 2.52% (exceeding the California Department of Finance's 1.9% projection for the next 20 years).

2025 traffic volumes projected in RTP 2007 incorporate the pending SR 4 Angels Camp bypass. Results indicate high traffic volumes on SR 49 North of Angels Camp (17,600 daily trips) and SR 49 south of Angels Camp (16,200 daily trips). ON SR 49 north of Angels Camp between Fourth Crossing Road and Dogtown Road, the tenth highest percentage traffic volume increase in the county, as measured by ADT, (8,167 in 2002 versus 14,647 in 2025) is projected.

In 2025, capacity is exceeded on all roadway segments evaluated except for the corridor on SR 49 between Mountain Ranch and Fourth Crossing Road. The following LOS is projected in 2025 on roadway segments in and around Angels Camp:

- SR 49 between Fourth Crossing Rd. and Brunner Hill Road (north end of Angels Camp), LOS D
- SR 49 between Brunner Hill Rd. and SR 4 Junction south (downtown Angels Camp), LOS E
- SR 49 from SR 4 junction south (Angels Camp) to the Tuolumne County line, LOS D
- SR 4 between Angels Camp and Allen St (just west of Murphys), LOS E
- Murphys Grade Road between Angels Camp and Murphys, LOS E

The following LOS is projected in 2025 at intersections in and around Angels Camp:

- SR 4 South/SR 4 (Southern intersection) – (in 2025 with current geometry, LOS F) and with a change to a 4-way stop and adding north-bound right and south-bound left turn lanes, LOS C (AM peak) and LOS E (PM peak)
- SR 4/SR 49 (Northern intersection) - LOS B
- Murphys Grade Road/Demarest Street and SR 4 - LOS B (AM Peak), LOS C (PM Peak)
- SR 4/Bret Harte Drive (in 2025 with current geometry, LOS D for AM peak and LOS F for PM peak). With the addition of a median or a two-way left turn lane (TWLTL) for a two stage left turn, LOS C.

**Appendix 3C: Angels Camp Street and Highway  
Master Plan Map**

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# Appendix 3D: Planned Regional Transportation Facility Improvements (Other than Low-Impact Modes of Transportation); 2007 RTP Facilities

## Planned Regional Transportation Facility Improvements

This table is intended to provide a guide for potential road improvements on a roadway-by-roadway basis. Therefore, some roadways may be listed more than once in the following table (i.e., once under each affected roadway). See key at end of table.

Map Reference (DEIR Figure 16)	Unmapped Reference	Facility Name	Also Known As (Other Facility Names Used)	Descriptive Design Features
A-1	--	ARTERIAL: State Route 4 North Angels Bypass /b/	State Route 4 East Bypass	North of Junction Route 49 Road, construct 2-lane expressway
--	A-a	ARTERIAL: State Route 4 Bypass Intersection Improvement	--	Intersection improvement through grade separation instead of at-grade of the bypass
--	A-b	ARTERIAL: State Route 4 to Booster Way Bridge, Widening/Realignment	Booster Way	Widen and realign Note: Becomes collector on
--	A-c	ARTERIAL: State Route 4 Passing Lanes	--	Angels "Bypass" (State Route 4) construct <b>passing lanes</b> (from North Angels "Bypass" to
--	A-d	ARTERIAL: State Route 4/State Route 49 South Intersection Bridge Reconstruction	--	Improve safety and efficiency (including improved turning for buses, trucks, RVs) and enhance use of the downtown historic district use of context sensitive solutions  3 Alternatives + a No Project but the "No Project" alternative replacing two Angels Creek bridges and #30-0019) and installing closing the gap between the
--	A-e	ARTERIAL: State Route 49 widen & add passing lanes	--	0.4± miles north of Cherokee Creek 0.1± miles north of Angels Andreas) (Sphere of Influence)
--	A-f	ARTERIAL: Wagon Trail Connector	--	2-lane expressway from 2.1 miles O'Byrnes Ferry/Rock Creek

