Patterns of Population Change in California, 2000–2010

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Abstract

The primary purpose of this research was to describe and understand distributional changes between 2000 and 2010 in California's total population and its four leading race/ethnic groups: Asians, Blacks, Hispanics, and Whites. We described these changes by means of maps and obtained greater detail by using as area units the state's 387 census county divisions rather than its fifty-eight counties. Hispanics and Asians had very few areas of decline. Black numbers decreased most in Los Angeles and Alameda Counties, and White populations declined there and in older parts of some surrounding counties, as well as in San Diego. All four groups showed greatest gains in outer suburban areas and beyond, especially in the interior of the state. The increased dispersal of population continued trends of earlier decades, further reducing race and ethnic concentrations in older coastal cities as well as their political influence. The leading growth area for all groups in Southern California was Riverside County; in Northern California it was the region extending from the San Francisco Bay cities into the metropolitan areas of Modesto, Stockton, and Sacramento. Although the maps might suggest that the four groups are becoming more alike in their distributions, comparing their distributions in terms of neighborhoods shows very small changes in levels of segregation since 2000.

THE 2000–2010 DECADE saw California's total population increase by ten percent, but the four leading race/ethnic groups differed substantially in their trends. NonHispanic Whites declined by five percent; and Blacks, Hispanics, and Asians increased by two, twenty-eight, and thirty-two percent respectively. In absolute numbers, Hispanics showed the greatest growth.

The goal of our research was to investigate how these trends played out in various localities throughout the state. Because each of the groups is so numerically large and important, such geographical

changes represent trends of interest to a wide range of scholars and students, elected officials, and people in business and education.

In a political and cultural sense, California can be viewed spatially as divided between Democratic strongholds in coastal cities and Republican predominance in most rural areas and the interior (Mehta 2011). Any net shift of total population will be reflected in a changed political geography, as new electoral districts created on the basis of the 2010 Census will reflect demographic shifts between 2000 and 2010. Appropriate representation of the groups we studied is also a concern in creating new electoral districts. To the extent that these four groups can be characterized by political party affiliation, we can expect changes in patterns of political party preference and party strength.

We believe that mapping is a useful and visually powerful way to describe population changes over the past decade. Maps enable a person somewhat familiar with the state's basic geography to readily grasp general trends over large areas as well as some specifics in better-known localities. California's fifty-eight counties are commonly used as the area units for statewide mapping, and county-level maps of total absolute and percentage change 2000–2010 are already available online (California Department of Finance 2011). Nevertheless, we expected that rates of change and numbers of people involved varied significantly within counties and that localities were the key to the geography of housing prices and the relative attraction of places. Accordingly, we mapped population changes with U.S. Census data for the state's 387 census county divisions (CCDs).

Because we were also interested in possible social implications of the patterns of change, and because mapping at the CCD scale cannot show the extent to which members of different groups live in the same neighborhoods, we made use of previous calculations of a widely used index of segregation to measure change over the last decade in the degree to which Whites were living in the same neighborhoods as each of the three other groups.

Methods
Population data. Our research is based on decennial census data acquired from Summary File 1 of Census 2000 (U.S. Census Bureau 2001) and from the 2010 Redistricting File for California released in March 2011 (U.S. Census Bureau 2011). These data are especially

valuable because they are based on a complete count of the population.

The ethnic and racial data that we use are based on two separate data items from the short decennial census questionnaire that is completed by someone in each household. What is usually called the race question asks which of the listed race groups each person identifies with most strongly. The Asian group is the aggregation of people who reported on the race question some specific national origin or identity in East, South, or Southeast Asia. Most of the Black group are U.S.-born African-Americans, but Black immigrants are included also. Some people reported more than one racial identity on the census questionnaire. Because only 2.6 percent of the state's population chose to do that in 2010, we measured race groups in terms of the numbers reporting only a single race identity.

Another question asks whether a person is of Hispanic, Latino, or Spanish origin. In scholarly practice, "Hispanic" and "Latino" are synonymous. Although some Hispanics have ancestors who were living in northern Mexico when that area became U.S. territory in 1848, a much larger group is composed of those who migrated from Mexico, Central America, South America, the Caribbean, and Spain and their U.S.-born descendants.

Latinos can be of any race, though nationally fifty-three percent reported themselves as White (Ennis, Rios-Vargas, and Albert 2011). However, the group that most Californians call Whites does not include Latinos but represents people with family origins primarily in Europe or Southwest Asia. As a result, most scholars measure this population in census data as NonHispanic Whites, although from this point on we refer to them simply as Whites.

The decennial census data are the best available and are generally considered to be of high quality. However, their completeness can be questioned, particularly with respect to the count of unauthorized immigrants. How many of these were not counted in the decennial censuses is not known, but substantial changes between 2000 and 2010 in the numbers and locations of unauthorized immigrants could diminish the accuracy of our maps. In 2010 there were an estimated 2.6 million unauthorized foreign-born residents in California, representing seven percent of the state's total population (Passel and Cohn 2011). Another recent demographic estimate of this population in California shows a six-percent increase between

2001 and 2008 (Hill and Johnson 2011), though departures due to the recession beginning in 2008 may have negated much of that increase. Estimates by Hill and Johnson show substantial shifts of this population between 2001 and 2008, most prominently into Riverside and San Bernardino Counties and out of Los Angeles, Orange, and Santa Clara Counties. To the extent that estimated county shifts are correct and unauthorized immigrants did not complete census questionnaires, our census-based maps of change probably understate the actual changes that have occurred. The greatest error would concern our map of Hispanic change. This is because seventy percent of unauthorized immigrants in the U.S. are estimated to be from Mexico, with another seventeen percent coming from some other Latin American country (Passel and Cohn 2011).

Data for CCDs. The data for the maps were acquired for the 387 California census county divisions of Census 2000. Data for the 397 census county divisions of 2010 were adjusted to the older boundaries. The census county division (CCD) is an area unit created by the U.S. Census Bureau and state and local government representatives for the purpose of data representation (U.S. Census Bureau 2003). There are CCDs in California and nineteen other states, most commonly in the West, where there are no legally established minor civil divisions or where these have no administrative functions or are not widely used. CCDs have no legal function other than portraying data at a scale between that of the county and the usually much smaller area of a census tract, which generally represents a neighborhood. CCD boundaries generally follow visible features, and they are usually given a name that is well known locally.

Design of maps. Because changes in actual numbers of people and percentage change are both important and complementary ways of looking at change, we used both dot and choropleth mapping techniques. Both types of maps were created using ArcGIS software. On all maps we highlighted county boundaries to help people somewhat familiar with California geography orient themselves.

