1.0 PURPOSE AND NEED

1.1 Introduction

This section establishes the purpose and need for transportation investments in the Westside Extension Transit Corridor Study Area. This builds on and uses as a point of departure the *Mid-City/Westside Transit Corridor Re-evaluation/Major Investment Study (MIS)*, released in February 2000, and the *Mid-City/Westside Transit Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) (DEIR)*, released in June 2001, which are incorporated by reference. In the 2000 MIS and 2001 DEIR, a number of themes emerged that helped evaluate whether a major transit investment was warranted. Those themes are continued in the discussion below, with a renewed focus on the Westside Extension Transit Corridor Study Area.

The purpose of the Westside Extension Transit Corridor Study is to address the mobility needs of residents, workers, and visitors traveling to, from, and within the highly congested Study Area by providing faster and more reliable public transportation than existing services, which operate in mixed-flow traffic. The improvement in public transit service will bring about a significant increase in east-west capacity and improvement in person-mobility by reducing transit travel times. On a county-wide level, the project will strengthen regional access by connecting Metro bus, Metro rail, and Metrolink networks to a high-capacity transit solution serving the Study Area.

This report studies transit extensions from the terminus of the Metro Purple Line at the Wilshire/Western Station and/or the Metro Red Line at the Hollywood/Highland Station to downtown Santa Monica. By extending westward the benefits of fixed guideway transit service beyond the current Metro Red/Purple Line termini, the project will offer a viable alternative to driving in the heavily congested Westside Extension Transit Corridor. The mobility improvements offered by such a system will improve job accessibility for transit-dependent residents in the Study Area, as well as greater Los Angeles, and improve transportation equity for all population groups. The high-quality transit solution will compliment existing transit supporting land uses and present new opportunities for mixed-use and high density development in the Study Area.

Environmental benefits will be afforded as individuals live closer to work, cultural, and social opportunities and trade personal vehicles for alternative transportation modes. The economic, social, and environmental benefits attributed to the project are expected to translate into public support for high quality, convenient, and reliable east-west transit service through the corridor.

1.2 History and Background

The Metro Westside Extension has been an integral element of local, regional, and federal transportation planning since the early 1980s. Extending westward from the Los Angeles Central Business District (CBD), the Westside Extension has been the subject of in-depth technical studies and extensive community involvement during this period. Ultimately, the transit investment has been envisioned to extend toward Beverly Hills, Century City, Westwood (University of California Los Angeles [UCLA]), West Los Angeles, and Santa Monica

1.2.1 Original Metro Red Line Studies (1983-1988)

In 1983, the original Locally Preferred Alternative (LPA) for the extension of the Metro Red Line identified an alignment that followed Wilshire Boulevard to Fairfax Avenue and then north to Hollywood and the San Fernando Valley. In 1985, naturally occurring methane gas caused a fire at a Ross "Dress for Less" store, located in the Fairfax District along the selected LPA alignment, which resulted in an investigation by a special City of Los Angeles Task Force. Conclusions from this investigation lead to a Congressional prohibition on federal funding for subway construction within the designated Methane Gas Risk Zone, as determined by the 1985 Task Force report on subsurface conditions in the region. As mandated by the Congressional prohibition, a Congressionally Ordered Re-Engineering (CORE) study was conducted. The intent of this study was to determine an appropriate alignment through which to link the Los Angeles Central Business District, the San Fernando Valley and the Westside. Over 40 candidate alignments were reviewed and six alignments were studied in detail in environmental reports.

In July 1989, a new LPA was chosen. This new LPA followed an alignment from Downtown Los Angeles Union Station to Wilshire/Vermont and split into two separate lines, one traveling west to Wilshire/Western and the other proceeding north to Hollywood and North Hollywood. The 1983 and 1989 LPA alignments are illustrated in the first of two maps in Figure 1-1.

The 1989 alignment was subsequently approved for construction and completed as a series of projects. The subway was completed from Union Station to Westlake/MacArthur Park in 1993, to Wilshire/Western Station in 1996, to Hollywood/Vine in 1999, and to North Hollywood in 2000.

1.2.2 Early Systems Planning Studies (1989-1990)

There are two important early studies, which have relevance to the current Alternatives Analysis Study. The Southern California Association of Governments (SCAG) prepared the *Metro Red Line Extension System Planning Study* in 1989. This report documented the system-wide framework for the definition of the Westside Transit Corridor and provided the background systems analysis that was used to justify the need for major transit corridor expenditures on the Westside. The map of the SCAG Metro Red Line Extension System Planning Study Area, with the Methane Gas Risk Zone called out, is shown in the second of two maps in Figure 1-1.

In addition, the Los Angeles County Transportation Commission (LACTC) prepared the *Los Angeles Metro Orange Line Extension Transitional Analysis* in 1990. This study considered specific alignments and station locations for an extension of the planned subway project. After an evaluation of a number of potential routes, two of the alignments that showed the greatest promise were the Santa Monica Boulevard Alternative, shown in Figure 1-2, which extended west from Hollywood/Highland Station, and the Wilshire Boulevard Alternative, shown in Figure 1-3, which extended west from Wilshire/Western Station.

Figure 1-1. Locally Preferred Alternatives and System Planning Studies 1983 and 1989

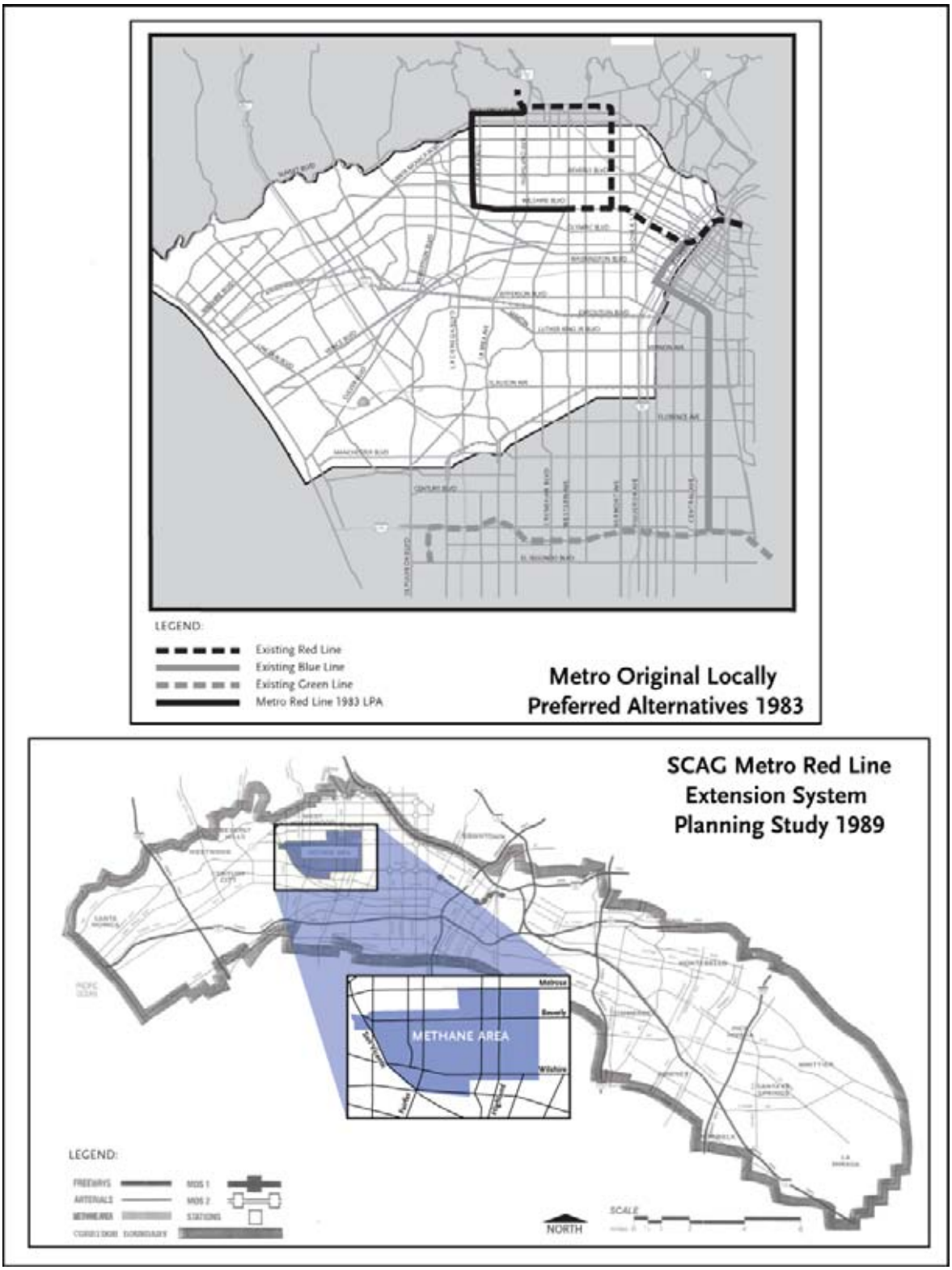


Figure 1-2. Metro Orange Line Extension Santa Monica Boulevard Alternative 1990

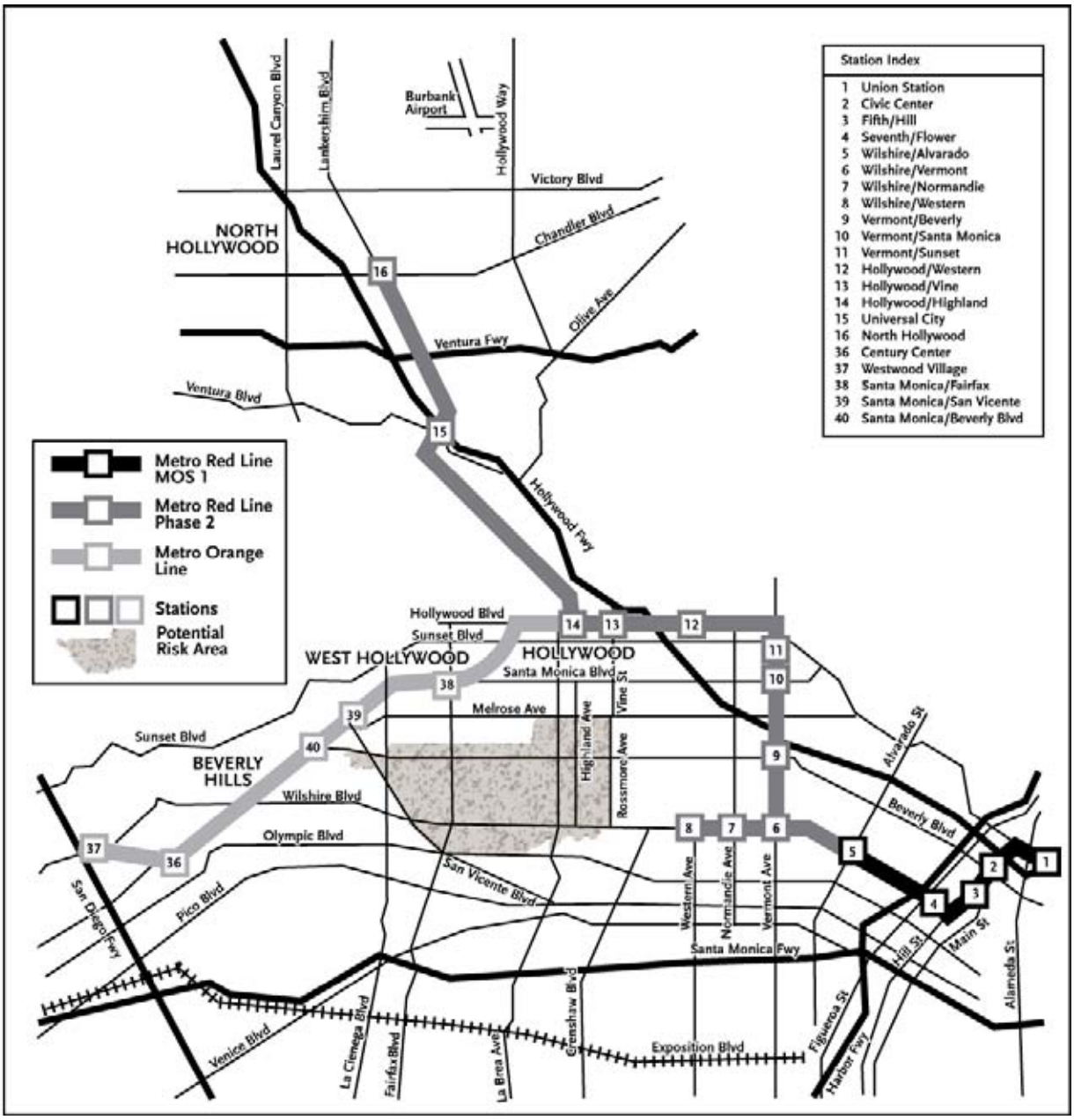
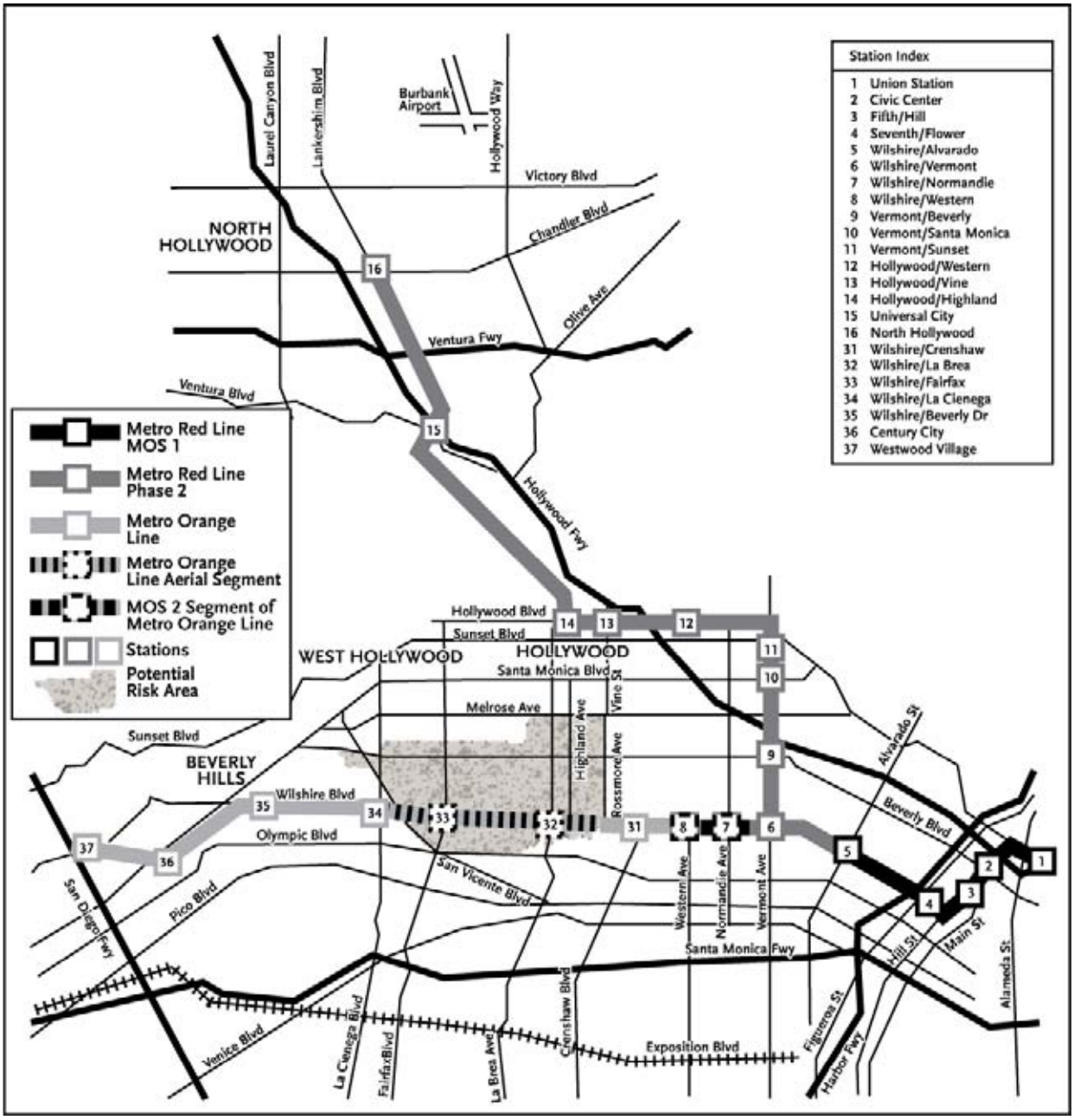


Figure 1-3. Metro Orange Line Extension Wilshire Boulevard Alternative 1990



1.2.3 Mid-City Extension Studies and Ballot Initiatives (1992-1998)

Between 1992 and 1998, Metro continued with efforts to extend the subway to the west by considering alignments that detoured to the south of Wilshire Boulevard to the Mid-City area to avoid the federally prohibited methane gas hazard zone. In 1992, a new Red Line Extension LPA was adopted which would have extended the subway by 2.3 miles from Wilshire/Western Station to Pico and San Vicente Boulevards in the "Mid-City" area via a Crenshaw Boulevard alignment. Engineering design work for the tunneling and stations on this project was suspended in 1994 due to concern about hazardous underground gases along Crenshaw and Pico Boulevards. An optional alignment using Wilton Place, Arlington Avenue, and Venice Boulevard was pursued instead. In January 1998, Metro suspended work on the extension of the Metro Red Line Heavy Rail Subway Project in the Westside Corridor. The North Hollywood Extension of the Metro Red Line was allowed to continue into construction. Figure 1-4 illustrates the completed Metro Red Line Project with the suspended segment in the Mid-City Corridor.

A Metro Restructuring Plan, *Analysis and Documentation of Metro's Financial and Managerial Ability to Complete North Hollywood Rail Construction and Meet the Terms of the Bus Consent Decree*, was approved by the Metro Board of Directors in May 1998, which called for Metro to study "viable and effective options" for transit in all parts of Los Angeles County, with an emphasis on the corridors in which rail lines had been suspended.

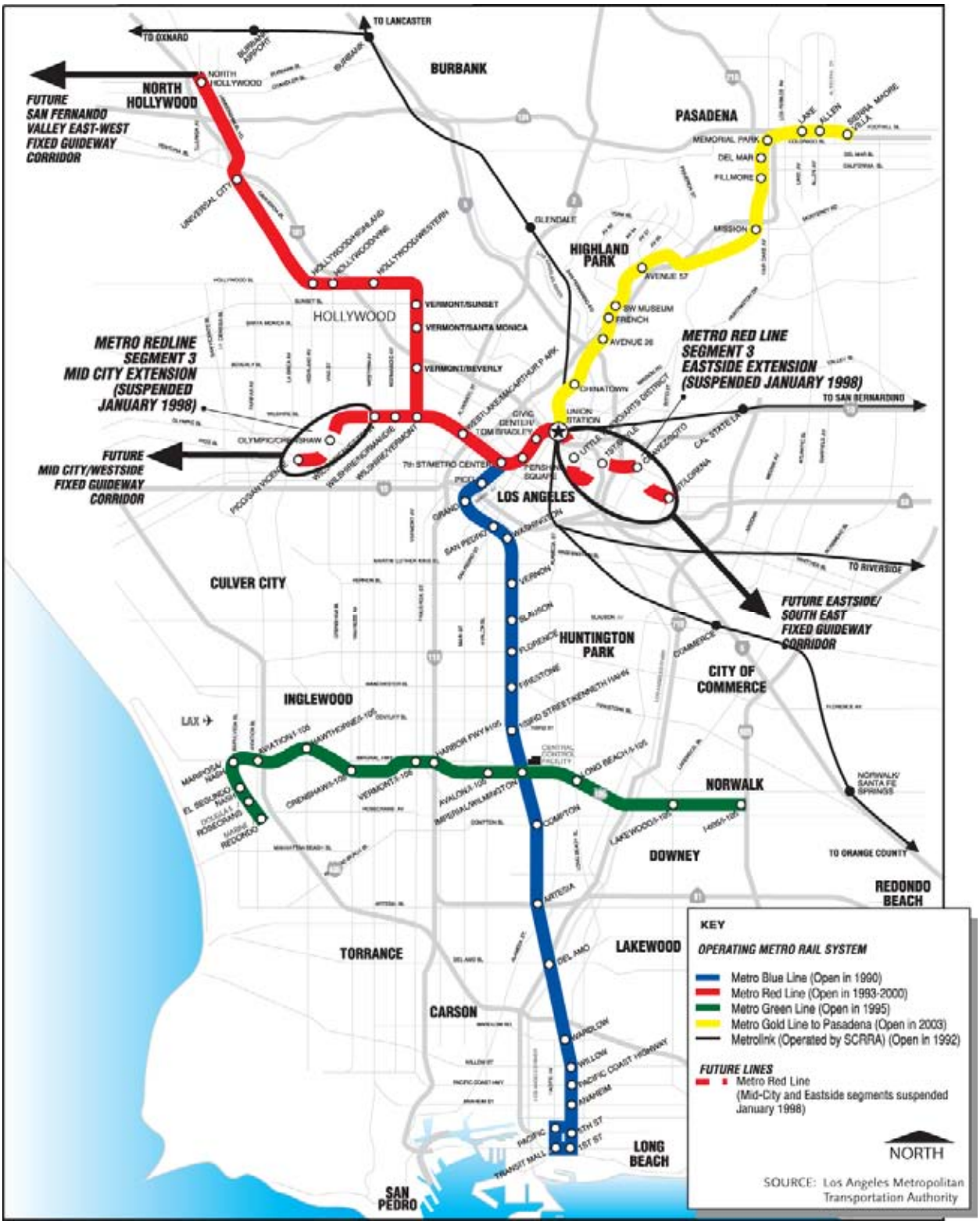
Additional information on Corridor transit needs was developed in the *West Los Angeles Transit Corridor Technical Report: 1998 Regional Transportation Plan (RTP) Transit Restructuring for Use in the MTA Re-evaluation Study*, prepared by SCAG. This study considered alternatives to heavy rail subway extensions to the Westside and developed three conceptual alternatives for different types of transit service. The alternatives identified included:

- Transit Corridors Concept
- Intermodal Linkage Concept
- Centers Access Concept

Integral to the above concepts was the idea that no single corridor could adequately service a Study Area as large as the Westside. Therefore, all of the concepts endeavored to provide a systems context for transit service centered on major corridors and activity centers. The Transit Corridors Concept further proposed that the Wilshire Boulevard Transit Corridor be supplemented with a second corridor along Exposition and Martin Luther King Boulevards, utilizing above ground transit alternatives. The alternatives sought to define lower-cost surface solutions that could be implemented incrementally over time in order to provide improved transit service to larger areas of the Westside more quickly than would be the case with more expensive subway extension solutions.

A *Regional Transit Alternatives Study (RTAA)* was prepared by Metro in November 1998. The study evaluated local funding shortfalls and identified the amount of funding available for new projects between Fiscal Years 1999 and 2004. The study suggested possible funding allocations, identified immediate bus transit improvements in Los Angeles County, and established a framework for further fixed guideway project development in the Eastside, Westside, and San Fernando Valley

Figure 1-4. Metro Red Line and Suspended Segments



corridors. The study included a preliminary evaluation of fixed guideway alternatives in the three corridors but did not make recommendations with regard to preferred fixed guideway transit modes or alignments/configurations. Instead, the study recommended that a MIS level of analysis be conducted to provide more information regarding those choices. The RTAA study resulted in Board approval of the concept of a recommended rapid bus system serving the Eastside, Westside, and San Fernando Valley.

1.2.4 Proposition A Ballot Initiative (Subway Funding Prohibition) (1998)

A 1998 ballot initiative referred to as the Metropolitan Transportation Authority Reform and Accountability Act was approved and became effective on November 3, 1998. The most significant provision of the new law stipulates that no local Proposition A or C sales tax monies shall be used to fund the planning, design, construction, or operation of any "new subway", defined to mean any subway project such as a rail line located in a tunnel below grade other than Metro Red Line Segments 1, 2, or 3 (North Hollywood). As a result, the initiative prohibits the use of these sales tax revenues to build subway extensions in the Westside Extension Transit Corridor. The initiative does not prohibit the use of sales tax revenues to design and construct light rail, at-grade rail, elevated rail systems, or busways. Nor does this initiative prevent Metro from using state or federal revenues, or local revenues other than Proposition A and C sales taxes, to design and construct new subways.

1.2.5 Development of Westside Bus Rapid Transit and Light Rail Transit Projects (1998-2008)

The *Mid-City/Westside Transit Corridor Re-Evaluation/Major Investment Study* was completed in February 2000. The study's purpose was to recommend lower cost, non-subway investments in the Westside Corridor. The study also developed recommendations for the deployment of Metro Rapid Bus improvements along at least ten major arterial routes throughout the Westside.

The Metro Rapid Demonstration Project was implemented in June 2000. This demonstration project implemented Metro Rapid bus lines on Ventura Boulevard in San Fernando Valley and a Whittier to Santa Monica route, with more than half of the route operating on Wilshire Boulevard from downtown Santa Monica to downtown Los Angeles. The Metro Rapid service provided bus service at higher speeds because of the use of transit signal priority at street intersections, fewer stops, and low-floor ease of boarding and exiting. The Metro Board declared the project a success in 2003 and adopted a countywide Metro Rapid Expansion program with new routes and a target completion date of 2008.

In April 2001, the *Mid-City/Westside Transit Corridor Draft EIS/EIR* was completed. This study provided the basis to formally split the then Westside Corridor into two separate corridors. The study recommended pursuing Bus Rapid Transit (BRT) improvements along the newly designated Wilshire Corridor and Light Rail Transit (LRT) improvements along the newly designated Exposition Corridor. A Final EIR was certified for the Wilshire BRT Project in 2002 and a Final EIS/EIR was certified for the Mid- City/Exposition LRT Project in 2005.

The Wilshire BRT Project was never implemented in its entirety except for the implementation of a Wilshire Bus Lane Demonstration Project in 2003. The demonstration project operated successfully for three years. However, it met with community opposition within West Los Angeles and, as a result, was removed in 2006. The improvement of bus speeds along the Wilshire Corridor is now being incrementally implemented through a series of smaller Metro Rapid based improvements, such as bus-only lanes. Dedicated bus lanes will be implemented along portions of a 12.5-mile

stretch of Wilshire Boulevard between downtown Los Angeles and the City of Santa Monica. Curb lanes will convert to exclusive use lanes during peak period operations. This is a FTA Small Starts Project. The Metro Exposition Line started construction on the first phase between Downtown Los Angeles and Culver City in September 2006 and is scheduled to open for service in 2010. Planning for the second phase between Culver City and Santa Monica started in early 2007. Figure 1-5 illustrates the alternatives considered in the 2000 MIS for the Wilshire and Exposition Corridors.

1.2.6 Opening of MOS 3 of Metro Red Line (2000)

In June 2000, the last segment of Metro Red Line, known as Minimum Operating Segment 3 (MOS 3) was completed. The segment began revenue operations service from Hollywood/Vine Station to North Hollywood with stops at Hollywood/Highland Station and Universal City Station. The completion of MOS 3 resulted in the completion of the entire Metro Red Line Union Station to North Hollywood alignment, as well as the Union Station to Wilshire/Western alignment. Both alignments operate along the same route from Union Station to Wilshire/Vermont Station, with the North Hollywood alignment and the Wilshire/Western alignment branching out from this transfer station. Simultaneously, the Metro Rapid Demonstration Project began, with Line 720 operating on the Wilshire/Whittier route, while Line 750 operated on the Universal City to Warner Center route along Ventura Boulevard.

1.2.7 Reconsideration of Wilshire Tunnel Options (2005)

At the request of Metro and the City of Los Angeles, the American Public Transportation Association (APTA) organized a Peer Review Panel of experts to reconsider the feasibility of Westside Corridor tunneling along the federally precluded Wilshire Boulevard segment in October 2005. The panel evaluated advances in worldwide tunneling technology and the safety of building and operating transit tunnels in the identified hazard zone along Wilshire Boulevard. The panel concluded that advances in tunneling technology and practice in the past 20 years would now permit that such tunneling would be feasible and could be undertaken at no greater risk than other subway systems in the United States. As a result, legislation was introduced in Congress to repeal the federal prohibition on subway construction along Wilshire Boulevard. The repeal of the prohibition was passed by Congress in 2007 and enacted into law in 2008.

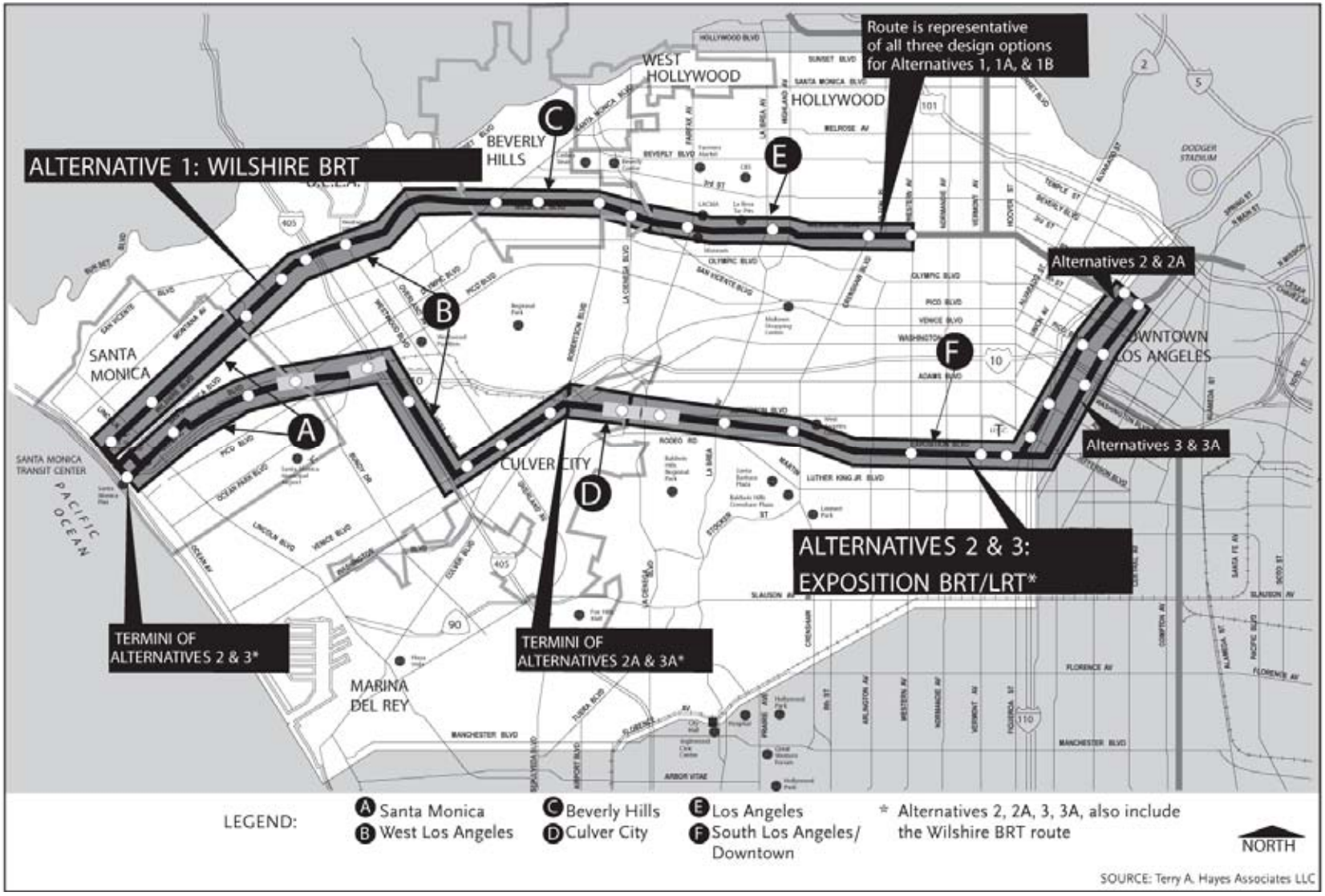
1.2.8 Metro Board Determination to Re-Open Alternatives Analysis for Westside Extension Transit Corridor (2006)

In July 2006, the Metro Board of Directors authorized the resumption of an Alternatives Analysis study for all reasonable fixed guideway transit alternatives for the portion of the Westside Corridor north of the Exposition Transit Corridor. Based on the findings of the APTA Peer Review Panel, the Board authorized the consideration of all reasonable alternatives for the Westside Extension Transit Corridor, including the previously excluded subway alternatives. An Early Scoping Notice to resume the Alternatives Analysis Study was issued by Metro and the Federal Transit Administration on October 1, 2007.

