

Chapter 1  
AN ANALYSIS OF SUBURBAN GROWTH TRENDS IN THE SAN RAMON VALLEY  
OF CONTRA COSTA COUNTY, CALIFORNIA  
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Introduction

There is a great deal of interest and debate concerning the question of land use change in the Bay Area. Much of the controversy is centered in the suburban areas of the region which are undergoing the most rapid and visible changes. The San Ramon Valley of Contra Costa County is an excellent example. This is an area of flat valley land and rolling hills, lying east of the Berkeley-Oakland Hills and south of the Walnut Creek area (Figure 1). The San Ramon Valley is a microcosm, representative of many areas in the Bay Area that are undergoing rapid growth with a clear conflict between demand for housing and commercial uses, and the desire to retain open space for agricultural, recreational, visual, and watershed purposes.

My goal is to understand the phenomena of suburban growth more clearly. To gain a greater insight into the nature and magnitude of development in the San Ramon Valley, I have chosen to synthesize as many of the population, housing, and employment elements of the growth picture as possible. By looking at particular demographic characteristics of the population, such as historical changes in population and housing growth, density, and composition, one may get a clearer picture of the course of development. Through an investigation of the factors that influence future growth trends, I hope to stress the complexity of the interactions between these factors as well as provide a sense of where development may go in the next 15 to 20 years. In addition, I hope that this study, combining as it does both historical and projections data on housing population, will be of use to those planning for future housing, transportation, water supply, and open space.

The San Ramon Valley is most conveniently and scientifically analyzed through the use of census tracts, the first of which were laid out in 1960. The availability of these data permits well-controlled and detailed historical analyses of population and housing trends over a period of very rapid growth. These analyses are facilitated by several recent studies pertaining wholly or in part to the San Ramon Valley (Anderson *et al.*, 1983; Dowall, 1982; Kroll, 1984; CCC, 1982). Analysis of future growth trends relies on projections to the year 2000 by the Association of Bay Area Governments (ABAG, 1983, 1984a, 1984b) and the East Bay Municipal Utility District (EBMUD, 1984), interviews with County planners, and

surveys of the literature concerning land use and development in Contra Costa County and the Bay Area. These sources provide a sense of the important economic, political, and demographic factors and how they combine to produce the observed development. My main task, then, is the compilation of the disparate elements of the picture into a readily understandable form.

### Background Studies

Several studies set the growth situation in the San Ramon Valley in context, as well as providing important parts of the larger development picture. The official viewpoint with respect to development (SRV, 1976; CCC, 1984b) provides a sense of the importance of policy and planning to development, an idea of how the county would like development to proceed, and serves as a benchmark from which to view actual development. Cynthia Kroll (1984) looks at the prospects for office development along the I-680 corridor in Alameda and Contra Costa Counties, concluding that growth will continue, albeit not at the rapid rate seen in the late 1970's and early 1980's. Such employment growth will have an indeterminate effect on the rate and character of housing development. The Tri-Valley Subregion Study (Anderson *et al.*, 1983) provides an overview of the many factors limiting development in the San Ramon Valley, as well as delineating specific areas of interest in the study of development in the area. Of particular interest are the projections of allowable development, given the restrictions of existing infrastructure and environmentally sensitive lands. Not surprisingly, the authors conclude that additional development will be strongly curtailed. The report also provides guidelines for the collection and manipulation of data with respect to a myriad of development questions in the San Ramon Valley.

### Statistical Data

To facilitate an examination of the relevant statistical data, I have divided the San Ramon Valley into three study areas. Each area corresponds to a single 1960 census tract: study area 1 to tract 44, study area 2 to tract 45, and study area 3 to tract 46 (Table 1). Though tracts 45 and 46 have been split up ten and six times, respectively, since 1960, their original outlines remain largely the same,

Year	1960	1970	1980
Study Area 1	44	3440	3440
Study Area 2	45	3451 3452	3451.01-3451.06 3452.01-3452.02
Study Area 3	46	3461 3462	3461.01-3461.02 3462.01-3462.02

Table 1: Census Tract Numbering System showing Division of 1960, 1970, 1980 Census Tracts Among the Three Study Areas.

