

## 1.0 PURPOSE AND NEED

### 1.1 Study Corridor Description

The Los Angeles County Metropolitan Transportation Authority (Metro) has initiated an Alternatives Analysis (AA) study to evaluate potential alternatives for the second phase of the Metro Gold Line Eastside Extension currently under construction. The Metro Gold Line Eastside Extension (Extension) is a six mile, eight station light rail transit line currently under construction and anticipated to be operational by 2009. The Extension will directly interface with the Metro Gold Line service to Pasadena thereby eliminating any need to transfer at the line's current terminus at Union Station. Roughly 30,000 daily riders are expected to utilize the first phase of the Eastside Extension by the year 2030. The AA will identify and evaluate potential alternatives to extend transit service east from the terminus of the Metro Gold Line Eastside Extension.

#### 1.1.1 Project Study Area

The Eastside Transit Corridor Phase 2 Project Study Area (PSA) continues from the Phase 1 PSA. The PSA is located in eastern Los Angeles County and is approximately 80 square miles (See Figure 1-1).

The PSA begins in downtown Los Angeles and extends to just east of I-605, to the City of Whittier. The PSA for Phase 2 has been widened to include Cities and unincorporated portion of Los Angeles County just south of the I-10 highway. On the southern end, the PSA boundary is I-5.

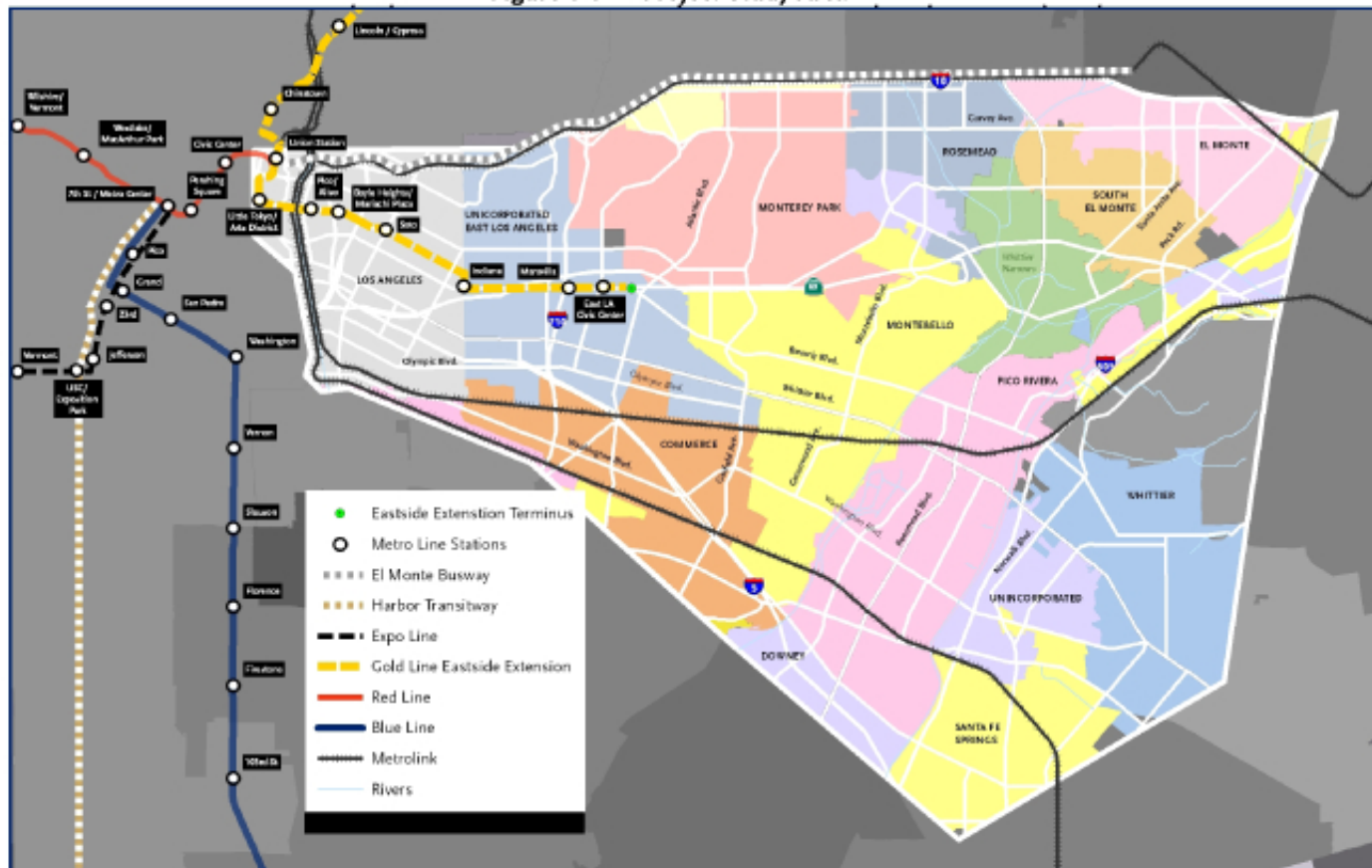
#### PSA Demographics

In 2005 the population of the PSA was about 673,000, which accounts for roughly seven percent of the population of Los Angeles County (10,010,315). Continued population growth in the PSA is expected over the next 20 years. The PSA is composed of different racial and ethnic communities, neighborhoods with various income levels, and transit dependent communities consisting of young and old residents and families.

According to Census Data, approximately 77 percent of the population in the PSA is Hispanic or Latino, compared with 45 percent in Los Angeles County. Portions of the PSA also have a slightly higher concentration of Asian residents. Within the PSA, 13 percent of the population is Asian, compared to 12 percent County-wide. Table 1-1 provides data on the racial and ethnic composition of the PSA.



Figure 1-1 Project Study Area



**Table 1-1 Racial and Ethnic Composition**

Demographics	PSA		Total LA County	
	Number	Percent	Number	Percent
<b>Race</b>				
White	252,308	39.9%	4,622,759	48.6%
Black	7,009	1.1%	916,907	9.6%
American Indian	5,915	0.9%	68,471	0.7%
Asian	82,788	13.1%	1,134,263	11.9%
Pacific Islander/Hawaiian	1,241	0.2%	27,221	0.3%
Some other race	253,258	40.1%	2,262,925	23.8%
Two or more races	29,535	4.7%	486,792	5.1%
<b>Ethnicity</b>				
Hispanic or Latino (regardless of race)	485,155	76.8%	4,242,213	44.6%
Other	146,900	23.2%	5,277,125	55.4%

Source: U.S. Census Bureau, 2000

The PSA is also composed of a mix of low-, medium-, and high-income households. In 2005, the median household income was approximately \$86,000 annually. Table 1-2 provides a breakdown of household income.