1.2.9 Union Station to Wilshire/Western Branch Renaming (2006)

In December 2006, the Metro Board renamed the branch of the Metro Red Line from Union Station to Wilshire/Western the Metro Purple Line. The Board approval clarifies the operations of this branch of the Metro subway system as distinct from the Union Station to North Hollywood line, which still retains the name Metro Red Line.

Figure 1-5. Mid-City/Westside Major Investment Study Area and Alternatives (2000)



1.3 Study Area Location and Demographics

The Westside Extension Transit Corridor Study Area is in western Los Angeles County and encompasses approximately 38 square miles (Figure 1-6). The Study Area is east-west oriented and includes portions of five jurisdictions: the Cities of Los Angeles, West Hollywood, Beverly Hills, Santa Monica, as well as portions of unincorporated Los Angeles County. As illustrated in Figure 1-7, the boundaries of the Study Area generally extend north to the base of the Santa Monica Mountains along Hollywood, Sunset and San Vicente Boulevards, east to the Metro Rail stations at Hollywood/Highland and Wilshire/Western, south to Pico Boulevard, and west to the Pacific Ocean.

The Study Area is diverse in land use and socio-economic characteristics. To better summarize the socio-economic features and identify major travel patterns, the Study Area and the surrounding SCAG region is divided into districts. Each district is composed of multiple Traffic Analysis Zones (TAZ). Since there are over 4,000 TAZ in Los Angeles County, in order to simplify the presentation of materials, districts were agreed upon by study participants early in the project. This analytical methodology ensures an accurate representation of the Study Area's demographics, travel behavior, and economic characteristics. Figure 1-8 shows the district divisions of the whole region as well as within the Study Area. The Study Area is divided into 23 districts, and the rest of Los Angeles County, Ventura County, San Bernardino County and Riverside County (including Imperial County) is divided into 76 districts with each county outside Los Angeles represented by one district. Within the Study Area, the Cities of Santa Monica, Beverly Hills, and West Hollywood were separated as individual districts. Each neighborhood council in the City of Los Angeles was defined as a single district. If the city or neighborhood council was intersected by the Study Area boundary, it was split into two or more districts. The districts that make up the Study Area and those districts immediately adjacent are illustrated in Figure 1-9.

Approximately five percent of the population (504,000) and 10 percent of the jobs (479,000) in Los Angeles County are concentrated in the Study Area. Population and employment densities in the Study Area are among the highest in the metropolitan region, averaging approximately 13,100 persons per square mile and 12,500 jobs per square mile. These high population and employment concentrations make the Study Area one of the densest places to live and work in the county.

2006 population and employment densities by TAZ are shown in Figure 1-10. As can be seen, population density is high throughout the Study Area, with only a handful of TAZs falling below 5,000 persons per square mile. Study Area employment density demonstrates a similar pattern, with a majority of TAZs generating over 5,000 jobs per square mile. The greatest employment densities in the Study Area are found along the Wilshire and Santa Monica Boulevard Corridors. According to a market trend analysis by Grubb & Ellis[1], 32 percent of Los Angeles County's 186 million square feet of office space is in the West Los Angeles and Mid-Wilshire areas, which makes the Study Area one of the largest office markets in Los Angeles. This is particularly noteworthy as the Study Area encompasses only 38 square miles, or less than one percent, of Los Angeles County.

According to SCAG's forecasts, population density in the Study Area will increase to over 14,500 persons per square mile and 14,600 jobs per square mile by 2030. This represents an increase of 10 percent in population density and a 17 percent jump in employment density. Figure 1-11 shows population and employment densities by TAZ in the Study area.

[1] Araghi, Amir, 2007. *Office Market Trends Los Angeles*, Grubb & Ellis.

Figure 1-6. Project Study Area Location

Figure 1-7. Westside Extension Transit Corridor Study Area

Figure 1-8. Districts for Study Area and Region

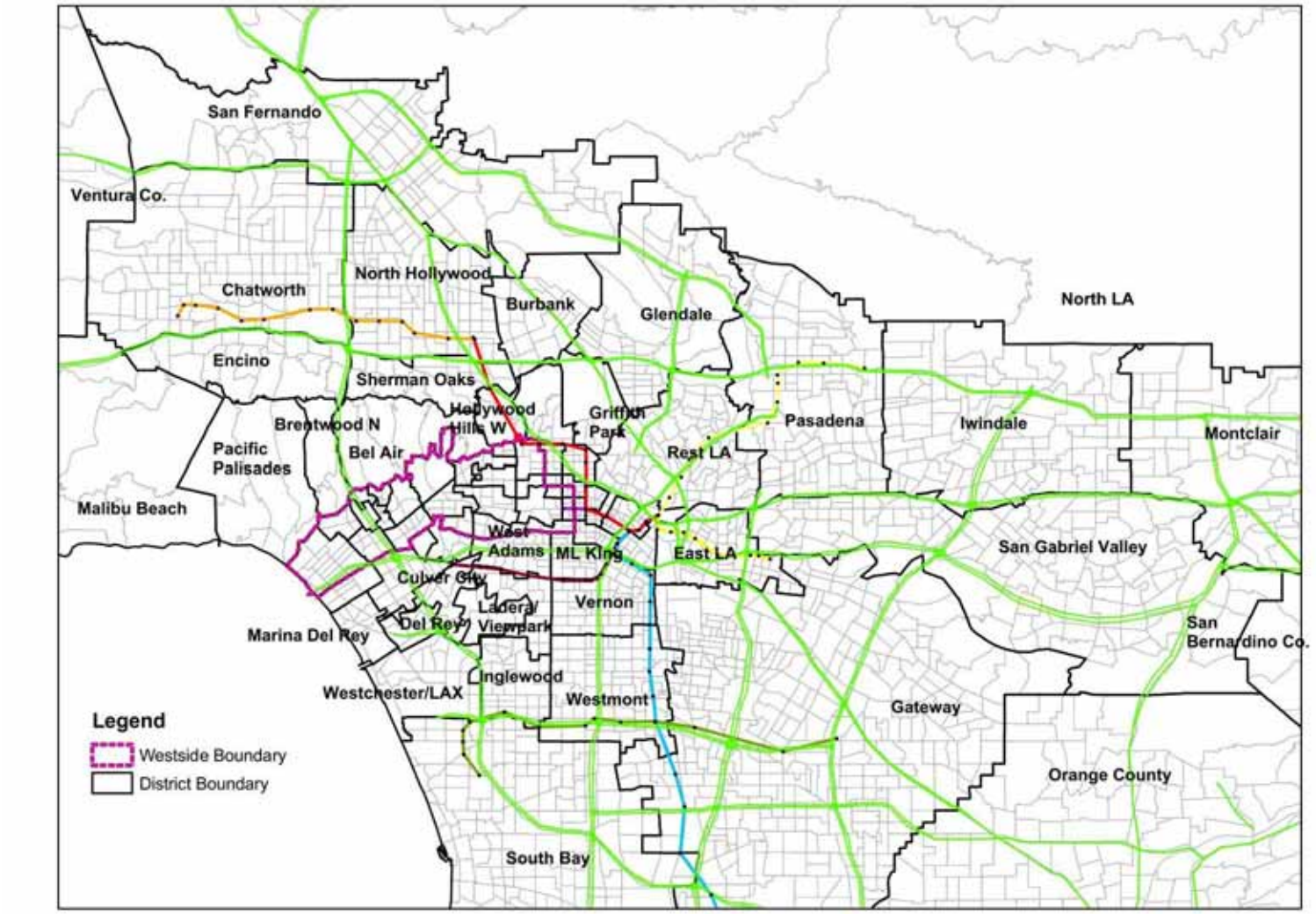


Figure 1-9. Districts within Study Area

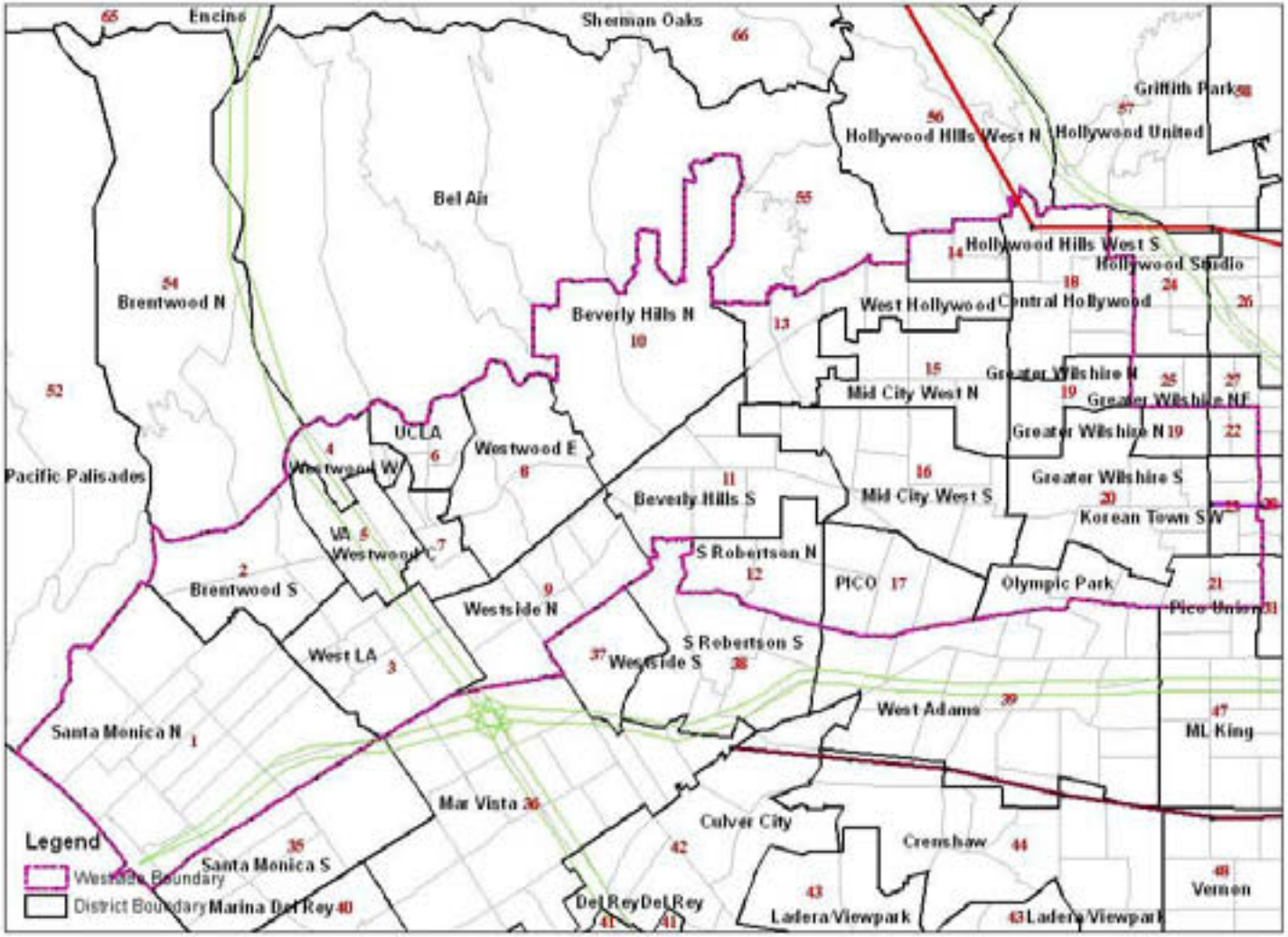
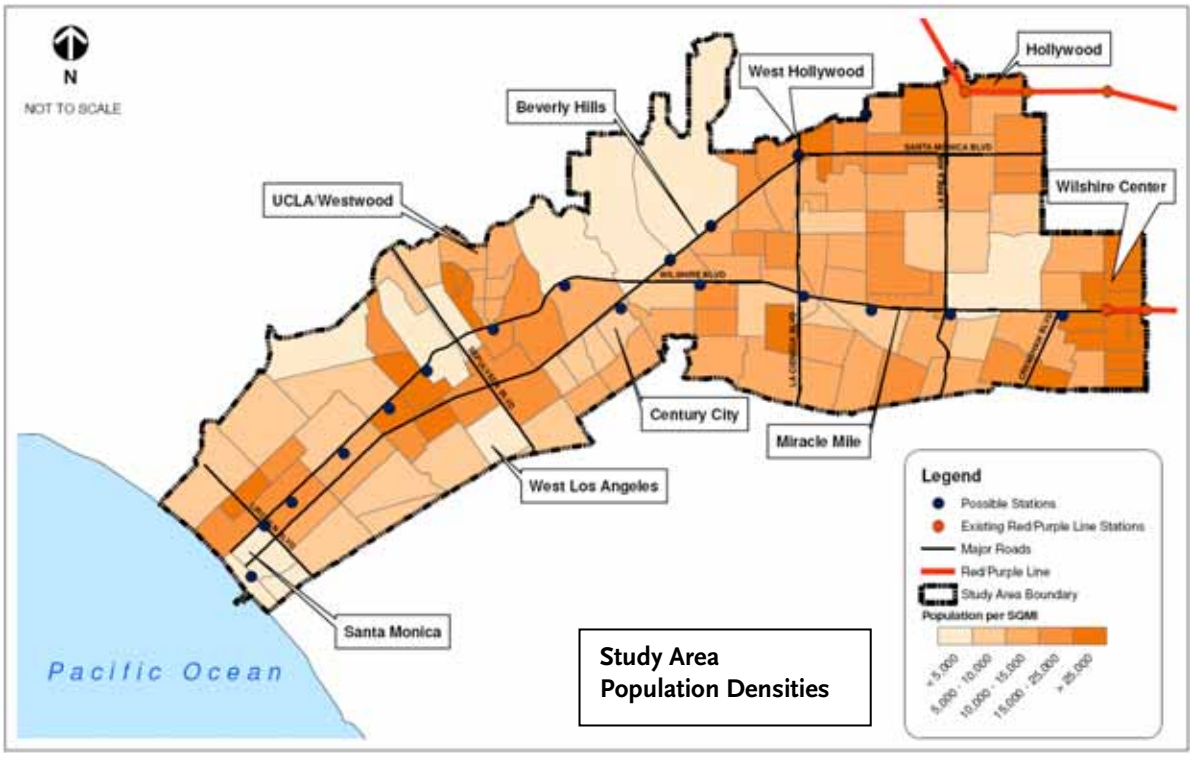


Figure 1-10. Study Area Population and Employment Densities (2006)



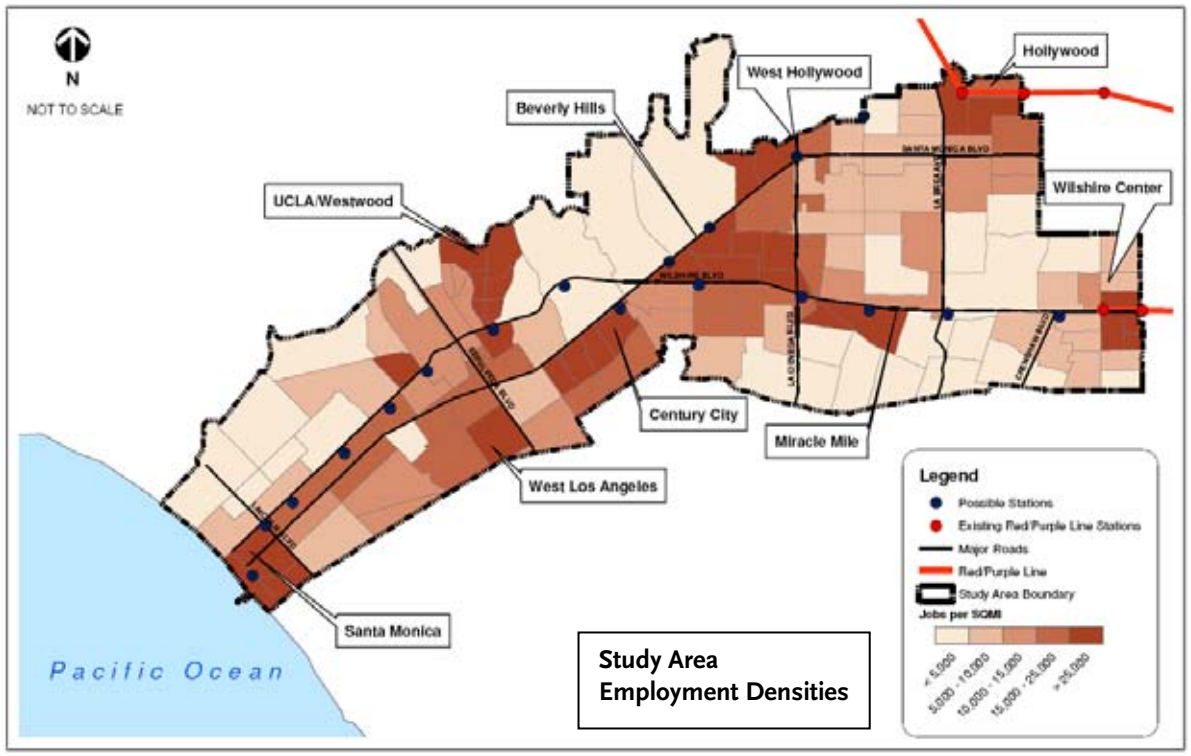
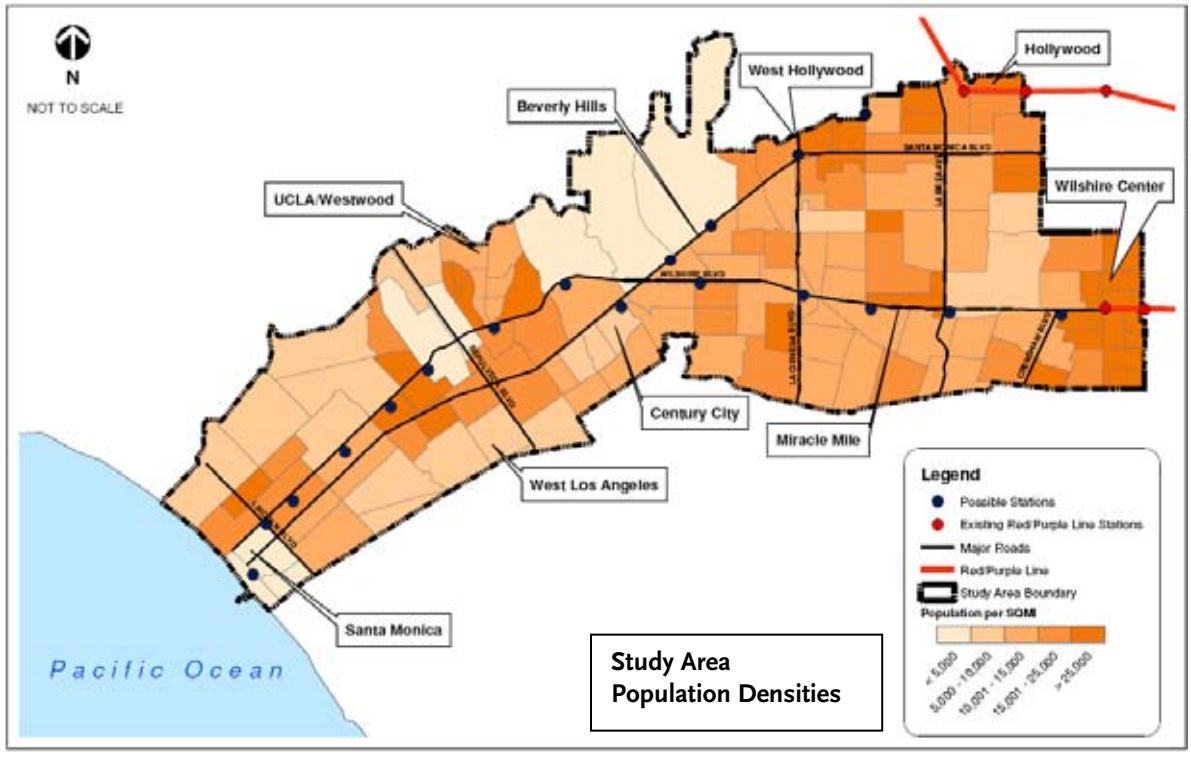
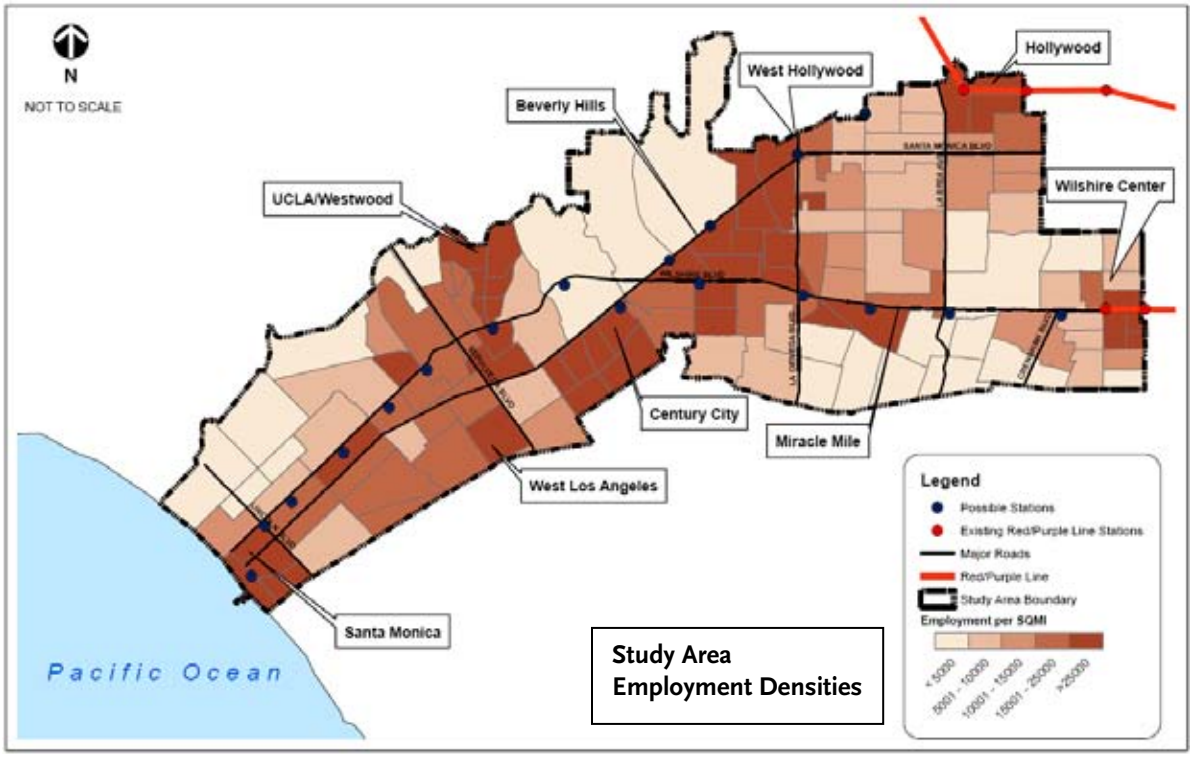


Figure 1-11. Study Area Population and Employment Densities (2030)





1.4 Transportation Facilities and Services

1.4.1 The Regional Transit Context

Since 1990, Los Angeles County has constructed a regional fixed-guideway transit system that consists of heavy rail transit (HRT), light rail transit (LRT), bus rapid transit (BRT), and commuter rail components. This system currently includes more than 73 miles of Metro Rail (HRT and LRT) service, 14 miles of BRT service, and more than 500 miles of Metrolink commuter rail lines. As illustrated in Figure 1-12, the existing and committed system currently includes the following components:

- Metro Red/Purple Lines - Opened in phases between 1993 and 2000, the 17.4-mile Metro Red Line heavy rail subway extends from Union Station to the west and north with two branches. Both lines run together and share six stations between Union Station and the Wilshire/Vermont Station. The Purple Line extends westward along Wilshire Boulevard for two additional stations while the Red Line extends north for eight additional stations through Hollywood and Universal City. The Metro Red/Purple Lines currently carry an estimated 150,000 average weekday daily boardings (September 2008).
- Metro Blue Line - Opened for service in 1990, the 22-mile Metro Blue Line light rail system operates between downtown Los Angeles and Long Beach and currently carries 85,000 average daily boardings (September 2008).
- Metro Green Line - Opened for service in 1995, the 20-mile Metro Green Line light rail system operates between Redondo Beach and Norwalk, primarily in the median of the Glen Anderson Century Freeway (I-105). The line carries an estimated 45,000 average weekday daily boardings (September 2008).
- Metro Gold Line - Opened for service in July 2003, the 13.8-mile Metro Gold Line light rail line operates between downtown Los Angeles and Pasadena. Ridership for this line is approximately 26,000 average weekday daily boardings (September 2008).
- Metro Orange Line - Opened for service in 2005, the 14.0-mile Metro Orange Line is an urban busway extending westward across the San Fernando Valley from the North Hollywood terminus of the Metro Red Line. This BRT line carries an estimated 28,000 average weekday daily boardings (September 2008).
- Metro Gold Line Eastside Extension - Scheduled to open for service in 2009, the six-mile Metro Gold Line Eastside Extension will connect Union Station in downtown Los Angeles with Little Tokyo, Boyle Heights and East Los Angeles. This line will operate as a through running extension of the Metro Gold Line that currently operates between downtown Los Angeles and Pasadena.
- Metro Expo Line - Scheduled to open for service in 2010, the 8.5-mile Metro Expo LRT Line will run along Flower Street and the Metro-owned Exposition right-of-way from the existing Metro Rail station at 7th Street/Metro Center in downtown Los Angeles to Washington/National in Culver City.
- El Monte Transitway – This high occupancy vehicle lane opened for service in 1974 as a busway, with 3+ HOVs allowed two years later. Daily bus ridership is approximately 18,000 on routes served by Metro and Foothill Transit.

- Harbor Transitway – This 11-mile high-occupancy vehicle roadway opened in 1996 in the median of the I-110 Freeway and carries 2+ HOVs and buses. Metro, LADOT, OCTA, Gardena Bus Lines and Torrance Transit routes use the transitway.

Figure 1-12. Existing Metro Rail, BRT, and Metrolink System Map

- Metrolink Commuter Rail - Initially opened for service in 1992, commuter rail service is provided by the Southern California Regional Rail Authority (Metrolink), a regional rail network that connects Ventura, Los Angeles, Orange, San Bernardino, Riverside, and San Diego counties using existing rail rights-of-way. This commuter service currently carries more than 48,000 average daily boardings as of September 2008 in the multi-county service area. Metrolink provides over 500 miles of service.
- Metro Rapid Arterial Bus Routes - Metro has developed a predominantly non-fixed guideway, rapid bus system in Los Angeles County that uses bus signal priority and additional features of BRT to create an arterial-based transit network. The first two lines of this network opened for service in 2000, and the network currently includes 26 lines. When completed, the Metro Rapid Program will operate a network of 28 lines covering 450 miles, complementing light and heavy rail transit throughout Los Angeles County.

In Figure 1-13 the existing fixed-guideway transit service in the region is complimented by the transit corridors currently under study. The fixed-guideway corridors under study in addition to the Westside Extension Transit Corridor include Canoga Park, Crenshaw, Regional Connector, Gold Line Eastside Phase II, and Mid-City/Exposition Phase II.

1.4.2 Transportation Facilities and Services in the Study Area

The Study Area is currently served by roadway and transit systems, parking facilities, and pedestrian and bicycle facilities. Existing development throughout the Study Area prevents the addition of new roadways and severely limits the expansion of existing facilities. The Study Area contains some of the most congested arterial streets in the County. Key east-west arterials include Wilshire, Santa Monica, Sunset, Hollywood, Olympic, and Pico Boulevards. North-south arterials, extending westward from Western Avenue, include vital streets such as Crenshaw Boulevard, La Brea Avenue, La Cienega Boulevard, Beverly Drive, Westwood Boulevard, Sepulveda Boulevard, Bundy Drive, and Lincoln Boulevard.

Two freeways traverse the Study Area. The San Diego Freeway (I-405) runs north-south through the Study Area just west of Westwood and UCLA and provides the primary access to/from the north and south. The Santa Monica Freeway (I-10) runs just outside the Study Area until Santa Monica city limits but parallels key east-west arterials and provides regional access from the east. Both freeways are widely recognized as some of the most congested in both the Los Angeles region and the nation, and experience high traffic volumes throughout the day, well beyond the traditional peak travel hours.

Metro is the principal transit provider in the Study Area, which is also served by Santa Monica's Big Blue Bus, Los Angeles Department of Transportation (LADOT) DASH, LADOT Commuter Express, Santa Clarita Transit, Culver CityBus, West Hollywood CityLine/DayLine, and Antelope Valley Transportation Authority. These transit service providers offer bus transit coverage on most major east-west and north-south arterials in the Study Area, as illustrated in Figure 1-14. All bus service is provided in mixed-flow lanes, subjecting bus transit to the congestion experienced by automobiles. Table 1-1 details the average number of weekday boardings for the ten most heavily used Metro bus routes that traverse the Study Area. With over 70,000 daily boardings, the Wilshire corridor route (Line 20/720/920) is recognized as one of the highest ridership bus route in the nation and surpasses the ridership of many LRT routes, including the Green Line and Gold Line in Los Angeles.