With respect to dot maps, those CCDs gaining population are represented with black dots and those CCDs losing population represented with white dots, a technique that we developed earlier in a color version (Allen and Turner 2002, Turner and Allen 2010). We wished to choose values for each dot that would be effective on maps where groups differed greatly in population sizes. Because the Asian and Black populations were much smaller than the total, Hispanic,

and White populations, we set the dot value for change in Asians and Blacks at 500 persons per dot, and the dot value for change in the larger populations at 1,000 persons per dot. To overcome the software's random placement of dots within a CCD, all federal lands were excluded from the CCD polygons so that the dot locations more closely approximated the location of the populated areas.

On choropleth maps we selected a small number of percentage increase or decrease categories that we thought would illuminate relative change over many different types of CCDs, overlaying a point symbol pattern in those CCDs with fewer than 100 of the group. Place names were added to help in identifying particular cities and towns, especially where detailed patterns of change might be of interest. The federal land exclusion was not applied to choropleth maps.

Census Bureau errors in the locations of a few prison populations in Census 2000 led to extremes of percentage change in our initial choropleth mapping. These errors were similar to those involving various group-quarters populations at the census-tract level that we had found in preparing an earlier publication (Allen and Turner 2002). Using group-quarters tables from SF1 for 2000 and 2010, we corrected these isolated prison-data problems. The need for these changes was confirmed by consulting revised counts published later by the Census Bureau (U.S. Census Bureau 2005).

Although the maps can portray general and specific patterns, we downloaded population data for all fifty-eight counties, which enabled us to create tables for an appendix. Tables A-J were designed to identify for each race/ethnic group the five counties with the greatest percentage change and to show the numbers of persons involved. Only counties with at least 1,000 of the group in 2010 are included in these appendix tables.

Interpretation of the mapped patterns. Within the state, spatial patterns of total and group population change reflect mostly net residential movement, either local residential mobility or migration. Rapid changes in numbers in various CCDs mean that some places have clearly become more or less attractive to members of a group. We do not attempt a detailed explanation of the mapped patterns, because the factors involved are complex and difficult to uncover, especially when this project uses no direct indicator of group differences in economic resources.

Nevertheless, we explain later why the increase of all groups in the state's interior probably reflected people's desire to avoid the higher housing prices typically found near the coast. Also, in our discussions of individual groups, we sometimes note their growth on the outskirts of the cities, where newer and often more-attractive housing tends to be located. In localities where all groups showed large percentage increases, we suspect there has been recent home development on former agricultural or other undeveloped land. Because Whites were historically the first major group to occupy suburbs, places where other groups increased but Whites decreased generally involved movement of other groups into housing formerly occupied by Whites.

Statewide Change in Total Population

We set a context for our research on geographical patterns by discussing briefly two aspects of population change for California as a whole during the 2000–2010 decade. First we show the relative importance of natural increase and net migration as direct causes of population growth. Then we present the growth rates and population totals for several key populations, including the state's total population.

Components of growth. Natural increase, which represents the number of births minus the number of deaths, has played the greatest role in the state's population growth over the past decade (California Department of Finance 2010a) (Figure 1). Net immigration represents the number of persons migrating into the state from other countries minus those moving out to other countries. Although many Californians might assume that net immigration is the greatest factor in the state's growth, this has been less important than natural increase. Net domestic migration represents the difference between the population coming to California from other states and those leaving California for other states. Although the state experienced a net inflow from other states during the first half of the decade, the net flow was out of California during more recent years. In the years since 2006, most people leaving California went to Texas, the largest interstate migration flow in the country for three of the years (Ihrke, Faber, and Koerber 2011). Other leading destinations were Arizona, Nevada, and Washington, with seventy-two percent of migrants nationwide reporting that they moved for employment and family reasons. It is likely that the leading state destinations for Californians differed according to race/ethnic group, if the years 1995–2000 are any guide (Allen and Turner 2007). However, the recession that began in 2008
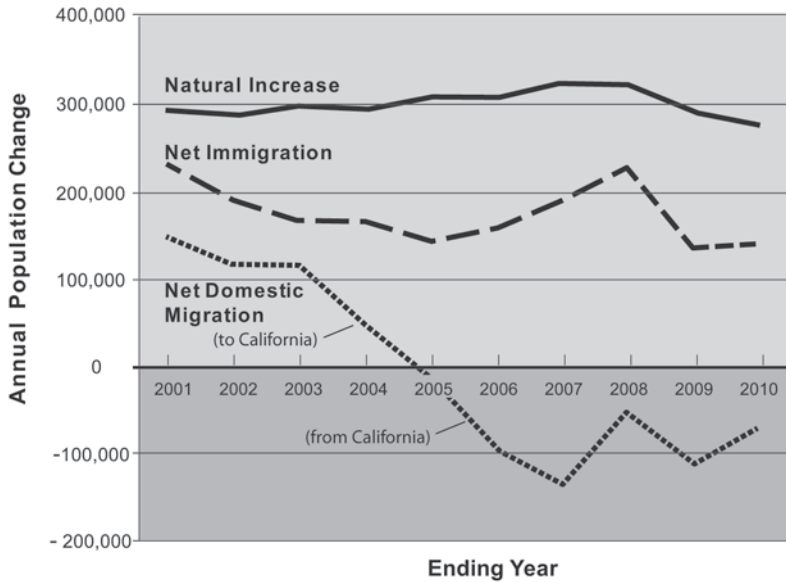
Figure 1.—Components of Annual Population Change, California, 2000–2010.

tended, like most recessions, to reduce the sheer number of domestic migrants—usually measured as people who move to another county or state (Ihrke, Faber, and Koerber 2011).

Race/ethnic groups differed in the relative importance of net migration and natural increase as influences behind their changing numbers. For example, both Whites and Blacks had net out-migration from California during most years since 2000, but Whites also experienced a natural decrease and Blacks a natural increase (California Department of Finance 2010b). Net migration (including immigration) was the leading factor behind the growing Asian population, but natural increase explained more of Hispanic increase. The relative importance of these factors for specific groups was similar to that of the last half of the 1990s (Allen and Turner 2007).

Statewide totals and change. Over the last century Whites have been the largest group in California, but as of 2010 the number of Hispanics or Latinos was almost as large (Table 1). The state's White population has been declining slightly, while Latino numbers have been increasing due to both natural increase and net immigration. The next-largest group is Asians. Their numbers have been growing rapidly as a result of net immigration so that they are now more than double the size of the Black population, which as recently as

1980 outnumbered Asians in California (U.S. Census Bureau 2002). Although maps of the smaller race groups could be produced, we have selected only the four largest groups in the state for mapping and analysis. Because we did not list all the possible tabulated responses, the numbers in the race/ethnic groups (Table 1) do not add up exactly to the California total.

Table 1. Population totals in 2010 and percent change 2000–2010.