**Table 1-2 PSA Income Status**

Demographics	PSA	Percent
Total Households	175,983	100%
Low-income Households	79,218	45%
Medium Income Households	71,671	41%
High-income Households	25,077	14%

Source: U.S. Census Bureau, 2005; SCAG, 2005

In 2005, about 32 percent of the population was age 18 and under and ten percent was age 65 and over. The young and the elderly populations tend to rely more heavily on public transportation. There is a large share of young people within the PSA, as shown in Table 1-3. The data suggests that in 2005, 32 percent of the population within the PSA was under the age of 18. This is a slightly higher percentage compared to Los Angeles County, where 29 percent of the population is under the age of 18. The senior population for the PSA and Los Angeles County is relatively the same. In both cases ten percent of the population is age 65 and older.

**Table 1-3 Population Age**

AGE	PSA	% of Population in PSA	L.A. County	% of Population in L.A. County
18 and under	204,498	32.4%	2,798,604	29.4%
65 and over	63,862	10.1%	926,670	9.7%

Source: U.S. Census Bureau, 2005; SCAG, 2005

### 1.1.2 Regional Context

The Metro operates fixed guide-way rail service throughout the Los Angeles metropolitan area including the Metro Red and Purple Lines heavy rail subways and the Blue, Green, and Gold light rail lines. Several Metro rail stations provide connections to additional public transportation options including Metrolink and Amtrak commuter rails and bus service provided by Metro and various cities.

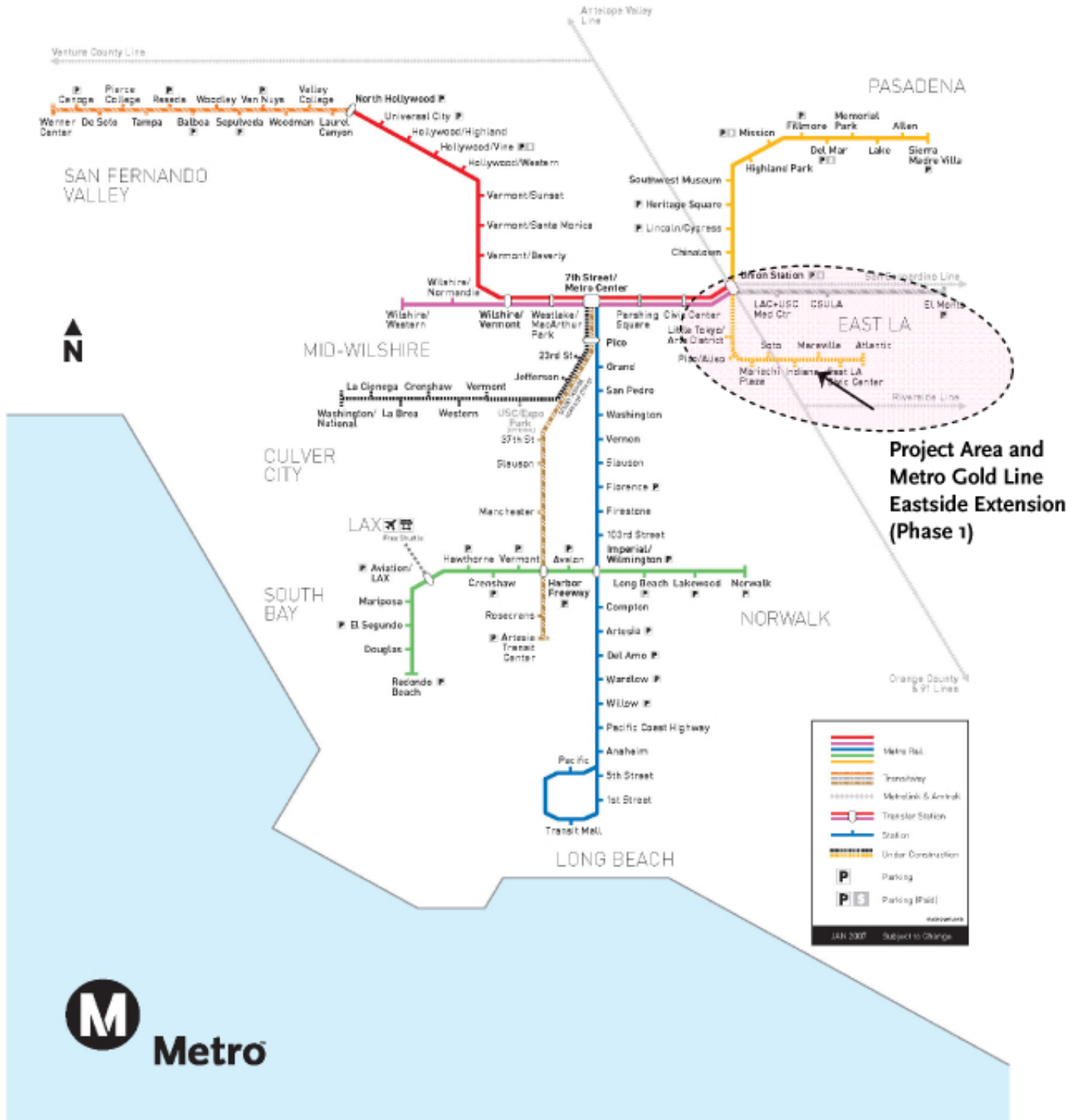
Metro has made significant investments in fixed-guideway transit service over the last ten years. Since 1990, communities to the west, north, northeast, and south of downtown Los Angeles, have benefited from increased mobility options. The Metro Red Line investment provides a 17.4 mile stretch of high capacity transit service for commuters traveling to and from downtown Los Angeles and to the areas farther west and northwest. Soon to be added to the list of operational transit services is the Metro Expo Line, which will provide an additional 8.5 miles of light rail to south/west portions of the County. The Metro Orange Line Bus Rapid Transit (Busway) provides exceptional transit service to commuters traveling to and from the San Fernando Valley. The Pasadena Gold Line provides 13.6 miles of light rail in the northeast from Pasadena to Downtown Los Angeles' Union Station. The Blue Line is a 22 mile light rail system which provides access to communities in the southern portion of Los Angeles County. The Green Line provides 20 miles of transit access to Gateway cities and beach communities. Figure 1-2 shows the Metro system.

