The New Economy and Jobs/Housing Balance in Southern California

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ABSTRACT

The information and recommendations in this paper are designed to spur debates on how to better balance jobs with housing in the region. It is also intended to assist subregions and individual jurisdictions in the Southern California Association of Governments' (SCAG) region in their respective planning efforts to address the issue of jobs/housing balance. Of particular interest is the opportunity to seek planning funds under new appropriations from the California Department of Housing and Community Development (HCD). Assembly Bill 2864 (Torlakson) establishes the Jobs-Housing Balance Improvement Program that provides state funding ($110 million) to local governments for projects that will mitigate the imbalance of jobs and housing in communities throughout the state.

The paper's major findings include:

- A geographic balance between housing and jobs in a region confers many benefits, including reduced driving and congestion, fewer air emissions, lower costs to businesses and commuters, lower public expenditures on facilities and services, greater family stability, and higher quality of life.
- Jobs-rich areas are located primarily along the coast, in Los Angeles and Orange Counties.
- Housing-rich areas are located primarily in the Inland Empire and North Los Angeles County, which house many commuters working in jobs-rich areas.
- Jobs/housing ratios are forecast to increase in the western portion of the Inland Empire by 2025, but much of the Inland Empire and all of North Los Angeles County are forecast to remain housing rich.
- Based on current densities, Los Angeles and Orange Counties do not have enough raw, developable land to satisfy their forecast housing needs in 2025.
- There is an excess amount of vacant land in Los Angeles County that is zoned for commercial and industrial purposes relative to forecast housing needs in 2025.
- High-tech "New Economy" jobs and venture capital investments that have a strong tendency to cluster at culturally- and amenity-rich urban locations are powering the job growth in coastal areas.
- California taxation laws and fiscal policies act as disincentives to housing production by creating a bias among many financially strapped cities and counties toward sales tax-generating land uses. In addition, the State returns very little property tax revenues back to the cities.

The major recommendations include:

- Promote infill housing in Los Angeles County and Orange County. This would help house the forecast population, give employees the opportunity to live closer to work, and potentially reduce inter-county commutes.
- Promote wealth-generating, high paying, "New Economy" jobs in the Inland Empire. This would enable Inland Empire residents to find comparable work to the western regions and would shorten commutes of Inland Empire residents.

Proposed housing strategies include:

- Infill housing development
- Transit-oriented development and Location Efficient Mortgage
- Brownfields redevelopment into housing
- State and local finance reform
- Zoning revisions

Proposed jobs-creation strategies include:

- Investments in public education
- Development of high technology business parks and incubation centers
- Fiber optic cable investments
- Airport investment and promotion

EXECUTIVE SUMMARY

The continuing economic recovery of the SCAG Region has brought problems and challenges along with its economic benefits. Jobs are now plentiful, but housing is scarce and housing prices and rents have soared. Highway congestion has increased substantially and commute times have lengthened. Meeting strict air quality standards in the face of increased driving and congestion has become even more challenging. These problems largely result from a lack of new housing construction, especially near major job centers, and the inability of many workers to purchase the housing being produced.

Problems associated with inadequate and unaffordable housing in job-rich areas have become so pronounced throughout the state that they have galvanized the State Legislature to try to solve them. Assembly Bill 2864 (Torlakson) establishes the Jobs-Housing Balance Improvement Program that provides state funding to local governments for projects that will mitigate the imbalance of jobs and housing in local communities. This bill provides $110 million for projects and programs in housing-rich communities that will attract new businesses and jobs, and projects in jobs-rich communities that will increase the supply of housing. **A primary objective of this paper is to guide and assist local governments in the SCAG Region in applying for funds offered through AB 2864 by describing the relationship of employment to household growth in the region.**

An analysis of the current jobs/housing ratios in the SCAG region finds that jobs-rich areas are located primarily in Los Angeles and Orange Counties. Housing-rich areas are located on the periphery, primarily in the Inland Empire and northern Los Angeles County. Jobs/housing ratios are forecast to increase over the next 25 years in the western portion of the Inland Empire. Still, much of the Inland Empire and all of northern Los Angeles County are forecast to remain housing-rich in 2025.

Housing-rich areas, particularly in the Inland Empire, have seen substantial job growth over the last decade. This job growth is forecast to continue, which will result in increasing jobs/housing ratios for areas in the western portion of the Inland Empire. In fact, the Regional Statistical Area (RSA) around Ontario Airport is forecast to become very jobs-rich by the year 2025. Nevertheless, much of the job growth of the Inland Empire has been in relatively low-paying blue-collar sectors of the economy, and the gap in per capita income between it and the rest of the region has been increasing. The average wage of the job base of some areas in the Inland Empire is insufficient to purchase the average local house, and many local workers are forced to commute in from outlying areas where housing is less expensive.

The job growth of North Los Angeles County, another housing-rich area, has not been as robust as that of the Inland Empire. The new jobs created though have in general been higher paying, with the migration of white-collar professional jobs to Santa Clarita Valley and with the consolidation of the aerospace industry in the Antelope Valley. North Los Angeles County is forecast to remain housing rich in 2025. In fact, the Santa Clarita RSA is forecast to change from a balanced status to being housing-rich in 2025.

An analysis of land development needs for accommodating forecast housing shows that there is an insufficient amount of raw, developable land in Orange and Los Angeles counties to

accommodate their forecast housing needs at current densities. Development strategies involving infill of currently vacant and underutilized lots, and developing at higher densities are necessary for these counties to meet their forecast housing needs and achieve the benefits of jobs/housing balance.

An analysis of the development capacity of 1993/1994 general plans and zoning shows that most counties have excess vacant land zoned for commercial and industrial uses, relative to existing land use ratios. From a jobs/housing standpoint, this could be justified in housing rich areas. However, this is contrary to achieving jobs/housing balance in jobs-rich counties like Los Angeles County where low-and moderate-income workers are having an increasingly difficult time finding affordable housing.

Historically, the geographic imbalance between jobs and housing in the SCAG Region has been a problem that has been largely self-correcting. Jobs have moved from their original centers to housing-rich suburbs to take advantage of lower land and labor costs and provide shorter commute trips for their employees. The end result is the multi-centered urban fabric that characterizes the region today. This phenomenon also explains why average home-to-work commute times in the region have remained relatively constant over the last several decades.

However, there are several emerging trends that threaten to exacerbate problems associated with jobs/housing imbalance. The high-tech and knowledge-based New Economy has been extremely important to the economic resurgence of the region. New Economy firms, particularly those dealing with Internet content, tend to be collaborative in nature and tend to concentrate in urban core locations. They are relatively insensitive to traditional land and labor cost factors and locate in areas with a wide variety of cultural amenities so that they can compete for the young, highly educated information workers that are keys to their success. When housing is limited around high-tech nodes, these affluent knowledge workers displace low and moderate-income groups in a process of gentrification. It is very difficult to disperse New Economy companies to housing-rich areas because of their tendency to coalesce and their high priority placed on locating in culturally rich urban environments. In the SCAG Region, high-tech clusters are located predominantly in coastal locations.

The other trend that runs counter to achieving jobs/housing balance is the "fiscalization of land use." State tax law has created competition among cities for sales tax-generating commercial uses of land. Because of limitations on property tax revenues, cities place lower priority on accommodating residential development, and higher priority on sales tax generating uses. This has greatly contributed to a trend of housing production lagging job growth and population increases. In combination with community apprehension over multifamily housing, a shortage of vacant land for housing in urban areas, and construction defect litigation problems, the fiscalization of land use makes it very difficult to implement strategies for promoting infill housing that is affordable to low and moderate-income workers. Many service and blue-collar workers, along with moderate-income white-collar workers employed in and around high-tech nodes, are consequently forced to commute long distances from areas where they can find affordable homes.

To help alleviate problems associated with jobs/housing imbalance, policy makers can look to both conventional and New Economy mechanisms to spur housing development in job-rich areas, and well-paying job creation in housing-rich areas. To encourage housing production, this paper presents the following strategies for policy makers:

- Alleviate roadblocks in building infill housing and in converting brownfield sites to housing
- Encourage transit-oriented development
- Reevaluate zoning policies and rewrite zoning ordinances to make more land available for housing construction
- Institute appropriate state and local finance reform that will help increase incentives for housing production by returning property taxes to local governments and reducing competition among jurisdictions for sales tax generating land uses.

New Economy jobs in the high-tech fields pay high salaries. To encourage the development and growth of these companies in housing-rich areas, this paper offers the following strategies to policy makers

- Target education and research toward new economy jobs through research parks
- Institute community–based job training programs to train and retrain workers for new economy jobs
- Promote and cultivate venture capital investment
- Sponsor business incubation programs
- Invest in telecommunications, specifically fiber optic investments
- Promote airport construction and development

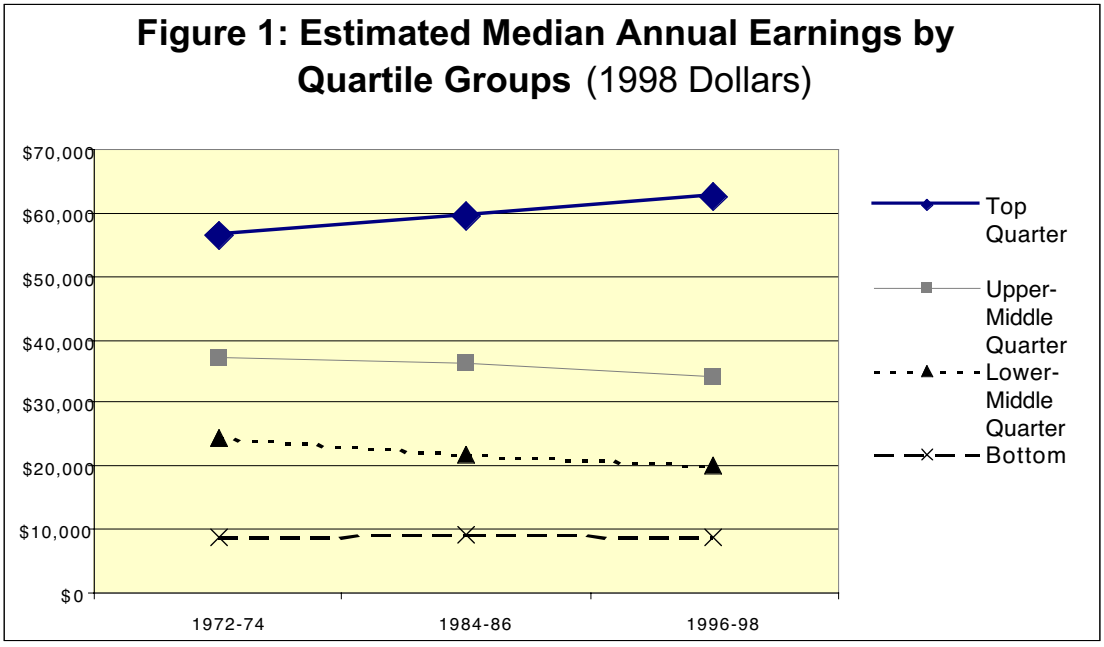
High technology companies demand educated employees. This may require colleges and universities to redirect their training efforts, and primary and secondary schooling to better prepare their students before they get to college. High technology companies also need access to venture capital investments and a place to grow. University-affiliated research parks and other incubation centers offer places to develop new high-tech businesses. Public investments in fiber optic cable can make areas more attractive to New Economy firms. High technology firms require reliable air travel, both commercial and air cargo, to move their employees and their products quickly throughout the world. Developing and expanding airports in outlying areas can help spread New Economy companies across the region.

Old economy jobs are expanding into the Inland Empire. Whether or not people living there will work in these jobs or continue to commute to jobs closer to the coast remains to be seen. New Economy jobs are beginning to move inland, but this change will take time to have a substantial impact. Meanwhile, the housing crisis is worsening.

There needs to be a two-pronged approach to addressing regional jobs/housing imbalance. Affordable housing is in desperate demand in northern Orange County and southern Los Angeles County. High paying jobs are needed particularly in the Inland Empire and other outlying areas where higher incomes are needed for workers to purchase the housing that is being constructed. Using a variety of conventional and innovative new strategies, policy makers can begin to address problems associated with regional jobs/housing imbalance.

I. INTRODUCTION

The issue of the geographic balance between the location of jobs and housing in a region has attracted considerable attention in California. Since 1972, the median annual earnings of the top quartile in the SCAG region have surged upward, while the median annual earnings of the two middle quartile groups decreased with the expanding economy and population (Figure 1). Housing prices in the jobs-rich coastal areas have soared, forcing many of the bottom 75% of the region's earners to search for affordable housing in outlying areas such as northern Los Angeles County and the Inland Empire. Residents of the region not only have to contend with mounting traffic congestion and commute times, but they find it increasingly difficult to find affordable housing in proximity to their employment. This problem has become particularly acute in the San Francisco Bay Area, but afflicts the SCAG Region as well.



Source: Ong 2000.

The purpose of this paper is to provide a brief overview of the causes and impacts of the job/housing balance problem, and to document the extent of the problem in the SCAG Region. It also recommends potential strategies that can be applied on both regional and local levels to help bring the future production of jobs and housing into greater balance among all subregions. Further research is needed to determine which of the recommended strategies may be most appropriate for different cities and subregions within the SCAG region.

A distinct focus of the paper is an examination of the high-tech New Economy and its impacts on jobs/housing patterns in the region, and strategies that can spread the benefits of the New Economy to areas in the region with high housing availability but relatively little high-tech employment. Subregions may use this paper as a guide as they apply for funds from HCD to address the jobs/housing imbalance in their subregion.

The data used in the analyses in this report are from SCAG's Draft 2001 Regional Transportation Plan (RTP). These numbers are displayed in Table 1. Two of these analyses use Regional Statistical Areas (RSAs) as the unit of measurement for the analysis. Table 2 lists the RSAs located within each subregion. The federal government devised the RSAs for the 1960 census to reflect economic development areas. Counties influenced their configuration as the RSAs were based on countywide planning areas. The boundaries were drawn coterminous with census tract boundaries without splitting them. The RSAs are used in report summary preparation and have become a common statistical reporting configuration. The boundaries have remained the same because there has been a strong desire to have continuity in the geographic frame of reference. The consistent boundaries allow planners to keep comparisons with historic data.

Table 1

Population, Households, and Employment for the SCAG Region, 1997 Base Year and 2025 Projections, as Used in the Draft 2001 RTP

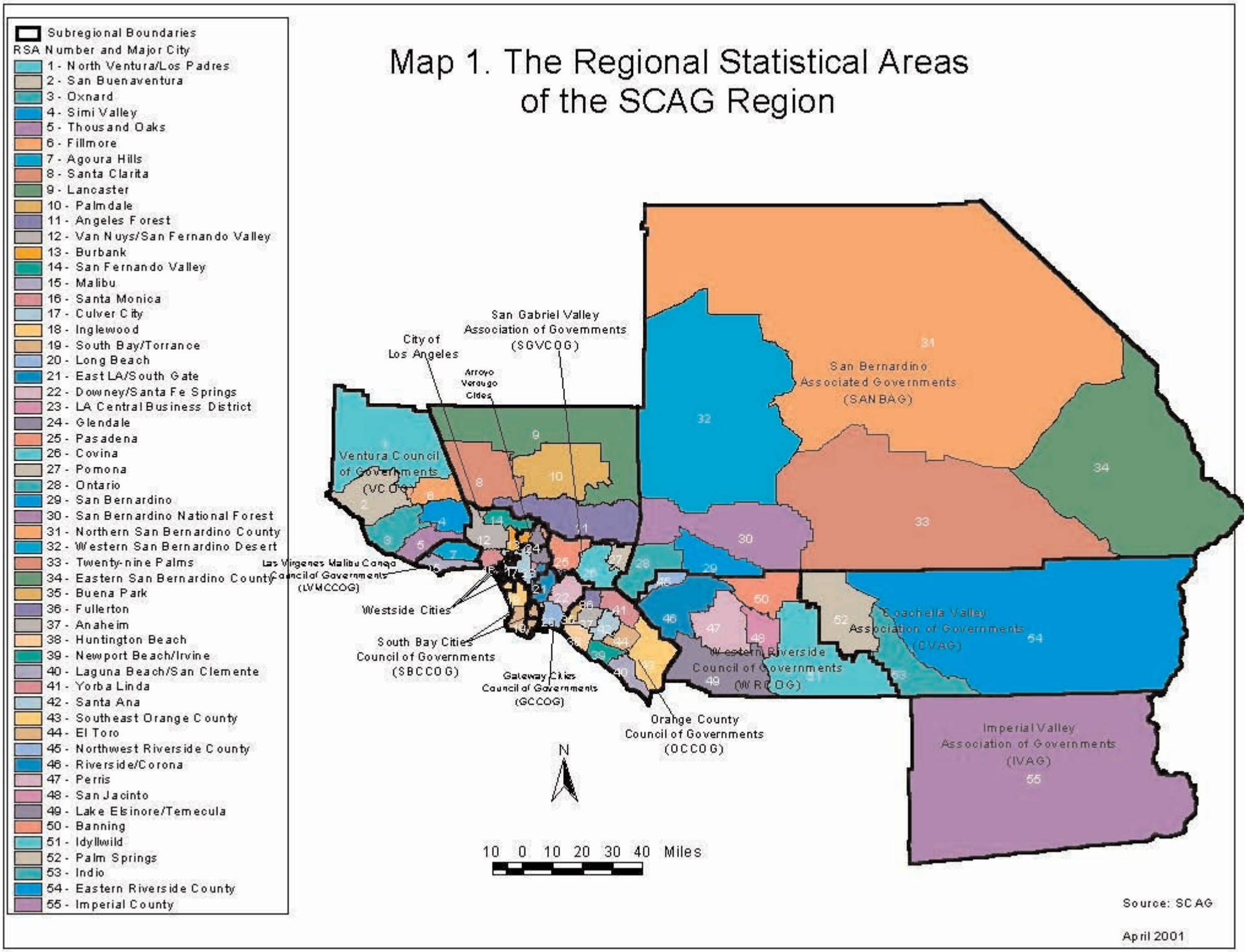
Subregion	Population 1997	Population 2025	Households 1997	Households 2025	Employment 1997	Employment 2025
Imperial Valley Association of Governments	141,596	317,733	38,384	97,883	55,572	94,064
Arroyo Verdugo Cities	391,556	480,849	142,004	180,071	180,717	268,172
Gateway Cities Council of Governments	1,982,922	2,308,667	570,714	641,168	784,127	987,956
Las Virgenes Malibu Conejo Council of Governmer	77,244	98,123	27,127	36,855	39,524	45,150
City of Los Angeles	3,733,427	4,876,537	1,251,722	1,769,462	1,700,941	2,060,085
North Los Angeles County	502,409	1,268,768	153,943	444,731	136,472	304,163
San Gabriel Valley Council of Governments	1,763,554	2,141,654	519,104	606,177	689,846	845,524
South Bay Cities Council of Governments	852,829	915,002	294,034	319,219	404,512	510,526
Westside Cities	233,170	248,865	112,064	121,088	222,536	269,335
Orange County Council of Governments	2,699,911	3,416,034	887,888	1,068,049	1,341,203	2,043,665
Coachella Valley Association of Governments	329,134	600,708	113,749	212,470	119,194	205,741
Western Riverside Council of Governments	1,090,132	2,232,981	349,078	721,423	311,622	800,676
San Bernardino Associated Governments	1,613,419	2,786,936	508,551	880,965	510,695	1,085,706
Ventura Council of Governments	725,914	951,080	232,831	309,209	290,779	431,501
Subregion	**16,137,217**	**22,643,937**	**5,201,193**	**7,408,770**	**6,787,740**	**9,952,264**
Source: SCAG Draft 2001 RTP						

Table 2

Regional Statistical Areas within Each Subregion

Subregion	RSAs within Each Subregion
Imperial Valley Association of Governments	55
Arroyo Verdugo Cities	13, 24, 25
Gateway Cities Council of Governments	19, 20, 21, 22
Las Virgenes Malibu Conejo Council of Governments	7, 15
City of Los Angeles	12, 13, 14, 16, 17, 18, 19, 21, 23
North Los Angeles County	8, 9, 10, 11
San Gabriel Valley Council of Governments	11, 21, 25, 26, 27
South Bay Cities Council of Governments	18, 19, 21
Westside Cities	16, 17
Orange County Council of Governments	35, 36, 37, 38, 39, 40, 41, 42, 43, 44
Coachella Valley Association of Governments	52, 53, 54
Western Riverside Council of Governments	45, 46, 47, 48, 49, 50, 51
San Bernardino Associated Governments	28, 29, 30, 31, 32, 33, 34
Ventura Council of Governments	1, 2, 3, 4, 5, 6
Source: SCAG	

Map 1. The Regional Statistical Areas of the SCAG Region



In this report, we are using these geographies because they help paint a clearer picture of future trends while keeping the historical perspective of past analyses. Table 2 displays the RSAs located within each subregion. Table 3, located in the appendix, lists the cities within each RSA. Map 1 portrays the location of each RSA. Recognizing that the RSA boundaries include jobs-rich cities with housing-rich cities, a summary of current (1997 base year) population, employment, and households is included in the Appendix as Table 4.

II. DEFINITION OF JOBS/HOUSING BALANCE

Defining what constitutes a balance between jobs and housing is not an easy task. Assuming a simple ratio of to one job to one household is inappropriate to modern economies that have many households with more than one person in the workforce. Another definition states "balance occurs when both the quality and the quantity of housing opportunities match the job opportunities within an area" (California Planning Roundtable 1988, 16).

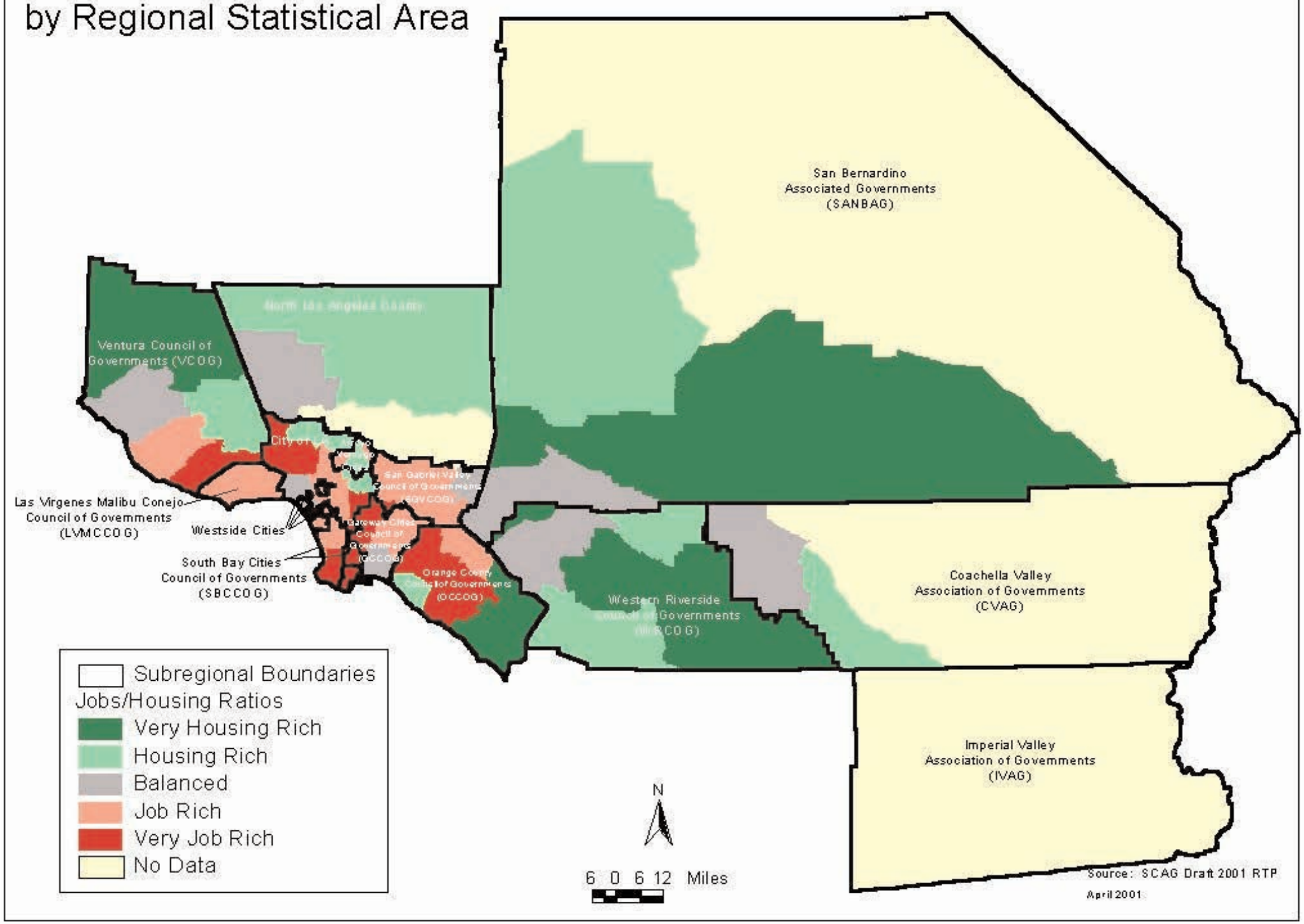
In this paper, a balance between jobs and housing in a metropolitan region can be defined as a provision of an adequate supply of housing to house workers employed in a defined area (i.e., community or subregion). Alternatively, a jobs/housing balance can be defined as an adequate provision of employment in a defined area that generates enough local workers to fill the housing supply. The definition of an area can be stated in terms of an optimal "commute shed" around employment centers that conforms to expressed commuter preferences about home-to-work commute distances. According to a 1990 survey of public opinions about jobs/housing balance and urban form, the expressed ideal commute time (one way) for workers in the region is 14 minutes (Southern California Association of Governments (SCAG) 1990). The average time people said it actually took them to travel from home to work in 1990, at the beginning of a major recession, was 24 minutes. There was very little support for commute times over 30 minutes. According to data collected in 1999, the average commute speed in the region was 28.4 mph (SCAG 1999). For a maximum commute of 30 minutes, this translates to commute sheds having radii of about 14 miles around employment centers.

The current (1997) regional average ratio of jobs to households is 1.25 jobs per household (a household is defined as an occupied housing unit). Therefore, jobs/housing balance for this region can be defined as an area extending about 14 miles around an employment center with a ratio between jobs and household on the order of 1.0-1.29 jobs per household. This ratio is the current (1997) range of jobs/housing ratios for the middle 20% of the SCAG region. Job centers vary by size and are not evenly dispersed throughout the region, and congestion and average commute times also vary by location (and will change in the future). However the area or "commute shed" is defined, if it has a jobs to household ratio that significantly differs from the 1.0 to 1.29 standard, than it can be considered out of balance.

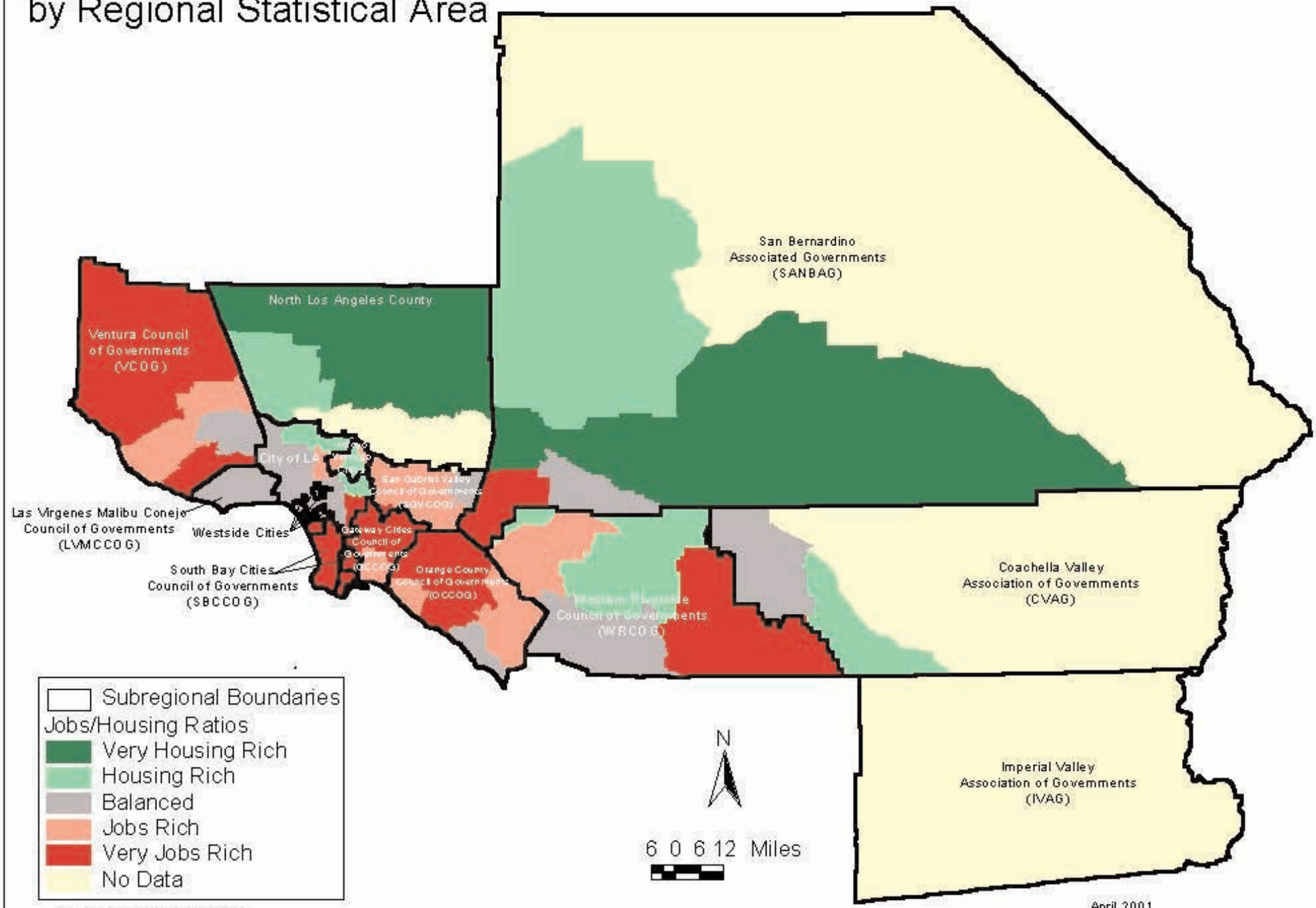
Maps 2 and 3 display current and forecast jobs/housing ratios by the 55 regional statistical areas (RSAs) in the region. They show that in general, jobs-rich areas currently (1997) are located in the highly urbanized areas in the western portion of the region, primarily in southern and western Los Angeles County, and in central and northern Orange County. Housing-rich areas are in the suburban eastern and northern portions of the region. By 2025, it is forecast that both job and housing growth will spread outwardly, tilting some housing-rich or balanced areas around jobs-rich areas towards being more jobs-rich, and tilting areas on the very northern and eastern peripheries of the region towards being even more housing-rich. A more detailed discussion of this analysis can be found in Section IV.

The impacts on commuting resulting from these regional imbalances between jobs and housing are shown in Tables 5 and 6. Table 5 displays the percentage of workers from each county in the

Map 2. Jobs/Housing Balance in the SCAG Region - 1997 by Regional Statistical Area



Map 3. Projected Jobs/Housing Balance in the SCAG Region - 2025 by Regional Statistical Area



region who work in counties that are different from the county in which they live. It shows that the most housing-rich counties, San Bernardino and Riverside, have the lowest percentage of workers who both live and work in the county – 68%. Table 6 shows home-to-work commute distances by county of trip origination as of 1999. Again, the most housing-rich counties house workers that have the longest commute distances – over twenty-one miles. Given an average current commute speed of 28.4 miles per hour, this translates to an average one-way commute time of about forty-five minutes.

Table 5

Home Based Work Person Trip Distribution

From/To	Los Angeles	Orange	Riverside	San Bernardino	Ventura	Total Productions
Los Angeles	4,576,759	219,753	4,432	42,001	37,474	4,880,419
	93.78%	4.50%	0.09%	0.86%	0.77%	100.00%
Orange	389,168	1,308,649	10,345	12,064	8	1,720,234
	22.63%	76.07%	0.60%	0.70%	0.00%	100.00%
Riverside	51,283	68,904	436,945	99,607	32	656,771
	7.81%	10.49%	66.53%	15.17%	0.00%	100.00%
San Bernardino	154,214	44,685	76,664	519,774	175	795,512
	19.39%	5.62%	9.64%	65.34%	0.02%	100.00%
Ventura	109,597	245	0	90	317,391	427,323
	25.66%	0.06%	0.00%	0.02%	74.26%	100.00%
Total Attractions	5,281,221	1,645,236	528,389	673,536	354,880	8,480,259
	62.28%	19.37%	6.23%	7.94%	4.18%	100.00%

Table 6

Average Home to Work Commute Distance (By County), 1999

County	Miles
Riverside	21.6
San Bernardino	21.3
Ventura	16.3
Orange	16.1
Los Angeles	14.9
Imperial	14.5

Source: SCAG,State of the Commute Report, 1999.