Race/Ethnic Groups	Percent change	Population 2010
NonHispanic Whites	-5.4	14,956,253
Hispanics (Latinos)	27.8	14,013,719
Asians	31.5	4,861,007
Blacks (African Americans)	1.6	2,227,072
American Indians and Alaska Natives	8.8	362,801
Native Hawaiians and Other Pacific Islanders	23.9	128,577
Total California population	10.0	37,253,956

Patterns of Change in Total Population

The map of total population change (Figure 2) shows the cumulative result of the distributional changes of the various race/ethnic groups. There are numerous areas of substantial growth extending from near Redding in Shasta County in the north to the agricultural Imperial Valley, focused on El Centro, in the desert east of San Diego. Growth was infrequent in rugged mountain and desert areas (not shown) far from established towns. Population growth in many sections of the interior is evident. Altogether, the dispersed pattern of population growth, a key component of what is often called sprawl, continues the geographical expansion of suburbanization that has been occurring outside American cities for more than a half century (Kaplan, Wheeler, and Holloway 2009).

Figure 2 demonstrates the continued shift to the interior that researchers using 2005 and earlier data had expected, although the economic recession beginning in 2008 may have reduced that net migration. Kotkin and Frey (2007) identified the Central Valley and the interior of Southern California together as the region of greatest expected growth in both total population and economy, dubbing it the "Third California." In another study, Johnson and Hayes (2004) divided the Central Valley into four different regions in order to determine how migration flows and migrant characteristics differed among the regions. Although their data were from 1995 through
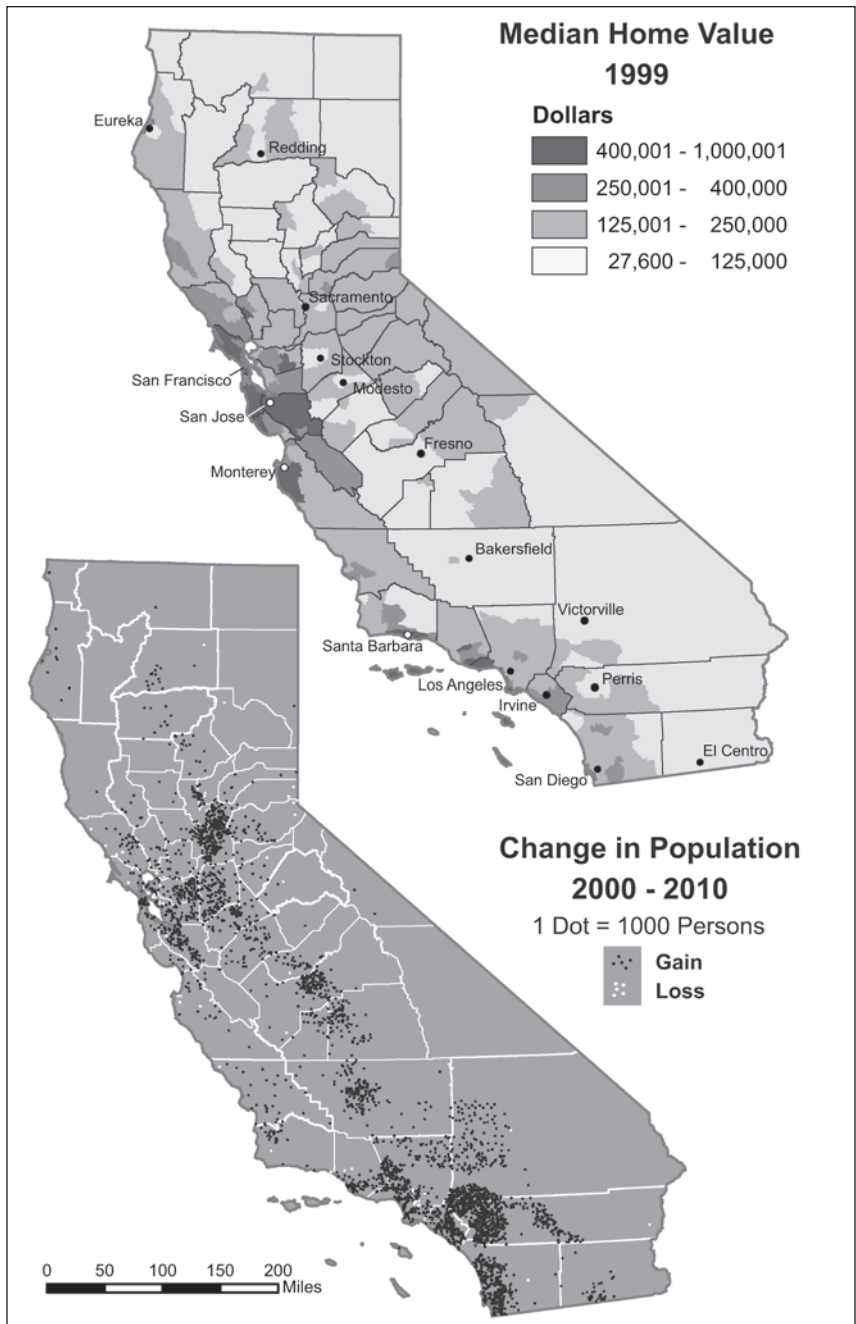
Figure 2.—Total Population Change, 2000–2010; Median Home Value, 1999.

2003, the findings of Johnson and Hayes provide an elaboration of patterns we mapped.

For example, net migration from elsewhere in California was largest into the Sacramento metropolitan area and the North San Joaquin Valley (San Joaquin, Stanislaus, and Merced Counties). Migrants to the Sacramento area were typically employed in that area, whereas migrants to San Joaquin, Stanislaus, and Merced Counties more often commuted to jobs in the Bay Area. The Southern San Joaquin Valley (Kern through Madera counties) and Upper Sacramento Valley (Sutter through Shasta counties) received fewer migrants from the rest of the state than the other regions. New arrivals to the Southern San Joaquin Valley tended to be from other countries, to some extent replacing the region's net migration to other states. Retirees were more common among migrants to the Upper Sacramento Valley, which tended to lose college-educated people. At a metropolitan scale, the characteristics of immigrants of various origins in different localities within the Sacramento area have been richly described and explained by Datel and Dingemans (2008).

Decreases in total population are unusual in California, where housing remains valuable, but some local decreases can be seen on Figure 2. Because of the burst housing bubble and recession that characterized the years 2008–2010, we suspect that most population losses on this map reflect vacancies, where previous residents departed and were not replaced. This may have been due to foreclosures or owners choosing to leave homes where mortgage balances were higher than the value of their homes. Declines evident in the greater San Francisco Bay Area, Los Angeles County, and the Lake Tahoe area may represent especially severe losses of this kind.

The actual reasons behind localized population declines since 2000, or other features on this or other maps, can be investigated by first mapping change between 2000 and 2010 with the same sources we used but at the level of census tracts or blocks, in order to isolate neighborhoods showing the greatest effects. Then, observation and interviewing of neighborhood residents can uncover the most likely factors involved in the losses being studied.