The Metro Gold Line Eastside Extension is the most significant transit investment made east of downtown to date. Scheduled to open in 2009, it will provide six miles of light rail access to the western edge of the PSA. Still, due to high residential densities, population and employment growth, and increased travel demand and congestion, there is a need to provide greater access to communities farther east. This study will explore ways to provide expanded transit access to Los Angeles County residents and employees within the 80 square mile PSA.

Figure 1-2 Metro System Map

# Go Metro

metro.net



Source: Metro 2008. Graphics provided by CDM [http://www.metro.net/images/rail\\_map.pdf](http://www.metro.net/images/rail_map.pdf)

### 1.1.3 The Mobility Problem

The Southern California region is faced with multiple mobility challenges that hinder the region's ability to effectively meet additional travel demand, primarily associated with rapid population growth. Los Angeles County alone is expected to increase from roughly ten million people in 2005 to nearly 12.2 million people by the year 2030. Expected population growth in the region and within the Eastside PSA will inevitably impact mobility. Many residents in the Eastside PSA already encounter long travel delays as they travel west to regional employment centers in downtown Los Angeles.

If unaddressed, these mobility challenges pose a risk to future population and economic growth, commuter safety, existing infrastructure, goods movement, air quality, and environmental considerations. If no action is taken to improve transportation mobility, SCAG estimates that daily person hours of delay would increase from 2.2 million hours under the 2000 Base Year to 5.4 million hours under the 2030 Baseline.

The principal objectives for transit improvements being evaluated as part of the Eastside Transit Corridor Phase 2 Alternatives Analysis include:

- Identifying methods of providing a transit connection to the Metro Gold Line Eastside Extension now under construction;
- Improving transit linkages and coverage to cities beyond the East Los Angeles terminus of the Metro Gold Line Eastside Extension Phase 1;
- Enhancing mobility to the Eastside PSA by providing a more robust transit network that offers effective alternatives to automobile travel; and,
- Accommodating significant levels of projected growth in travel demand by developing sustainable solutions.

The following sections describe factors contributing to the mobility problem in greater detail. The figures included in this section show the initial conceptual alternatives considered. The study team screened initial alternatives down to five refined alternatives (see Section 2). The figures are included to show relevant current and future demographic trends in the PSA.

#### Population and Employment Growth

According to SCAG projections the total population of the PSA in 2005 was about 673,000, which accounts for roughly seven percent of the population of Los Angeles County (10,010,315). The trend is expected to continue over the next two decades. By the year 2030, the population of the PSA will reach 829,743—a 23 percent increase—making the Eastside home to more people than currently exist in the City of San Francisco which has a population of

744,000<sup>1</sup>. This is important given that few regional transportation improvements are shown in the Metro financially constrained regional transportation plan over this same period of time. Employment growth is also expected to grow 15 percent during the same period.

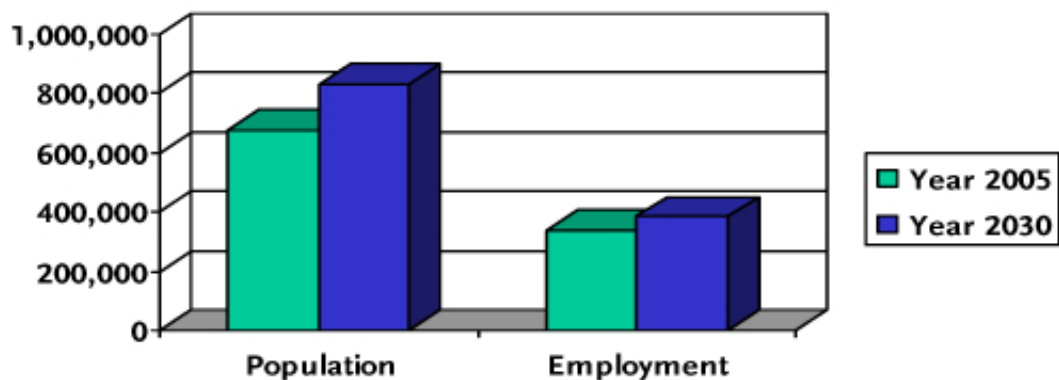
Table 1-4 summarizes the PSA's growth in total population, households and employment relative to LA County. Figure 1-3 depicts the population and employment growth in the PSA. Figures 1-4 through 1-7 show population and employment distributions in the PSA in 2005 and 2030.

**Table 1-4 Population, Household, and Employment Growth**

	2005	2030	Forecast Increase Between 2005-2030
<b>Population</b>			
PSA	673,283	829,743	23.2%
LA County	10,010,315	12,193,030	21.8%
PSA % of LA County	6.7%	6.8%	---
<b>Households</b>			
PSA	175,983	217,681	23.7%
LA County	3,298,210	4,116,567	24.8%
PSA % of LA County	5.3%	5.3%	---
<b>Employment</b>			
PSA	335,820	384,431	14.5%
LA County	4,644,010	5,651,043	21.7%
PSA % of LA County	7.2%	6.8%	---

Source: SCAG, 2005 data and 2030 projections

**Figure 1-3 Eastside Study Area Growth**



Source: SCAG, 2005 data and 2030 projections

<sup>1</sup> U.S. Census Bureau American Fact Finder, 2008 available at <http://factfinder.census.gov>