III. BENEFITS OF JOBS/HOUSING BALANCE

Achieving an ideal geographic relationship between the provision of jobs and housing in local communities can produce a myriad of measurable and perceived benefits for the region as a whole. These would include:

A. Reduced Congestion and Commute Times

The opportunity to live close to the workplace afforded by providing housing close to well paying jobs translates to lower congestion and commute times by eliminating the necessity for long-distance commutes. It also provides increase opportunities to use transit, bike, or walk to work in lieu of driving. Of course, placing housing in close proximity to employment is no guarantee that those who live in the housing will work at the nearby jobs, or vice versa. This would be particularly true for two income households who split the difference between the locations of their two employment destinations in choosing where to live. It does, however, eliminate barriers for those who wish to live close to work, and reduce the need for long-distance commuting and the congestion it contributes to the regional highway system. In SCAG's 1990 survey of attitudes about job/housing balance, 44% of respondents wished that their home and their workplace were closer together.

B. Air Quality Benefits

As the need for driving long distances is reduced by greater jobs/housing balance, so are the emissions associated with driving that impairs the attainment of clean air. SCAG's 1989 *Regional Growth Management Plan* evaluated a regional jobs/housing strategy that assumed the redistribution of 9% of the region's forecast employment growth to the year 2010 from jobs-rich to job-poor areas, and 5% of the forecast housing growth from housing-rich to housing-poor areas. This strategy was estimated to reduce regional vehicle-miles-traveled (VMT) by 33.4 million miles (8.5%), vehicle-hours-traveled (VHT) by 7.2 million hours (37%) and reactive organic gases (ROG) by 45.5 tons. This jobs/housing strategy alone achieved 33% of all ROG reductions targeted to be accomplished by all transportation, land use and energy conservation measures.

C. Economic and Fiscal Benefits

Since the successful implementation of job/housing balance strategies result in less need for long-distance commuting and associated congestion, fewer public resources would be required for congestion mitigation improvements to the regional transportation system. Also, the reduced hours spent in long-distance travel by commuters translates to lower fuel costs and other automobile-related expenses, lower costs to employers in terms of reduced employee tardiness and higher productivity, and lower business trip costs. Further, since jobs/housing balance implies a more compact urban form with less suburban sprawl, the cost to local government of providing new facilities and services to new development is less since those facilities and services can be provided more efficiently.

D. Quality of Life Benefits

All of the benefits of achieving greater jobs/housing balance cited above will confer a higher quality of life for residents in the region. Quality of life benefits include cleaner air, reduced stress in commuting, and more leisure time. Families can be negatively impacted when its members are under the stress and strain of long commutes. The family in which both parents work is becoming the norm; longer commutes take time away from home and family members, result in higher child care expenses and reduce leisure and recreation time. The added financial and emotional pressures on the family can cause tension between family members. Increased job/housing balance can therefore contribute to greater family stability and cohesion.

A good geographic balance between jobs and housing also implies a more diverse, compact, and convenient urban form, without the strict segregation of land uses found in many suburban areas. Quality of life is maximized for all population groups where available housing types are well matched with the wage stratification of local employment. In general, people associate diverse urban settings that are affordable and accessible to a broad range of people with cultural richness. They have increasingly negative attitudes about working and living in environments that are uniformly homogenous and lack opportunities for a variety of experiences. As discussed in section V of this report, employees of high-tech New Economy firms are particularly attracted to culturally diverse urban environments. Paradoxically, however, the dominating impact of New Economy firms on cities that they favor can diminish the cultural diversity of those cities, and create severe problems associated with jobs/housing balance.

IV. ANALYSIS OF REGIONAL JOBS/HOUSING BALANCE ISSUES

This section presents the findings from three analyses used to first measure the jobs/housing balance in the region and second, examine how the jobs/housing balance affects the region's ability to house its future population. Thirdly, the report views the jobs/housing balance in terms of current and planned future land use patterns. The methodology and limitations of each analysis are detailed in the appendix of the report. The three analyses in this section include:

- Current and forecast jobs/housing balance ratios by regional statistical area (RSA); and
- A household growth and jobs/household growth "footprint" to determine the amount of land necessary to house the future population; and
- A comparison of ratios of current employment to residential land use patterns versus the land use patterns of vacant land that is zoned for employment to residential uses.

A. Current (1997) and Forecast (2025) Jobs/Housing Ratios

1. Overview

This analysis depicts current (1997) and forecast (2025) jobs housing ratios by Regional Statistical Area (RSA) SCAG estimated current employment and housing by RSA using state employment and housing data (Employment Development Department and Department of Finance). SCAG generated forecast data using macro-level statistical models supplemented by local input. Map 2 displays the areas that were housing rich, jobs rich, or relatively balanced in 1997, while Map 3 displays forecast jobs/housing ratios for 2025. Map 4 depicts the change in the ratios over this time period. It displays which areas are expected to have an increase in housing, an increase in jobs, or have a jobs/housing ratio that remains relatively similar to the 1997 ratio. As further explained in the appendix, this paper defines "balanced" RSA ratios as those falling within the middle 20% of the fifty-five RSA ratios for 1997. Tables 7-11 depict the top ten RSAs in actual numbers of jobs and actual numbers of households for 1997 and 2025.

2. Analysis Results

The map of the jobs/housing ratios for 1997 (Map 2) shows the dichotomy between the western and eastern portions of the SCAG region. Jobs are concentrated primarily in Los Angeles and Orange Counties. The top ten RSAs in terms of number of jobs are in these two counties, with nine of them in Los Angeles County (Table 3).

Table 7

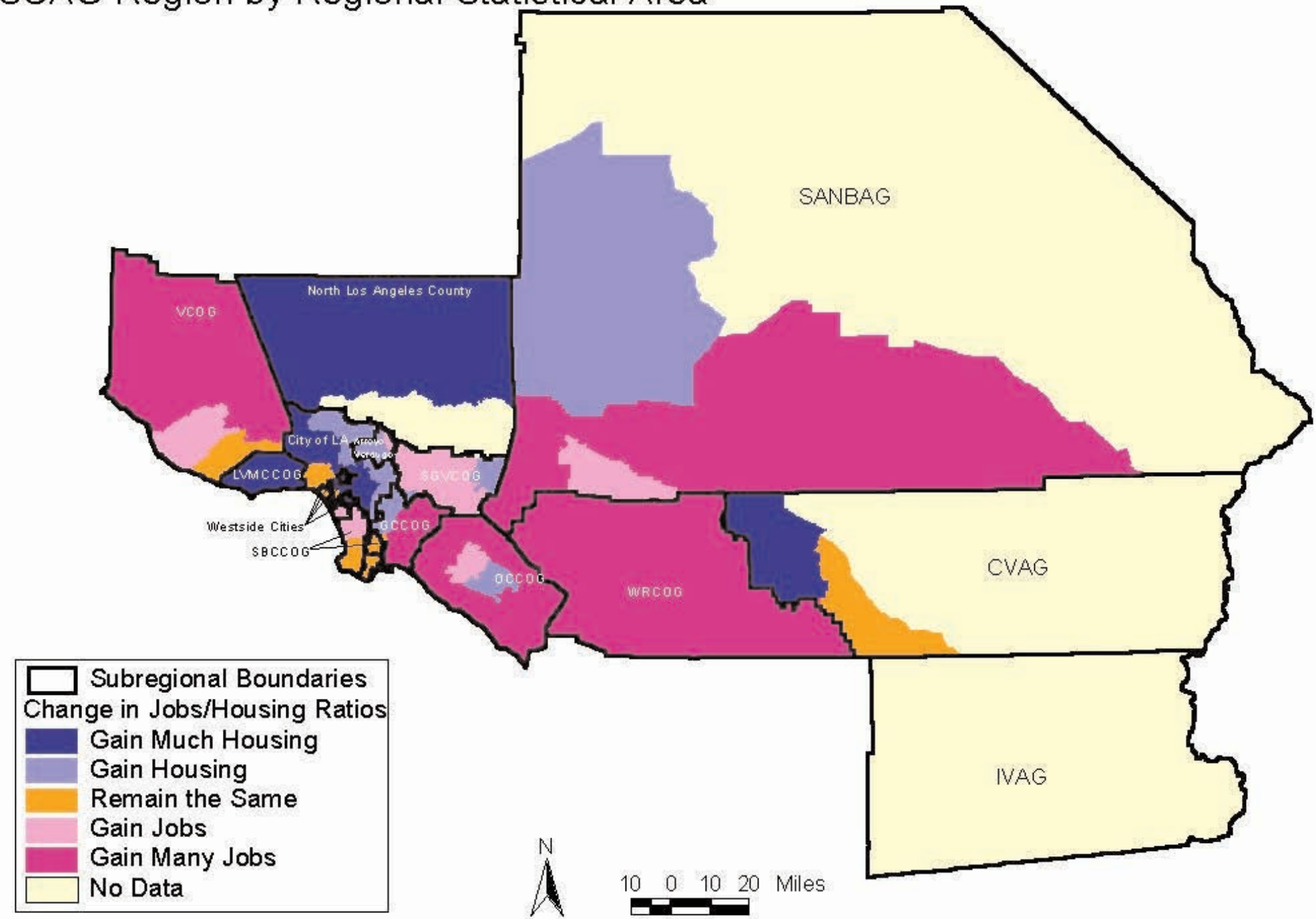
Top 10 Job Regions 1997, by RSA

RSA	Major City/Region	1997Jobs (In 1,0
17	Culver City/ West LA	594
21	South Gate/ Gateway Cities	461
12	San Fernando Valley	399
25	Pasadena	354
42	Santa Ana	316
18	South Bay	313
22	Downey	286
23	LA CBD	270
19	Torrance	254
26	Covina	252

Source: SCAG Draft 2001 RTP

Note: RSAs are not equal in size and, geographically, may be very large or sm depending on the variables used in defining these statistical areas.

Map 4. Change in Jobs/Housing Ratios between 1997 and 2025 in the SCAG Region by Regional Statistical Area



Source: SCAG 2001 Draft RTP (

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RSAs with high jobs/housing ratios in 1997 are termed "jobs-rich" and include:

- Central and southern Los Angeles County, including the Central Business District of Los Angeles, the San Fernando Valley, the South Bay, and many of the industrial cities in the Gateway Cities subregion
- Northern Orange County
- Ventura County along the 101 Freeway corridor

RSAs with low jobs/housing ratios in 1997 are termed "housing-rich" and include:

- North Los Angeles County
- Eastern and southern Orange County
- The Inland Empire

The picture changes somewhat in the forecast for 2025 (Map 3). The Ontario RSA is forecast to have tremendous job growth. It is forecast to move from eleventh place to third place in terms of the greatest number of jobs in an RSA (Table 8 and Map 5 and 6). The Riverside/Corona RSA jumps to seventh place from fifteenth, and the San Bernardino RSA moves from thirteenth place to ninth place in the rankings during the twenty-five year period (Table 8). Los Angeles County is forecast to have six RSAs in the top ten for number of jobs in 2025.

Table 8

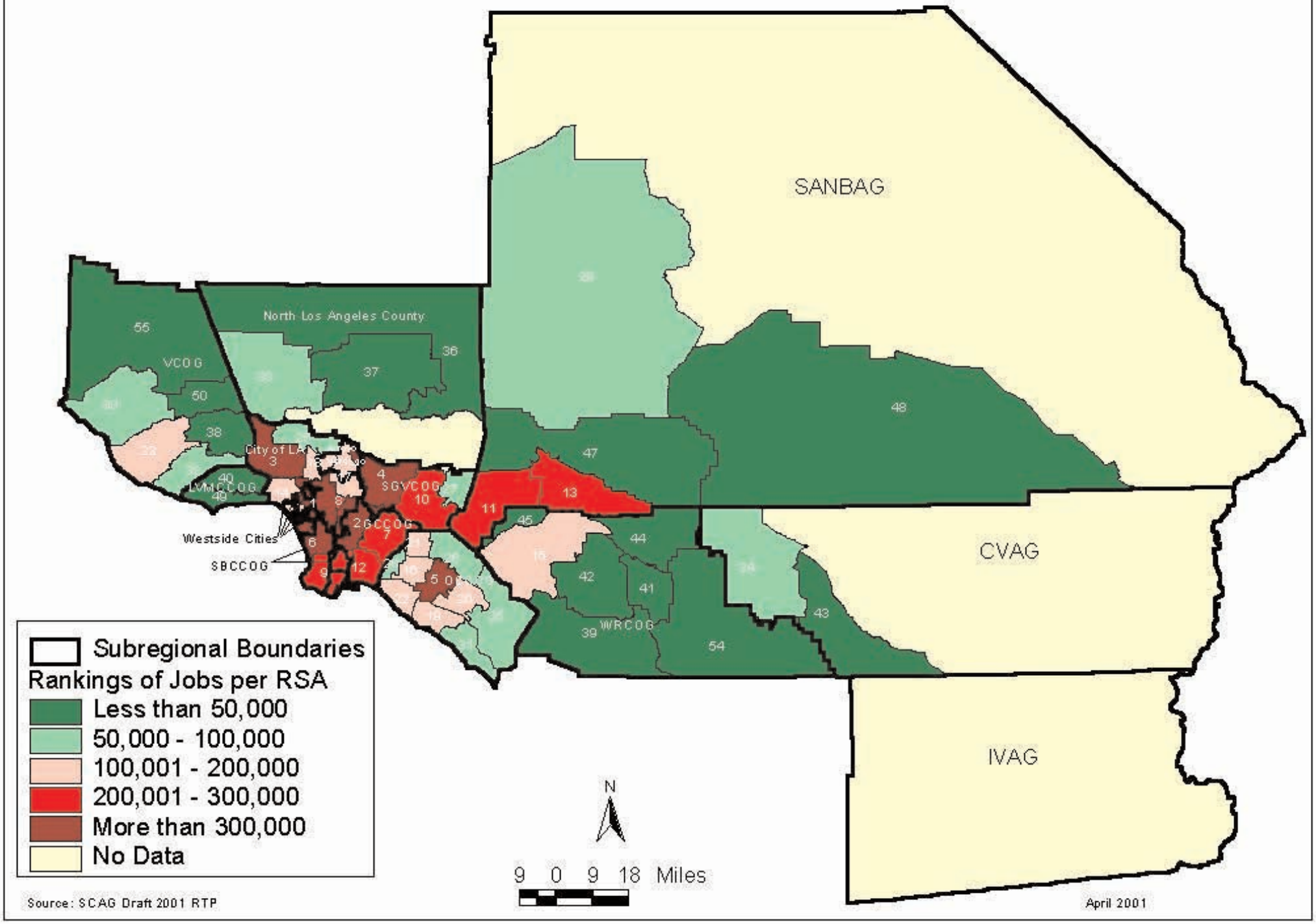
Top 10 Job Regions 2025, by RSA

RSA	Major City/Region	2025 Jobs (In 1,000s)
17	Culver City/West LA	706
21	South Gate/Gateway Cities	537
28	Ontario	493
12	San Fernando Valley	459
25	Pasadena	440
42	Santa Ana	409
46	Riverside/Corona	385
18	South Bay	375
29	San Bernardino City	367
22	Downey	348

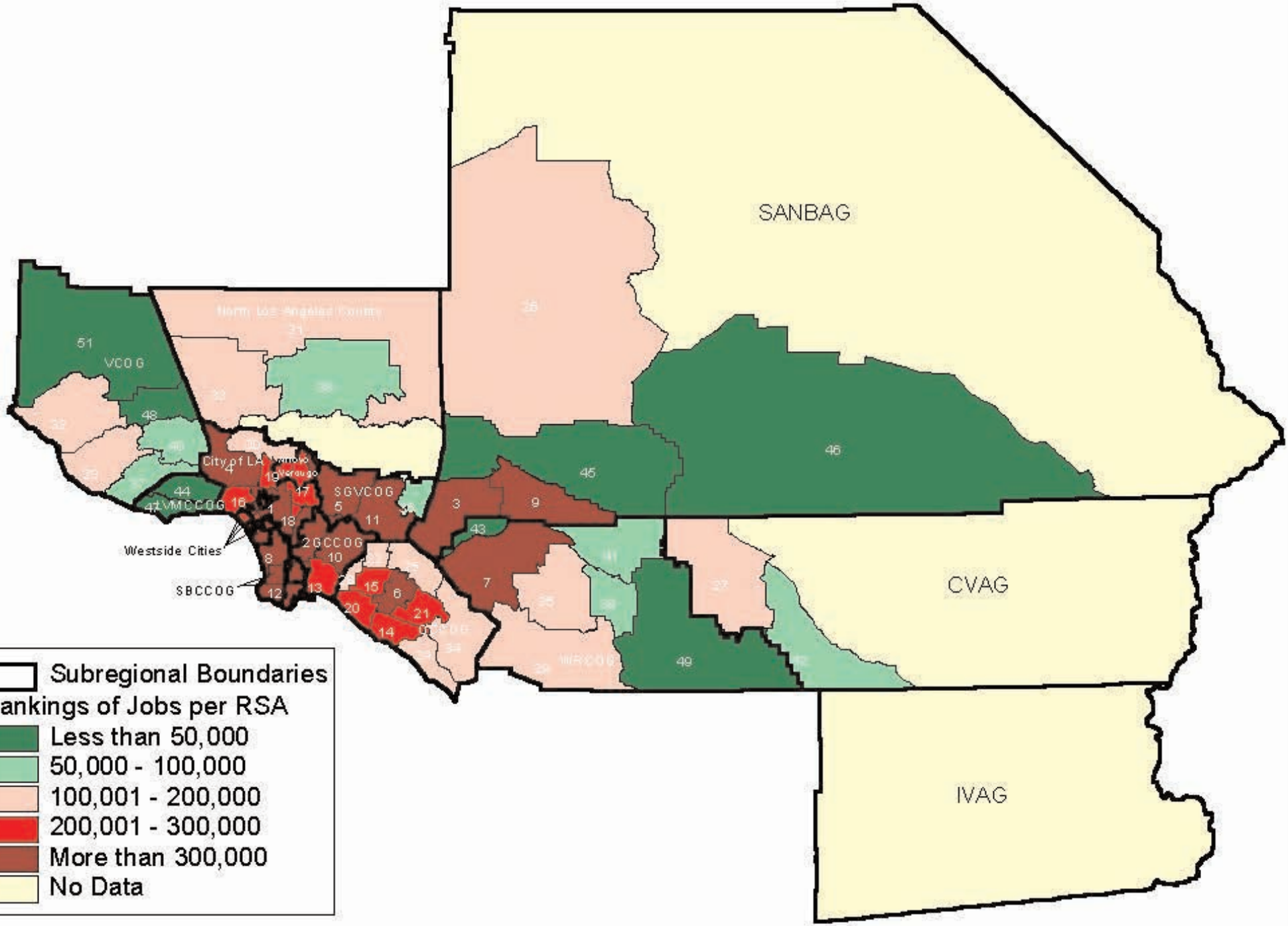
Source: SCAG Draft 2001 RTP

Almost all of Orange County is projected to be jobs-rich if not very jobs-rich in 2025. Looking at the actual number of households versus the actual number of jobs in 2025, it is evident that Orange County is not adding enough housing to adequately house all of the county's workers. While the Santa Ana RSA ranks fifth in jobs in 1997, it ranks fifteenth in housing (Table 5). Its jobs ranking remains the same in 2025, while its housing ranking *decreases* to seventeenth as the jobs/housing imbalance worsens.

Map 5. Jobs per Regional Statistical Area - 1997, with Rankings



Map 6. Projected Jobs per Regional Statistical Area - 2025, with Rankings



Source: SCAG Draft 2001 RTP

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Table 9 displays the RSAs that have a jobs ranking that is four or more places higher than its household ranking, in 2025. The Central Business District of Los Angeles has the greatest difference between rankings. The next six on this list are in Orange County. Housing production is not keeping up with job production. The household rank falls in every RSA in Orange County between 1997 and 2025, with the exception of the El Toro RSA, which keeps the same low rank of 40 (Table 9). With the difference between jobs rankings and household rankings increasing significantly between 1997 and 2025 in five RSAs in Orange County, it is clear that the jobs/housing imbalance will worsen in Orange County in the next twenty-five years. The Orange County Council of Governments (OCCOG) acknowledges this fact in their *Orange County Projections –2000*. In this report, OCCOG staff observes that "The draft projections have the number of workers increasing by approximately 283,000, while the number of jobs will grow by 510,000. Thus, more and more workers will need to be imported from other areas within the region, primarily from the Inland Empire" (Gayk 2000).

Table 9

RSAs with Jobs Rankings 4 Places or Higher than Household Rankings

Jobs Rank 1997	Household Rank 1997	Jobs Rank 2025	Household Rank 2025	RSA	City/Region
8	38	18	38	23	LA CBD
20	40	21	40	44	El Toro
19	22	14	29	39	Newport Beach/Irvine
5	15	6	17	42	Santa Ana
21	26	22	32	36	Fullerton
26	28	25	35	41	Yorba Linda
28	31	28	36	35	Buena Park
32	37	37	43	5	Thousand Oaks
16	18	15	20	37	Anaheim
23	23	23	27	3	Oxnard

Source: SCAG Draft 2001 RTP

Orange County is not the only area where the rankings differ by three or more. The Conejo Valley has a disparity between jobs and housing as the Thousand Oaks and Oxnard RSAs appear on the list. It should be noted that these three RSAs, while unbalanced with more jobs than housing, are unbalanced on a smaller scale than the other RSAs on this list. The imbalance is between a much smaller number of jobs and housing than the other examples in Los Angeles and Orange Counties.

These areas with disparities between the number of jobs and the number of housing units coincide with distribution of venture capital investments in the region. Los Angeles receives the greatest amount of venture capital investment, and the Central Business District has the greatest difference between jobs ranking and household ranking. Irvine ranks third in the region in investments received, with Costa Mesa and Brea also in the top ten. This coincides with so much of Orange County having a great disparity between the number of jobs and the number of households. The Conejo Valley has high technology companies of the new economy that receive large amounts of funding as well. The new economy brings high paying jobs. In these ten RSAs listed in Table 9, however, the boom in jobs has not resulted in a boom in housing production. This will be discussed in much greater detail in Section V.

Map 4, displaying the amount of change of the ratios between 1997 and 2025 suggests further suburbanization from the Los Angeles core. The Inland Empire, by and large, will gain many jobs in the next twenty-five years. Western Riverside County will gain many jobs, while the Coachella Valley will continue to be housing rich. By and large, San Bernardino County will also gain jobs. Orange County will produce many jobs throughout the county. North Los Angeles County will become even more housing rich and much of western Los Angeles County will add housing relative to jobs. Ventura County will gain many jobs.

Even with the job growth, some inland areas will still have more housing than jobs. RSAs with low jobs/housing ratios in 2025 include:

- Inland Empire RSAs of Perris, Banning, San Jacinto, Indio, Chino Hills, Victorville and mountainous RSAs in San Bernardino County,
- North Los Angeles County

Even though jobs are increasing in northern Los Angeles County, this subregion will see a greater increase in housing. In the central part of the county, there has been a renaissance in downtown living in the central business district of Los Angeles as historic buildings and office space are converted to apartments and lofts (Skelley 2000, Dublin 2000). More housing will be built in order to house the ever-growing population of the county. The City of Los Angeles projects that its jobs/housing ratio will fall from 1.41 in 1997 to 1.16 in 2025. This decline in the jobs/housing ratio shows that more people will live in Los Angeles City and that the suburbanization of jobs will continue as jobs move to Orange County and the Inland Empire from Los Angeles City. As discussed below, this implies substantial infill housing development in the City of Los Angeles due to a lack of raw, developable land within city boundaries.

RSAs with high jobs/housing ratios in 2025 include:

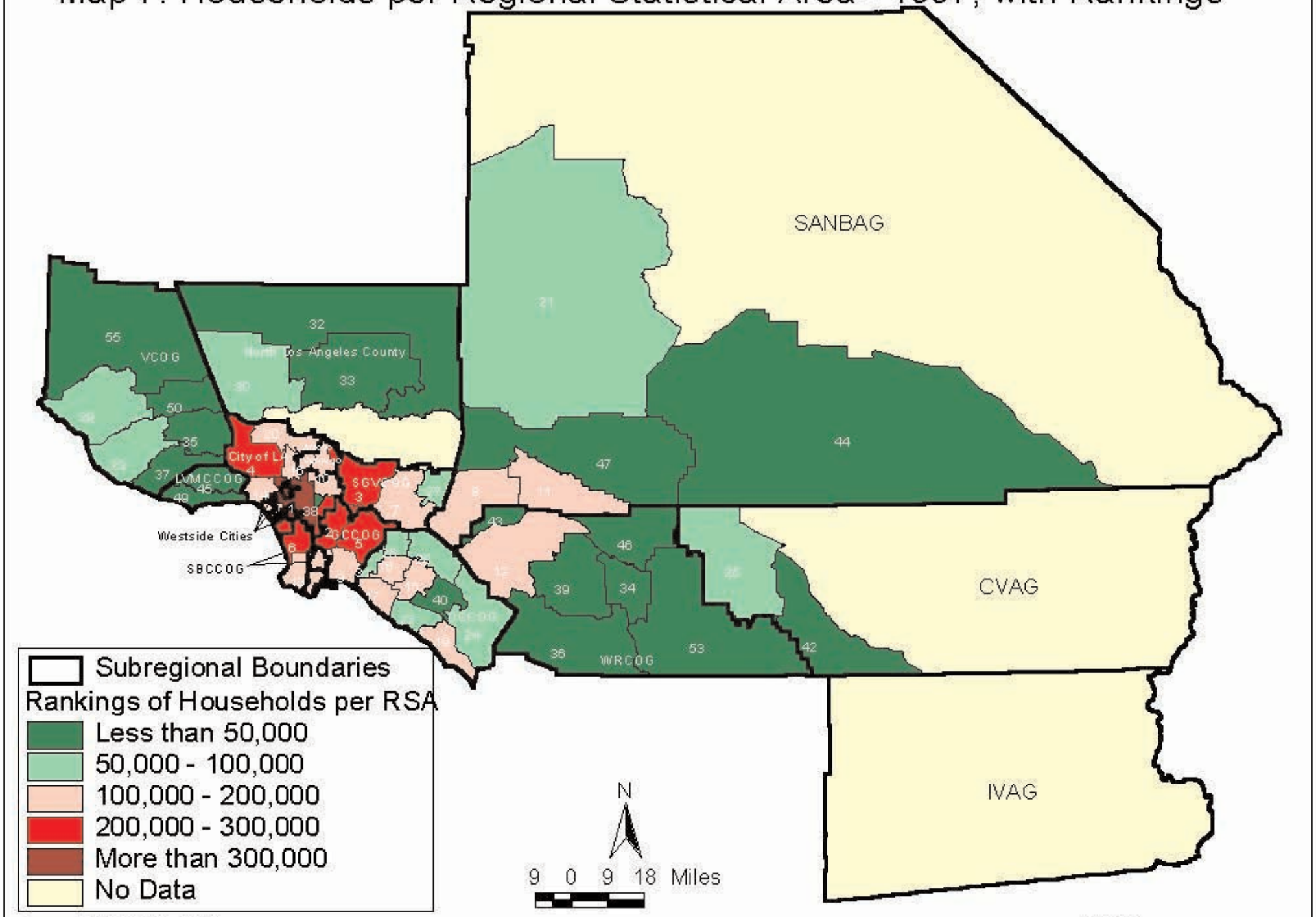
- The Central Business District of Los Angeles
- Southern Los Angeles County
- All of Orange County, with the exception of the Laguna Beach/San Clemente RSA
- Southern Ventura County
- Ontario in San Bernardino County

Table 10		
Top 10 Household Regions 1997, by RSA		
RSA	Major City/Region	1997 Households (In 1,000s)
17	Culver City/West LA	446
21	South Gate/Gateway	269
25	Pasadena	267
12	San Fernando Valley	257
22	Downey	218
18	South Bay	215
26	Covina	191
28	Ontario	190
20	Long Beach	185
24	Glendale	184
Source: SCAG Draft 2001 RTP		

The Culver City/ West Los Angeles RSA has a balanced jobs/housing ratio in 2025. This RSA holds the largest number of jobs in the region (Table 8) and at the same time it holds the largest number of households (Table 11). Southern RSAs in Ventura County project high jobs/housing ratios in 2025. The rankings of these RSAs, displayed in Maps 5 and 8, show that these RSAs have far fewer jobs and households than some of the "balanced" areas such as Culver City. Even though Ventura County has larger ratios than Culver City, Culver City employs and houses far more people than any one RSA in Ventura County. Maps 5 through 8 as well as Tables 8-11 are included to illustrate the importance of each RSA in relation to the rest of the region. In summary, jobs/housing imbalance is forecast to remain a problem throughout much of the region despite some shifting demographics.

Table 11		
Top 10 Household Regions 2025, by RSA		
RSA	Major City/Region	2025 Households (In 1,000s)
17	Culver City/ West LA	599
12	San Fernando Valley	364
21	South Gate/ Gateway Cities	343
25	Pasadena	313
29	San Bernardino City	305
28	Ontario	299
46	Riverside/Corona	286
24	Glendale	247
18	South Bay	244
22	Downey	239
Source: SCAG Draft 2001 RTP		

Map 7. Households per Regional Statistical Area - 1997, with Rankings



Source: SCAG 2001 Draft RTP

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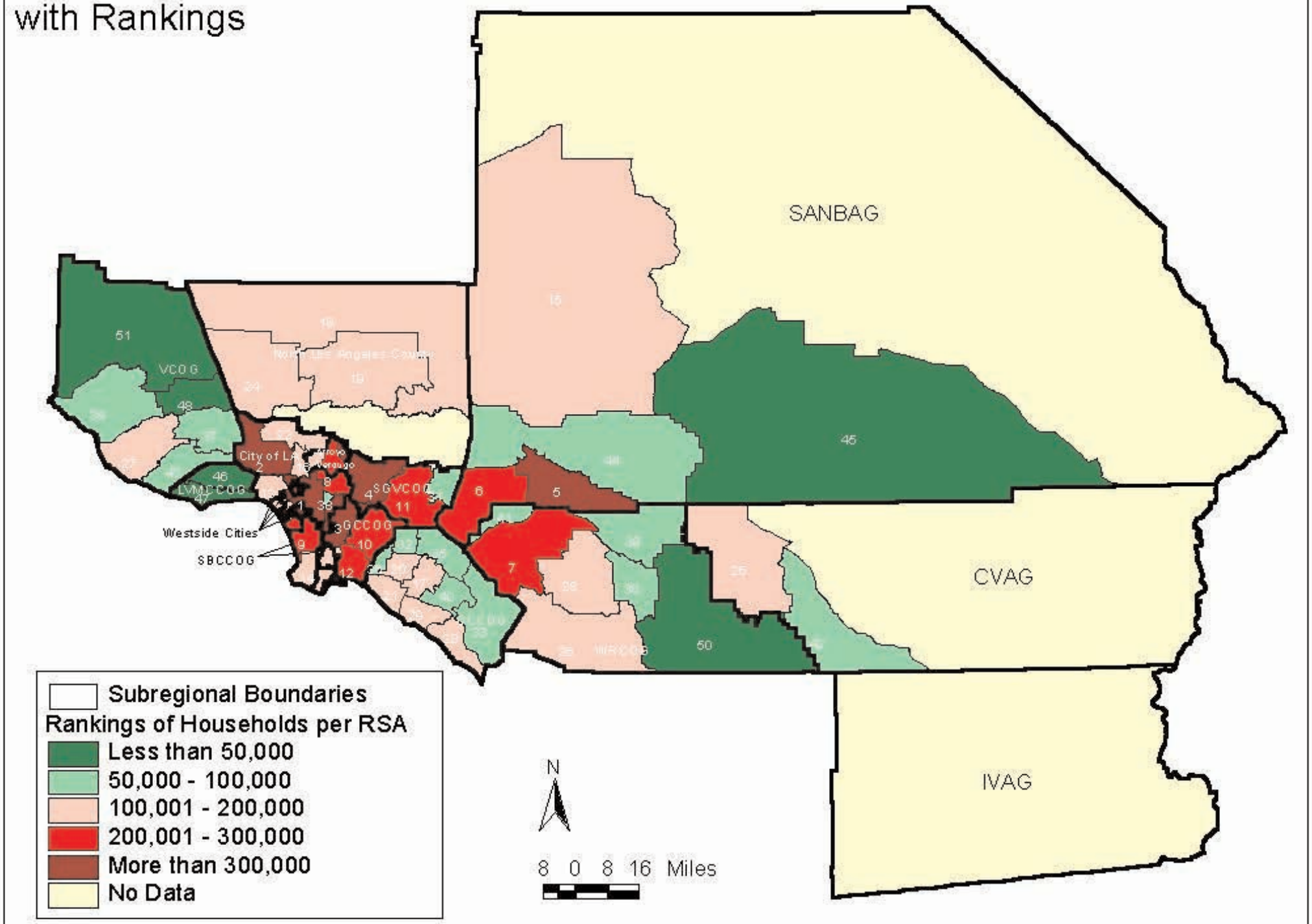
Map 8. Projected Households by Regional Statistical Area - 2025, with Rankings



Source: SCAG Draft 2001 RTP

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Orange County workers will have fewer options for affordable housing within the county, and many will continue to find housing in outlying areas in other counties. In Los Angeles County, the northern reaches will remain the housing shed of many that work in the urban core of Los Angeles. The long commute to the southern part of the county will continue for many northern Los Angeles County residents. Much of the Inland Empire will remain housing rich. The forecast job centers will be in Ontario, San Bernardino City, and Riverside-Corona. While the data indicate some degree of self-correction, the jobs/housing imbalance will continue to be a major issue in the region in 2025.

