
Chapter 2
Assumptions and Development Estimates

CHAPTER 2

ASSUMPTIONS AND DEVELOPMENT ESTIMATES

2.1 INTRODUCTION

This chapter summarizes estimated development potential under the *General Plan* and the assumptions upon which these estimates are based. The chapter presents estimates for development scenarios for years 2010 and 2040 and estimates of holding capacity at "buildout." These estimates, particularly the 2010 estimates, provide the basis for much of the impact assessment in the rest of this report.

2.2 RESIDENTIAL DENSITY AND BUILDING INTENSITY ASSUMPTIONS

LAND USE DESIGNATIONS

The *Land Use Diagram* of the *Countywide General Plan* uses 13 residential, commercial, industrial, agricultural, and other land use designations to depict the types of land uses that will be allowed in the different geographic areas of the unincorporated county. The *Land Use Diagram* also shows the locations of the cities in Placer County (but not land use designations within them) and the areas covered by *community plans*. Land use designations for areas within *community plans* are depicted on the land use diagrams of each *community plan*.

LAND USE INTENSITY STANDARDS

In addition to characterizing land use designations according to types of allowable uses, the general plan must, according to state law, specify for each land use designation standards of population density and building intensity.

Standards of building intensity for residential uses are stated in the *Policy Document* in terms of 1) the maximum dwelling units per net acre, 2) the allowable range of dwelling units per net acre, or 3) the number of principal dwelling units allowed per lot. Standards of population density for residential uses can be derived by multiplying the maximum number of dwellings per net acre by the average number of persons per dwelling unit, which for purposes of this *General Plan* is assumed to be 2.50.

Standards of building intensity for non-residential uses are stated as maximum floor-area ratios (FARs). An FAR is the ratio of the gross building square footage permitted on a lot to the net square footage of the lot. For example, on a site with 10,000 net square feet of land area, an FAR of 1.00 will allow 10,000 square feet of gross building floor area to be built, regardless of the number of stories in the building (e.g., 5,000 square feet per floor on two floors or 10,000 square feet on one floor). On the same site, an FAR of 0.50 would allow 5,000 square feet of floor area and an FAR of 0.25 would allow 2,500 square feet.

For each land use designation appearing on the *Land Use Diagram*, Table 2-1 summarizes basic *General Plan* development standards, including minimum lot size, the allowable range--or maximum number--of dwelling units per net acre, and the FAR for non-residential uses.

TABLE 2-1
DEVELOPMENT STANDARDS
by Land Use Designation

Land Use Designation	Development Standards		
	Minimum Lot Area	Range/Maximum DUs per Net Acre	Maximum Nonresidential FAR
Agriculture (AG)	10 acres	**	0.30
	20 acres	**	0.30
	40 acres	**	0.30
	80 to 160 acres*	**	0.30
Timberland (T)	10 acres	**	0.06
	20 acres	**	0.06
	40 acres	**	0.06
	80 to 640 acres*	0	0.06
Greenbelt and Open Space (OS)	5 to 160 acres*	**	0.02
Resorts and Recreation (REC)	1 to 160 acres*	**	0.30
Water (W)	n/a	0	0.20
Rural Residential (RR)	1 to 10 acres*	**	0.30
Low Density Residential (LDR)	10,000 sq. ft. to 1 acre*	1 - 5 du	0.30
Medium Density Residential (MDR)	3,500 to 10,000 sq. ft.*	5-10 du	0.70
High Density Residential (HDR)	3,500 to 10,000 sq. ft.*	10-21 du	1.05
General Commercial (GC)	5,000 sq. ft.	21 du	2.00
Tourist/Resort Commercial (TC)	6,000 to 20,000 sq. ft.*	11-21 du	0.80
Business Park/Industrial (I)	10,000 sq. ft. to 5 acres*	0	1.80
Public Facility (PF)	n/a	0	n/a

*Minimum lot size within range determined by zoning

**Only one principal dwelling allowed per lot

DU = dwelling unit

FAR = Floor-area ratio

2.3 GEOGRAPHIC AREAS OF ANALYSIS

To facilitate analysis during the General Plan update, County Staff and Consultants developed a two-tiered geographic reference system for the unincorporated area of the county. Based roughly on the County's *community plan area* boundaries, the areas covered by the general plans of the cities within the county, and unincorporated areas of the county not covered by community plans, 27 "planning areas" were defined for tabulation of information and description of geographically-specific impacts. These planning areas have in turn been aggregated into six "regional analysis areas" to facilitate more general assessment of the potential impacts of development under the *General Plan*. Table 2-2 outlines the relationships between the 6 regional analysis areas and the 21 planning areas and 6 cities or towns that they include. Figure 2-1 shows the boundaries of the regional analysis areas.