Map Reference (DEIR Figure 16)	Unmapped Reference	Facility Name	Also Known As (Other Facility Names Used)	Description of Design Features
				west of State Route 49 (Sph
A-2	--	<b>ARTERIAL:</b> State Route 49 Bypass	<b>Southeast Bypass</b>	Connect South State Route 49 to State Route 4
C-1	--	<b>COLLECTOR:</b> Fairgrounds to Southeast Bypass Connector	--	Connector from east side of State Route 49 to State Route 4 from proposed Southeast A
C-2		<b>COLLECTOR:</b> Greenhorn Creek Road South Extension	--	Greenhorn Creek Road south of State Route 49 approximately following the alignment of the former as "Finnegan Court" on APN 54-003-4 along Finnegan Lane approximately APN 54-003-4 eastward, then south from Finnegan Lane to the northerly portion of the city's wastewater treatment facility properties approximately APN 54-003-4 southwest to State Route 49 in the vicinity of the southerly city boundary or south of APN 64-004-31 for serving local neighborhood safety and emergency access. Construction should include functional, calming features so it is consistent with the character of the residential neighborhood road. Construction of the road should be development-driven.
C-3	--	<b>COLLECTOR:</b> Angel Oaks Drive North Extension	--	North from the intersection of State Route 49 and State Route 4 to State Route 4
C-4	--	<b>COLLECTOR:</b> Demarest Extension	--	Extend / improve Demarest Road
C-5	--	<b>COLLECTOR:</b> Dogtown Road Alternatives	Dogtown Road Realignment	Various Alternatives Realign and upgrade the section for 1.1± miles (200± acres; final Transportation Plan); final

Map Reference (DEIR Figure 16)	Unmapped Reference	Facility Name	Also Known As (Other Facility Names Used)	Description (Design Features)
				adopted.  Widening existing road to limits (Angels Circulation)
--	C-a	<b>COLLECTOR: Dogtown Road Improvements (Outside City Limits)</b>	--	Upgrade to minimum standards Drive to San Domingo Cr of Influence)
--	C-b	<b>COLLECTOR: Gardner Lane Widening</b>	--	Curb, gutter, sidewalk, street Gardner Lane north of Mu
C-6	--	<b>COLLECTOR: Kurt Drive Extension</b>	<b>Kurt Drive/Murphys Grade Road Connector</b>	Extend Kurt Drive to Mu
C-7	--	<b>COLLECTOR: Tryon Connector</b>	--	Possible new connector to development between Try Road, Moose Trail, Sonor Road/Greenstone Mine R (L-8) and/or SR49 SE By final land use decisions b
--	C-c	<b>COLLECTOR: Murphys Grade Road Widening and Realignment</b>	--	Widen and realign roadw French Gulch Road & Up standards

Map Reference (DEIR Figure 16)	Unmapped Reference	Facility Name	Also Known As (Other Facility Names Used)	Description of Design Features
--	C-d	<b>COLLECTOR:</b> State Routes 4/49 and Murphys Grade Road-Reconstruct intersection	SR 49/Murphys Grade Road, Reconstruct Intersection	Reconstruct intersection to improve flow of east/west traffic.
--	C-e	<b>COLLECTOR:</b> Stockton Road Widening	--	Improve to collector standards
--	C-f	<b>COLLECTOR:</b> Frontage Roads along the State Route 4 North Angels By-Pass	--	Possible new roads to serve development along the SR 4 Bypass, from Murphys Grade Bypass and/or the Kurt Drive
--	C-g	<b>COLLECTOR:</b> Stockton Road/Angel Oaks Drive Intersection Improvements	--	Intersection improvements at the Stockton Road/Angel Oaks intersection
L-1	--	<b>LOCAL:</b> Bennett Street to Angel Oaks Drive North Extension	--	Extension to the north as development necessitates
L-2	--	<b>LOCAL:</b> Blair Mine Road Connector	--	Connection from Blair Mine Road (between lots 443/444) to Stockton Road northwest of Greenhorn Creek to provide west outlet for Greenhorn subdivision and emergency access
L-3	--	<b>LOCAL:</b> Business Attraction and Expansion Area Service Roads (Murphys Grade, North State Route 4 Bypass, China Gulch, North Main Street)	Road(s) to serve Multi-Family and Business Attraction & Expansion Development within the area formed by <b>Murphys Grade Road</b> (to the west), <b>SR 4 North Angels Bypass</b> and the proposed <b>Purdy Road Connector</b>	A possible cul-de-sac road to be located northwest of Murphys Grade Road of the North Highway 4 Bypass from China Gulch to North Main Street. Final land use decisions by the landowners and Bret Harte area)  Other options may include, but are not limited to, a <b>Purdy Road extension</b> , <b>Murphys Grade Road</b> , connector from <b>Purdy Road Connector</b> to <b>Main Street</b> and <b>Twain Road</b>

