



# Infrastructure and Services in Support of Forest and Range Communities

## Forest and rangeland counties defined

Of special concern for the Assessment is the ability to supply infrastructure in California counties with significant forest and rangeland resources. For the most part these counties are “rural.” The U.S. Census classified all counties as either urban or rural. Rural counties have less than 250,000 residents and no single city with more than 50,000 residents.

Table 1 lists funding sources for forest and rangeland counties that are “rural” (by the 2000 Census) and have over 50 percent of their area in forests and rangelands and significant economic output from forest and rangeland activities. It also compares them to forest and rangeland counties that are “urban” counties having over 50 percent forests and rangelands and a mix of economic activities.

*There is a difference in composition of financing source between counties with significant amounts of forest and rangeland.*

## Revenue sources

Sixteen rural forest and rangeland counties were more reliant on taxes and special benefit assessments than the statewide average. Eleven were less reliant; hence, the majority of rural forest and rangeland counties tend to be more sensitive to changes in the fiscal structure that affect taxes or special benefit assessments. Seven of ten urban forest and rangeland counties were more reliant on taxes and special benefits than the statewide average. Fourteen forest and rangeland rural counties were above the average statewide percentage for reliance on State and federal sources; 13 were less reliant than the statewide average. In urban forest and rangeland, only four in ten counties were more reliant on State and federal aid than the statewide average. Most were more reliant than rural governments on charges for current services.

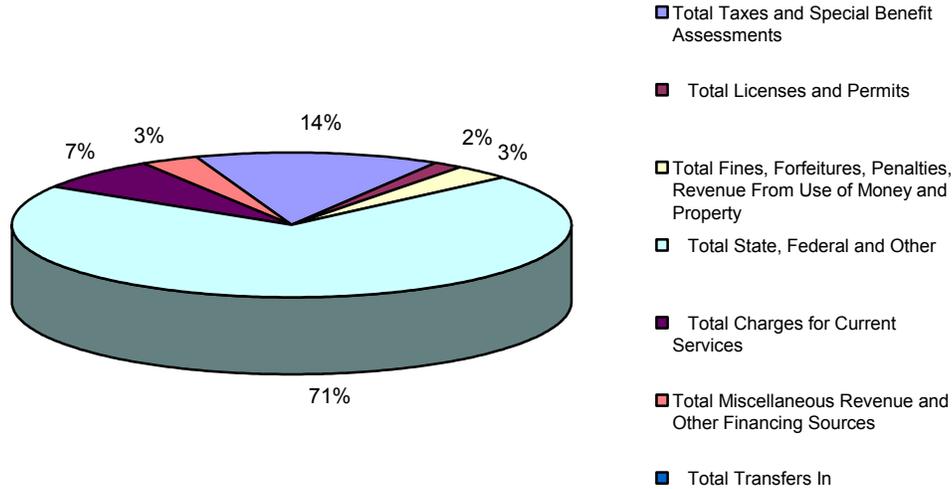
Table 1. Percentage of general financing sources for forest and rangeland counties  
(fiscal year ended June 30, 1999)

County	Total taxes and special benefits	Total licenses and permits	Total fines, forfeitures, penalties, revenue from use of money and property	Total aid from State, federal and/or other	Total charges for current services	Total miscellaneous revenue, other financing sources and total transfers in	Total (\$1,000)
California	16	1	5	61	11	6	\$30,184,468
<b>Forest and rangeland counties with rural populations</b>							
Alpine	29	2	4	32	11	23	\$9,016
Amador	30	2	7	54	6	3	\$31,679
Butte	10	1	3	80	5	1	\$198,196
Calaveras	21	3	3	49	17	8	\$44,427
Colusa	20	3	6	59	6	6	\$27,293
Del Norte	8	2	6	70	9	5	\$35,626
El Dorado	24	4	4	50	17	2	\$145,626
Glenn	13	2	5	68	9	4	\$32,849
Humboldt	13	1	2	75	6	3	\$146,831
Inyo	24	1	9	59	6	2	\$38,055
Lake	17	2	3	65	10	4	\$70,039
Lassen	10	1	4	70	6	9	\$35,519
Madera	17	2	4	67	6	5	\$96,511
Mariposa	36	1	3	51	4	5	\$28,923
Mendocino	25	2	5	61	7	1	\$105,268
Modoc	16	1	3	75	3	2	\$18,749
Mono	39	1	3	48	9	0	\$20,105
Nevada	21	2	7	50	17	3	\$77,682
Plumas	26	2	6	49	9	9	\$30,967
San Benito	12	2	3	76	6	2	\$58,278
San Luis Obispo	28	2	5	52	7	6	\$229,231
Sierra	32	1	2	54	5	6	\$8,150
Siskiyou	13	2	5	71	8	2	\$58,663
Tehama	15	2	4	68	9	2	\$57,261
Trinity	15	1	2	71	2	9	\$25,984
Tuolumne	27	2	5	53	9	5	\$56,759
Yuba	12	2	2	73	10	2	\$64,541
<b>Forest and rangeland counties with urban populations</b>							
Fresno	11	1	3	71	8	6	\$695,673
Kern	18	1	3	62	12	3	\$732,997
Monterey	17	2	4	56	13	8	\$364,109
Napa	27	2	4	52	11	5	\$122,653
Placer	28	2	5	55	8	1	\$218,821
Santa Barbara	20	3	4	52	18	3	\$406,969
Santa Cruz	20	3	5	56	13	3	\$247,269
Shasta	11	2	4	69	11	4	\$163,324
Sonoma	22	2	6	56	13	2	\$401,578
Tulare	10	1	3	65	9	12	\$418,105

Source: California State Controller, 2001

There is also a difference in composition of financing source between bioregions with significant amounts of forest and rangeland. For example, in 1998-99, the Klamath/North Coast bioregion was far more dependent on revenue transfers into the county from other levels of government rather than generated from economic activity in the county (71 percent) than the Sierra bioregion (53 percent). Figure 1 shows the financing sources for the Klamath/North Coast bioregion.

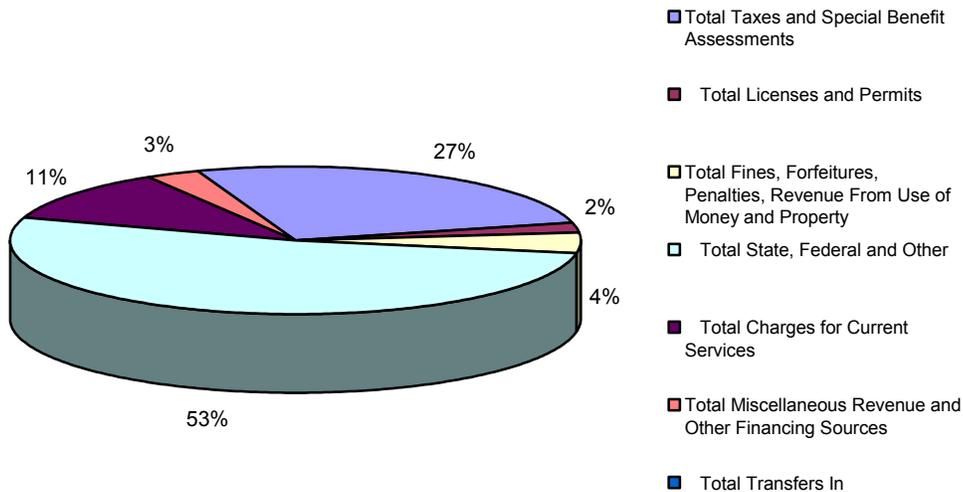
Figure 1. Percentage of financing sources in Klamath/North Coast bioregion (1998-1999)



Source: California State Controller, 2001

In contrast, Figure 2 shows the Sierra bioregion depended much more on total taxes and special benefit assessments (27 percent) than did the Klamath/North Coast bioregion (16 percent). This means that one bioregion is more sensitive to public policies related to transfer payments and the other to policies related to taxation and special benefit assessments.