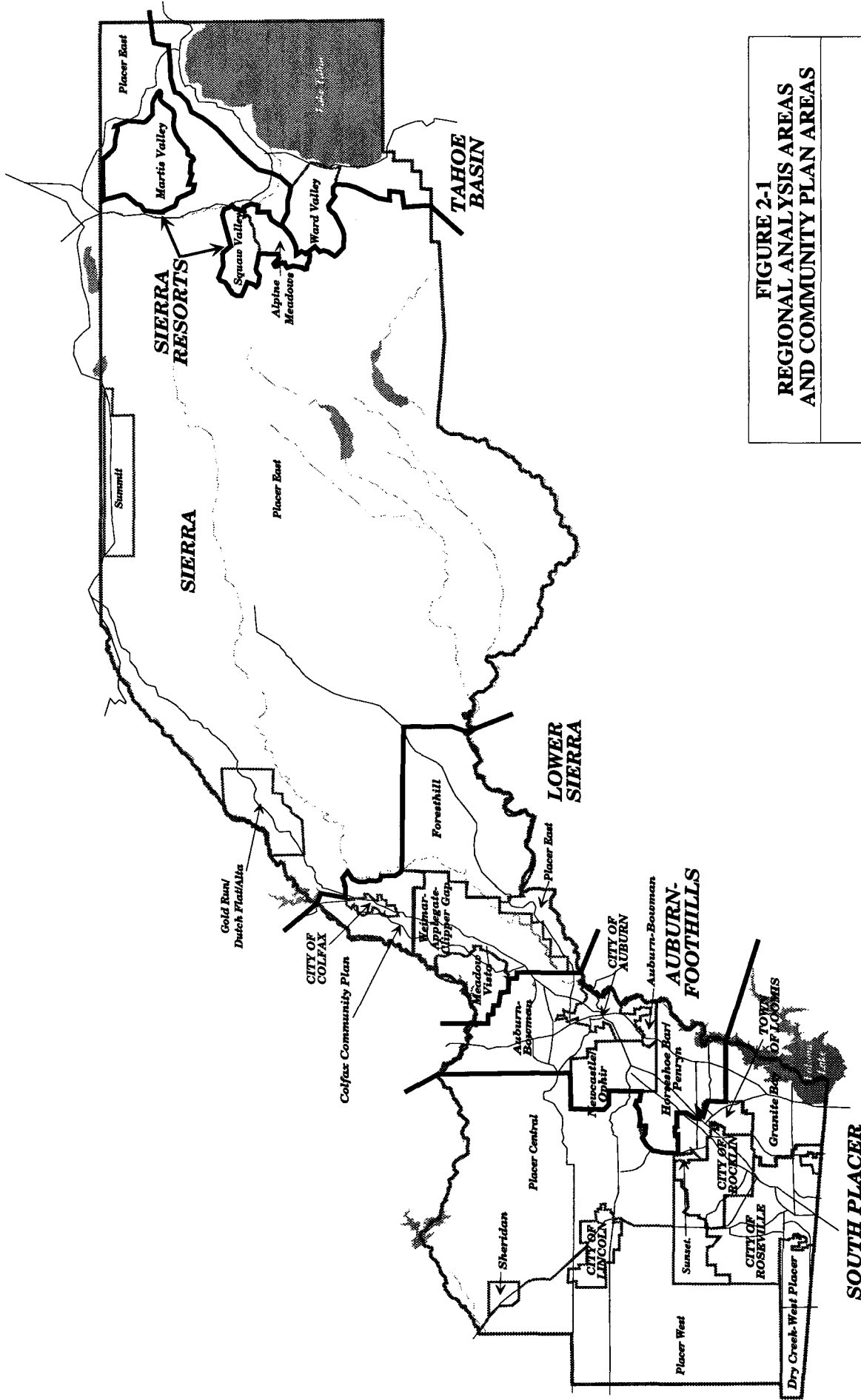


FIGURE 2-1
REGIONAL ANALYSIS AREAS
AND COMMUNITY PLAN AREAS

Date: 07-26-94

Prepared by:
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TABLE 2-2
GEOGRAPHIC ANALYSIS AREAS