Map Reference (DEIR Figure 16)	Unmapped Reference	Facility Name	Also Known As (Other Facility Names Used)	Description Design Features
--	L-a	<b>LOCAL:</b> Centennial Road Widening	--	--
L-4	--	<b>LOCAL:</b> Copello Drive to Angel Oaks Drive North Extension	--	--
--	L-b	<b>LOCAL:</b> Finnegan Lane Retaining Wall	--	Construct 60± ft. of retaining wall
L-5	--	<b>LOCAL:</b> Gold Cliff Connector	<b>Gold Cliff Road to Greenhorn Creek Road</b>  <b>Gold Cliff Connector East/West Connector</b>  <b>McCauley Ranch Road Connector</b>	Gold Cliff Connector (Gold Cliff Road to Greenhorn Creek Road at McCauley Ranch Road) at location of existing vehicle access (oriented approximately north-south) and located north of proposed road
L-6	--	<b>LOCAL:</b> Purdy Road Extension	<b>Purdy Road Connector</b>	Purdy Road to Kurt Drive Intersection Grade Road Connector
--	L-c	<b>LOCAL:</b> Rolleri Bypass Road/Murphys Grade Road Intersection Realignment	Rolleri Bypass Road – Intersection realignment, driveway relocation maintenance	Relocate PG&E driveway, improvements resurface  Realignment
L-7	--	<b>LOCAL:</b> Sierra Avenue/Tuolumne Avenue “Connector”	East/West Connector	Greenhorn Creek Road to Tuolumne Avenue Connector (Sierra Avenue)
--	L-d	<b>LOCAL:</b> Six Mile Road Improvements	--	Upgrade to 24 ft. section (1/4 mile) (Sphere of Influence)
L-8	--	<b>LOCAL:</b> Sonora Street/Tryon Road/ Greenstone Mine Road Grade	--	Connection from Sonora Street to Tryon Road via the Greenstone Mine Road

Map Reference (DEIR Figure 16)	Unmapped Reference	Facility Name	Also Known As (Other Facility Names Used)	Description Design Features
		<b>Connector</b>		
--	L-e	<b>LOCAL: Sonora Street retaining wall and guard rail</b>	--	Construct retaining wall and Marina Street to 300' north of retaining wall and install rail
L-9	--	<b>LOCAL: Foundry Lane Extension</b>	--	State Route 4 to Angel Oak North
L-10	--	<b>LOCAL: Tryon Road</b>	--	See Sonora Street/Tryon Road Mine Road Grade Connector
L-11	--	<b>LOCAL: Unnamed Connector - Gold Cliff to Finnegan Lane</b>	--	A possible connector between or the proposed McCauley Connector (Gold Cliff Road to Creek Road) (see above) south of Finnegan Lane (Oriented approximately north/south and located south of with, proposed L-5)

/a/ See **Appendix 3H** for a detailed listing of all traffic studies cited.