Figure 2. Percentage of financing sources in Sierra bioregion (1998-1999)



Source: California State Controller, 2001

## Special districts

A number of governmental services are supplied by special districts. Special districts generally are divided between those that primarily charge for services (enterprise) and those that do not (non-enterprise). Numbers of special districts vary by county and district type. For example, Butte County has seven districts that report providing recreation and park activities, five districts that report providing fire protection activities, and 11 districts that provide sanitation activities.

Humboldt County has six districts that report providing recreation and park activities, 23 districts that report providing fire protection activities, and four districts that report providing sanitation activities.

Lassen County has two districts that report providing recreation and park activities, three districts that report providing fire protection activities, and seven districts that report providing sanitation activities.

This variation is mainly caused by the historical evolution of population growth in these counties and how local citizens have developed institutional arrangements for infrastructure.

*Numbers of special districts vary by county and district type. This variation in the number and type of special districts is caused by the historical evolution of population growth and how local citizens developed institutional arrangements for infrastructure.*

**Cooperative agreements with local government:** By law, the California Department of Forestry and Fire Protection (CDF) provides wildland fire protection to specified timberlands, watershed areas, and contiguous rangelands in most California counties. In some cases, CDF contracts with counties to provide wildland fire protection. These are called contract counties and include counties such as Los Angeles, Orange, and Marin. CDF also provides structural fire protection and emergency services under cooperative agreements with local government. The services are fully reimbursed by local government. The first contracts started in the 1940s. Today, CDF provides full-service fire protection in 33 of the State's 58 counties, as well as 24 cities, 27 fire districts, and 35 other special districts and service areas through the administration of 140 cooperative fire protection agreements. Under these agreements, CDF responds to wildland fires, structure fires, floods, hazardous material spills, some water rescues, civil disturbances, earthquakes, and medical aids (California Department of Forestry, 2002). See [Fire and Emergency Response—Cooperative Efforts](#). It is common to find fire engines and firefighters from different agencies at the scene of an emergency working under a unified command relationship. In many cities and counties, CDF is also primarily responsible for providing dispatch, paramedic, fire, and rescue services.

Table 2 shows special district spending by activity by county for selected categories of enterprise and non-enterprise districts.

Per capita expenditures vary greatly by county and special district. Table 3 shows that more than half of the counties have less spending per 1,000 people for recreation, soil conservation, library services, sanitation, and water than the State average. In the case of fire protection expenditures provided by special districts, ten rural counties significantly exceed the State average.

*Per capita expenditures vary greatly by county and special district.... More than half of forest and rangeland counties have less spending per 1,000 people for recreation, soil conservation, library services, sanitation, and water than the State average.*

Table 2. Number and value of enterprise and non-enterprise districts and expenditures by activity for forest and rangeland counties (fiscal year 1997-98)  
(expenditures in thousands of dollars)

	Non-enterprise districts activities								Enterprise districts activities			
	Recreation/park		Fire protection		Soil conservation		Library services		Sanitation		Water	
	No.	Expenditures	No.	Expenditures	No.	Expenditures	No.	Expenditures	No.	Expenditures	No.	Expenditures
California	287	317,413	551	1,180,673	100	11,469	41	43,876	580	259,710	870	743,110
<b>Forest and rangeland counties with rural populations</b>												
Alpine	1	5	1	62	1	(L)			3	7	1	
Amador	1		4	975	1	3			4		14	5,008
Butte	7	5,550	5	260					11	172	12	7,292
Calaveras	1	30	11	1,978					6	432	5	9,370
Colusa	2	23	8	595	2	24			3	2	17	697
Del Norte			5	1,135			1	198	2	51	11	95
El Dorado	9	3,874	13	11,592	3	434	1	923	5	5,961	4	5,764
Glenn	3	33	12	384	1	51	1	12	1	(L)	11	502
Humboldt	6	1,414	23	3,970					4	870	17	579
Inyo			5	770	1	9			6	5	7	
Lake			9	4,510	2	25			4	365	21	144
Lassen	2	3	13	921	2	12			7	242	6	32
Madera	1	31	1	(L)	3	20			15	10	30	159
Mariposa			1	53	1	31			6	12	6	135
Mendocino	3	646	20	2,984	1	202			12	336	12	143
Modoc	1	2	12	318	2	11			4	7	5	152
Mono	1	15	11	1,562	1	3	1	368	5	320	7	1,373
Nevada	3	2,327	14	6,927	1	106			8	350	4	3,063
Plumas	3	343	18	1,422	1	2			8	170	12	368
San Benito					1	1			2		5	3
San Luis Obispo	6	3,468	8	2,970	2	30			15	585	16	3,557
Sierra	5	49	6	195	1	(L)					5	35
Siskiyou	4	529	17	811	3	388	1	44	5	23	12	58
Tehama			1	33	2	4			4	41	9	191
Trinity	4	221	10	361					1	17	2	687
Tuolumne	3	340	7	865					6	365	5	926
Yuba	3	500	10	1,519	1	8			2	1	12	514
<b>Forest and rangeland counties with urban populations</b>												
Fresno	9	1,859	8	13,159	7	150	1	449	21	19	57	3,134
Kern	11	10,397	12	24	5	280			24	1,280	47	220,581
Monterey	8	1,585	13	14,569	1	96	1	265	17	3,570	8	2,912
Napa			3	1,397	1	513	1	2,607	6	79	5	149
Placer	7	6,701	15	11,385	1	234			15	4,014	16	2,858
Santa Barbara	5	1,310	4	20,539	1	349	1	256	13	2,063	11	14,682
Santa Cruz	5	1,178	11	16,140	1	82	1	10,008	13	919	6	1,877
Shasta	1	45	14	3,496	2	568			7	41	20	1,014
Sonoma	9	2,619	19	14,184	3	554	2	8,762	9	919	13	2,165
Tulare	1		2	186	1	1			20	844	45	610

(L) Less than \$500

Source: California State Controller, 2000

Table 3. Number and value of enterprise and non-enterprise districts and per capita expenditures by activity for forest and rangeland counties, fiscal year 1997-98  
 (expenditures in \$ per 1000 persons)