Source: DOC, 1962, 1972, 1982.

allowing comparison over time. By looking just at the number of times a tract has split, one can get a rough estimate of the magnitude of growth in that area. It is expected that many of the tracts will be subdivided for the 1990 census (Moulton, 1985).

The statistical data for the San Ramon Valley, summarized in Table 2, include historical growth information derived from the census tracts for 1960 to 1980 (DOC, 1962, 1972, 1982; CCC, 1975), and projections to the year 2000 developed by ABAG (ABAG, 1983, 1984a, 1984b). With these data, it is possible to view growth over a 40 year period. The data are broken down into four indicators of housing and population growth trends: household population and number of households, persons/household, income and household value, and densities of persons and households and amount of developed land. Note that I have used data for household population (referred to as 'population' below) rather than total population as there are few people living in group quarters in the study area.

ABAG projections are used because they are the most widely cited, serving as a benchmark from which to compare other projections. One cannot assume that these figures are absolute; the unexpected approval or rejection of a large development in any of the study areas can cause these figures to change dramatically.

To set the trends obtained for the San Ramon Valley in context, data on the four major population and housing characteristics for the whole of Contra Costa County and the nine county Bay area, are also presented (Table 2).

Note also that the conversion of 1960, 1970, and 1975 dollars to 1979 dollars was accomplished by using the Consumer Price Index (CPI) from 1947 to 1979 (1977 = 100). The CPI values for 1959, 1969, 1974, and 1979 were used in computing the respective income and household value totals.

#### Household Population and Number of Households

Between 1960 and 1980, the household population and number of households in the San Ramon Valley, the whole county, and the nine county region grew as follows: household population increased by 363%, and number of households grew by 469% in the San Ramon Valley; for the whole county, household population went up 60%, and number of households rose by 105%; for the Bay Area, household population grew 39%, and the number of households increased 58% (DOC, 1962, 1982).

Growth during the 1960's in the San Ramon Valley was quite rapid: population grew 112% and the number of households expanded by 115%. The decade of 1970-1980 saw the largest increase in population and housing in the San Ramon Valley, with population rising by 119% and number of households by 165%. Within the San Ramon Valley, study area 2 has grown the fastest: household population increased by 660% and number of households grew by 818% in the 1960-1980 period. During the 1970's, study area 2 grew at the fastest rate. Population rose 191%, and number of households grew 251%. The geographical extent of this development is shown in Figure 2.