Figure 1-13. Fixed Guideway Transit Corridors Currently under Study

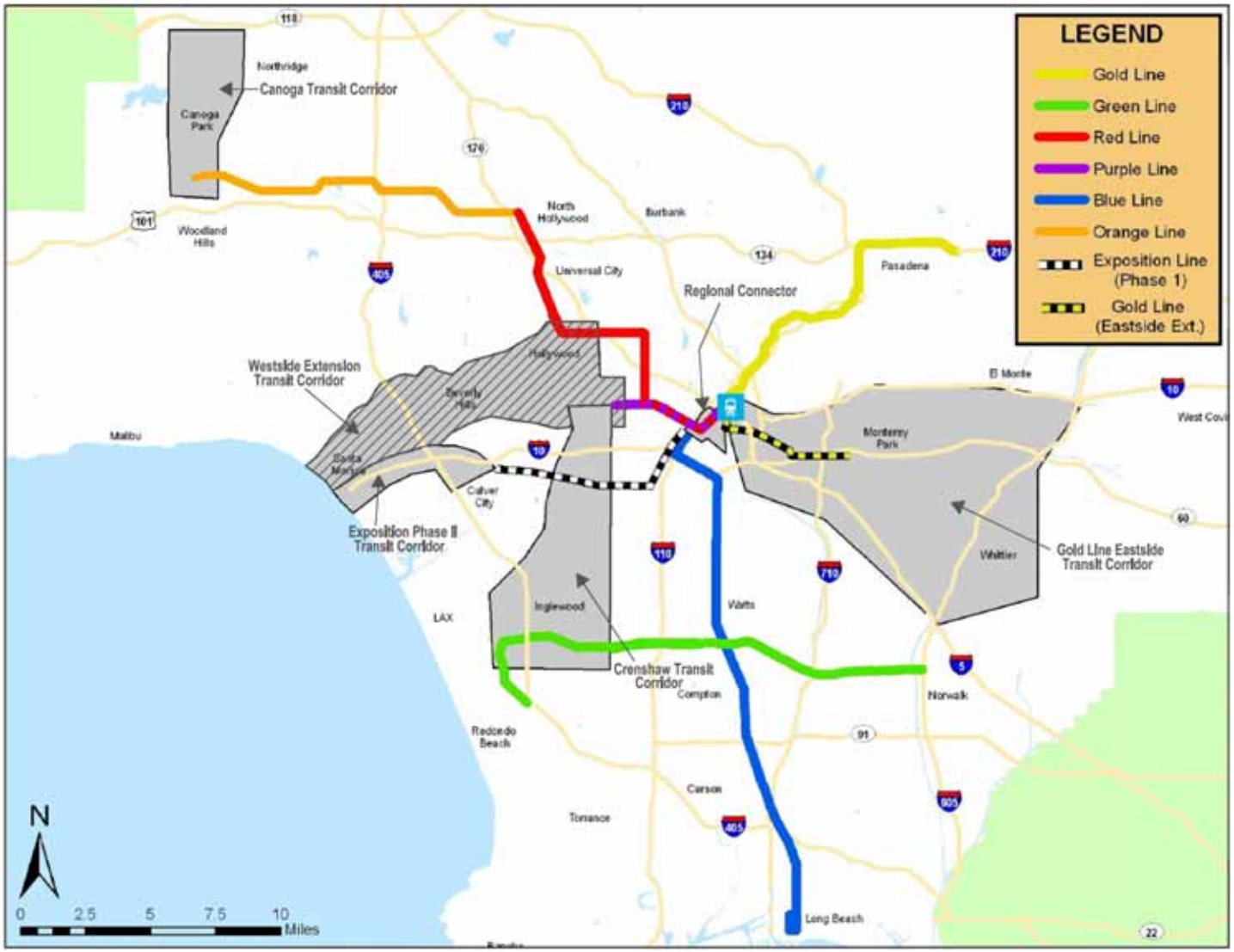


Figure 1-14. Existing Transit Service in the Study Area

Table 1-1. Boardings for High Ridership Bus Routes

Year 2007 Average Weekday Boardings			
Rank	Operator	Route	Boardings
1	Metro	20/720/920	71,800
2	Metro	4/304/704	35,340
3	Metro	28/728	36,430
4	Metro	16/316	28,900
5	Metro	66	25,900
6	Metro	2/302	23,440
7	Metro	105/305/705	21,340
8	Metro	14/714	19,800
9	Metro	10	13,930
10	Metro	212	13,780
11	Santa Monica Big Blue Bus	1 / 2	13,270

Source: Metro/SM BBB. All boardings data is from August 2007 except for Line 920 (October 2007) and Lines 1, 2, 704, and 728 (December 2007).

1.5 Performance of the Transportation System

Table 1-2 illustrates the Los Angeles' metropolitan region's unflattering distinction of being the most congested urbanized area in the nation. The Los Angeles-Long Beach-Santa Ana Metropolitan Statistical Area (MSA) ranks #1 in annual delay per traveler, travel time index, and wasted fuel per traveler based on 2005 mobility data published by the Texas Transportation Institute in the *2007 Urban Mobility Report*. Further, the Study Area has been recognized as one of the most congested areas in the greater Los Angeles region. Traffic volumes and congestion levels on the Westside arterial street network are among the highest and the Santa Monica (I-10) and San Diego (I-405) freeways are among the most congested Los Angeles area freeways.

Table 1-2. Key Mobility Measures (2005) for Urbanized Areas

	Annual Delay per Traveler		Travel Time Index		Wasted Fuel per Traveler	
	Hours	Rank	Value	Rank	Gallons	Rank
Los Angeles-LB-Santa Ana, CA	**72**	**1**	**1.5**	**1**	**57**	**1**
San Francisco-Oakland, CA	60	2	1.41	3	47	2
Washington, DC-VA-MD	60	2	1.37	7	43	5
Atlanta, GA	60	2	1.34	11	44	3
Dallas-Fort Worth-Arlington, TX	58	5	1.35	9	40	7
San Diego, CA 57	57	6	1.4	4	44	3
Houston, TX	56	7	1.36	8	42	6
Detroit, MI	54	8	1.29	21	35	10
San Jose, CA	54	8	1.34	11	38	9
Orlando, FL	54	8	1.3	17	35	10

Source: Adapted from *The 2007 Urban Mobility Report*, Table 1 (Texas Transportation Institute).

For this Alternatives Analysis, the performance of the transportation system within the Westside Extension Transit Corridor is measured by roadway traffic volume, traffic operating conditions, and transit operating conditions. These traditional measures of mobility reveal that the Study Area's oversubscribed roadway capacity and an extensive bus transit network subject to delays result in substantial peak hour congestion as travel demand continues to grow. The performance of the transportation system in the Study Area is discussed below.

1.5.1 Traffic Volumes and Operating Conditions

As noted earlier, the Westside Study Area includes portions of the I-10 freeway which runs east-west outside the Study Area until the Santa Monica city limits and the I-405 freeway, which runs north-south through the Study Area just west of Westwood. These two freeways, like most freeways in Southern California, experience high levels of congestion throughout the day, particularly during the peak commute periods. In addition, the Study Area contains some of the most congested streets in Los Angeles County. Both east-west streets, such as Wilshire Boulevard, Santa Monica Boulevard, Sunset Boulevard, Hollywood Boulevard, Olympic Boulevard, and Pico Boulevard, and north-south streets, such as Western Avenue, Crenshaw Boulevard, La Brea Avenue, Fairfax Avenue, La Cienega Boulevard, Westwood Boulevard, Sepulveda Boulevard, Bundy Drive, and Lincoln Boulevard, operate at congested conditions throughout the day. Most of the intersections between these east-west and north-south arterials operate at or near capacity during weekday peak periods with a level of service (LOS) of E or F, indicating significant levels of congestion and delay.

Based on 2006 Caltrans traffic counts, the I-10 and I-405 freeways carry an annual average daily traffic (AADT) volume of approximately 268,000 and 300,000 vehicles per day, respectively, near the intersection of these two freeways. The percentage of truck traffic on I-10 and I-405 is about 4 percent and 4.5 percent of the total traffic volumes, respectively. The peak hour volume for each facility during the peak month is 19,600 vehicles per hour for the I-10 freeway and 19,900 vehicles per hour for the I-405 freeway. During the peak period, speeds on each freeway are less than 30 miles per hour for the peak direction of travel. Consequently, several I-10 and I-405 freeway segments, near the intersection of both freeways, operate at LOS F during the AM and/or PM peak periods.

Between 2006 and 2030, peak period traffic volumes on the freeway segments within the Study Area are expected to increase substantially, and congestion is expected to occur over a longer period of the day. According to the traffic forecasts, currently congested freeway segments of the I-10 and I-405 freeways are expected to continue to operate at congested levels, with no relief for commuters in sight. In addition, mobility conditions on several freeway segments are expected to deteriorate from acceptable levels (LOS D or better) to LOS E or F during one or both peak periods.

The major east-west and north-south arterials in the Study Area currently operate at congested levels and congestion is expected to grow to such a level that it will occur over a longer period of the day. The high population and employment densities in the Westside Extension Transit Corridor have resulted in both eastbound and westbound directional travel being congested during the AM and PM peak periods. The arterials in the Study Area serve the employment centers as well as local and regional travel. In addition, they are used as alternates to the I-10 and I-405 freeways during non-recurrent delay such as accidents, breakdowns, lane closures, and other random events. As a result, the Study Area's roadway capacity is insufficient to handle the traffic volumes thus reducing travel time reliability for both motorists and transit riders. Daily traffic volumes along the Study Area

arterials vary by segment. The highest daily traffic volumes for the major east-west and north-south arterials are presented in Table 1-3.

Table 1-3. Traffic Volumes for Key Arterial Segments in the Study Area

Street Name	Count Location	Total Daily Volume
East-West Arterials		
Wilshire Boulevard	west of Veteran Avenue	111,024
Santa Monica Boulevard	east of Cotner Avenue	66,269
Sunset Boulevard	at La Cienega Boulevard	72,554
Hollywood Boulevard	at Nichols Canyon Boulevard	33,873
Olympic Boulevard	at Overland Avenue	66,877
Pico Boulevard	at Motor Avenue	55,836
North-South Arterials		
Western Avenue	at Olympic Boulevard	39,708
Crenshaw Avenue	at Pico Boulevard	33,492
La Brea Avenue	at Pico Boulevard	61,281
Fairfax Avenue	south of Beverly Boulevard	41,217
La Cienega Avenue	at Pico Boulevard	57,147
Westwood Boulevard	at Ohio Avenue	32,458
Sepulveda Boulevard	at Pico Boulevard	59,081
Bundy Drive	south of Pico Boulevard	53,634

Source: Traffic counts conducted by LADOT's Traffic Survey Section

One measure of performance for traffic operations is volume-to-capacity (V/C) ratio, which evaluates the traffic volume on a roadway compared to its available capacity. V/C ratios at or above 0.90 reflect extremely unstable flow, heavy volumes and a poor comfort level. This corresponds to LOS E. V/C ratios above 1.00 reflect congested conditions, restricted traffic movements, slow speeds and increased delays. This corresponds to LOS F. Typically, LOS D or better (V/C less than 0.90) is recognized as the minimum level of service acceptable in urban areas.

Between 2006 and 2030, most of the roadway capacity will remain the same. However, traffic volumes are expected to increase, resulting in an increase in congestion levels and a deterioration of operating conditions. Figure 1-15 illustrates the roadway segments within the Study Area operating at LOS E and F during the AM peak hour for 2006 and 2030. The model projects that roadway segments currently operating at LOS E and F will degrade even further by 2030. In addition, numerous roadway segments currently operating at acceptable service levels (LOS D or better) will deteriorate to congested levels (LOS E or F) by 2030. Figure 1-16 shows the roadway segments within the Study Area operating at LOS E and F during the PM peak hour for 2006 and 2030. Similar to the AM peak, roadway segments currently operating at LOS E and F will continue to operate at congested levels in 2030 and roadway segments currently operating at acceptable service levels (LOS D or better) will deteriorate to congested levels (LOS E or F) in 2030. Most of the major arterials are congested from one end of the Study Area to the other, except in the far western segments. This

Figure 1-15. Year 2006 and Year 2030 AM Peak Hour Level of Service

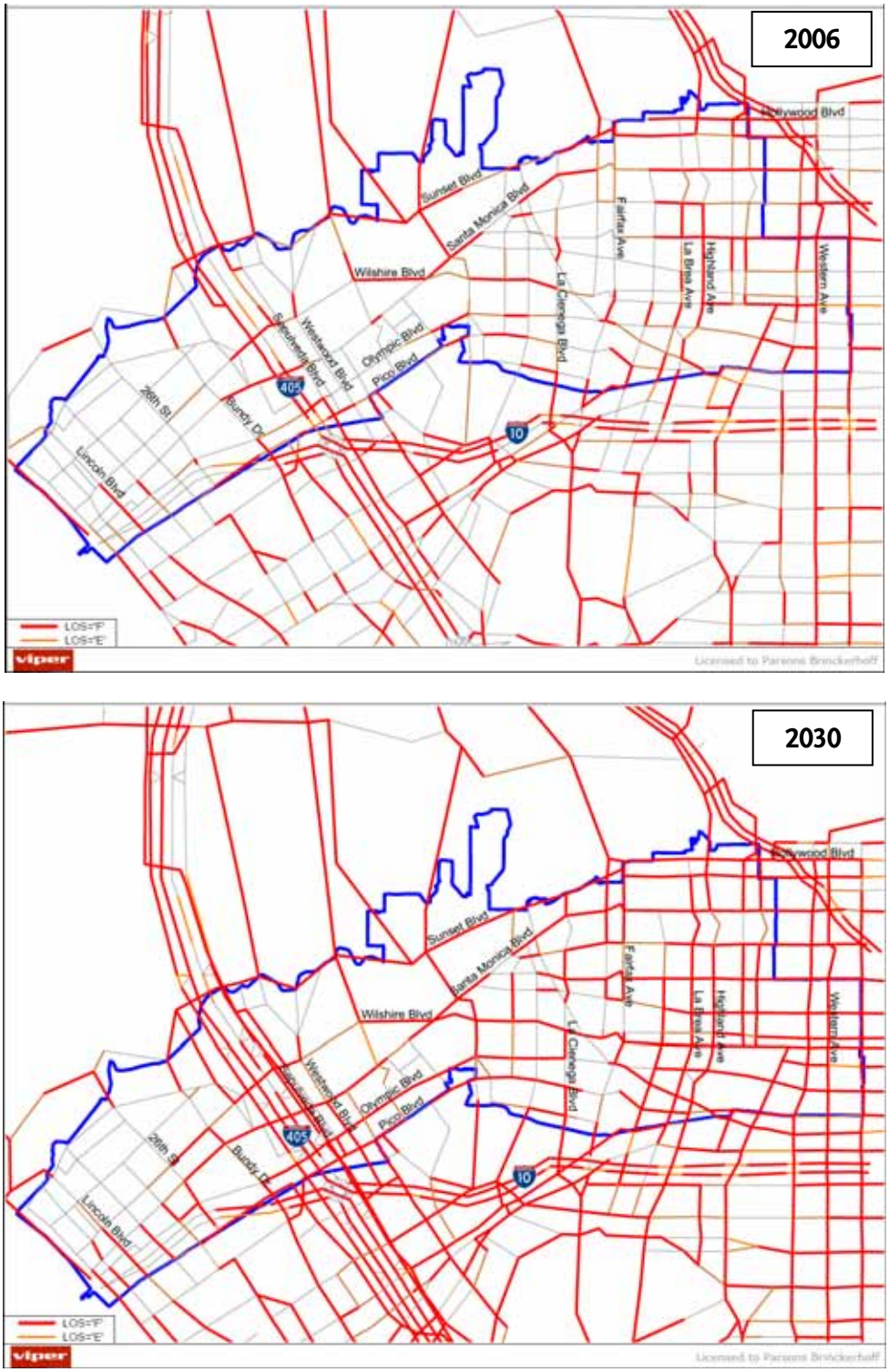
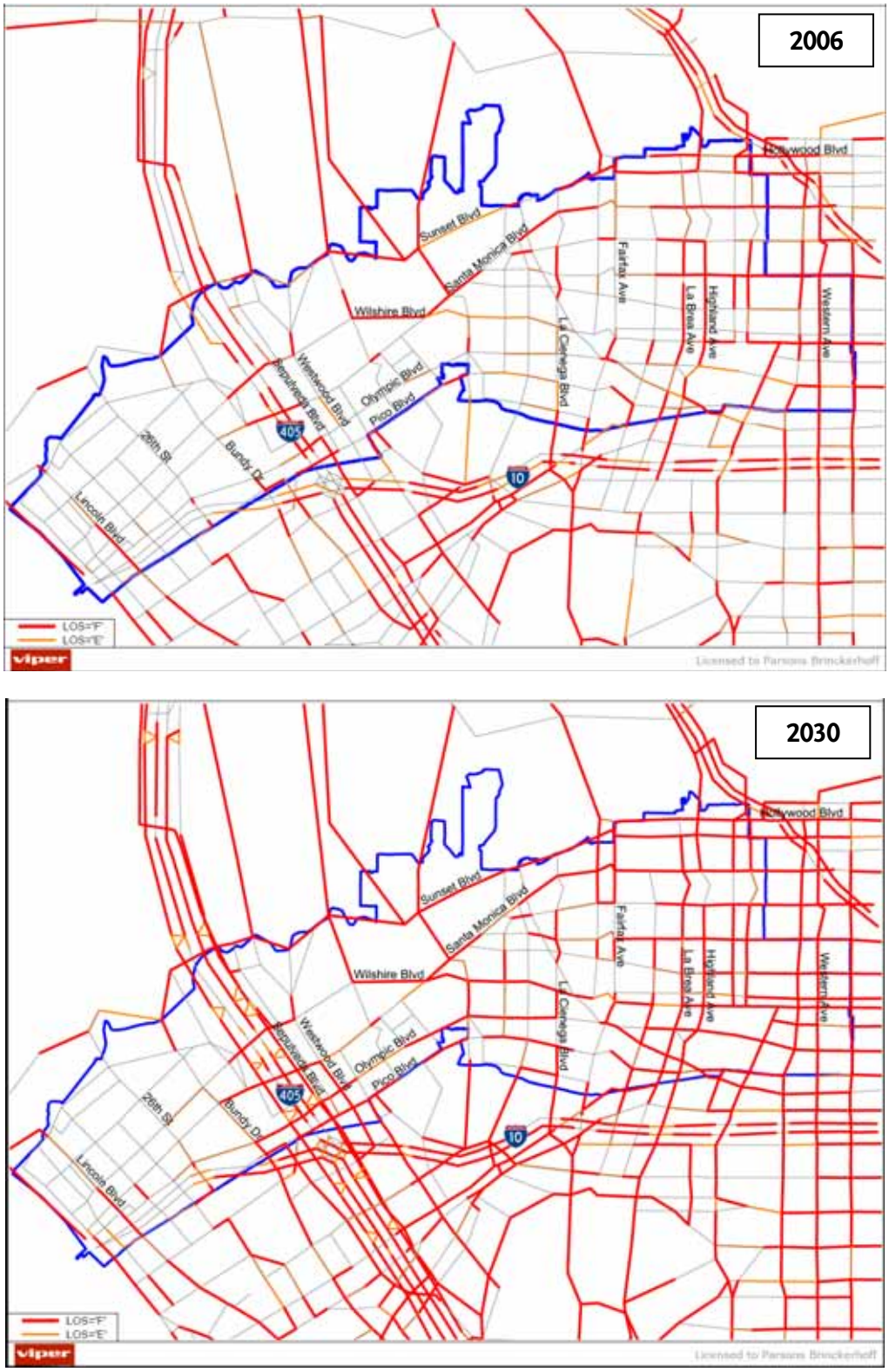


Figure 1-16. Year 2006 and Year 2030 PM Peak Hour Level of Service



increased traffic congestion will result in lower peak period travel speeds along the arterial corridors and a reduction in travel time reliability.

With little or no room to expand roadway facilities within the Study Area, plans are being envisioned that would improve capacity and average vehicle travel speeds through travel demand management (TDM) strategies that make more efficient use of existing resources. For example, the City of Los Angeles is considering an initiative to convert Pico and Olympic Boulevards into a one-way pair with a contra-flow peak period transit/van-pool lane. However, even innovative TDM projects cannot prevent the Study Area's congestion from worsening by 2030. Mobility in the Study Area is expected to decrease as the number of intersections operating at LOS E and F continues to rise.

1.5.2 Transit Operating Conditions

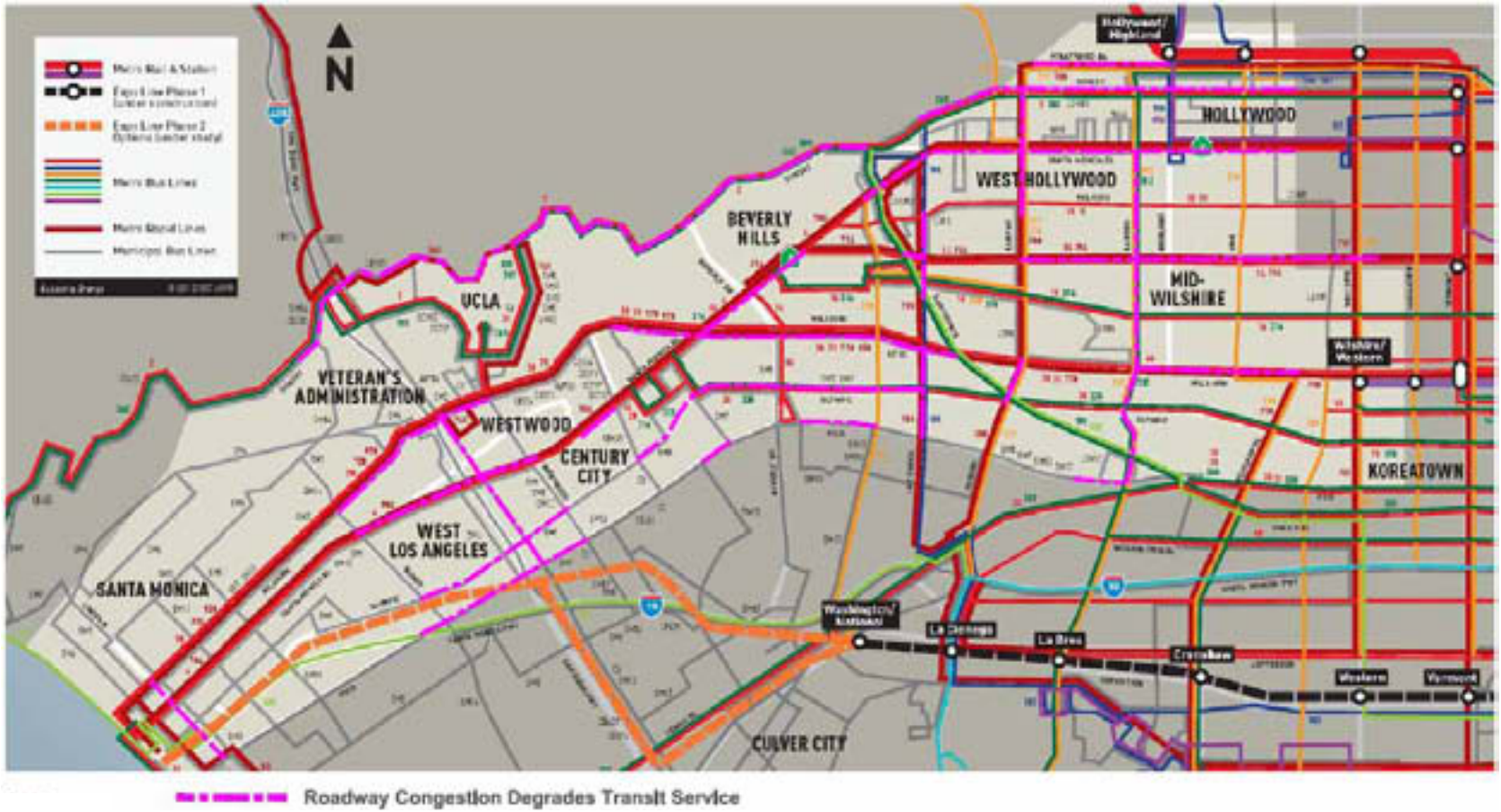
The various transit services in the Study Area use the general roadway network, with the exception of the Metro Rail Red/Purple lines in the eastern portion. The major factors influencing bus operating conditions are the traffic conditions under which the service operates, whether or not signal priority is available to buses, passenger loading time, and bus-stop spacing. The Westside Extension Transit Corridor Study Area has substantial traffic congestion, high ridership and load factors, and closely spaced bus stops. Combined, these factors result in declining bus operating speeds over recent years, which are not competitive with the private automobile.

Mixed-flow bus travel is subject to roadway congestion and increases travel time and travel time uncertainty. Although ridership on Westside buses is high, congestion on arterial streets and freeways can affect travel time and result in less than optimal service conditions. With high passenger loads, congested roads make desirable headways (frequency of service) difficult to maintain, resulting in overcrowded buses. Figure 1-17 maps the locations where roadway congestion designated as LOS E or F degrades transit service conditions on these roadways in the Study Area:

- Santa Monica Freeway (east of Bundy Drive to downtown Los Angeles)
- Wilshire Boulevard (east of Federal Avenue, through Beverly Hills, and throughout Miracle Mile)
- Santa Monica Boulevard (east of I-405 through Beverly Hills, West Hollywood, and Hollywood)
- Sepulveda Boulevard (south of Wilshire Boulevard)
- Pico Boulevard (from Bundy to La Brea Avenue)
- Fairfax Avenue (throughout West Hollywood and Miracle Mile)
- Beverly Boulevard (east of Fairfax)
- La Brea Avenue (south of Santa Monica Boulevard)

The current average speeds of the Metro Rapid buses traveling through the Study Area range between 10 and 15 miles per hour along Wilshire Boulevard and between 11 and 14 miles per hour along Santa Monica Boulevard. For Lines 720 and 920, which operate along Wilshire Boulevard, the average speeds in the westbound direction are slightly lower during the AM peak period than in the PM peak period. However, the average bus speeds in the eastbound direction are noticeably lower

Figure 1-17. Transit Service Degraded by Roadway Congestion



during the PM peak period than in the AM peak period. Speeds are generally lower near the Westwood and Santa Monica area and increase as the buses travel towards Western. For Line 704, which operates along Santa Monica Boulevard, average speeds in the AM peak period are consistently higher than in the PM peak period for both eastbound and westbound directions. Table 1-4 summarizes the bus speeds along both corridors. It should be noted that the speeds on the Wilshire Boulevard corridor were obtained from LADOT loop detectors, whereas the speeds on the Santa Monica Boulevard corridor were calculated from the bus timetable.

Table 1-4. Average Bus Speeds Along Wilshire and Santa Monica Boulevard Corridors

Segment	Eastbound Direction of Travel		Westbound Direction of Travel	
	AM Peak Period (mph)	PM Peak Period (mph)	AM Peak Period (mph)	PM Peak Period (mph)
Santa Monica Corridor – Line 704				
2nd & Westwood	12.5	10.4	13.2	11.7
Westwood & San Vicente	15.9	12.8	14.2	13.6
San Vicente & Vermont	13.9	10.6	12.3	11.6
Wilshire Corridor – Lines 720 & 920				
Centinela & Westwood	11.0	6.8	11.8	11.9
Westwood & San Vicente	15.1	10.5	12.8	13.3
San Vicente & Western	17.7	12.2	13.0	16.0

Source: Traffic counts conducted by LADOT's Traffic Survey Section, LADOT loop detector data for the Wilshire Corridor, and Metro Rapid Bus Line 704 timetable information for the Santa Monica Corridor.

Note: The AM Peak Period is 7-10 AM and the PM Peak Period is 3-7 PM.

Between 2006 and 2030, the average speeds on both local buses and the Metro Rapid Buses traveling through the Study Area are anticipated to decrease as traffic congestion increases on the roadways, with the exception of the Wilshire Corridor. Along this corridor, the Wilshire Boulevard Bus-Only Lane Project will build 12.5 miles of peak-period bus-only lanes that will expedite passenger travel times on this corridor by an average of 30 percent. From the eastern end of the Study Area the bus-only lanes would extend along Wilshire Boulevard to the intersection of Wilshire Boulevard and San Vicente Boulevard (Beverly Hills border). Project completion is expected in 2013 and current plans do not extend the bus-only lanes into the Cities of Beverly Hills or Santa Monica, which include significant portions of the route.

Another indicator of the deteriorating transit performance in the Study Area is increasing travel times between key destinations. From 2003 to 2006, average bus travel times for the routes and segments analyzed in Table 1-5 increased by six percent in the AM peak hour and by five percent in the PM peak hour. Transit speed and reliability with mixed-traffic operations will continue to diminish in the corridor as travel demand increases, putting greater pressure on the existing roadway network.

Table 1-5. Study Area Bus Travel Times (2008) and Changes (2003 to 2006)

Route Name / Direction	Route End to End Run Time, 2008 (minutes)		From / To	Percent Change in Travel Time from 2003 to 2006	
	AM Peak	PM Peak		AM Peak	PM Peak
20 Eastbound	63	73	Wilshire / La Brea to Wilshire / Western	8% increase	1% increase
20 Westbound	67	73	Wilshire / Western to Wilshire / La Brea	4% increase	3% increase
720 Eastbound	86	87	Wilshire / La Brea to Wilshire / Western	14% increase	21% increase
720 Westbound	77	103	Wilshire / Western to Wilshire / La Brea	21% increase	9% increase
217 Northbound	54	75	Fairfax / Beverly to Fairfax / Santa Monica	8% increase	5% increase
217 Southbound	58	64	Fairfax / Santa Monica to Fairfax / Beverly	8% increase	13% increase
4 Eastbound	86	100	Santa Monica / Highland to Sunset / Echo Park	6% increase	6% increase
4 Westbound	99	98	Sunset / Echo Park to Santa Monica / Highland	7% increase	5% increase
304 Eastbound	n/a	n/a	Santa Monica / Highland to Sunset / Echo Park	4% increase	6% increase
304 Westbound	n/a	n/a	Sunset / Echo Park to Santa Monica / Highland	7% increase	2% increase

Source: Metro

1.5.3 Regional Objectives

Regional transportation planning for Southern California's five-county area is the responsibility of the SCAG, which is the Metropolitan Planning Organization (MPO) for the area. In 2004, the SCAG Regional Council adopted the RTP entitled "Destination 2030" to establish the goals, objectives and policies for the transportation system and establish the implementation plan for transportation investments over the next 25 years. The RTP includes regional performance indicators with objectives against which specific transportation investments can be measured. A selection of four key performance indicators and their 2000 base year results, 2030 baseline projections, and 2030 objectives is shown in Table 1-6. Designated as one of the most congested areas in the five-county region, the Study Area will need significant improvements in these categories to meet the regional objectives for mobility, accessibility, and reliability.

1.6 Project Purpose and Need

The project purpose and need is to improve public transit service and mobility in the Westside Extension Transit Corridor. The project would provide the cities of Los Angeles, West Hollywood, Beverly Hills, and Santa Monica with improved fixed-guideway east-west transit service between the existing terminus of the Metro Red Line and Metro Purple Lines near Highland Avenue and/or Western Avenue in the City Los Angeles and Ocean Avenue in the City of Santa Monica. Possible western extensions from the Metro Purple Line would generally follow Wilshire Boulevard (from the Metro Purple Line Wilshire/Western Station). Possible extensions from the Metro Red Line would generally follow Santa Monica Boulevard (from the Metro Red Line Hollywood/Highland Station). The overall goal of the proposed project is to improve mobility in the Westside Extension Transit Corridor by extending the benefits of the existing Metro Red/Metro Purple Line rail and bus investments beyond the current terminus.