Figure 1-4 2005 Total Population in PSA

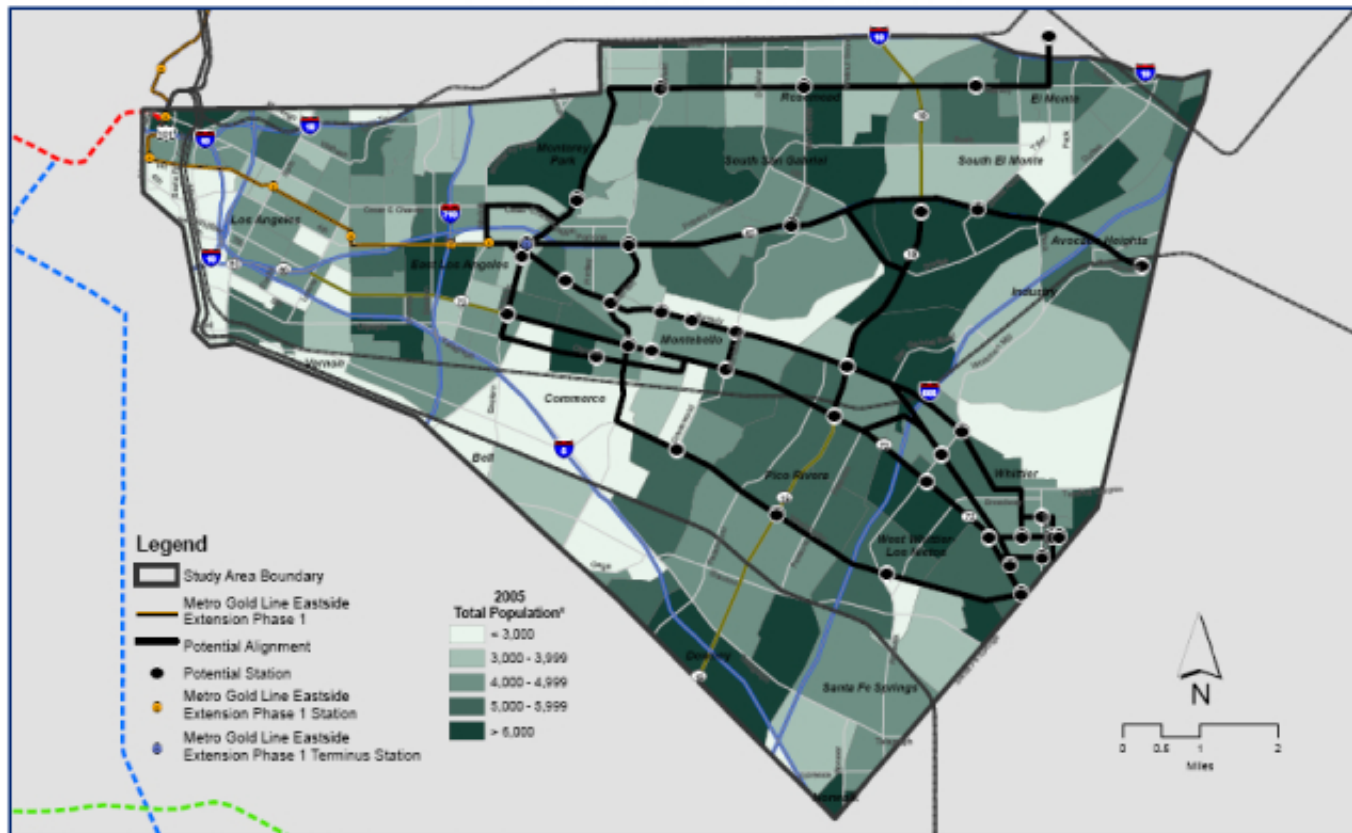




Figure 1-5 2030 Total Population in PSA

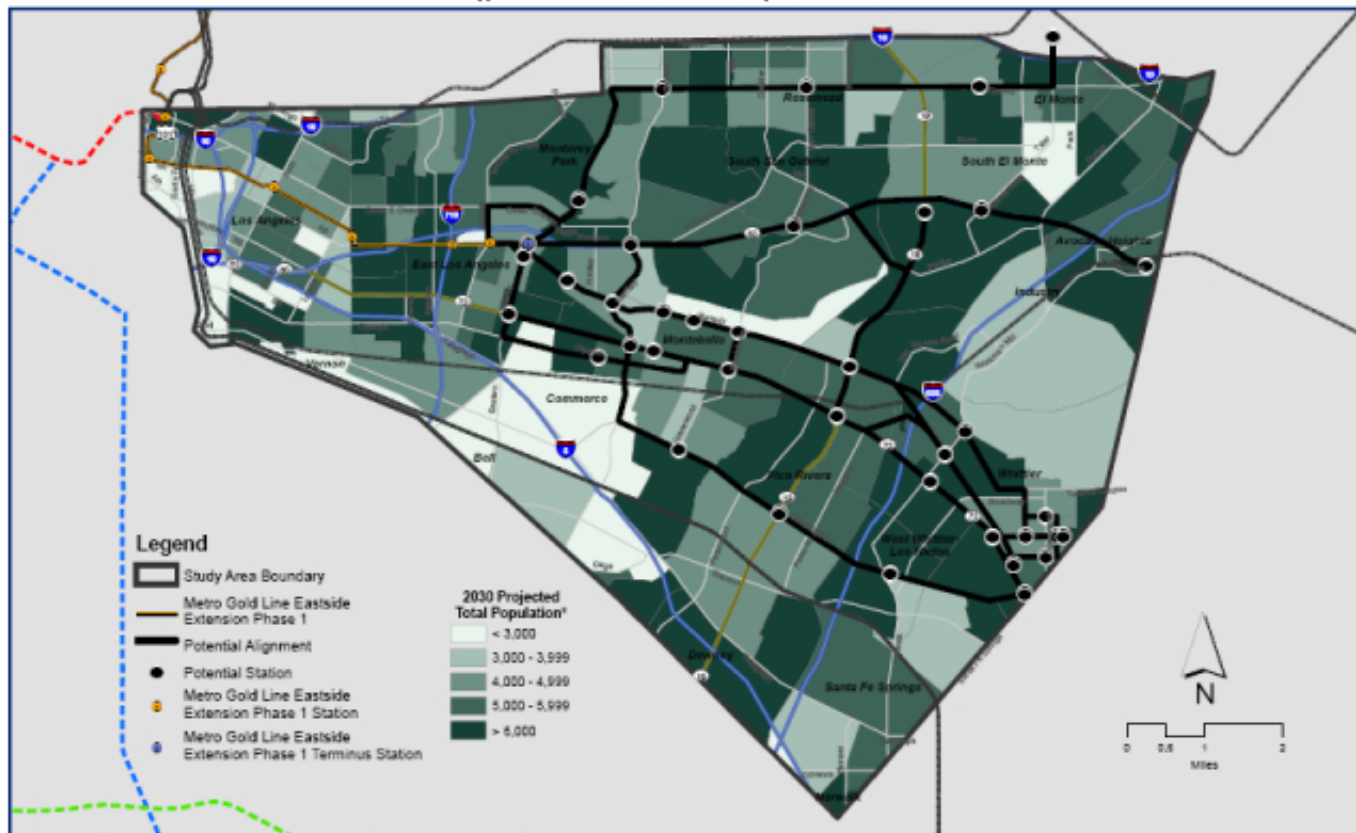




Figure 1-6 2005 Total Employment in PSA

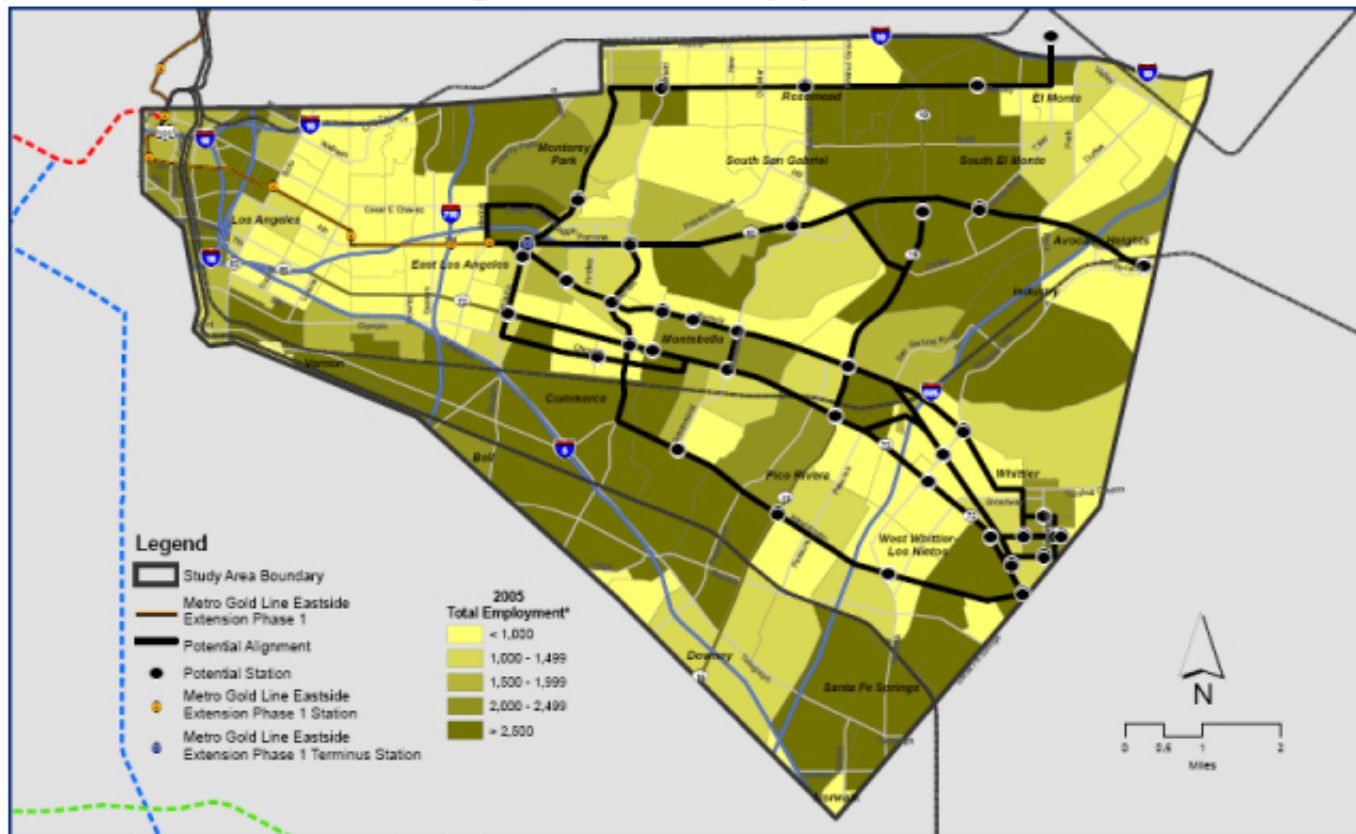
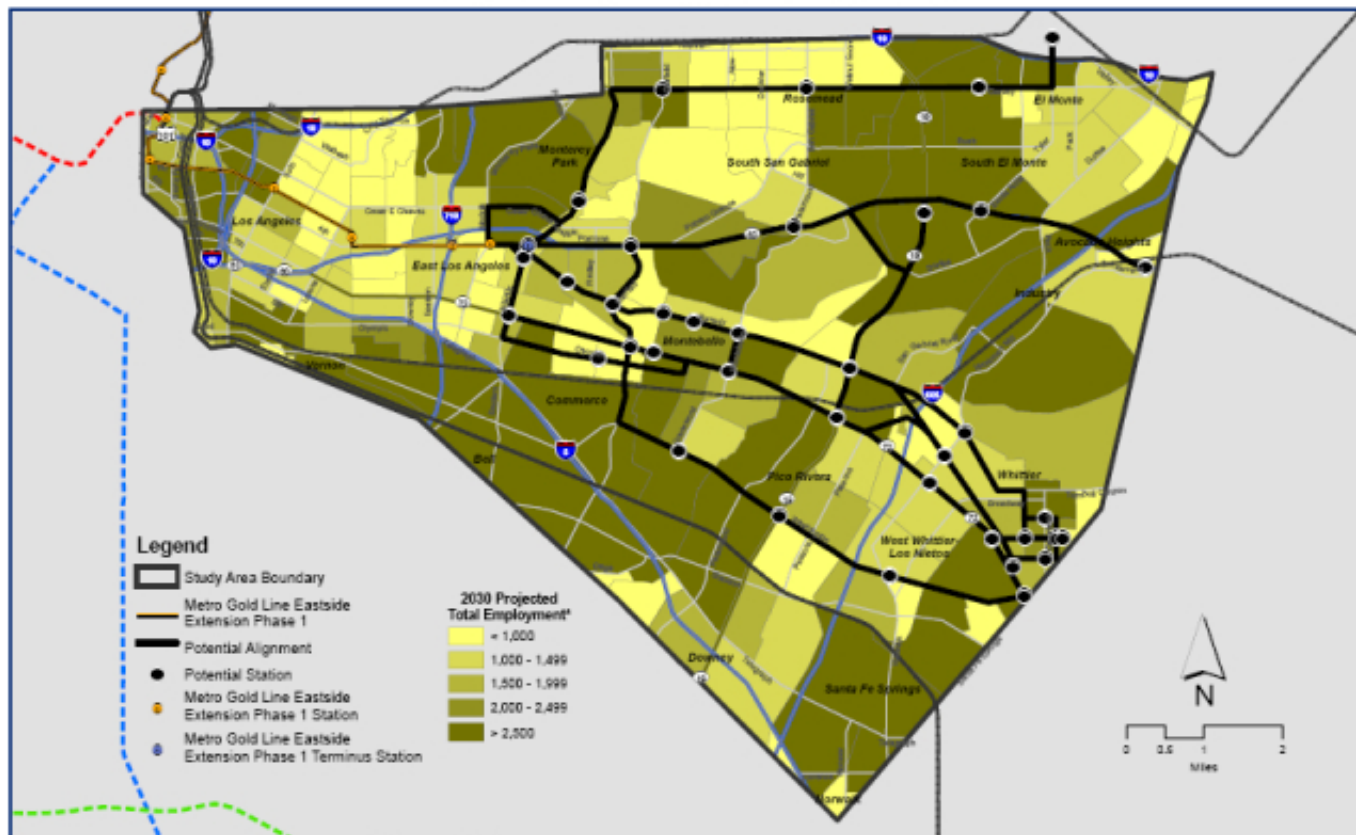




Figure 1-7 2030 Total Employment in PSA



## Population and Employment Density

In 2005, areas of highest population density within the region were found in Central Los Angeles, Hollywood, Southgate, East Los Angeles, and the Westside. Figures 1-8 and 1-9 show the regional population densities in 2005 and 2030, respectively. Population growth in these areas is expected to increase. As population densities increase throughout the region, access to employment will be a critical issue. Projections for the year 2030 show population density increases within the Eastside PSA, particularly along the I-10 corridor and areas south of SR-60 as illustrated in Figure 1-9.