Region	Total population	Non-enterprise districts activities								Enterprise districts activities			
		Recreation park		Fire protection		Soil conservation		Library services		Sanitation		Water	
		No.	Expenditures	No.	Expenditures	No.	Expenditures	No.	Expenditures	No.	Expenditures	No.	Expenditures
California	32,985,000	287	\$9,623	551	\$35,794	100	\$348	41	\$1,330	580	\$7,874	870	\$22,529
<b>Forest and rangeland counties with rural populations</b>													
Alpine	1,260	1	\$4,148	1	\$48,810	1	\$0			3	\$5,387	1	
Amador	34,800	1		4	\$28,007	1	\$87			4		14	\$143,914
Butte	202,000	7	\$27,477	5	\$1,286					11	\$852	12	\$36,099
Calaveras	40,300	1	\$743	11	\$49,083					6	\$10,724	5	\$232,497
Colusa	18,850	2	\$1,243	8	\$31,567	2	\$1,299			3	\$106	17	\$36,992
Del Norte	29,000			5	\$39,135			1	\$6,813	2	\$1,760	11	\$3,265
El Dorado	151,200	9	\$25,622	13	\$76,664	3	\$2,869	1	\$6,107	5	\$39,423	4	\$38,125
Glenn	26,900	3	\$1,224	12	\$14,258	1	\$1,904	1	\$457	1	\$0	11	\$18,660
Humboldt	127,900	6	\$11,055	23	\$31,040					4	\$6,800	17	\$4,529
Inyo	18,650			5	\$41,313	1	\$488			6	\$286	7	
Lake	57,700			9	\$78,159	2	\$438			4	\$6,333	21	\$2,495
Lassen	34,450	2	\$96	13	\$26,740	2	\$340			7	\$7,019	6	\$917
Madera	119,500	1	\$257	1	\$0	3	\$170			15	\$84	30	\$1,333
Mariposa	16,900			1	\$3,129	1	\$1,833			6	\$684	6	\$7,967
Mendocino	86,500	3	\$7,473	20	\$34,498	1	\$2,332			12	\$3,880	12	\$1,648
Modoc	10,150	1	\$180	12	\$31,326	2	\$1,106			4	\$693	5	\$14,956
Mono	12,050	1	\$1,212	11	\$129,649	1	\$279	1	\$30,527	5	\$26,581	7	\$113,936
Nevada	90,100	3	\$25,831	14	\$76,878	1	\$1,180			8	\$3,888	4	\$33,996
Plumas	21,200	3	\$16,192	18	\$67,096	1	\$74			8	\$8,028	12	\$17,337
San Benito	49,400					1	\$28			2		5	\$54
San Luis Obispo	240,900	6	\$14,394	8	\$12,331	2	\$124			15	\$2,426	16	\$14,767
Sierra	3,640	5	\$13,375	6	\$53,528	1	\$0					5	\$9,492
Siskiyou	45,400	4	\$11,643	17	\$17,874	3	\$8,542	1	\$964	5	\$516	12	\$1,269
Tehama	55,900			1	\$591	2	\$68			4	\$729	9	\$3,417
Trinity	13,400	4	\$16,460	10	\$26,966					1	\$1,260	2	\$51,243
Tuolumne	53,900	3	\$6,310	7	\$16,045					6	\$6,769	5	\$17,186
Yuba	63,100	3	\$7,931	10	\$24,069	1	\$126			2	\$23	12	\$8,147
<b>Totals</b>	<b>1,965,150</b>	<b>75</b>	<b>\$9,898</b>	<b>256</b>	<b>\$25,260</b>	<b>37</b>	<b>\$701</b>	<b>5</b>	<b>\$786</b>	<b>162</b>	<b>\$9,172</b>	<b>296</b>	<b>\$22,811</b>
<b>Forest and rangeland counties with urban populations</b>													
Fresno	790,100	9	\$2,353	8	\$16,655	7	\$190	1	\$568	21	\$24	57	\$3,967
Kern	646,500	11	\$16,082	12	\$38	5	\$433			24	\$1,980	47	\$341,192
Monterey	386,900	8	\$4,096	13	\$37,656	1	\$249	1	\$685	17	\$9,227	8	\$7,526
Napa	121,600			3	\$11,490	1	\$4,217	1	\$21,441	6	\$653	5	\$1,224
Placer	228,000	7	\$29,392	15	\$49,932	1	\$1,028			15	\$17,607	16	\$12,534
Santa Barbara	397,200	5	\$3,297	4	\$51,708	1	\$880	1	\$644	13	\$5,195	11	\$36,964
Santa Cruz	250,600	5	\$4,702	11	\$64,407	1	\$327	1	\$39,936	13	\$3,666	6	\$7,488
Shasta	162,800	1	\$278	14	\$21,475	2	\$3,489			7	\$253	20	\$6,230
Sonoma	444,000	9	\$5,898	19	\$31,945	3	\$1,247	2	\$19,735	9	\$2,069	13	\$4,876
Tulare	364,600	1		2	\$510	1	\$3			20	\$2,316	45	\$1,674
<b>Totals</b>	<b>4,491,400</b>	<b>59</b>	<b>\$5,952</b>	<b>112</b>	<b>\$29,175</b>	<b>24</b>	<b>\$678</b>	<b>8</b>	<b>\$5,039</b>	<b>168</b>	<b>\$3,544</b>	<b>240</b>	<b>\$55,763</b>

Source: California State Controller, 2000

## Infrastructure and services – education

California's education system is split between kindergarten through grade 12 (K-12) and higher education. Public schools educate more than six million K-12 students. These six million students are enrolled in 1,000 school districts, 58 county offices, and over 200 charter schools. Over half the districts are elementary (K-8) school districts. Approximately one third of the 1,000 districts are unified school districts. Private school enrollment has increased over the past decade and still comprises 10 percent of California's total student population.



Town of Mendocino in the Mendocino Unified School District. Photo: North Coast Network Rural Challenge

**Governance of California's educational system:** At the state level, the K-12 system is governed by the State Board of Education, the State School Superintendent, and the California Department of Education. The California State Board of Education has adopted core academic content standards in four curriculum areas for kindergarten through grade 12: English—language arts, mathematics, history—social science, and science.



Plumas County schoolhouse in Quincy.  
Photo: Plumas County Office of Education

The core content standards are the basis for the subject matter frameworks, the adoption of kindergarten through eighth grade instructional materials, and the standards-aligned tests in California's student performance assessment system.

Each county in California has an Office of Education (COE) run by a superintendent. Each COE is also governed by either an elected or an appointed board. Seven counties have a single school district that overlaps the same geographical area as the county office. County offices of education supply educational programs for students; administrative and curriculum services to school districts within the county; and financial oversight of the districts (Data Partnership, 2002b). See [County Education Profiles and Reports](#).

The system of educational funding and financing is complex. The backbone of the funding is the revenue limits set in 1972 as part of the State's response to the *Serrano v. Priest* State Supreme Court decision of 1971. The basic revenue limit (excluding some categorical funds such as lottery revenue or federal aid) was the per student amount of general-purpose student aid and local property taxes that a district received in 1972-73. This decision addressed concerns over the level of funding per students and equalized them across school districts. Currently, about two-thirds of the State's support for K-12 school districts is determined by the revenue limit mechanism. These limits cover general-purpose support for school districts and county offices of education. Each year, as required by statute, revenue limit funding is adjusted for changes in enrollment and cost of living adjustments.

In 1976-77, California's expenditure per pupil was equal to the national average. Since then, per pupil expenditures declined until the mid-1990s. California is currently about \$900 below the national per pupil average. In 1999-2000, the State also ranked next to last in the pupil to teacher

ratio (Data Partnership, 2002a). Improvement in the State’s education system in terms of both increased funding and higher performance has been a primary focus of the Davis administration. See [California Ranking](#).

Most school districts in forest and rangeland counties have higher percentages of White and American Indian students and fewer Hispanic and African American students compared to the state average. Information on characteristics of school districts in forest and range counties is included in Table 4. All but Nevada County have at least one unified school district. No rural county has more than 100 schools.