	1960 <sup>a</sup>	1970 <sup>a</sup>	1975 <sup>b</sup>	1980 <sup>a</sup>	1985 <sup>c</sup>	1990 <sup>c</sup>	1995 <sup>c</sup>	2000 <sup>c</sup>	% Change 1960-1980 1980-2000	
<b>Study Area 1</b>										
Household Population	2,181	3,050	2,744	3,081	3,416	4,112	4,399	4,501	41	46
Number of Households	650	923	914	1,154	1,234	1,485	1,556	1,564	78	36
Persons/Household	3.36	3.30	3.00	2.67	2.77	2.77	2.83	2.88	-20	-8
Income (1979 \$) <sup>d</sup>	20,645	34,351	33,286	37,650	45,400	46,200	47,700	48,900	82	30
Area (sq mi)	3	3	3	3	3	3	3	3	-	-
Persons/sq mi	739	1,034	930	1,044	1,158	1,394	1,491	1,526	-	-
Households/sq mi	220	313	310	391	418	503	527	530	-	-
<b>Study Area 2</b>										
Household Population	5,314	13,897	26,211	40,366	44,238	50,659	52,336	52,086	660	29
Number of Households	1,489	3,895	8,340	13,664	14,423	16,824	18,144	18,606	818	36
Persons/Household	3.57	3.57	3.14	2.95	3.07	3.01	2.88	2.80	-17	-5
Income (1979 \$) <sup>d</sup>	19,492	31,669	30,705	33,645	37,708	38,491	39,528	40,606	73	21
Area (sq mi)	37	37	37	37	37	37	37	37	-	-
Persons/sq mi	145	380	716	1,103	1,208	1,384	1,430	1,423	-	-
Households/sq mi	41	106	228	373	394	460	496	508	-	-
<b>Study Area 3</b>										
Household Population	5,086	9,661	10,850	14,821	19,269	21,117	22,399	22,625	191	53
Number of Households	1,303	2,585	3,368	4,778	6,079	6,891	7,633	8,048	267	68
Persons/Household	3.90	3.74	3.22	3.10	3.17	3.06	2.93	2.81	-21	-9
Income (1979 \$) <sup>d</sup>	22,563	34,351	35,365	41,813	51,371	53,293	54,779	56,224	85	34
Area (sq mi)	23	23	23	23	23	23	23	23	-	-
Persons/sq mi	217	411	462	631	821	899	954	964	-	-
Households/sq mi	55	110	143	203	259	293	325	343	-	-
<b>Study Area Totals</b>										
Household Population	12,581	26,608	39,805	58,268	66,923	75,888	79,134	79,212	363	36
Number of Households	3,442	7,403	12,622	19,596	21,736	25,200	27,333	28,218	469	44
Persons/Household	3.66	3.59	3.15	2.97	3.08	3.01	2.90	2.81	-19	-7
Income (1979 \$)	20,872	32,940	32,135	35,872	41,965	42,993	44,252	45,520	72	27
Area (sq mi)	63	63	63	63	63	63	63	63	-	-
Persons/sq mi	200	422	631	924	1,062	1,204	1,255	1,257	-	-
Households/sq mi	55	117	200	311	345	400	434	448	-	-
<b>Contra Costa County</b>										
Household Population	405,333	551,502	-	649,595	699,700	752,800	801,700	833,100	60	28
Number of Households	117,858	172,951	-	241,534	260,130	289,530	318,130	341,430	105	41
Persons/Household	3.44	3.19	-	2.69	2.69	2.60	2.52	2.44	-22	-9
Income (1979 \$) <sup>d,e</sup>	16,869	21,766	-	26,563	27,676	28,431	29,353	30,391	57	14
Area (sq mi)	750	750	-	750	750	750	750	750	-	-
Persons/sq mi	540	735	-	866	933	1,004	1,069	1,111	-	-
Households/sq mi	157	231	-	322	347	386	424	455	-	-
<b>Nine County Bay Area<sup>f</sup></b>										
Household Population	3,638,939	-	-	5,058,613	5,402,100	5,652,300	5,934,100	6,134,800	39	21
Number of Households	1,246,212	-	-	1,970,549	2,076,590	2,224,840	2,390,840	2,530,240	58	28
Persons/Household <sup>g</sup>	2.92	-	-	2.57	2.60	2.54	2.48	2.42	-12	-6
Income (1979 \$) <sup>d,e,g</sup>	14,209	-	-	27,434	-	-	-	-	93	-
Area (sq mi)	7,179	-	-	7,179	7,179	7,179	7,179	7,179	-	-
Persons/sq mi	507	-	-	705	752	787	827	855	-	-
Households/sq mi	174	-	-	274	289	310	333	352	-	-

Table 2: Historical and Projected Data for Selected Population and Housing Statistics in the San Ramon Valley, Contra Costa County and the Nine County Bay Area

Sources : a) DOC, 1962, 1972, 1982; b) CCC, 1975; c) ABAG, 1983, 1984a, 1984b

Notes: d) 1960-1980 figures are medians; 1985-2000 figures are means; e) 1960, 1970 figures for families and unrelated individuals  
f) 1960 figure is total population; g) 1960 values drawn from SF-Oakland SMSA