Median home value. It is likely that many of the new residents who dispersed into the state's interior came from coastal cities and suburbs. We included a map of median home value because in the 1990s and 2003 housing was the leading expressed reason for mov-

ing between more-expensive coastal regions of the state and the less-costly Central Valley, as migrants sought lower-priced housing or homeownership (Johnson and Hayes 2004). Home value figures are based on homeowners' estimates of home value in 1999 because it was the lower-priced values in certain places that helped make those places more attractive to potential in-movers.

The legend showing dollar amounts of median values is less important than the relative housing prices in different places, where the lower values in the interior are evident. For example, in Southern California, most areas near the coast had median values above $125,000, whereas 100 miles to the interior, homes had lower values. In that interior, the lower home prices in and around Perris compared to surrounding localities have made that section of Riverside County especially attractive to some migrants. In Orange County, higher home values were found in the newer developments from Irvine southward, but across the line into northwestern San Diego County is Camp Pendleton, a Marine Corps base, where homes had lower value. Although median home values in much of the interior of Northern California were between $250,000 and $400,000, this was still less than home values over much of the Bay Area.

Patterns of Change in Asians

There were large increases in Asian numbers in the major population centers of the state—the San Francisco Bay Area and its extension eastward to Stockton and Sacramento, and much of Southern California, especially in Riverside County (Figure 3). The more than doubling of that county's Asians from an already large base of about one hundred thousand in the year 2000 represents the single most important county change in Asian locations in the state. With the different nationality-based groups included in the Asian category, Riverside County may see significant commercial and residential districts that are multiethnic and pan-Asian, just as these appeared earlier in Los Angeles County (Li 1998, Allen and Turner 2002).

Numbers of Asians even tripled in some localities, usually on the fringe of major population centers (Table C). This occurred in and around the Delta region east of the Bay Area and in Murrieta in Southern California's Riverside County. The Asian population of the Sacramento area tripled in and around Lincoln in Placer County, and west of Bakersfield a similar growth occurred. Some Asians moved into areas where few had been living in 2000, such as Shasta and Butte Counties and around Santa Maria in northern Santa Barbara
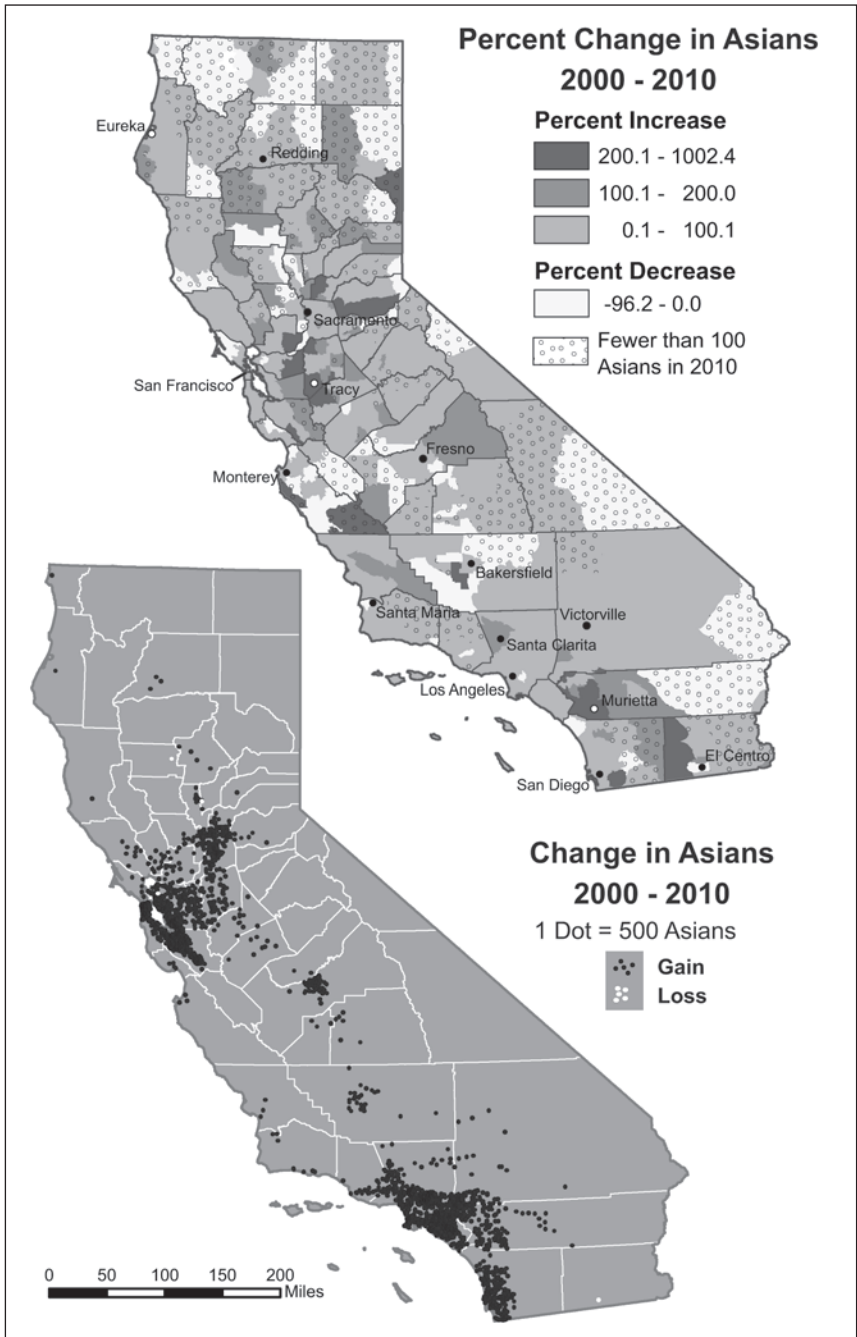
Figure 3.—Asian Population Change, 2000–2010.

County, but the total numbers involved were not large. The line of dots in central Riverside County shows a similar Asian movement into the Coachella Valley and the Palm Springs area.

The theoretical model of spatial assimilation suggests that Asians who live farther from residential concentrations of their group, such as those discussed in the previous paragraph, are more assimilated to the U.S. mainstream culture (Massey 1985). This notion has been supported by evidence from greater Los Angeles that Asians in more outlying places have been somewhat more likely to be U.S.-born and proficient in English, compared to those who remain near their concentrated settlements (Allen and Turner 1996). Among immigrants (the foreign-born), those who live farther away from their ethnic concentrations are also more likely to be longer residents of the U.S. and naturalized citizens. We expect that such characterizations remain, to some extent, valid today, despite the many individuals whose characteristics and residential locations do not fit this pattern. On the other hand, the old notion that Asian neighborhood concentrations or enclaves are necessarily poor areas has been shown to be false, based on evidence from the Bay Area and greater Los Angeles (Allen and Turner 2009).