/b/ **Highway 4 Bypass Basics (Project in progress)**

Description:

2.3 miles, two-lane expressway from north 4/49 junction to 0.8 miles east of Roller Bypass Road. It crosses Gardner Lane, Murphys Grade Road, the

Cost estimate:

\$47,361,000 (2006 dollars) including \$10.2 million for right-of-way and \$1.6 million for right-of-way support.

Milestones:

Project Study Report 10/12/90  
Public Hearing: 12/13/2001  
Route adoption: 11/07/2002  
Ready to List 4/1/06

Revised Project Study Report: 8/30/91, 6/21/93  
Final Environmental Document/Project Report: 6/28/2002  
Begin Right of Way Purchase: 7/01/04  
Contractor on Board: 11/01/06 - 11/01/07

Begin Construction: 2/1/2007 - 2/1/2010  
End Construction: 11/1/2010 - 11/1/2010

Key:

**Unconstrained:** a regionally desired un-funded project or "wish list" project that will be implemented if unanticipated funding sources become available

**Constrained, Programmed:** a funded project

**RIM:** Road Impact Mitigation Fee (Countywide)

**CMIA:** Corridor Mobility Improvement Account

**PA:** Project Approval

**ED:** Environmental Documentation

**HES:** Hazard Elimination and Safety

**STIP:** State Transportation Improvement Program

## 2007 Regional Transportation Plan Facilities

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**Regional Transportation Plan 2007 20-Year Vision Transportation System  
Improvement Projects, RIM Fee Nexus Study Projects  
(Projects to be implemented as funding becomes available)**

Location	Project Description
<b>Local Roads of Regional Significance</b>	
Murphys Grade Road	Upgrade to minimum county standards
Rolleri Bypass Road	Intersection realignment, driveway relocation, maintenance
<b>Regional County Roads</b>	
Murphys Grade Road, 5 mi. between SR 4 and French Gulch Rd.	Road Reconstruction, widen and realign

**Regional Transportation Plan 2007 20-Year Vision Transportation System  
Improvement Projects, Local Road Projects  
(p\Projects to be implemented as funding becomes available)**

Location	Project Description
Dogtown Road	Upgrade to 24 ft. section, 1.1 miles
Dogtown Road	Upgrade to minimum standards from Lakeside Dr. to San Domingo Cr. Bridge

**Angels Camp Transportation System Improvement Projects  
(Projects to be implemented as funding becomes available)**

Location	Project Description
<b>Short Range Capital Improvement Program (0-10 years)</b>	
SR 4 Bypass/SR 4	Intersection improvement that provides for grade separation instead of T
SR 4/SR 49 South intersection	Reconstruct bridge
<b>Long Range Capital Improvement Program (11-20 years)</b>	
Angel Oaks Dr. to SR 49	Angel Oaks Dr. extension north
Bennett St.	Extend Bennett St. through to the North as development necessitates
Gold Cliff to Greenhorn Creek Road	New roadway
Greenhorn Creek Road to SR 49	Greenhorn Creek Rd. extension south
Kurt Drive	Extend Kurt Dr. to Murphys Grade Rd.

**Calaveras Transit Improvement Projects 20 Year Vision**

Proposed Project	Location
Transfer facility – Angels Camp Phase I	Savemart Shopping Center, Angels Camp
Transfer facility – Angels Camp Phase II	Savemart Shopping Center, Angels Camp
Angels Bypass Intermodal Transit Facility	Angels Bypass SR 4 at old SR 4
Countywide Transit Branch and Shelter Program	Angels Camp, Frog Jump Plaza

Other: Anticipated in future RTP updates: Addition of passing improvements between Angels Camp and Murphys along SR 4 totaling 6 miles