Regional Analysis Areas	Planning Areas	Cities
Tahoe Basin	Tahoe Basin (TRPA Jurisdiction)	
Sierra Resorts	Alpine Meadows Squaw Valley Martis Valley	
Sierra	Placer East Summit Gold Run/Dutch Flat/Alta	
Lower Sierra	Colfax Community Plan Area Foresthill Meadow Vista Weimar/Applegate/Clipper Gap	City of Colfax
Auburn-Foothills	Auburn-Bowman Horseshoe Bar/Penryn Newcastle/Ophir	City of Auburn Town of Loomis
South Placer	Dry Creek Granite Bay Lincoln Community Plan Area Placer Central Placer West Sheridan Sunset	City of Lincoln City of Rocklin City of Roseville

The discussions in this chapter of development estimates, buildout holding capacity, and development assumptions and the analyses in Chapters 3 through 9 refer primarily to the regional analysis areas, although some discussions refer to the more numerous planning areas. In some cases, primarily because the issue does not lend itself to the sort of precision implied by the breakdown, other geographic areas are used for purposes of analysis. For instance, the analysis of drainage impacts in Chapter 5 refers to drainage basins.

2.4 HOLDING CAPACITY OF THE GENERAL PLAN

Table 2-3 presents estimates of the range of development that could occur under the *Countywide General Plan* and the *community plans*. These estimates are expressed in terms of the range of housing units and the maximum potential square footage in commercial and industrial designations. Maximum development potential is referred to as the "buildout holding capacity," because it reflects the amount of development that the land use designations would accommodate or "hold" if all of the land were developed or "built-out." The actual level of development at buildout, however, will not reach the theoretical holding capacity. Most land will not develop at its maximum allowed intensity because of market forces, parcel-specific-site constraints, or because, for a variety of reasons, some property owners will simply not develop or sell their land for development.

TABLE 2-3

HOLDING CAPACITY OF THE GENERAL PLAN

Land Use Designation	Acres	Minimum Lot Area		Dwelling Units per acre		Max. FAR	Potential Lots		Total Potential Units		Potential Sq.Ft. @ Max FAR
		Min	Max	Min.	Max.		@ Min Lot Area	@ Max Lot Area	@ Min DU/Acre	@ Max DU/Acre	
10 Acre Agriculture	24,250.4	10	None	1	1	0.25	2,425	N/A	0	2,425	N/A
20 Acre Agriculture	32,810.2	20	None			0.25	1,641	N/A	0	1,641	N/A
40 Acre Agriculture	6,078.6	40	None			0.25	152	N/A	0	152	N/A
80 Acre Agriculture	63,081.6	80	None			0.25	789	N/A	0	789	N/A
Subtotal Agriculture	126,220.8						5,007		0	5,007	0
10 Acre Timberland	7,199.0	10	None	1 principal dwelling unit per lot		0.20	720	N/A	0	720	N/A
20 Acre Timberland	4,001.3	20	None			0.20	200	N/A	0	200	N/A
40 Acre Timberland	8,708.2	40	None			0.20	218	N/A	0	218	N/A
80 Acre Timberland	460,728.8	80	None			0.20	5,759	N/A	0	5,759	N/A
Subtotal Timberland	480,637.3						6,897	0	0	6,897	0
Low Density Residential	3,432.7	0.23	1.00	1	5	0.30	14,925	3,433	3,433	17,164	N/A
Medium Density Residential	992.4	0.08	0.23	5	10	0.70	12,405	4,315	4,962	9,924	N/A
High Density Residential	14.0	0.07	0.23	10	21	1.05	200	61	140	294	638,502
Rural Residential	26,791.2	1.00	10.00	0	1	0.30	26,791	2,679	0	26,791	N/A
Subtotal Residential	31,230.3						54,321	10,488	8,535	54,173	638,502
Business Park/Industrial	2,046.6	0.23	100	0	0	1.80	8,898	N/A	0	0	160,469,813
General Commercial	124.3	0.11	N/A	21	21	2.00	1,130	N/A	2,610	2,610	10,829,016
Tourist Commercial	129.7	0.14	0.46	11	21	0.80	926	282	1,427	2,724	4,519,786
Subtotal Commercial/Industrial	2,300.6						10,954	282	4,037	5,334	175,818,615
Open Space	1,006.3	5	5	0	0	0.02	201	103	N/A	0	N/A
Recreation	768.0	1	160	1	1	0.30	768	24	N/A	768	N/A
Subtotal OS/Rec.	1,774.3						969	127	0	768	0
SUB-TOTAL:	642,163.3						78,148	10,897	12,572	72,179	176,457,117
Community Plan Areas	213,750.0			See Community Plans for applicable standards							
Total Unincorporated:	855,913.3										
Cities	46,139.9			See applicable City plans							
TOTAL COUNTY:	902,053.2									135,150	N/A
										208,097	N/A