Table 4. School district characteristics in forest and rangeland counties, 1998-1999

	Number of school districts				Number of schools	1998-99 student enrollment	Ethnicity (percentage of total enrollment)						
	Elementary (K-8)	High school	Unified	Total			American Indian	Asian	Pacific Island	Hispanic	African American	White	Other
Statewide	-	-	-	-	-	-	1	8	1	41	9	38	3
<b>Forest and rangeland counties with rural populations</b>													
Alpine	0	0	1	1	6	125	45	0	2	0	2	52	0
Amador	0	0	1	1	14	5,691	3	2	1	11	4	79	1
Butte	8	1	5	14	75	35,290	4	7	1	12	3	74	0
Calaveras	2	1	1	4	24	6,876	2	1	1	6	1	88	3
Colusa	0	0	4	4	20	4,288	1	1	1	55	1	40	0
Del Norte	0	0	1	1	13	5,274	13	5	0	11	1	70	1
El Dorado	12	1	2	15	58	28,864	2	1	2	10	1	84	0
Glenn	4	1	4	9	24	6,215	2	7	0	34	1	55	0
Humboldt	25	2	5	32	79	22,209	13	3	1	6	1	74	2
Inyo	2	1	4	7	21	3,426	16	1	0	14	1	68	0
Lake	2	1	4	7	35	9,911	5	1	1	14	3	76	0
Lassen	6	1	3	10	27	5,518	5	1	1	9	1	83	0
Madera	6	3	1	10	54	24,343	2	1	0	54	3	40	0
Mariposa	0	0	1	1	16	2,807	5	1	1	7	1	86	0
Mendocino	2	1	9	12	59	15,800	7	1	1	19	1	71	0
Modoc	0	0	3	3	18	2,098	6	0	0	23	1	69	0
Mono	0	0	2	2	17	2,109	3	1	1	22	1	71	2
Nevada	9	1	0	10	42	13,280	2	1	1	4	1	92	1
Plumas	0	0	1	1	18	3,540	5	1	1	7	1	86	0
San Benito	9	1	1	11	23	10,912	0	1	1	54	1	43	0
San Luis Obispo	3	0	7	10	77	37,126	1	2	1	22	2	73	0
Sierra	0	0	1	1	12	2,995	1	2	0	5	1	91	0
Siskiyou	24	4	1	29	59	7,939	8	3	0	8	2	79	1
Tehama	15	2	1	18	39	10,952	2	1	0	20	1	75	1
Trinity	8	1	2	11	20	2,298	8	1	1	4	1	84	1
Tuolumne	9	2	1	12	32	8,219	3	1	1	5	1	88	2
Yuba	3	1	1	5	33	13,173	6	16	1	16	4	57	0
<b>Forest and rangeland counties with urban populations</b>													
Shasta	21	2	2	25	80	30,484	5	4	1	5	2	83	1
Placer	14	2	3	19	89	52,306	1	3	1	10	2	82	2
Sonoma	31	3	6	40	154	71,644	1	3	1	20	3	71	1
Napa	2	0	3	5	45	19,303	1	1	2	30	2	64	1
Santa Cruz	7	1	3	11	67	40,512	1	2	1	44	2	50	1
Monterey	15	2	7	24	111	69,534	1	3	4	59	4	29	1
Fresno	16	3	1	20	268	177,213	1	12	1	49	7	30	0
Tulare	36	4	7	47	150	84,723	1	3	1	59	2	34	0
Santa Barbara	17	2	4	23	105	64,500	1	3	2	49	3	43	0
Kern	35	4	8	47	232	143,671	1	2	2	45	7	43	0

Source: Data Partnership, 2002b Dataquest and demographic files.

As seen in Table 5, the pupil to teacher ratio is more favorable than the State average in rural counties, meaning fewer students per teacher in these districts. One measure of the quality of education is the number of high school graduates eligible for admission into the state university system. The graduates eligible for state universities varies by county. In 17 of 27 rural counties with forest and rangeland, the percentage of student graduates eligible for entrance to state universities was less than the State average. At the same

*In most cases, the pupil to teacher ratio is less than the State average in rural counties.*

time, students qualifying for reduced meals (a potential indicator of poverty) in 13 counties exceeded the State average.

Table 5. School characteristics by county, 1998-1999

	Pupil to teacher ratio, public school districts			Percentage of graduates eligible for state universities	Special population students (percentage of total enrollment)		
	Elementary schools	High schools	Unified school districts		English learning	Free or reduced price meals	California Work Opportunity and Responsibility to Kids Program
Statewide	20	24	21	36	25	48	16
<b>Forest and rangeland counties with rural populations</b>							
Alpine	0	0	9	N/A	0	82	17
Amador	0	0	23	21	1	27	7
Butte	19	24	20	32	10	45	26
Calaveras	21	19	21	26	1	29	11
Colusa	0	0	19	20	38	63	6
Del Norte	0	0	20	25	5	44	24
El Dorado	20	23	20	43	5	23	5
Glenn	20	19	20	31	17	57	20
Humboldt	18	23	17	34	3	38	19
Inyo	21	22	20	34	47	66	23
Lake	21	24	20	29	17	54	17
Lassen	18	20	19	25	5	56	26
Madera	20	21	18	29	2	35	14
Mariposa	20	21	22	23	27	61	20
Mendocino	0	0	20	32	0	36	11
Modoc	20	18	18	37	13	49	17
Mono	0	0	17	54	12	50	18
Nevada	0	0	18	40	13	30	4
Plumas	19	23	0	41	0	20	6
San Benito	0	0	19	34	2	36	9
San Luis Obispo	19	25	20	38	16	30	6
Sierra	19	0	20	40	8	32	8
Siskiyou	0	0	16	40	0	6	2
Tehama	20	22	21	35	16	46	13
Trinity	19	22	18	48	8	49	17
Tuolumne	18	21	16	37	0	56	22
Yuba	18	23	17	11	1	35	12
<b>Forest and rangeland counties with urban populations</b>							
Shasta	20	26	20	30	3	44	27
Placer	21	23	22	43	4	18	5
Sonoma	19	22	20	40	13	27	6
Napa	17	0	20	35	22	33	5
Santa Cruz	19	23	21	30	22	24	5
Monterey	20	24	21	30	26	36	7
Fresno	21	25	20	32	36	54	12
Tulare	19	21	21	27	27	61	25
Santa Barbara	20	24	21	37	26	61	21
Kern	20	23	19	19	28	38	7

Source: Data Partnership, 2002b

Construction and modernization of schools in California is a joint effort between local school districts and the State. From 1987 through 1999, local school districts have paid 60 percent of the total cost of school remodeling and construction. Funds came from local obligation bonds, property tax overrides, and developer fees. For its part, the State funded 40 percent of school facility costs. These funds came from voter approved general obligation bond programs.

Historically, Californians have been willing to approve about two thirds of ballot measures related to State school bonds. Voters have approved State bonds during each election year since 1982 with the exception of 1994 (Legislative Analyst's Office, 2001). See [A New Blueprint for California School Facility Finance](#).

At the local level, from 1986 through mid-1999, 450 school districts in California sponsored 731 general obligation bond measures to pay for school facilities (EdSource, 2000). See [Local Bond Elections in California: Some Vital Statistics](#). For the 13-year period, the average passage rate for local bonds was 54 percent. In 2000, local voters considered 100 bond measures to increase bonded indebtedness for community colleges and local school districts. They approved just over 54 percent of the proposed measures (Institute for Social Research, 2000).

**Infrastructure – transportation – roads**

Funding for roads in California is a blend of federal, State, and local sources. As shown in Table 6, yearly percentages of funding coming from state sources has decreased in percentage from 37.2 percent in 1994-95 to 31.9 percent in 1998-99. See [Streets and Roads Annual Report for the Fiscal Year ended June 30 1999](#).

*Funding for roads in California is a blend of federal, State, and local sources.*

Table 6. Value and percentage of road funding by source, statewide, 1994-1999 (thousands of dollars)

Fiscal year	State		Federal		Local		Total amount
	Amount	Percentage	Amount	Percentage	Amount	Percentage	
1994-95	\$1,171,626	37	\$214,368	7	\$1,761,855	56	\$3,147,849
1995-96	\$1,173,326	35	\$236,554	7	\$1,916,834	58	\$3,326,714
1996-97	\$1,182,669	35	\$240,140	7	\$1,969,634	58	\$3,392,443
1997-98	\$1,182,742	32	\$265,924	7	\$2,269,162	61	\$3,717,828
1998-99	\$1,263,175	32	\$341,551	9	\$2,354,597	60	\$3,959,323

*Source: California State Controller, 2001*

**The role of Caltrans:** The California Department of Transportation (Caltrans) oversees the design, construction, maintenance, and operation of the California State Highway System, as well as the California portion of the Interstate Highway System. Caltrans is also responsible for facilitating urban rail transportation. It has jurisdiction over 50,000 lane-miles and nine toll bridges in California. The State Highway System is estimated to be worth \$300 billion. Use in 1995 was about 146 billion annual vehicle miles traveled and could rise to 196 billion in 2005 (California Department of Finance, 1999).