### Caltrans State Highway Projects in and around Angels Camp, 20-Year Vision

Project Location	Description	Status/Funding Source
SR 4, Angels Camp Bypass/a/	Road construction	Programmed
SR 4, Wagon Trail Project /b/	Road construction, realignment	Programmed
Angels Camp Bridges and Intersection, SR4/49/c/	Bridge and intersection improvements	STIP Constrained
SR 4, Southeast SR49 Bypass	New roadway, extend funded bypass past fairgrounds	STIP Unconstrained
SR 4/49, Angels Camp Bypass Intersection at Dogtown Road	Roundabout	STIP Unconstrained
Foundry Lane/Angel Oaks Road Connection to SR 4	Caltrans oversight on City PSR project	SHOPP
SR 4/49 Angels Creek Bridges on SR 4 and SR 49	Rail upgrade and widening	SHOPP
SR 4, PM 19.9/25, Angels Camp	Flashing ambers for advisory radio	SHOPP Minor B

- /a/ SR 4 Angels Camp Bypass is approximately 2.4 miles long and designed to re-route traffic around Angels Camp from SR 4 North at Frog Jump Plaza to SR 4 east of Roller bypass Road.
- /b/ SR 4 Wagon Trail improvement project will provide a faster, safer alignment for a 5-mile portion of SR 4 between Copperopolis and Angels Camp. The project will be constructed in phases as funding becomes available and may become part of a tri-county MOU.
- /c/ The SR 4/49 Angels Camp Bridges and Intersection Project was developed due to SR 4 Angels Camp Cooperative Agreements with Angels Camp and Calaveras County that request a portion of SR 4 from SR 49 to the new Angels Camp Bypass intersection not be relinquished to the city and county until improvements are made to the skewed intersect as long as the environmental portion of the improvements begins within seven years of adoption of the project study report (PSR). The PSR was completed in 2003, therefore project approval and environmental documentation must begin in 2010.

<b>Planned Traffic Signals</b> Angels Circulation Study Identified Traffic Signal Projects		
<b>Facility</b>	<b>Potential Funding Source</b>	<b>Cost Estimate (Year 2000 dollars)</b>
State Route 4 @ State Route 49 North (Completed)	State	\$200,000
Angel Oaks Drive North Extension @ State Route 49 North	State (67%)/City (33%)	\$200,000 (\$66,000 = City)
Greenhorn Creek Road South Extension @ State Route 49 South	State (67%)/City (33%)	\$200,000 (\$66,000 = City)
Stanislaus Avenue @ State Route 49	State (67%)/City (33%)	\$200,000 (\$66,000 = City)
New realigned Dogtown @ State Route 49	State (67%)/City (33%)	\$250,000 (\$82,500 = City)
State Route 4/State Route 49 South	State (50%)/City (50%)	\$200,000 (\$100,000 = City)
Kurt Drive/Depot Road @ Vallecito Road (State Route 4 East)	State (50%)/City (50%)	\$200,000 (\$100,000 = City)
Traffic signals at various intersections (2001 Regional Transportation Plan)	Hazard Elimination and Safety; Local	\$709,000

Street rehabilitation projects are identified in the City of Angels Pavement Management Plan (1996, updated 1999). Citywide capital improvement projects are listed in the Angels Camp City-Wide Circulation Study and Traffic Fee Update. Street rehabilitation and capital improvement projects are funded by the City-Wide Traffic Impact Mitigation Fee. Cost estimates for street rehabilitation are \$1,502,500, and \$1,610,800 for capital improvements (City Council Resolution No. 04-19, Traffic Mitigation Fee 2004 Annual Report).

## **Appendix 3E: Low Impact Modes of Transportation Plan, Bicycle/Pedestrian Facilities & Support Facilities , Construction Standards**

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See Appendix 12A

**Appendix 3F: State Route 4/49 Bridge Intersection  
Project Principles and Guidelines Regarding  
Intersection Design Improvement**

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# City of Angels

## SR 4/49 Bridges and Intersection Improvements

### Project Principles and Guidelines<sup>1</sup>

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1. **Need** (Application and Intent)
  - a. Protection of historic downtown and Angels Creek (preservation of community character)
  - b. Public Safety (improvement for vehicles, pedestrian and other modes of transportation)
  - c. Traffic Congestion (operational improvement is needed)
  - d. Bridge Repair (needs to be upgraded to “state-of-good-repair”)
  - e. Relinquishment Agreement Timetable (needs to meet conditions of agreement between Caltrans and City of Angels)
  - f. Maps of Intersection
    - i. Regional Perspective showing Current and Future By-passes
    - ii. City Circulation Element showing Current and Future Arterials
    - iii. Current Intersection with Adjacent Land Usage
  