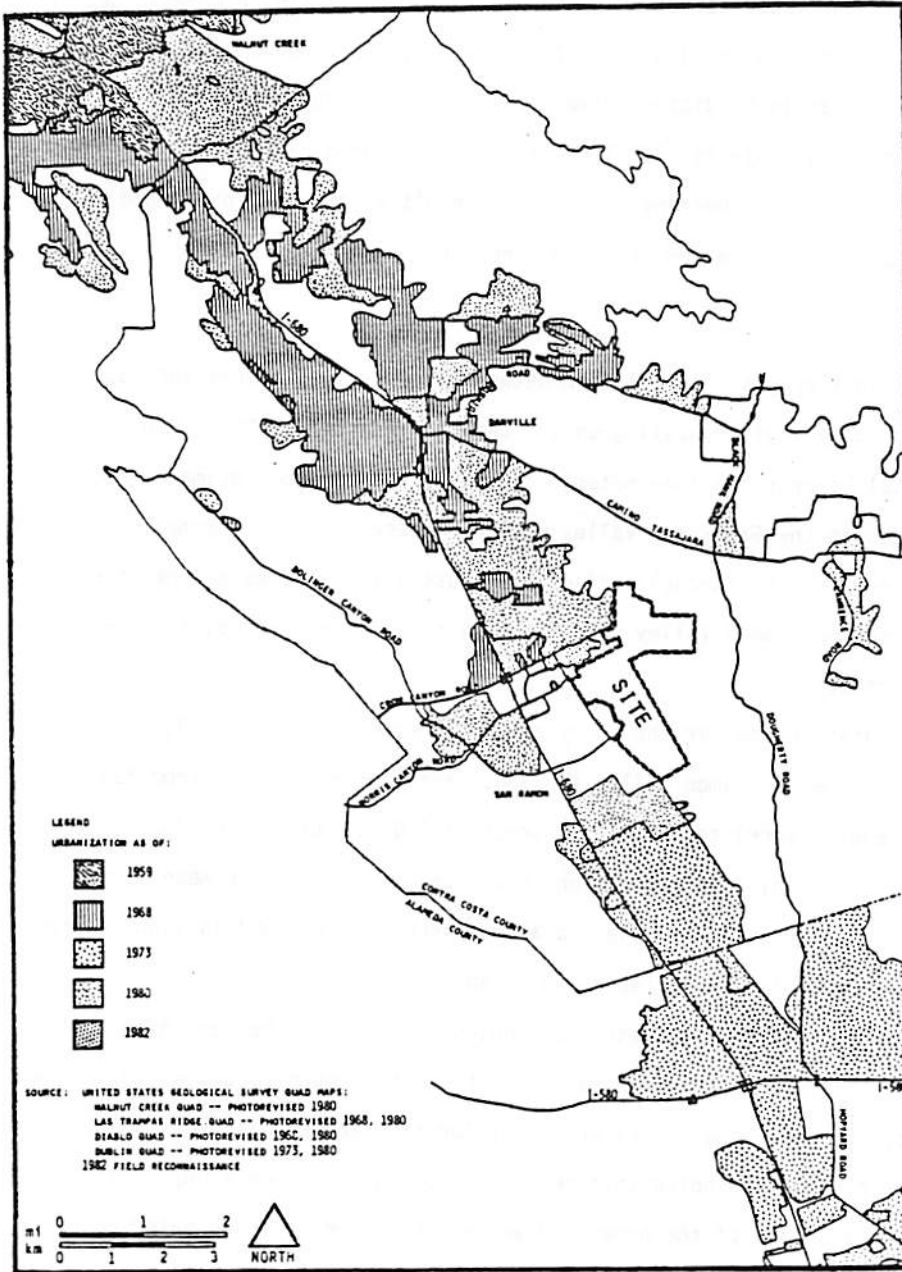


Figure 2. Urbanization History of the San Ramon Valley, 1959-1982, with Site of Approved Canyon Lakes Development.

Source: CCC, 1982.

ABAG (1983, 1984a) projects that the growth rate will decrease substantially between 1980 and 2000: population in the San Ramon Valley will rise about 36%, and number of households 44%. The largest increase in population (53%) and number of households (68%) will occur in study area 3 between 1980 and 2000. The whole county population will rise by 28%, and households should grow 41%. In the nine county region, a population rise of 21%, with a household increase of 28%, is expected.

#### Persons/Household

As the number of households has increased faster than the household population, a general decline in the number of persons/household, from 3.66 in 1960 to 2.97 in 1980, is observed in the combined study areas. A slight rise in this index is predicted between 1980 and 1985 (ABAG, 1983, p. 9; no actual data are available to confirm this projection). This rise is attributed partly to the larger-than-normal number of women entering the child-bearing years (as a result of the baby boom) and partly to slow economic growth, which retards the formation of new households.

#### Income and Household Value

These data are important because there is a correlation between the level of income and household value and the amount of land occupied by a given housing unit. Data on income for 1960, 1970, 1975, 1980 and 1985-2000 are not absolutely comparable (see notes on Table 2). The rather dramatic rise in real income between 1980 and 1985 in the San Ramon Valley may be because the 1980 income is a median, and the 1985 income is a mean. A mean may be strongly affected by just a few incomes at the upper or lower ends of the scale. Because the San Ramon Valley contains many high income people, the 1985-2000 figures may be somewhat distorted.