Infill housing, housing that is built in urbanized areas on underutilized or vacant lots, will be needed in both Los Angeles and Orange Counties to provide options to long commutes, both within counties and inter-county. Jobs will be needed outside of the Ontario and Riverside-Corona RSAs in the Inland Empire to help bring all of the Inland Empire into jobs/housing balance over the long term.

B. The Household Footprint and the Jobs/Household Footprint

1. Overview

This analysis predicts the percent of vacant developable land in each county in the region needed for housing in 2025 using SCAG Draft 2001 RTP data. The analysis has two parts. The first part uses the projected number of households per county and individual counties' 1996 average density to calculate the percent of developable land required to house the projected future population. The second part of the analysis examines housing requirements associated with the number of new jobs projected for each county.

Developable land is defined in three ways. The definition used in Scenario 1 is the strictest definition of what makes up "developable" land. This definition preserves farmlands, wetlands, and other environmentally sensitive lands. Scenarios 2 and 3 use less strict definitions for "developable" land. The land definitions, methodology, and limitations of this summary are all available in the appendix. The Household and Jobs/Household Footprint analyses are taken from work done by John Landis at the University of California – Berkeley for the California Department of Housing and Community Development's report *Raising the Roof: California Housing Development Projections and Constraints 1997-2020*. It should be noted that "developable" land does not include parcels that are available within urbanized areas for redevelopment. In this analysis, available acreage consists only of previously unused land.

2. Analysis Results

If Los Angeles County and Orange County are to adequately house their projected households, these counties will need to examine the potential for increasing densities and for reusing urban lands through infill housing. Based on the Household Growth Footprint Scenario 1 (Table 12) and using the most stringent definition of developable lands (definitions for "developable land" can be found in the Appendix):

Table 12			
Household Growth Scenario 1			
	% of Land Needed to Meet Demand		
County	Current Density	125% of Current	150% of Current
Los Angeles	234%	187%	156%
Orange	146%	117%	98%
Riverside	51%	41%	34%
San Bernardin	25%	20%	17%
Ventura	57%	45%	38%
Source: HCD and SCAG Draft 2001 RTP			

- Los Angeles County cannot meet its needs at current densities or at 150% current densities
- Orange County will need 98% of its land to meet its needs at 150% of current densities
- Riverside and Ventura Counties both will use more than 50% of their land to meet the projected needs, based on current densities

Table 13			
Household Growth Scenario 2			
	% of Land Needed to Meet Demand		
County	Current Density	125% of Current	150% of Current
Los Angeles	132%	106%	88%
Orange	76%	61%	51%
Riverside	35%	28%	24%
San Bernardin	23%	19%	16%
Ventura	19%	15%	13%
Source: HCD and SCAG Draft 2001 RTP			

Using all developable and accessible (land within 10km of an existing roadway or urban development) lands in Scenario 2, Los Angeles County still cannot meet its housing needs at its current density, as seen in Table 13. Only by increasing densities to 150% of the current density will Los Angeles be able to house its projected population. Orange County will use 76% of its developable and accessible land at current density by 2025. Increasing density will bring this number down to a more manageable amount of land. The remaining counties can easily meet their needs using all developable and accessible land.

All of the land in Los Angeles and Orange County that is developable is also accessible, so the figures for these two counties do not change when using the least strict definition of "developable lands" in Scenario 3 (Table 14). Riverside, San Bernardino, and Ventura have plenty of land to meet their future needs, using this definition of developable lands.

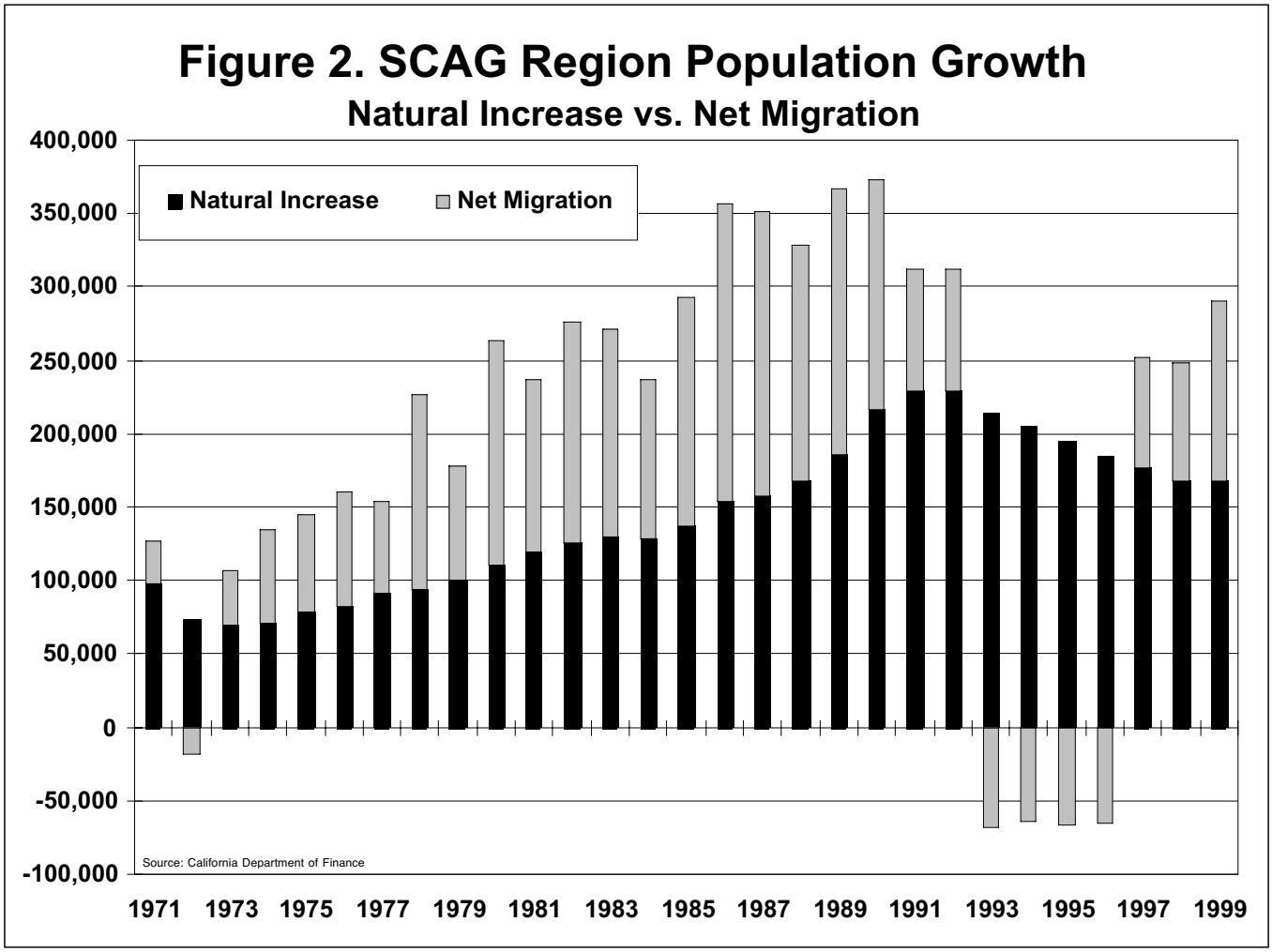
Table 14			
Household Growth Scenario 3			
	% of Land Needed to Meet Demand		
County	Current Density	125% of Current	150% of Current
Los Angeles	132%	106%	88%
Orange	76%	61%	50%
Riverside	28%	23%	19%
San Bernardin	12%	9%	8%
Ventura	18%	14%	12%
Source: HCD and SCAG Draft 2001 RTP			

Contrary to the results of this analysis in the Bay Area, the SCAG region's need for developable land decreases in every county except Orange County when the number of new households is calculated based on job growth (Tables 15-17). This suggests that the employment growth, while large, will be eclipsed by the household growth in every county except Orange County.

People continue to migrate and immigrate to the region. Current and projected population growth, however, is greatest because of natural increase. Whereas in the late 1970s and parts of the 1980s population growth was powered by immigration, the trend has reversed (Figure 2). The region's population will grow significantly even if no one migrates or immigrates to the region because the couples already living within the region are starting families.

Using the strictest definition of developable lands, Los Angeles and Orange Counties cannot house their projected 2025 populations given their current densities, as shown in Jobs/Household Footprint Scenario 1 (Table 15). Other important findings (given current densities and current workers/household ratios) include:

Table 15			
Jobs/Household Footprint Scenario 1			
	% of Land Needed to Meet Demand		
County	Current Density	125% of Current	150% of Current
Los Angeles	182%	146%	121%
Orange	193%	154%	128%
Riverside	46%	37%	30%
San Bernardino	23%	19%	15%
Ventura	31%	24%	20%
Source: HCD and SCAG Draft 2001 RTP			



- Orange County, because of its booming economy and rapid job growth, will need almost twice the amount of land that it has available if it is to house its projected population based on job growth.
- Riverside, San Bernardino, and Ventura Counties all have the developable land to meet their housing needs.

Using all developable and accessible lands, Los Angeles County and Orange County cannot house their projected number of households at current densities (Table 16). Increasing density brings the amount of land required to less than 100%, but it does not leave much land left to satisfy housing needs beyond 2025.

Table 16

Jobs/Household Footprint Scenario 2

	% of Land Needed to Meet Demand		
County	Current Density	125% of Current	150% of Current
Los Angeles	103%	82%	69%
Orange	100%	80%	66%
Riverside	32%	25%	21%
San Bernardino	22%	17%	15%
Ventura	10%	8%	7%

Source: HCD and SCAG Draft 2001 RTP

Comparing these two footprints, it is evident that only an increase in densities will allow Los Angeles and Orange County to accommodate future household growth. Even when a county can house its population using developable land, it should be kept in mind that this projection only goes to 2025. Exploiting all developable land by 2025 will leave little flexibility for future generations attempting to accommodate their growth needs. The disparity between Orange County's needs for housing when using the two different footprints portrays the jobs/housing imbalance in the SCAG region. Analyzing the household growth in terms of jobs, the percentage of land needed is much higher than the numbers presented when only analyzing household growth. Orange County expects high growth in employment but not nearly as high a growth in households. Orange County cities are not building a sufficient number of housing units to house their workers. Consequently, many of these workers live in other counties and commute to their jobs in Orange County.

Table 17

Jobs/Household Footprint Scenario 3

	% of Land Needed to Meet Demand		
County	Current Density	125% of Current	150% of Current
Los Angeles	103%	82%	69%
Orange	100%	80%	66%
Riverside	25%	20%	17%
San Bernardino	11%	9%	7%
Ventura	10%	8%	6%

Source: HCD and SCAG Draft 2001 RTP

The SCAG region is expected to grow by six million people by 2025 (SCAG 2000). Because of this, new approaches to housing the projected population should be considered. If the region grows as forecasted, the jurisdictions within Los Angeles and Orange Counties should consider higher densities. Other possible measures to alleviate the housing shortage include infill housing and brownfields development (discussed in Section VI). These measures can reuse urban acreage to help house the future population and reduce the need for workers in urban core areas to commute long distances from their homes in outlying communities.

C. Development Capacity of 1993/1994 General Plans and Zoning to Accommodate Housing and Employment Demand

1. Overview

The purpose of this analysis is to compare the current land use patterns in the SCAG region with the zoned land use patterns of vacant land. This analysis indicates, on a countywide basis, whether planned future land use is consistent with past development trends in terms of the balance between housing and jobs.

2. Analysis Results

Orange County has the most consistency between existing and zoned future land uses in terms of residential and employment land use ratios. The county has 3.10 acres of developed residential land to every acre of developed employment land. The county's vacant land has a ratio of 3.00 acres of residential land to one acre of employment land (Table 14). As the previous two analyses have shown, however, jurisdictions in Orange County may need to increase the amount of acreage zoned for housing in order to house the county's projected future population.

Table 18

A Comparison between Developed Land Use and Zoned Vacant Land Use (in Acres)

County	Developed Residentia Developed Employme	Vacant Residential/ Vacant Employment
Los Angeles	3.1	2.0
Orange	3.1	3.0
Riverside	4.4	3.2
San Bernardino	3.3	2.2
Ventura	4.0	3.0

Source: SCAG, 1993 aerial photograph, 1998 Regional Transportation Plan

The other four counties in this analysis have zoned more of their vacant land for employment activities than indicated by their current land use patterns, as exhibited in Table 14. Los Angeles County currently has 3.09 acres of residential land for every acre of employment land, but the county's vacant land is zoned for 1.97 acres of residential land to one acre of employment. There is a similarly large difference in Riverside County, where currently there are 4.42 acres of residential land to an acre of employment. The vacant land is zoned for 3.18 acres of residential land to an acre of employment land. San Bernardino and Ventura Counties both drop their ratios of residential to employment land by about one acre, from 3.27 to 2.24 in San Bernardino County and from 3.95 to 2.99 in Ventura County.

Table 19

Ratios of Jobs Created/Housing Permits Issued, 1995-99

Region	Ratio
Los Angeles	5.90
Orange County	4.31
Southern California	3.70
Inland Empire	2.52
California	2.00

Source: College of Business and Economics, CSUF

These data indicate that all of these counties want more jobs. Their general plans from 1993 show this by designating a greater percentage of their vacant land for employment purposes compared to land use patterns. Zoning land for employment purposes comes at the expense of housing. Table 15 shows how the City of Los Angeles and Orange County have created many more jobs compared to the number of housing building permits they have issued. Their figures

are much higher than the rest of the state and are driving the region's average higher. The Inland Empire has a ratio that is above the state average, but it is less than half that of the City of Los Angeles. Less and less vacant land is being zoned for housing which will compound the housing crunch in the region and contribute to jobs/housing imbalances in jobs-rich regions. The future demand for housing was not adequately addressed in the 1993-4 general plans and it is still not being addressed as evidenced by the inadequate number of building permits issued in comparison to the number of jobs created.

These data imply that a rethinking of current zoning patterns is necessary to attain the goals and benefits of jobs/housing balance. This would be particularly pertinent to jurisdictions in jobs-rich counties, such as Los Angeles County, that are over zoned for employment-generating commercial and industrial uses according to what past development trends would justify. Orange County, while having a zoning pattern that is consistent with past development trends, would be able to house more of the population that will be working in the county if local jurisdictions revised their zoning to accommodate more housing development.

D. Summary of Regional Jobs/Housing Balance Issues

The analysis of current and forecast jobs/housing ratios shows that the coastal areas of the SCAG Region will continue to be jobs-rich into the future. These areas are where New Economy high-tech clusters are predominantly located, and where the majority of the venture capital is being invested. High-tech clusters have very strong agglomeration economies, and clusters in the SCAG Region are already fairly dispersed relative to clusters in other regions. It will be a challenge to further disperse high-tech clusters and their sizable economic impacts to housing-rich subregions in the inland areas.

Housing-rich areas, particularly in the Inland Empire, have seen substantial job growth over the last decade. This job growth is forecast to continue, which will result in increasing jobs/housing ratios for areas in the western portion of the Inland Empire. In fact, the Regional Statistical Area (RSA) around Ontario Airport is forecast to become very jobs-rich by the year 2025. However, most of the Inland Empire is forecast to remain housing rich in 2025. Also, much of its job growth has been in relatively low-paying blue-collar sectors of the economy, and the gap in per capita income between it and the rest of the region has been increasing. The average wage of the job base of some areas in the Inland Empire is insufficient to purchase the average local house, and many local workers are forced to commute in from outlying areas where housing is less expensive.

The job growth of North Los Angeles County, another housing-rich area, has not been as robust as that of the Inland Empire. However, the new jobs created have in general been higher paying, with the migration of white-collar professional jobs to Santa Clarita Valley and with the consolidation of the aerospace industry in the Antelope Valley. North Los Angeles County is forecast to remain housing rich in 2025. In fact, the Santa Clarita RSA is forecast to change from its current balanced status to being housing-rich in 2025.

The "household footprint" and "jobs/household footprint" analyses show that there is an insufficient amount of raw, developable land in Orange and Los Angeles counties to

accommodate their forecast housing needs at current densities. Development strategies involving infill of currently vacant and underutilized lots, and developing at higher densities are necessary for these counties to meet their forecast housing needs and achieve the benefits of jobs/housing balance that are described in Section III of this report.

The analysis of the development capacity of 1993/1994 general plans and zoning shows that most counties have excess vacant land zoned for commercial and industrial uses, relative to existing land use ratios. This likely reflects the "fiscalization of land use" issue, described in Section V below. Many cities see residential development as a fiscal burden and are prone to zone an excessive amount of land for more fiscally desirable commercial and industrial uses in order to provide developers with a large portfolio of potential sites for these desired uses. From a jobs/housing standpoint, this could be justified in housing rich areas. However, this is contrary to achieving jobs/housing balance in jobs-rich counties like Los Angeles County where low and moderate-income workers are having an increasingly difficult time finding affordable housing. In the absence of strategies designed to increase the housing supply for low and moderate-income workers, long-distance commuting for many workers and its associated impacts will be a necessity.

Section V that follows describes the major dynamics that are forecast to govern regional jobs/housing balance issues in the future. These include the impacts of the high-tech New Economy and state taxation policies (i.e. the "fiscalization of land use.")

Section VI proposes a number of strategies that are designed to address these particular jobs/housing issues facing the SCAG Region. In general, they are aimed at encouraging the location and expansion of high-paying New Economy employment in outlying areas that are housing-rich, and providing for a greater production of affordable housing in jobs-rich urban areas along the coast.

V. DYNAMICS OF JOBS/HOUSING BALANCE

The creation of geographic imbalances between employment and housing availability is largely a natural economic and sociologic phenomenon with a tendency to be self-correcting over time. Before World War II, job formation in Southern California concentrated around a few major job centers such as downtown Los Angeles, due to the "agglomeration" economies that accrue to companies being in close proximity to one another. Housing developed chiefly in suburban areas with relatively inexpensive land. Housing was connected to job centers by publicly funded highways. With increasing highway congestion over the last fifty years and the depletion of developable land for new industrial sites in urban core areas, jobs have tended to migrate to suburban locations to take advantage of lower land and labor costs and shorter commute times. For example, thirty years ago Orange County cities largely served as "bedroom" communities for Los Angeles companies, but Orange County now is a jobs-rich subregion, with many of its workers living in the Inland Empire.

This phenomenon largely explains why the Southern California region is one of multiple employment centers spread over a vast area, and why average home-to-work travel times have changed little over the last thirty years. In 1990, 68% of commuters surveyed in the region indicated that their drive between home and work was easy, and that the majority of the population lived less than 20 miles from their workplace (Southern California Association of Governments 1990). That same year, being "close to my work" was only ranked eleventh in importance out of sixteen factors considered in choosing a place to live.

However, the booming economy of Southern California over the last decade has markedly increased traffic congestion and, according to recent surveys, has increased commuter drive times. In addition, there are several major development trends that have emerged over the last decade that run counter to achieving a greater job/housing balance throughout the region. The first is the economic ascendancy of the "New Economy" of high-tech, information-based industries. The second is the "fiscalization" of land use brought about by several voter initiatives that have significantly reduced the incentive for local government to support residential development. Fortunately, there are encouraging signs that the expansion of traditional "old economy" industries into currently job poor/housing rich areas of the region could help offset these trends towards increased jobs/housing imbalance. There are also indications that some of the "New Economy" companies are beginning to locate in these areas.

A. The New Economy

It has been argued that the advent of the information-based New Economy of high-tech/dot.com companies should reinforce the natural tendency of business to migrate to areas of high housing availability. This is because these types of enterprises are much less anchored to natural resources and transportation facilities in their siting decisions and are consequently much more "footloose" than traditional industries. Also, the increasingly widespread use of new telecommunications technology has diminished the need for employees to travel to centralized work centers since they can work at home or at satellite work sites just as efficiently.

Findings from recent research on New Economy companies belie these predictions. These companies show an even greater inclination than traditional industries to coalesce around a few distinct locations. Universities, research centers and cultural amenities such as recreational and entertainment opportunities are the main factors that bind them to an area. They need to be close to cutting edge research, and to be able to attract the young, highly educated workers that they require. High-tech and Internet companies also tend to trade ideas and employees among one another, and are unlikely to give up competitive opportunities for synergy with like-minded companies by breaking from the pack.

This section describes the recent experiences of the San Francisco Bay Area and the City of Santa Barbara with the rapid growth of New Economy firms and the pressures that resulted on their limited housing stocks. It also describes the impacts and siting requirements of New Economy firms, the formation of high-tech clusters in the New Economy, and the location of high-tech clusters in the SCAG Region. It should be noted that the discussion of the Internet-related (dot-com) economic explosion in the Bay Area should be tempered as many of those companies have recently gone bankrupt with the ongoing dot-com meltdown, which also has begun to reduce pressures on housing prices and rents there. It should also be noted that Southern California has a more diversified economy than the Bay Area, including a more diversified technology base, and is weathering the sharp economic downturn in internet-related high-tech sectors much better that our northern counterparts.

1. Bay Area Experience

The dense concentration of high-tech, mostly computer-related industries in Silicon Valley near Stanford University, and the preponderance of dot-com companies in amenity-rich San Francisco exemplify how an area can be attractive to these types of companies despite severe housing shortages. In recent years, Silicon Valley has created five jobs for every housing unit built, compared to two jobs per new house in the 1980's. Between 1995 and 1999, housing prices rose 46.2% in an area whose housing prices rank among the highest in the country (Association of Bay Area Governments 1999). A relative modest home will cost from $400,000 to $500,000, and a one bedroom "fixer upper" will fetch about $300,000.

Approximately two out of every three new workers in Silicon Valley have had to find housing elsewhere, and the trend is for more of the same. It is not unusual for someone working in the Silicon Valley to live in eastern Contra Costa County, where the median price of homes ranges from $150,000 to $170,000, or in the central San Joaquin Valley, where new homes are as low as $100,000. This phenomenon has led to daily commutes that are two- and three-hours, each way. The end result has been rapidly mounting traffic congestion in much of the Bay Area, with consequent lost time, wasted fuel, increased air pollution, and frustrated, fatigued drivers. Speeds during peak-hour commutes in the Bay Area are now the second slowest in the nation, the worst being the SCAG Region (Association of Bay Area Governments 1999). A recent survey revealed that 90% of workers who commute over the Altamont Pass between the Central Valley and the Bay Area would shift to nearby jobs if they were available (Vorderbrueggen 2000).

The City of San Francisco has recently been a Mecca for start-up dot-com companies, despite its high housing prices and limited land area to accommodate new housing (the city has built only 8,500 new units for 60,000 new residents over the last ten years). Its numerous and varied cultural amenities appeal to the high-tech information workers in the dot-com companies, many of them lured from nearby Silicon Valley. They are predominantly young, single and affluent. The recent influx of these workers into the city has stimulated a jump in housing demand that has greatly contributed to a rapid escalation of housing prices. Condominium prices rose 40% from August 1998 to August 1999, raising the medium price to $410,000 (affordable to less than five percent of San Franciscans). Eighty-five percent of new condominium owners earn more than $100,000 per year, 60 percent are under 40, and two-thirds are new to the city (Borsook 2000). Over the past two years, rents in the city have risen five-fold, and residential vacancies are less than 1% (Swartz 2000).

The rapid gentrification of minority and low- and moderate-income neighborhoods in the city is the result of high-tech workers competing with other income groups for scarce housing, forcing those that cannot compete economically out of the city, and some into long commutes. The gap between rich and poor in the city has increased dramatically. Evictions are at an all-time high. The faces of the city are changing as 70% of those evicted leave the city (Borsook 1999). The recent shake out of dot-com companies has prompted some money losing companies to move to areas such as Sacramento where rents and salaries are significantly lower (Said 2000). This trend should continue with the ongoing decline of the NASDAQ Stock Market. The continuing shakeout of dot-com companies in San Francisco, with as much as 80% of them predicted to fail, is relieving pressures on residential and office prices and vacancy rates. Prices in the city have begun to fall, and vacancy rates have begun to rise. This correction should help promote a more diversified economy in San Francisco and should improve the long-term health of the city's real estate market (Muto 2001).

In the fall of 2000, city voters narrowly rejected the more stringent of two competing office growth ballot measures proposed to limit the growth of high-tech companies in the city. Several cities located between San Francisco and Silicon Valley have taken steps to protect themselves from the dot-com explosion. Redwood City recently imposed a moratorium on certain new development to better control dot-com growth and the cities of Menlo Park and San Mateo both recently imposed restrictions on new office development. The need for such moratoriums should substantially abate in the future with the continuing contraction of dot-com firms in the Bay Area.

2. Santa Barbara Experience

The City of Santa Barbara has experienced a similar dynamic related to impacts of the New Economy. The city has a very tight housing market due to stringent growth controls. Only 922 new housing units were built in the 1990s, compared to 9,300 in the 1980s (Trounson and Johnson 2001). Technology now represents Santa Barbara's third-largest industry, with tech jobs doubling each year and comprising about a quarter of all new jobs. About half of those jobs did not exist three years ago. In the past, the large majority of graduates from UC Santa Barbara moved out of the area to seek work since the city's main industry, tourism, provided little professional employment. Tech-savvy graduates from the university's computer science and

engineering departments now realize there are ample high-tech opportunities nearby, and increasing numbers are opting to stay. This is placing even more pressure on the city's limited housing supply; only 21 percent of the population can afford a median-priced home of $569,000. Similar to San Francisco, the new high-tech entrepreneurs are breeding resentment among established residents, as they begin to push out poor, mostly Latino families, as well as the middle class, tearing down expensive houses to build even bigger ones (Kelley 2000).

3. Impacts of the New Economy

Undeniably, the rapid growth of the high-tech New Economy is having a profound economic impact wherever it takes root. Most communities that have attracted high-tech industries have found them to be remarkably effective engines of growth. Creating high-salaried employment, they have a much higher than average "multiplier" effect, and act as magnets for supporting industries and jobs, including supplier networks. Since the 1990-91 recession, growth in the high-tech sector has been five times as large as growth in the aggregate economy, and is accounting for an ever-increasing share of national economic output. Success in creating high-tech business clusters is now the distinguishing determinant of regional vitality, accounting for two-thirds of economic growth differences among metropolitan regions (DeVol 2000). The information technology industry in Los Angeles currently generates one out of every eight dollars in the local economy (Tseng et al 2000).

Still, the New Economy can exact a price on the locations it favors. High-tech enterprises can grow far more rapidly than older industries, outstripping the ability of local government to keep pace with planning and provision of services. They can create great income disparities and produce tensions between different income groups and between established and new residents in communities that are affected. Where the housing supply is limited, the New Economy can exacerbate housing shortages and markedly increase competition and prices for available housing. Since most communities desire the economic advantages of the New Economy, a logical strategy would be to spread its job-creating potency to housing-rich areas. However, that could be a challenging endeavor for reasons discussed below.

4. Siting Requirements of New Economy Firms

High-tech, information-based companies that characterize the New Economy are redefining standard criteria that have been conventionally used in industrial siting decisions. Recent evidence shows that they are relatively insensitive to traditional cost factors such as land and transportation costs, as well as housing costs for their employees. The basic resources that these companies require are young, highly educated, technically savvy employees that are in scarce supply. They are the objects of feverish competition among high-tech companies that need them. High salaries are simply not enough to attract these types of employees, who work long hours and want to enjoy life outside work in a cultural environment that appeals to them. This includes cultural amenities such as trendy restaurants, entertainment and retail complexes, recreational opportunities, universities, museums, libraries, parks, mixed-use neighborhoods with architectural character, and diversity of lifestyles.

With unemployment for high-tech employees at an all-time low, employers are becoming hard-pressed to provide this highly educated workforce with the comforts and amenities that they desire. These comforts and amenities are primarily location-based, and are closely associated with downtown urban areas. High-tech industries are consequently gravitating toward cities and away from suburbs, reversing an industrial siting trend of the last several decades (Van Slambrouk 2000). Select cities are becoming the preferred location of the "new urbanites" comprised of single, highly educated professionals, as well as new immigrants from abroad.

Not all high-tech workers are equal in their need for cultural amenities afforded by downtown locations. Workers in the "hard" high-tech industries such as biotechnology, semiconductors and telecommunications are more middle-aged and family-oriented than workers in more creative and culture-based industries such as multi-media and dot-com companies that tend to be young and single. These "hard" high-tech workers generally prefer master-planned, campus-like work settings with good access to parks, schools and shopping centers. Many of them prefer to avoid the congestion and social problems perceived to be associated with urban core/downtown areas, and willingly forego the social diversity and cultural richness inherent to those areas (Kotkin 2000).

A siting determinant for high-tech industry that is growing in importance is access to telecommunications infrastructure such as fiber optic cable. Intercontinental fiber optic lines that terminate in Los Angeles, New York, San Francisco and Washington reinforce these cities' dominance as high-tech and information processing hubs. Main cable lines typically run to downtown locations, where "telco" hotels that house telecommunications companies are being developed because of their ability to tap into the expensive fiber optic networks (Reagor 2000). At the regional level, the availability of multiple fiber optic cables with backup power supplies at high-tech business complexes, research centers and universities accelerate the growth of high-tech clusters around established nodes. Businesses seek locations with good access to fiber optic service and with cable and backup power systems to minimize disruptions and bottlenecks (Cohen 2000). Whether wireless broad band technology will provide a more ubiquitous and accessible telecommunications substitute to fiber optic cable is currently an open question.

Convenient access to an international airport is another important siting factor for high-tech and knowledge-based companies, particularly those that participate in the global economy. Speed is a competitive advantage among high-tech firms, not only in delivering products and services around the world, but also in conducting face-to-face meetings with clients and colleagues in different cities with little advance notice. For companies engaged in time-based competition, easy access to a nearby international airport is a crucial factor. A 1998 study showed that the existence of a large airport in a metropolitan region increases the area's high-tech employment by over 12,000, and explains over 64% of the variation in high-tech employment across metropolitan regions (Button and Stough 1998). Another recent study concluded that high-tech workers in Orange County generate almost four times the number of air trips per employee than the average for the county (Erie et al 1998).

In an article entitled "The Q Factor", David Birch cites five factors that are crucial to attracting small, entrepreneurial high-tech firms: high quality research universities, a good quality labor force, air transportation, telecommunications infrastructure, and a local government willing to

make the necessary investments in such infrastructure (Birch 1987). Air transportation is key, because "whereas Fortune 500 executives can fly in and out of just about any town in the company jet, busy entrepreneurs and their salespeople need a major airport for their transportation" (Birch 1987). He also believes that businesses are willing to locate to areas that may cost more, but which have distinct quality of life advantages to attract a high-quality workforce.

The impact of airport-induced job growth on land use in the vicinity of airports is substantial. An analysis of employment growth in U.S. metropolitan areas showed that areas within four miles of airports added jobs two to five times faster than the overall growth rate of the larger area within which the airport was located. Most of the employment was concentrated immediately around the airport or along a major access corridor within fifteen minutes of the airport (Weisbrod et al 1993). New international airports recently constructed or under development in Hong Kong, Korea, and Malaysia are spawning substantial high-tech development around them, and will be the cornerstones of dynamic new "aviation cities" or "aerotropoli" (Kasarda 2000).