Among counties with very low percentage increases (Table D), the twelve percent Asian growth in San Francisco is most significant because that county's Asian base population was so large. In fact, the largest absolute population increase for any group in San Francisco was that of Asians. Although not shown on a table, Asians in Santa Clara County to the south of San Francisco increased by thirty-three percent to a total of over a half-million, more than twice the Asian population of San Francisco. Asians in the Silicon Valley section of that county have been closely connected with high-tech industries, as discussed in detail by Li and Park (2006).

White dots are rare on the map. One such place includes part of Yuba City, where the decline may have resulted from residential shifts of the area's long-established Asian Indian community. Areas where Asians decreased in numbers were generally rural CCDs with fewer than 100 Asians.

Patterns of Change in Blacks
Although the statewide increase in Blacks was less than two percent, the map portrays substantial changes in distribution (Figure 4). Most dramatic are the declines in black population in the older cities of
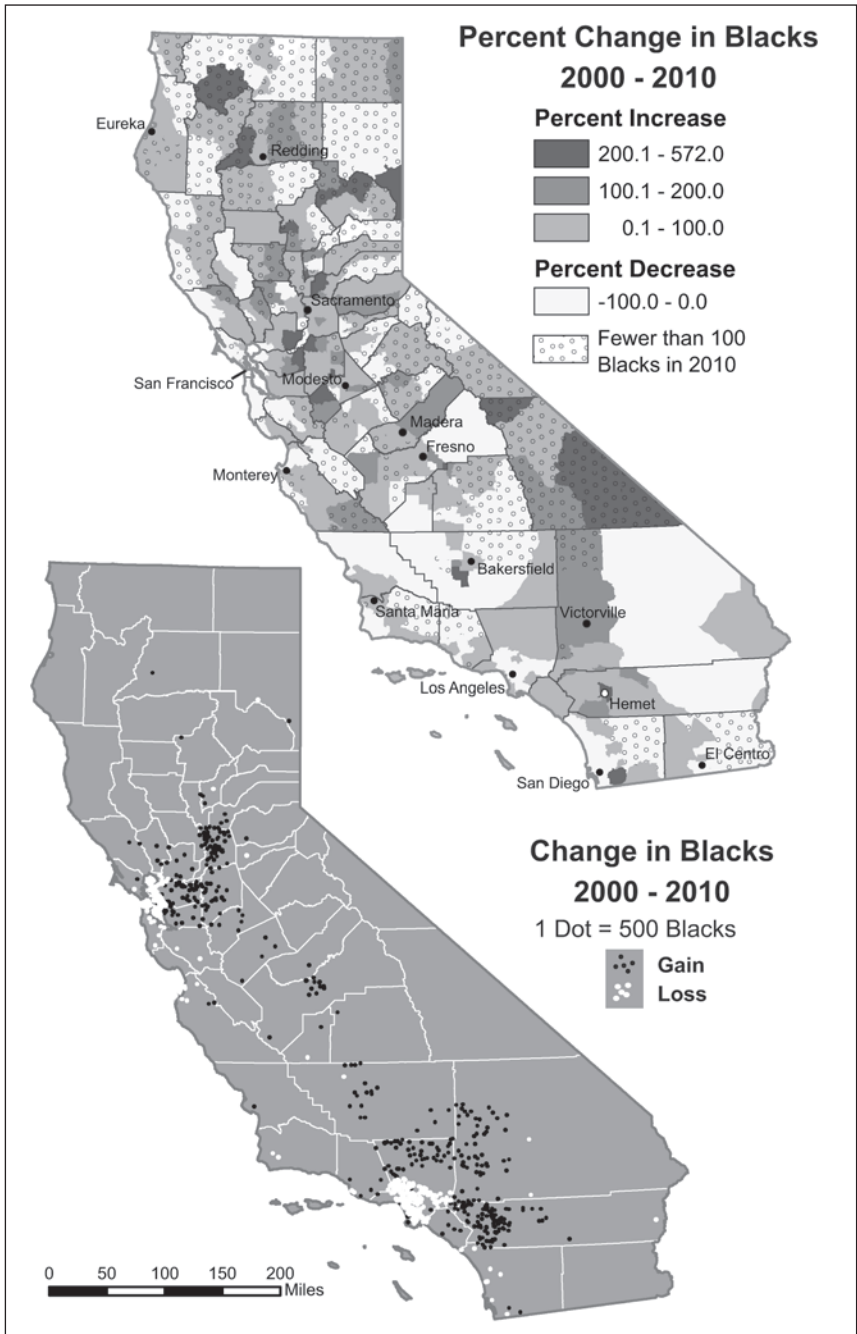
Figure 4.—Black Population Change, 2000–2010.

Los Angeles and Pasadena, San Francisco, and Oakland. It is very clear that Blacks are moving out of older, often poorer central cities that have been the most important historic centers of urban population (Allen and Turner 1997). This decline of Black numbers in Los Angeles and Alameda Counties (Table F) is an important change because these are the two largest centers of Black population in the state. In the Bay Area there are also substantially reduced numbers of Blacks in San Francisco and adjacent San Mateo County. Some of these losses probably represent net migration out of the state, but we suspect that most Blacks who left these counties moved to suburbs and more distant places, as we already discussed.

If Los Angeles County is an example, Black departures from former ghettos opened up housing for the growing Mexican and Central American populations (Allen and Turner 2002). Some Black renters who could afford to move out of such poor areas to better neighborhoods have left, while Black homeowners have often been able to sell to Hispanics who are forming their own families and need housing.

This shift to the suburbs, primarily involving middle-class Blacks, was very evident during the 1990–2000 decade (Allen and Turner 2002). Such moves to outlying areas continue the loss of Black political power that had been based on Black geographical concentrations, which originated in the days of ghettos and blatant housing discrimination (Massey and Denton 1993). However, Figure 4 makes it clear that since 2000 the area of Black numerical decrease has now expanded to all of the southern half of Los Angeles County.

To the north of Los Angeles on the dot map is a large gray area that represents the rugged and sparsely populated San Gabriel Mountains, but beyond the mountains and east into San Bernardino County is a vast area in the Mojave Desert where the most-recent suburban expansion from greater Los Angeles has occurred. Black and Hispanic population growth, in places such as Lancaster and Victorville, continued a trend from earlier decades in which the lower housing prices made those areas attractive, despite typically long commutes to work in older cities and suburbs. Similarly, to the south, in Riverside County the most rapid Black increases were in Hemet and nearby areas because of relatively low home prices.