Annual percentage and sources of road funding also vary by county. Twenty-two of 27 forest and rangeland counties rely more on state and federal sources for road-related funding than the state average. In the case of urban forest and rangeland counties, the majority of counties rely very heavily on state and federal funding sources. All but two counties relied less on State or federal funding sources when compared to the State average (Table 7).

Table 7. Value and percentage of road funding by source, forest and rangeland counties  
 (fiscal year 1998-99)

	State of California		Federal government		Local sources		Total monies made available during fiscal year (\$)
	Amount (\$)	Percentage of total	Amount (\$)	Percentage of total	Amount (\$)	Percentage of total	
<b>California</b>	583,388,723	57	158,841,975	15	290,365,059	28	1,032,595,757
<b>Forest and rangeland counties with rural populations</b>							
Alpine	614,000	46	531,000	40	181,000	14	136,000
Amador	1,648,000	54	332,000	11	1,046,000	35	3,026,000
Butte	7,448,000	73	1,384,000	14	1,415,000	14	10,248,000
Calaveras	3,138,000	58	1,293,000	24	974,000	18	5,405,000
Colusa	3,186,000	68	614,000	13	918,000	19	4,717,000
Del Norte	1,058,000	33	2,000,000	62	186,000	6	3,244,000
El Dorado	7,886,000	38	1,052,000	5	11,594,000	56	20,532,000
Glenn	1,853,000	55	1,254,000	37	270,000	8	3,377,000
Humboldt	8,891,000	75	656,000	6	2,352,000	20	11,900,000
Inyo	3,140,000	88	173,000	5	274,000	8	3,587,000
Lake	2,456,000	56	1,393,000	32	545,000	12	4,394,000
Lassen	2,867,000	80	557,000	16	140,000	4	3,564,000
Madera	4,497,000	63	1,136,000	16	1,523,000	21	7,155,000
Mariposa	1,304,000	40	586,000	18	1,348,000	42	3,239,000
Mendocino	4,791,000	63	213,000	3	2,549,000	34	7,553,000
Modoc	2,451,000	62	1,385,000	35	115,000	3	3,951,000
Mono	1,891,000	77	325,000	13	253,000	10	2,470,000
Nevada	6,978,000	73	798,000	8	1,815,000	19	9,591,000
Plumas	2,247,000	55	1,415,000	35	388,000	10	4,050,000
San Benito	1,405,000	77	0	0	414,000	23	1,819,000
San Luis Obispo	6,920,000	48	773,000	5	6,748,000	47	14,441,000
Sierra	753,000	50	625,000	42	117,000	8	1,494,000
Siskiyou	3,757,000	36	5,807,000	56	840,000	8	10,404,000
Tehama	2,739,000	55	1,728,000	35	520,000	10	4,988,000
Trinity	2,377,000	37	3,893,000	60	242,000	4	6,512,000
Tuolumne	2,264,000	46	288,000	6	2,368,000	48	4,920,000
Yuba	2,029,000	56	918,000	25	661,000	18	3,607,000
<b>Forest and rangeland counties with urban populations</b>							
Fresno	17,096,000	60	2,987,000	11	8,326,000	29	28,409,000
Kern	12,405,000	53	4,724,000	20	6,375,000	27	23,506,000
Monterey	8,754,000	49	7,124,000	40	1,817,000	10	17,695,000
Napa	3,359,000	44	2,646,000	34	1,718,000	22	7,723,000
Placer	7,292,000	31	7,118,000	31	8,823,000	38	23,233,000
Santa Barbara	9,257,000	37	5,672,000	23	10,260,000	41	25,189,000
Santa Cruz	5,982,000	39	4,239,000	27	5,302,000	34	15,523,000
Shasta	4,892,000	50	2,967,000	31	1,834,000	19	9,692,000
Sonoma	9,522,000	35	5,465,000	20	21,255,000	45	27,242,000
Tulare	10,888,000	76	2,730,002	2	3,082,000	22	14,243,000

Source: California State Controller, 2001

**Financing California's transportation infrastructure:** In the case of California's transportation infrastructure, reported needs historically have been based on projecting available resources and matching needs to resources. Transportation demands for state funding are presented in

***California raises and spends \$15 billion a year on transportation.***

the State Transportation Improvement Program (STIP) and the State Highway Operation and Protection Program. Historically, these documents identified projects based on a six year fund estimate. SB 45 (Chapter 622, Statutes of 1997) reduced the STIP cycle to four years. SB 45 also changed the formula for funding State and local transportation work. Now 75 percent of the STIP funds available for new projects are given to the regional improvement program and are then allocated by county. A percentage of the county share is available to regional agencies and county transportation commissions for project planning and related activities (there is a cap for agencies also receiving federal planning funds). The other 25 percent goes to the Interregional Transportation Improvement Program as nominated by California Department of Transportation (Caltrans). Federal funding comes mostly under the Federal Transportation Act and the Transportation Equity Act for the Twenty-first Century (TEA 21). TEA 21 provides additional federal funds to California.



*Gas pump in the Central Valley bioregion.*

California raises and spends about \$15 billion a year on transportation. Federal and California per gallon fuel taxes account for about \$6 billion per year. Funds also come from property taxes, benefit assessment districts, developer exaction and sales taxes on fuel, tolls, and transit fares. These funds are supplemented from general fund and sales tax revenues.

For a variety of reasons, both property taxes and fuel taxes have declined as funding sources for highways and local streets and roads. Local retail sales taxes have increased as a funding source in many of the urban counties. These local authorizations were passed before the two-thirds vote requirement came into effect.

***For a variety of reasons, both property taxes and fuel taxes have declined as sources for highways and local streets and roads.***

Whether they will be reauthorized when they expire is uncertain (Adams et al, 2001). See [Financing Transportation in California: Strategies for Change](#).

In 2000, the Governor signed the Traffic Congestion Relief (TCR) Program AB 2928 (Torlakson), followed by clean-up legislation in SB 1662 (Burton). This legislation provides \$6.8 billion in new funding; \$1.5 billion in direct general funds from the fiscal year 2000-01 budget surplus plus

about \$5.3 billion over six years from transferring all remaining State sales taxes on gasoline and diesel fuel from the general fund to transportation. Most of the specified projects in the Traffic Congestion Relief Act are in urban areas where traffic congestion is a major issue. In addition, much of the other funding flows to urban counties.

Urban areas dominate the forecasted transportation infrastructure needs for the next decade (California Transportation Commission, 1999 and 2000). See [Report of the STIP Balances County and Interregional Shares](#) and [Inventory of Ten-Year Funding Needs for California's Transportation Systems](#). Rural transportation needs are also significant. The rural transportation structure links regional economies and industries. Economic development can be constrained by long travel times and distances, insufficient infrastructure, operating funds, and technical assistance. In many areas, the infrastructure is aging. Road ties between many rural communities are often limited and distances long.