2. **Purpose**
  - a. Promote efficient and effective traffic flow through the Intersection without damaging downtown economy or historic character
    - i. Photos of Downtown
    - ii. Photos of Access Roads from each direction
    - iii. Photos of Access Road Chokepoints (e.g., Annex, Finnegan’s Lane, Downtown pedestrian crossing)
  - b. Provide safe and sane interaction of pedestrian and vehicle traffic
    - i. Photos of typical congestion (e.g., RVs, double-trailers, rush hour, special events)
  - c. Protection of Angels Creek as a cultural and natural resource
    - i. Consider bridge rather than culvert design
  - d. Properly transfer responsibility from Caltrans to City
    - i. Photos showing Angels Creek and Surface Impact Areas
  - e. Provide a proper baseline for bridge maintenance
    - i. Photos of Bridges
  
3. **General Design Considerations**
  - a. Context
    - i. The context of the specific location is the area’s historic background
    - ii. Vehicle traffic is only one transportation element; people, bikes, and creek flow are also part of the context
    - iii. Highway 4 will become a city street
    - iv. Finnegan Lane will always be a minor road with little traffic generation
  - b. Historic Preservation

- i. Protect the historic downtown district
  - ii. Protect historic architectural elements (i.e. porches, elevated sidewalks)
  - iii. Mitigate impacts to historic resources in the project area
- c. Landscape Character
  - i. The 4/49 Intersection is a Gateway into the City of Angels
  - ii. Intersection should be aesthetically pleasing
  - iii. Topography and 100-year flood considerations
- d. Safety and Security
  - i. Vehicle safety: specific inter-mixture of diverse types: 45 ft. buses and logging and gravel trucks need to be able to negotiate intersection, especially those making right turns from Highway 49 onto Highway 4
  - ii. Pedestrian safety: specific issues regarding tourists, Main Street usage, and access from parking areas
  - iii. Special activities safety (annual frog jump, parades, civic creek events)
  - iv. Consider emergency vehicle access
  - v. Consider movement of hazardous materials and goods
- e. Access and Circulation
  - i. Other arterial alternate routes and/or collector roads are planned and will be built to reduce traffic at this intersection and through the Downtown and Annex areas
  - ii. Consider local circulation needs and concerns (i.e. Birds Way, parking lots)
  - iii. Ensure that circulation patterns will encourage and support visitation of downtown by tourists and business patrons
  - iv. Intersection should have a traffic-calming affect
  - v. Class II bikeway should be included
  - vi. Minimize backing up or stacking of traffic in order to maintain the character and allow enjoyment of the historic downtown district

#### **4. Downtown Business Considerations**

- a. Economic Impact: Possible impacts to businesses must be considered, minimized, and communicated to public/business owners
- b. Maintain building setbacks relative to the traveled way
- c. Ensure protection of access to buildings, off-street parking, and loading areas, where they exist
- d. Protect use of the area for special events
- e. Right-of-Way “take line” should be the minimum necessary in order to preserve historical and other values; limit taking buildings to only what is necessary.
  - i. Consider relocation of buildings to appropriate locations if buildings must be removed

- f. Aggregate number of convenient accessible parking spots to downtown businesses should be maintained or replaced

**5. Architectural Components**

- a. Bridge design aesthetics
- b. Signage
- c. Site Lighting

**6. Landscaping**

- a. Tree Retention - sensitivity to oaks and other mature species in project area
- b. Plant Materials - native plant protection and re-introduction
  - i. Elderberry bushes
  - ii. Riparian plant materials along creek
- c. Surface Materials - alternative surface materials, patterns and colors to reduce reflection and heat retention, improve attractiveness, and help calm traffic
- d. Landscape Plan Requirements for maintenance
- e. All spaces in right of way should be landscaped
- f. Consider public art