Between 1960 and 1980, real median income for the study area as a whole rose from \$20,872 to \$35,872, an increase of 72%. Within the San Ramon Valley in 1980, median income ranged from \$29,282 in census tract 3451.01 (4.81 households/acre) to \$50,412 in tract 3461.02 (2.48 households/acre) (DOC, 1962, 1982; see Figure 1 for location). In comparison to the median income, the mean income for the whole study area was \$40,226. The county as a whole had a mean income of \$26,563 in 1980, whereas the nine county region had a mean income of \$27,434 (ABAG, 1983, 1984a).

The most important thing to note about the statistics on household value is the very high cost of housing in the San Ramon Valley. In 1980 the median value was \$147,865 compared to \$94,300 in the whole county. Data are unavailable for the nine county area, but for the San Francisco-Oakland SMSA the household value was \$99,000. It should be noted that the total for the combined study areas is probably higher because in study area 3 many of the homes had values that were only indicated as being over \$200,000. Because of the inaccuracy of the figures, I have not included them in Table 2.

### Population and Household Densities

Since land areas are constant, population and household densities increase at the same rate as population and households, respectively. What is important is the magnitude of this growth. Within the San Ramon Valley, population and number of households increased from a semi-rural density of 100 persons/sq mi and 55 households/sq mi to a medium suburban density of 924 persons/sq mi and 311 households/sq mi, respectively, between 1960 and 1980 (DOC, 1962, 1982). Figure 3 indicates household density in each of the study areas in 1960, 1970, and 1980. Of course, density is not evenly distributed throughout the study areas. Rather, the figures are meant to convey the overall magnitude of growth in this period.

Determination of densities for the whole county and the Bay Area becomes more difficult due to the very large expanses of open space in each of these areas, which tend to skew the results. Fortunately, ABAG (1983, 1984a) provides land use data for the study areas and the nine counties in the Bay Area (for 1980, with projections to 2000). These data indicate the amount of land devoted to residential, commercial, and street and highway development.

In the whole county, there were 10,240 persons/sq mi and 3,801 houses/sq mi, on 64 sq mi, 8.4% of the county. For the nine county region, 457 sq mi, 6.4% of total land, held 17,283 persons/sq mi and 6,734 houses/sq mi. For comparison, one notes that the densities were substantially lower in the San Ramon Valley. In 1980, there was a residential density of 6,460 persons/sq mi and 2,171 households/sq mi, on 9 sq mi (14% of total land), for the combined study areas. Densities ranged from 4,860 persons/sq mi and 1,566 households/sq mi in study area 3, to 7,517 persons/sq mi and 2,544 households/sq mi in study area 2.

ABAG is not the only organization that develops projections. Within the San Ramon Valley General Plan Area (a larger zone which includes the three study areas), Menkin-Lucero (1982) project a household increase of 22,169 between 1980 and 1985, from 18,375 to 40,544 households. This compares with ABAG projections to 27,333 households in 1995 (1984a; base of 19,596). EBMUD projects a population increase from 60,000 people in 1980 to 102,000 people in 2000, in their San Ramon Valley service area (1984, Table I-1). This compares to a change from 58,268 to 79,212 projected by ABAG in the same period (ABAG, 1984a). Though the areas studied in the respective publications are not exactly comparable, the differences in outcomes cannot be completely explained by differences in area.

### Discussion

Development in the San Ramon Valley is dominated by single family residences. The largely rural character of the area in 1960 has changed to one of a patchwork of suburban residences at varying densities. Such change is continuing, but with a hint that the composition of the housing is changing as well. The number of persons per household is declining consistently, whereas the density of population and housing is rising. Furthermore, housing density is growing faster than population density in many areas. These trends seem to point to more smaller houses on less land, with the houses holding fewer