There are a number of high-tech centers or clusters around the country, including the Bay Area's Silicon Valley, Boston, Denver, Chicago, Austin (TX), Raleigh (NC), Fairfax County (VA), and New York's Silicon Alley. One common denominator for all of these areas is proximity to a major airport. Other factors leading to the formation of high-tech clusters are described below.

5. High-tech Clusters

A distinguishing feature of the New Economy is the very strong "herd mentality" among high-tech enterprises, to take advantage of what economists call "agglomeration effects." These businesses tend to concentrate in distinct clusters of like-minded companies. They seek geographic proximity with others engaged in similar activities, since the industry clusters formed foster pooled labor forces of workers that possess industry-specific skills, and facilitate technological innovations through informal relationships among employees and firms (DeVol 2000). Because knowledge is generated and transmitted more efficiently in close proximity, economic activity based on new knowledge has a high propensity to cluster within a geographic area (Audretsch 1998). As more firms move into or are started in an area, they make the location more attractive for subsequent firms, especially if support services provided by tech-savvy financial, accounting, and legal firms also gravitate to the area. The innovations fostered by firms both competing and collaborating within the cluster spin off other companies that further increase the size of the cluster.

Recent research shows that the adoption of new innovations declines with geographic distance from the source of the innovations (Keller 2000). Research facilities engaged in cutting-edge work are thus important prerequisites to the formation of high-tech clusters. Clusters in Silicon Valley and Austin, Texas owe their existence to nearby research centers and universities where important technological innovations were spawned. Research centers and institutions are indisputably the most important factor in incubating high-tech industries (DeVol 2000). These facilities conduct the basic research and train and educate the skilled labor that is critical in expanding and reinforcing the dominance of high-tech clusters. A new cluster can be formed by firms that have developed and commercialized a technology elsewhere, but the regions in which

the original research and development was performed have a distinct advantage in building a "critical mass" of cluster activity in the early stages of technological development. Knowledge derived from basic research can spawn innovation and create economic value much faster and more efficiently immediately around the location of its development.

Venture capital investments are critical in incubating and sustaining an entrepreneurial-based high-tech cluster. While comprising only a small share of overall capital markets, venture capital stimulates and supports business growth at the critical early stages. Besides financing, venture capitalists assist in business plan development, lend management skills, suggest strategic partnerships and alliances, assist in expansion plans, and can bring in key talent where needed. By financing new ideas, venture capitalists help build and sustain clusters as they provide the means for new firms to be formed. Without a well-functioning venture capital infrastructure, a regional technology cluster may not develop (DeVol 2000). Venture capital investments tend to enhance the "agglomeration effects" of high-tech clusters, since venture capital typically follows the "smart" money with a previous track record of success in business start-up investments.

The ongoing expansion of high-tech clusters around the country is creating severe traffic congestion, long commutes and related air quality problems. There has been a rapid growth of clusters in the northern Virginia suburbs of Washington, D.C.; in Redmond, Washington (i.e., Microsoft headquarters); in Austin, Texas; along the Route 128 Beltway in Boston; and along the Route 202 corridor outside of Philadelphia. All of these areas have also experienced a rapid increase in traffic congestion and commute times associated with the growth of the clusters (Miara 2000). In Austin, about 90 new jobs per day are being created, while about 50 new people move into the metropolitan area each day. Finding a place to live there has become a challenge, and traffic has become severely congested. The City of Austin now implores citizens to take public transportation to help relieve congestion and protect air quality (Barry 2000).

6. High-tech Clusters in the SCAG Region

In the SCAG Region, high-tech companies have established themselves primarily in the urban, coastal areas of the region. Maps 9 through 11 show current (1997) locations of high-tech employment clusters for computer software and hardware, telecommunications, and test and measurement equipment sectors. The biomedical sector (Map 12) and the entertainment sector (Map 13) are also included in the high-tech cluster. Employment data for each cluster is displayed by census tract. It should be noted that the size of each census tract is inversely proportional to its population density. Employment categories by SIC code that comprise each sector can be found in Table 26 in the Appendix of the report.

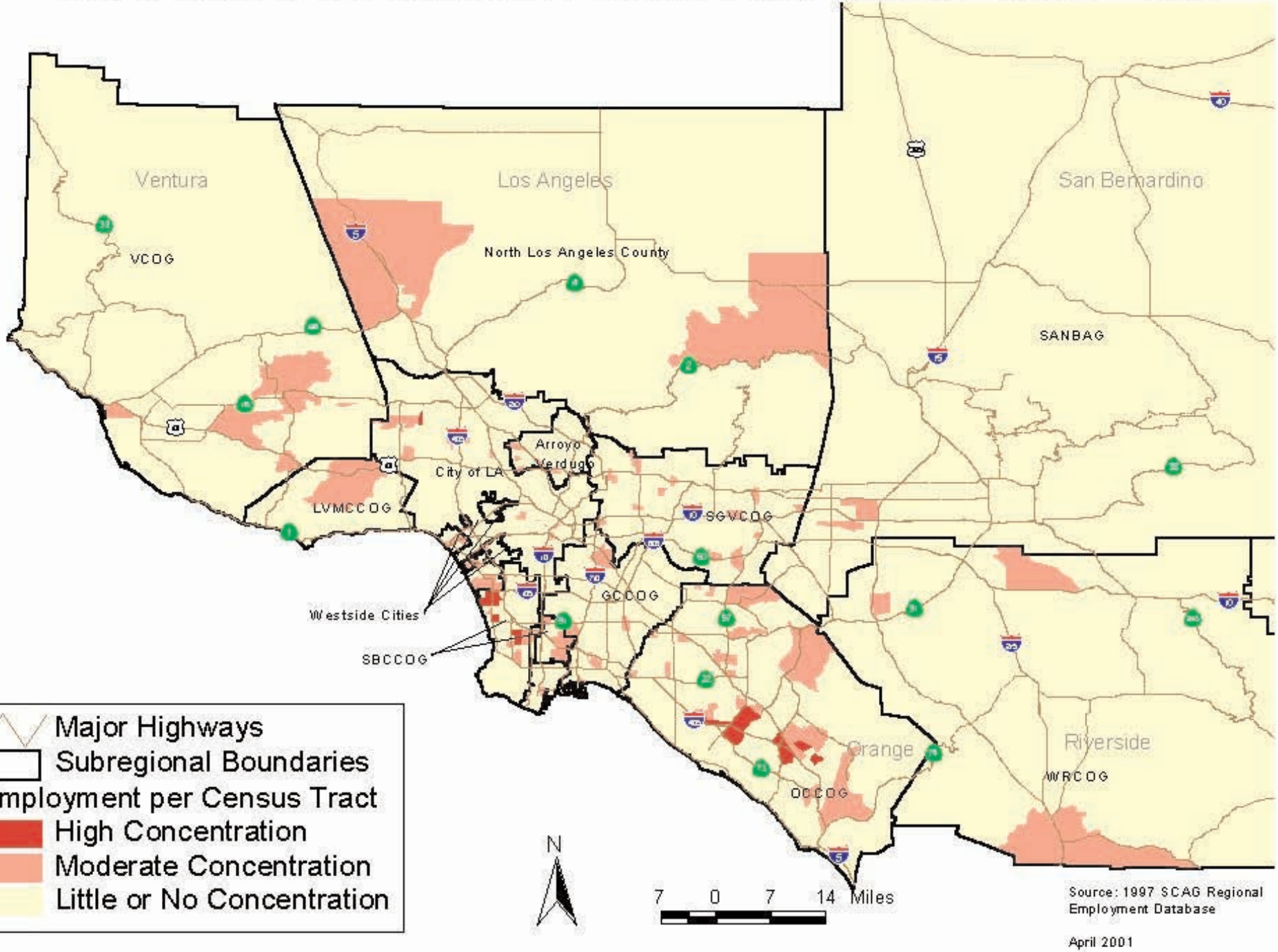
The biomedical sector (11,210 jobs in 1997) is included because its industries are on the cutting edge of technology. The employment in this sector is high paying and requires a high level of education. The biomedical technology sector has major clusters in central and northern Orange County, the area immediately around LAX, and the San Gabriel Valley area around Rte. 210.

The entertainment sector (134,025 jobs) is included because it is increasingly driven by innovations in digital technology, such as computer graphics, that are revolutionizing the industry. Major clusters in the entertainment sector can be found in a corridor extending from

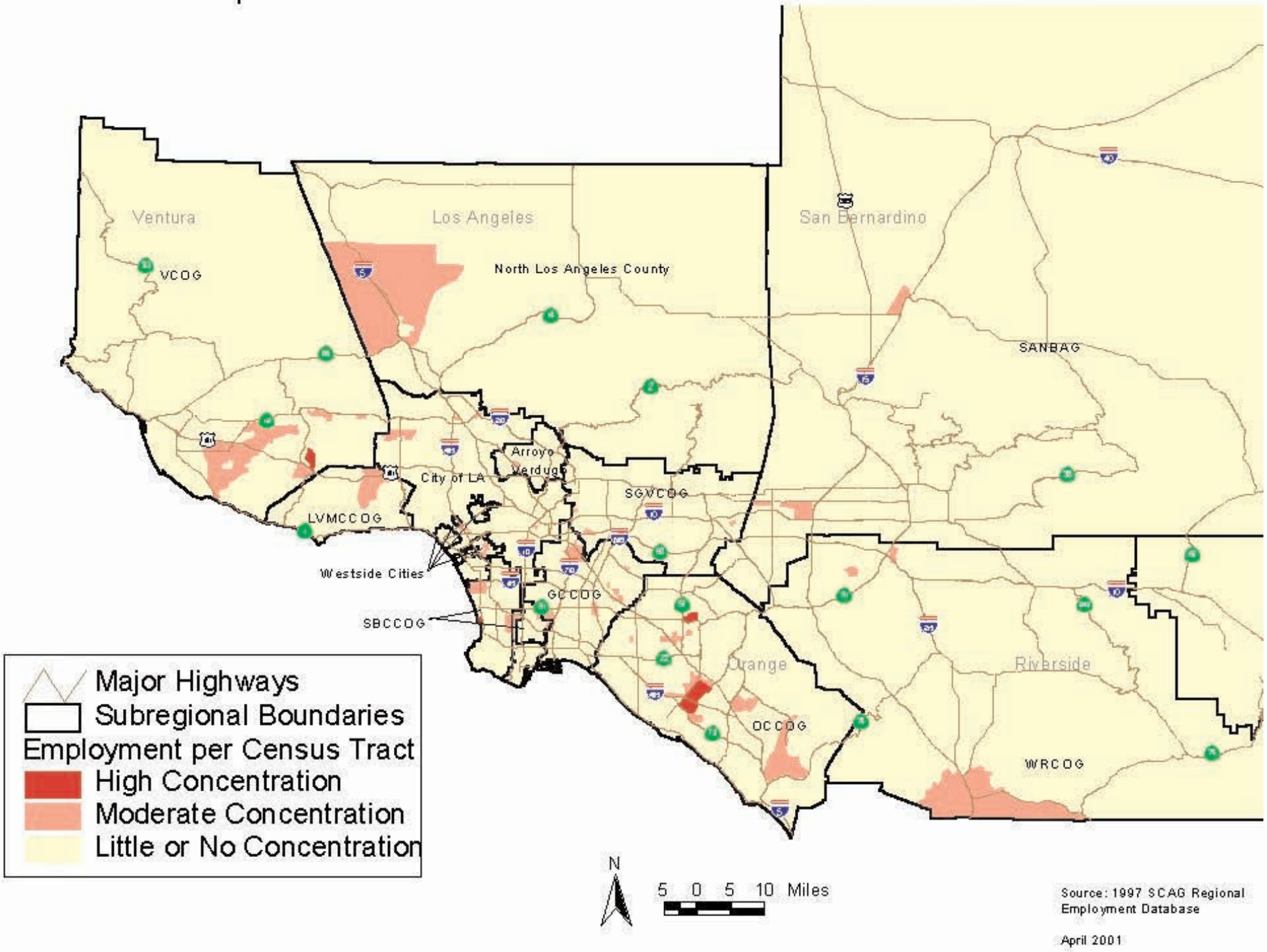
west Los Angeles and Culver City north to Burbank. Major clusters in the City of Commerce and in Irvine are related to the manufacture of audio, video, and photography equipment. Magic Mountain Amusement Park in Santa Clarita and Disneyland in Anaheim both employ high-tech innovators and a substantial numbers of employees (see Map 13).

The computer hardware and software (75,920 jobs), telecommunications (44,108 jobs), and test and measurement clusters (34,865 jobs) comprise the information technology sector, which is combination of Maps 9 through 11, and is arguably the most important high-tech sector in the SCAG Region. Firms in this sector tend to serve other businesses rather than sell direct to consumers. The primary markets that they serve are the healthcare, education, entertainment and business application markets. Employment in defense-related information technology firms has undergone a significant contraction since 1988. Many of the new information technology companies have been founded by former aerospace employees, and have relied upon the infusion of younger employees from California's university system to bring to them innovative and marketable ideas for technology applications. Compared to other regions, these companies are fairly dispersed, with the highest concentration of companies in central and northern Orange County as well as the South Bay. Most of these companies are small, and the dispersed nature of this cluster hinders the creation of linkages between firms within the cluster, to forge strategic relationships that allow combinations of technologies to be brought to bear in solving problems (Collaborative Economics 1995).

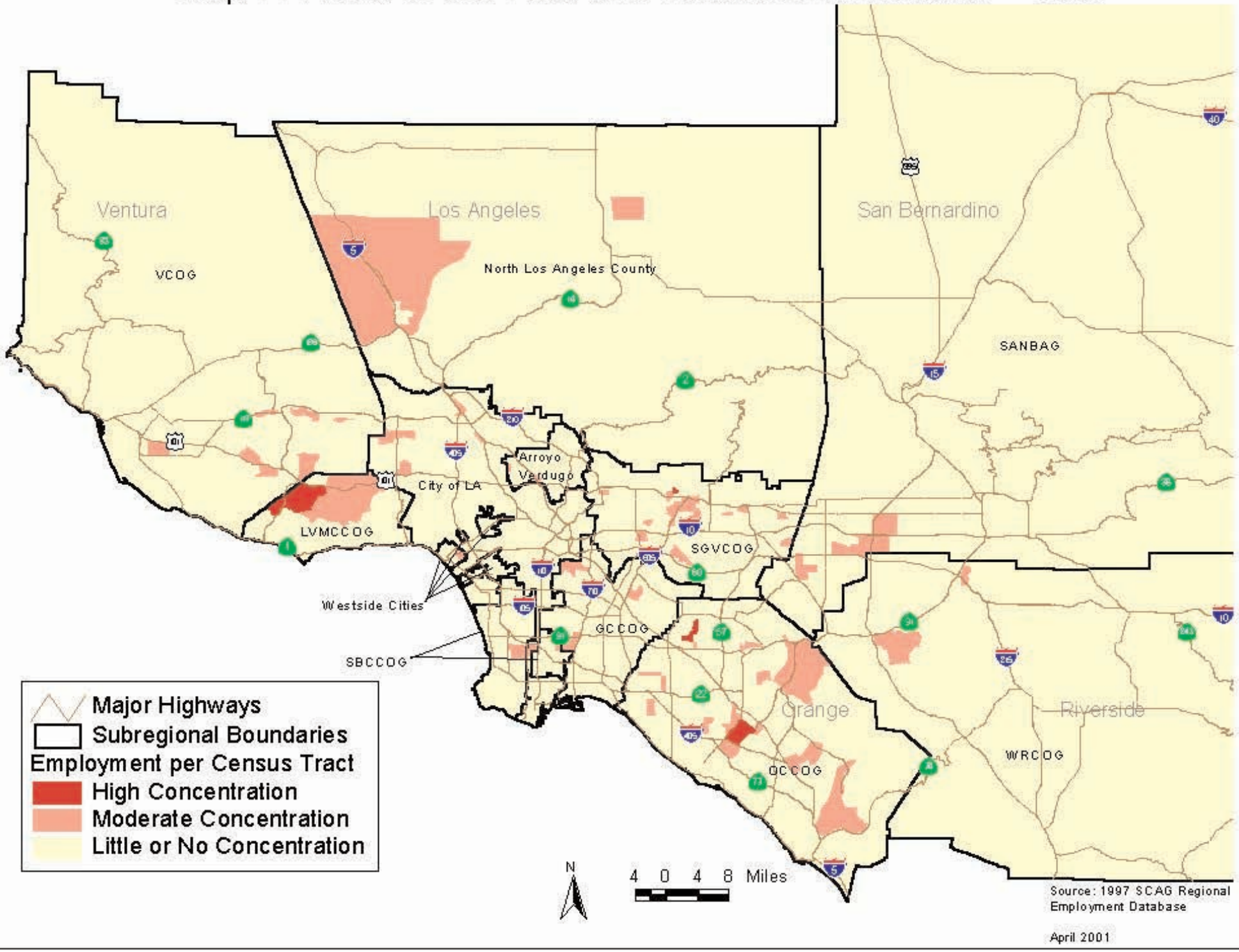
Map 9. Jobs in the Computer Hardware and Software Sector - 1997



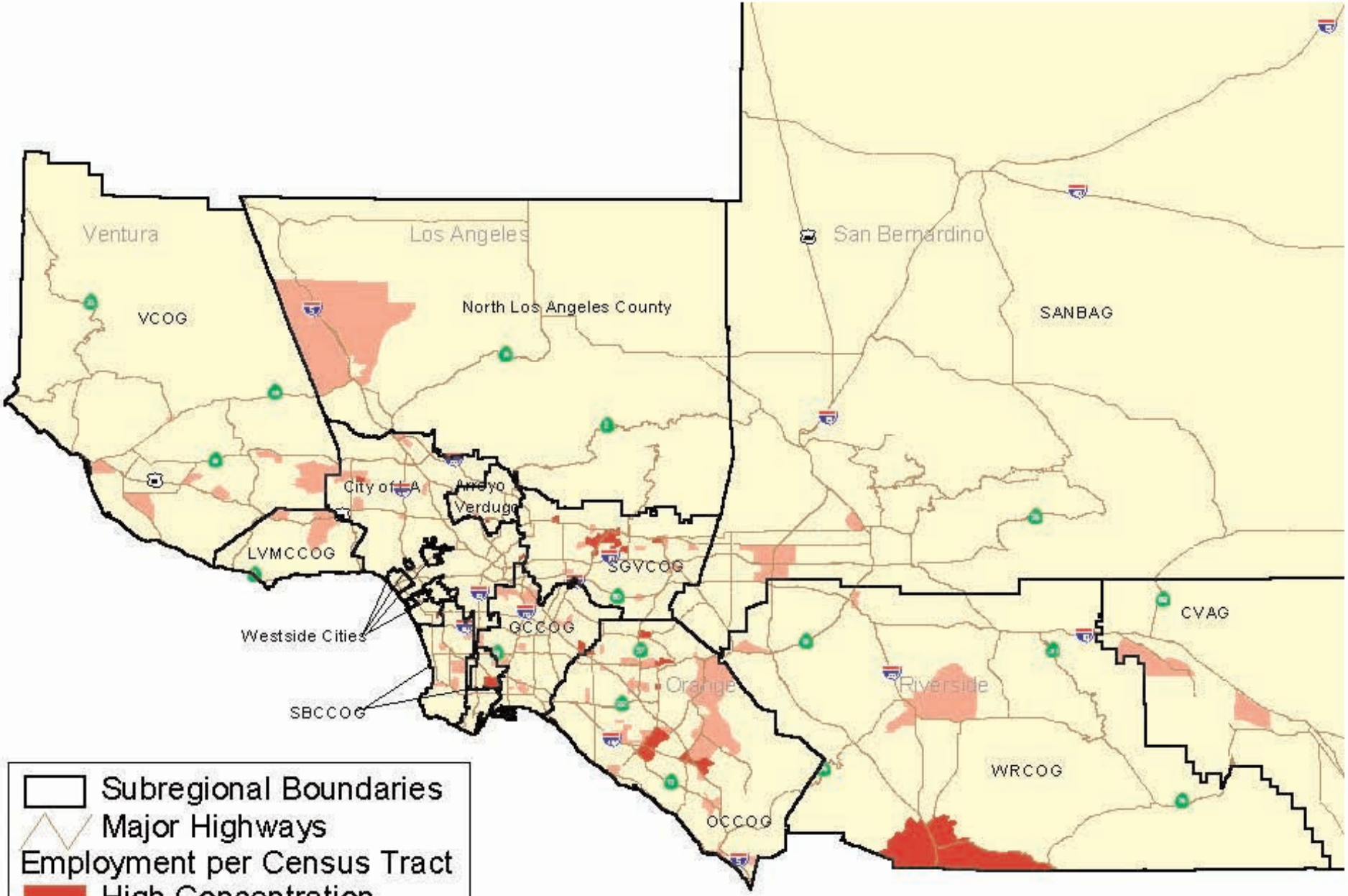
Map 10. Jobs in the Telecommunications Sector - 1997



Map 11. Jobs in the Test and Measurement Sector - 1997



Map 12. Jobs in the Biomedical Sector - 1997



Subregional Boundaries
Major Highways
Employment per Census Tract
High Concentration
Moderate Concentration
Little or No Concentration

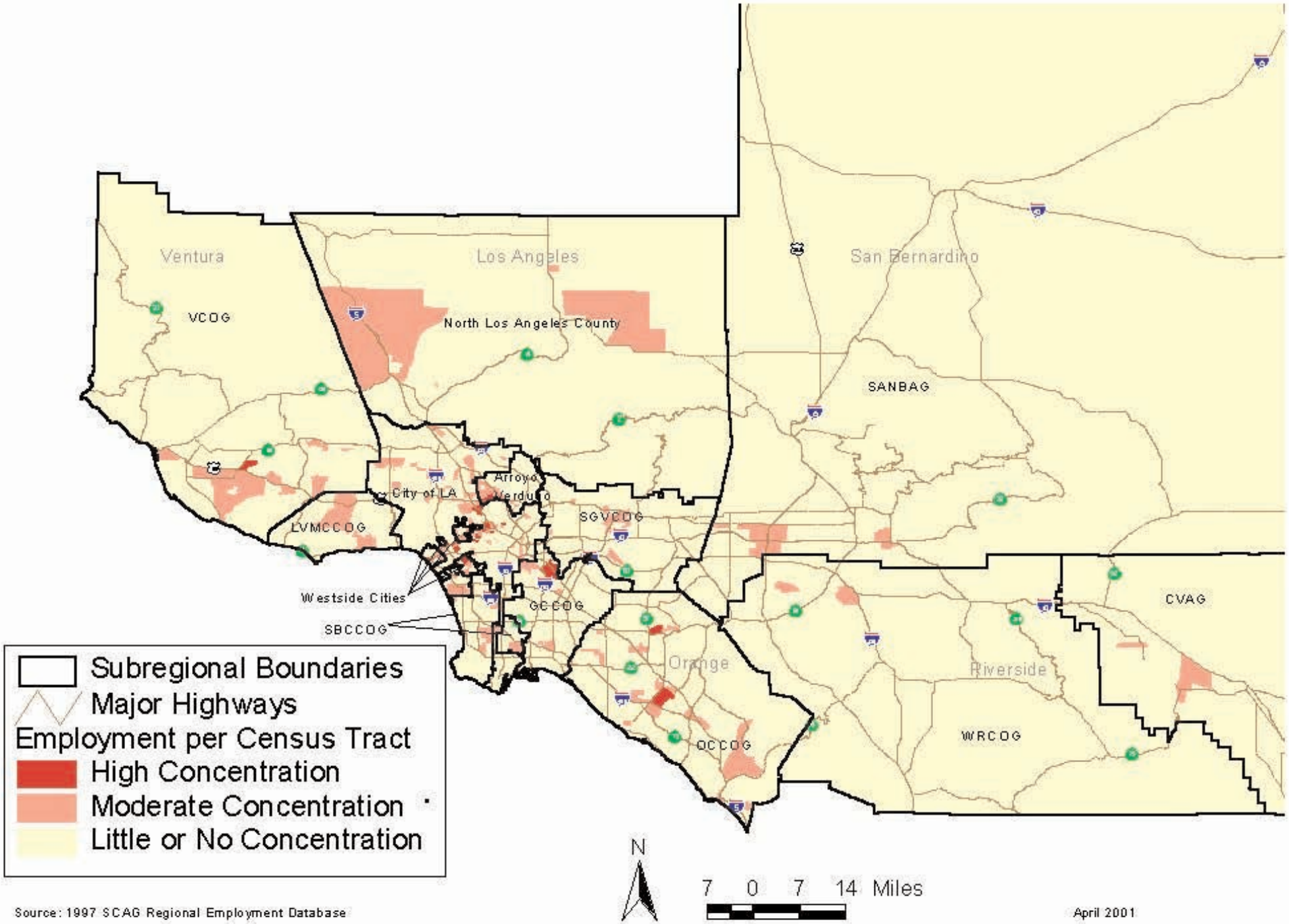
N

9 0 9 18 Miles

Source: 1997 SCAG Regional Employment Database

April 2001

Map 13. Jobs in the Entertainment Sector - 1997



Source: 1997 SCAG Regional Employment Database

April 2001

Compared to other regions of the country where the New Economy predominates, the clustering of high-tech industries is less pronounced and relatively more dispersed in the SCAG Region. This could be due to a number of factors, including the greater geographic expanse and economic diversity of the region, the embryonic nature and lack of maturity of many high-tech companies and conversely, the inability of some older, established companies to attract venture capital investments. Also, the fact that many of the information technology companies in the region have closer relationships to the companies that they serve than to other high-tech firms in that sector has likely inhibited the formation of intensely collaborative clusters.

High-tech companies have established themselves primarily in West Los Angeles, Santa Monica, the San Fernando Valley, Culver City, the South Bay cities (particularly Torrance and El Segundo), and in Irvine, Costa Mesa, and Brea in Orange County (see Table 20). Being close to the ocean and beaches, world-class research universities (particularly University of California-Los Angeles, University of California-Irvine, and the University of Southern California) and the only major international airport in Southern California (LAX) are important factors that explain the location of high-tech firms in these areas.

Table 20

Top 10 Cities for Venture Capital Investment, SCAG Region, 4th Quarter 1998

City	Investment (In Millions $)	% of SCAG Region
Los Angeles	$1,125	22%
Santa Monica	$719	14%
Irvine	$614	12%
Culver City	$299	6%
Pasadena	$257	5%
Torrance	$223	4%
West Lake Village	$179	3%
El Segundo	$149	3%
Costa Mesa	$144	3%
Brea	$131	3%

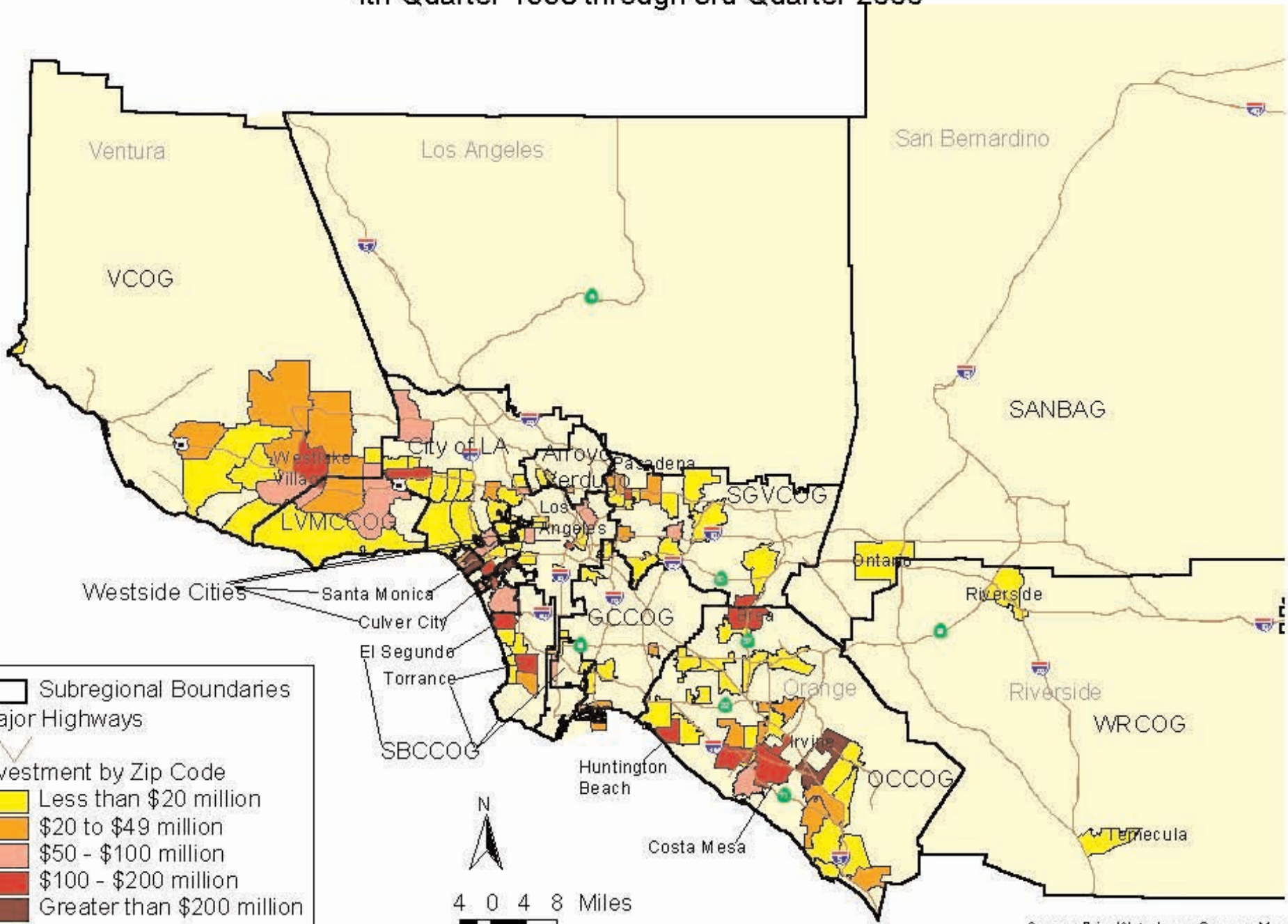
Source: PriceWaterhouseCoopers Money Tree Survey and Ventureeconomics.com

These areas are all jobs-rich, and the continued clustering of firms at these high-tech nodes will continue to exacerbate problems associated with job/housing imbalances, especially related to long commute distances. Santa Monica is establishing itself as a major player in the high-tech field. With the surge of new high-tech jobs there, traffic is now worse on I-10 travelling west from downtown Los Angeles than to downtown from Santa Monica. This is a reversal from historic traffic patterns, and signifies the diminished economic dominance of the central business district of Los Angeles in relation to Santa Monica and West Los Angeles (Shuit 2000).

Venture capital investments in the region closely correspond to the location of high-tech clusters in the information technology and biomedical technology sectors. As shown in Map 14, venture capital firms have recently made the majority of their investments in companies in Los Angeles,

Map 14. Venture Capital Investment in the SCAG Region

4th Quarter 1998 through 3rd Quarter 2000



Source: PriceWaterhouseCoopers Money Tree Survey and Ventureeconomics.com
April 2001

Irvine, Santa Monica and Culver City. Over the last two years, investments primarily have been in Internet communications, information management, and software development.

Venture capitalists also supported high-tech manufacturing industries, such as Capstone Turbine of Chatsworth and Precision Metals of Ontario. These data validate the thesis that venture capital investments are concentrated in existing high-tech clusters and reinforce their economic dominance. The exception seems to be investments in high-tech manufacturing, which involves standardized processes and lower skills levels, and is more sensitive to land and labor costs than research and development activities.

Venture capital investment is a key to attracting the high paying jobs of the New Economy. Map 15 shows projected employment growth by Transportation Analysis Zone. Much of the forecast job growth in Orange County and western Los Angeles County will be driven by venture capital investments that will create high paying New Economy jobs. However, the Inland Empire projects large job growth as well. Looking at recent venture capital investment and employment trends, a large portion of the job growth in the Inland Empire is expected to be comprised of relatively low paying blue-collar jobs in the Old Economy. Section VI includes strategies to help the Inland Empire attract the high paying jobs of the New Economy.