**7. Angels Creek Preservation**

- a. Refer to the City's creek design guidelines (to be developed by the City of Angels)
- b. Recreation opportunities
- c. Access points to creek
  - i. Accessibility to creek needs to be maintained/improved
- d. Riparian habitat protection

**8. Additional Guidelines**

- a. Foot Bridges to provide non-highway crossing points

**9. Truck Traffic**

- a. Pursue methods of reducing or removing truck through-traffic from the intersection / downtown area

1 The "SR 4/49 Bridges and Intersection Improvements Project Principles and Guidelines" were prepared, following public input and workshops, for inclusion in the Project Study Report for the SR 4/49 Bridges and Intersection Project, prepared by the California Department of Transportation and using Caltrans' Context Sensitive Solutions. The Project Principles and Guidelines were adopted by the City of Angels City Council within Resolution No. 2005-10

## **Appendix 3G: Transit Models (South Lake Tahoe “BlueGo”)**

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A PUBLIC/PRIVATE TRANSIT PARTNERSHIP AT LAKE TAHOE: THE  
“BLUEGO” EXPERIENCE

Michael A. Harper, FAICP  
NACP Board of Directors  
Director, “BLUEGO” Board

“BlueGo”. A funny name for a public transit system (though when one looks at other transit systems, there seems to be an affinity for clever acronyms). “BlueGo” is apropos, though, for the transit system operated at the south end of Lake Tahoe. “Blue” represents the link with the lake and the continuing effort to maintain its fragile ecology. “Go” represents the forward-looking partnership forged for the operation of the system and the innovative technology utilized for the system.

“BlueGo” is both a fixed-route and on-demand transit system. It is also a system funded through fare-box, public agency contributions and private enterprise contractual funds. The system serves the City of South Lake Tahoe, CA; the suburban unincorporated portion of El Dorado County outside the city’s limits; and a portion of Douglas County, NV within the Lake Tahoe basin. The system utilizes GPS and instant communications between busses and the dispatch center to keep the fixed-route system on time and the on-demand system responsive to the customers that use the system. The system also has introduced a kiosk program using interactive software whereby customers can book their own rides, or identify when the next fixed-route bus will be available.

It wasn’t easy to create this public/private partnership system that is highly computer dependent. Conceived over a decade ago as a mitigation measure for the expansion of tourist properties, the concept experienced numerous starts and stops as well as continuous changes in participants. It was only three years ago that the right mixes of participants and committed funding came together to create the system that is now just reaching its first anniversary. The effort required operators of free private shuttles (primarily gaming resorts) to donate their fleets of vehicles to a system that would begin to charge a fare. It further required these private shuttle operators to agree to subsidize the system with quarterly contractual funds. The City of South Lake Tahoe had to cede

its public transit system to a board of directors composed of and representing private and public interests. The participants had to agree to use an untested computer based booking system as the primary method of generating ridership and reducing operation costs. Finally, the participants had to have faith that “BlueGo” would be able to provide a better level of service and be so attractive that it would reduce the traditional dependence on the automobile at Lake Tahoe.

In the fall of 2003, “BlueGo” was quietly inaugurated. Murphy’s Law roared in right behind. Ridership, especially for the gaming resorts, fell dramatically. Although the drop in ridership had been forecasted, the gaming resort representatives became quite concerned as below-level ridership continued through the start of ski-season and the period over Thanksgiving extending to the Christmas holiday period. The local newspaper in South Lake Tahoe wrote unflattering articles about the new “BlueGo” system. It was quickly discovered that some of the vehicles donated to “BlueGo” were in terrible shape and needed immediate maintenance. Worse, though, was the complete failure of the public to embrace computer based ride booking through a series of kiosks. The first software version required the patience and skill of an experienced computer gamer to book a ride. It was turning potential riders away from the system because there didn’t appear to be an alternative to getting a ride. Comments by the private shuttle operators of re-instituting their service during the Christmas holiday service suggested that before the system was three months old the partnership that had created “BlueGo” would collapse.