Table 1-6. SCAG 2030 Regional Transportation Plan Performance Indicators, SCAG Region

Performance Indicator	Measurement	2000 Base Year	2030 Baseline	2030 Objective
Mobility	Average daily highway speed	35.9 mph	31.9 mph	35.2 mph
	Average daily delay per capita	8.0 minutes	14.2 minutes	8.4 minutes
Accessibility	% of PM work trips within 45 minutes of residence	88% of all auto trips 33% of all transit trips	82% of all auto trips 29% of all transit trips	90% of all auto trips 37% of all transit trips
Reliability	% variation in travel time – Weekday 4 p.m. to 5 p.m.	20%	N/A	18%
Safety	Daily accident rate per million persons	18.2	18.2	17.5

Source: SCAG, Regional Transportation Plan, 2004

Given the existing travel conditions and the inability to meet regional objectives for mobility, accessibility, or reliability in the Westside Extension Transit Corridor Study Area, several themes emerge regarding specific transportation problems and the need for transportation improvements within the corridor. These are bulleted below and then described in greater detail following this list.

- Need for Transit Improvements has been Established in Previous Studies
- "Centers Concept" Land Use Policy is Transit Based
- Major Concentration of Activity Centers and Destinations in Study Area
- Local Redevelopment, Community, and Specific Plans Depend Heavily on Transit Improvements
- Study Area's High Population and Employment Densities Support Transit Use
- Land Uses in Study Area are Transit Supporting with Potential Growth for Non-Motorized Uses
- History of Transit Usage
- Decreased Mobility for Transit Dependent Residents
- Desire to Attract Choice Riders Strengthens the Need for Transit Improvements
- Study Area Share of Regional Population and Employment Growth Remains High
- Travel Demand Patterns Justify Transit Improvements
- Peak Hour Roadway Congestion Underlies the Need for Transit Improvements
- Peak Hour Congestion along Santa Monica Freeway Reveals Study Area Job and Population Growth
- Study Area includes Few Planned Transportation Improvements
- Local Policies for Dealing with Congestion are Oriented towards Transportation Demand Management and Transit Solutions
- Strategy to Respond to Climate Change as Mandated by State Law

Need for Transit Improvements has been Established in Previous Studies

The need for providing high-capacity transit service improvement has been long recognized in the Westside Extension Transit Corridor Study Area. Since the 1970s, Metro and its predecessors have conducted numerous transportation planning and environmental impact studies that described the need and feasible locations for bus, light rail, and/or heavy rail east-west service in various parts of the Study Area. Between 1989 and 2005, six studies have focused on the Westside Extension Transit Corridor Study Area, as described in Section 1.2.

"Centers Concept" Land Use Policy is Transit Based

Land use planning in the Los Angeles area has traditionally viewed the urban area not as a central downtown served by adjacent areas, but rather as a collection of urban centers. These centers are "little downtowns" in and of themselves. The Centers Concept Plan, originally formulated for the Los Angeles area in the 1960s and 1970s by Calvin Hamilton (Director of the Department of Los Angeles City Planning Department) and Norman Murdock (Director of the Los Angeles County Regional Planning Department), acknowledged that there were urban centers of various types

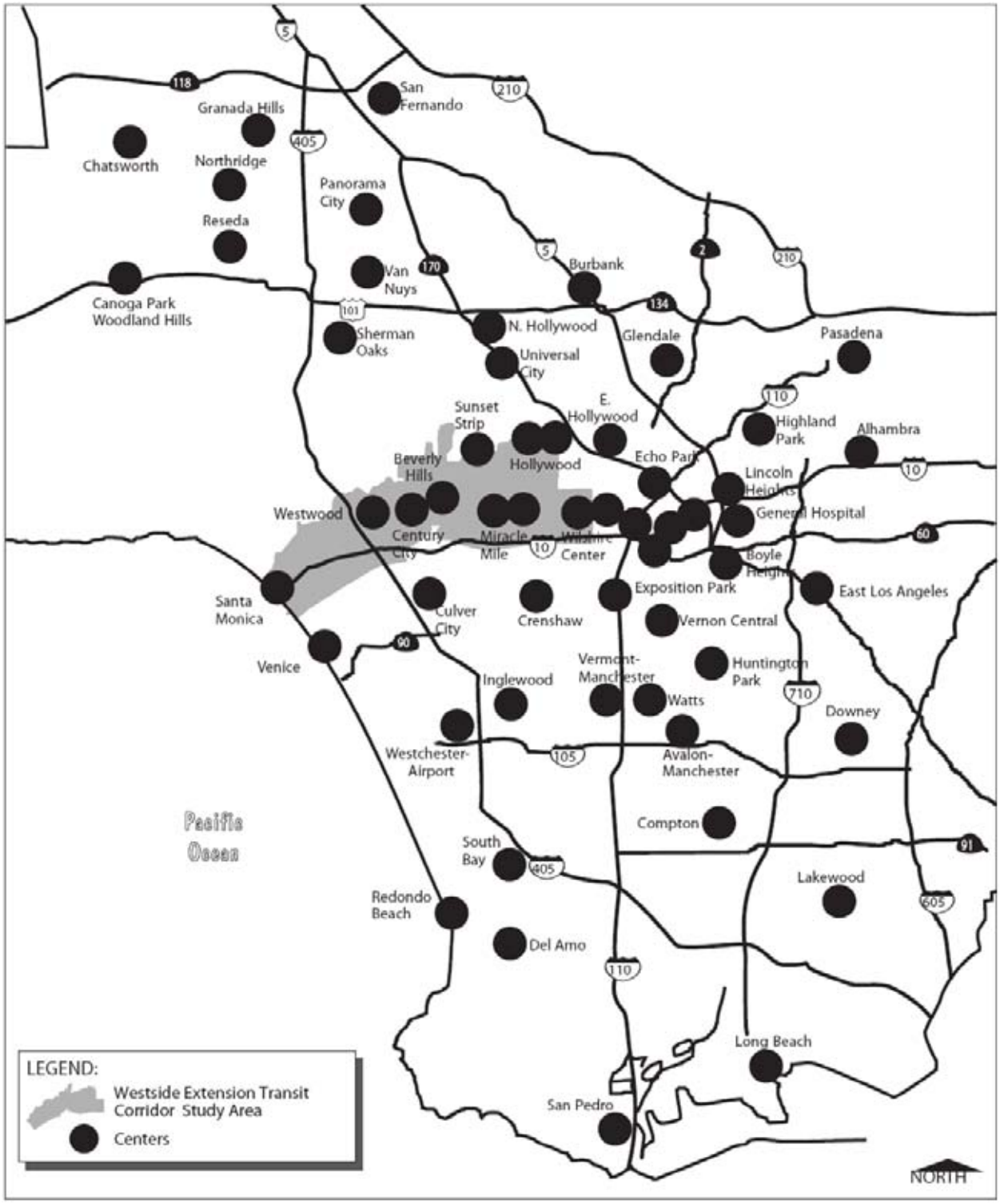
throughout the region that represented concentrations of economic activity or a mix of economic activities and higher density housing. The Centers Concept, which is shown in Figure 1-18, envisioned that the centers would be interconnected by an infrastructure of transit. The City of Los Angeles General Plan Framework revisited and reconfirmed the Centers Concept in 1995. The Framework more clearly defined targeted growth areas, mixed-use centers, and mixed-use corridors that would serve centers envisioned to be interconnected by the emerging Metro Rail transit system. The City of Los Angeles, working directly with Los Angeles Metropolitan Transportation Authority (LACMTA), developed a Land Use Transportation Policy, which specifically tied the size and intensity of centers to the supporting transit infrastructure and transit station locations.

Major Concentration of Activity Centers and Destinations in Study Area

Similar to the urban center in the Centers Concept Plan, an activity center concentrates large numbers of people, making conditions ideal for transit use. The Study Area contains a high concentration of the major activity centers and destinations within the Los Angeles metropolitan region. In addition to the well known employment centers in Santa Monica, Century City, Westwood, Beverly Hills, and the Mid-Wilshire Area, some of the most well-known entertainment, educational, and cultural activity centers are located within the region. Many of these centers are within the most congested portion of the Study Area, along the Wilshire and Santa Monica Boulevard Corridors. As shown in Figure 1-19, 15 major activity centers are located within the Study Area. From left to right, these major activity centers include Santa Monica Pier/beach, Third Street Promenade/downtown Santa Monica, Colorado Place, Brentwood, Westwood Village, UCLA, Westside Pavilion, Century City, Rodeo Drive/Beverly Hills, Beverly Center/Cedars Sinai Hospital, Sunset Strip/West Hollywood, the Grove/Farmer's Market, Wilshire Miracle Mile, Wilshire Center, and Hollywood.

Many other desirable destinations that draw tourists and locals alike are in the Study Area. Montana Avenue in Santa Monica, Melrose Avenue in Hollywood, Beverly Boulevard in Mid-City, and Santa Monica Boulevard in West Hollywood are just a few of the major shopping and dining destinations in the Study Area. Los Angeles County Museum of Art (LACMA), Page Museum, Hammer Museum, Peterson Automotive Museum, and Gallery Row in Santa Monica offer cultural opportunities to a wide demographic. The Study Area is also dotted with theaters and playhouses that produce high-quality music, theater, and dance. The Geffen Playhouse, Wiltern Theater, and Grauman's Chinese are just a few of these entertainment venues. For transit users, the only way to reach the Study Area's activity centers is by bus and even Metro Rapid can travel no faster than the prevailing mixed-flow traffic. Residents, commuters, and visitors who find bus travel too slow end up driving to and around the Study Area, further aggravating traffic congestion.

Figure 1-18. Los Angeles Centers Concept



Source: Adapted from the City of Los Angeles, Department of City Planning, 1974

Figure 1-19. Major Activity Centers

Local Redevelopment, Community, and Specific Plans Depend Heavily on Transit Improvements

Three redevelopment areas (Hollywood, Mid-City, Wilshire Center/Koreatown) and four Community Plans (Hollywood, Wilshire, Westwood, West Los Angeles), which include related Specific Plans, are within the Study Area. The sustained success and revitalization of these redevelopment areas largely rests on transportation accessibility and links to transit. For the community plan areas, some of the improvements and strategies being employed focus on increasing pedestrian amenities and reducing or eliminating vehicular traffic. These changes place a growing demand on increased transit service and access to help support existing and future land use development objectives.

Study Area's High Population and Employment Densities Support Transit Use

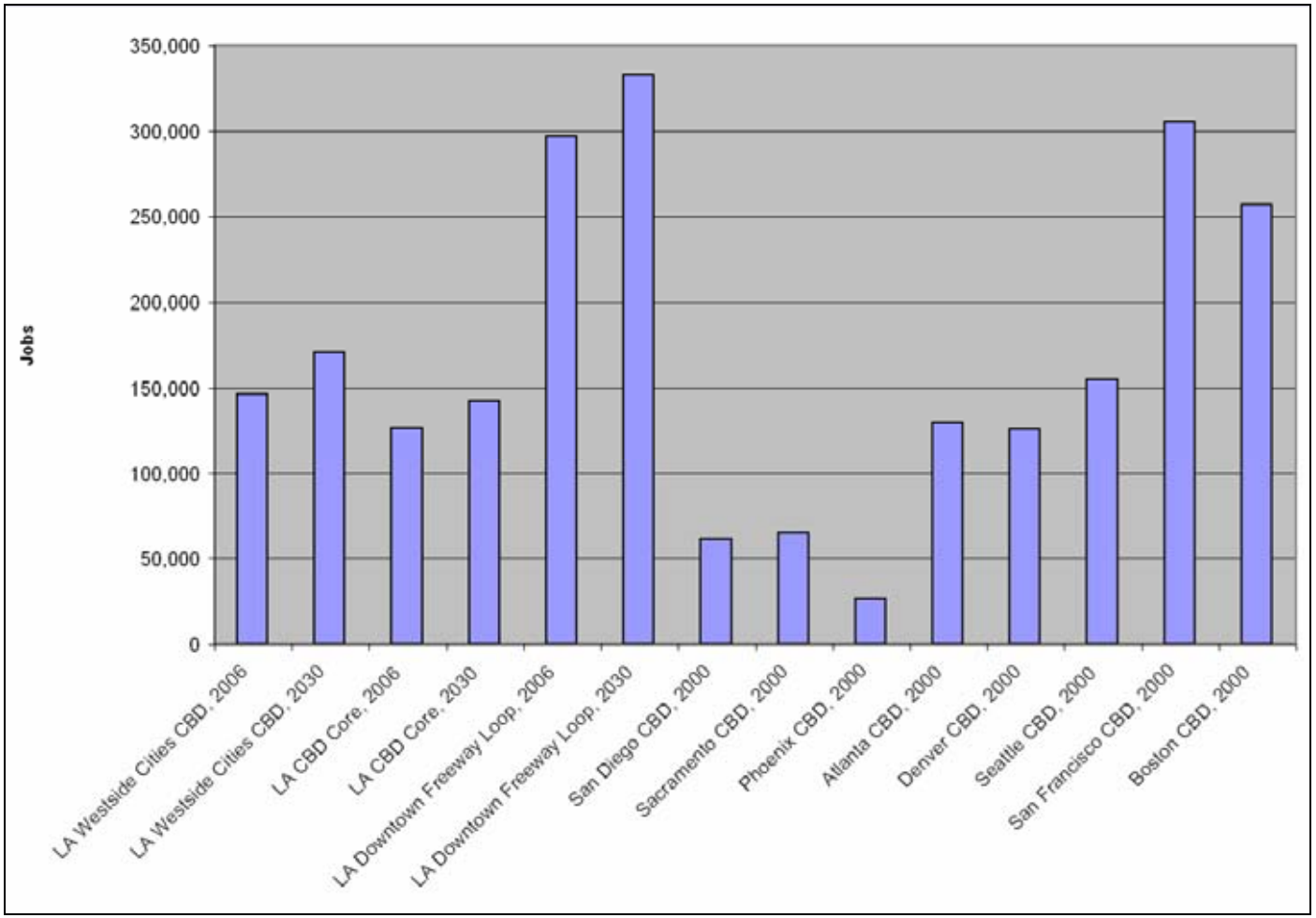
Population and employment densities are two key factors influencing transit use. As population and employment densities increase, so does transit attractiveness and demand. Population and employment densities in the Study Area are among the highest in the metropolitan region, with an overall population density of 13,000 persons per square mile and an employment density of 12,000 jobs per square mile. In comparison, population densities in Long Beach and Pasadena, two cities in Los Angeles County served by fixed guideway transit, was 9,200 and 6,900 persons per square mile, respectively. Population density for the Study Area and the corridor is higher than those two cities, as well as other West Coast cities served by fixed guideway transit: Seattle (7,000 persons per square mile), Portland (4,000 persons per square mile), and San Diego (3,900 persons per square mile). Of all major West Coast cities, only San Francisco, with a population density of 15,800 persons per square mile, is denser than the Study Area.

The Study Area is widely recognized as one of the preeminent employment generators in California. The greatest employment densities in the Study Area are found along or near the Wilshire and Santa Monica Boulevard Corridors. Job rich districts that utilize these corridors for local and regional accessibility rival the employment densities of many U.S. CBDs. Using the data in Table 1-7, Chart 1-1 compares the total employment of the Westside CBD (consisting of Westwood, UCLA, Century City, and Beverly Hills) (in 2006 and expected in 2030) to the CBDs of a range of cities, including San Diego, Sacramento, Phoenix, Denver, Los Angeles, Seattle, and San Francisco. Fixed guideway transit is a key component of worker mobility for each CBD listed. This comparison shows that Los Angeles has a second CBD that is comparable in terms of overall employment to other downtowns in mid-sized American cities. Chart 1-2 compares the employment density, shown in jobs per square mile, of the Westside CBD (in 2006 and expected in 2030) to the CBDs of the same cities discussed above plus denser cities such as London, Tokyo and New York. The areas composing the Westside CBD exhibit an employment density similar to the CBDs of San Diego, Sacramento, and Phoenix, which are all served by LRT and commuter rail. Figure 1-20 offers aerial views of Westwood and Century City. These pictures confirm the dense commercial development on the Westside. While not comparable to New York City, the Westside secondary CBD has a higher number of jobs than many mid-sized American cities and is increasing in both density and total jobs. This comparison demonstrates that the employment densities exist within the Study Area to justify a fixed guideway transit investment.

Table 1-7. Total Employment and Employment Density Data of Comparable CBDs

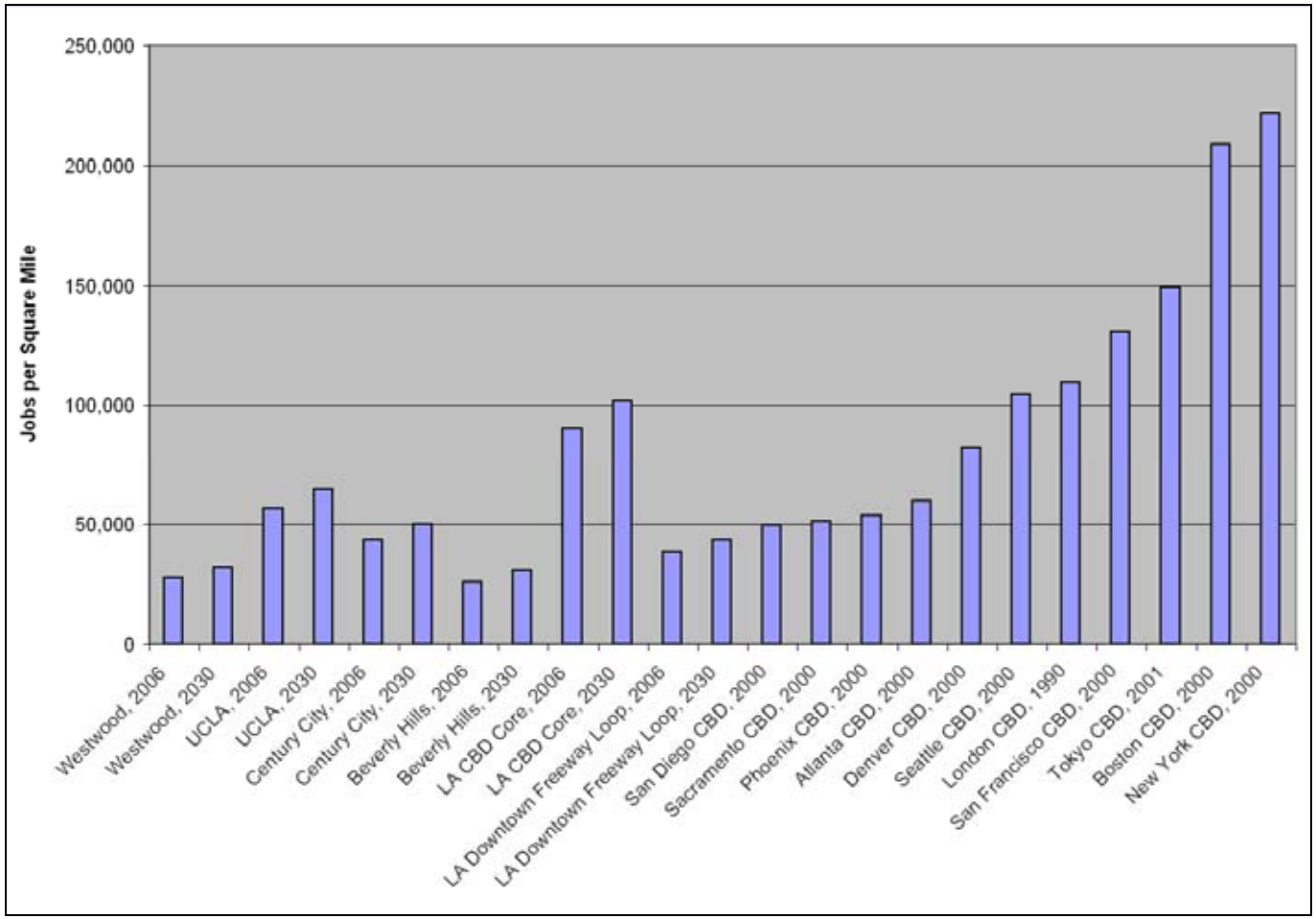
	Jobs	Area	Density	Year	Source
LA Westside Cities CBD*, 2006	146,715	4.29	34,199	2006	SCAG data
LA Westside Cities CBD*, 2030	170,797	4.29	39,813	2030	SCAG data
LA CBD Core, 2006	126,738	1.40	90,527	2006	SCAG data
LA CBD Core, 2030	142,624	1.40	101,874	2030	SCAG data
LA Downtown Freeway Loop, 2006	297,147	7.66	38,817	2006	SCAG data
LA Downtown Freeway Loop, 2030	332,760	7.66	43,470	2030	SCAG data
San Diego CBD, 2000	61,800	1.24	49,839	2000	Demographia
Sacramento CBD, 2000	64,800	1.26	51,429	2000	Demographia
Phoenix CBD, 2000	26,800	0.50	53,600	2000	Demographia
Atlanta CBD, 2000	129,800	2.17	59,800	2000	Demographia
Denver CBD, 2000	126,000	1.53	82,353	2000	Demographia
Seattle CBD, 2000	155,100	1.48	104,797	2000	Demographia
San Francisco CBD, 2000	305,600	2.34	130,600	2000	Demographia
Boston CBD, 2000	257,000	1.23	208,900	2000	Demographia
*LA Westside Cities CBD consists of:					
Westwood, 2006	17,945	0.65	27,608	2006	SCAG data, Westwood C district
Westwood, 2030	20,979	0.65	32,275	2030	SCAG data, Westwood C district
UCLA, 2006	35,177	0.62	56,737	2006	SCAG data, UCLA district
UCLA, 2030	40,145	0.62	64,750	2030	SCAG data, UCLA district
Century City, 2006	37,399	0.86	43,487	2006	SCAG data, Zones 736, 737, 738, 741
Century City, 2030	43,105	0.86	50,122	2030	SCAG data, Zones 736, 737, 738, 741
Beverly Hills, 2006	56,194	2.16	26,016	2006	SCAG data, Beverly Hills district
Beverly Hills, 2030	66,568	2.16	30,819	2030	SCAG data, Beverly Hills district

Chart 1-1. Total Employment of CBDs and Westside



Note: Westside CBD includes Westwood, UCLA, Century City, and Beverly Hills. LA Freeway Loop includes the area bounded by the 110, 10, 101, and 5 Freeways. Source: All data from Demographia United States Central Business Districts, based upon 2000 census, except Los Angeles CBD, LA Freeway Loop & Westside CBD, from SCAG data.

Chart 1-2. Employment Densities (Jobs per Sq. Mi) of CBDs and Westside



Note: LA Freeway Loop includes the area bounded by the 110, 10, 101, & 5 Freeways. Source: All data from Demographia United States Central Business Districts, based upon 2000 census, except London & Tokyo, from Demographia International Urbanized Area Analysis and Data Product; and Los Angeles CBD, LA Freeway Loop, UCLA, Beverly Hills, Century City & Westwood, from SCAG data.

Figure 1-20. Aerial View of Westwood and Century City Business Districts

Land Uses in Study Area are Transit Supporting

There is a widely recognized correlation between density and transit use. The existing activity centers in the Study Area include a large concentration of land uses considered to be transit supporting, such as high-density housing, commercial, and retail uses. As documented in *Commuting in America III* (Transportation Research Board, 2006), when population density is at least 15,000 persons per square mile, transit mode share starts increasing dramatically. Further, transit use also tends to increase when employment densities are high. Using this definition as a basis for analysis, the first of two maps in Figure 1-21 displays TAZs that could be considered transit supporting because their population densities exceed 15,000 persons per square mile. Since many portions of the Study Area are job rich, TAZs with a population density of less than 15,000 persons but a high employment density could also be considered transit supporting. The second map in Figure 1-21 illustrates those TAZs that exceed a combined density of 25,000 persons and/or jobs per square mile. This density measurement indicates a concentration of activity that attracts local and regional populations.

In Figure 1-22, peak transit trip attractions per 1,000 jobs are shown. The dark red TAZs specify portions of the Study Area where over 300 peak transit trips are taken for every 1,000 jobs. Land uses within these TAZs support high levels of transit use. As the figures demonstrate, transit-supporting land uses tend to be concentrated along the two major corridors in the Study Area: Santa Monica and Wilshire Boulevards. The Santa Monica Boulevard corridor generally includes medium-density commercial surrounded by medium density residential. The exceptions are in Beverly Hills, where low-density residential is typical north of Santa Monica between North Doheny Drive and Wilshire Boulevard, and in Century City where there is a concentration of high-density commercial office space. High-density commercial and residential uses line Wilshire Boulevard in certain areas within the Study Area. Major commercial centers line Wilshire Boulevard from the Wilshire/Western Station to Beverly Hills, throughout Westwood, and from Barrington Avenue to the Santa Monica City limit. Between Westwood and Beverly Hills high-density residential lines Wilshire Boulevard. The only portion of the Wilshire Corridor without significant densities is the Hancock Park neighborhood, which lies between La Brea Avenue and Crenshaw Boulevard.

Although these corridors range from medium- to high-density in both population and employment, only the eastern portions of these land use corridors are currently served by the Metro Rail System. The remaining portions are served by buses, including Metro Local, Metro Rapid, Santa Monica's Big Blue Bus, LADOT DASH, LADOT Commuter Express, Santa Clarita Transit, Culver CityBus, West Hollywood CityLine/DayLine, and Antelope Valley Transportation Authority.

These buses operate in the same lanes as automobiles, severely restricting their effectiveness in areas of such high density land uses.

History of Transit Usage in Study Area

Existing transit usage in the Study Area for all trip purposes is proportionally higher and more than double that of Los Angeles County (6.9 percent for the Study Area as compared to 3.4 percent for the County). Because there is a large base of existing transit service and transit patrons, increasing the transit mode share through increased service would represent a natural extension of existing patterns and trends.

Figure 1-21. Transit Supporting TAZs based on Population Density (2006) and Combined Population and Employment Densities (2006)

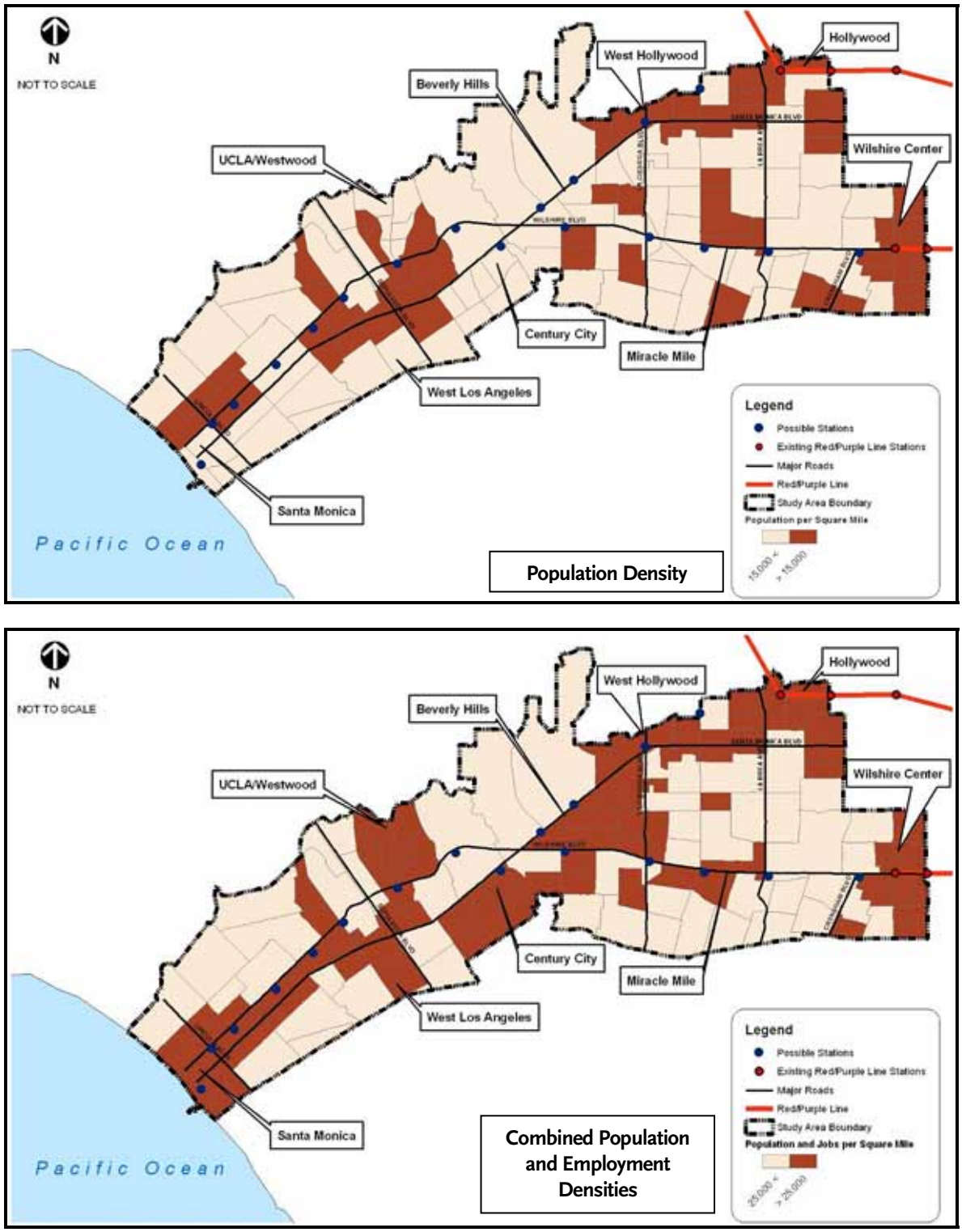
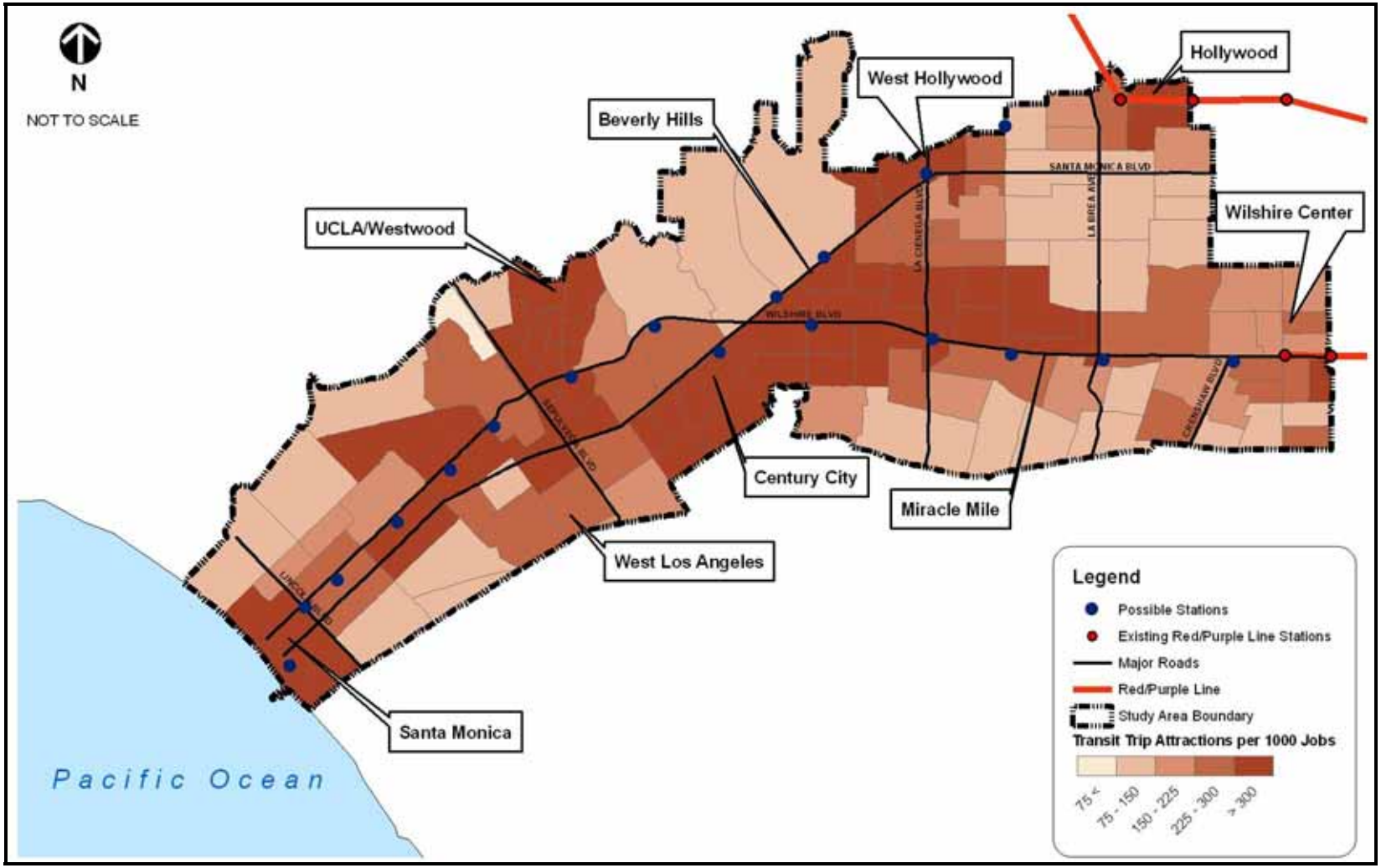


Figure 1-22. Peak Hour (Year 2006) Transit Trip Attractions per 1000 Jobs (TAZ)



In addition, because the Study Area includes a significant concentration of educational, cultural entertainment, and office centers, and because the area is one of the most densely populated areas in the region, a substantial amount of transit service and transit use has traditionally occurred. Transit ridership in the Study Area is best summarized using the Metro Travel Demand model. According to the 2006 model, the percentage of home-based work transit trips in the Study Area was more than double that of the County (16 percent for the Study Area versus 7 percent for the County).