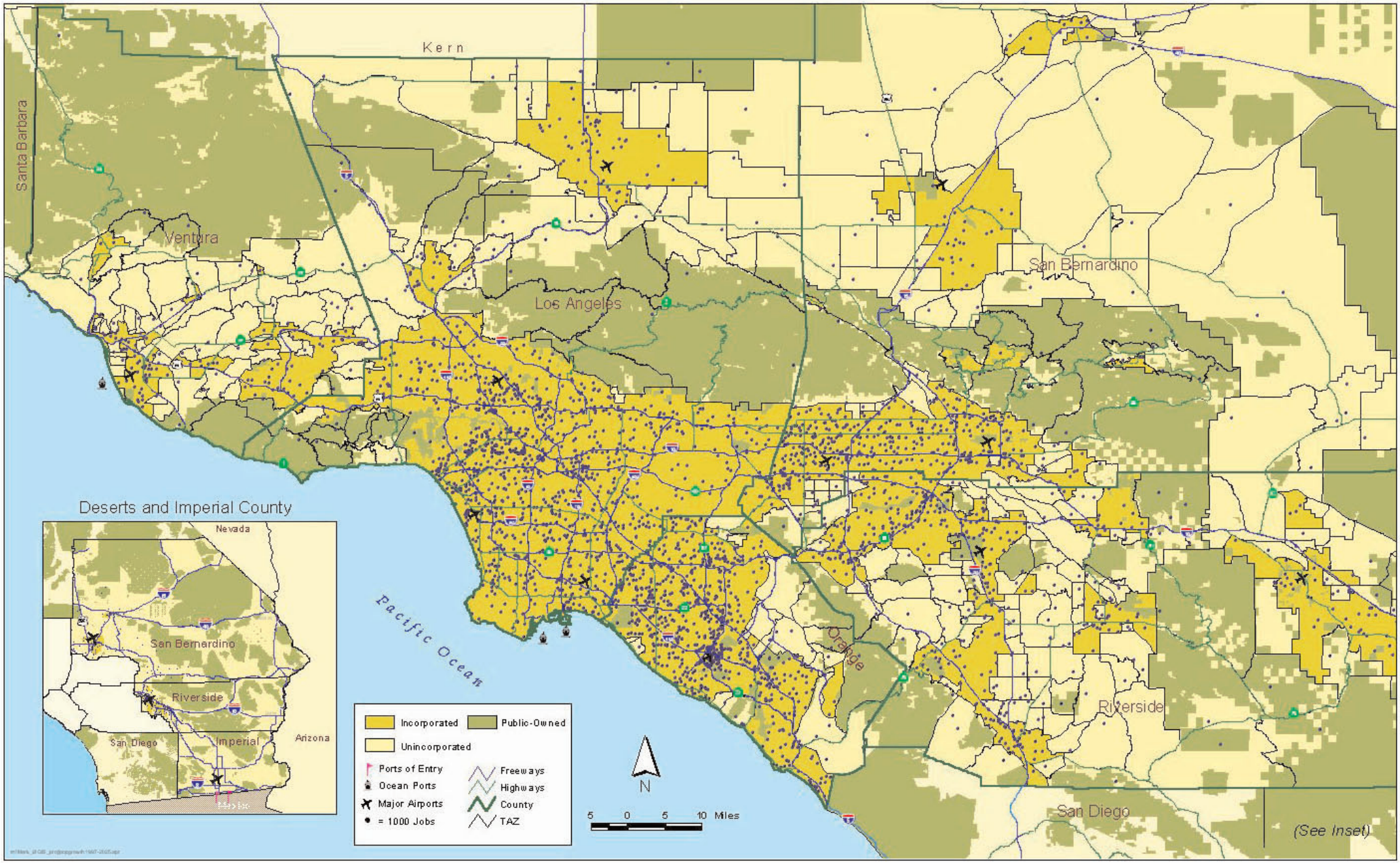
B. Fiscalization of Land Use

The previous section describes how the dynamics of the New Economy serve to reinforce existing jobs/housing imbalances, and counter the natural inclination of new job growth to move to locations where housing is in plentiful supply. This section will describe another recent phenomenon in California that also works to sustain current jobs/housing imbalances, by greatly weakening the incentive of local governments to support new housing development in urban areas. It was created by state voter initiatives that substantially reduced property tax revenues to municipalities, and greatly reinforced the tendency of local jurisdictions to promote land uses that generate the greatest tax revenues.

1. Propositions 13 and 218

Passed overwhelming by California voters in 1978, Proposition 13 places a limit on property tax rates of one percent of the value of the property. Before Proposition 13, properties were reassessed periodically and therefore property tax rates would increase as the property value rose. Increases in the valuation of property are now limited by Proposition 13 to 2% per year, and reassessments are made only upon a change of ownership. These changes have substantially reduced the amount of property tax revenue that goes to local governments. The percentage of total revenues derived from property taxes dropped from 33% in 1977 to 12% in 1996 for counties, and from 16% to 8% for cities (Chapman 1998). Furthermore, to shore up its budget deficits in the early 1990's, the State shifted a substantial portion of the property tax base of local governments to its General Fund.

Local governments, particularly cities, have largely made up for lost revenues from property taxes through increased business and users' taxes, fees and benefit assessments. However, these taxing powers were threatened by the passage of Proposition 218 last year. Under the provisions



Source: 1990 Tiger and '98 Thomas Bros. for cities incorporated after 1990; SCAG Transportation Analysis Zones; SCAG Population Forecast, adopted October, 2000

Map 15 - Job Growth in the SCAG Region by TAZ

1997 to 2025

SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS
December 2000

of Proposition 218, all new taxes and assessments proposed by local governments are now subject to voter approval.

2. Local Sales Tax

In California, of the 7.25% sales tax collected on retail transactions, 1% is returned to local governments. Thus, for every hundred dollars in retail sales, one dollar is returned to municipalities according to where the transaction took place. The local sales tax has been a relatively small but steady source of income to local governments, comprising 9-12% of total funds over the last three decades (currently about 9%) (Lewis and Barbour 1999). Its importance lies in the fact that, along with property taxes and vehicle license fee revenues, it is the only source of discretionary revenue that is available to local governments for all purposes. Since Proposition 13, however, cities have been very limited in their ability to raise new revenues from the property tax. The sales tax thus has become increasingly significant for local governments, despite its relatively flat share of total revenues over the last three decades.

The local sales tax is not equally important to all cities. A few very high-income, low-density residential communities derive little income from sales taxes. This is apparently because they derive sufficient income from property taxes to fund city services, and view commercial development as an incompatible and undesirable land use. Also, some cities rely less on sales tax revenues than others, because they are older and had established a more diversified revenue base prior to Proposition 13 (Hoene 2000). Patterns of sales tax revenues per capita in the urbanized portions of the region can be seen in Map 16.

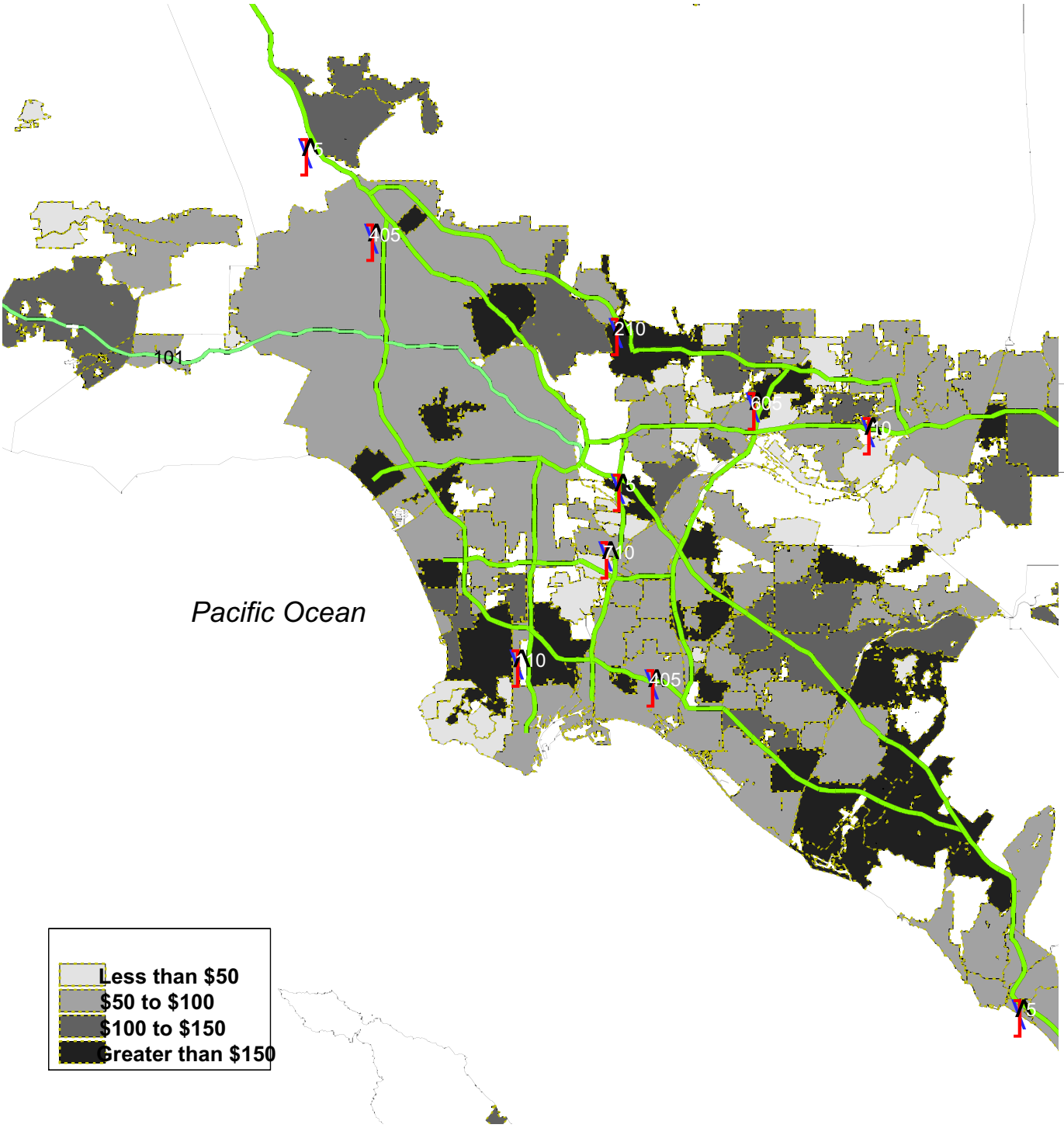
A recent study concludes that cities with the highest levels of sales tax revenues per capita are those with higher populations, fewer persons per household, good access to major highways, land devoted to redevelopment projects, and high income (except at the highest, upper-income levels) (Lewis and Barbour 1999). Cities with good freeway/highway access are presumably more attractive to major auto-oriented retail facilities, including auto malls and the "big box" stores that many cities covet. New cities in urban fringe areas and those with the highest population growth have relatively low levels of sales tax revenues per capita. This is most likely because they have had significant housing development but have not yet established a substantial retail base that can compete with well-established retail centers in urban core areas.

High sales tax cities are primarily in urban areas, with lower household sizes and a smaller percentage of children in the population. This is consistent with characteristics of areas in the region that have attracted high-tech clusters. In fact, there is a good correspondence of areas with high sales tax revenues per capita shown in Map 16 and the location of high-tech clusters and venture capital investments shown in Maps 9 through 11 and Map 14.

3. Sales Tax Competition

State records show that taxable sales as a proportion of personal income in the state have dropped by more than a third between 1950 and 1995 (Lewis and Barbour 1999). Recent trends in mail-order and Internet purchases are further contributing to declining sales tax revenues per capita, and have constrained local governments' collective ability to expand this desirable

Map 16.
Per Capita Sales Tax Revenues in the Los Angeles Area, 1995



Source: Lewis and Barbour 1999.

revenue source. However, the competition for sales tax dollars among cities has become increasingly intense, as cities fight over slices of a fixed revenue pie. This is because the local sales tax is one of the few revenue sources that can be substantially increased by an individual city as a result of decisions and actions to induce retail activity to locate within its borders. Since it is a zero-sum game, the winners in this contest to recruit retail business to their jurisdictions are only successful in shifting retail sales from one location to another within a region.

Much anecdotal evidence exists about cities offering various incentives and inducements to lure retail business to their jurisdictions, banking that in the long run they will derive a net benefit from the sales tax revenues. For example, according to *The Orange County Register*, in 1988 the City of Fountain Valley successfully landed a Price Club store (now Costco) which wanted to move from its Santa Ana location. Inducements offered to Price Club included 30 acres of land, an $8.8 million subsidy to help purchase land, and $3.5 million in capital improvements in the area. The city is more than getting its money back, and in the early 1990's, Fountain Valley hired six new police officers as a result of the sales tax revenues provided by the Price Club. Similarly, Buena Park was able to lure several car dealerships away from Fullerton by offering attractive incentives (Larsen 1999).

A more objective documentation of the preference of cities for retail development over other types of uses was developed by a recent survey, conducted by the Public Policy Institute of California, of top administrative officials (usually the city manager or administrator) of 330 California cities. The survey found that retail projects are the land use most preferred by city governments in California for both new development projects on vacant land and city redevelopment projects. This was followed, in order of preference, by office, mixed-use development, light industrial, single family residential, multifamily residential, and heavy industrial uses. The survey also found that of 20 possible factors influencing development and redevelopment decisions, "maximizing sales tax revenue" is ranked by 72% of cities as the primary factor motivating their decisions about development on vacant land, while two-thirds consider it the prime motivation on decisions about redevelopment projects. It is also ranked second by cities out of 12 potential factors that influence their annexation decisions. Cities ranked "likelihood of job creation" fifth and "meeting affordable housing needs" sixteenth as factors influencing both their development and redevelopment decisions (Lewis and Barbour 1999).

4. Land Use Impacts

What does this preference for retail uses by cities mean for local and regional land use and development patterns? At the local level, cities' recruitment of "big-box" stores and auto malls, that generate high levels of sales tax revenues per acre, can deplete the vitality of existing downtown areas. At the regional level, the preference of retail over other land uses, particularly residential, can have adverse impacts in terms of sustaining and reinforcing patterns of jobs/housing imbalance.

It is well documented that housing is viewed by many cities as a money loser, costing more in the services it requires than the limited property taxes it generates. Housing generates less property tax per acre than most other uses, no sales tax, and requires an investment in schools,

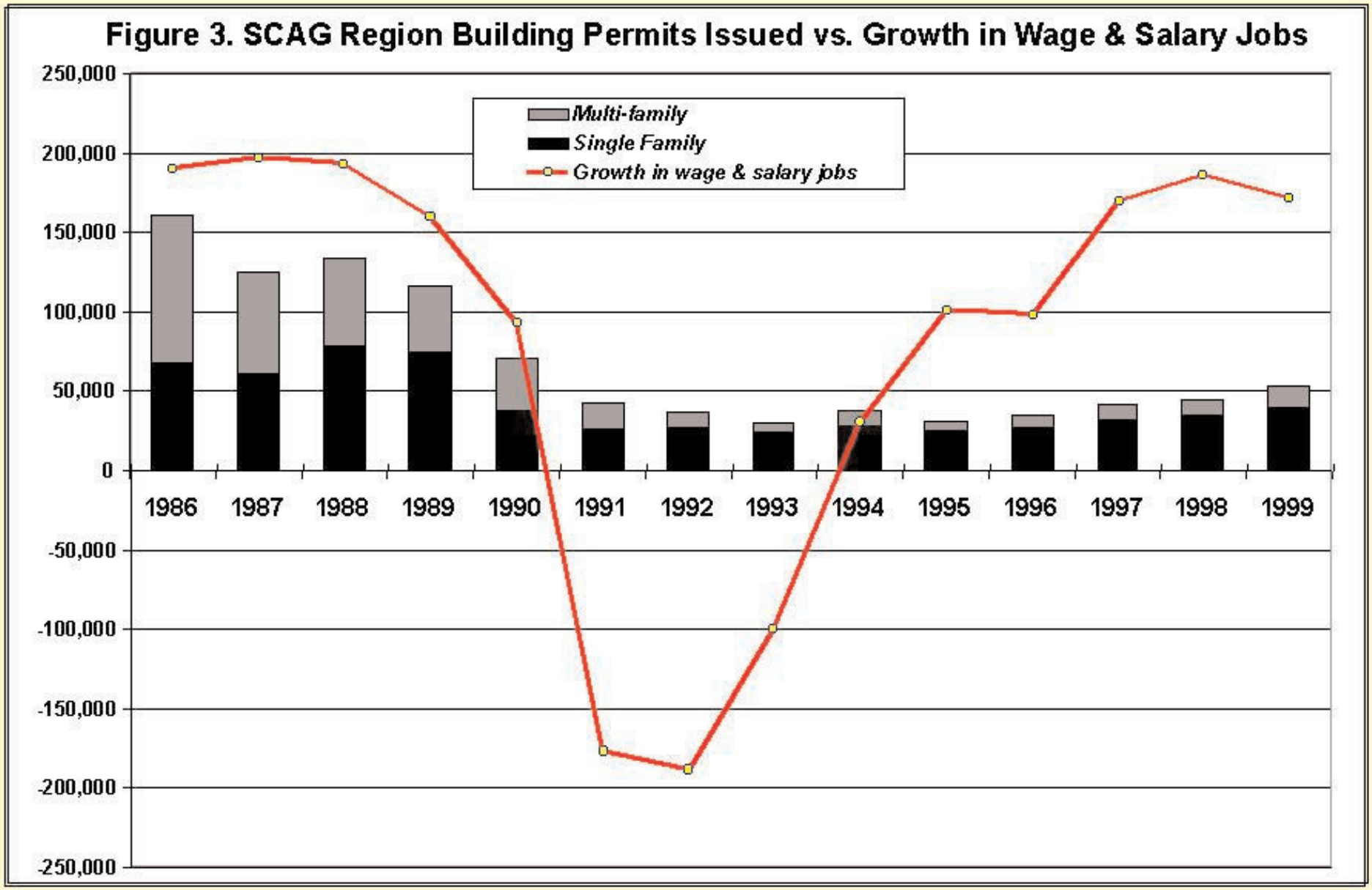
police, and other public services. New residents generate sales tax revenues only to the extent that they shop in the same city in which they live. As a consequence, cities may be reluctant to approve new housing projects, and provide zoned vacant land only for a limited amount of low-density housing, with large, expensive homes on large lots that generate more property tax revenues per new resident. The affluent residents that can afford the larger homes are also more likely to attract the high-end commercial uses that cities desire.

The "fiscalization" of land use that leads to "cash box" zoning thus serves to reinforce generally negative community perceptions about high-density housing that are longstanding and pervasive. Consequently, most local land use policies call for lower-density housing development and discourage attached multi-family housing. In combination with increased liability costs for condominium and town home construction, and increased land costs that constrain profits that can be gained from building low-cost housing, the construction rate of multi-family dwellings has plummeted as a result. More than two-thirds of the housing units built in the San Francisco Bay area since 1990 have been single-family detached homes (Association of Bay Area Governments 1999). In Orange County, there has been a 74% decline in multi-family dwellings built over the last ten years (Nguyen 1999). In Los Angeles County, less than 3,000 apartment units will be constructed this year despite the addition of 86,000 jobs (Sanchez 1999). The insufficient production of multifamily apartment units in the region since 1991 is displayed in Figure 3.

Conversely, cities are likely to zone more land for retail, office and light industrial uses than they need, in order to provide developers a large portfolio of potential land sites for these desired uses. They are also more likely to grant a general plan change or rezoning for these uses, and base their annexation decisions on the potential inclusion of uses within city boundaries that produce the greatest revenue.

This documented bias of many cash-strapped cities towards retail and against housing, particularly high-density, multi-family housing is contrary to achieving a more balanced geographic distribution between jobs and housing in the region. Retail uses generally create low-paying sales jobs filled by employees who typically cannot afford to purchase single-family homes. If an adequate amount of multi-family/rental housing is not supplied in tandem with the retail uses desired by cities, then retail employees are forced to commute to where this housing is available. Since commercial/retail centers are generally found in established urban areas with relatively high incomes, and affordable housing is most available in urban fringe locations, then long commutes for many retail and other service workers are inevitable. The net result is increased congestion, increased pollution, and declining quality of life. Like San Francisco and Silicon Valley, this problem is most acute where retail and other service workers (as well as some white collar workers) employed in and around high-tech clusters are forced to compete with affluent high-tech workers for scarce and expensive housing.

Local governments in California tend to view some land uses such as large retailers as fiscal "winners", and others like affordable high-density housing as fiscal "losers." Local governments typically seek to attract the winners inside their boundaries and steer clear of the perceived losers. This has led to a competitive approach to land use planning and has fostered an atmosphere of distrust and competition instead of cooperation between cities in the same region.



Source: Construction Industry Research Board and California Employment Development Department

A lack of cooperation between local governments makes it exceeding difficult to achieve balanced land use goals on a regional basis.

In summary, the "fiscalization" of land use produced by Proposition 13 and subsequent initiatives and governmental actions has created a bias against the production of housing by local governments, and has served to dampen the production of much-needed housing. It has also exacerbated jobs/housing imbalances throughout the region, and fostered an atmosphere of competition and distrust among jurisdictions. In combination with the strong "agglomeration" economies of the New Economy that were previously discussed, the natural tendency of regional development to achieve jobs/housing balance over time is being thwarted by these new trends. This has negative implications for a region that is struggling to cope with increasing highway congestion with limited transportation dollars, and to meet increasingly stringent state and federal ambient air quality standards.

C. Expansion of Old Economy Industries Into Housing-Rich Areas

There are other major development trends in the region that are working toward increasing regional jobs/housing balance, and are helping to offset the trends previously described that are negatively impacting the goal of achieving jobs/housing balance in the region. One positive trend is the robust expansion of traditional "Old Economy" industries in housing-rich areas of the region, particularly the Inland Empire (i.e., Riverside and San Bernardino counties) and North Los Angeles County (i.e., Santa Clarita and Antelope Valleys).

1. Inland Empire

Historically a housing rich subregion of the SCAG region, the Inland Empire has reached a phase of developmental maturation that is beginning to achieve a much more balanced pattern of growth. From 1990-2000, it had Southern California's fastest growing economy, accounting for 40% of the 695,000 gain in overall Southern California employment (including San Diego County). This represented a 38% expansion of the local job market, compared to 9.6% for Southern California as a whole. During the 1990's the Inland Empire's job growth exceeded that of Santa Clara County, which contains Silicon Valley (275,000 vs. 155,000). Even during the period of recession from 1990 to 1994, the Inland Empire added 25,000 jobs while Southern California was losing 600,000 jobs. The Inland region did this despite the closure or downsizing of three major military air bases and loss of several large defense contractors. In the expansion years of 1997-2000, when the state added jobs at a rate of 2.8% to 3.4%, the Inland Empire grew at a rate of 4.6% to 5.7% (Husing 2000). Clearly, much of the economic energy of Southern California moved inland into Riverside and San Bernardino counties in the 1990's.

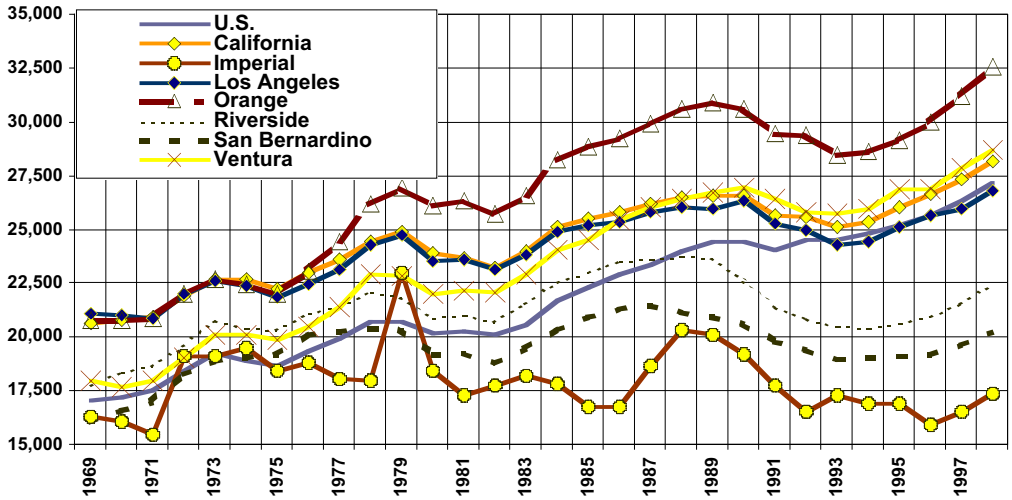
Most of this economic expansion was in blue-collar employment sectors. Of the 762 firms that either moved to the Inland Empire or expanded their operations there from 1994 to 2000, 56.6% were manufacturers and 33.1% were distributors. The Inland Empire thus is following the classic model of regional economic development--manufacturers and distributors are flocking to the area to take advantage of significantly lower land and labor costs than the average for the region, as well as lower housing costs and commute times for their employees. The availability of reasonably priced industrially zoned land, and superior intermodal rail, truck and air cargo

facilities in the Inland Empire have been lures to manufacturers and distributors. In an era of exploding international trade, Southern California has become the leading international gateway for the country, and the Inland Empire is becoming the goods handling and distribution center for Southern California. Map 17 shows the location of employment clusters associated with warehousing and trucking in the region (115,083 jobs in 1997), which are concentrated in the vicinity of Ontario International Airport.

Development is showing the first signs of pushing deeper in the Inland Empire, moving east, south and north to less expensive, outlying areas. Both industrial and housing development are moving east along the I-10 corridor to Fontana, Rialto, Colton and San Bernardino and along the Route 60 corridor to Riverside and the Moreno Valley-Perris area. Development is moving south along I-15 to Temecula, spurred by employment and population growth in Northern San Diego County.

Current trends bode well for increasing jobs/housing balance in the Inland Empire. From 1990 to 1999, a total of 202,600 local Inland Empire residents gained new employment, while local firms and agencies created 197,500 new wage and salary jobs. About 25,000 of the 202,600 people who gained employment were entrepreneurs. They do not account for any of the wage or salaried jobs. Therefore, the number of new people who went to work in the Inland Empire over the last decade exceeded the number of newly employed Inland Empire residents. Given current rates of population and employment growth, over the next ten years the growth of new workers and new jobs will likely balance (Husing 1999).

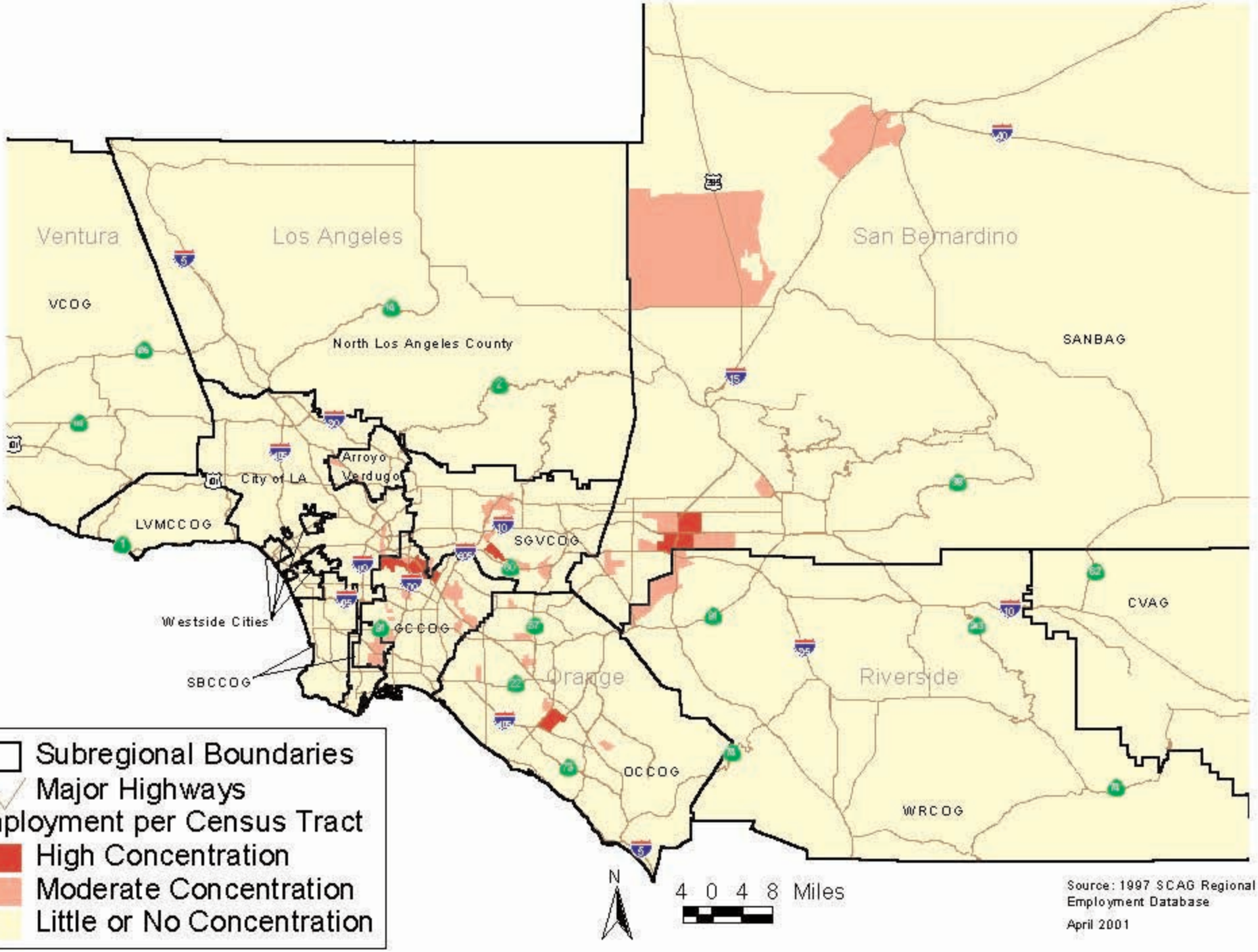
Figure 4. Comparison of Per Capita Personal Income
(1998 Constant Dollars)



Source: Bureau of Economic Analysis

However, one trend that has negative implications for achieving the benefits of jobs/housing balance is the increasing wage disparity between the Inland Empire and the rest of the region. As shown in Figures 4 and 5, over the last twenty-five years the per capita personal income of the Inland Empire has dropped significantly compared to the regional average (although Riverside County has closed the gap somewhat since 1996). This disparity can undermine the benefits of achieving a numerical balance between jobs and housing in the Inland Empire. For

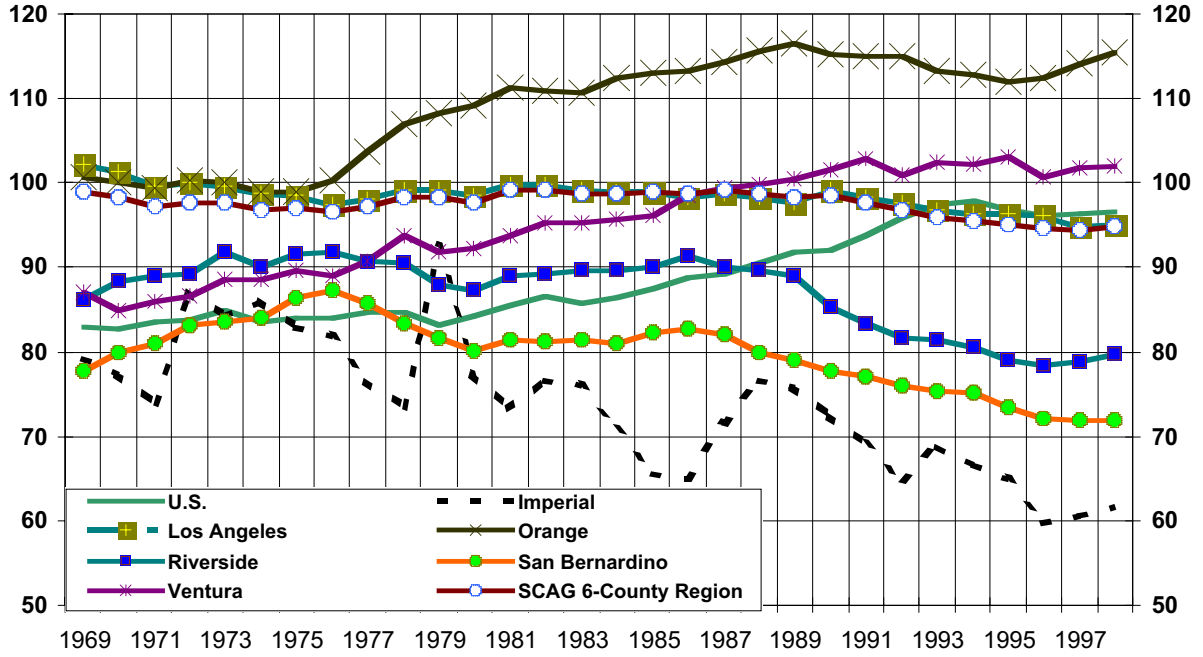
Map 17. Jobs in the Warehousing and Trucking Sector - 1997



example, it could be considered a logical lifestyle choice of many commuters to commute long distances to high-paying jobs in Los Angeles and Orange counties from their homes in the Inland Empire, where they can afford to buy expansive houses on large lots. Local governments and developers are inclined to provide that kind of housing if there is a market for it, because of the fiscal and financial benefits. However, as housing prices rise in the Inland Empire, many local employees become priced out of the local housing market.