Areas of high population have workers that generally need to travel to employment centers throughout the region. Central Los Angeles is the largest employment center within Los Angeles County. Central Los Angeles (including the Central Business District) is the number one destination for workers commuting from the Eastside. Regional employment densities in 2005 and 2030 are illustrated in Figures 1-10 and 1-11, respectively. In 2005, the highest area of employment density was Central Los Angeles. Areas of moderate employment density included Westwood, Santa Monica, Culver City, Pasadena, the South Bay and East Los Angeles. Employment density is expected to increase in census tracts around these employment centers. Areas of high employment density are for the most part found outside the Eastside PSA, meaning that the population within the PSA must generally travel west for employment opportunities. Having a fixed guideway transit solution that connects residents farther east to the existing Gold Line Eastside Extension will allow for increased mobility and reduced commute times to employment center areas served by the Metro rail and bus system such as Central Los Angeles, Pasadena, South Bay, and the Westside.

The Eastside PSA has an urban infrastructure that is largely built out. Census tracts within the PSA have high levels of population density ranging from less than 5,000 persons per square mile to over 20,000 persons per square mile. The average population density in 2005 was approximately 12,000 people per square mile. The eastern portion of the PSA, in unincorporated areas of LA County, is the most densely populated with many census tracts over 20,000 persons per square mile. Employment densities in the PSA range from less than 300 employed per square mile to over 170,000 employed per square mile, with an average employment density of about 6,000 employees per square mile.