Based on the model data, 22 percent of all peak work transit trips in Los Angeles County originate in or are attracted to the Study Area. With just 5 percent of the County's population, this high level of transit use establishes the need to serve the area with high-capacity fixed guideway service that will offer improvements in mobility and access over existing service. This demand, expressed in terms of transit trips originating in or drawn to the Study Area, warrants a higher percentage of high-capacity transit investment than it has received in the last twenty years.

Decreased Mobility for Transit Dependent Riders

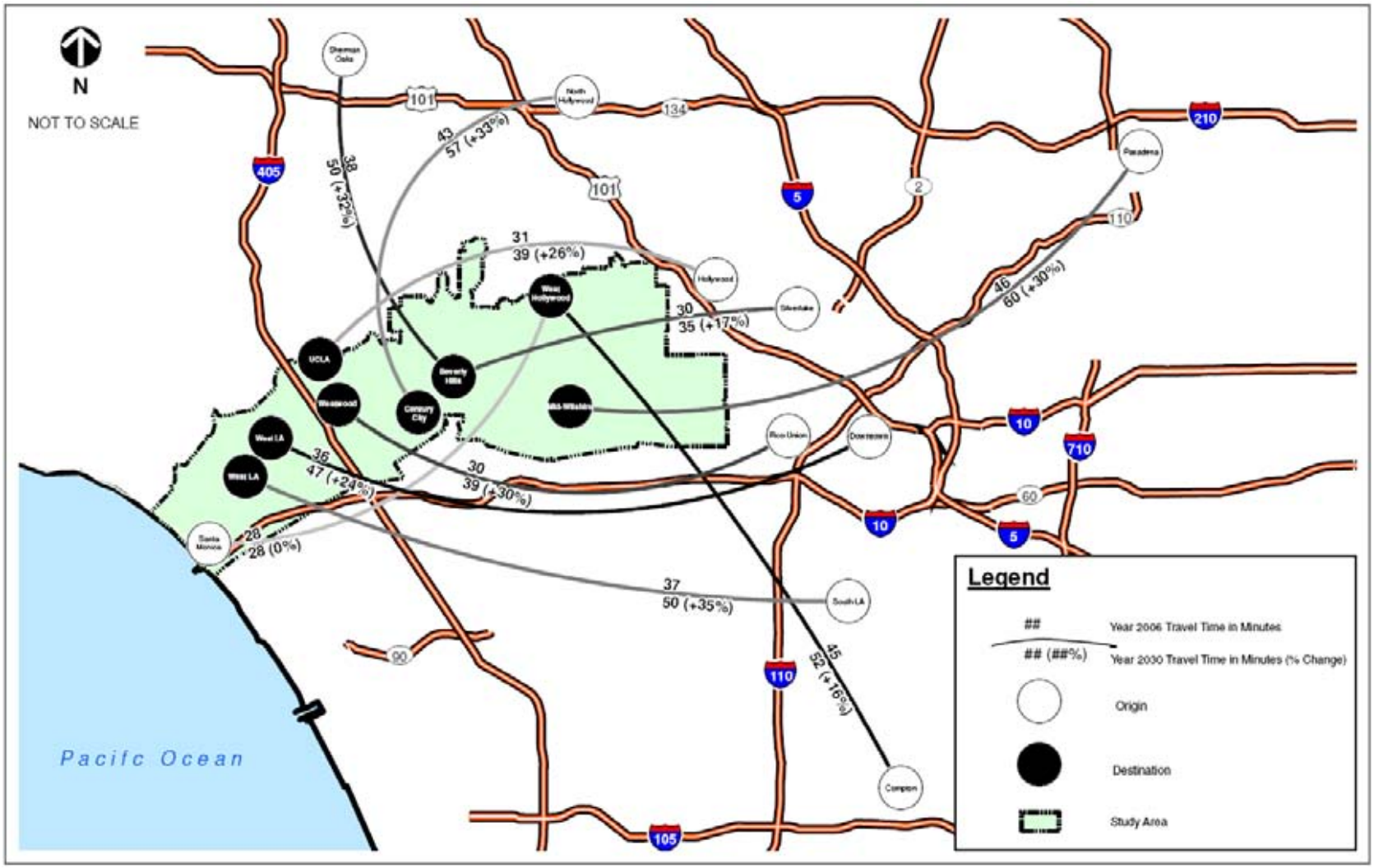
Although the far eastern portion of the Study Area is served by the Metro Red and Purple Lines, there is no significant transit infrastructure in the majority of the Study Area that allows existing service to circumvent the worsening traffic congestion. Job and population growth expected through 2030 will lead to ever-increasing vehicle trips, which affects the ability of buses operating in mixed-flow traffic to serve riders effectively. Members of transit-dependent households are faced with greater travel times as congestion increases. Thus, the lack of westward serving transit infrastructure significantly affects the job accessibility and socioeconomic mobility of lower income and transit-dependent households.

This poor accessibility is illustrated in Figure 1-23, which shows average in-vehicle travel time to work for ten typical morning work commutes in 2006 and 2030 (predicted). Each analyzed commute has a residential origin or employment destination in the Study Area. Commutes with origins and destinations such as Hollywood to UCLA, Silver Lake to Beverly Hills, and Santa Monica to West Hollywood are represented in the figure. Not surprisingly, the in-vehicle travel times are products of serious congestion, with travel speed averaging just 20.8 mph for these ten typical commutes in 2006. The average speed of these ten typical commutes will decrease to 16.5 mph by 2030. Travel time to work will increase by 26 percent between 2006 and 2030. Without major transit infrastructure improvements, travel time to work will increase in all ten analyzed commutes by 2030. By transit, these commutes would take significantly longer than by automobile implying a serious mobility problem for transit dependent riders. These typical commutes could be improved with the addition of a high-capacity east-west transit service within the Study Area.

Desire to Attract Choice Riders Strengthens the Need for Transit Improvements

The choice rider is an individual who has the resources to drive, but chooses to reach their destination by public transit instead. Choice riders are desirable because this group substitutes transit trips for vehicle trips, which offers environmental benefits and congestion relief for the region. High-speed, high-quality, and reliable transit has the greatest chance to attract the choice rider. A fixed-guideway system traveling east-west through the Study Area would offer travel time certainty and faster travel than the automobile during peak hours, an assurance that cannot be offered by existing bus service. The wealth of educational, cultural, entertainment and shopping destinations in the Study Area suggests a high latent demand for transit among many different population groups that have access to vehicles, ranging from students and visitors to workers and residents.

Figure 1-23. AM Peak Hour Travel Time to Work by Auto for 2006 and 2030



Study Area Share of Regional Population and Employment Growth Remains High

As shown in Table 1-8, population forecasts to 2030 adopted by SCAG clearly suggest that the Study Area will capture a large share of population and job growth over the next 22 years, thereby placing further demands on transit service and resulting in increased congestion on local roadways and regional highways serving the Study Area.

Table 1-8. Population and Employment Forecast

	2006	2030	Forecast Increase Between 2006-2030
Population (Persons)			
Study Area	503,802	557,665	10.7%
LA County	10,076,040	12,123,152	20.3%
Study Area – % of LA County	5.0%	4.6%	
Employment (Jobs)			
Study Area	478,770	560,488	17.1%
LA County	4,648,252	5,661,495	21.8%
Study Area – % of LA County	10.3%	9.9%	

Source: 2006 Metro Travel Demand Model

According to SCAG's forecast, the Study Area is expected to grow by 54,000 persons (10.7 percent increase) and 82,000 jobs (17.1 percent increase) between 2006 and 2030. While other regions of the county have low population and employment densities that suggest favorable growth conditions, SCAG projections show remarkable double-digit growth in both population and employment in the Study Area, which is already largely built out. The jobs-housing balance in the Study Area is predicted to continue to favor jobs over housing, resulting in greater regional transportation needs, especially from non-automobile modes to alleviate the strain on the Study Area's roadways.

Existing and Future Travel Demand Patterns Justify Transit Improvements

The Study Area attracts hundreds of thousands of trips each day from all areas of Los Angeles County. Growth levels in both population and employment will further exacerbate travel demand. Without a high-quality transit infrastructure investment, this growth in travel demand will largely be satisfied with increased vehicle travel. Travel growth projection characteristics for the Westside Extension Transit Corridor Study Area were obtained and summarized from the Metro Travel Demand Model. Three of the most meaningful categories of travel characteristics are:

- Total Daily Person Trips – the number of one-way trips made by all persons within a 24-hour period.
- Daily Home-Work Person Trips – the number of one-way trips made by all persons between home and work locations within a 24-hour period.
- Daily Transit Person Trips – the number of one-way trips made by all persons on transit within a 24-hour period.

A summary of these statistics compiled for 2006 and 2030 are presented in Table 1-9. Roughly 3.2 million daily trips are internal[2] to the Study Area which equates to 57 percent of all trips produced in or attracted to the Study Area. The Study Area attracts close to 3.3 million trips on an average weekday, signifying the area's importance as an employment generator and cultural destination. By 2030, this number is estimated to increase to nearly 3.8 million trips. Total Study Area person trips productions and attractions are expected to increase by 15 percent between 2006 and 2030. Home-based peak work and daily transit trips are expected to increase at similar rates.

Table 1-9. Summary of Study Area Person Travel Characteristics

	2006	2030	% Growth
Study Area Trip Productions and Attractions			
Total Daily Person Trips	5,631,245	6,467,913	15%
Home-Based Work Peak Person Trips	623,275	726,183	17%
Daily Transit Trips	386,728	470,432	22%
Home-Work as a Percentage of Total Trips	11.1%	11.2%	
Transit as a Percentage of Total Trips	6.9%	7.3%	
Study Area Internal Trips			
Total Daily Person Trips	3,188,902	3,605,008	13%
Home-Based Work Peak Person Trips	174,880	198,862	14%
Daily Transit Trips	149,904	178,140	16%
Home-Work as a Percentage of Total Trips	5.5%	5.5%	
Transit as a Percentage of Total Trips	4.7%	4.8%	

Source: 2006 Metro Travel Demand Model

These current and future travel characteristics demonstrate a growing demand for travel within the Study Area. By 2030, Study Area home-based peak work trip productions and attractions will increase by 17 percent. Internal home-based peak work trips are expected to increase by 14 percent, pointing to the strong desire of many Westside residents to work close to where they live. Daily Study Area transit trip productions and attractions are expected to increase at a higher rate than total daily or home-work trips between 2006 and 2030. With few transit infrastructure investments planned, this increase denotes significant and growing bus ridership in the Study Area. The Study Area's travel demand patterns illustrated in this section offer further justification for major transit infrastructure investments.

Peak Hour Roadway Congestion Underlies the Need for Transit Improvements

Los Angeles has the dubious distinction of being the most congested urban area in the country, according to the most recent survey of traffic congestion levels conducted by the Texas Transportation Institute.[3] The Westside Extension Transit Corridor Study Area in turn contains some of the most congested traffic conditions in Los Angeles. Typical rush hours on the Westside of Los

[2] An internal trip is both a production and an attraction, which allows for these trips to be counted twice.
3 Texas Transportation Institute. *The 2007 Urban Mobility Report*, Table 1.

Angeles extend from 6:30 to 10:00 a.m. and 3:00 to 7:00 p.m. A typical automobile commute along Wilshire Boulevard from Santa Monica to Beverly Hills over a distance of eight miles can take upwards of 60 minutes on a typical weekday evening. Morning and evening peak hour speeds along Santa Monica Boulevard in Beverly Hills average less than 7 miles per hour (mph).

Investment in high-capacity fixed guideway transit service inside the Study Area will yield significant travel time benefits over mixed-flow bus service. Where congestion continues to degrade bus service, the fixed-guideway alternative improves mobility not only by offering travel times that are competitive with, if not faster than the automobile, but also by providing travel time certainty. Table 1-10 and Figure 1-24 reveal the reduction in travel time expected from a HRT transit investment in the Study Area by comparing those values to existing mixed-flow Metro Rapid Bus Service. The travel time improvement is significant for the Westside Extension Transit Corridor. In terms of percentage improvement, it is greater than the observed or expected travel times for recently completed or committed east-west fixed guideway transit corridor projects in the Los Angeles region.

Table 1-10. Travel Time Comparison – Fixed Guideway Transit Projects

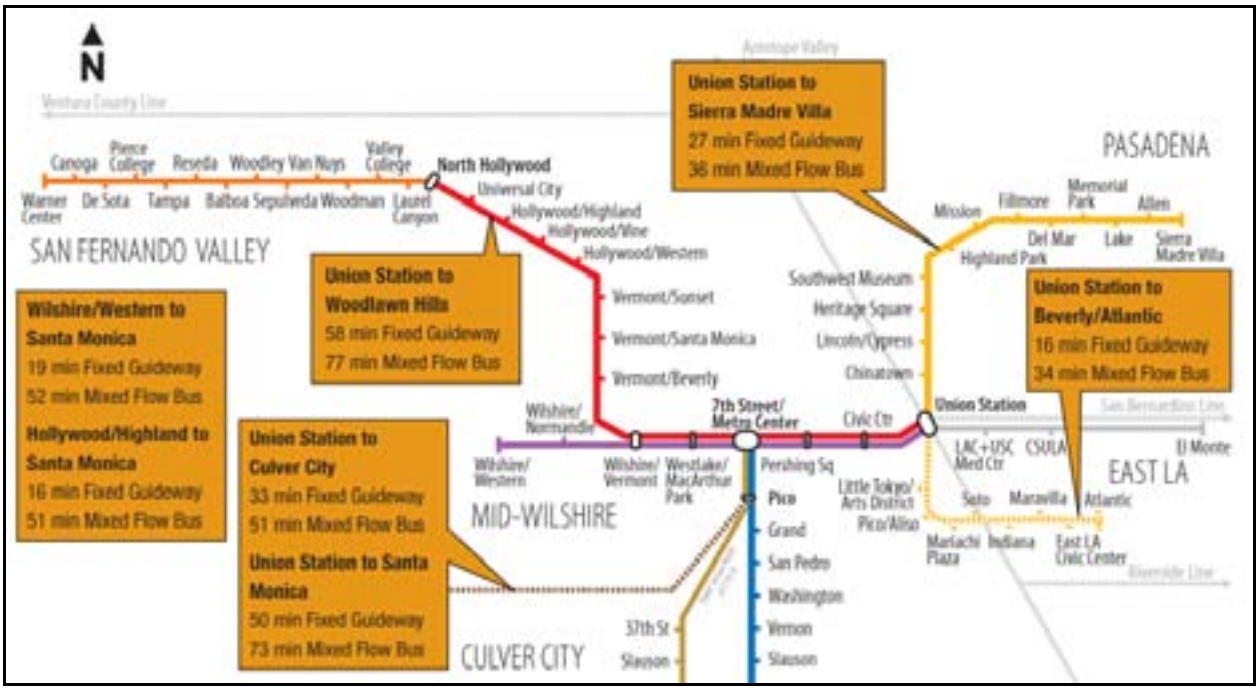
Transit Corridor	From	To	Fixed-Guideway Travel Time (Min)	Mixed Flow Bus Travel Time (Min)	Fixed-Guideway Improvement over Mixed-Flow Bus
Orange Line/Red Line	Union Station	Woodland Hills	58	77	25%
Gold Line	Union Station	Sierra Madre Villa	27	36	25%
Gold Line	Union Station	Beverly/Atlantic	16	34	53%
Expo Line	Union Station	Culver City	33	51	35%
Expo Line	Union Station	Santa Monica	50	73	32%
Westside Extension	*Wilshire/Western*	*Santa Monica*	*19*	*52*	*63%*
Westside Extension	*Hollywood/Highland*	*Santa Monica*	*16*	*51*	*69%*

Source: Travel times obtained from Metro. Mixed flow bus travel times are displayed as averages.

Peak Hour Congestion along Santa Monica Freeway Reveals Study Area Job and Population Growth

The traffic volumes along the Santa Monica Freeway serve as a primary indicator of how commuting travel patterns now include destinations other than downtown Los Angeles. This facility runs just south of the Study Area and is the primary transportation facility serving east-west travel between downtown Los Angeles and Santa Monica. In the 1970s, commute patterns were heavily oriented from the Westside toward downtown Los Angeles. The freeway was heavily congested in the eastbound direction in the morning peak hours and in the westbound direction in the afternoon peak hours. With the significant increase in jobs in the Study Area generated by the entertainment, business services, and high-tech sectors, the commute patterns have evened out; now both directions are heavily congested during both peak periods. In fact, traffic volumes are very heavy in both directions all day long.

Figure 1-24. Fixed Guideway and Mixed Flow Bus Travel Times for Transit Corridors



The Santa Monica Freeway (I-10) carries traffic volumes approaching 300,000 vehicles per day, and each direction experiences peak periods of congestion levels rated at F3, meaning that the freeway operates at LOS F conditions for more than three hours in each peak travel period. Table 1-11 provides a comparison of volumes between 1996 and 2006 on the Santa Monica Freeway in the Study Area. Anyone living east of downtown Los Angeles and working in Santa Monica is well aware of the increasing congestion west of the 405 Freeway. Eastbound traffic in the evening is gridlocked from Santa Monica to downtown Los Angeles. This change in travel patterns mirrors the entertainment, media, and high-tech business growth in the western portion of the Study Area. The analyzed freeway segments show an increase in peak hour traffic volumes between 3 and 9 percent over the ten year study period.

Study Area Lacks Planned Transportation Improvements

The Study Area, with its high population and employment densities, will receive only limited transportation infrastructure improvements through 2030. With the exception of a 12.5 mile bus-only lane project along Wilshire Boulevard, and the implementation of the Exposition LRT project south of the Study Area, all other planned improvements address north-south capacity issues. They include San Diego Freeway high occupancy vehicle (HOV) lanes and interchange improvements, as well as various north-south arterial projects along Lincoln Boulevard, Bundy Drive, Sepulveda Boulevard, Robertson Boulevard, and Western Avenue. No planned improvements will fully address the significant capacity deficiencies on east-west facilities in the Study Area. Without the development of a network of bus-only lanes, most transit service will likely remain as mixed-flow bus service, except for the planned Wilshire Bus Lanes Project.

Table 1-11. Traffic Volume Trends on the Santa Monica Freeway (I-10)

Segment	Westbound		Eastbound	
	1996	2006	1996	2006
AM Peak Hour				
Centinela to Bundy	7,540	8,140	6,920	7,470
Bundy to I-405	9,170	9,840	8,410	9,030
National to Robertson	10,950	11,230	10,050	10,310
Venice to La Brea	10,160	11,070	8,760	9,540
PM Peak Hour				
Centinela to Bundy	6,880	7,420	6,080	6,560
Bundy to I-405	8,360	8,980	7,390	7,940
National to Robertson	9,990	10,240	8,830	9,060
Venice to La Brea	9,270	10,100	8,290	9,040

Source: Caltrans.

In addition to these specific projects, several categories of countywide funding could be allocated to projects through the Metro Call for Projects process: Non-Motorized, Operations & Maintenance, Signal Synchronization and Intelligent Transportation Systems (ITS), Regional Surface Transportation Improvements, Travel Demand Management (TDM), Transit Centers/Park-and-Ride, and Traveler Information. Local jurisdictions, including those in the Study Area, will propose projects and compete for funding in these categories over the course of the next two decades, but none are likely to be of such regional significance as to address the east-west traffic congestion problems endemic throughout the Study Area.

Local Policies for Dealing with Congestion are Oriented towards Transportation Demand Management and Transit Solutions

Because of the level of build-out and density in the Study Area, local jurisdictions have generally determined through their local policies that congestion relief improvements should focus on travel demand management and increased ride sharing and transit usage, rather than highway/arterial physical improvements, such as road widening or new roadways. In a number of cases, local communities that desire to eliminate cut-through and neighborhood traffic to support more livable downtown or commercial areas are supporting initiatives to limit roadway capacity or to slow traffic flow, leaving transit improvements as the only viable alternative to reduce traffic volumes and congestion related delays and improve mobility.

To assist in the implementation of the Regional Comprehensive Plan and the associated Regional Transportation Plan, SCAG has decentralized local jurisdiction participation into specific subregions. The Westside Extension Transit Corridor is encompassed by the Westside Cities Subregion[4] and by the Los Angeles Subregion.

[4] The Westside Cities Subregion includes Beverly Hills, Culver City, Santa Monica, and West Hollywood. Culver City municipal boundaries are located outside the Westside Extension Transit Corridor Study Area.

In the cities on the Westside, policy-makers have taken strong positions against the wholesale widening of streets and narrowing of sidewalks to accommodate more travel lanes. Localized Transportation System Management (TSM) improvements, such as additional turn lanes or signal phasing changes, have been supported, but the arterial network in the Westside is essentially built out. In this highly urbanized area, the types of transportation improvements that have the support of the policy makers are intelligent transportation systems projects and livable communities programs. Future increases in travel demand will have to be accommodated by making the existing highway network work better where possible, in conjunction with increased usage of transit and other (i.e., non-motorized) modes of transportation. Throughout the Westside, efforts are also underway in all jurisdictions to make it harder for automobile traffic to seek alternate routes through residential neighborhoods. These traffic calming programs will further concentrate commuter traffic on already congested arterial streets and highways.

In October 2003, the Westside Cities Council of Governments (COG) published the *Westside Mobility Study*, a report that focused on practical short- and long-term transportation solutions in the Study Area. The report concluded that major regional transit improvements are warranted based on the Westside's traffic congestion, high employment and population densities, economic contribution, and inequity of past regional investments on the Westside compared to other subregions in the county.

Strategy to respond to Climate Change as mandated by State Law

The Westside Extension Transit Corridor is fully contained within the South Coast Air Basin, which has some of the worst air quality in the nation (United States Environmental Protection Agency, USEPA). Mobile source emissions from vehicles are the single largest contributor to air quality problems in the basin. Therefore, a complete description of transportation issues in the corridor must address air quality concerns. Agencies that have jurisdiction over the air quality of the Study Area include the USEPA, the California Air Resources Board (CARB), and the South Coast Air Quality Management District (SCAQMD).

On September 27, 2006, Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006, was enacted by the State of California. The legislation states that "global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California." AB 32 caps California's greenhouse gas (GHG) emissions at 1990 levels by 2020. AB 32 defines greenhouse gas emissions as all of the following gases: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydro fluorocarbons, per fluorocarbons and sulfur hexafluoride. This bill represents the first enforceable statewide program in the United States to cap all GHG emissions from major industries and include penalties for non-compliance. While acknowledging that national and international actions will be necessary to fully address the issue of global warming, AB 32 lays out a program to inventory and reduce GHG emissions in both California and from power generation facilities located outside the State that serve California residents and businesses.

AB 32 charges the CARB with the responsibility of monitoring and regulating sources of GHG emissions in order to reduce those emissions. The CARB has adopted a list of discrete early action measures that can be implemented before January 1, 2010 to reduce GHG emissions. By January 1, 2008, the CARB must define the 1990 baseline emissions for California and adopt that baseline as the 2020 statewide emissions cap. The CARB is then tasked to establish a set of rules that is scheduled for adoption by January 1, 2011 for reducing greenhouse gas emissions to achieve the emissions cap by 2020. These rules must take effect no later than 2012. In designing emission reduction measures, the CARB must aim to minimize costs, maximize benefits, improve and

modernize California's energy infrastructure, maintain electric system reliability, maximize additional environmental and economic benefits for California, and complement the State's efforts to improve air quality.

At this time, the USEPA does not regulate GHG emissions. In April 2007, the USEPA issued an important ruling in its first case on global warning. In the case of Massachusetts v. USEPA, the United States Supreme Court reviewed a USEPA decision not to regulate greenhouse gas emissions from cars and trucks under the Clean Air Act. The Court found that Massachusetts was injured by global warming. The lawsuit focused on Section 202 of the Clean Air Act. The case resolved the following legal issues: (1) the Clean Air Act grants the USEPA authority to regulate GHG, and (2) USEPA did not properly exercise its lawful discretion in deciding not to promulgate regulations.

Global warming and climate change have received substantial public attention for more than 15 years. For example, the United States Global Change Research Program was established by the Global Change Research Act of 1990 to enhance the understanding of natural and human-induced changes in the Earth's global environmental system, to monitor, understand, and predict global change, and to provide a sound scientific basis for national and international decision making.

The Westside Extension Transit Corridor Project would provide transit infrastructure improvements potentially including BRT, LRT, and/or HRT. Each of these transit modes would provide the Study Area with an energy efficient way of reducing the number of vehicles on roadways and freeways. Therefore, the project would contribute to the improvement of Southern California's regional and local air quality. Development of high-capacity transit service that provides an alternative to the automobile is a key factor in advancing the region's environmental sustainability goals and assists in the fight against global warming.

1.7 Potential Transit Market

This section identifies the travel markets for the Westside Extension of the Metro Purple Line/Red Line. The travel markets were determined based on the identification of activity centers, review of population and employment distribution, and analysis of travel-making patterns in the Westside Extension Transit Corridor Study Area and the Southern California region. The purpose of the market analysis is to help determine the potential level of ridership resulting from the Westside Extension, the types of trips that could be served (e.g., work, school, entertainment, etc.), and areas of trip origins and/or destinations that would likely receive the highest benefit from the Westside Extension.

1.7.1 Activity Centers

The Westside Study Area has a high concentration of activity centers and major attractions. In addition to the countless local metropolitan and neighborhood centers, many regional and world-famous commercial, business, cultural, entertainment and education facilities are in the Study Area. Figure 1-18 in Section 1.7 shows the "centers" from the Centers Concept Plan for the Los Angeles Area. Many of these centers are located in the Westside Corridor and have been growing in number over the past 40 years. Those activity centers recognized as regional employment, educational and cultural draws are illustrated in Figure 1-19. These centers, along with other major destinations, are discussed below.

Business: Businesses and office buildings are clustered throughout the 16-mile Wilshire Boulevard corridor from downtown Los Angeles to the Pacific Ocean. In the Westside Study Area, the major business districts are: Koreatown (Wilshire/Vermont to Wilshire/Western), Century City (Santa Monica/Avenue of the Stars), Beverly Hills, Westwood, UCLA, I-405/Olympic Boulevard area, and downtown Santa Monica.

Commercial: Rodeo Drive, Hollywood/Highland and Sunset Strip are world famous retail destinations in the Study Area. Rodeo Drive generally refers to a three-block stretch of boutiques and shops in Beverly Hills (near Wilshire/Beverly Drive), known as one of the most expensive shopping districts in the world. Hollywood/Highland, which is more popularly known as the Hollywood Walk of Fame area, attracts millions of domestic and international tourists every year. This area encompasses the Walk of Fame, Kodak Theater (and its attached shopping mall), Grauman's Chinese Theater, Hollywood Wax Museum, and other nearby tourist sites. Sunset Strip is a mile and a half stretch of Sunset Boulevard that passes through the City of West Hollywood. The strip embraces a premier collection of rock clubs and nightclubs, boutiques, and restaurants on the cutting edge of the entertainment business.

There are also many regional shopping/entertaining attractions in the Study Area, including The Grove/Farmers Market (3rd Street/ Fairfax), the Santa Monica 3rd Street Promenade, Beverly Center Shopping Mall (Beverly/La Cienega), Century City Westfield Shopping Mall, and Westside Pavilion Shopping Center (Westwood/Pico).

Institutional: UCLA is a world-class research university near Wilshire/Westwood in the Study Area. It currently enrolls more than 36,000 students. Including its medical center and hospital, UCLA has more than 36,000 employees and is the 5th largest employer in the City of Los Angeles. The Veteran's Administration, sandwiched between UCLA and West LA, provides medical services to veterans from all over Southern California. The Cedars-Sinai Medical Center, a nationally-recognized medical facilities and one of the largest hospitals in Los Angeles, is located along Beverly Boulevard near Fairfax Avenue. In addition, both Santa Monica College and Saint John's Health Center are located within the Study Area.

Cultural: The LACMA is a world-renowned art museum on the "Miracle Mile", a stretch of Wilshire Boulevard between Fairfax and Curson Avenues – midway between downtown Los Angeles and Santa Monica. It lies within the Miracle Mile, one of the city's most densely populated areas that is notorious for heavy traffic congestion even by Los Angeles standards. It is also adjacent to the Grove/Farmers Market shopping area. UCLA's Hammer Museum, the Pacific Design Center, Peterson Automotive Museum, and many other cultural draws are located within the Study Area.

Figure 1-19 shows that most of the major trip generators in the Westside are along or in close proximity to the Wilshire Corridor. There are three Metro buses serving the length of Wilshire Boulevard: Route 20/21 (Metro Local), Route 720 (Metro Rapid), and Route 920 (Metro Rapid Express). Combined, these three routes generate over 70,000 boardings per day. Route 720 has the highest ridership among the Metro bus network. Santa Monica's Big Blue Bus, Commuter Express, and the Antelope Valley Transportation Authority (AVTA) also provide service on Wilshire Boulevard. The Big Blue Bus averages approximately 69,000 daily boardings throughout the system, and Lines 1 and 2 on Wilshire Boulevard have combined daily boardings of approximately 13,000 boardings. AVTA averages approximately 10,000 daily boardings. LADOT Commuter Express averages over 1,000 daily boardings, and LADOT DASH averages over 7,600 daily boardings.