This phenomenon is evidenced in Temecula in Riverside County, where new homes (average 1999 price: $207,000) are being bought primarily by commuters to North San Diego County, where housing is more expensive. Many workers employed in Temecula (average wage: $31,000) cannot afford the housing that is available, and must commute in from outlying areas where they can find housing that they can afford (Downey 2000).

Figure 5. Index of Per Capita Personal Income
(CA per capita Income = 100)



Source: Bureau of Economic Analysis

The logical solution to this dilemma is to both attract more higher paying jobs to the area, and to provide a portfolio of housing that is a better match to the local wage scale. Strategies to implement these kinds of solutions are examined in Section VI below.

2. North Los Angeles County

The northern portion of Los Angeles County (i.e., Santa Clarita and Antelope Valleys) has long been a housing-rich subregion of the SCAG Region. It is not unusual for workers living in this area of affordable homes to commute two hours or more each way to their jobs in the urban core areas to the south. In the Antelope Valley, more than 30% of residents are on the road at least two hours a day (Nazario 1996). Roughly 30% of the employed people who live in the Antelope

Valley commute to jobs someplace else (Howard 2000). This situation has been exacerbated by the fact that North Los Angeles County was disproportionately impacted by the recession in the early 1990's, losing many local jobs. Palmdale and Lancaster, with a combined population of 225,000 then, were particularly hard hit, losing about 40,000 well-paying (average $45-50,000/year) aerospace jobs.

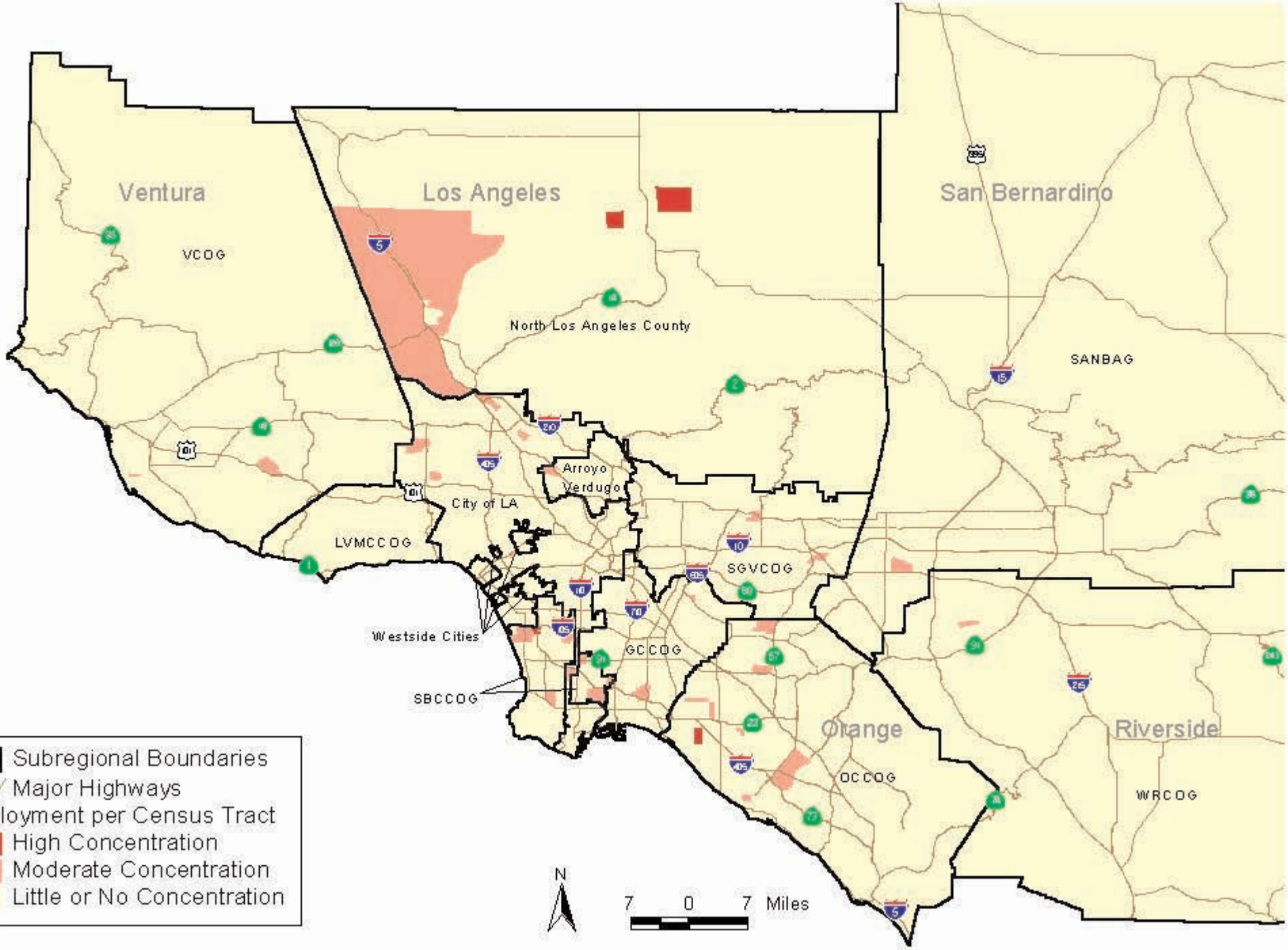
In the late 1980's, Palmdale was ranked as the nation's fastest-growing city. In the early 1990's, the Antelope Valley became known as the foreclosure capital of the world (Willis 1999). Since then, the housing market of North Los Angeles County has substantially recovered. The number of foreclosures in the Antelope Valley has fallen from about 100 a month in the early 1990's to about 10 per month, and median home prices jumped 23% from 1998 to 1999 (Netherby 1999). There has been an upward swing in residential sales, and many housing development projects that were put on hold because of the recession are now being revived. SCAG is forecasting a 169% increase in population in North Los Angeles County from 1994 to 2020 compared to 33% for Los Angeles County as a whole (Southern California Association of Governments 1998).

An even greater employment growth has been forecast for North Los Angeles County—199% from 1994 to 2020. Although this job growth is far from sufficient to bring the subregion into jobs/housing balance, it signals an encouraging trend. Although the area lost many aerospace jobs, there has been a consolidation of the vastly contracted aerospace industry in North Los Angeles County. Over the past decade, Lockheed Martin relocated its "Skunk Works" operations from Burbank to Palmdale in the 1990's and moved some of its C-130 maintenance work from Ontario, while Northrup Grumman moved some operations from Pico Rivera. The aerospace industry employs 21,000 people in the Antelope Valley, roughly half the total workforce (Netherby 1999). Map 18 shows the location of aerospace technology clusters in the region (42,409 jobs in 1997), with high-density aerospace employment around Air Force Plant 42 in Palmdale as well as Edwards Air Force Base to the northeast. If efforts to bring work in building the Joint Strike Fighter to Palmdale ($500 billion to $750 billion over the next 30 years) prove to be successful, this could substantially increase high-paying aerospace employment in the Antelope Valley.

Like the Inland Empire, North Los Angeles County has become attractive to warehouse operations and distribution firms because of its relatively inexpensive and developable land, low business taxes and tax credit incentives, fast-track permitting, affordable homes, and good access to Los Angeles markets to the south. Rite Aid Pharmacies and Michael's Arts and Craft's have both recently moved their distribution centers to the Antelope Valley. In addition, the Santa Clarita Valley serves as a low-cost haven for film and television production, as shown by the Entertainment Industry Cluster map in Map 13. There has also been substantial commercial development, sparked by the recent resurgence in residential growth and stabilization of the aerospace industry. In 2000, a Dillard's department store, Lowe's Home Improvement, Barnes and Noble, Linens 'n Things, Ross Dress for Less, and Sport Chalet opened in Palmdale (Howard 2000). These stores have added to the city coffers with their sales tax revenues.

Expansion of the Palmdale Regional Airport at the Air Force Plant 42 complex presents opportunities for the aerospace industry and air cargo companies to grow in North Los Angeles

Map 18. Jobs in the Aerospace Technology Sector - 1997



Source: 1997 SCAG Regional Employment Database

April 2001

County. SR Technics, a Swiss-based jumbo jet maintenance and repair company, recently decided to place its North American aircraft maintenance and overhaul operation at Palmdale Airport. They hired 150 employees by the beginning of August 2000 (Howard 2000), and could expand to employ 3,000 to 5,000 workers as the workers "maintain the SwissAir fleet as well as jets from thirteen other airlines" (Jergler 1999). City officials have been in talks with other aerospace companies that are looking to expand in Palmdale. Airport officials are marketing the airport to commercial airlines and have plans for a new 600,000 square-foot terminal (Bitton 2000). They have landscaped the grounds to make them more passenger-friendly, and have made runway improvements and are planning to build a cargo ramp to accommodate expected growth in air cargo. Plans are also underway to substantially improve ground access to the airport, including an east-west bypass that would connect the airport to Rte. 14 and I-15 near Victorville.

Although job growth in North Los Angeles County has not been as robust over the last several years as growth in the Inland Empire, the types of jobs have been on average higher paying. This is primarily related to the migration of white-collar employment from the San Fernando Valley up into the Santa Clarita Valley. Also, there is considerable potential for expansion of aerospace employment in the Antelope Valley due to the move of SR Technics aircraft maintenance operations to Palmdale, potential expansion of Palmdale Airport, and potential work on the Joint Strike Fighter at Air Force Plant 42.

D. Expansion of New Economy Industries Into Housing-Rich Areas

There are some encouraging signs that New Economy industries, despite their strong agglomeration tendencies within established high-tech clusters, are beginning, albeit tentatively, to spread to outlying housing-rich areas of the region. In the Inland Empire, local governments in partnerships with universities are proactively creating a fertile environment for New Economy companies to take root and flourish. Despite its robust economy, the Inland Empire would achieve a greater level of economic diversification, with more higher-paying professional-level jobs, if local efforts are successful in inducing New Economy companies to locate and expand there.

In the last three quarters, venture capital firms have invested in companies based in the Inland Empire in the cities of Ontario, Temecula, and Riverside. This may be a prelude of future investment activity within the region. There are several technology parks in the Inland Empire seeking new high technology firms and seeking venture capital investments for these firms. There are numerous colleges and universities in the region that are producing tech savvy graduates. Ontario International Airport and several former military airbases have great potential to accommodate expanding regional demands in commercial air travel and airfreight. Many of the conditions necessary for venture capital investment are in place in the Inland Empire. It will take time for these factors to forge the synergistic relationships that are necessary to successfully incubate New Economy clusters. These factors are discussed further in the section "Innovative 'New Economy' Mechanisms."

Another positive trend is the migration of information technology firms north from the San Fernando Valley into the Santa Clarita Valley, lured by the availability of developable

commercial and industrial sites with good freeway access to Los Angeles markets to the south. More than 40,000 people now work in manicured industrial and business parks that line the I-5 freeway in Santa Clarita Valley (Sanchez, 1999). Eventually, these types of high-paying jobs should also migrate north to the Antelope Valley to capitalize on its highly educated workforce of current and former aerospace employees. Attraction of New Economy knowledge workers to the Antelope Valley is likely contingent on the successful retraining of aerospace workers and the Valley's ability to attract venture capital to the area (there were no venture capital investments in North Los Angeles County over the last two years). Success in attracting commercial passenger and cargo airlines to Palmdale Airport would also serve as a catalyst in attracting information technology companies to the area.

VI. AVAILABLE MECHANISMS TO PROMOTE REGIONAL JOBS/ HOUSING BALANCE

This section explains possible strategies that cities can employ to encourage household production in jobs-rich areas and to attract "New Economy" jobs in housing-rich areas. The jobs/housing imbalance in the region is a complicated issue that deserves more attention beyond this paper. Further research is needed to determine which of the following strategies may be most appropriate for different cities and subregions within the SCAG region.

A. Strategies to Encourage Housing Production

1. Economic Inducements

Financial inducements to promote housing construction are the most obvious, but also most limited tool for local governments, and generally consist of Federal and State housing entitlement programs (HOME and CDBG), and local redevelopment funds. Communities can, and do, offer direct subsidies for specific developments.

Cities can and should encourage appropriate housing developments through local inducements. These inducements can take essentially three forms: economic (subsidy), land use, and regulatory (fees and development standards).

Economic inducements can be used either to encourage housing construction or to encourage job growth. In Riverside County, a package of economic incentives is being proposed that would make it attractive for developers to build housing with higher densities than the current average (Warkentin 2000). These inducements would allow the developer to build high-density housing and sell it at the market rate. Financial inducements that give developers density bonuses can be used to spur infill housing, more affordable housing, and higher densities. Cities can offer economic inducements for housing development in jobs-rich areas. Developers building in jobs-rich regions can be rewarded through financial incentives and developers desiring to build more housing in housing-rich regions can be discouraged through phasing additional housing growth with added job growth. Cities must make sure, however, that the incentives are fair enough so that all housing production does not stop and so that the housing that is produced is affordable. If cities impose development fees, a developer simply may pass the fee on to the buyer. This would drive the housing prices higher.

A city's land-use and zoning ordinances have a more indirect but equally powerful effect on housing development. Generally, in order to make housing development more attractive to developers, jurisdictions increase the maximum densities for specific sites or neighborhoods. This improves the economy of scale for developers, and makes projects feasible. Additionally, cities can make their zoning codes more flexible, for example by creating intermediate zoning categories, to spur development.

Finally, communities can increase development by improving the regulatory climate in which developers operate. Communities can do this by reducing or waiving fees, cutting down permit

processing time and easing excessive development standards. One particularly effective approach is to cut parking requirements, as discussed later.

All of these tools can be used as combined or stand-alone approaches to foster housing development in desired circumstances, such as near job sites or transit centers, or in an infill setting. Communities can use these approaches strategically to mitigate real or perceived negative impacts from additional development. For example, fees and development standards might be reduced only for developments that meet a specific policy objective, such as providing deep affordability or providing higher density near a transit stop.

Cities can promote both housing and jobs development through mixed-use development and transit-oriented development as they encourage developers to locate housing in areas where zoning permits both jobs and housing and in areas along transit routes. Financial inducements can focus this development into urban areas where transit lines already exist. Infrastructure investments are important, as there are often infrastructure deficiencies that need to be addressed before further development can take place. If local jurisdictions provide these investments, then the developer does not have to factor these costs into the cost of building housing. Infrastructure investments drive down the cost of building housing.

2. Infill Housing Strategies

Infill housing, defined earlier in this paper as housing that is built in urbanized areas on underutilized or vacant lots, is a necessary strategy for urban subregions, such as the City of Los Angeles. This report shows that Los Angeles and Orange Counties do not have enough raw, developable land to accommodate their projected population at current densities. When there is very little undeveloped land on which to expand, cities must look to reuse their existing developed acreage. This may entail taking abandoned lots and redeveloping them for housing, converting old buildings to new housing uses, adding to existing buildings, or tearing down existing buildings and rebuilding on the site. Infill housing is beginning to take shape in downtown Los Angeles. There is a 121-unit project underway in Grand Central Square in the heart of the historic core of the city (Skelley 2000). Some buildings in the old bank district of the city are being converted to residential loft apartments (Dublin 2000).

Cities can encourage infill development in various ways (Sargent 1994, Bragado et al 1995). Proactive planning that invites citizens to map out a vision for their community can bring the issue of future housing needs to the table and can help diffuse community opposition to much needed housing. A city can target and map infill sites so that developers will know what is available and so citizens will know where future housing may be built. Cities can also establish redevelopment areas around existing and proposed transit centers, as discussed in the section on transit-oriented development below. Local governments do not have to work on their own - they can collaborate with developers in joint developments to create infill housing. Development fees can be set to encourage infill and discourage sprawl.

Public perception of redevelopment and infill housing is often negative. Plans for infill housing can address these negative perceptions by conveying to the public that the housing is for people already living in the community. The new housing is for the adult children of the current

residents, so that they can live close to family. The new housing is for essential members of the community, such as teachers, police officers, and public servants who are getting squeezed out of the housing market by escalating prices. By conveying that the infill housing is for "us" and not the feared "them", communities can build support for infill housing (Benest 1991).

Another common misperception of infill housing is that it is unattractive and that it will lower property values. By sponsoring infill housing design competitions and by working with the residents of a community, planners and architects can design infill housing that is a valued part of a community. Taking citizens on tours of attractive infill housing is also valuable in changing public perception about infill housing. Education campaigns that promote the need for infill housing are important. City councilmembers that decide zoning restrictions need to be educated on the importance of infill housing in a community. They in turn can take this knowledge to their constituents. Citizen education and involvement is an important part of producing infill housing that is well received.

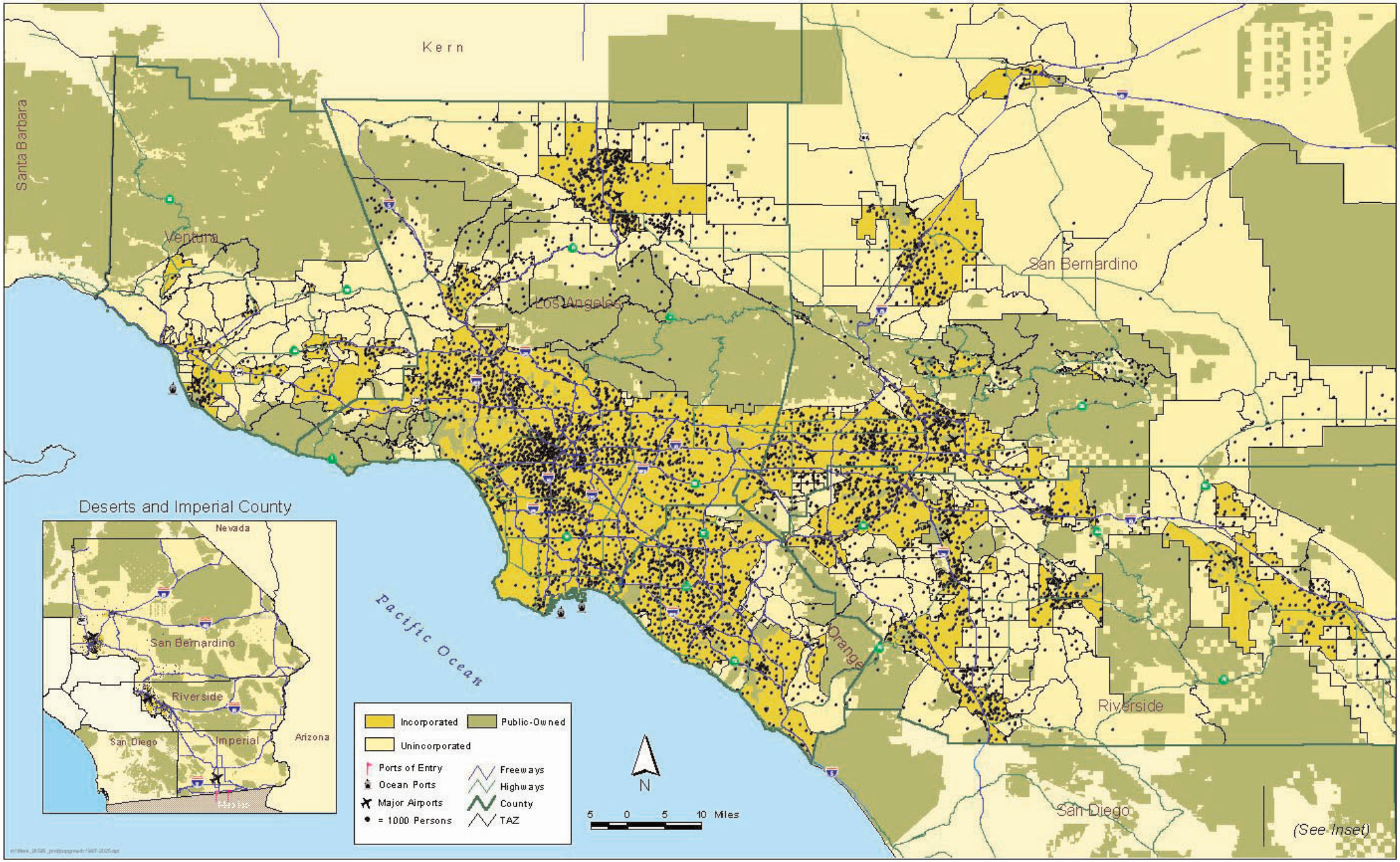
There are multiple ways that local governments can help promote infill housing, as cited in Suchman (1997). These strategies include:

- Create a planning framework that encourages infill development
- Review zoning ordinances, development regulations, and building codes to ensure that they encourage infill housing
- Provide high-priority processing of development approvals and permits to infill developers
- Make public investments and provide public services in neighborhoods targeted for infill development
- Provide potential developers with valuable information
- Prepare master environmental impact reports
- Assist infill developers with land acquisition and assembly
- Gain community acceptance for infill housing projects
- Help individual projects succeed
- Consider creative institutional solutions

As the population increases and as building activity does not nearly keep pace with the population increase, new housing strategies must be considered. Furthermore, continuing to build in the unincorporated areas of the region will tax the infrastructure, including roads, water, electricity, and other infrastructure. With one third of the future expected growth going to the unincorporated regions (Map 19), open space will diminish and traffic will get worse as more people use the highways to go from housing centers to job centers. By itself, infill housing is not the answer. However, it is an important component of an overall strategy toward providing enough housing for residents in urban areas of the region. It is a particularly appropriate strategy for helping to increase the housing supply in the jobs-rich counties of Los Angeles and Orange.

3. Parking Reductions

One of the simplest ways that communities can spur development of housing, particularly within the much-needed multi-family market, is to reduce parking requirements under certain conditions. Standard parking requirements (generally two off-street spaces/unit) can add



Source: 1990 Tiger and '98 Thomas Bros. for cities incorporated after 1990; SCAG Transportation Analysis Zones; SCAG Population Forecast, adopted October, 2000

Map 19 - Population Growth in the SCAG Region by TAZ

1997 to 2025

SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS
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significantly to the cost of development. In the City of Los Angeles, for example, this can constitute an additional $25,000 in development cost per unit (Los Angeles City Housing Department 2000). Cities can not only create an incentive for private housing development by reducing these requirements, but also add value to transportation and service investments by linking parking reductions to transit and retail accessibility. Similarly, cities can effectively add housing, at no cost to the municipality, by looking at other planning and building standards that add unnecessary costs to the development process.

4. Brownfield Strategies

The common perception is that brownfield sites, when redeveloped, will once again be used for industrial purposes. However, this is not always the case. More and more examples are emerging throughout the country of brownfields being reused for residential purposes. Brownfield sites have been converted to residential uses in Massachusetts, Michigan, and Pennsylvania (ICF Consulting 1999) and New Jersey (Jacobs 2000). Because of New Jersey's Brownfield and Contaminated Site Remediation Act, the state can reimburse developers up to 75% of the developers' "remediation costs associated with the investigation, cleanup, and development of certain brownfield projects" (Jacobs 2000). Appropriate redevelopment of brownfield sites converts eyesores to productive lands while cleaning up potential environmental hazards.

Given a large enough piece of industrial property, communities can effectively utilize brownfields for both job creation and residential uses. In Atlanta, Georgia, a private developer, the City, the MARTA (mass transit), and the Federal Government have collaborated on the redevelopment of an obsolete steel mill. The completed project will provide office, retail, and light industrial employment, high and medium density residences, a park and open space. This project will create a self contained multi-use urban place within a larger metropolitan context. Similar opportunities may exist in southern California's urban counties. SCAG is presently planning an infill study report that will identify potential sites for reuse and infill housing throughout urban regions in the coastal counties.

5. Transit-Oriented Development Strategies

Transit-oriented development strategies have been implemented in various cities around the country and the concept has gained the attention of planners and decision-makers in the SCAG region. In particular, transit-oriented development that has a mix of uses around the transit node, including residential, commercial, and business, is catching on as a convenient way of life. Portland, Oregon has had success developing lands into residential and commercial uses around their light rail stations. Citizens enjoy the convenience of walking to transit stops and then riding transit to their destination. This trend is appearing in Los Angeles as well. There are seventeen transit-oriented developments that have been completed, are under construction, or are being planned in the Los Angeles area (Newman "Transit", 2000). These developments are building a mix of housing and commercial with higher than average densities. More housing is provided in urban areas through transit-oriented development, and greater transit patronage and increased mobility maximize returns on public investments in transit infrastructure.

There is no shortage of buyers for transit-oriented development projects. Problems arise with local residents who live in the neighborhoods in the vicinity of the transit-oriented development. Residents may fear the perceived negative impacts from higher densities. As stated in the infill housing strategy, developers need to educate the public on the benefits of transit-oriented development so that those currently living in the area around a new development do not oppose the project and try to block it. The Silicon Valley Manufacturing Group is a company organized to involve principal officers and senior managers of member companies in a cooperative effort with local, regional, state and federal government officials to address major public policy issues affecting the economic health and quality of life in Silicon Valley. The organization found that once residents saw how positive a transit village could be, they were embarrassed that they had not supported it from the very beginning (Guardino 2000). Transit-oriented development bring jobs and housing to a transit stop. Proponents must conduct a public outreach effort to ensure that the community will accept the new development.

The Location Efficient Mortgage (LEM) underwriting experiment, currently underway in the SCAG region, encourages residential opportunities in transit rich, urban areas. The LEM takes into account anticipated vehicle savings realized by a household when they choose to buy a home in a densely populated neighborhood with good access to jobs, services, and transit. The vehicle savings are used to assist in qualifying for a home loan, effectively increasing the affordability of established, urban neighborhoods. This creates a market-based incentive for individual households residing in older areas (which are generally more job rich), AND creates an incentive for the development of new transit oriented housing, because the LEM increases the pool of eligible buyers for a project.

6. State and Local Government Finance Reform

As described earlier in this paper, there is great competition among cities for commercial uses that generate sales tax revenues. Consequently, cities largely favor commercial establishments over housing in their land use zoning, permitting, and annexation decisions. Legislative tax reform is needed that changes the bias of cities against multifamily housing and reduces the competition between cities for sales tax generating uses. Currently, jobs-rich cities have little incentive to encourage developers to build housing. Housing that is built primarily caters to the higher income groups. The squeeze at the middle income and lower income groups for housing that is safe and affordable for their budgets will continue to get tighter and tighter. At some point, many low and moderate-income citizens will be priced out of the market. Legislators should recognize this serious issue, and enact legislation to reduce the competition for sales taxes through methods such as sales tax revenue sharing, as is being discussed in other regions of the state. While the $110 million designated to housing purposes this year is helpful; these are one-time only monies with no guarantee for future funding. One-time monies will not fix California's housing crisis. There needs to be a significant investment in time and money from the state over an extended period of time to begin to address the housing shortage. The housing crisis needs to be a top policy issue and it needs to be funded as a top policy issue.

The state needs to provide more property tax money to the cities so that cities have a stable and sufficient amount of funds to address the housing crisis. Going further, some of the money from the current state budget surplus could be returned to the cities to spark infill housing creation.

Cities receiving this money could provide the infrastructure for infill housing. While building infill housing is generally cheaper than building new housing on the periphery outside the current service area (Kanouse 2000); infill housing does not come at zero cost in terms of infrastructure. Infrastructure (water, sewer, power, etc.) within cities may be old and need replacement or it may not be designed to handle additional demand. Returning money to cities through state and local finance reform will give more money to cities to address housing issues such as infrastructure provision.

7. State and Federal Tax Credits and Other Incentives

Recent Federal and State funding processes for increasing the supply of housing have been marked by several positive developments, increasing the supply of funding for housing, and incentivizing smart development practices. These funding sources will need other tax incentives besides money to have the greatest effect on alleviating housing shortages.

First and foremost, Congress has increased the Statewide caps for both the Low Income Housing Tax Credit and the Private Activity Tax Exempt Bond Cap. Both of these programs, embedded in the tax code, provide invaluable financing for affordable housing development, but have been, in recent years, overwhelmed by demand. At one point, competition for Tax Credits in California was reduced to a lottery, with approximately 1 in 10 highly qualified projects receiving funding. The increases from $1.25 per capita, to $1.75 per capita for Credits, and from $50 to $75 per capita for bond activity, help dramatically, but will still will not nearly meet demand. The amount of funds available to SCAG counties through these programs is shown in Table 22.

Table 21

Federal Funds Available to SCAG Counties to Promote Housing Development

County/State	Population 2000	Low Income Housing Tax Credit	Private Activity Tax Exempt Bond Cap
Imperial	145,285	$254,249	$10,896,375
Los Angeles	9,884,255	$17,297,446	$741,319,125
Orange	2,828,351	$4,949,614	$212,126,325
Riverside	1,522,855	$2,664,996	$114,214,125
San Bernardino	1,689,281	$2,956,242	$126,696,075
Ventura	756,501	$1,323,877	$56,737,575
California	34,336,091	$60,088,159	$2,575,206,825

Source: California Department of Finance

With the passage of Assembly Bill 2864 (Torlakson), the State has joined in offering economic inducements to build housing. This bill allocates over one hundred million dollars to address the jobs housing imbalance. The state rewards cities with money for building more housing than their housing element states. The money can be used on capital outlay projects such as parks and civic centers. Another provision of this bill is to encourage housing rich areas to recruit new businesses. Finally, the bill provides money to establish regional partnerships to address the jobs/housing situation in a region. The governor's proposed budget includes a $200 million augmentation for the Jobs/Housing Balance Incentive Grants (allocated $97 million through AB

2864). These funds can be used at the jurisdiction's discretion instead of only for community infrastructure, as the first $97 million is designated.

Another positive development involves the leadership shown by Treasurer Phil Angelides. The Treasurer chairs committees that allocate the Tax Credit and Bond programs discussed above, and exert influence over other State funding priorities. Treasurer Angelides has incorporated Smart Growth principles into the policy processes that his office controls, meaning that many of the State's discretionary resources will support jobs/housing balance, housing in transit rich areas, and other similar goals.

Given these developments, there is still a shortage of emphasis placed on jobs/housing balance issues at the State and Federal levels of government, and still inadequate supplies of funding fully address the problem.

8. Mixed-Use and other Zoning Revisions

Areas that are jobs-rich and have an excess of vacant land that is zoned for commercial and industrial uses in light of past development trends should reevaluate their zoning policies. Overlaying residential zoning in commercial and business areas will allow workers to live near their place of employment. The residential zoning in commercial areas will also provide a customer base to support the retail establishments. Zoning changes that convert land zoned exclusively for commercial and industrial uses to mixed uses would preserve some job creating potential for the land, while allowing for housing construction in close proximity to the potential jobs. Increasing the amount of vacant land zoned for housing gives residential developers more development options, particularly for much needed infill housing in urban areas. This lowers development costs since more land is available for housing construction, including land that has relatively few limitations to development. Consequently, with more vacant land that is zoned for residential development, the construction of a greater amount of affordable housing becomes a possibility.

Laws that Help Promote Housing Construction

Housing Element Law (Gov. Code Sec. 65580 et seq.) Every city and county must adopt a housing element as part of its general plan. Most importantly, a housing element must identify sites appropriate for affordable housing and address governmental constraints to development.

Pro-Affordable Housing Law (Gov. Code Sec. 65589.5). State law prohibits a local agency from disapproving a low-income housing development, or imposing conditions that make the development infeasible, unless it finds that one of six narrow conditions exist.

Prohibition of Discrimination against Affordable Housing (Gov. Code Sec. 65008). This statute forbids discrimination against affordable housing developments, developers or potential residents by local agencies when carrying out their planning and zoning powers.

California and Federal Fair Housing Laws. The California Fair Employment and Housing Act (Gov. Code Sec. 12900 et seq.) expressly prohibits discrimination through public or private land use practices and decisions that make housing opportunities unavailable. Similarly, the federal Fair Housing Act (42 U.S.C. Sec. 3601 et seq., or "Title VIII") has been held to prohibit public and private land use practices and decisions that have a disparate impact on the protected groups.

Water/Sewer Service (Gov. Code Sec. 65589.7). Local water and sewer districts must grant priority for service hook-ups to projects that help meet the community's fair share housing need.

Density Bonus Law (Gov. Code Sec. 65915-16). Local governments must grant projects with a prescribed minimum percentage of affordable units, a 25% increase in density and at least one incentive.

Permit Streamlining Act (Gov. Code Sec. 65920 et seq.) This law requires cities and counties to publish a description of the information that project applicants must file and mandates a timeline for making a decision on the application. If the local government fails to act within the prescribed time limits, a development project is "deemed" approved.