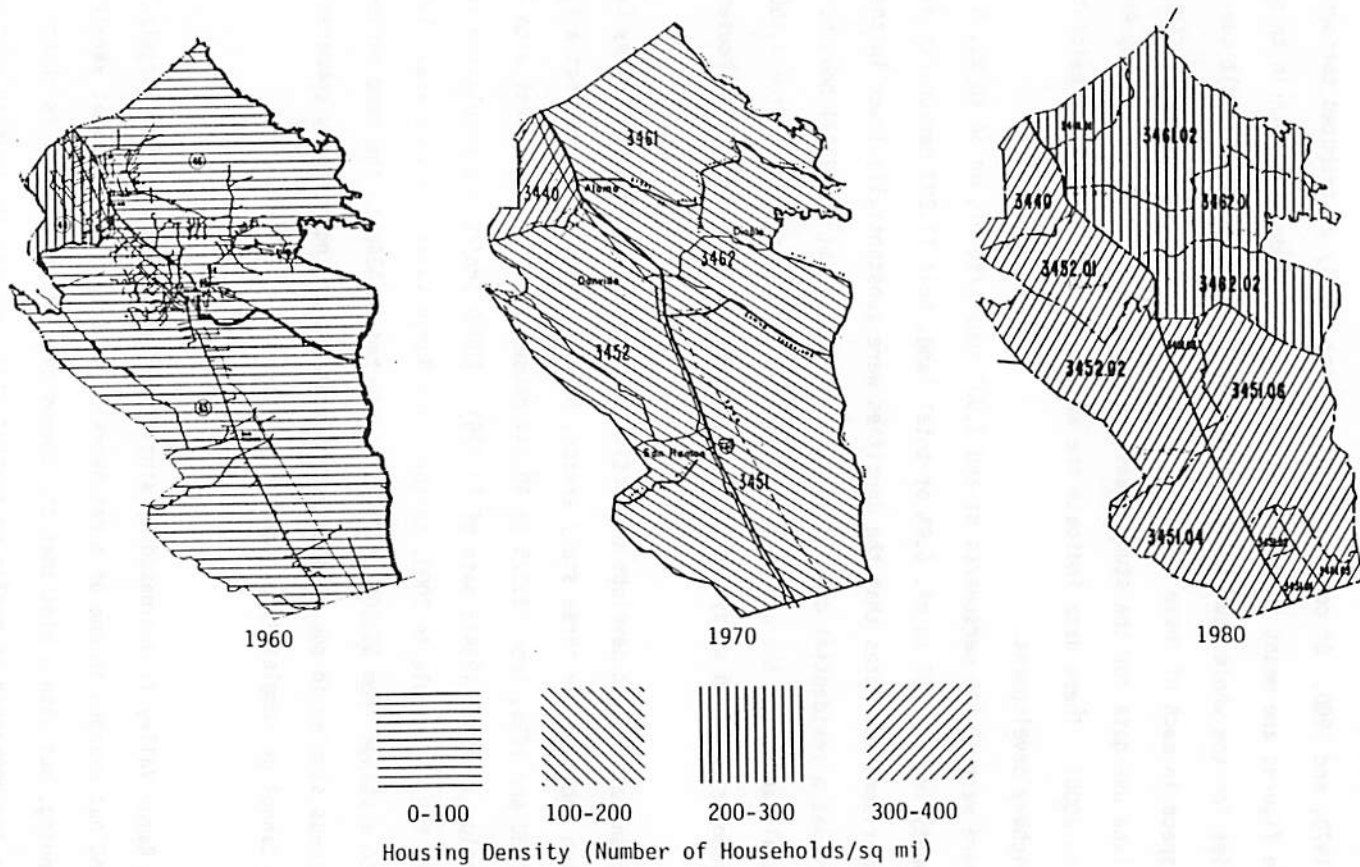


Figure 3. Housing Density in the San Ramon Valley: 1960, 1970, 1980.  
 Source: ABAG, 1983, 1984a, 1984b; DOC, 1962, 1972, 1982.



people. Such a trend is borne out by the data for recently approved and proposed housing projects (CCC, no date). With few exceptions, the new dwelling units are medium-density single-family homes, condominiums, or apartments, and several of these projects have proposed densities approaching 20 units/acre. It appears that the housing densities will continue to rise in all but the most exclusive areas (e.g., Blackhawk Ranch) (Moulton, 1985; Halverson, 1984).