Table 1-12 shows the transit usage of fifteen activity centers in the Westside. All the high activity TAZs have a transit trip density over 6,700 trips per square mile, which is more than 100 times of that of the region and 20 times that of Los Angeles County. For Century City, UCLA, Beverly Center, and Koreatown, more than 8 percent of the person trips were taken on transit in 2006. They are among the top transit trip attracting centers in the Study Area, as well as the entire region.

Table 1-12. Year 2006 Transit Trips of Activity Centers in the Westside Study Area

Activity Center	Area (Sq. Mile)	Transit Trips	Transit Trips Density	Person Trips	Person Trips Density	% Transit Trips of Person Trips
Santa Monica Pier/Beach	0.17	1,578	9,085	26,068	150,075	6.1%
Downtown Santa Monica/3rd Street	0.49	4,755	9,780	75,100	154,463	6.3%
Colorado Place	0.52	1,237	2,382	27,848	53,626	4.4%
Brentwood	0.66	1,322	1,995	24,649	37,189	5.4%
Westside Pavilion	0.35	2,377	6,791	35,723	102,066	6.7%
Westwood	0.53	7,527	14,288	86,102	163,443	8.7%
UCLA	0.62	15,392	24,850	175,421	283,211	8.8%
Century City	1.17	21,725	18,646	190,920	163,866	11.4%
Beverly Hill/Rodeo Drive	0.22	3,570	16,543	41,555	192,563	8.6%
Beverly Center/Cedars Sinai	0.95	10,344	10,891	125,855	132,507	8.2%
Sunset Strip	0.71	5,105	7,239	86,980	123,341	5.9%
Grove/Farmer's Market	0.48	1,791	3,710	26,820	55,551	6.7%
Miracle Mile	0.99	6,321	6,362	90,497	91,080	7.0%
Wilshire Center	0.38	5,997	15,832	72,856	192,334	8.2%
Hollywood	0.94	8,477	8,998	129,705	137,676	6.5%
Westside Study Area	**38.42**	**194,698**	**5,068**	**2,815,623**	**73,285**	**6.9%**
Region	**38,502**	**1,390,919**	**36**	**58,988,100**	**1,532**	**2.4%**

1.7.2 Districts

The Study Area is diverse in land use and socioeconomic characteristics. To better summarize the socioeconomic features and identify major travel patterns, the Study Area and the surrounding region is divided into districts. Figure 1-25 shows the district divisions of the whole region and Figure 1-26 focuses on the district definition of the Study Area.

The Study Area is divided into 23 districts and the entire region is divided into 76 districts. In the Study Area, the cities of Santa Monica, Beverly Hills, and West Hollywood were separated into individual districts. Each neighborhood council in the City of Los Angeles was defined as a single district. If the city or neighborhood council was divided by the boundary of the Study Area, it was split into two or three smaller districts. Outside the Study Area there are 53 districts, composed of

Figure 1-25. Districts for Study Area and Region

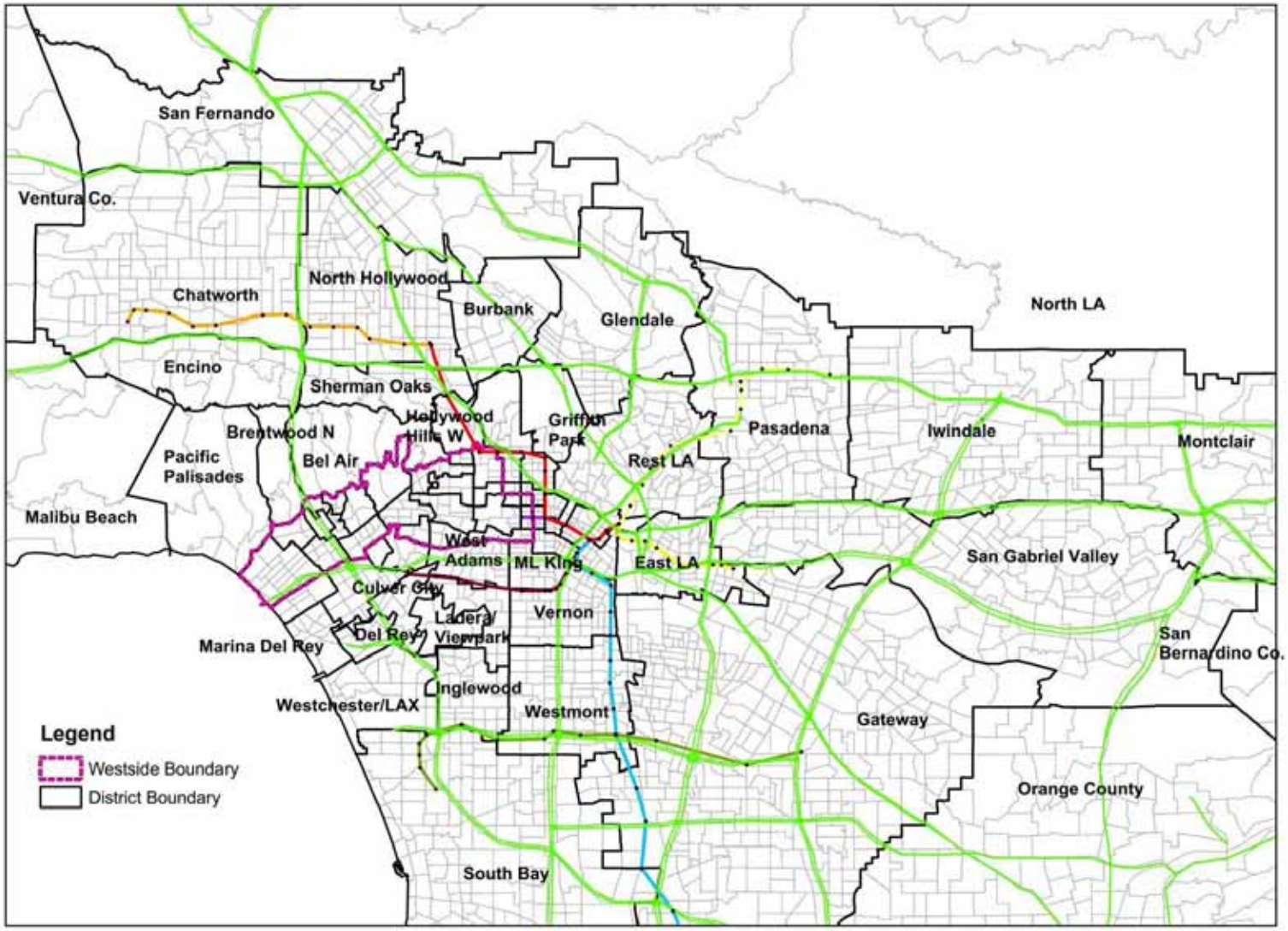
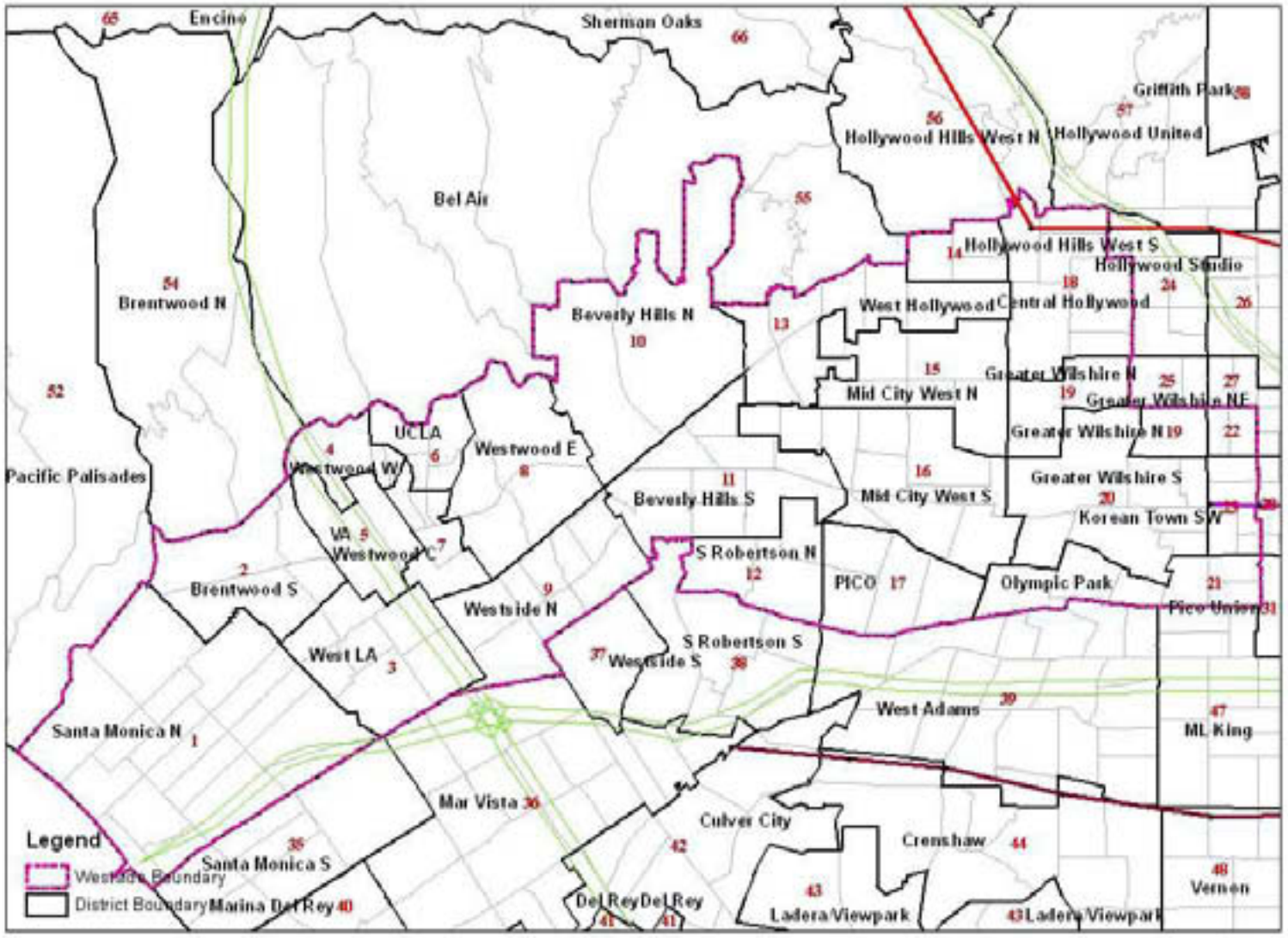


Figure 1-26. Districts within Study Area



counties outside of Los Angeles County, and other sub-regions and communities within Los Angeles County. The San Fernando Valley area was divided into several districts by using major freeway facilities as boundaries. Since previous studies show that there are substantial person and transit trips between the valley and the Westside Study Area, the subdivision of the valley could help to better delineate the travel pattern between the Valley and Westside. The counties outside Los Angeles, Orange County, Ventura County, San Bernardino County and Riverside County (including Imperial County), are each represented by a district.

Table 1-13 summarizes the main land uses of the 23 districts in the Study Area. The activity centers discussed previously are also identified for each district. This information is useful in understanding the population, employment and trip making patterns discussed later in the chapter.

1.7.3 Population

In 2006, the population of the Study Area was 504,000, about 5 percent of the Los Angeles County population. According to SCAG population projections, there will be 558,000 people in the Study Area by 2030, a 10.7 percent growth rate over 2006.

Table 1-14 lists the population and population density by district in the Study Area. In both 2006 and 2030, the Santa Monica North District has the highest population and the Koreatown Southwest District has the highest population density, with over 53,000 people per square mile. The population density of the Study Area is about five times that of Los Angeles County and about 25 times that of the entire region. It is also higher than that of City of Long Beach and City of Pasadena.

Figure 1-27 and Figure 1-28 illustrate the population density by TAZ in 2006 and 2030, respectively. In general, the population density of the Study Area is much higher than outside the area. In addition to Koreatown, districts in the Study Area that currently have a high population density (above 15,000 people per square mile) include South Robertson North, Olympic Park, the West LA and Westwood districts along Wilshire Boulevard, and the Hollywood districts along Sunset/Santa Monica Boulevards. By 2030, the population density of the Hollywood Hills West South District is expected to reach the range above 30,000 people per square mile, and over half of the districts will have a population density above 15,000 people per square mile. As discussed earlier, TAZs with a population density of exceeding 1,500 people per square mile are considered transit supportive.

Outside the Study Area, the districts with the highest population densities are MacArthur, Rampart, West Lake, East Hollywood, and Pico Union, all of which are close to the eastern boundary of the Study Area.

1.7.4 Employment

The total number of jobs in the Study Area was 479,000 in 2006 and is projected to be 560,000 in 2030 according to SCAG. The anticipated employment growth rate is approximately 17 percent, higher than the population growth rate during the same period. The Westside area is a very job-rich area, accounting for about 10 percent of employment in Los Angeles County.

Table 1-13. Land Use and Activity Centers in Each District of the Study Area

District #	District Name	Main Land Use	Activity Centers
1	Santa Monica N	Commercial, Business, Medium to High Density Residential, Institutions	Santa Monica Pier/Beach, 3rd Street, Downtown, Colorado Place
2	Brentwood S	Commercial, Business, Low Density Residential, Open Space	Brentwood
3	West LA	Commercial, Business, Medium to High Density Residential	
4	Westwood W	Low to Medium Density Residential	
5	VA	Institutional (Government, Hospital), Open Space	
6	UCLA	Institutional (Education), Business, Medical	UCLA, Westwood
7	Westwood C	Commercial, Institutional, Business	UCLA, Westwood
8	Westwood E	Low to Medium Density Residential, Open Space	
9	Westside N	Low to Medium Density Residential, Commercial, Business	Century City, Westside Pavilion
10	Beverly Hills N	Low Density Residential	
11	Beverly Hills S	Commercial, Business, Institutional, Low to Medium Density Residential	Beverly Hills/Rodeo Drive
12	S Robertson N	Residential	
13	West Hollywood	Commercial, Medium to High Density Residential	Sunset Strip
14	Hollywood Hills West S	Commercial, Medium to High Density Residential	
15	Mid City West N	Residential, Institutional	
16	Mid City West S	Commercial, Institutional (Culture & Medical), Residential	Grove/Farmer's Market, Beverly Center/Cedars Sinai, Miracle Mile
17	Pico	Low Density Residential	
18	Central Hollywood	Commercial, Institutional, Industry, Medium to High Density Residential	Hollywood
19	Greater Wilshire N	Low to Medium Density Residential	
20	Greater Wilshire S	Low Density Residential, Commercial, Institutional	
21	Olympic Park	Low Density Residential	
22	Koreatown NE	Low to Medium Density Residential, Commercial	
23	Koreatown SW	Commercial, Business, Medium to High Density Residential, Institutional	Wilshire Center/Koreatown

Table 1-14. Population and Population Density by District in Westside Study Area, Year 2006 and Year 2030

District #	District Name	Area, Sq. Mi.	2006 Population	2006 Pop Density per sq mi	2030 Population	2030 Pop Density per sq mi
1	Santa Monica N	5.68	60,195	10,590	64,176	11,291
2	Brentwood S	1.77	18,774	10,583	20,864	11,761
3	West LA	1.83	29,249	15,992	32,541	17,792
4	Westwood W	0.60	8,741	14,617	10,111	16,908
5	VA	0.97	1,060	1,089	1,255	1,290
6	UCLA	0.62	6,448	10,417	6,855	11,074
7	Westwood C	0.65	15,355	23,806	17,406	26,986
8	Westwood E	2.04	19,736	9,698	21,846	10,735
9	Westside N	1.94	19,838	10,252	22,020	11,380
10	Beverly Hills N	3.51	9,683	2,757	10,818	3,080
11	Beverly Hills S	2.16	25,502	11,806	28,510	13,199
12	S Robertson N	1.09	18,628	17,043	20,645	18,888
13	West Hollywood	1.88	36,400	19,362	39,094	20,795
14	Hollywood Hills West S	0.55	16,061	29,149	17,819	32,339
15	Mid City West N	1.74	20,648	11,894	23,123	13,320
16	Mid City West S	2.59	37,460	14,491	41,941	16,225
17	PICO	1.36	19,140	14,125	21,326	15,739
18	Central Hollywood	1.89	36,086	19,113	40,063	21,220
19	Greater Wilshire N	1.11	11,254	10,102	12,667	11,371
20	Greater Wilshire S	2.44	34,612	14,209	38,756	15,910
21	Olympic Park	1.27	24,610	19,455	27,550	21,779
22	Koreatown NW	0.25	7,787	31,148	8,656	34,624
23	Koreatown SW	0.50	26,535	53,176	29,623	59,365
Study Area Subtotal		38.42	503,802	13,114	557,665	14,516
Downtown Los Angeles		1.8	20,997	11,562	23,969	13,199
City of Long Beach		52.5	481,437	9,178	564,082	10,753
City of Pasadena		19.8	136,472	6,894	167,401	8,456
Los Angeles County		3,977	10,010,315	2,517	12,193,030	3,066
Southern California Region		38,503	17,437,191	453	22,531,039	585

Data Source: Metro

Figure 1-27. Year 2006 Population Density

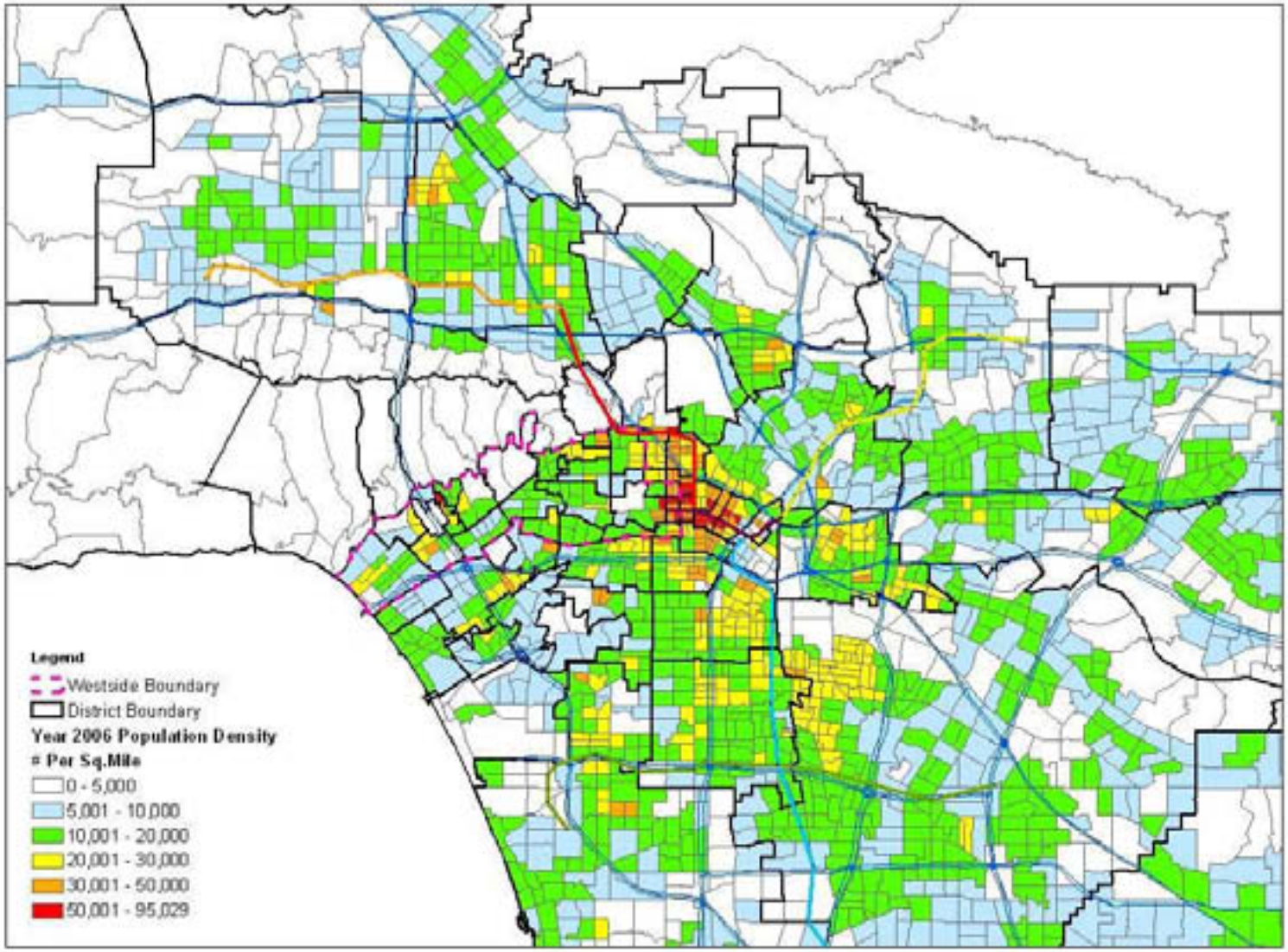


Figure 1-28. Year 2030 Population Density

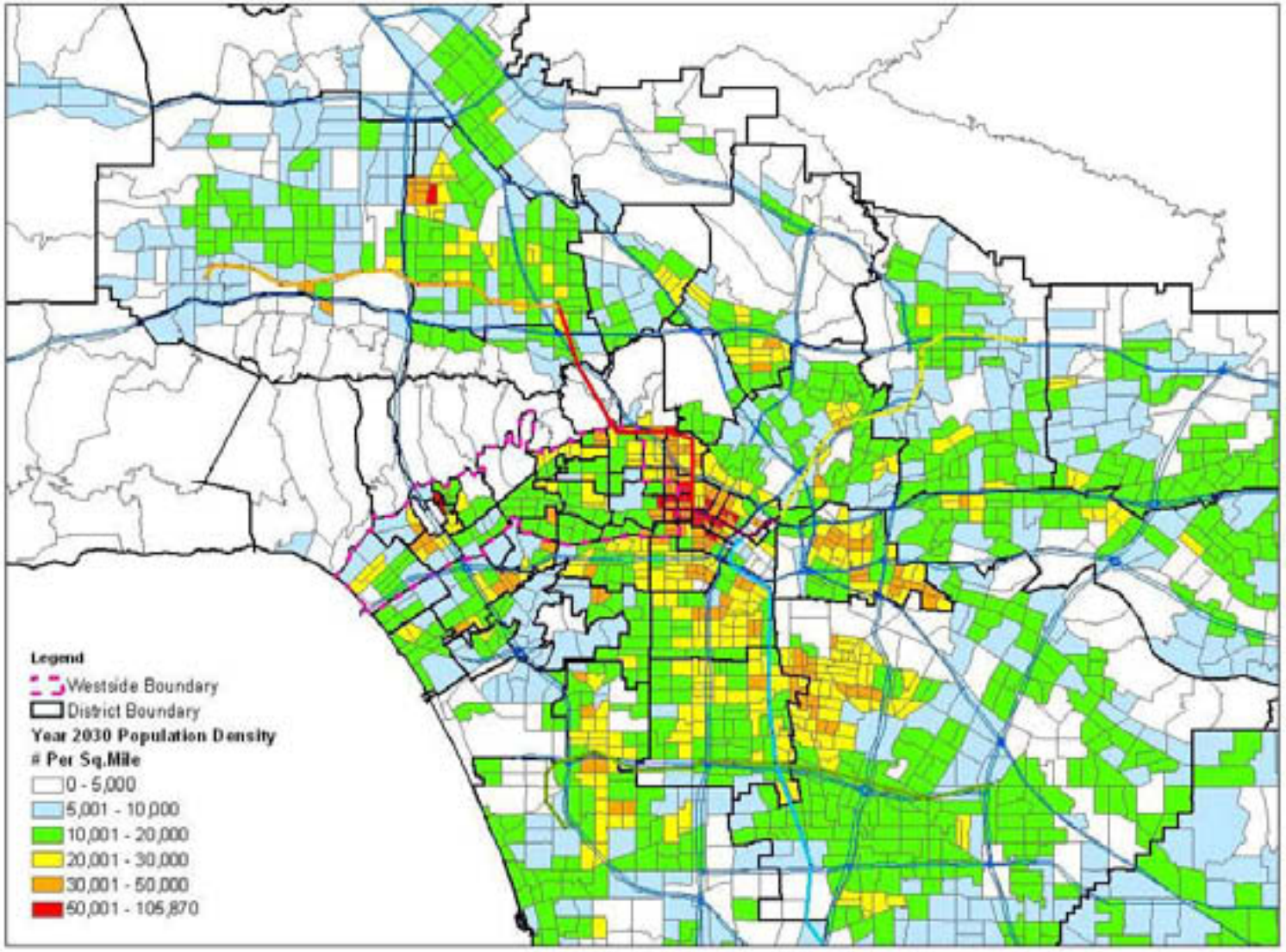


Table 1-15 lists the employment and employment density of each district in the Study Area. In 2006, the Santa Monica North District had the highest number of jobs (62,683), and the UCLA District had the highest employment density of more than 56,000 jobs per square mile. In 2030, the employment density of the UCLA district will be almost 65,000 per square mile.

Table 1-15. Employment and Employment Density by District in Westside Study Area, Year 2006 and Year 2030

District #	District Name	Area, Sq. Mi.	2006 Employment	2006 Employ Density per sq mi	2030 Employment	2030 Employ Density per sq mi
1	Santa Monica N	5.68	62,683	11,028	72,994	12,842
2	Brentwood S	1.77	11,029	6,217	12,795	7,213
3	West LA	1.83	32,169	17,588	36,628	20,026
4	Westwood W	0.60	1,949	3,259	2,611	4,366
5	VA	0.97	13,415	13,787	17,143	17,619
6	UCLA	0.62	35,177	56,829	40,145	64,855
7	Westwood C	0.65	17,945	27,822	20,979	32,526
8	Westwood E	2.04	6,438	3,164	7,909	3,886
9	Westside N	1.94	55,660	28,765	64,306	33,233
10	Beverly Hills N	3.51	3,308	942	5,208	1,483
11	Beverly Hills S	2.16	56,194	26,016	66,568	30,819
12	S Robertson N	1.09	6,112	5,592	7,374	6,747
13	West Hollywood	1.88	31,023	16,502	36,895	19,625
14	Hollywood Hills West S	0.55	2,830	5,136	3,506	6,363
15	Mid City West N	1.74	14,124	8,136	16,665	9,600
16	Mid City West S	2.59	49,289	19,067	56,098	21,701
17	PICO	1.36	4,085	3,015	5,029	3,711
18	Central Hollywood	1.89	33,856	17,932	38,443	20,362
19	Greater Wilshire N	1.11	3,203	2,875	3,910	3,510
20	Greater Wilshire S	2.44	14,798	6,075	17,405	7,145
21	Olympic Park	1.27	5,636	4,455	7,025	5,553
22	Koreatown NW	0.25	1,710	6,840	2,105	8,420
23	Koreatown SW	0.50	16,137	32,339	18,747	37,569
Study Area Subtotal		38.42	478,770	12,463	560,488	14,590
Downtown Los Angeles		1.8	126,738	69,790	142,624	78,537
City of Long Beach		52.4	190,909	3,639	234,976	4,479
City of Pasadena		19.8	96,559	4,877	116,175	5,868
Los Angeles County		3,977	4,644,010	1,168	5,651,043	1,421
Southern California Region		38,503	7,896,942	205	10,387,830	270

Data Source: Metro

The employment density of the Study Area is about 11 times that of Los Angeles County and about 54 times that of the entire region. It is lower than that of Downtown Los Angeles, but it is much higher than that of Long Beach and Pasadena.

Figure 1-29 and Figure 1-30 illustrate the employment density of the whole region by TAZ in 2006 and 2030, respectively. The districts in the Study Area have much higher employment densities than other areas, except downtown Los Angeles and its immediate vicinity. The maps show that the Koreatown area, the Beverly Hills South/Westside area and the UCLA/Westwood area have the highest density of jobs, followed by the Hollywood area, Mid City West district, and the West LA district. Like the areas of concentrated population density, all these areas are along Wilshire, Santa Monica, and Sunset Boulevards. This pattern matches the location of activity centers and land use features discussed previously. Wilshire Boulevard and Santa Monica/Sunset Boulevards have large clusters of both jobs and people. The Study Area is substantially more populous and job rich than other areas in the region except for downtown Los Angeles and the immediate vicinity.

1.7.5 Travel Demand and Patterns

After locating the activity centers and most populous and job rich areas in the Study Area, the next step in the travel market analysis is to identify the major trip-making districts and travel patterns for different trip purposes and time periods. The basic method used is to compress person and transit trips based on TAZs into a district-by-district matrix and then use "Desire Line" diagrams and Geographic Information System (GIS) maps to illustrate the potential markets to be served by the Westside Extension Transit Corridor.

1.7.5.1 Person Trips

In 2006, the Study Area produced about 2.35 million person trips and attracted about 3.28 million person trips daily. These account for about 8.4 percent of all the person trips generated by Los Angeles County as a whole. Table 1-16 shows that, in 2006, 67.8 percent of the trips produced by the Study Area stay within the area, 51.4 percent of trips attracted to the Study Area are from outside, and 56.6 percent of trips start and end within the Study Area. The same trend is observed in 2030 trip tables shown in Table 1-17. As discussed, business, commercial, education and cultural centers are clustered in the Study Area. Not only a high percentage of trips generated from the Study Area stay in the area, but also a substantial number of trips outside are attracted into the Study Area. This pattern is illustrated in Chart 1-3 and Chart 1-4.

Figure 1-31 and Figure 1-32 show the person trips density for those trips classified as "Home-Based Work Peak" in 2006 and 2030, respectively. Figure 1-33 and Figure 1-34 illustrate the person trips density of "All Trip Purposes" for 2006 and 2030. Not surprisingly, the patterns shown in these maps are similar to those indicated for population and employment. In 2006, UCLA leads the Study Area with more than 25,000 person trips per square mile in the Home-Based Work Peak category and more than 280,000 person trips per square mile daily. Outside the Study Area, Los Angeles Downtown has the highest trip density, followed by the vicinity west of Downtown and South of Downtown. In 2030, these districts are expected to continue experiencing the highest trip densities. In the following sections, the potential markets outside the Study Area are discussed first, and then the markets in the Study Area are analyzed.