Source: Crawford Multari & Starr, June 1994.

2.5 SCENARIOS FOR GROWTH AND DEVELOPMENT

This *EIR* uses two long-term planning scenarios to analyze the impacts of growth and development in Placer County under the *Placer County General Plan: 2010* (just under 20 years into the future) and 2040 (about 50 years into the future). A 20-year time horizon is a reasonable long-term benchmark for most planning analyses. The implications of large amounts of development potential may, however, not be evident within the 20-year period, so the 2040 perspective is helpful for assessing the longer-term, cumulative effects of development. The year 2040 has been adopted as the official long-term planning horizon for state demographic projections and other related studies (e.g., for transportation and air quality planning). Nonetheless, the County acknowledges that analysis based on 50-year development projections is highly speculative and that technological changes and other factors may significantly alter the characteristics of growth and development and the systems to serve that development.

METHODOLOGY AND ASSUMPTIONS

The two development scenarios prepared for this *EIR* include descriptions of the amount of household population growth and wage and salary employment growth expected in Placer County through 2010 and, over the longer-term, through 2040, along with estimates of how the corresponding residential, commercial, office, and industrial development would be accommodated in various locations in the county.

The scenarios presented here were prepared exclusively for the purpose of analyzing the *Countywide General Plan*. Projections prepared for other efforts (i.e., community plans, specific plans, development projects) may appropriately reach different conclusions and reveal different information. The scenarios described in this section focus on the overall growth potential for the county and represent one possible outcome for how that growth might be distributed considering the intent of the *Countywide General Plan*. The specific numbers for any community plan area or city are not in themselves significant.

As described below, the scenarios rely on regional and state projections for some of the basic county and regional growth parameters. The years 2010 and 2040 are not intended as precise indicators of when certain events may or should occur. They are benchmark years that define approximate time spans during which employment and population are expected to grow and corresponding residential, commercial, office, and industrial development could occur to accommodate that growth.

The scenarios reflect long-term patterns of change (growth or decline) and are not sensitive to short-term construction or business cycle conditions. Long-term projections assume that recession and expansion cycles and construction booms and busts continue to occur and that, over time, cyclical fluctuations average out to a long-term trend.

POPULATION AND EMPLOYMENT GROWTH TOTALS FOR PLACER COUNTY

The population and wage and salary employment scenarios for Placer County are one component of a regional scenario of population and employment for the Sacramento metropolitan area (Sacramento, Placer, El Dorado, and Yolo counties). Table 2-4 presents the Placer County scenarios developed for the *EIR* and compares them to regional scenarios of population and employment growth.

The 2010 and 2040 scenarios are both based on California Department of Finance (DOF) population projections by age for Placer County and the region. The most recent Sacramento Area Council of Governments (SACOG) population projections to 2010 for Placer County as a whole are essentially the same as the DOF projections, so the 2010 population scenario shown here for the total county is consistent

with the SACOG total for Placer County. The employment scenarios for both 2010 and 2040 were developed by considering the age distribution of the population, projected changes in labor force participation rates by age (from U.S. Department of Commerce Bureau of Labor Statistics estimates), unemployment rate assumptions, and estimates of the relationship between employment and population on a regional and county level (expressed as the employment-to-population ratio).