Before the partnership imploded, though, the board of directors took a number of quick steps to address the problems. These steps could not have occurred as rapidly as they were needed if the board had been a wholly public body, and the board would not have held together to make these decisions if it had been comprised solely of private operators. The first step was to pull the plug (literally) on the kiosk system. The local agency staff that was serving the board of directors was directed to simplify the computer-based ride booking program. At the same time, the board directed additional funding to the contracted system operator to hire more dispatchers to handle phone bookings. Ancillary

to this, phones on the kiosks were more prominently identified. An ambitious effort to educate front desk lodging staff on how to book on-demand rides was launched. The contracted operator of the system was provided more flexibility in recommending changes to the fixed route as well as adding more busses to the on-demand system during peak hours. The operator was also provided more flexibility over what and when existing vehicles were repaired.

The rapid response to these issues by the board of directors and the equally quick implementation of the direction had the desired effect of reversing the decline in ridership. The private shuttle operators ceased talking about instituting a parallel system. The agency staff changed the computer-based program to a simple two-step process to book a ride and reintroduced the kiosks within three months after taking them off-line. Although the original budgeted amount for maintenance increased, the flexibility provided to the contracted system operator has resulted in a more reliable fleet. Most importantly, the reaction to the change in the transit system has generally been positive over the past few months.

With the system no longer taking a nosedive, the board has been able to focus on more long term needs. An assessment of the initial start-up has been analyzed and some suggested changes have been, or will be, made. The board has contracted with an operator for the maintenance of the kiosks – an arrangement that is generating needed revenue for the system through advertising. The board is seeking federal assistance in the purchase of replacement vehicles. The advertising of the system is moving into its second phase effort.

Clearly it is too early to reach a conclusion on how successful “BlueGo” can be. The attitude of those participating in its operation and its use, though, has changed from viewing “BlueGo” as an experiment to viewing the system as one that can be built on to become more successful.

## Appendix 3H: Bibliography of Transportation Studies

<b>Bibliography of Transportation Studies Angels Camp 1991-2007</b>		
<b>Title, Date, Author</b>	<b>Date, Author</b>	<b>Lead Agency</b>
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B. City of Angels General Plan, Chapter 5	Adopted July 6, 1995 Author not identified	City of Angels
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D. State Route 49 Arterial Alternative Route Analysis; City of Angels, CA	July 24, 1998 Fehr & Peers Associates	Calaveras County Local Transportation Commission
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I. Final State Route 49 Bypass (Southeast) Alignment Alternative Study OWP 01/02-15	August, 2002 Weber, Ghio & Associates, Inc.	City of Angels
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L. Angels Camp 4 Bypass (Numerous)	2003	Caltrans
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P. City of Angels Sidewalk Study	June 2000 Weber, Ghio & Associates	City of Angels
Q. Greenhorn Creek Access Road Study	June, 2005 Prism Engineering (Traffic Study)	City of Angels

<b>Bibliography of Transportation Studies Angels Camp 1991-2007</b>		
<b>Title, Date, Author</b>	<b>Date, Author</b>	<b>Lead Agency</b>
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<b>R. City of Angels Pavement Management Plan</b>	1996, as amended in 1999	City of Angels
<b>S. Calaveras County 2007 Regional Transportation Plan, Final</b>	September 25, 2007 LSC Transportation Consultants, Inc.	Calaveras Council of Governments
<b>T. Calaveras County Bicycle Master Plan</b>	Alta Planning & Design September, 2007 Adopted October 10, 2007	Calaveras Council of Governments
<b>U. Calaveras County Pedestrian Master Plan</b>	Alta Planning & Design September, 2007 Adopted October 10, 2007	Calaveras Council of Governments