Bonds/Attorney Fees in Affordable Housing Lawsuits. A court may require persons suing to halt affordable housing projects to post a bond (Code of Civil Procedure Sec. 529.2) and to pay attorneys fees (Gov. Code Sec. 65914).

CEQA Exemption. In 1997 the Legislature enacted AB 175 (Torlakson), amending Pub Res. Code Sec. 21080.14, to provide that in an urbanized area, affordable housing developments of not more than 100 units are exempt from CEQA, provided the site is, among other things, less than 5 acres, not a wildlife habitat and is assessed for environmental contaminants.

Source: Rawson 2000.

B. Strategies to Attract New Economy Jobs

There are certain key elements in a region needed for high tech companies to take root. Some of the needs of regions that are addressed here, as identified by DeVol (1999), are:

- Research institutions and centers, both academic (universities and colleges) and government-sponsored (Jet Propulsion Laboratory)
- An educated workforce (high percentage of workers with post-secondary degrees, and well prepared workers with high school diplomas)
- Access to venture capital (venture capital firms investing in the region)
- High–tech infrastructure (fiber optic cable)
- Access to reliable international air transportation (both commercial and cargo)

These mechanisms are discussed below.

1. Targeted Education and Research

Education is widely believed to be a major factor in advancing one's career and increasing one's earning potential. It comes as no surprise that the areas with the highest amounts of venture capital investments in the SCAG region are areas with highly educated populations. The Irvine area, the West Side of Los Angeles including parts of Ventura County, Pasadena, and the South Bay are where the census tracts show students with well above or somewhat above the state average in standardized test scores live. These areas have the highest percentage of students that graduate from high school and have the highest number of citizens with a college education. High-tech industries are attracted to these areas, as an educated workforce is the raw material needed by new economy firms.

The Inland Empire does not have the highly educated workforce found in cities near the coast. It has lower high school graduation rates and lower university education rates. Average math test scores for primary and secondary student in Riverside and San Bernardino Counties are below the state average (University of California-Riverside (UCR) 2000). From grade 2 through 11, Stanford 9 Math Scores in Riverside and San Bernardino Counties are lower than competitor counties in every grade. Sacramento, Stanislaus, Sonoma, and Ventura Counties, seen as Riverside and San Bernardino's competition for high-tech industries, all have higher test scores (UCR).

Nevertheless, there are numerous universities and colleges in or near the Inland Empire that can provide a platform for higher educational achievement. Several of these are concentrating on programs and curricula that will increase the number of high-tech students in the region. These include the University of California-Riverside, California State Polytechnic University – Pomona (Cal Poly Pomona), the Claremont Colleges, Harvey Mudd College, Loma Linda University, and the Keck Graduate Institute. Loma Linda University and the Keck Graduate Institute are centers for biotechnology research and are producing graduates who go on to establish innovative biotechnology firms. Cal Poly Pomona is encouraging aerospace research through its NASA Commercialization Center. There needs to be a bridge between primary and secondary education and higher education to insure a steady flow of capable workers for high technology

firms. The Inland Empire also needs to find ways to better keep its graduates in the area so as to encourage new economy business growth.

2. Community-Based Job Training

The Inland Empire and other subregions within SCAG that are not benefiting from the boom in venture capital investment and New Economy job growth should consider community-based job training. For instance, San Bernardino County does not forecast a large number of new jobs in the high-tech field by 2002, but rather the occupations with the greatest absolute job growth will be in the service sector and transportation sector. Cashiers, light truck drivers, general managers and top executives, retail salespeople, and heavy truck drivers are the top five projected occupations for 2002. The need for truck drivers shows that the region is on its way toward becoming even more of a transportation center than it is today. Cashiers and salespeople will be providing services to the projected boom in population in the area. Besides the managers and executives, none of these jobs command a high salary or demand much advanced training.

Not all employees will be able to return to the traditional school setting for retraining. Job training that targets the high-tech industries is needed to help speed the economic transformation of outlying areas of the region. Young college graduates should not be the only employees taking advantage of the New Economy. Older workers who may be displaced by the New Economy should have training options available to help make them employable by high-tech firms.

3. Directed Venture Capital Investment and Incubation Strategies

Another strategy to attract New Economy jobs is to channel venture capital investment to a region. For example, the City of Oakland has embarked on an innovative program to lure high-tech industries to its area. When selling land to start-up firms, the city accepted warrants for the purchase of stock options in the future (Newman, "Oakland" 2000, 12). In the case reported in "Oakland Shows How to Gain Tech Attention", the city had previously bought land at $9.39 an acre, then sold it to a tech firm for $9.50 an acre, plus possible stock options in the future. While the city might have been able to sell the land for more money, the city broke even without the stock options. If the company continues to perform like it has, the city may have a windfall of money through its stock options.

The Riverside Regional Technology Park could be the perfect place to try to replicate was Oakland is doing. The Park offers the opportunity for similar industries to cluster near each other. UC-Riverside graduates 2,000 students a year. Enrollment is expected to double by 2010. These students can seek employment in the University Research Park. The University of California has made $40 million available in matching grants on a yearly basis for companies in the University Research Park. It consists of 39 acres in the Riverside Regional Technology Park, an 856-acre industrial park in Riverside. Located only 20 miles from Ontario International Airport, the industrial park has ready access to the 215, 60, and 91 freeways, and can provide the foundation for high-tech industry to take root. A new technology corridor could appear between Ontario, San Bernardino, Riverside, and Redlands because of the excellent supply of transportation networks, colleges graduating trained workers, and with three international

airports set for expansion (i.e. Ontario International, San Bernardino International, and March Global Port).

There are two other planned technology parks in the area, the Pomona Technology Center, scheduled to open in September of 2001, and the Tec Parc that is still in the planning phases at the former Norton Air Force Base in San Bernardino. Reports cite that these high technology parks will have plenty of tenants in the future due to numerous small start-up high-tech businesses (Husing 2000). These technology parks will act as incubators that will nurture and guide the small high technology businesses as they expand.

A key ingredient for high-tech industries is the existence of venture capital firms in the area. A listing of Southern California venture capital firms can be found at http://www.firsttuesdayla.com/. None of the firms listed for southern California are located in the Inland Empire. They all are clustered in the Los Angeles/Santa Monica/Bay Cities area and the Irvine area. The northern California listing of venture capital firms dwarfs the southern California listing. This could have serious ramifications, as "Without a well-functioning venture capital infrastructure, a region's technology cluster is at risk of not achieving its potential" (DeVol 1999, 46). Venture capital firms may invest in other areas of the country or the world. However, most invest within their own regions. Inducing more venture capital firms to invest within the SCAG region through regional marketing efforts will help spur the development of more high-tech companies and clusters.

4. Fiber Optic Cable Investments

As discussed in Section V of this report, the availability of fiber optic telecommunications infrastructure with redundant cable and backup power systems is an important siting requirement for high-tech firms. Currently, fiber optic cable is not distributed uniformly across the region, and is most prevalent where high tech clusters have established themselves, primarily in coastal areas. The success of outlying regions in establishing targeted access to high-speed, broadband fiber optic systems will greatly determine their ability to attract New Economy high-tech firms.

The greatest challenge for most local governments interested in attracting New Economy firms is to complete the "last mile" of fiber optic cable extensions from main lines and into buildings. Modernization of telecommunications networks also requires the installation of digital switching equipment for routing electronic transmissions more efficiently. These investments are typically made by the private sector, primarily phone companies. However, a number of local governments around the country have funded local fiber optic cable systems in partnership with the private sector. For example, in 1997, the city of Palo Alto in the Bay Area constructed a $2 million, 15 mile-long fiber optic ring beneath suburban streets that terminates at Digital Equipment Corp's Internet Exchange. The fiber optic network comes within one mile of every home and business in the city (Markoff 1997). Cities can also encourage local fiber optic investments by providing incentives for developers to wire buildings for fiber optic service through their zoning and permitting functions, and by providing public transportation and utility rights-of-way to fiber optic providers.

5. Airport Investment and Promotion Strategies

Ontario International Airport is projected to have a much larger role in passenger and freight transportation in the next twenty years. The projected route of the proposed Maglev high-speed system rail is through Ontario International Airport and March Global Port in the Inland Empire, connecting the region with Union Station and Los Angeles International Airport. With 6.4 million passengers in 1995, the 1998 Regional Transportation Plan forecasts that Ontario International Airport will expand to 15.3 million annual passengers by 2020 (SCAG 1998, I-43). Recent model runs conducted for SCAG's 2000 Regional Aviation System Study forecast that Ontario would serve over 33 million passengers and over 2.7 million tons of cargo if El Toro is not converted to commercial aviation use, even with an expansion of LAX. This dramatic jump in passengers and cargo service in Ontario will bring additional business to the region, as the businesses are attracted by the much larger portfolio of non-stop international and domestic flights and lower air fares resulting from increased airline competition. Companies participating in global trade, as well as rapidly expanding e-commerce activity will also be attracted to the expanded cargo service at Ontario in conjunction with its superior intermodal facilities.

It is also forecast that passenger service could be accommodated at San Bernardino International (formerly Norton AFB), March Global Port (formerly March AFB) and Southern California Logistics (formerly George AFB) airports. More likely, some or all of these facilities will serve as all-cargo airports (Southern California Logistics already has all-cargo service). This is important since air cargo volumes are expected to triple over the next twenty years, and existing airports in urban areas have limited capacity to accommodate those volumes. The presence of increased all-cargo handling capability in the Inland Empire, in conjunction with the excellent intermodal facilities and available land for warehousing development, should be very attractive to companies engaged in international trade activities. Companies engaged in e-commerce activities and high-tech manufacturing would also be attracted to locate around these potential all-cargo airports, since they produce high-value and/or time-sensitive products that are conducive to air transport.

Strategies to help promote airport development in the Inland Empire primarily involve: programming needed ground access projects in the RTIP/RTP for these airports; mitigating environmental impacts to the extent possible, particularly noise and air quality impacts; conducting marketing programs to make airlines and the travelling public aware of them as regional airport alternatives; and working with the FAA so that they are given high priority for airport improvement funds.

Airports help stimulate economies because of "increased employment, more visitors who spend more money locally and a heightened attractiveness to new businesses that consider convenient, frequent and cost-effective air travel when deciding where to locate" (Friedheim Jr. and Hansson 1999). The Inland Empire can use the expansion of its airports, the knowledge of its university students, the Regional Technology Park, and an excellent highway transportation system to lure high-tech industries to its region.

Expansion of Palmdale Airport also has the potential to serve as a catalyst to the economic rejuvenation of North Los Angeles County, to provide more high-paying jobs to local residents.

Growth of the airport will occur in tandem with the continued migration of white-collar professional jobs to the Santa Clarita Valley from the San Fernando Valley, the continued resurgence of the aerospace industry in the Antelope Valley, and the continued expansion of cargo-handling firms in North Los Angeles County. There will likely be a synergistic "feedback" relationship between the growth of such activities and the greater economic role of Palmdale Airport. As these activities grow, they will create a greater demand for airport services. As the airport expands to meet that demand, a more substantial, full-service Palmdale Airport will stimulate air cargo, high-tech and aerospace companies in turn to locate and expand in North Los Angeles County. Ground access improvements to Palmdale Airport that are designed to increase its accessibility and marketing efforts to attract initial airline service to Palmdale Airport are strategies that are currently being implemented by Los Angeles World Airports.

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VIII. APPENDIX

Table 3					
Listing of Cities within Each Regional Statistical Area					
County	**RSA**	**City**	**County**	**RSA**	**City**
Ventura	1	Unincorporated	San Bernardino	29	Colton
Ventura	2	Ojai	San Bernardino	29	Fontana
Ventura	2	Oxnard	San Bernardino	29	Grand Terrace
Ventura	2	Ventura	San Bernardino	29	Highland
Ventura	2	Santa Paula	San Bernardino	29	Loma Linda
Ventura	2	Unincorporated	San Bernardino	29	Redlands
Ventura	3	Camarillo	San Bernardino	29	Rialto
Ventura	3	Oxnard	San Bernardino	29	San Bernardino
Ventura	3	Port Hueneme	San Bernardino	29	Yucaipa
Ventura	3	Thousand Oaks	San Bernardino	29	Unincorporated
Ventura	3	Unincorporated	San Bernardino	30	Big Bear Lake
Ventura	4	Moorpark	San Bernardino	30	Fontana
Ventura	4	Simi Valley	San Bernardino	30	Rancho Cucamonga
Ventura	4	Thousand Oaks	San Bernardino	30	San Bernardino
Ventura	4	Unincorporated	San Bernardino	30	Unincorporated
Ventura	5	Simi Valley	San Bernardino	31	Unincorporated
Ventura	5	Thousand Oaks	San Bernardino	32	Adelanto
Ventura	5	Unincorporated	San Bernardino	32	Apple Valley
Ventura	6	Fillmore	San Bernardino	32	Barstow
Ventura	6	Unincorporated	San Bernardino	32	Hesperia
Los Angeles	7	Agoura Hills	San Bernardino	32	Victorville
Los Angeles	7	Calabasas	San Bernardino	32	Unincorporated
Los Angeles	7	Hidden Hills	San Bernardino	33	Twentynine Palms
Los Angeles	7	Los Angeles	San Bernardino	33	Yucca Valley
Los Angeles	7	Malibu	San Bernardino	33	Unincorporated
Los Angeles	7	Unincorporated	San Bernardino	34	Needles
Los Angeles	7	Westlake Village	San Bernardino	34	Unincorporated
Los Angeles	8	Santa Clarita	Orange	35	Anaheim
Los Angeles	8	Unincorporated	Orange	35	Buena Park
Los Angeles	9	Lancaster	Orange	35	Cypress
Los Angeles	9	Palmdale	Orange	35	Fullerton
Los Angeles	9	Unincorporated	Orange	35	Garden Grove
Los Angeles	10	Lancaster	Orange	35	La Palma
Los Angeles	10	Palmdale	Orange	35	Los Alamitos
Los Angeles	10	Unincorporated	Orange	35	Seal Beach
Los Angeles	11	Glendora	Orange	35	Stanton
Los Angeles	11	La Verne	Orange	35	Unincorporated
Los Angeles	11	Los Angeles	Orange	36	Anaheim
Los Angeles	11	Santa Clarita	Orange	36	Brea
Los Angeles	11	Unincorporated	Orange	36	Buena Park
Los Angeles	12	Calabasas	Orange	36	Fullerton
Los Angeles	12	Hidden Hills	Orange	36	La Habra
Los Angeles	12	Los Angeles	Orange	36	Placentia
Los Angeles	12	Unincorporated	Orange	36	Unincorporated
Los Angeles	13	Burbank	Orange	37	Anaheim
Los Angeles	13	Los Angeles	Orange	37	Buena Park

Source: SCAG

County	RSA	City	County	RSA	City
Los Angeles	13	Unincorporated	Orange	37	Cypress
Los Angeles	14	Glendale	Orange	37	Fullerton
Los Angeles	14	Los Angeles	Orange	37	Garden Grove
Los Angeles	14	San Fernando	Orange	37	Orange
Los Angeles	14	Unincorporated	Orange	37	Santa Ana
Los Angeles	15	Malibu	Orange	37	Stanton
Los Angeles	15	Unincorporated	Orange	37	Westminster
Los Angeles	16	Culver City	Orange	37	Unincorporated
Los Angeles	16	Los Angeles	Orange	38	Costa Mesa
Los Angeles	16	Santa Monica	Orange	38	Fountain Valley
Los Angeles	16	Unincorporated	Orange	38	Garden Grove
Los Angeles	17	Beverly Hills	Orange	38	Huntington Beach
Los Angeles	17	Burbank	Orange	38	Santa Ana
Los Angeles	17	Culver City	Orange	38	Seal Beach
Los Angeles	17	Inglewood	Orange	38	Westminster
Los Angeles	17	Los Angeles	Orange	38	Unincorporated
Los Angeles	17	Unincorporated	Orange	39	Costa Mesa
Los Angeles	17	West Hollywood	Orange	39	Irvine
Los Angeles	18	Carson	Orange	39	Laguna Hills
Los Angeles	18	El Segundo	Orange	39	Newport Beach
Los Angeles	18	Gardena	Orange	39	Unincorporated
Los Angeles	18	Hawthorne	Orange	40	Dana Point
Los Angeles	18	Hermosa Beach	Orange	40	Irvine
Los Angeles	18	Inglewood	Orange	40	Laguna Beach
Los Angeles	18	Lawndale	Orange	40	Laguna Hills
Los Angeles	18	Los Angeles	Orange	40	Laguna Niguel
Los Angeles	18	Manhattan Beach	Orange	40	Mission Viejo
Los Angeles	18	Redondo Beach	Orange	40	San Clemente
Los Angeles	18	Torrance	Orange	40	San Juan Capistrano
Los Angeles	18	Unincorporated	Orange	40	Unincorporated
Los Angeles	19	Rolling Hills Estates	Orange	41	Anaheim
Los Angeles	19	Torrance	Orange	41	Brea
Los Angeles	19	Avalon	Orange	41	Fullerton
Los Angeles	19	Carson	Orange	41	Orange
Los Angeles	19	Compton	Orange	41	Placentia
Los Angeles	19	Lomita	Orange	41	Villa Park
Los Angeles	19	Long Beach	Orange	41	Yorba Linda
Los Angeles	19	Los Angeles	Orange	41	Unincorporated
Los Angeles	19	Palos Verdes Estates	Orange	42	Anaheim
Los Angeles	19	Rancho Palos Verdes	Orange	42	Fountain Valley
Los Angeles	19	Rolling Hills	Orange	42	Garden Grove
Los Angeles	19	Unincorporated	Orange	42	Orange
Los Angeles	20	Cerritos	Orange	42	Santa Ana
Los Angeles	20	Lakewood	Orange	42	Tustin
Los Angeles	20	Long Beach	Orange	42	Villa Park
Los Angeles	20	Signal Hill	Orange	42	Westminster
Los Angeles	20	Unincorporated	Orange	42	Unincorporated
Los Angeles	21	Bell	Orange	43	Irvine

Source: SCAG

County	RSA	City	County	RSA	City
Los Angeles	21	Bell Gardens	Orange	43	Lake Forest
Los Angeles	21	Carson	Orange	43	Mission Viejo
Los Angeles	21	Commerce	Orange	43	San Clemente
Los Angeles	21	Compton	Orange	43	San Juan Capistrano
Los Angeles	21	Cudahy	Orange	43	Unincorporated
Los Angeles	21	Downey	Orange	44	Costa Mesa
Los Angeles	21	Huntington Park	Orange	44	Irvine
Los Angeles	21	Long Beach	Orange	44	Lake Forest
Los Angeles	21	Los Angeles	Orange	44	Orange
Los Angeles	21	Lynwood	Orange	44	Santa Ana
Los Angeles	21	Maywood	Orange	44	Tustin
Los Angeles	21	Montebello	Orange	44	Unincorporated
Los Angeles	21	Monterey Park	Riverside	45	Corona
Los Angeles	21	Paramount	Riverside	45	Norco
Los Angeles	21	Pico Rivera	Riverside	45	Riverside
Los Angeles	21	Rosemead	Riverside	45	Unincorporated
Los Angeles	21	South Gate	Riverside	46	Corona
Los Angeles	21	Vernon	Riverside	46	Lake Elsinore
Los Angeles	21	Unincorporated	Riverside	46	Moreno Valley
Los Angeles	22	Artesia	Riverside	46	Norco
Los Angeles	22	Bellflower	Riverside	46	Perris
Los Angeles	22	Cerritos	Riverside	46	Riverside
Los Angeles	22	Commerce	Riverside	46	Unincorporated
Los Angeles	22	Downey	Riverside	47	Canyon Lake
Los Angeles	22	Hawaiian Gardens	Riverside	47	Hemet
Los Angeles	22	Industry	Riverside	47	Lake Elsinore
Los Angeles	22	La Habra Heights	Riverside	47	Moreno Valley
Los Angeles	22	Lakewood	Riverside	47	Murrieta
Los Angeles	22	La Mirada	Riverside	47	Perris
Los Angeles	22	Norwalk	Riverside	47	San Jacinto
Los Angeles	22	Paramount	Riverside	47	Unincorporated
Los Angeles	22	Pico Rivera	Riverside	48	Beaumont
Los Angeles	22	Santa Fe Springs	Riverside	48	Hemet
Los Angeles	22	Whittier	Riverside	48	San Jacinto
Los Angeles	22	Unincorporated	Riverside	48	Unincorporated
Los Angeles	23	Los Angeles	Riverside	49	Canyon Lake
Los Angeles	24	Alhambra	Riverside	49	Lake Elsinore
Los Angeles	24	Glendale	Riverside	49	Murrieta
Los Angeles	24	La Canada Flintridge	Riverside	49	Temecula
Los Angeles	24	Los Angeles	Riverside	49	Unincorporated
Los Angeles	24	Unincorporated	Riverside	50	Banning
Los Angeles	25	Alhambra	Riverside	50	Beaumont
Los Angeles	25	Arcadia	Riverside	50	Calimesa
Los Angeles	25	Baldwin Park	Riverside	50	Unincorporated
Los Angeles	25	Bradbury	Riverside	51	La Quinta
Los Angeles	25	Duarte	Riverside	51	Palm Springs
Los Angeles	25	El Monte	Riverside	51	Unincorporated
Los Angeles	25	Glendale	Riverside	52	Cathedral City

Source: SCAG

County	RSA	City	County	RSA	City
Los Angeles	25	Industry	Riverside	52	Desert Hot Springs
Los Angeles	25	Irwindale	Riverside	52	Indian Wells
Los Angeles	25	La Canada Flintridge	Riverside	52	Indio
Los Angeles	25	Los Angeles	Riverside	52	La Quinta
Los Angeles	25	Monrovia	Riverside	52	Palm Desert
Los Angeles	25	Montebello	Riverside	52	Palm Springs
Los Angeles	25	Monterey Park	Riverside	52	Rancho Mirage
Los Angeles	25	Pasadena	Riverside	52	Unincorporated
Los Angeles	25	Pico Rivera	Riverside	53	Coachella
Los Angeles	25	Rosemead	Riverside	53	Indio
Los Angeles	25	San Gabriel	Riverside	53	La Quinta
Los Angeles	25	San Marino	Riverside	53	Palm Springs
Los Angeles	25	Sierra Madre	Riverside	53	Unincorporated
Los Angeles	25	South El Monte	Riverside	54	Blythe
Los Angeles	25	South Pasadena	Riverside	54	Coachella
Los Angeles	25	Temple City	Riverside	54	Unincorporated
Los Angeles	25	Unincorporated	Imperial	55	Brawley
Los Angeles	26	Azusa	Imperial	55	Calexico
Los Angeles	26	Baldwin Park	Imperial	55	Calipatria
Los Angeles	26	Covina	Imperial	55	El Centro
Los Angeles	26	Diamond Bar	Imperial	55	Holtville
Los Angeles	26	Glendora	Imperial	55	Imperial
Los Angeles	26	Industry	Imperial	55	Unincorporated
Los Angeles	26	Irwindale	Imperial	55	Westmorland
Los Angeles	26	La Habra Heights			
Los Angeles	26	La Puente			
Los Angeles	26	Pomona			
Los Angeles	26	San Dimas			
Los Angeles	26	Walnut			
Los Angeles	26	West Covina			
Los Angeles	26	Unincorporated			
Los Angeles	27	Claremont			
Los Angeles	27	Covina			
Los Angeles	27	Diamond Bar			
Los Angeles	27	Industry			
Los Angeles	27	La Verne			
Los Angeles	27	Pomona			
Los Angeles	27	San Dimas			
Los Angeles	27	Unincorporated			
San Bernardino	28	Chino			
San Bernardino	28	Chino Hills			
San Bernardino	28	Fontana			
San Bernardino	28	Montclair			
San Bernardino	28	Ontario			
San Bernardino	28	Rancho Cucamonga			
San Bernardino	28	Rialto			
San Bernardino	28	Upland			
San Bernardino	28	Unincorporated			

Source: SCAG

Table 4

Jobs/Housing Balance Ratio by City and County, SCAG Region, 1997, As Used in the Draft 2001 RTP

County	City	Population	Households	Employment	Jobs/Housing Ratio
Imperial	Brawley	21,635	6,470	9,684	1.50
Imperial	Calexico	25,459	6,273	8,089	1.29
Imperial	Calipatria	7,439	868	2,208	2.54
Imperial	El Centro	37,747	11,124	16,847	1.51
Imperial	Holtville	5,524	1,568	5,369	3.42
Imperial	Imperial	7,338	2,277	3,353	1.47
Imperial	Westmorland	1,719	478	417	0.87
Imperial	Unincorporated	34,735	9,326	9,606	1.03
Total		141,596	38,384	55,573	1.45
Los Angeles	Agoura Hills	21,491	6,716	10,732	1.60
Los Angeles	Alhambra	89,842	28,714	35,222	1.23
Los Angeles	Arcadia	52,143	18,682	24,006	1.28
Los Angeles	Artesia	16,663	4,446	7,711	1.73
Los Angeles	Avalon	3,460	1,395	2,884	2.07
Los Angeles	Azusa	44,810	12,862	14,196	1.10
Los Angeles	Baldwin Park	74,722	16,854	17,086	1.01
Los Angeles	Bell	36,942	9,058	8,105	0.89
Los Angeles	Bellflower	66,250	23,123	16,198	0.70
Los Angeles	Bell Gardens	44,412	9,352	9,980	1.07
Los Angeles	Beverly Hills	33,843	14,613	57,183	3.91
Los Angeles	Bradbury	910	277	222	0.80
Los Angeles	Burbank	103,163	40,867	90,618	2.22
Los Angeles	Calabasas	19,331	7,194	9,312	1.29
Los Angeles	Carson	89,998	24,286	55,176	2.27
Los Angeles	Cerritos	56,372	15,166	28,806	1.90
Los Angeles	Claremont	34,533	11,013	12,103	1.10
Los Angeles	Commerce	12,946	3,358	56,295	16.76
Los Angeles	Compton	94,876	22,478	31,817	1.42
Los Angeles	Covina	46,631	15,763	28,262	1.79
Los Angeles	Cudahy	24,824	5,327	3,749	0.70
Los Angeles	Culver City	41,234	16,382	44,890	2.74
Los Angeles	Diamond Bar	56,908	17,117	15,576	0.91
Los Angeles	Downey	99,061	33,260	48,469	1.46
Los Angeles	Duarte	22,300	6,657	9,540	1.43
Los Angeles	El Monte	115,636	26,715	41,682	1.56
Los Angeles	El Segundo	16,323	6,913	52,679	7.62
Los Angeles	Gardena	57,644	20,004	34,961	1.75
Los Angeles	Glendale	196,399	70,023	88,148	1.26
Los Angeles	Glendora	52,139	16,914	18,219	1.08
Los Angeles	Hawaiian Gardens	14,732	3,445	3,308	0.96
Los Angeles	Hawthorne	78,040	27,448	34,034	1.24
Los Angeles	Hermosa Beach	18,990	9,252	8,699	0.94
Los Angeles	Hidden Hills	1,944	544	289	0.53
Los Angeles	Huntington Park	61,439	14,167	17,517	1.24

Source: SCAG 1997 Growth Forecast Base Year Data

County	City	Population	Households	Employment	Jobs/Housing Ratio
Los Angeles	Industry	693	106	57,189	539.52
Los Angeles	Inglewood	117,781	36,528	50,029	1.37
Los Angeles	Irwindale	1,167	291	17,566	60.36
Los Angeles	La Canada Flintridge	20,436	6,793	12,219	1.80
Los Angeles	La Habra Heights	6,652	2,148	415	0.19
Los Angeles	Lakewood	79,557	27,324	18,687	0.68
Los Angeles	La Mirada	47,250	13,167	17,002	1.29
Los Angeles	Lancaster	126,026	38,647	43,648	1.13
Los Angeles	La Puente	40,968	9,429	7,617	0.81
Los Angeles	La Verne	33,184	11,027	8,734	0.79
Los Angeles	Lawndale	30,014	9,606	7,333	0.76
Los Angeles	Lomita	20,382	7,926	7,801	0.98
Los Angeles	Long Beach	443,540	160,215	181,079	1.13
Los Angeles	Los Angeles	3,698,522	1,242,631	1,747,991	1.41
Los Angeles	Lynwood	67,018	14,316	12,808	0.89
Los Angeles	Malibu	12,573	5,086	7,310	1.44
Los Angeles	Manhattan Beach	34,680	14,395	13,783	0.96
Los Angeles	Maywood	29,547	6,474	4,575	0.71
Los Angeles	Monrovia	39,558	13,682	21,652	1.58
Los Angeles	Montebello	63,042	18,724	24,501	1.31
Los Angeles	Monterey Park	65,018	19,771	22,192	1.12
Los Angeles	Norwalk	101,370	26,768	22,844	0.85
Los Angeles	Palmdale	115,985	34,794	43,580	1.25
Los Angeles	Palos Verdes Estates	14,226	4,991	1,274	0.26
Los Angeles	Paramount	54,806	13,857	19,466	1.40
Los Angeles	Pasadena	139,544	51,244	93,474	1.82
Los Angeles	Pico Rivera	62,137	16,037	21,763	1.36
Los Angeles	Pomona	142,131	37,174	50,372	1.36
Los Angeles	Rancho Palos Verdes	43,363	15,107	4,265	0.28
Los Angeles	Redondo Beach	65,158	27,387	24,321	0.89
Los Angeles	Rolling Hills	2,006	643	270	0.42
Los Angeles	Rolling Hills Estates	8,341	2,860	4,623	1.62
Los Angeles	Rosemead	55,390	13,828	18,928	1.37
Los Angeles	San Dimas	36,053	11,432	14,571	1.27
Los Angeles	San Fernando	23,987	5,818	10,642	1.83
Los Angeles	San Gabriel	40,206	12,299	14,744	1.20
Los Angeles	San Marino	13,614	4,313	4,496	1.04
Los Angeles	Santa Clarita	137,484	45,528	48,308	1.06
Los Angeles	Santa Fe Springs	15,974	4,503	58,884	13.08
Los Angeles	Santa Monica	91,903	45,511	76,664	1.68
Los Angeles	Sierra Madre	11,358	4,666	3,786	0.81
Los Angeles	Signal Hill	8,927	3,475	14,285	4.11
Los Angeles	South El Monte	22,049	4,750	18,056	3.80
Los Angeles	South Gate	92,448	22,477	22,849	1.02
Los Angeles	South Pasadena	25,244	10,307	8,263	0.80
Los Angeles	Temple City	33,648	11,264	7,184	0.64
Los Angeles	Torrance	142,425	53,694	105,488	1.96

Source: SCAG 1997 Growth Forecast Base Year Data

County	City	Population	Households	Employment	Jobs/Housing Ratio
Los Angeles	Vernon	98	31	45,344	1462.71
Los Angeles	Walnut	32,134	8,304	7,171	0.86
Los Angeles	West Covina	104,009	30,741	29,658	0.96
Los Angeles	West Hollywood	37,725	22,809	29,357	1.29
Los Angeles	Westlake Village	8,128	2,945	1,553	0.53
Los Angeles	Whittier	83,765	28,041	30,205	1.08
Los Angeles	Unincorporated	993,961	274,444	224,699	0.82
Total		9,538,156	3,070,713	4,303,192	1.40
Orange	Anaheim	299,323	92,678	203,263	2.19
Orange	Brea	35,694	12,669	36,104	2.85
Orange	Buena Park	74,047	22,684	40,646	1.79
Orange	Costa Mesa	103,755	38,318	82,522	2.15
Orange	Cypress	47,646	15,287	19,561	1.28
Orange	Dana Point	36,665	13,552	7,063	0.52
Orange	Fountain Valley	55,402	17,559	20,160	1.15
Orange	Fullerton	124,362	42,247	68,635	1.62
Orange	Garden Grove	153,742	45,025	48,033	1.07
Orange	Huntington Beach	191,127	70,818	69,276	0.98
Orange	Irvine	131,657	45,221	131,489	2.91
Orange	Laguna Beach	24,387	11,238	8,886	0.79
Orange	Laguna Hills	30,353	9,861	16,929	1.72
Orange	Laguna Niguel	57,290	20,896	14,257	0.68
Orange	La Habra	54,930	18,393	19,243	1.05
Orange	Lake Forest	58,438	19,680	16,780	0.85
Orange	La Palma	15,929	4,883	5,203	1.07
Orange	Los Alamitos	11,798	4,109	12,577	3.06
Orange	Mission Viejo	93,628	30,670	24,919	0.81
Orange	Newport Beach	71,568	32,219	48,381	1.50
Orange	Orange	124,085	39,517	91,009	2.30
Orange	Placentia	46,504	14,370	12,375	0.86
Orange	San Clemente	47,938	18,171	8,644	0.48
Orange	San Juan Capistrano	30,462	9,948	7,724	0.78
Orange	Santa Ana	310,126	71,555	192,263	2.69
Orange	Seal Beach	26,542	13,315	8,052	0.60
Orange	Stanton	33,329	10,503	8,422	0.80
Orange	Tustin	66,073	22,377	41,402	1.85
Orange	Villa Park	6,516	1,970	558	0.28
Orange	Westminster	84,276	25,649	23,633	0.92
Orange	Yorba Linda	59,620	18,455	12,055	0.65
Orange	Unincorporated	193,759	74,050	45,562	0.62
Total		2,700,971	887,887	1,345,626	1.52
Riverside	Banning	24,575	8,547	7,404	0.87
Riverside	Beaumont	10,569	3,756	3,824	1.02
Riverside	Blythe	20,886	4,141	8,939	2.16
Riverside	Calimesa	7,476	3,035	1,318	0.43