While there is no other source with which to compare the 2040 scenario of wage and salary employment, the 2040 scenario is reasonable, in terms of labor force and jobs, at the county and regional levels, since it depends on the 2040 population scenario, which reflects Placer County’s share of the statewide projections prepared by DOF.

TABLE 2-4
DEVELOPMENT SCENARIOS FOR THE GENERAL PLAN
1990/1991, 2010, and 2040

	1990/1991	Future Estimates		Growth Increment	
		2010	2040	1990/91-2010	2010-2040
Population					
Placer County	172,796	312,300	473,200	139,504	160,900
Sacramento Region	1,481,102	2,350,200	3,560,200	869,098	1,210,000
Placer as Percent of Region	11.7 %	13.3 %	13.3 %	16.1 %	13.3 %
Wage & Salary Employment					
Placer County	62,900	153,000	213,000	90,100	60,000
Sacramento Region	638,400	1,128,100	1,566,500	489,700	438,400
Placer as Percent of Region	9.9 %	13.6 %	13.6 %	18.4 %	13.7 %

Sources: Recht Hausrath & Associates, based on estimates from the State of California Department of Finance *Projected Total Population of California Counties (Official State Projections)* Report 93 P-3, May 1993; Sacramento Area Council of Governments, *Projections*, April 1993, *1990 Census of Population*, and State of California Employment Development Department, *Annual Planning Information: Placer County*, June 1992 and *Annual Planning Information: Sacramento MSA*, June 1992.

The reader should note the following important qualifications about the scenarios:

- Both the population and employment scenarios assume strong long-term growth rates for the Sacramento region. Placer County is expected to continue to be one of the fastest growing counties in the region and the state, particularly through the year 2010, with the county’s share of regional population and employment increasing from 1990 to 2010. The scenarios assume the county captures 16 percent of regional population growth during that period and over 18 percent of regional employment growth. After 2010, the scenarios assume Placer County maintains the same share of regional population and employment.
- The employment scenario assumes particularly strong growth through 2010, reflecting SACOG’s and DOF’s most recent projections for Placer County. This assumption is reasonable, given land availability and the rate of employment growth evidenced in the late 1980s in the county, although

it does imply adding more jobs per year (about 4,400 jobs on average) than was the case in all but one of the last 10 years (1990, in which 5,400 jobs were added according to the Employment Development Department).

Implicit in the 2010 scenario (and carried forward to the 2040 scenario) is an increase in the ratio of employment to population (or non-residential to residential development) in Placer County, particularly South Placer County. According to this scenario, South Placer County becomes a more "urban" area, with a relatively larger supply of jobs, services, and shopping opportunities for residents than currently exists. While this is an important objective of the *Countywide General Plan*, as well as of the general plans of Placer County cities, and could be achieved by 2040 assuming continued strong growth in the region, it may take longer than 2010 for this transformation to occur.

Distribution of Growth within Placer County

Placer County household population and wage and salary employment estimates have been allocated throughout unincorporated areas and the cities. This allocation considers development potential, market factors, and the policies and programs of the *General Plan Policy Document*. The methodology was iterative: the 2010 distribution was created by evaluating and adjusting growth rates, percentages of growth, and resultant percentages of total household population and wage and salary employment for the community plan areas and the cities.

The distribution of population and employment growth in 2040 follows the general pattern established for the 2010 scenario, with one exception. While in most areas of the county, the rate of employment growth slows, in the mountain areas (Sierra, Sierra Resorts, and Tahoe Basin) the rate increases somewhat. This increased growth rate reflects a longer-term trend towards a more permanent resident population and the resultant demand for more population-serving business activity, as well as the slowing of the decline in employment in resource-related business activity as the base of such employment dwindles. In South Placer, the cities, the Sunset Industrial Area (assumed to remain unincorporated), and the Dry Creek-West Placer Community Plan Area are all assumed to be successful in capturing substantial employment growth.