In Northern California, the greatest increases in Black populations occurred in the suburbs, smaller cities, and new residential developments between the San Francisco Bay Area and Sacramento. The

most rapid percentage growth took place in counties where not many Blacks had been living—counties on the outskirts of large population centers (Table E). To the south, Stanislaus County, Fresno, and the Bakersfield area also experienced Black gains.

Apart from declines in the larger, more central cities and older suburbs, Black numbers also decreased in San Mateo, Santa Clara, Monterey, and Santa Barbara Counties, as well as some coastal communities north of San Diego. It is not known why this decrease occurred, but some Blacks may have been priced out of acceptable housing in more-expensive areas. Elsewhere, such as eastward in the Mojave Desert of San Bernardino County, Black losses were probably due to reductions in military personnel at U.S. Army and Marine Corps installations.

Patterns of Change in Hispanics

A pattern of widespread Hispanic increase is found over much of the state, mostly in older cities and towns but also in newer suburban areas (Figure 5). For example, Hispanic growth occurred in the San Joaquin Valley throughout its long-settled eastern side near Route 99 and also northward in the Sacramento Valley to Redding. There were Hispanic increases of over fifty percent in and around Eureka in Humboldt County. Along the Central Coast, in places such as Santa Maria, Hispanic numbers doubled. In other places they tripled, as in some localities in the Delta Region and some Sierra Nevada foothill towns, the latter illustrated by Angel's Camp.

In Southern California, Hispanic numbers grew in all the population centers, not just the larger centers of Los Angeles and San Diego. Hispanic doubled in the large suburban expansion areas around Murrieta and Hemet in Riverside County and Victorville in San Bernardino County. Smaller, less known areas of Hispanic increase include Oxnard and other parts of Ventura County, El Centro in the Imperial Valley, Desert Hot Springs and the Coachella Valley, and Victorville in the Mojave Desert. In Orange County, an absence of dots locates the Santa Ana Mountains that separate the county from the lower-priced housing in the interior.

Places where Hispanics have decreased are not common, and most involve small numbers in rural areas. However, in Los Angeles County, the two small areas identifiable on both maps are the west San Gabriel Valley, including the cities of Monterey Park and Rosemead, and Glendale. In both cases the departure of Hispanics had
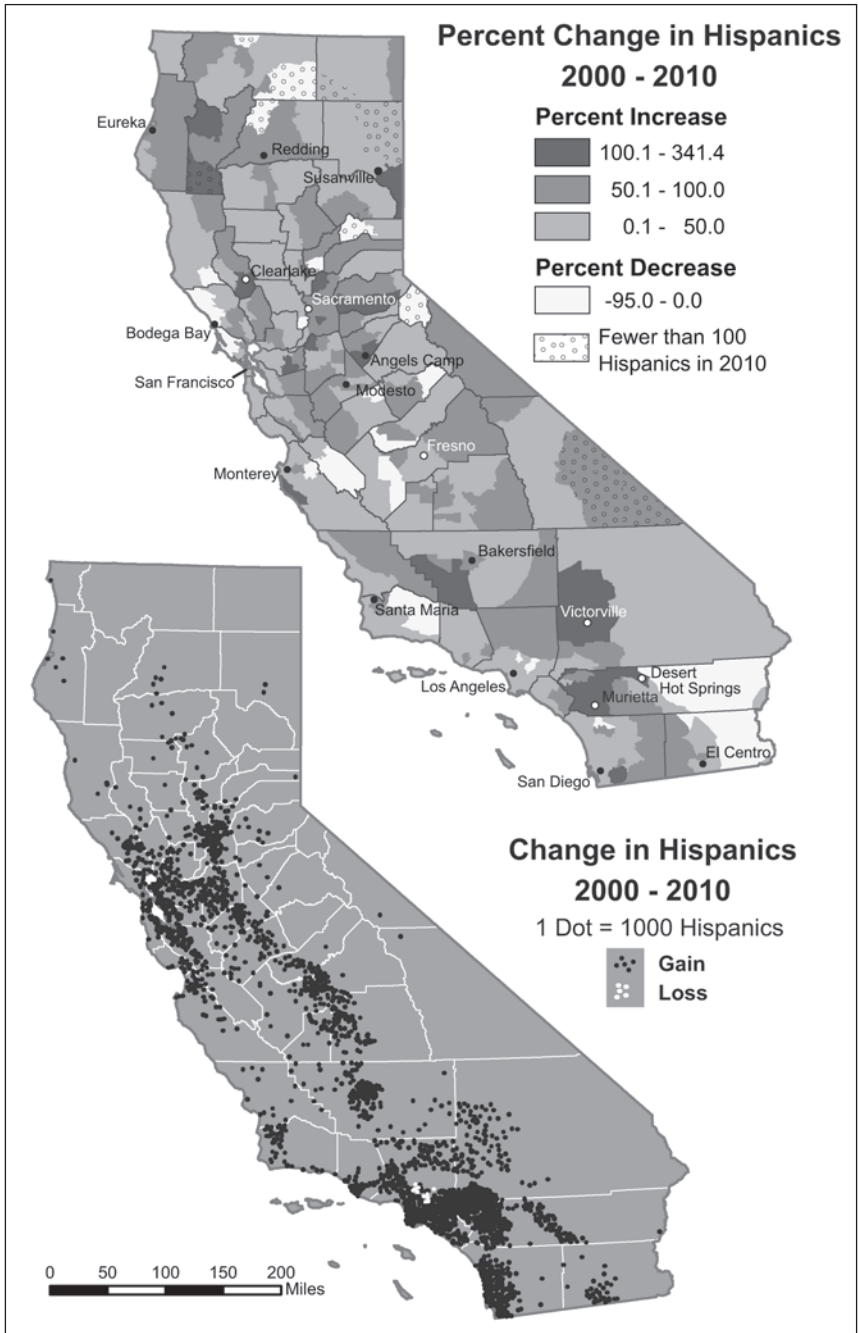
Figure 5.—Hispanic Population Change, 2000–2010.

begun in an earlier decade and was connected with increases in other groups (Allen and Turner 2002). The west San Gabriel Valley has seen the continued growth of that major Chinese settlement, and Glendale has become an enclave for Armenians, continuing to attract them. We do not know the actual processes fueling the loss of Hispanics, but part of the explanation may involve increased housing prices due to the gentrification of older neighborhoods. In Northern California, a small decline in Hispanics occurred near the coasts of Marin and Sonoma Counties, such as in Bodega Bay. Although other factors may have been involved, housing prices in these areas may have increased sufficiently to make them unaffordable for some Hispanics.

Appendix tables can help identify the specific counties of greatest and least growth. Both Placer and Riverside Counties were areas of especially rapid Hispanic growth, with other counties of rapid growth located on the fringe of larger population centers in Northern California (Table G). This is a pattern similar to that observed with Asians and Blacks. On the other hand, Hispanics grew more slowly in Los Angeles and San Francisco and counties adjacent to these major population centers than elsewhere (Table H). This, too, is somewhat similar to the geographical shifts of Blacks, although in these places Black numbers actually declined.