Source: SCAG 1997 Growth Forecast Base Year Data

County	City	Population	Households	Employment	Jobs/Housing Ratio
Riverside	Canyon Lake	8,802	3,130	1,776	0.57
Riverside	Cathedral City	35,741	12,154	11,242	0.92
Riverside	Coachella	21,606	4,558	5,533	1.21
Riverside	Corona	107,922	32,587	36,126	1.11
Riverside	Desert Hot Springs	15,183	5,466	4,548	0.83
Riverside	Hemet	55,297	23,324	16,136	0.69
Riverside	Indian Wells	3,228	1,442	2,645	1.83
Riverside	Indio	43,300	12,206	15,069	1.23
Riverside	Lake Elsinore	27,220	8,103	5,835	0.72
Riverside	La Quinta	19,831	6,214	5,742	0.92
Riverside	Moreno Valley	135,905	38,529	27,740	0.72
Riverside	Murrieta	38,978	12,514	5,285	0.42
Riverside	Norco	25,062	5,861	8,129	1.39
Riverside	Palm Desert	34,663	15,190	29,139	1.92
Riverside	Palm Springs	42,264	19,226	30,137	1.57
Riverside	Perris	30,696	8,581	8,791	1.02
Riverside	Rancho Mirage	10,874	5,122	8,448	1.65
Riverside	Riverside	247,989	79,396	110,327	1.39
Riverside	San Jacinto	24,541	8,001	4,875	0.61
Riverside	Temecula	45,162	13,631	16,786	1.23
Riverside	Unincorporated	381,501	128,116	56,606	0.44
Total		1,419,271	462,830	432,400	0.93
San Bernardino	Adelanto	14,000	4,751	3,774	0.79
San Bernardino	Apple Valley	53,746	17,739	12,317	0.69
San Bernardino	Barstow	22,486	7,874	11,383	1.45
San Bernardino	Big Bear Lake	6,025	2,373	1,521	0.64
San Bernardino	Chino	63,906	16,582	31,636	1.91
San Bernardino	Chino Hills	53,325	16,330	5,986	0.37
San Bernardino	Colton	45,534	14,232	20,255	1.42
San Bernardino	Fontana	106,465	30,306	33,217	1.10
San Bernardino	Grand Terrace	13,245	4,542	3,482	0.77
San Bernardino	Hesperia	60,531	19,213	14,295	0.74
San Bernardino	Highland	41,520	12,902	5,611	0.43
San Bernardino	Loma Linda	21,343	7,382	12,375	1.68
San Bernardino	Montclair	30,096	8,785	17,136	1.95
San Bernardino	Needles	5,795	2,138	3,207	1.50
San Bernardino	Ontario	143,470	41,988	66,856	1.59
San Bernardino	Rancho Cucamonga	117,863	37,213	45,324	1.22
San Bernardino	Redlands	65,978	23,261	25,532	1.10
San Bernardino	Rialto	81,304	23,965	18,668	0.78
San Bernardino	San Bernardino	182,393	59,178	95,483	1.61
San Bernardino	Twentynine Palms	14,846	5,319	4,599	0.86
San Bernardino	Upland	66,731	23,563	27,569	1.17
San Bernardino	Victorville	61,358	19,556	29,938	1.53
San Bernardino	Yucaipa	38,069	14,176	7,864	0.55
San Bernardino	Yucca Valley	18,701	7,477	2,166	0.29

Source: SCAG 1997 Growth Forecast Base Year Data

County	City	Population	Households	Employment	Jobs/Housing Ratio
San Bernardino	Unincorporated	284,692	87,706	39,947	0.46
Total		1,613,422	508,551	540,141	1.06
Ventura	Camarillo	59,518	20,127	28,798	1.43
Ventura	Fillmore	12,988	3,620	2,269	0.63
Ventura	Moorpark	28,936	8,670	7,005	0.81
Ventura	Ojai	8,129	3,086	3,546	1.15
Ventura	Oxnard	154,858	41,652	41,584	1.00
Ventura	Port Hueneme	22,591	7,188	19,411	2.70
Ventura	San Buenaventura	101,043	37,399	54,918	1.47
Ventura	Santa Paula	26,776	8,034	7,238	0.90
Ventura	Simi Valley	105,161	33,999	31,279	0.92
Ventura	Thousand Oaks	114,574	39,645	68,203	1.72
Ventura	Unincorporated	91,343	29,411	29,697	1.01
Total		725,917	232,831	293,948	1.26

Source: SCAG 1997 Growth Forecast Base Year Data

Analysis of Home-to-Work Commute Patterns for 1997 and 2025, by RSA

There are many ways to measure the jobs/housing balance in a region. The primary approach taken in this report is by determining the ratio between jobs and households in a Regional Statistical Area (RSA). To broaden this approach, the report looks at home-to-work commute patterns for 1997 and 2025, once again using RSAs.

The approach taken in this additional analysis was to compare the total number of productions to the total number of attractions of Home Base Work Trips in each RSA. A production indicates where the trip begins, in this case, at home. An attraction indicates where the trip ends, at work. If there are more attractions than productions, then the RSA is jobs rich and is importing workers from other RSAs. RSAs with more productions than attractions are housing rich. Workers are commuting to other areas in the morning for their employment. To achieve the results in Maps 20 and 21, the total productions were subtracted from the total attractions. Since these are round trips between home and work, a further adjustment was needed to account for just the A.M. commute to work and for any side trips, i.e. child care, shopping, meetings, etc.[1] The result of this equation equals the net import or export of workers.

Table 22

RSAs with a Net Import of over 50,000 Workers in 1997

RSA	Major City	Imports (In 1,000s)
23	LA CBD	184
21	South Gate	105
17	Culver City	102
44	El Toro	67
39	Newport Beach/Irvine	51

Source: SCAG Draft 2001 RTP

The largest importer in 1997 is, not surprisingly, the central business district of Los Angeles. While housing is increasing in this area and is projected to continue to increase, this area remains a job magnet, importing approximately 184,000 workers. As shown in Table 22, the major job centers in terms of importing workers are in central and west Los Angeles and in the Irvine area of Orange County.

The major exporters of workers surround these job centers in both Los Angeles County and Orange County. The Riverside/Corona RSA is just off this list, exporting over 46,000 workers in 1997. The major exporters for 1997 are displayed in Table 23.

Table 23

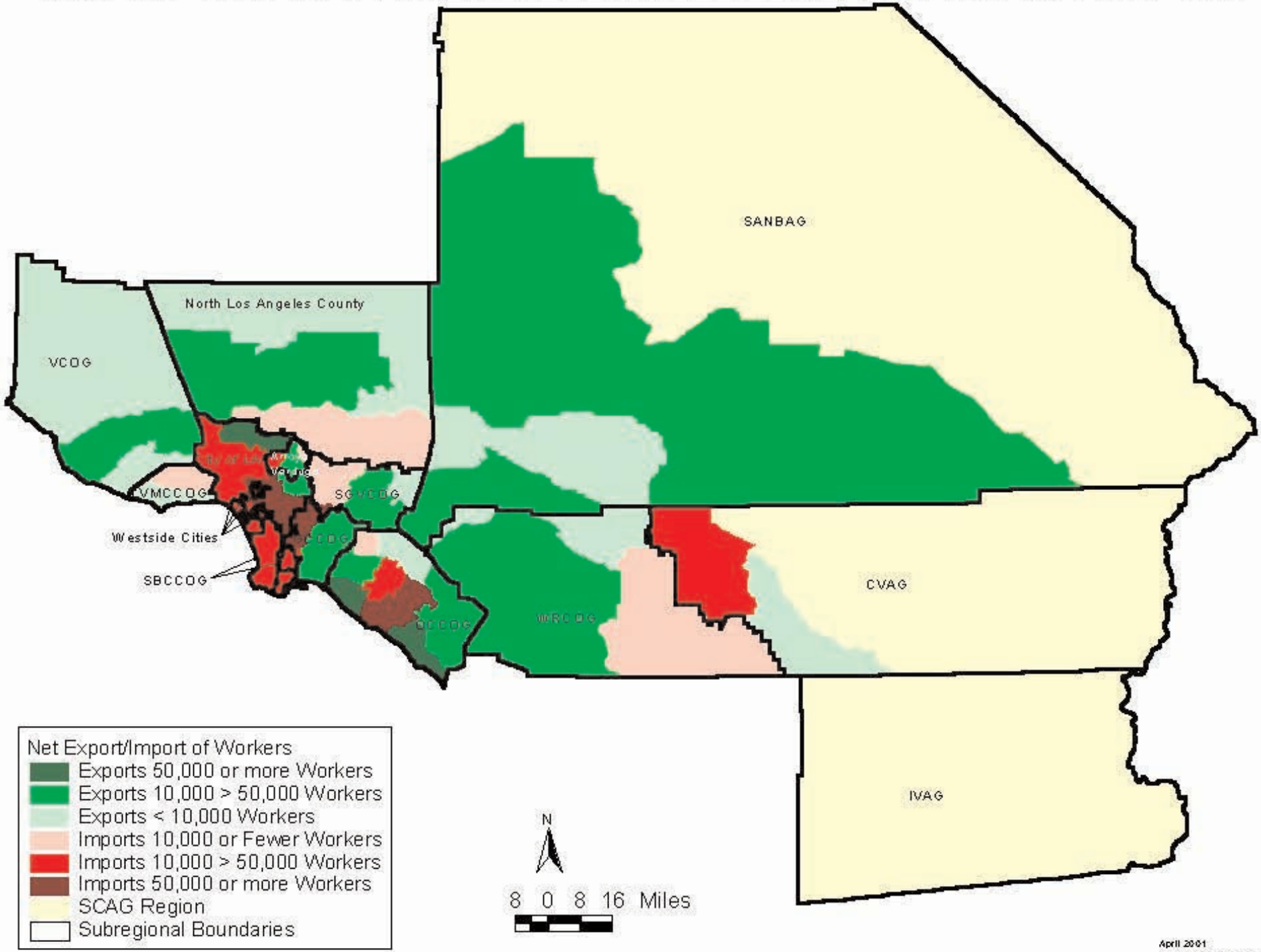
RSAs with a Net Export of over 50,000 Workers in 1997

RSA	Major City	Exports (In 1,000s)
38	Huntington Beach	66
14	San Fernando	62
40	Laguna Beach/San Clemente	50

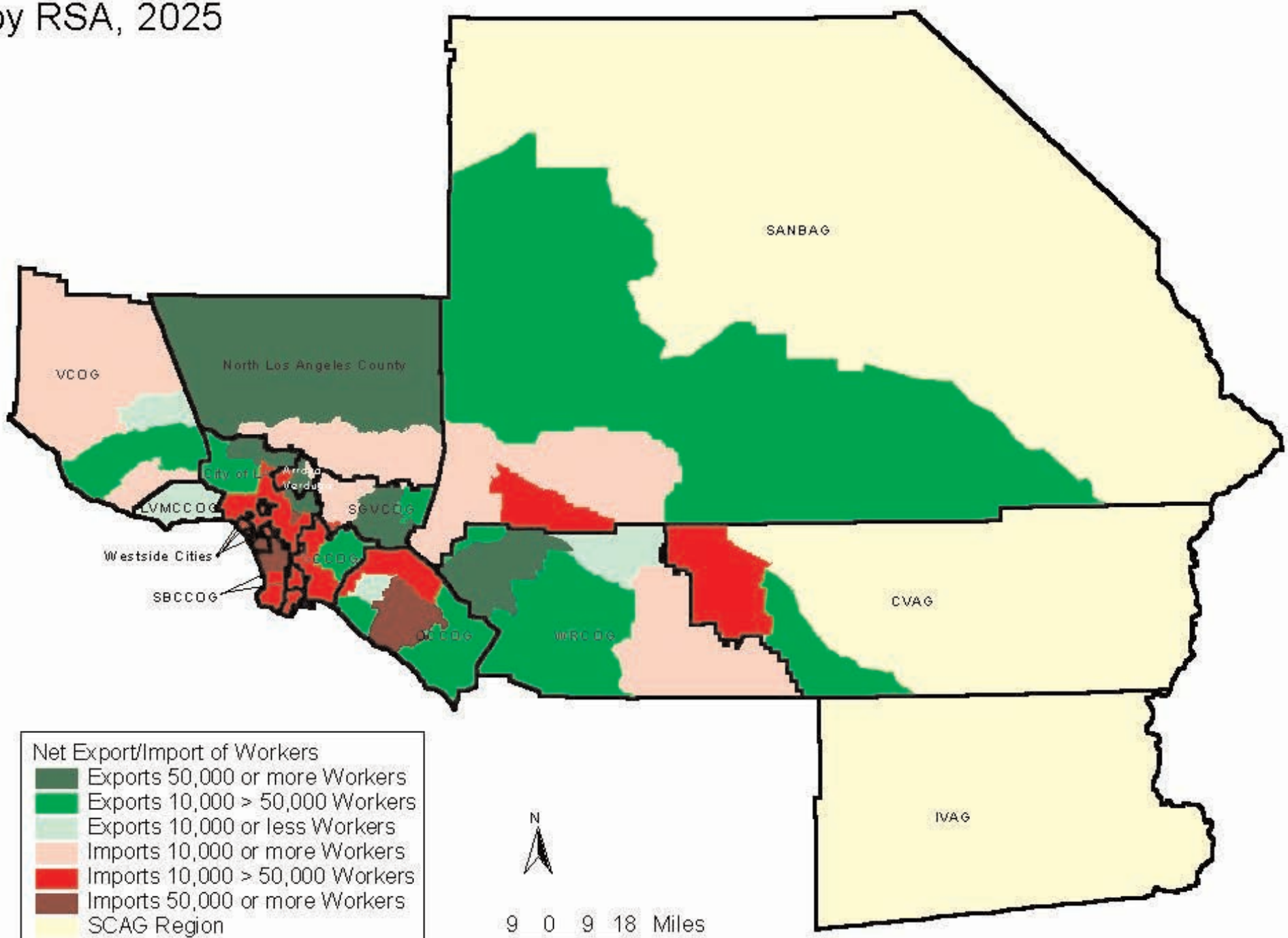
Source: SCAG Draft 2001 RTP

[1] A.M. Home Base Work Formula: (Productions-Attractions)/(2 times 0.6) The denominator accounts for the fact that these are roundtrips (2) and that not every worker goes directly from home to work to home every day.

Map 20. Net Export/Import of Workers for AM Work Trip, by RSA, 1997



Map 21. Projected Net Export/Import of Workers for AM Work Trip, by RSA, 2025



Projections for 2025 show Orange County as the major importer of workers (Table 24). While the central business district of Los Angeles still imports the most workers, its imports have fallen since 1997. This shows the suburbanization of jobs, as the SCAG region becomes more of a multi-nodal economy with several job centers. It also shows that increased infill housing will have an effect on the number of people living and working in the downtown area. The El Toro and Santa Ana RSAs, along with the Newport Beach/Irvine RSA, replace the South Gate and Culver City RSAs as the major importers of workers in 2025.

Table 24

RSAs Projected to have a Net Import of over 50,000 Workers in 2025

RSA	Major City	Imports (In 1,000s)
23	LA CBD	155
44	El Toro	112
39	Newport Beach/Irvine	103
42	Santa Ana	88
18	Inglewood	56

Source: SCAG Draft 2001 RTP

There is a very significant change in the projected regions exporting workers in 2025. Northern Los Angeles County currently exports approximately 50,000 workers to southern Los Angeles County. This number is projected to balloon to approximately 230,000 by 2025. The three RSAs in northern Los Angeles County all are projected to export more than 50,000 workers in 2025, as shown in Table 25. The Orange County RSAs that exported labor in 1997 no longer appear on the list. In the Inland Empire, the Riverside/Corona RSA remains a major exporter with exports increasing from 47,000 in 1997 to 51,000 in 2025.

Table 25

RSAs Projected to have a Net Export of over 50,000 Workers in 2025

RSA	Major City	Exports (1,000s)
10	Palmdale	112
14	San Fernando Valley	93
24	Glendale	65
8	Newhall	63
26	Covina	62
9	Lancaster	59
46	Riverside/Corona	51

Source: SCAG Draft 2001 RTP

This analysis of work trips compares well with the jobs/household ratio analysis. The two approaches both display the coastal and central part of Los Angeles County as jobs-rich and the Irvine area as jobs rich. Both maps also depict northern Los Angeles County and the majority of the Inland Empire as housing rich. However, some of the RSAs that are listed as very jobs-rich, jobs-rich, and balanced have a net export of workers. For example, the Downey region, RSA 22, appears as jobs rich yet exports a significant number of workers. This could signify that this RSA has a high workers-to-household ratio. If there are many families with two income earners, then one or both could be employed outside the RSA. Another explanation is that many of the jobs in a region go unfilled. Workers may find higher paying jobs elsewhere, so that even

though there are many jobs compared to households, those jobs remain vacant while the workers go to other areas for employment. In another example, while the Riverside/Corona RSA appears jobs-rich in 2025, this RSA is exporting 51,000 workers to other areas. This could suggest a mismatch of jobs and workers. Many living in this RSA may pass the opportunity to work in the RSA for better jobs in Orange County. These less desirable jobs may go unfilled.

There are important and significant similarities between the two approaches to measuring jobs/household balance. Both methods show that central and west Los Angeles and Irvine are the job centers for the region in 1997. Both show that housing rich areas are in the periphery in the Inland Empire, northern Los Angeles County, and southern Orange County. Both methods show the rise of Orange County as a more prominent job center and the continued strength of southern Los Angeles County. Both methods also depict the move eastward of jobs into the Inland Empire, centering on the Ontario RSA. Finally, both methods display housing rich regions, in particular northern Los Angeles County and much of the Inland Empire. These regions will continue to be housing rich and will export their workers to job centers. These regions should be the focal point for job creation strategies in an effort to steady the imbalance between jobs and housing. The job centers in Orange County and southern Los Angeles County are the key areas to promote housing development.

Current (1997) and Forecast (2025) Jobs/Housing Ratios

Methodology

Data for the number of jobs and the number of households for 2025 were collected for each census tract and then compiled for each of the RSAs. The data source is SCAG's April 26, 2000 Draft 2001 RTP for the 1997 figures and the November 9, 2000 Draft 2001 RTP for the 2025 figures. The projected numbers for 2025 include the local input of every city and county in the SCAG region. SCAG's Regional Council adopted these numbers for modeling purposes and for analysis purposes. The jobs/housing ratios reported for 1997 were separated into quintiles with eleven RSA ratios in each quintile. The 1997 quintile ranges then were applied to the 2025 projections to produce a map for 2025. The ratios were reported as very housing rich, housing rich, balanced, jobs-rich, and very jobs-rich. These divisions do not represent a countrywide or statewide average as to what ratio is a balanced jobs/housing ratio. These divisions do show where RSAs rank in relation to each other within the SCAG region. Balanced refers to the ratios that fall within the 40%-60% range of the distribution of ratios. The larger the ratio, the more jobs-rich the RSA is.

Some areas, such as the Glendale RSA, may have a low jobs/household ratio yet still be a major employment center. Other areas, such as northwestern Ventura County, have high jobs/housing ratios simply because there are few jobs and even fewer housing units. In order to determine the concentration of jobs and households in an RSA, the RSAs were ranked from the largest number of jobs (ranking of 1) down to the lowest number of jobs. There are fifty-five RSAs in the SCAG region. However, because data are not available for all of the RSAs, the lowest number is not necessarily fifty-five. This analysis ranks the absolute number of jobs for 1997 and 2025 (Figures 16-17) and the absolute number of households for 1997 and 2025 (Figures 18-19).

Limitations

Determining a balanced jobs/housing ratio presents problems. Each region of the country is different, so it is not easy to develop a standardized figure. The mean for the SCAG region in 1997 was 1.25. The projected mean for 2025 is 1.43. The 2025 mean is not in the "balanced" quintile using the 1997 standards, but is in the "Gain Jobs" quintile. This is because projections for 2025 show higher jobs/housing ratios for Orange County and the Inland Empire RSAs than the ratios in 1997. Orange County is expected to become even more jobs-rich while the Inland Empire is projected to alleviate its jobs/housing imbalance with an influx of jobs. Both of these factors are driving the average jobs/housing ratio higher.

To control for the higher ratios that are skewing the mean to a number (1.43) outside of the "balanced" range, the analysis considers the median for these two years. The projected median for 2025 is 1.31, which falls just outside of the balanced category. Still, this is up from the 1997 median of 1.12. Robust projected employment figures are sending the ratios higher as Orange County becomes more jobs-rich and as the Inland Empire begins to have its own jobs-rich RSAs.

This analysis did not examine other regions of the country to determine a statewide or nationwide balanced ratio. The analysis was concerned solely with how the different RSAs related to each other within the region.

Household Growth and Jobs/Household Growth Footprint

Methodology

<u>Household Growth Footprint</u>

- The number of new households is determined by subtracting the total households projected in 1997 from those projected for 2025 (new households)
- The amount of acreage needed to accommodate the number of new households between 1997-2025 is calculated by dividing the number of new households above by the average density (number of household units per acre). Three scenarios regarding average density are used: (1) the 1996 density for each county; (2) a 25% increase in density; and (3) a 50% increase in density.
- Total acreage required to accommodate housing is derived by adding acreage needed for public amenities (roads, schools etc.) to the acreage projected for housing on a 1:1 basis.
- The percentage of "developable land" needed for dividing the total acreage in c above (for each of the scenarios) derives housing (including amenities) by the "potentially developable land (excluding wetlands, prime and unique farmlands, Q3 flood zones and areas most suitable to large numbers of endangered species). In addition to this definition of potentially developable land, this analysis also used the same formula to determine the percent of land needed if developable land is defined as "developable and accessible" or "all developable land."
- *Developable land* = all land excluding the following: land that is already developed, land under public ownership (such as federal and state-owned lands, public parklands, military

bases, and some local government-owned sites), underwater lands, and lands with a slope of 15 percent or more. It does not include privately or municipally owned watershed lands.

- *Developable and accessible lands* = This category includes all potentially developable sites (see above) within 10 kilometers (6.2 miles) of a major roadway (interstate highways, four-lane freeways, and/or major federal or state highways) or within 10 kilometers of existing urban development. These parameters were used to eliminate sites judged too far from existing infrastructure to be economically feasible for development. California developers must typically pay the full costs of extending required public infrastructure (roads, and sewer and water service) to their projects. The more distant a site from existing hookups, the greater the infrastructure extension cost. Thus at some point, far-flung development simply becomes uneconomical; for this analysis that point is set at 10 kilometers.
- *Developable and accessible sites (excluding wetlands, prime and unique farmlands, Q3 flood zones and areas most suitable to large numbers of endangered species)* = lands falling within the qualifications of developable and accessible lands (see above), and also excluding wetlands, prime and unique farmlands, Q3 flood zones and areas most suitable to large numbers of endangered species.

Jobs/ Household Growth Footprint

- The number of new jobs is determined by subtracting the total jobs for 1997 from those projected for 2025.
- The number of "new jobs households" is derived by dividing the number of new jobs by the projected average number of workers per household projected for 2025 by county.
- The amount of acreage needed to accommodate the "new jobs households" is calculated as described above for the Household Footprint for the three density scenarios. Total acreage required is derived as described above.
- The percentage of developable land needed for housing to match the jobs is calculated as described above in the Household Footprint.

Limitations

There are limitations to the household footprint study and the jobs/household footprint study. The household densities assumed for the counties are very low because they take into account all developed land and average the densities, regardless the use of the land. None of the densities for the counties represent the average densities for residential land. The densities would be higher if this were the case. The study assumes that for each acre needed for housing, an acre is needed in public services such as roads, schools, parks, etc. This may be an overestimate in urban areas where services already exist.

The acreage available for housing data do not include the opportunity for infill housing "Because no federal or state agency collects comprehensive data on sites within urban areas, the comparable potential for infill development could not be established" (HCD 43, 2000). Many cities have vacant lots of land that may be used for infill housing. While this is not the solution to the housing the projected population, infill housing could be used to alleviate some of the housing shortage. This is especially true in Los Angeles and Orange Counties, where there is little vacant land left on which to develop housing.

Development Capacity of 1993/1994 General Plans and Zoning to Accommodate Housing and Employment Demand Methodology and Limitations

Methodology

Land use data were collected from a regional land use inventory conducted in 1993 using aerial photography in conjunction with general plans. Also used in this analysis are data from the 1998 Regional Transportation Plan, corresponding to transportation analysis zones (1300 total). Included in the analysis are Ventura, Los Angeles and Orange Counties, the Western Riverside Council of Government cities, and southwestern San Bernardino County. Not included are the cities in the Coachella Valley Association of Governments, Imperial County, nor outlying cities in San Bernardino County, such as Adelanto, Barstow, and Needles. None of the cities that incorporated after 1990, such as Chino Hills, are included in this data set.

The density of the residential and employment areas cited in the general plan was used for Ventura, San Bernardino, and Riverside Counties (by state law, general plans are mandated to be consistent with zoning). For Orange and Los Angeles Counties, low density was described as seven units per acre and high density as fifteen units per acre.

Agricultural land was treated as vacant land available for development unless the general plan specified it as agricultural. The agricultural land did not have to be zoned residential to be viewed as developable. Only the agricultural zoning in the general plan excluded these lands from development being included in the total of available developable land.

Assumptions about the amount of the vacant land that has been built upon since the data were collected in 1993 were not made. Census tracts that contain both city data and unincorporated data are included as city data. As the data is several years old, the tracts may very well have been incorporated into the cities since the time when the data were collected.

Limitations

This analysis only considers land that has not been used previously for another purpose. It does not consider the availability of sites within cities that could be redeveloped to higher densities. The large areas in Los Angeles and Orange Counties that report no available vacant residential land could possibly house more residents. More residents could be housed through redeveloping abandoned or underutilized sites. This process would increase densities in these counties, helping them to house their residents.

The data for this study are admittedly out of date. Cities may have already rezoned census tracts to accommodate future growth, or rezoned some areas to higher densities. New cities have incorporated since 1990 that are not represented in this analysis. The analysis results should be viewed only as a suggestion of past zoning trends by cities in the region.

TABLE 26. EMPLOYMENT CATEGORIES BY SIC CODE COMPRISING HIGH-TECH INDUSTRIAL CLUSTERS

Computer Hardware and Software

357 Computer and Office Equipment
- 3571 Electronic computers
- 3572 Computer storage devices
- 3575 Computer terminals
- 3577 Computer peripheral equipment
- 3578 Calculating and accounting equipment

737 Computer Programming, Data Processing and Other Computer-related Services
- 7371 Computer programming services
- 7372 Prepackaged software
- 7374 Data processing and preparation
- 7375 Information retrieval services
- 7376 Computer facilities management
- 7377 Computer rental and leasing
- 7378 Computer maintenance and repair
- 7379 Computer related services

Telecommunications

366 Communications Equipment
- 3661 Telephone and telegraph apparatus
- 3663 Radio and television broadcasting and communications equipment
- 3669 Communications equipment, not elsewhere classified

481 Telephone Communications
- 4812 Radiotelephone communications
- 4813 Telephone communications, except radiotelephone

482 Telegraph and Other Message Communications
- 4822 Telegraph and other communications

489 Communications Services, Not Elsewhere Classified
- 4899 Communication services, not elsewhere classified

Test and Measurement

381 Search, Detection, and Navigation
- 3812 Search, Detection and Navigation

382 Laboratory Apparatus and Analytical, Optical, Measuring and Controlling Instruments
- 3821 Laboratory apparatus and furniture
- 3822 Automatic controls for regulating residential and commercial environments

3823 Industrial instruments for measurement, display and control of process variables
- 3824 Totalizing fluid meters and counting devices
- 3825 Instruments for measuring and testing of electricity and electrical signals
- 3826 Laboratory analytical instruments

3827 Optical instruments and lenses
3829 Measuring and controlling devices, not elsewhere classified

Entertainment

365 Household Audio and Visual Equipment
3651 Household audio and video equipment
3652 Prerecorded records and tapes
366 Communications Equipment
3663 Radio and television broadcasting and communications equipment
386 Photographic Equipment and Supplies
3861 Photographic equipment and supplies
483 Radio & Television Broadcasting
4832 Radio and broadcasting stations
4833 TV broadcasting stations
484 Cable and Other Pay TV Services
4841 Cable and other pay TV services
504 Professional and Commercial Equipment--Wholesale
5043 Photographic equipment and supplies--wholesale
731 Advertising
7313 Radio, TV, publisher representatives
781 Motion Picture Production & Services
7812 Motion picture and video production
7819 Services allied to motion pictures
782 Motion Picture Distribution & Services
7812 Motion picture and tape distribution
7829 Motion picture distribution services
792 Theatrical Producers (Except Motion Picture), Bands, Orchestras, and Entertainers
7922 Theatrical producers & services
7929 Entertainers & entertainment groups
7933 Amusement parks

Biotechnology

283 Drugs
2833 Medicinal chemicals and botanical products
2834 Pharmaceutical preparations
2835 In vitro and in vivo diagnostic substances
2836 Biological products
2839
384 Surgical, Medical and Dental Instruments and Supplies
3841 Surgical and medical instruments and supplies
3842 Orthopedic, prosthetic and surgical appliances and supplies
3843 Dental equipment and supplies
3844 X-ray apparatus and tubes and related irradiation apparatus
3845 Electro medical and electrotherapeutic apparatus

385 Ophthalmic Goods
    385 Ophthalmic Goods
873 Research, Development, and Testing Services
8731 Commercial Physical and Biological Research (37.5% of employment figures)
    8733 Noncommercial Research Organizations (22.2% of employment figures)

Aerospace

372 Aircraft and Parts
376 Guided Missiles and Space Vehicles and Parts

Warehousing and Trucking

42 Motor Freight Transportation and Warehousing

ADDENDUM

At its April 5, 2001 meeting, the Regional Council of the Southern California Association of Governments adopted the report *The New Economy and Jobs/Housing Balance in Southern California*. On April 12, 2001, the Regional Council adopted the 2001 Regional Transportation Plan (RTP). The adoption of the RTP included the adoption of Aviation Scenario 8. This scenario limits the growth of Los Angeles International Airport (LAX) and assigns substantial growth to Ontario International Airport and the yet-to-be constructed commercial airport at El Toro in Orange County. Because of the adopted aviation policy scenario and the demographic implications of a different distribution of air traffic, the baseline data for population, employment, and households used in the analyses of this report was adjusted. Overall, the changes do not affect the conclusions of this report. This update is intended to highlight some of the significant changes.

The new data show jobs increasing near Ontario International Airport and the El Toro airport compared to previous forecasts used. Regional Statistical Area (RSA) 46, the Pomona RSA changes from balanced to jobs-rich as it will benefit from the jobs that would be induced by more air traffic in the neighboring Ontario RSA. In a similar instance, RSA 46, the Riverside/Corona RSA, changes from jobs-rich to very jobs-rich. The effect of the airport at El Toro is seen in RSA 43, Southeast Orange County, which changes from jobs-rich to very jobs-rich.

The new data's effect on LAX is seen when the data are ranked according to the top ten employment regions for 2025. RSA 18, the Inglewood/South Bay RSA, falls one spot from eighth on the list to ninth on the list and the employment projection has been lowered by 15,000 jobs. While RSA 17, the Culver City/West Los Angeles RSA, remains the RSA with the most jobs, its employment is also affected by the constraint on LAX expansion as the employment forecast has been lowered by 20,000.

Overall, jobs-rich regions remain in southern Los Angeles County, in Orange County, and along the coast in Ventura County. With the continued population and employment growth in the Inland Empire, Ontario, Riverside, and San Bernardino City will become major employment centers. Housing-rich regions remain in the periphery, in the Inland Empire, and, in particular, in North Los Angeles County. Key recommended strategies to achieve a better jobs/housing balance in the region still are promoting infill housing development in coastal communities and promoting new economy, high paying jobs in inland areas.