Estimates of Development

EIR technical analysis requires that scenarios of population and employment be translated into estimates of dwelling units and building space. The estimates in this *EIR* of residential and non-residential development necessary to accommodate the household population and wage and salary employment growth expected in Placer County under the *General Plan* were based on a series of assumptions. Most were applied across the board in all locations in the county, although some reflect differences among locations. Those differences are based on evidence of existing conditions (from either the 1990 Census or County Assessor's data) and judgements about how those conditions could change in the future.

The preparation of an estimate of dwelling units associated with household population in 2010 and 2040 required that assumptions about persons-per-household, housing vacancy rates, and the mix of single-family and multi-family units be made. Persons-per-household is expected to decline over time from the high rates of the 1980s for a variety of reasons. Demographic patterns describing household formation rates by age and ethnicity support smaller household sizes in the future. In addition, housing affordability is expected to improve, meaning that more people will be able to form their own households and not have to live together to share housing expenses. For Placer County in the year 2010, single-family household size is expected to average 2.72 persons and multi-family households are expected to average 1.98 persons. This compares to estimates from the 1990 Census of 2.83 persons-per-household for single-family

households and 2.06 persons-per-household for multi-family households. For the 2040 scenario, the assumption was further simplified, with household size expected to average 2.5 persons-per-household, overall. With the exception of the Tahoe Basin and Sierra areas, residential vacancy rates are assumed to be five percent for the purposes of estimating the dwelling units associated with the household scenario. In the Tahoe Basin and the Sierra areas, average residential vacancy rates are assumed to be substantially higher than the average for the rest of the county, consistent with existing conditions in those resort areas, where large proportions of the housing are for seasonal occupancy. Over time, those vacancy rates are assumed to decline as the areas develop a more permanent resident population. The mix of single-family and multi-family units was determined separately for each community plan area and city, reflecting existing conditions and judgements about how the mix would change over time.

For the estimates of dwelling units, the assumptions described above were applied to total household population in 2010 and 2040, not just to the incremental growth. Conditions are assumed to change for all housing, existing as well as new.

The estimates of non-residential building space by development type reflect assumptions about the mix of business activities in the unincorporated areas and the cities, employment density factors for each use (square feet of occupied building space per employee), and vacancy rates by use. Assumptions about the mix of business activities (commercial, office, and industrial) reflect estimates from the 1991 County Assessor’s data base of space by use by jurisdiction and judgements about how that mix would change over time. The employment density assumptions and vacancy rate assumptions, which do not vary by location, are shown in Table 2-5.

TABLE 2-5

**EMPLOYMENT DENSITY AND VACANCY RATE ASSUMPTIONS
by Development Type**

Development Type	Employment Density (square feet/worker)	Vacancy Rate
Commercial (a mixture of convenience retail, regional retail, highway retail, auto sales and repair, and other commercial service establishments)	550	5 percent
Office	333	7 percent
Industrial (a mixture of light industrial, research and development, heavy industrial, and warehouse uses)	700	3 percent

Source: Recht Hausrath & Associates, September 1993.

To estimate total non-residential development by use in 2010 and 2040, the assumptions shown in Table 2-5 were applied to the change in employment, and the resulting estimate of the change in space was added to the 1991 estimate of space by use for each community plan area and city from the County Assessor’s data base.

2010 AND 2040 SCENARIOS FOR THE GENERAL PLAN

Tables 2-6 through 2-9 present the scenarios developed for analysis in the *General Plan EIR*. Tables 2-6 and 2-7 show how the household population and wage and salary employment scenarios are distributed to unincorporated areas and Placer County cities. Tables 2-8 and 2-9 show the conversion of the household population and wage and salary employment scenarios to estimates of the residential and non-residential development needed to accommodate that growth. Estimates for the community plan areas and the cities were aggregated to the larger regional analysis areas for presentation in the EIR.