Figure 1-29. Year 2006 Employment Density

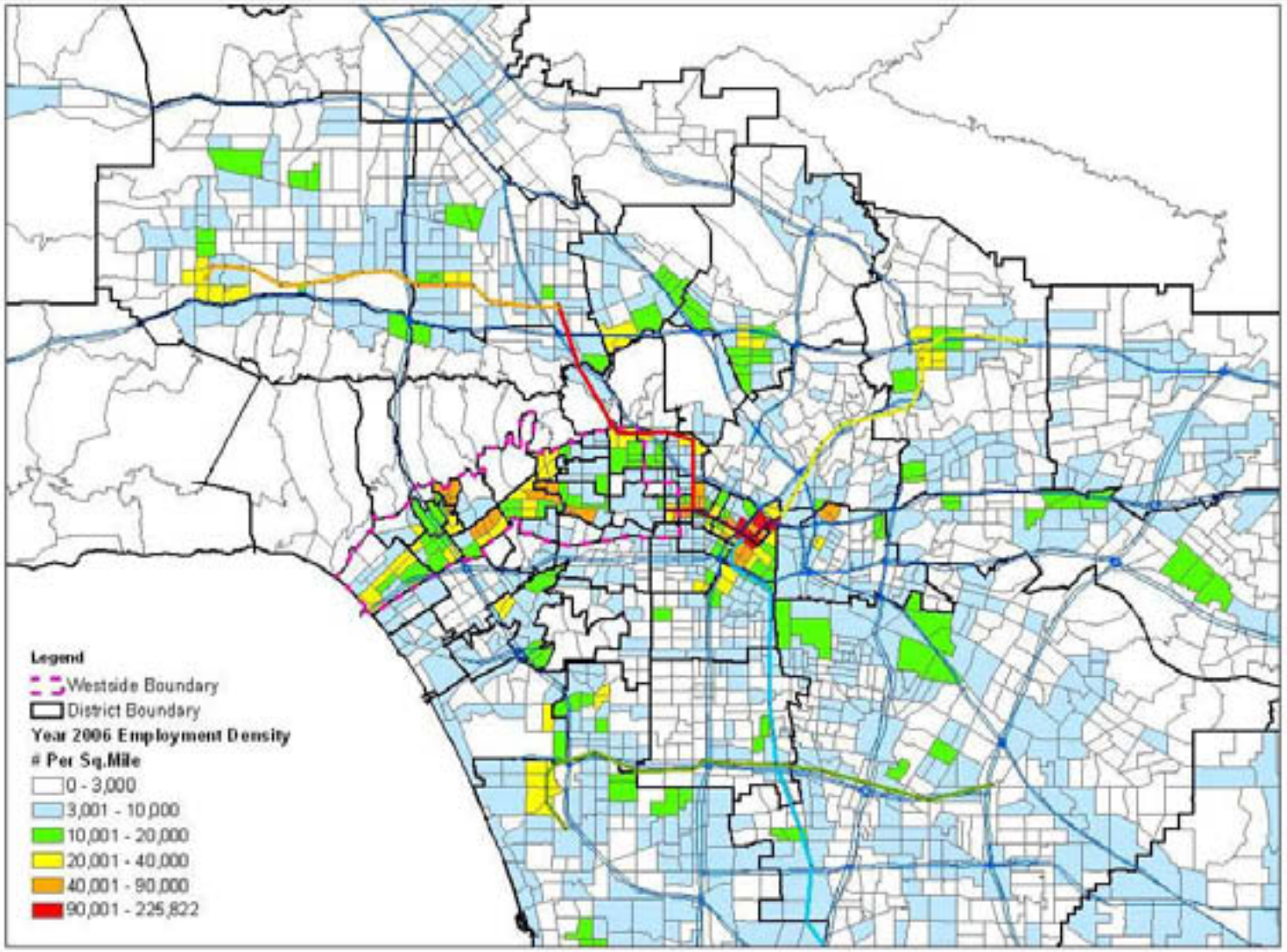


Figure 1-30. Year 2030 Employment Density

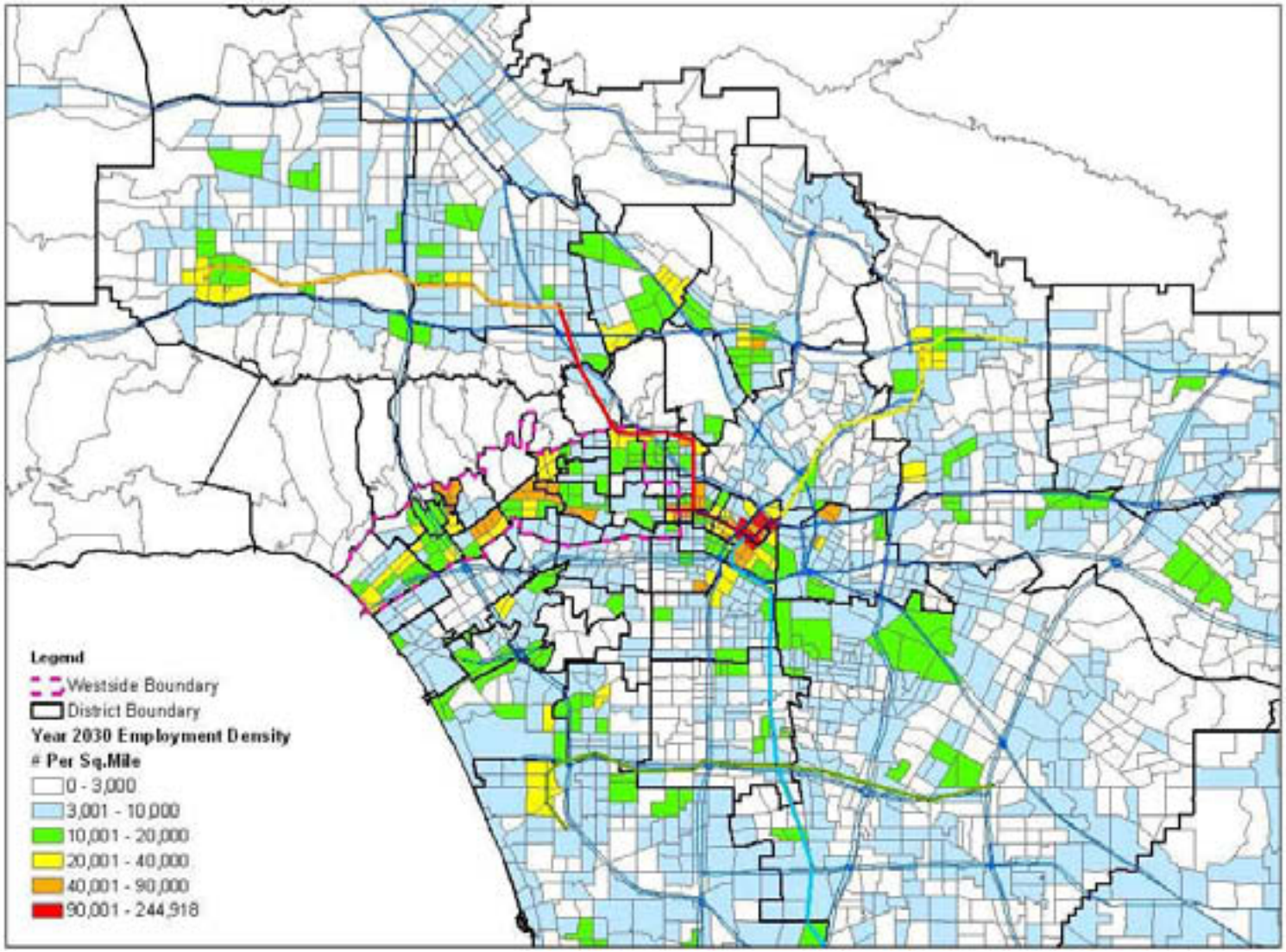


Table 1-16. Year 2006 Person Trips Summary

	Home-Based Work Peak	Home-Based University Peak	Home-Based Other Peak	Non Home-Based Peak	All Purposes Peak	Home Base Work Off-Peak	Home-Based University Off-Peak	Home-Based Other Off-Peak	Non Home-Based Off-Peak	All Purposes Off-Peak	All Purposes Daily
Regional Total Number of Trips	6,655,129	926,546	14,481,535	8,465,947	30,529,157	3,018,680	850,126	14,163,157	10,426,251	28,458,214	58,987,371
Number of Trips Produced by the Study Area	224,615	19,508	403,455	513,088	1,160,666	101,599	17,871	436,859	633,518	1,189,847	2,350,513
Number of Trips Attracted to the Study Area	398,660	34,262	694,564	518,965	1,646,451	179,871	31,548	781,501	641,361	1,634,281	3,280,732
Number of Trips Start and End within the Study Area	87,440	10,589	306,390	333,581	738,000	45,835	8,882	352,543	449,191	856,451	1,594,451
% of Production Trips Stay in the Study Area	38.9%	54.3%	75.9%	65.0%	63.6%	45.1%	49.7%	80.7%	70.9%	72.0%	67.8%
% of Attraction Trips from the Study Area	21.9%	30.9%	44.1%	64.3%	44.8%	25.5%	28.2%	45.1%	70.0%	52.4%	48.6%
% of Trips Start and End within the Study Area	28.1%	39.4%	55.8%	64.6%	52.6%	32.6%	35.9%	57.9%	70.5%	60.7%	56.6%

Data Source: 2006/2030 Metro Person Trip Tables.

Table 1-17. Year 2030 Person Trips Summary

	Home Base Work Peak	Home-Based University Peak	Home-Based Other Peak	Non Home-Based Peak	All Purposes Peak	Home Base Work Off-Peak	Home-Based University Off-Peak	Home-Based Other Off-Peak	Non Home-Based Off-Peak	All Purposes Off-Peak	All Purposes Daily
Regional Total Number of Trips	8,613,660	1,263,951	18,933,680	11,113,744	39,925,035	3,873,908	1,159,597	18,649,212	13,695,078	37,377,795	77,302,830
Number of Trips Produced by the Study Area	258,315	20,970	449,881	590,756	1,319,922	116,740	19,210	491,362	730,793	1,358,105	2,678,027
Number of Trips Attracted to the Study Area	467,868	42,968	794,166	600,522	1,905,524	210,942	39,458	889,859	744,103	1,884,362	3,789,886
Number of Trips Start and End within the Study Area	99,431	11,359	338,973	384,259	834,022	52,265	9,539	389,657	517,021	968,482	1,802,504
% of Production Trips Stay in the Study Area	38.5%	54.2%	75.3%	65.0%	63.2%	44.8%	49.7%	79.3%	70.7%	71.3%	67.3%
% of Attraction Trips from the Study Area	21.3%	26.4%	42.7%	64.0%	43.8%	24.8%	24.2%	43.8%	69.5%	51.4%	47.6%
% of Trips Start and End within the Study Area	27.4%	35.5%	54.5%	64.5%	51.7%	31.9%	32.5%	56.4%	70.1%	59.7%	55.7%

Data Source: 2006/2030 Metro Person Trip Tables.

Chart 1-3. Person Trips Produced by the Westside Study Area, Year 2006 and Year 2030

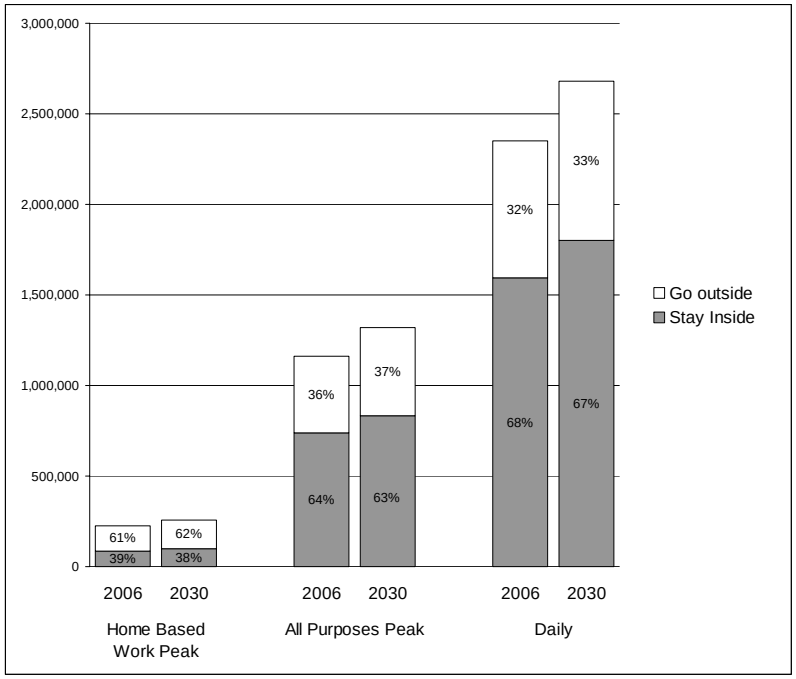


Chart 1-4. Person Trips Attracted by the Westside Study Area, Year 2006 and Year 2030

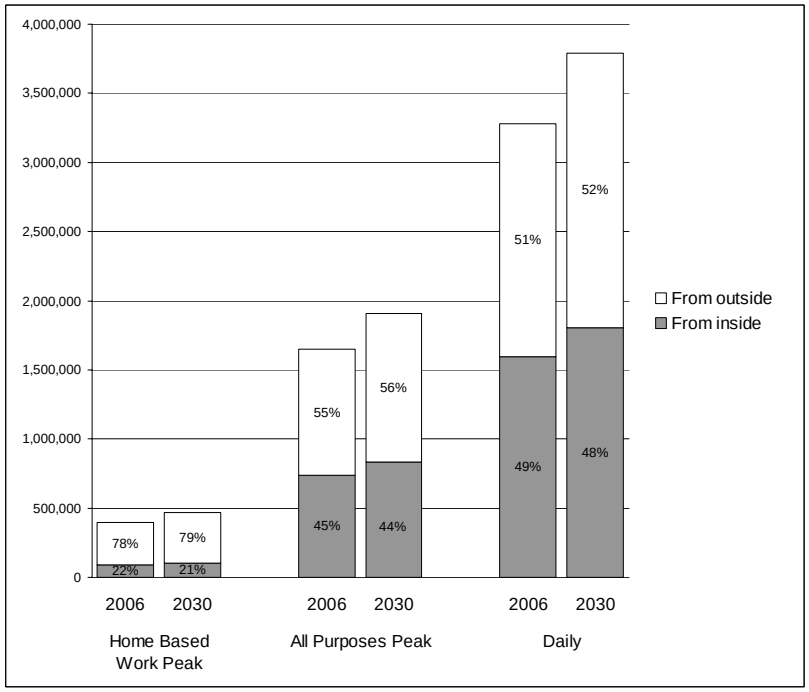


Figure 1-31. Person Trips Density – Home-Based Work Peak Year 2006

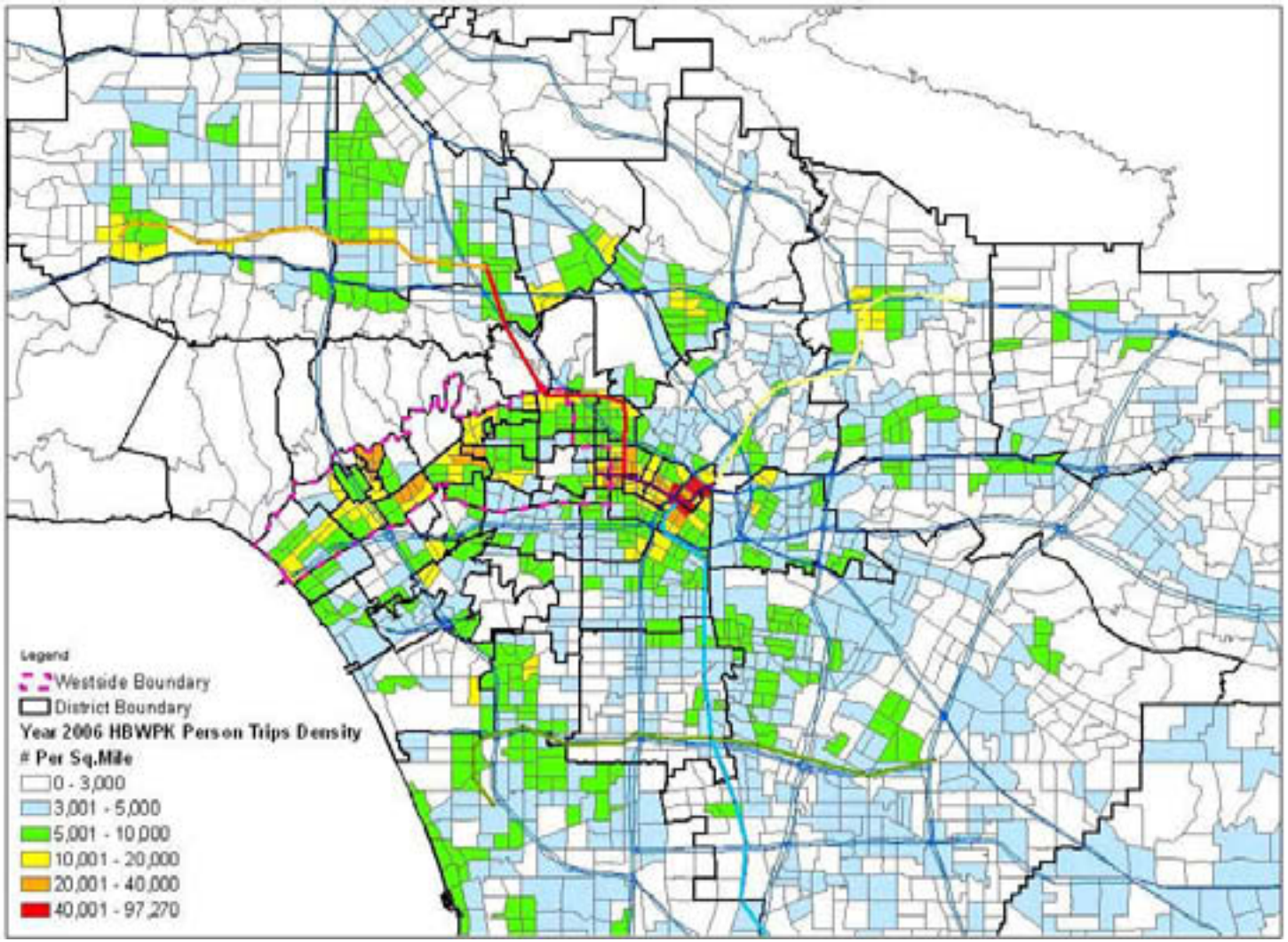


Figure 1-32. Person Trips Density – Home-Based Work Peak Trip Purpose Year 2030

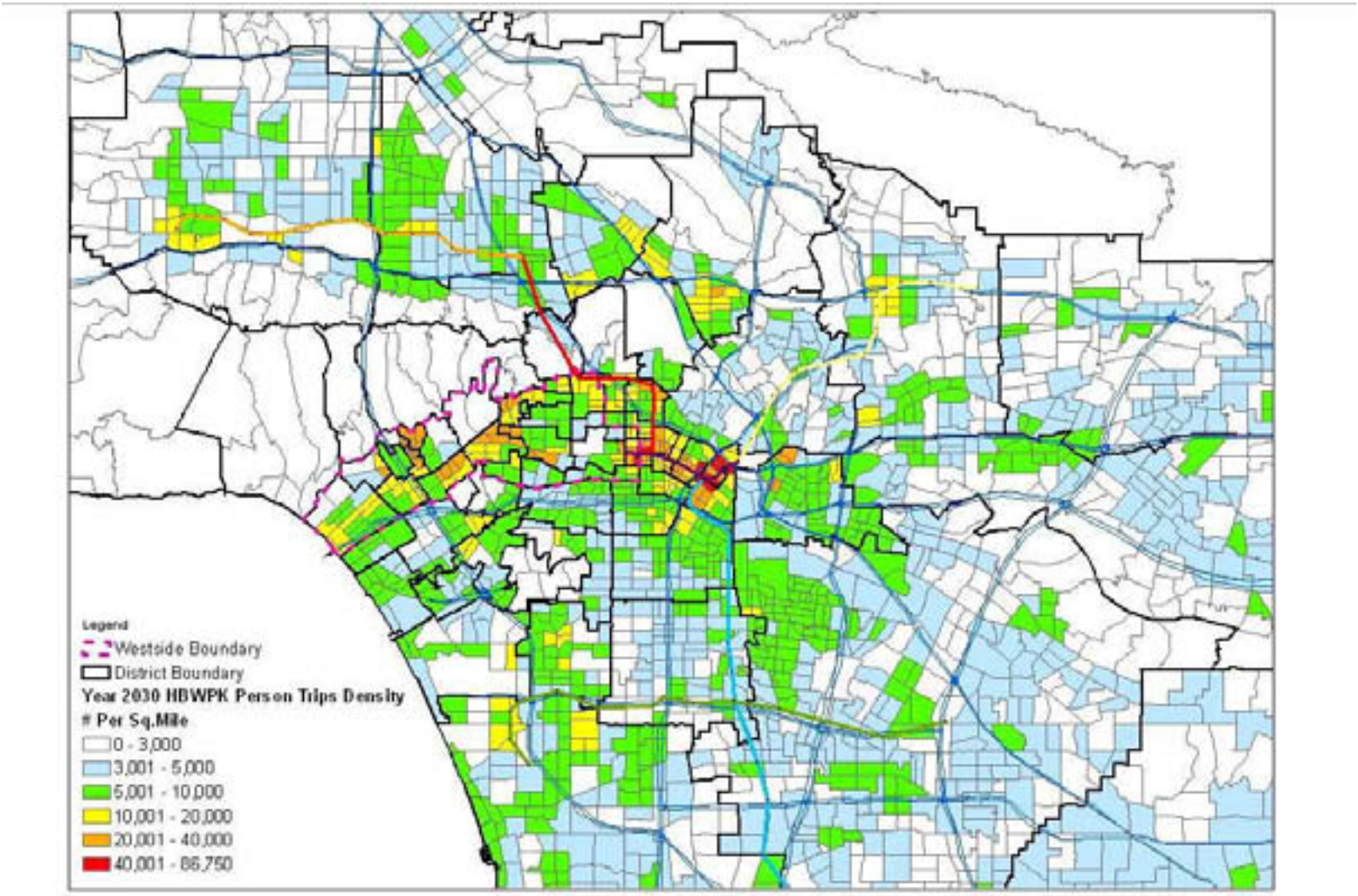


Figure 1-33. Person Trips Density – All Purposes Daily Year 2006

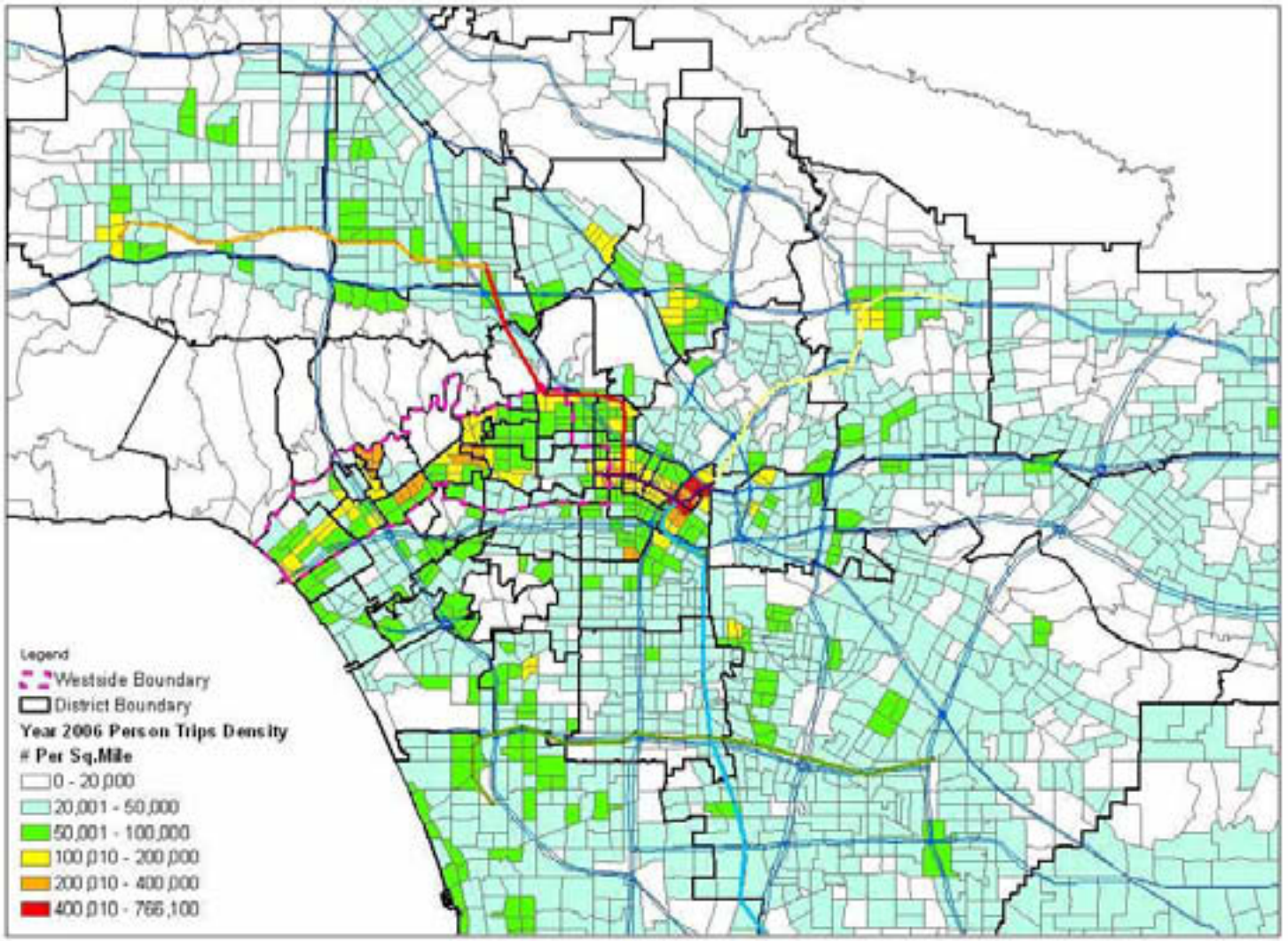
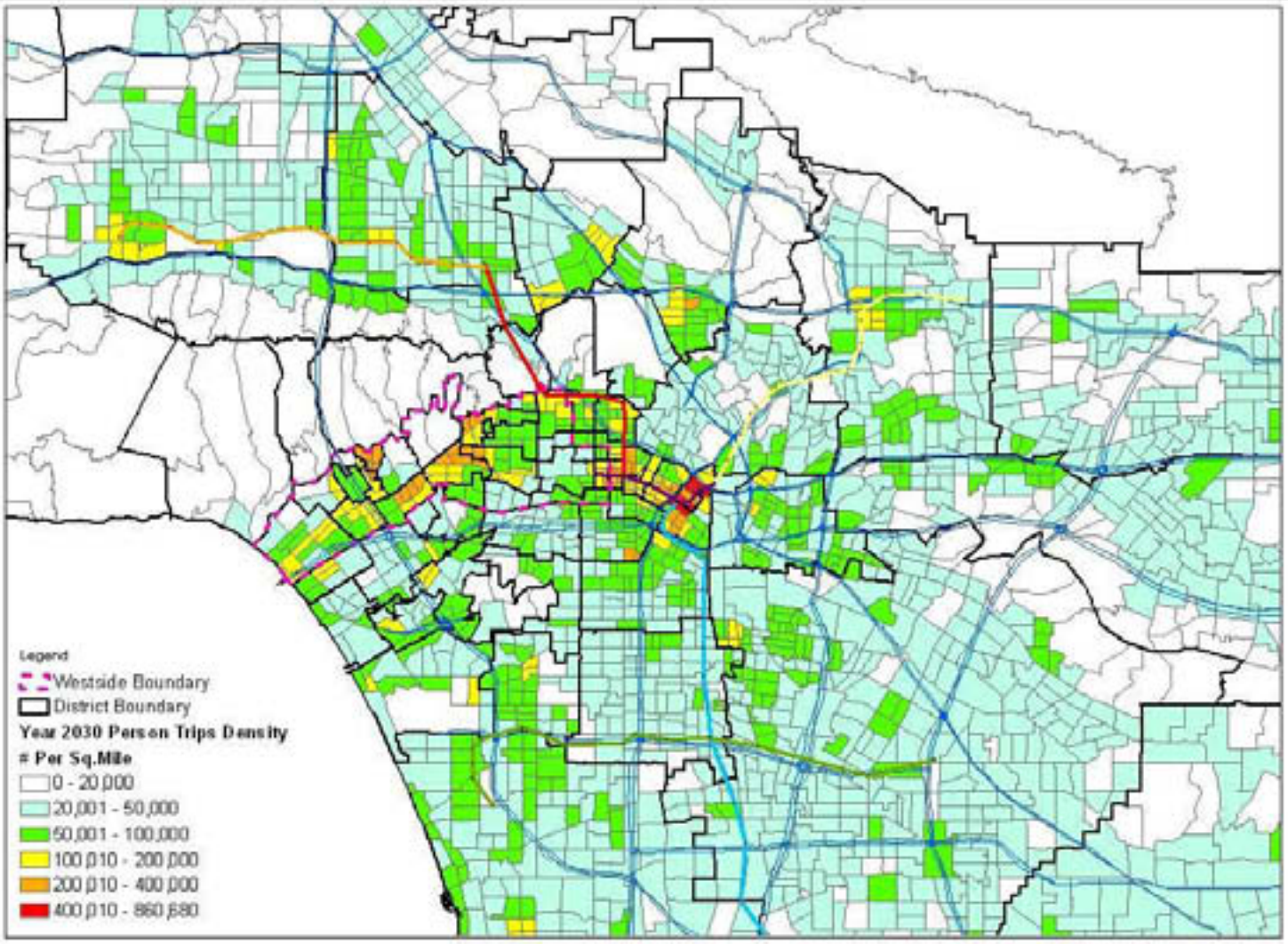


Figure 1-34. Person Trips Density – All Trip Purposes Year 2030



1.7.5.2 Markets Outside the Study Area

The top destination districts outside the Study Area are South Bay, Santa Monica South, Gateway, and Culver City. But as shown in Table 1-18 and Table 1-19 below, each district receives only a small share of trips produced by the Study Area, no more than 2 percent each. Figure 1-35 shows the volume of trips from the Study Area to the districts outside for 2006. Of the 3.28 million trips attracted to the Study Area in 2006, 51 percent or 1.69 million trips originate from outside. The top outside origin districts are South Bay (98,000 trips), Gateway (97,000 trips), North Hollywood (88,000 trips), and Mar Vista (81,000 trips). However, none of these districts have more than a 3 percent share of the total 3.28 million trips.

Table 1-18. Top Destination/Origin Districts for Study Area, Year 2006 Daily Person Trips

Daily	Rank	1	2	3	4	5
Top Districts to Attract Trips Produced by the Study Area	Pct	68%	1.6%	1.5%	1.5%	1.5%
	Trips	1,594,451	37,362	35,318	34,392	34,354
	District Number	1	28	13	29	20
	District Name	Study Area	South Bay	Santa Monica S	Gateway	Culver City
Top Districts to Produce Trips attracted to the Study Area	Pct	49%	3.0%	3.0%	2.7%	2.5%
	Trips	1,594,451	98,021	97,452	88,068	81,125
	District Number	1	28	29	46	14
	District Name	Study Area	South Bay	Gateway	North Hollywood	Mar Vista

Data Source: 2006 Metro Person Trip Tables.

Table 1-19. Top Destination/Origin Districts for Study Area, Year 2030 Daily Person Purposes

Daily	Rank	1	2	3	4	5
Top Districts to Attract Trips Produced by the Study Area	Pct	67%	1.6%	1.6%	1.5%	1.4%
	Trips	1,802,504	43,766	41,552	39,695	38,682
	District Number	1	28	20	29	13
	District Name	Study Area	South Bay	Culver City	Gateway	Santa Monica S
Top Districts to Produce Trips Attracted by the Study Area	Pct	48%	3.0%	2.9%	2.6%	2.5%
	Trips	1,802,504	113,614	110,331	97,048	95,948
	District Number	1	29	28	46	50
	District Name	Study Area	Gateway	South Bay	North Hollywood	North LA

Data Source: 2030 Metro Person Trip Tables.