Figure 1-8 2005 Regional Population Density

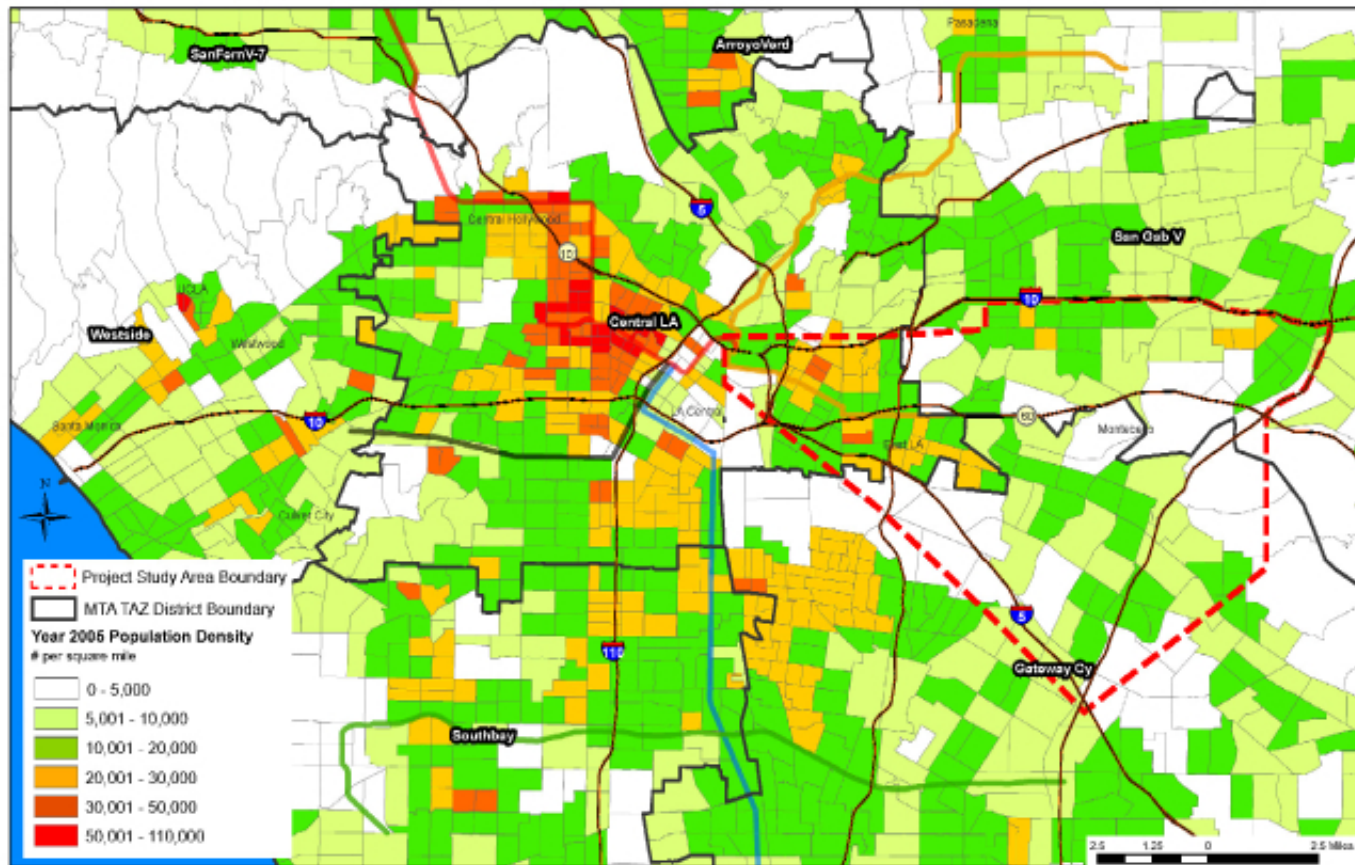




Figure 1-9 2030 Regional Population Density

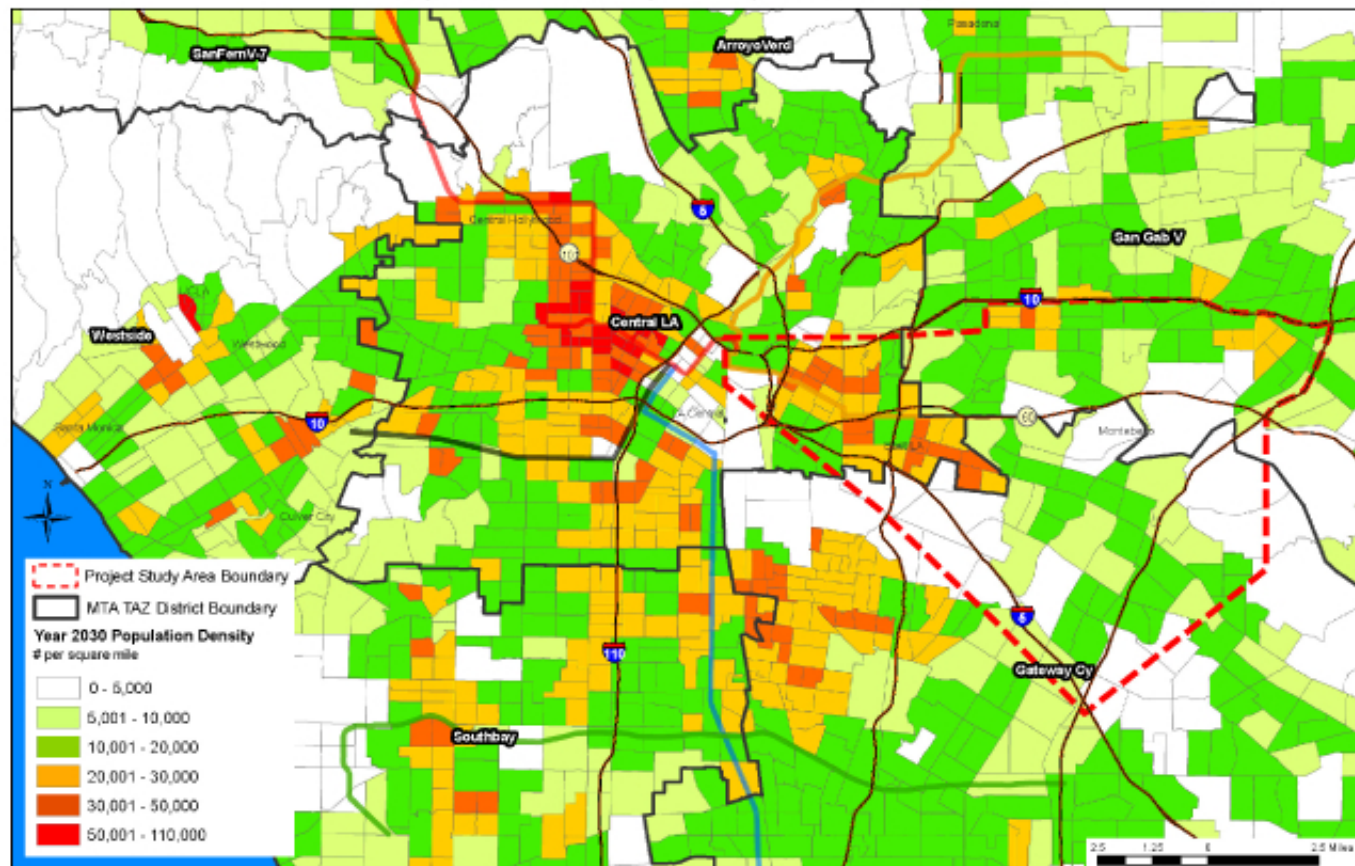
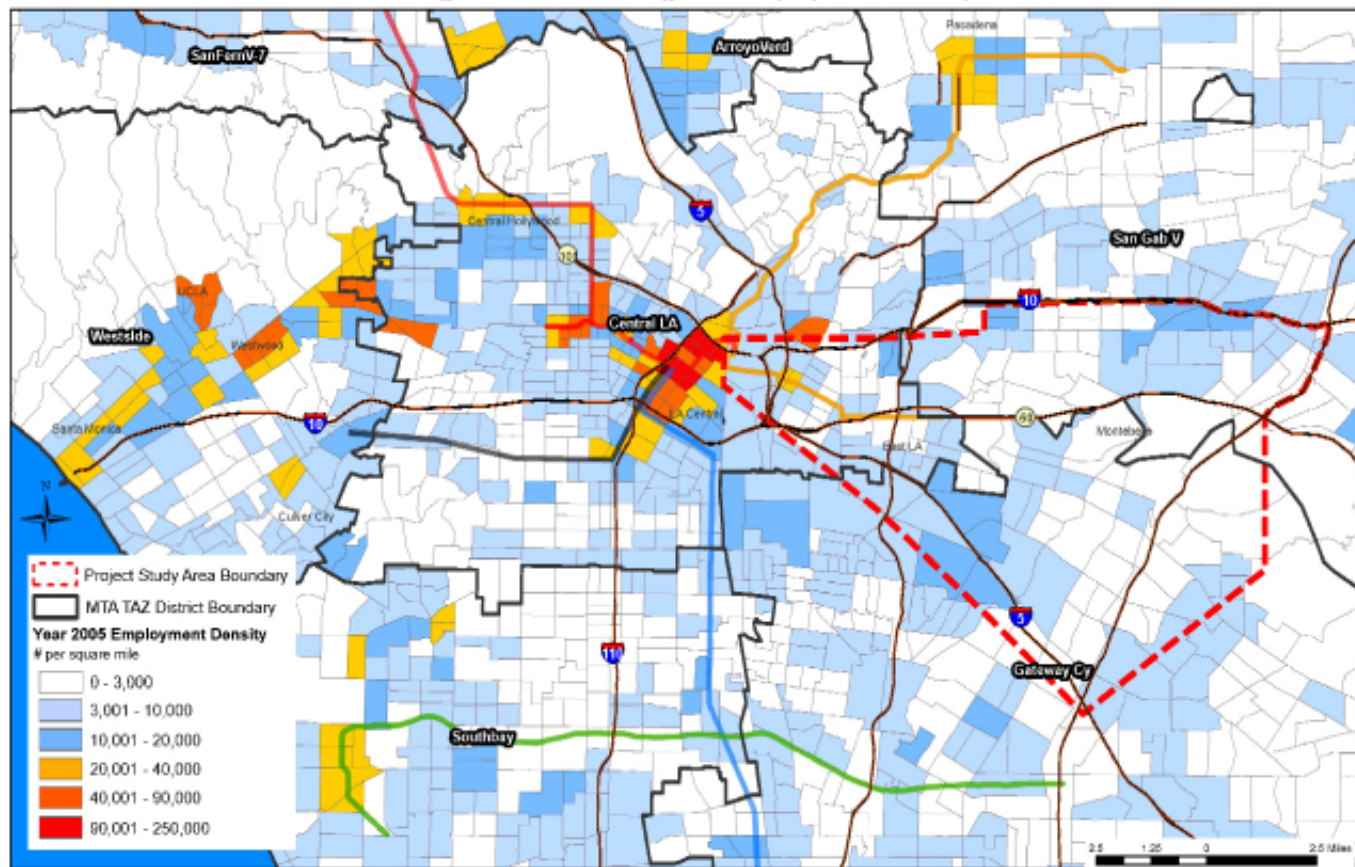