TABLE 2-6
HOUSEHOLD POPULATION SCENARIOS
1990, 2010, and 2040

Regional Analysis Area	1990*	Percent of Total	2010	Percent of Total	2040	Percent of Total
Tahoe Basin	9,257	5.4%	12,000	3.9%	14,400	3.1%
Sierra Resorts	4,442	2.6%	5,450	1.8%	6,400	1.4%
Sierra	3,883	2.3%	4,250	1.4%	4,500	1.0%
Lower Sierra	15,523	9.1%	20,910	6.7%	26,600	5.6%
Auburn-Foothills	28,515	16.7%	41,550	13.4%	50,100	10.6%
South Placer	21,319	12.5%	44,375	14.3%	70,800	15.0%
Total Unincorporated	82,939	48.7%	128,535	41.5%	172,800	36.7%
Total Cities	87,513	51.3%	181,465	58.5%	298,100	63.3%
TOTAL COUNTY	170,452	100.0%	310,000	100.0%	470,900	100.0%

*For Placer County cities, the 1990 household population estimate is from the 1990 Census. The estimates for unincorporated areas of the county were derived from the County Assessor's data base summaries of dwelling units by community plan area and vacancy rate and persons-per-household factors from the 1990 Census.

Source: Recht Hausrath & Associates.

TABLE 2-7
WAGE & SALARY EMPLOYMENT SCENARIOS
1991, 2010, and 2040

Regional Analysis Area	1991*	Percent of Total	2010	Percent of Total	2040	Percent of Total
Tahoe Basin	2,690	4.1%	3,900	2.5%	4,900	2.3%
Sierra Resorts	507	0.8%	595	0.4%	750	0.4%
Sierra	312	0.5%	340	0.2%	420	0.2%
Lower Sierra	991	2.6%	1,200	1.4%	1,510	1.3%
Auburn-Foothills	15,987	35.1%	23,470	22.5%	27,450	19.1%
South Placer	5,653	57.0%	17,495	72.9%	25,420	76.8%
Total Unincorporated	26,140	39.7%	47,000	30.7%	60,450	28.4%
Total Cities	39,660	60.3%	106,000	69.3%	152,550	71.6%
TOTAL COUNTY	65,800	100.0%	153,000	100.0%	213,000	100.0%

* The 1991 employment estimate reflects the State of California Employment Development Department (EDD) estimate of total wage and salary employment in the county. That total was distributed to the cities and the unincorporated areas using estimates of building space by use from the County Assessor's data base in conjunction with standardized estimates of vacancy rates and employment density by use.

Source: Recht Hausrath & Associates.

TABLE 2-8
HOUSING UNIT ESTIMATES
2010 and 2040

Regional Analysis Area	2010			2040		
	Single-Family	Multi-Family	Total Units	Single-Family	Multi-Family	Total Units
Tahoe Basin	10,200	2,600	12,800	10,200	2,600	12,800
Sierra Resorts	2,100	800	2,900	2,600	800	3,400
Sierra	2,100	0	2,100	2,400	0	2,400
Lower Sierra	7,400	1,000	8,400	9,900	1,300	11,200
Auburn-Foothills	13,200	4,000	17,200	16,200	4,900	21,100
South Placer	16,000	1,600	17,600	26,300	3,400	29,800
Total Unincorporated	50,900	9,900	60,800	67,600	13,000	80,600
Total Cities	54,000	22,400	76,400	89,600	35,900	125,500
TOTAL COUNTY	104,900	32,300	137,200	157,200	48,900	206,200

Note: Detail may not add to totals because of independent rounding.

Source: Recht Hausrath & Associates.

TABLE 2-9
ESTIMATES OF NON-RESIDENTIAL BUILDING SPACE
2010 and 2040
(in thousands of gross square feet)

Regional Analysis Area	2010			2040		
	Commercial	Office	Industrial	Commercial	Office	Industrial
Tahoe Basin	1,234	255	264	1,698	326	264
Sierra Resorts	218	37	5	290	48	5
Sierra	114	19	17	154	24	17
Lower Sierra	382	30	149	512	79	113
Auburn-Foothills	3,769	1,749	1,334	4,937	2,326	1,587
South Placer	2,577	1,703	5,047	4,019	2,579	7,203
Total Unincorporated	8,295	3,793	6,816	11,609	5,383	9,188
Total Cities	18,982	11,431	21,359	27,388	17,134	32,979
TOTAL COUNTY	27,277	15,224	28,175	38,997	22,517	42,166

Note: Detail may not add to totals because of independent rounding.

Source: Recht Hausrath & Associates.