Patterns of Change in Whites

The statewide White population decline is evident in many areas (Figure 6). In Northern California, this was most pronounced around the San Francisco Bay Area, including Sonoma County and around Monterey Bay. This White decline was found in older cities and suburbs such as Bakersfield, Modesto, Stockton, and Sacramento. In Southern California, the large area of decline is focused on Los Angeles, northern Orange County, and San Diego, but it also extended inland to older settled areas in San Bernardino County. White departure from these areas has opened up housing for the other groups, which have shown gains in these areas.

On the other hand, White increases have occurred where there has been much newer housing development, most typically in newer suburbs near the urban fringe. Many such places are evident on the map, such as the city of Santa Clarita, just north of Los Angeles; southern Orange County; western Riverside County in and near Temecula; and in Palm Desert southeast of Palm Springs. An unusual location of White growth was the city of Glendale, where in-moving
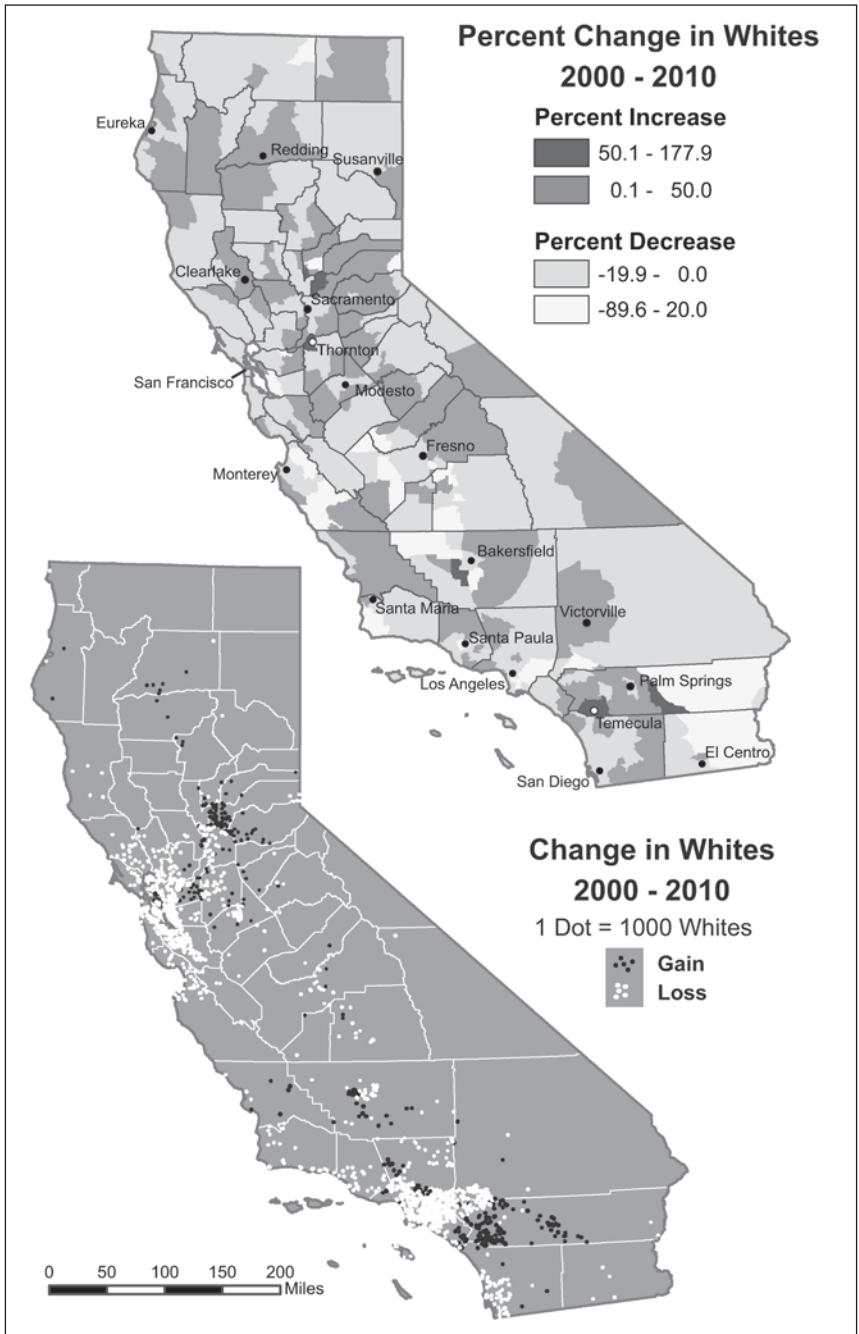
Figure 6.—NonHispanic White Population Change, 2000–2010.

Armenians replaced some Hispanic residents in a gentrified section of that city (Allen and Turner 2002).

Newer residential developments may have prompted the White increases of over fifty percent in an area west of Bakersfield, the section of Placer County closest to Sacramento, and in Thornton in the Delta area. When percentage increases are measured in terms of counties as a whole, Placer, El Dorado, Yuba, and Calaveras—all containing Sierra foothill communities—had the fastest growing White populations outside of Southern California's Riverside County (Table I). Those Sierra counties benefited substantially, compared to most other counties in the state, from the average higher income levels of their in-migrants compared to those that moved away (Otterstrom, Dixon, and Cosby 2006).

White moves have also taken them well beyond the major population centers, such as to the inland Central Coast town of Paso Robles, where population growth has paralleled the area's expansion of wine grape acreage (Peters 2007). Whites also increased in numbers in cities like Redding and Chico and in rural areas of the northwestern parts of the state. Migrants to such northern areas tended to come from many different counties in the state as opposed to the migrant origins of suburban areas, whose in-migrants were mostly from nearby counties (Otterstrom, Dixon, and Cosby 2006).

Although this interpretation has emphasized White increases, this is a reminder that Whites were the only group to lose population in the state as a whole. As is evident from the dot map, most of these losses came from large metropolitan areas. Los Angeles County had over 200,000 fewer Whites in 2010 than in 2000, while Orange and Santa Clara Counties each had net losses of over 100,000 Whites. San Francisco, with its special attractions, was the exception, losing less than one percent of its Whites.

Segregation in Neighborhoods

Map patterns of change suggest that all four groups find many similar areas attractive and that the groups' distributions may be becoming more similar. Could this mean that the groups are coming together residentially, resulting perhaps in greater social interaction between the groups? This question cannot be answered by map patterns at the scale of our study. However, if the area unit by which the distributions are measured is changed to the neighborhood, a partial answer may be obtained.