Most of the economic activity in these rural counties traditionally has been dependent on agriculture, mining, forestry, and ranching. As these industries have declined, tourism has gained importance in many areas. In many communities, the highest periods of traffic congestion now take place on weekends and holidays with seasonal peak flows of visitor traffic. This increased traffic has a negative effect on road

networks without a designated funding source to provide for maintenance and repair of roads for tourist-associated use. Under at least a decade of limited budgets, a number of local governments have deferred maintenance and repair of local streets and roads. In many places, counties are unwilling to take on responsibility for new roads and in some instances are discussing reverting paved roads to gravel (California Transportation Commission, 2001). In 1998-99, rural local governments spent greater percentages of their budget on maintenance than urban counties as shown in Table 8. See [Rural Counties Task Force January 19, 2001 Agenda Package](#).

Table 8. Expenditures for roads by type, forest and rangeland counties, fiscal year 1998-1999

	Total undistributed		Total construction		Total maintenance		Total expenditures
	Percentage	(\$)	Percentage	(\$)	Percentage	(\$)	
<b>Forest and rangeland counties with rural populations</b>							
Alpine	21	176,987	0	0	71	598,697	838,691
Amador	18	512,169	14	407,098	62	1,743,363	2,825,366
Butte	22	2,095,465	23	2,179,215	51	4,962,377	9,652,883
Calaveras	14	799,711	34	1,934,001	47	2,625,231	5,615,911
Colusa	8	356,954	15	672,834	71	3,145,915	4,435,955
Del Norte	16	322,373	29	591,551	54	1,079,511	2,016,489
El Dorado	8	1,408,892	53	9,098,770	36	6,165,449	17,237,850
Glenn	15	554,562	35	1,281,995	47	1,759,839	3,716,889
Humboldt	11	1,340,283	36	4,275,607	46	5,412,259	11,760,824
Inyo	22	773,205	17	589,197	51	1,759,528	3,446,207
Lake	11	473,889	32	1,369,801	54	2,261,199	4,222,864
Lassen	11	361,356	24	766,465	56	1,797,162	3,213,501
Madera	15	989,950	31	2,090,084	47	3,180,786	6,731,706
Mariposa	14	525,206	7	268,192	73	2,665,395	3,635,448
Mendocino	13	1,262,036	36	3,346,785	44	4,077,778	9,306,706
Modoc	11	404,816	9	329,013	70	2,621,694	3,758,942
Mono	20	390,468	12	230,284	72	1,442,131	2,006,907
Nevada	8	759,941	39	3,705,521	48	4,621,178	9,622,406
Plumas	7	474,043	25	1,590,843	51	3,290,593	6,455,518
San Benito	33	636,237	2	32,305	100	1,915,754	1,907,696
San Luis Obispo	17	2,303,569	27	3,707,466	56	7,722,910	13,683,987
Sierra	13	297,111	23	539,874	50	1,149,062	2,317,325
Siskiyou	9	912,291	39	4,225,215	44	4,782,148	10,781,774
Tehama	13	587,160	14	592,233	71	3,095,280	4,370,919
Trinity	8	494,849	41	2,649,773	47	3,042,394	6,543,910
Tuolumne	17	923,700	21	1,194,884	61	3,440,681	5,614,568
Yuba	9	377,266	38	1,611,396	48	2,034,075	4,239,245
<b>Forest and rangeland counties with urban populations</b>							
Fresno	17	4,947,097	31	9,016,117	50	14,714,354	29,290,154
Kern	21	4,623,408	39	8,544,742	37	8,059,393	21,813,451
Monterey	10	1,747,252	25	4,356,544	61	10,709,980	17,486,747
Napa	5	293,393	44	2,827,277	50	3,262,907	6,494,403
Placer	10	1,717,238	33	5,567,064	53	9,003,511	17,069,508
Santa Barbara	11	3,200,650	35	9,746,755	43	11,923,713	28,054,013
Santa Cruz	2	362,022	19	2,854,736	79	11,715,065	14,930,432
Shasta	22	1,655,492	36	2,679,676	57	4,293,300	7,497,488
Sonoma	13	3,781,768	45	12,928,589	40	11,459,747	28,532,666
Tulare	16	2,153,698	21	2,861,497	58	7,796,398	13,515,885

*Note: Columns do not total to 100 percent because of omission of other categories.  
 Source: California State Controller, 2001*

All local governments, especially rural, have very limited financial resources and hence have tried to qualify for STIP funds for local road rehabilitation. In response to requests by local governments, the Governor's Transportation Initiative provided a one-time \$400 million for fiscal year 2000-01, and an estimated \$120 million in each of the subsequent five years. These funds are shared by all cities and counties Statewide. Based on a 1999 survey by members of the Rural Counties Task Force of the California Transportation Commission, rural city and county allocations from this total will meet just a small portion of rural needs. The Task Force estimated that the cost to rehabilitate rural county roads to "good" condition is approximately \$1 billion. To maintain these roads in good condition will cost more than \$50 million annually.

*All local governments, especially rural, have very limited financial resources and hence have tried to qualify for STIP funds for local road rehabilitation.*

**Caltrans and the Rural Counties Task Force:** To address the special needs of California's more rural counties, the California Transportation Commission (CTC) formed the Rural Counties Task Force. There are 28 Rural County Regional Transportation Planning Agencies or Local Transportation Commissions represented on the Task Force. With the implementation of SB 45, project specific planning and program monitoring workloads of small local planning agencies have expanded significantly. SB 45 mandated that 75 percent of the STIP funds be allocated and expended for regional improvements nominated by the regional planning agencies through their Regional Transportation Improvement Plans (RTIPs). In addition, SB 45 mandated 25 percent of STIP funding be programmed and expended for interregional improvements nominated by Caltrans under the Interregional Transportation Improvement Program (California Transportation Commission, 2000). See [California Transportation Commission Annual Report to the California Legislature, Vol. II 2000 Activities and Accomplishments](#).



*Feather River Byway. Photo: Plumas County Visitors Bureau*

A number of rural counties are involved with Caltrans in improving the safety and efficiency of rural travel, and in several studies applying Intelligent Transportation System (ITS) planning concepts. These include studies for northern California (California-Oregon Advanced Transportation System), the Sierra Nevada, south central Sierra, Tahoe Gateway, Tahoe Basin, San Joaquin Valley, and the Central Coast (California Transportation Commission, 2000).

***The U.S. Forest Service owns and maintains thousands of miles of forest development roads.***

In addition to county and State-maintained roads, the U.S. Forest Service also owns and maintains thousands of miles of forest development roads. While not intended to meet the transportation needs of the public at large, these roads are used to facilitate access to the national forests. In

***In the past decade, the backlog of undone maintenance has grown.***

most areas, they are open to the public and are a key part of the transportation system for many rural counties. New roads are added each year in relation to land acquisition or projects such as timber sales. Roads are also decommissioned where the net financial and environmental costs would be lower if the roads were removed instead of improved. In the Sierra Nevada alone, the combined national forests have about 24,478 miles of forest development roads (U.S. Forest Service, 2001). See [Sierra Nevada Forest Plan Amendment](#).

The dominant use of these roads has changed from support of timber harvesting to recreational use by the public. While the U.S. Forest Service does not maintain many of the roads to the standards of most public roads, road maintenance is required on road surfaces and drainages, bridges, and culverts. In the past decade, the backlog of undone maintenance, called “deferred maintenance,” has grown. In the Sierra Nevada, this is estimated to be \$156 million (U.S. Forest Service, 2001).

### **Infrastructure – transportation – airports**

Air transport plays a key role in regional economies. Air passenger and cargo traffic is expected to at least double over the next 20 years. Major airports are located in urban areas with smaller airports in more rural areas. Residents and businesses in California’s rural areas are often several hours travel distance from a major airport. Businesses located in rural areas typically have higher costs and longer delays when airports are distant.



Truckee Tahoe Airport.