Figure 1-10 2005 Regional Employment Density





Population and employment densities are projected to increase in the PSA in 2030. Higher population density is anticipated in areas of Commerce, Montebello, and El Monte. In 2030, additional census tracts will also have high employment densities, greater than 10,000 employees per square mile, (predominately in an area of Vernon south of Interstate 5). Average employment density is projected to be approximately 7,000 employees per square mile. Figures 1-12 and 1-13 show projected 2030 population and employment densities. High population and employment densities mean more people will try to commute within the same area, which will lead to more congestion and longer commute times. The areas of high population and employment density have high public transit ridership opportunities.

### **Travel Time**

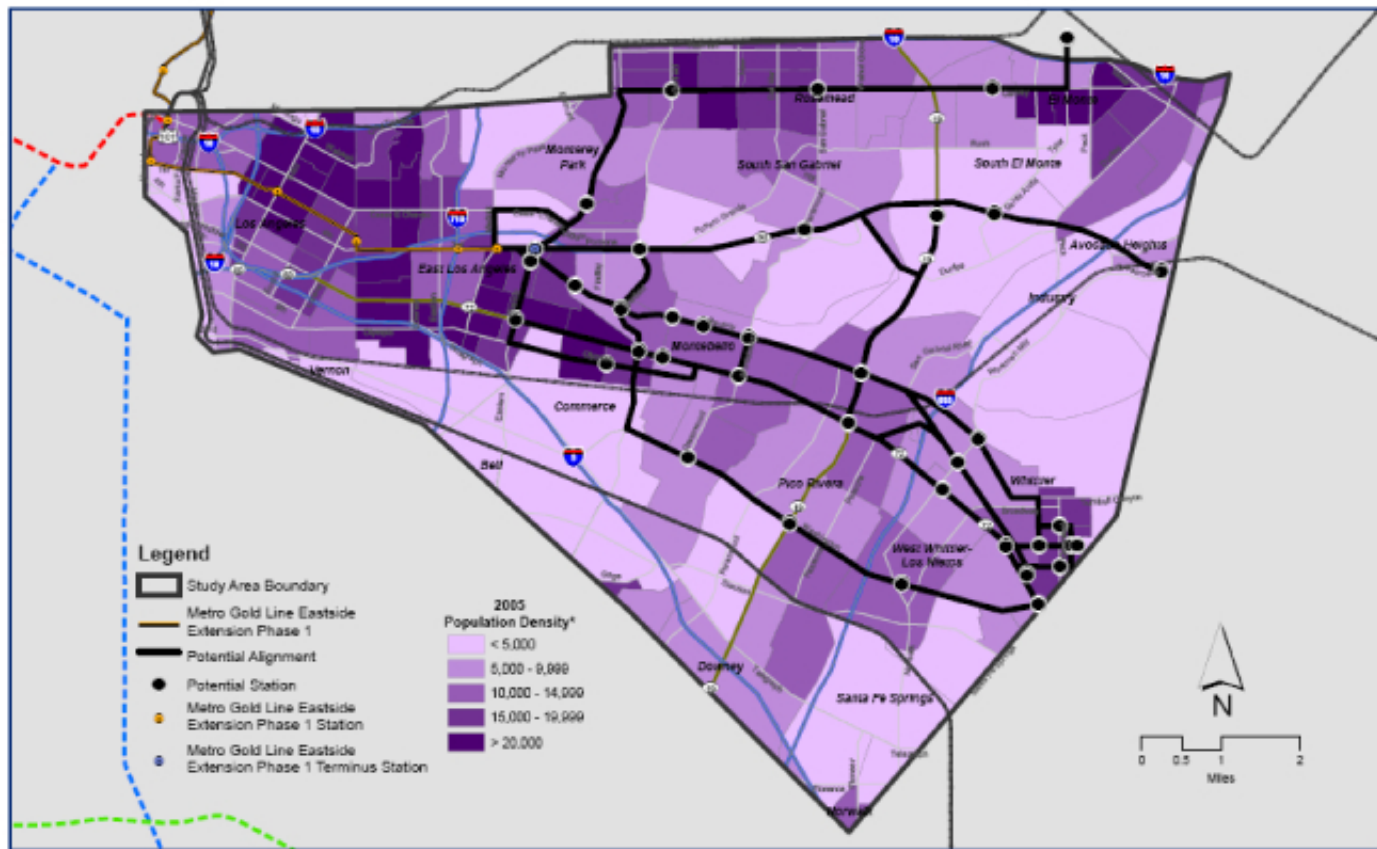
The SCAG 2007 State of the Region Report gave Southern California a “D-” for transportation mobility. Los Angeles has been the most congested city in the nation for the past two decades due to population growth, daily traffic, and movement of goods and information. Traffic congestion and commute times continue to increase in the County and PSA.

Over the ten-year period from 1990 to 2000, residents of Los Angeles County experienced an 11 percent increase in the journey to work time. Within the PSA, particular jurisdictions experienced an increase in commute times well beyond County figures, including the Cities of Commerce (21 percent), Santa Fe Springs (20 percent), and Whittier (17 percent). The mean commuting time for cities in the PSA ranged from approximately 25 to 30 minutes. In 2000, the mean commute time for Los Angeles County was 29 minutes. The City of Whittier had the highest commuting time of 30.10 minutes in 2000. The City lies in the far east portion of the PSA, with limited access to regional transit and highways. In contrast, cities closer to regional transit and commuter rail and or near a major highway in the PSA experienced a lower increase in commute times over the same ten year period. Detailed information on the number of commuters and mean commute times is provided in Table 1-5.

Travel time realities influence one's preferred mode of travel, location of employment, and even decisions on where to live. Due to these time pressures, a small percentage of workers in Los Angeles County are favoring alternative travel modes like public transit and carpools. The change in public transportation usage was fairly small from 1990 to 2000. If additional rail lines are operated with convenient schedules for commuters, public transportation ridership may increase as commuters choose to offset travel delays and the rising costs of driving to work.



Figure 1-12 2005 Population Density in PSA



Source: U.S. Census Bureau, 2005. \* Weighted-Average calculation of population per square mile.