Scholars have traditionally used indexes of segregation to measure residential separation, the extent to which groups live in different neighborhoods. Neighborhoods have been most commonly measured in terms of census tracts. Index scores are thought to indicate the relative degree of social separateness and neighborhood inequality between the groups. Calculations of the most commonly used indicator, the dissimilarity index, for 2010 compared to 2000 can demonstrate any trends in reduced or increased neighborhood segregation between any two groups. The dissimilarity index, D, varies from 0 (no segregation), where each group is represented in all tracts in the same proportion found in the metropolitan area as a whole, to 100 (complete segregation), indicating each group lives in completely different tracts.

Values or scores for the index have recently been calculated for 2010 so that comparisons with scores for 2000 are possible (Population Studies Center 2011). Because the degree to which minorities are segregated from Whites has been of greatest interest to scholars, we present averages of D scores for Black-White, Hispanic-White, and Asian-White segregation in California's eleven metropolitan areas with over a half million in total population (Table 2). Together these areas comprise eighty-four percent of the state's total population.

Table 2. Average metropolitan segregation scores (D) in 2010 and change 2000–2010.

Race/ethnic groups measured	Average Change in D 2000–2010	Average D 2010
Black-White	-3.0	49.8
Hispanic-White	-1.2	46.5
Asian-White	1.6	43.2

Note: D is the index of dissimilarity. Change in D is the absolute change, not percentage change.
Source: Population Studies Center 2011.

The degree of segregation between Whites and each of the other groups is moderate and not very different, and the change in segregation over the last decade has been small. As has been true in most of the rest of the U.S., Black-White segregation is higher than segregation between the other groups, but it has been decreasing somewhat more rapidly. This change appears to reflect the increasing income levels of many Blacks as well as an increased acceptance by

Whites. The very small increase in segregation between Asians and Whites probably results from the tendency toward dispersal associated with assimilation being outweighed by the tendency of new immigrants to settle close to friends and relatives. The intermediate level of segregation of Hispanics and Whites indicates more of a balance between these countervailing influences.

The fact that these indicators of neighborhood segregation are moderate and not low reveals that intergroup identities and attitudes remain significant. They should temper any sense from the maps that all four groups are coming together residentially. As has been true in the past, we expect some intergroup tension may occur when a group's numbers increase substantially in a neighborhood.

Conclusion

All these maps have demonstrated a clear geographical shift of all groups from large, older coastal cities and towns to smaller places in the interior of the state. This more-dispersed residential pattern continues trends of suburbanization and sprawl begun decades earlier. In Southern California Riverside County was the single-largest focus of growth for all four groups, and in Northern California we identified the area between the Bay Area, Modesto, and northeast Sacramento as a major growth area, especially for minority groups. There and elsewhere, new groups are coming into areas that have been traditionally White. In this way, differences in ethnic geography seem to be diminishing, at least in terms of the scale of census county divisions. At the neighborhood scale, however, changes in residential segregation between Whites and the other groups over the past decade have been very small.

Places of rapid growth, epitomized by Riverside and Placer Counties, will gain in greater political representation with the new electoral districts created on the basis of the 2010 census (Mehta 2011). These patterns suggest to us that Los Angeles and other large, older coastal cities that have traditionally had separate concentrations of White, Black, Hispanic, and Asian cultures and political power will be slowly challenged by the suburban and less-urbanized counties that have recently received populations of several different race groups. More and more the state is becoming mixed geographically, and the massive metropolitan areas of the coast that have dominated perceptions of the state must begin to recede in the face of population shifts into the smaller, more mixed places we identified on our maps.

We believe that the detail on our maps enabled us to describe better the geography of population change across the entire state than if whole counties had been used. This was because we used census county divisions (CCDs) as the areal unit for mapping. We urge geographers and others to consider using census county divisions as their areal unit for mapping California or major sections of the state on a single map.

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Appendix

These tables show the five counties that had the largest and smallest percentage increases or largest percentage decreases for the total and the race/ethnic populations 2000–2010. Counties with fewer than 1,000 members of a group in 2010 are not included in tables for that group.

Table A. Counties with largest percentage increase in total population, 2000–2010.

County	Percent change	Total population 2010
Riverside	41.7	2,189,641
Placer	40.3	348,342
Kern	26.9	839,631
Imperial	22.6	174,528
Madera	22.5	150,865

Table B. Counties with decrease or smallest percentage increase in total population, 2000–2010.

County	Percent change	Total population 2010
Tuolumne	1.6	55,365
Siskiyou	1.4	44,900
Alpine	-2.7	1,175
Plumas	-3.9	20,007
Sierra	-8.9	3,240

Table C. Asian greatest percentage increase counties, 2000–2010.

County	Percent change	Asian population 2010
Placer	179.3	20,435
Napa	149.7	9,223
Riverside	129.1	130,468
El Dorado	89.2	6,297
Madera	78.9	2,802

Table D. Asian smallest percentage increase counties, 2000–2010.

County	Percent change	Asian population 2010
San Benito	13.0	1,443
San Francisco	11.8	267,915
Yuba	7.6	4,862
Monterey	4.2	25,258
Imperial	0.2	2,843

Table E. Black greatest percentage increase counties, 2000–2010.

County	Percent change	Black population 2010
Placer	133.9	4,751
El Dorado	73.3	1,409
Napa	62.2	2,668
Yolo	52.1	5,208
Riverside	45.8	140,543

Table F. Black greatest percentage decrease counties, 2000-2010

County	Percent change	Black population 2010
Los Angeles	-8.0	856,874
Alameda	-11.7	190,451
Monterey	-15.0	12,785
San Mateo	-17.7	20,436
San Francisco	-19.2	48,870

Table G. Hispanic greatest percentage increase counties, 2000-2010

County	Percent change	Hispanic population 2010
Placer	86.1	44,710
Riverside	77.9	995,257
Yuba	72.8	18,051
Calaveras	70.1	4,703
Lake	67.0	11,088

Table H. Hispanic smallest percentage increase counties, 2000–2010.

County	Percent change	Hispanic population 2010
Santa Clara	18.8	75,809
San Mateo	18.0	27,794
Orange	15.7	137,394
San Francisco	11.2	12,270
Los Angeles	10.5	445,676

Table I. NonHispanic White greatest percentage increase counties, 2000–2010.

County	Percent change	White population 2010
Placer	28.0	265,294
Riverside	10.2	869,068
El Dorado	9.0	144,689
Yuba	7.9	42,416
Calaveras	7.4	38,074

Table J. NonHispanic White greatest percentage decrease counties, 2000–2010.

County	Percent change	White population 2010
San Benito	-13.7	21,154
San Mateo	-13.8	303,609
Santa Clara	-15.8	629,909
Monterey	-15.8	136,435
Imperial	-16.8	23,927