According to the CTC international airports can respond to increased global demand for goods and services if adequate air and ground access capacity are developed. It is currently limited by inadequate airport capacity and severe ground access congestion to major commercial airports (California Transportation Commission, 2000).

***International airports can respond to increased global demand for goods and services if adequate air and ground access capacity are developed.***

Large airports can raise needed revenue to expand groundside and airside operating capacity but are limited in their ability to use airport revenues to meet ground access needs beyond airport property. According to the CTC, Caltrans requested information on airport ground access needs in the 1999 update of the Aeronautics

Capital Improvement Plan. The CTC also surveyed 17 large commercial airports. The CTC indicated that 41 airports have reported 103 un-funded ground access projects with a total cost of \$3 billion. They

include State highway improvements and local road and passenger rail projects. The largest needs are at the Los Angeles Airport (LAX) (California Transportation Commission, 2000).

## Libraries

Historically, libraries have played an important part in California's information delivery and educational system. The backbone is the State Library System. Libraries provided for by local government have also been key. In the wake of adjustment from Proposition 13, library services were cut, staff dismissed, and fewer materials collected (California Library Association, 2002). See [CLA Facts](#).

This is true in forest and range counties as well as others. At the same time, libraries have faced growing challenges. These include changing demographics; ethnic, linguistic, and cultural diversity; widening educational attainment in youth; and rapid changes in the role of information technology in libraries. To some extent, California libraries have managed to acquire and apply technology to improve efficiency and to develop programs that meet some community needs (Dancy, 1996). See [Improving Staff to Better Serve California's 21st Century Population](#).

***To some extent, California libraries have managed to acquire and apply technology to improve efficiency and to develop programs that meet some community needs.***

Each year, the State Librarian awards approximately \$15 million for local assistance for programs such as interlibrary networking, application of technology in libraries, and information services to special populations (Library Services and Technology Act, Pub. L. No. 106.Statute). A portion of this goes to libraries in forest and rangeland counties.

The passage of Proposition 14, the California Reading and Literacy Improvement and Public Library Construction and Renovation Bond Act of 2000, will provide badly needed funds for infrastructure. The Act provides \$350 million in grant resources for public library construction and renovation. The measure mandates that all projects be funded 35 percent locally. Additionally, local libraries that partner with school districts will receive priority for funding new construction and remodeling projects.

Prior to 1996, the status of school libraries had declined substantially. Collections were old (average 1972 copyright date), books per pupil were well below the national average (11 per K-12 student in California as opposed to 16-25 in other states), new books were more costly, and available professional



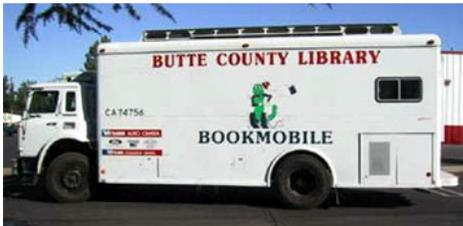
Los Angeles Library.  
Photo: University of Southern California

***The passage of Proposition 14 will provide badly needed funds for infrastructure.***

library staff and media staff were well below national average (California School Library Association, 2001).

The California School Library Act of 1998 brings substantial, ongoing funding for school library resources. The California Classroom Library Materials Act of 1999 (K-4) provides support for classroom materials. With the funding, comes a responsibility

***The California School Library Act of 1998 brings substantial, ongoing funding for school library resources.***



Butte County Bookmobile. Photo: Butte County Library

to measure the impact of new library resources on student learning, teaching, and the library itself. To receive Library Act funding, the local governing board must certify each year that there is a current district wide school library development plan. For many districts, this will be an opportunity to report progress made over the past year and to revise the plan accordingly. While the funds are apportioned based on the prior year average daily attendance, they are

distributed within the district based on this plan. Funds can only be dispersed to those schools that have a dedicated library space.



### **Infrastructure – Telecommunications**

As of 2001, telecommunications service to California comes through 22 companies. More than four million (approximately 12 percent) of these customers live in rural areas with less than 1,000 people per square mile. Of the 22 telephone companies, 18 are small, mostly rural, telephone companies that each uses fewer than 50,000 telephone lines. The largest company is Pacific Bell, which serves areas populated by about 25 million people (Bureau of State Audits, 1999). The companies are regulated by the California Public Utilities Commission. See [California Public Utilities Commission: Its Decisions about](#)

[Deregulating the State's Telecommunications Industry Will Not Affect Residents Immediately and the Long-Term Effects of Policy Changes Are Unknown.](#)

Rural service areas are often high cost. This is because rural exchanges are harder to build and maintain in more remote, often mountainous areas. Subscribers in rural exchanges are also scattered over a larger area with greater cost per mile to provide service and to achieve economies of scale. Rural exchanges also have a greater portion of residential users than business users, so telephone companies may be hesitant to deploy enhanced services or high-speed data services. Higher costs may cause rural areas to lag in acquiring more advanced services, such as digital wireless links and optical core architecture (California Telephone Association, 2001).

***Higher costs may cause rural areas to lag in acquiring services that are more advanced.***

However, many rural customers have access to advanced technologies, such as high-speed Internet services. They receive the same level of service at rates comparable to those in urban areas (Bureau of State Audits, 1999). In part, this is due to the current rate structure and the type of equipment used by

telephone companies. Most companies use the latest digital switches in their central offices to route the volume of telephone calls. Digital switches provide much faster, higher quality transmissions. In some cases, because rural companies are eligible to receive low-interest federal loans for upgrading telephone equipment, some rural areas may have more advanced switching equipment than urban areas.

For many years, the California Public Utilities Commission (CPUC) has had the goal of providing universal and affordable telephone connections to at least 95 percent of all California households. To improve affordability, the CPUC has averaged telephone rates across rural and urban areas (geographic rate averaging) and used subsidies, which are paid for through monthly surcharges on customers' bills. Both of these policies are being reexamined by the Commission. Decisions about rate structures will take several years and not have an immediate impact on the rates paid by rural customers. The longer time frame, though, could be a different matter because investment capital in the telecommunication industry will move to urban/suburban centers that give a greater economic return.

*One aspect of  
telecommunications is  
Internet technology.*

In 1995, there were roughly 30 million wireless consumers in the United States. By 2000, there were well over 100 million wireless consumers. Many of these consumers become subscribers with safety as the leading rationale for their purpose. Public safety officials also have realized the potential benefits of this technology in receiving and responding to calls for emergency services. This is true in both urban and rural areas.

However, this rapid spread in wireless communication has created a variety of complex issues. To deal with some of these issues, Congress has passed legislation that established privacy protection for consumers, addressed liability protection for carriers and designated 911 as the national number for wireless emergency calls. In 1996, the Federal Communications Commission set rules to require application of wireless 911 technology using network-based approaches by October 2001. The FCC revised the rules in 1999 to allow an improved technology using a handset-based approach. The FCC also modified implementation requirements for carriers and required provision of more accurate and efficient automatic location information in emergencies. See [Federal Communications Commission: In the Matter of Revision of the Commission's Rules To Ensure Compatibility With Enhanced 911 Emergency Calling Systems](#).

The broad scale application of this technology presents many challenges and led a number of carriers to request waivers from the October 2001 deadline. The FCC has granted a number of these waivers, but has also refused others. In one case, it levied a penalty of \$2.2 million dollars on a major carrier for failure to meet the 911 rules (Federal Communication Commission, 2002).

One aspect of telecommunications is Internet technology. California has more than 250 communications service providers, approximately \$30 billion in local network investment, many commercial and academic research centers, and designers and manufacturers in communications (Table 9).