Undoubtedly, a large part of new residential construction will continue to be single-family homes. The San Ramon Valley Area General Plan (SRV, 1976) specifically states that a major portion of the land designated for residential use is to be developed as Low Density Single Family Residential. Yet one sees developers such as Shapell Industries successfully applying for permits to rezone 90 acres from Single Family Residential to Planned Unit District (i.e., a much higher density), in clear conflict with the intent of the general plan. Because each of these units may only contain one or two households, one may not see a decline in the number of single family households. The key is to note changes in housing densities and the nature of the housing itself.

There are several political, social, and economic reasons for the increase in housing densities. Economically, the rising costs of land, building materials, labor, permits, and energy to heat and cool homes, have changed the size and character of homes, favoring attached and semi-attached structures. Land costs may account for a quarter of the house cost in this area (CCC, 1982). In this situation, high density units are almost always more profitable for the developer. The proportionately higher costs of providing utilities and public services, such as schools and fire and police protection, to low density development is also a driving force. Furthermore, higher density construction provides more housing opportunities for a given area of land.

Socially, the number of persons/household has been falling consistently due to basic demographic changes, the details of which are beyond the scope of this paper. With this decrease in household size comes an increase in demand for housing, although this demand is offset to varying degrees by the decreased housing needs of the population -- particularly in terms of land immediately surrounding the home -- such that increasing densities serve to counteract the decrease in the number of persons/household.

Politically, there are requirements under legislation such as the California Environmental Quality Act (CEQ) and the CCC Park Dedications Ordinance that significant parts of any development be left as open space. However, if one looks at open space that is actually set aside, one finds that it is dominated by undevelopable areas such as those with steep slopes, geologic hazards, or fragile ecosystems. Unfortunately, as these areas may not be very useful for recreation or agriculture, questions concerning the quality of the open spaces preserved constantly recur (e.g., CCC, 1982, pp. III 29-34; Halverson, 1984; Dowall, 1982, pp. 13-15).

The historical data paint a clear picture of the San Ramon Valley as an upper middle class area, and the projections indicate that future housing will reflect this fact. Such a situation is worth considering because much of the commercial growth in the area, concentrated as it is in office-type jobs, will provide only moderate incomes. The supposition is that most of these employees will not be able to live in the area (unless a spouse earns considerably more), commuting instead from other parts of the Bay Area, Stockton, Tracy, and Sacramento (Moulton, 1985). In a sense, the San Ramon Valley has reached what Cynthia Kroll terms a fourth stage of development, in which the suburban area becomes an urban center in its own right, "spinning off related population and economic activities to peripheral residential areas" (Kroll, 1984, p. 5).

#### Conclusions and Recommendations

The value of open space is highly dependent upon location and desired use of the area. The development patterns discussed in this study indicate a trend toward the nearly complete filling of the flat valley land at a relatively high density, with the retention of hilltops, steeply sloping land, and other undevelopable areas for open space. There are many benefits associated with concentrating development, reducing sprawl, and maximizing the amount of open space surrounding an area. Yet one must ask if this is the best development strategy in all cases. That is, how beneficial are vast expanses of open space if they are not used for agriculture or grazing, or if they are very difficult to reach for other activities? Would it be better to put more energy into reserving medium-sized parcels of open space within, or in close proximity to urban and suburban areas, allowing dense but noncontiguous development to occur in areas that would otherwise be left in open space?

These issues are but a few that emerge in a discussion of development and open space. Most dismaying is that there is little established structure to resolve these issues on a regional basis. In a kind of catch-22 situation, these problems get harder to solve as more development, with attendant incorporation of cities, occurs. The lack of communication, formal and informal, between the Contra Costa County agencies responsible for the unincorporated parts of the county and the individual cities which have jurisdiction over their own incorporated areas, is at the heart of the problem. As I doubt that the private interests involved will be able to resolve these issues effectively, I would strongly urge the formation of a streamlined governmental body with jurisdiction and enforcement powers over both the county and the cities (while still providing a degree of autonomy), or the consolidation of the relevant planning agencies into one body. The poor record of such attempts (e.g., ABAG), some understanding of the major political stakes involved, and the seeming inability of many governmental agencies to function effectively on a regional basis, does not convince me that such an organization is forthcoming in the near future. Nonetheless, there is always room for optimism, and as public awareness of the situation increases and the value of open space rises, one may see the emergence of a relevant regional planning process.

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