Table 9. Telecommunications growth, 1998 to 2000

Growth of California's telecom industry	March 1998	April 2000
Companies approved to provide service	132	250+
Interconnection agreements with competitors	29	114
Competitors passing orders	26	111
Total orders processed (since 2/6/96)	560,263	3.3 million
Collocation cages	219	3,299
Numbers ported to competitors	19,339	438,833
Total lines served by competitors	577,937	2.3 million

*Source: Project Connect California, 2000*

In southern California, there was a 45 percent increase in Digital Subscriber Line Technology (DSL) service between July 1998 and 2001. This will undoubtedly have a spillover effect into some rural areas.

In a glimpse of how infrastructure needs have changed to support modern high-tech industries, downtown San Diego was recently labeled “Bandwidth Bay.” See [San Diego Geographical Information](#). “Bandwidth” is the carrying capacity of the copper wire or fiber optic cable that connects a home or office to the Internet. It controls the volume of data and speed at which files and video are transferred from different points on a network. San Diego has over 70,000 strand miles of fiber optic cable beneath its city streets. This makes it one of the most “wired” cities in the United States and allows high tech businesses of all sizes to locate and start work immediately. The city of San Diego has even converted the downtown’s end-user fiber optic network database into an interactive Geographical Information System (GIS) color-coded format, which permits viewing of the data across the Internet. See [Bandwidth Bay](#). This service is a small example of how one region of California is competing against other regions of the state and country for new or relocated business.

### **Affordable housing**

One significant impact of California’s population growth and other factors is increased need for affordable housing in a state where many factors work against the development of more housing near employment centers. “Affordable housing” measures are ways to characterize the cost and conditions of housing as well as commute time between housing and employment areas. Measures include percentage of homeownership, cost of rent, and house payments as a percentage of income, and number of people living in a housing unit. These are shown in Table 10 (California Department of Housing and Community Development, 2000). See [State of California’s Housing Markets 1990 - 1997, California Statewide Housing Plan Update Phase II](#).

***One key factor of potential pressure on forest and rangeland infrastructure is affordable housing.***

Table 10. Affordable housing factors

Affordability factor	Trend in California
Home ownership/renting	Varies by individual county or metro area. Rate was 51 percent in largest metro areas in 1995, less than national average (65 percent). California housing prices and rents have long been among the nation's highest.
Costs	Varies regionally. Californians consistently pay 2-5 percent more than elsewhere in U.S. for housing. Housing costs generally up, especially in urban areas. Rents up significantly since 1995. Rising costs displace low-income renters and force younger/middle income households further to the edge of metropolitan areas.
Commute distances	Among all U.S. and California homeowners, median commutes did not change significantly between 1985 and 1995. For first time homebuyers in California, average median commute times rose from 20 minutes in 1985 to 31 minutes in 1995. Commute times for renters did not change significantly
Overcrowding	In places, overcrowding in California has substantially increased. In addition, a significant portion of affordable rental housing developments Statewide could well be converted to higher cost housing, thus making them unaffordable to low-income or elderly households and families.
Age of first home purchase	Between 1985 and 1995, the national median age of first time homeownership increased from 29 to 31 years of age; California increased to about the national average

*Source: compiled by FRAP with data from California Department of Housing and Community Development, 2000*

Housing affordability is likely to continue to diminish as long as the demand for housing outstrips the growth in incomes of those in need of housing. The Department of Housing and Community Development indicates that California's changing demographic structure will mean that the number of households will increase at a rate faster than the population growth rate. To meet this growing demand for housing, California will need to add approximately three million additional households between 1997 and 2010, and just over five million additional households by 2020. To avoid overcrowding, California will need to average an additional 220,000 housing units a year. This level exceeds the average annual housing construction of about 140,000 units a year since 1987 and only 100,000 units a year since 1990 (California Department of Housing and Community Development, 2000). See [Raising The Roof: California Housing Development Projections and Constraints, 1997-2020](#).

About 95 percent of California's projected household growth will occur in existing metropolitan regions. This growth will put significant pressure on California's urban housing markets. More than half of California's projected household growth will occur in the greater Los Angeles and San Diego areas. Elsewhere in California, growth will be more concentrated in inland counties than coastal counties. This will have an impact on some forest and rangeland areas but not on others (Department of Housing and Community Development, 2000).

Available building space varies by region. In general, inland areas have sufficient land and policies more favorable to growth. Growth control measures have been cyclical and tend to be a reaction to periods of rapid housing growth such as the 1980s and 1996-97. In 1998, according to two surveys of local growth management programs, more than half of California cities and counties had acted to reduce development densities and/or building heights. More cities and counties had residential permit caps, had tightened existing urban limit lines, or adopted an urban growth boundary. Table 11 shows expected shortfalls in residential permits.

Table 11. Comparison of 1987-97 average residential permits with 1997-2010 average annual household growth

	Average annual residential permits 1987-1997	Projected average annual growth (households) 1997-2010	Difference (potential shortfall or surplus)	Percentage difference (1987-97 to 1997-2010)
<b>Statewide</b>	138,761	233,062	-94,301	-41
Greater LA	61,603	109,977	-48,374	-44
San Diego	12,908	20,548	-7,640	-37
San Joaquin	18,014	32,722	-14,708	-45
Sacramento	12,931	17,187	-4,256	-25
Bay Area	23,242	35,428	-12,186	-34
<b>Rural counties with forestland and rangeland</b>				
Alpine	17	10	8	81
Amador	280	154	125	81
Butte	1,172	2,216	-1,045	-47
Calaveras	463	506	-43	-9
Colusa	75	349	-274	-79
Del Norte	145	267	-122	-46
El Dorado	1,469	2,162	-693	-32
Glenn	84	345	-261	-76
Humboldt	637	561	76	14
Inyo	43	18	25	136
Kings	594	1,080	-487	-45
Lake	318	779	-461	-59
Lassen	114	227	-106	-48
Madera	889	1,700	-811	-48
Mariposa	130	163	-34	-21
Mendocino	420	738	-318	-43
Modoc	10	27	-17	-63
Mono	69	73	-4	5
Nevada	896	1,047	-152	-15
Plumas	196	113	83	74
San Benito	403	604	-201	-33
San Luis Obispo	1,456	2,819	-1,364	-48
Sierra	19	11	8	76
Siskiyou	167	274	-108	-39
Sutter	532	866	-334	-39
Tehama	239	579	-340	-59
Trinity	60	63	-3	-2
Tuolumne	430	492	-62	-13
Yuba	215	418	-202	-48
<b>Urban counties with forest and rangeland</b>				
Shasta	1,203	1,806	-602	-33
Placer	2,917	3,341	-424	-13
Sonoma	2,784	4,100	-1,317	-32
Napa	542	753	-210	-28
Santa Cruz	661	2,268	-1,607	-71
Monterey	1,350	3,092	-1,743	-56
Fresno	5,350	8,342	-2,992	-36
Tulare	1,774	3,761	-1,986	-53
Santa Barbara	1,059	2,616	-1,557	-60
Kern	3,615	6,999	-3,384	-48

Source: California Department of Housing and Community Development. 2000

The areas with land that has the potential to be developed and has low housing costs and price structure, comparatively few regulatory constraints tend to be the:

- Inland Empire (Riverside and San Bernardino counties);
- San Joaquin Valley region (Fresno, Madera, Kern, Kings, Merced, San Joaquin, Stanislaus, and Tulare);
- Sacramento Metropolitan Region (El Dorado, Placer, Sacramento, Sutter, Yolo, and Yuba counties); and
- Other areas of northern California (Shasta, Solano, Sonoma, and Lake counties).

All of these regions have substantial amounts of forest and rangeland. The conversion of agricultural or grazing lands in these counties to urban development is ongoing and is projected to continue (California Department of Conservation, 2000). See [California Farmland Conversion Report](#).