Figure 1-35. Westside 2006 Daily Person Trips Making Pattern, From the Study Area to Outside Districts

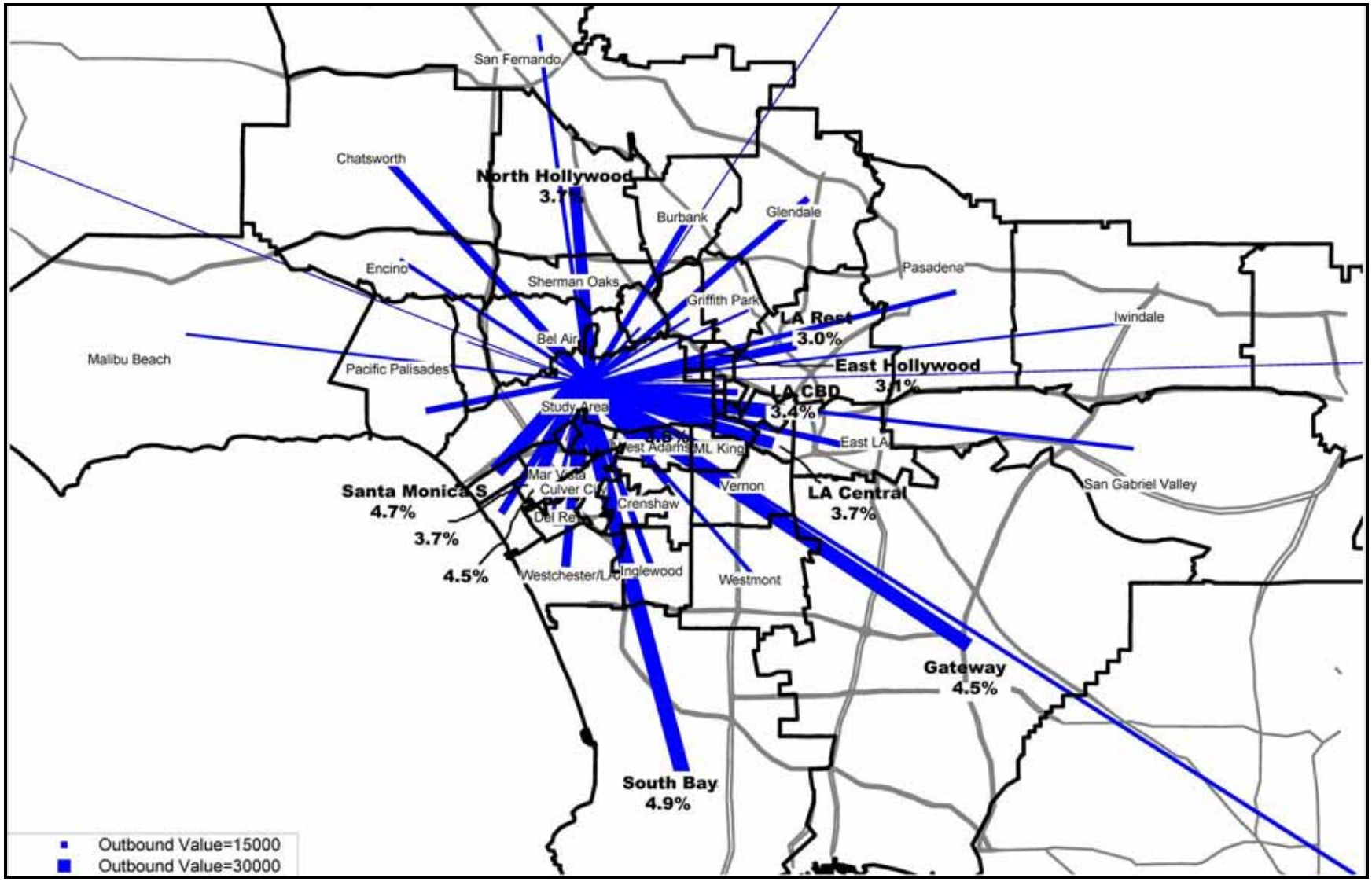


Figure 1-36 shows the 2030 trips from each outside district to the Study Area. The percentage shows each district's share of all the trips from outside to the Study Area. Between 2006 and 2030, the total number of trips to the Study Area is forecasted to increase by 17 percent to 1.98 million outside trips. By the year 2030, 11.3 percent or 224,000 trips will originate in the South Bay and Gateway districts. The trip making between the Study Area and outside districts are concentrated in Home-Based Work and Home-Based University trip purposes. In the east-west direction, Los Angeles CBD, LA Central, North Hollywood, East Hollywood, Culver City, and Santa Monica South attract the most trips from and produce the most trips to the Study Area. In the North-South direction, Gateway, South Bay, North Hollywood, Chatsworth, San Fernando, and North LA districts have the largest interaction with the Study Area accounting for approximately 27 percent or 530,000 of the daily trips destined for the Study Area. For the Home-Based Other and Non Home-Based purposes, most trips remain within the Study Area.

In 2006, the Study Area produced more than 224,000 Home-Based Work Peak purpose trips and attracted almost 400,000 trips. For all the work trips produced by the Study Area, 39 percent stayed in the Study Area. Outside the Study Area, the top work trip destinations are South Bay, Gateway, Los Angeles CBD, and Los Angeles Central, as shown in Table 1-20.

Table 1-20. Top Person Trips Destination/Origin Districts for Study Area, Year 2006 Home-Based Work Peak Trip Purpose

	Rank	1	2	3	4	5
Top Districts to Attract the Trips Produced by the Study Area	Pct	39%	4.8%	4.3%	3.2%	3.2%
	Trips	87,440	10,768	9,633	7,262	7,205
	District Number	1	28	29	11	12
	District Name	Study Area	South Bay	Gateway	LA CBD	LA Central
Top Districts to Produce the Trips Attracted to the Study Area	Pct	22%	5.5%	5.4%	4.8%	3.6%
	Trips	87,440	21,974	21,352	19,246	14,227
	District Number	1	28	29	46	45
	District Name	Study Area	South Bay	Gateway	North Hollywood	Chatsworth

Data Source: 2006 Metro Person Trip Tables

For all the work purpose trips attracted to the Study Area, only 22 percent are from inside the area. This means that many people from outside come to the Study Area for work. The top origin districts in order are South Bay, Gateway, North Hollywood, and Chatsworth.

Changes to Home-Based Work Peak purpose trip patterns are anticipated in 2030 (See Table 1-21). Culver City will replace Los Angeles CBD as the fourth top outside work destination for trips produced by the Study Area. The North Los Angeles district will become the fourth highest origin district producing trips to jobs in the Study Area.

Figure 1-36. Westside 2030 Daily Person Trips Making Pattern, From Outside Districts to the Study Area

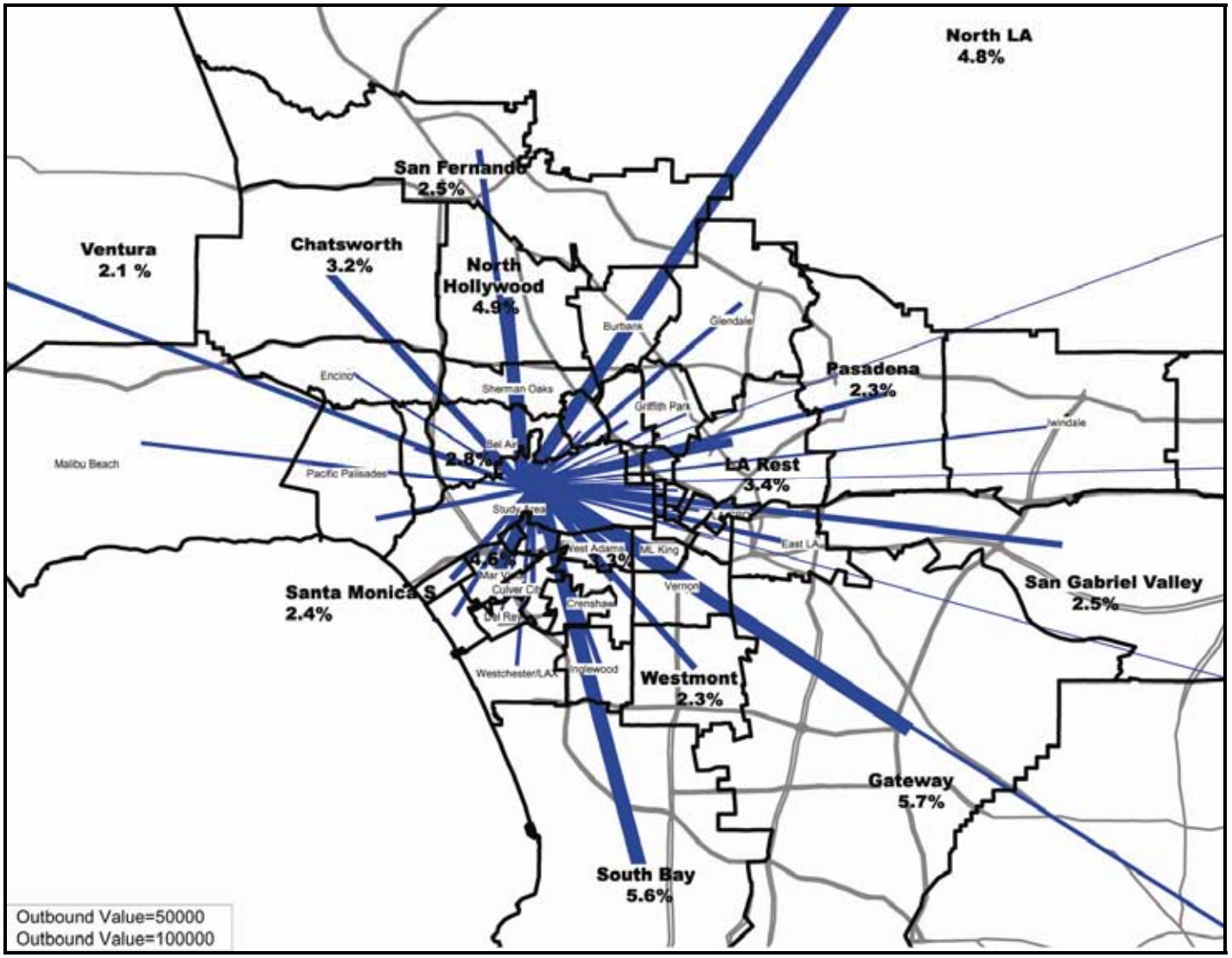


Table 1-21. Top Person Trips Destination/Origin Districts for Study Area, Year 2030 Home-Based Work Peak Trip Purpose

	Rank	1	2	3	4	5
Top Districts to Attract the Trips Produced by the Study Area	Pct	38%	5.0%	4.5%	3.0%	2.6%
	Trips	99,431	12,972	11,538	7,627	6,828
	District No.	1	28	29	20	12
	District Name	Study Area	South Bay	Gateway	Culver City	LA Central
Top Districts to Produce the Trips Attracted by the Study Area	Pct	21%	5.4%	5.3%	5.2%	4.5%
	Trips	99,431	25,426	24,818	24,444	21,232
	District No.	1	28	29	50	46
	District Name	Study Area	South Bay	Gateway	North LA	North Hollywood

Data Source: 2030 Metro Person Trip Tables

Most residential neighborhoods in the Study Area are affluent communities with very high housing or renting costs. Although job opportunities are plentiful, many individuals cannot afford to live in the Study Area and need to commute from other areas such as South Bay, Gateway, Chatsworth, and North Los Angeles.

1.7.5.3 Markets Inside the Study Area

In 2006, almost 1.6 million person trips started and ended inside the Study Area. The four top districts to produce and attract trips are Santa Monica North, Beverly Hills South, Mid City South and Westside North. These four districts have a 38 percent share of all the trips produced by the Study Area and 44 percent share of all the trips attracted to the Study Area. For more details, see Table 1-22 below:

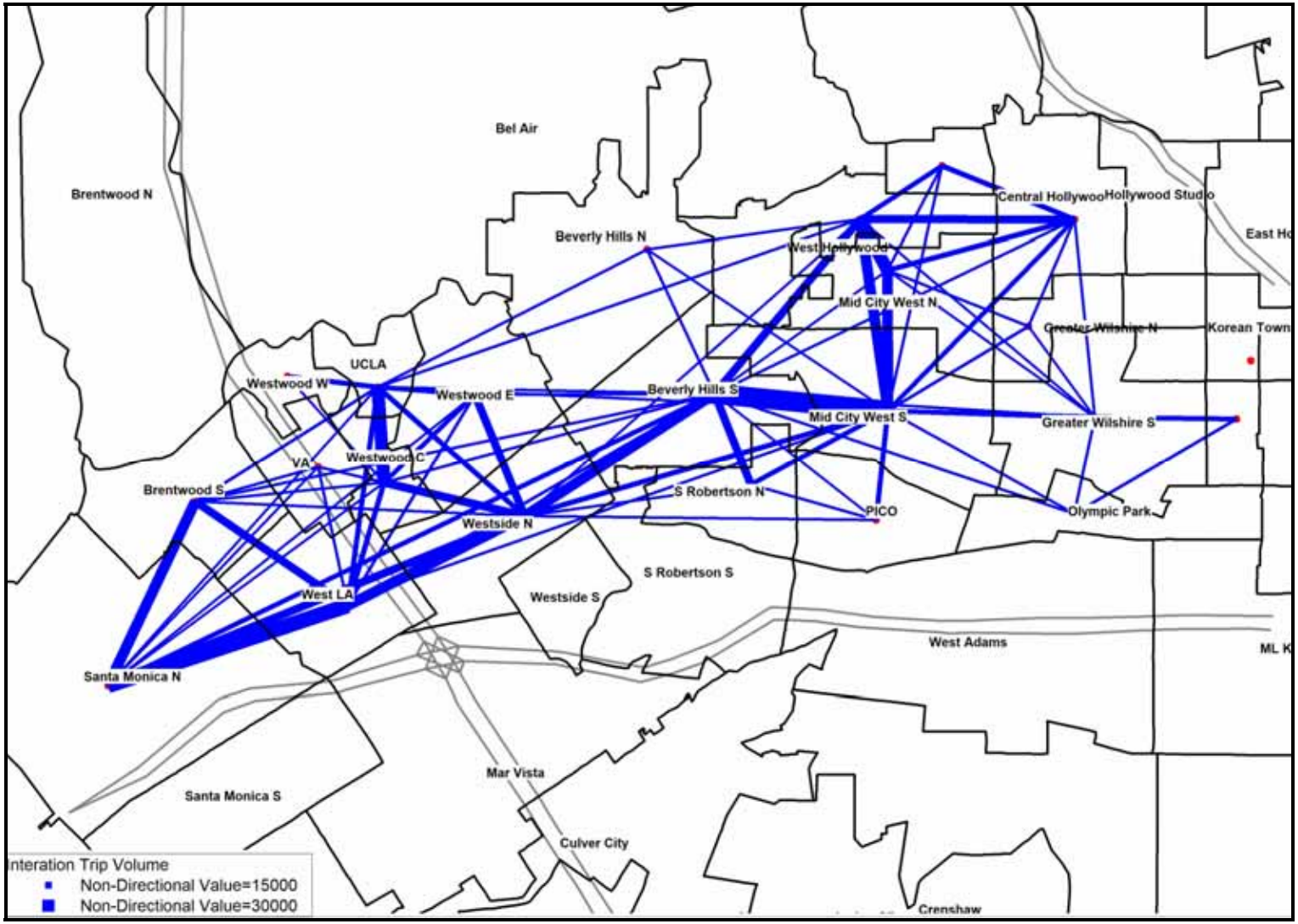
Table 1-22. Top Production and Attraction Districts within the Study Area, All Trip Purposes

	2006 Production	2006 Attraction	2030 Production	2030 Attraction
Santa Monica N	310,996	431,223	345,415	491,704
Beverly Hills S	201,020	364,504	233,915	428,853
Mid City S	210,128	315,239	240,504	358,089
Westside N	175,432	323,968	202,523	376,887
Study Area	2,350,513	3,280,732	2,678,027	3,789,886
% of the Top 4 districts	38.1%	43.7%	38.2%	43.7%

Data Source: 2006 and 2030 Metro Person Trip Tables.

Figure 1-37 shows the daily trip-making patterns within the Study Area for all trip purposes in 2006. It illustrates the major trip-making corridor in the Study Area is: Santa Monica N – West LA – Westside N – Beverly Hills S – Mid City West S. Two shorter corridors with high trip activities are: West Hollywood – Mid City West S and UCLA – Westwood C. The trip-making in 2030 has a very similar pattern as shown in 2006. The major person trip markets for the Home-Based Work trip

Figure 1-37. 2006 Person Trips Making Pattern within the Study Area for All Trip Purposes



purpose are Santa Monica N, West Hollywood, Mid City West S, Westside N, and Beverly Hills S. For the Home-Based University Purposes, the major markets are UCLA, Westwood C, Santa Monica N and Greater Wilshire S. For the Home-Based Other purpose, the major markets are Santa Monica, Mid City West S, West Hollywood, Greater Wilshire S, Beverly Hills S, and Mid City West S. The major markets for the Non Home-Based purpose are: Santa Monica N, Beverly Hills S, Westside N and Mid City West S. All these major markets are located somewhere along the Wilshire Boulevard Corridor except West Hollywood. The "Desire Line" trip making pattern diagrams also show the Wilshire corridor is the dominant trip-making corridor in the Study Area.

For the Home-Based Work Peak trip purpose, in 2006, Santa Monica N produced the most trips with more than 28,000 trips, followed by West Hollywood with more than 19,000 trips and Mid City West S with 18,750 trips. On the attraction side, Santa Monica N is the leading attraction district with more than 51,000 trips. Other districts that attracted more than 40,000 trips are (in order): Beverly Hills S, Westside N and Mid City West S. Figure 1-38 shows the 2006 Home-Based Work Peak purpose trip-making patterns in the Study Area. The most trip-intensive corridor is Santa Monica N – West LA – Westside N – Beverly Hills S – Mid City West S, which is generally along Wilshire Boulevard. Trip making between West Hollywood and Mid City West S and between West Hollywood and Beverly Hills S are also significant.

In 2030, the leading production and attraction districts are the same as those of 2006. The most trip-intensive corridor is Santa Monica N – West LA – Westside N – Beverly Hills S – Mid City West S, along Wilshire Boulevard. Other notable origin/destination pairs with high trip activity are between Brentwood S and Santa Monica N, between West Hollywood and Central Hollywood, and between West Hollywood and Mid City West S.

1.7.5.4 Transit Trips

The Westside Study Area is one of the largest transit markets in the region. Its population is 5 percent of Los Angeles County, its employment is 10 percent of the county, and its person trips are 8 percent of the county. A large share of LA County transit trips, 17 percent, are taken within the Study Area. Figure 1-39 and Figure 1-40 show the transit trip density for the Home-Based Work Peak trip purpose in 2006 and 2030, respectively. Figure 1-41 and Figure 1-42 illustrate the transit trip density for all trip purposes in 2006 and 2030, respectively. These maps indicate that the districts in the Study Area have a much higher transit trip density than the other areas in the region except downtown Los Angeles and its immediate vicinity.

As discussed in this chapter, the Study Area has a higher population and employment density than most other areas in Los Angeles County and the region. Transit is also more accessible in the Study Area than most other areas in the region. Thus, the utilization of transit services is much higher in the Study Area than in the remaining parts of the region, except Downtown and the Central Los Angeles area. Table 1-23 lists the transit share of person trips by district in the Study Area. For all trip purposes, the Study Area has a 6.9 percent transit share of all person trips in 2006 and an expected 7.3 percent transit share in 2030, which is more than double the percentages of Los Angeles County and the region. For the Home-Based Work Peak trip purpose, the transit share of person trips in the Study Area is 16.4 percent in 2006 and is expected to reach 17.4 percent in 2030, both of which are much higher than those of Los Angeles County and the region.

Figure 1-38. Year 2006 Person Trips Making Pattern within the Study Area for Home-Based Work Peak Trips

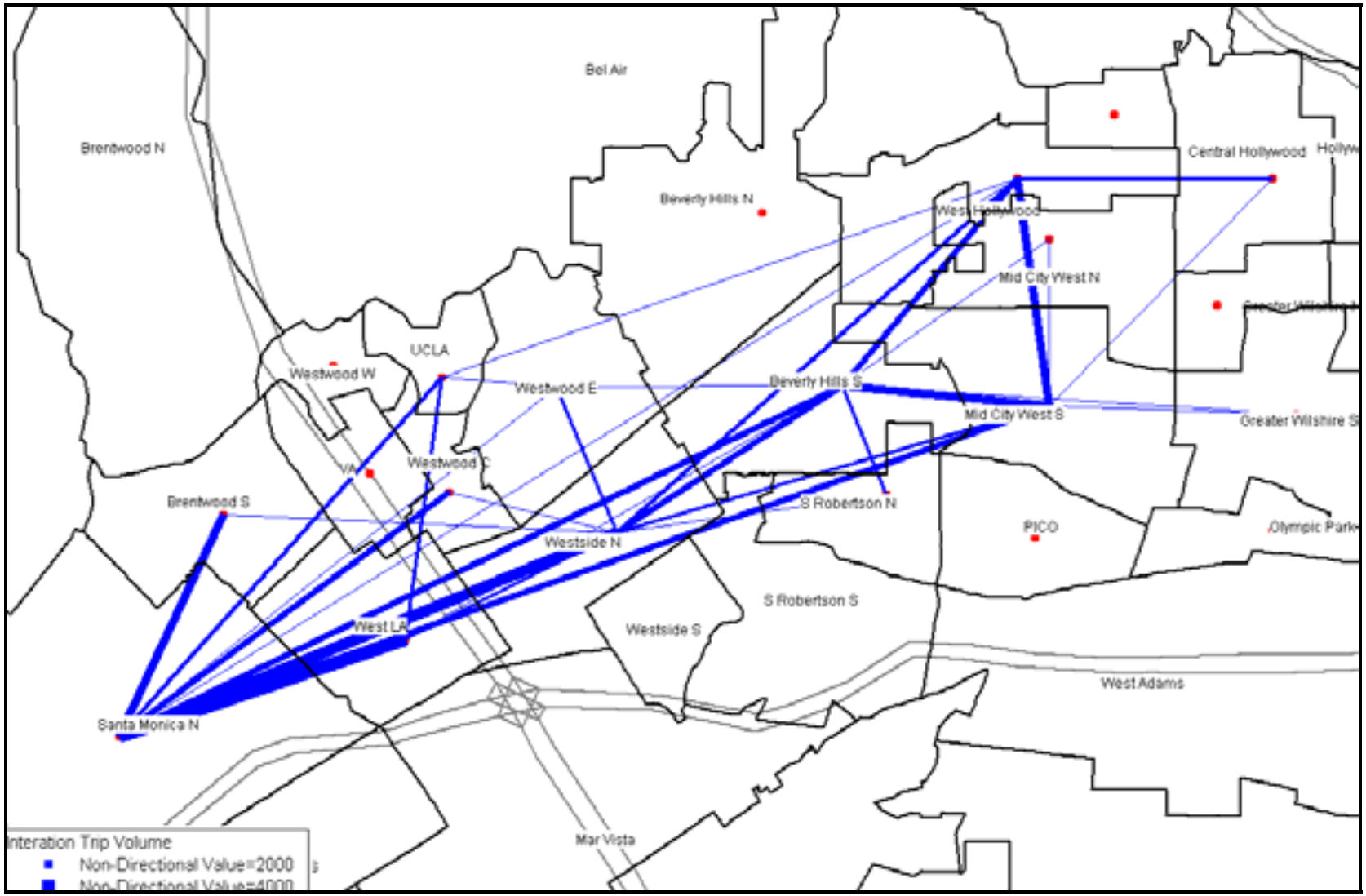


Figure 1-39. Transit Trips Density – Home-Based Work Peak Trips Year 2006

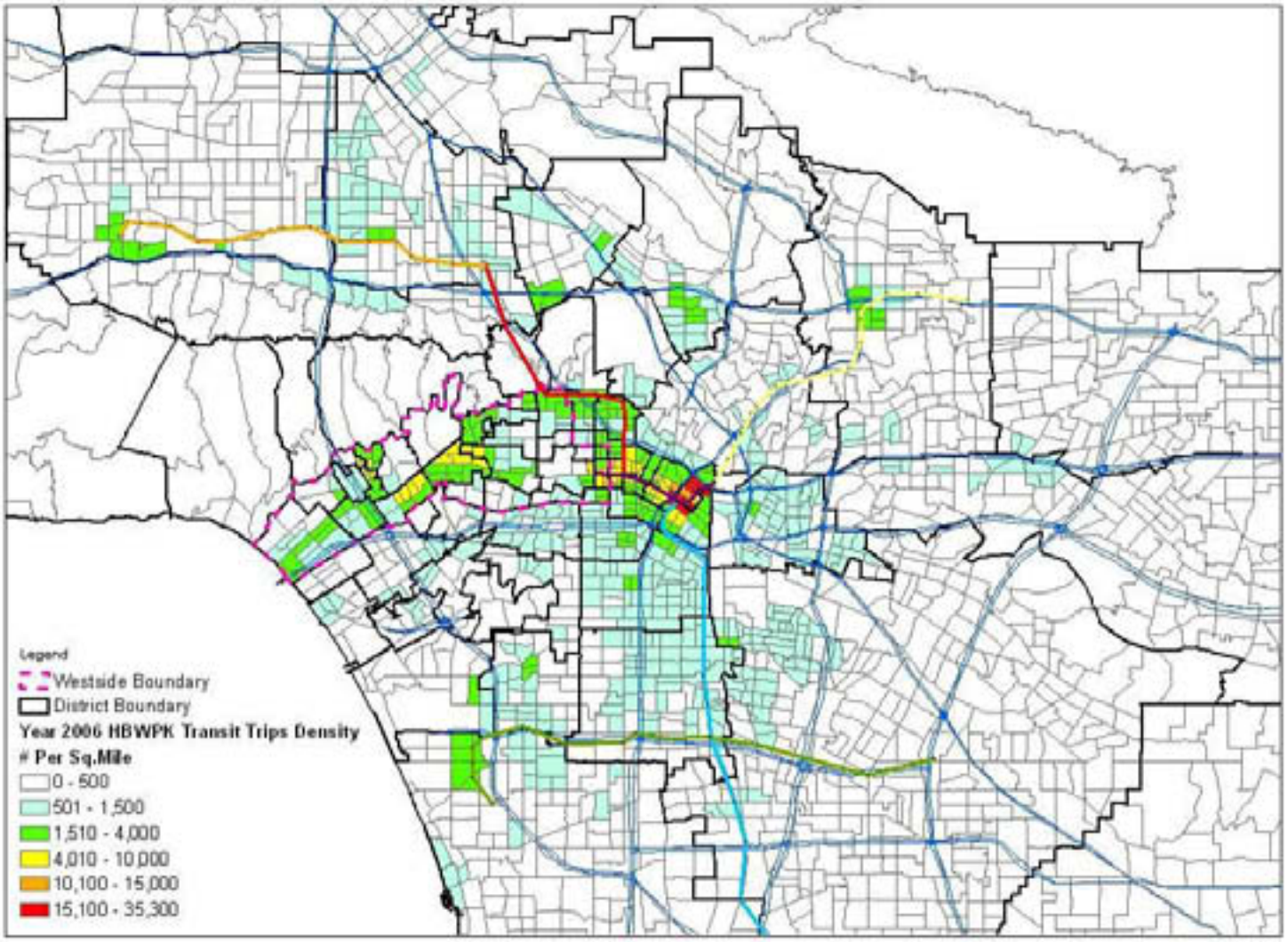


Figure 1-40. Transit Trips Density – Home-Based Work Peak Trips Year 2030

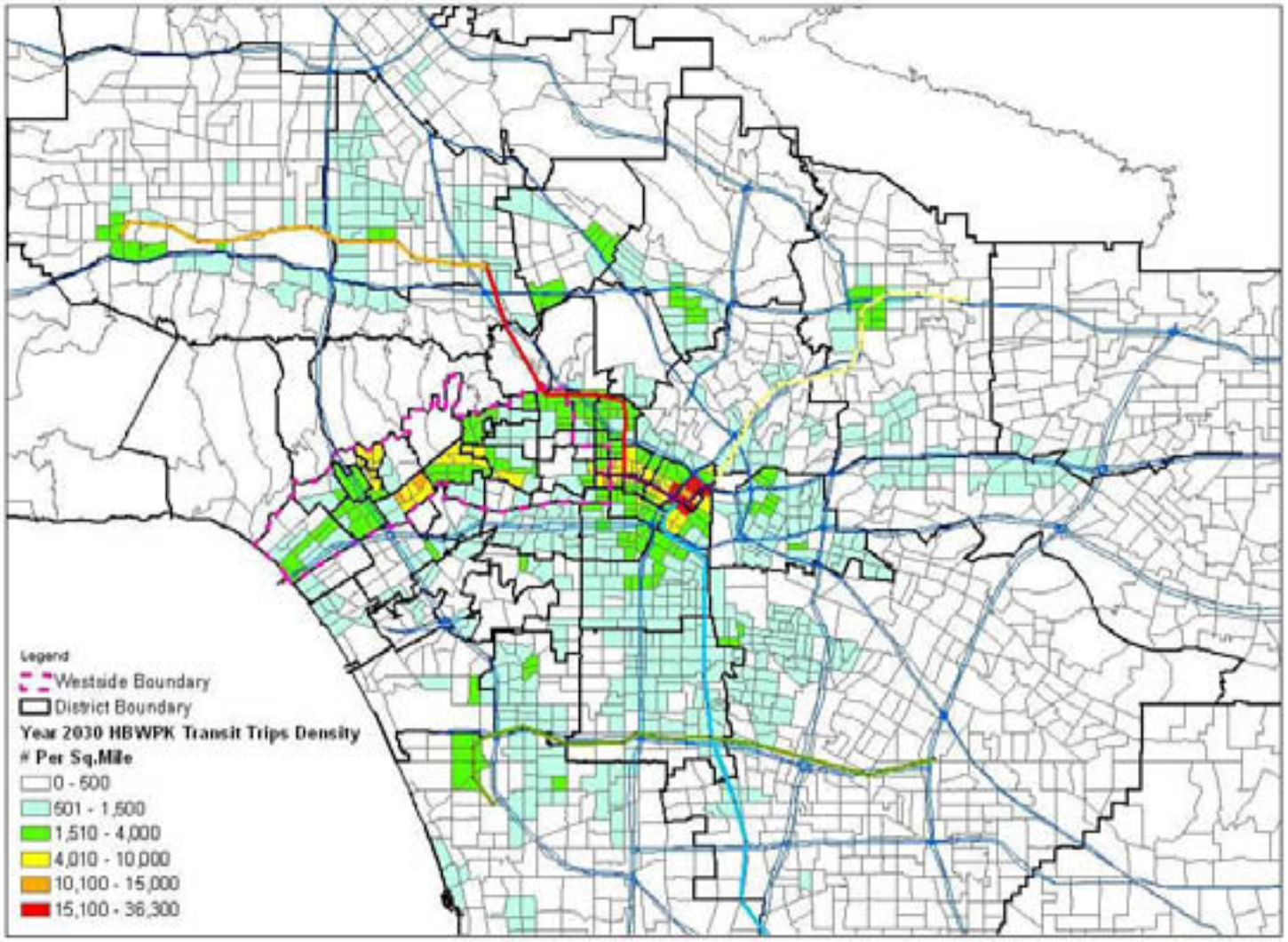


Figure 1-41. Transit Trips Density – All Purposes Daily Year 2006

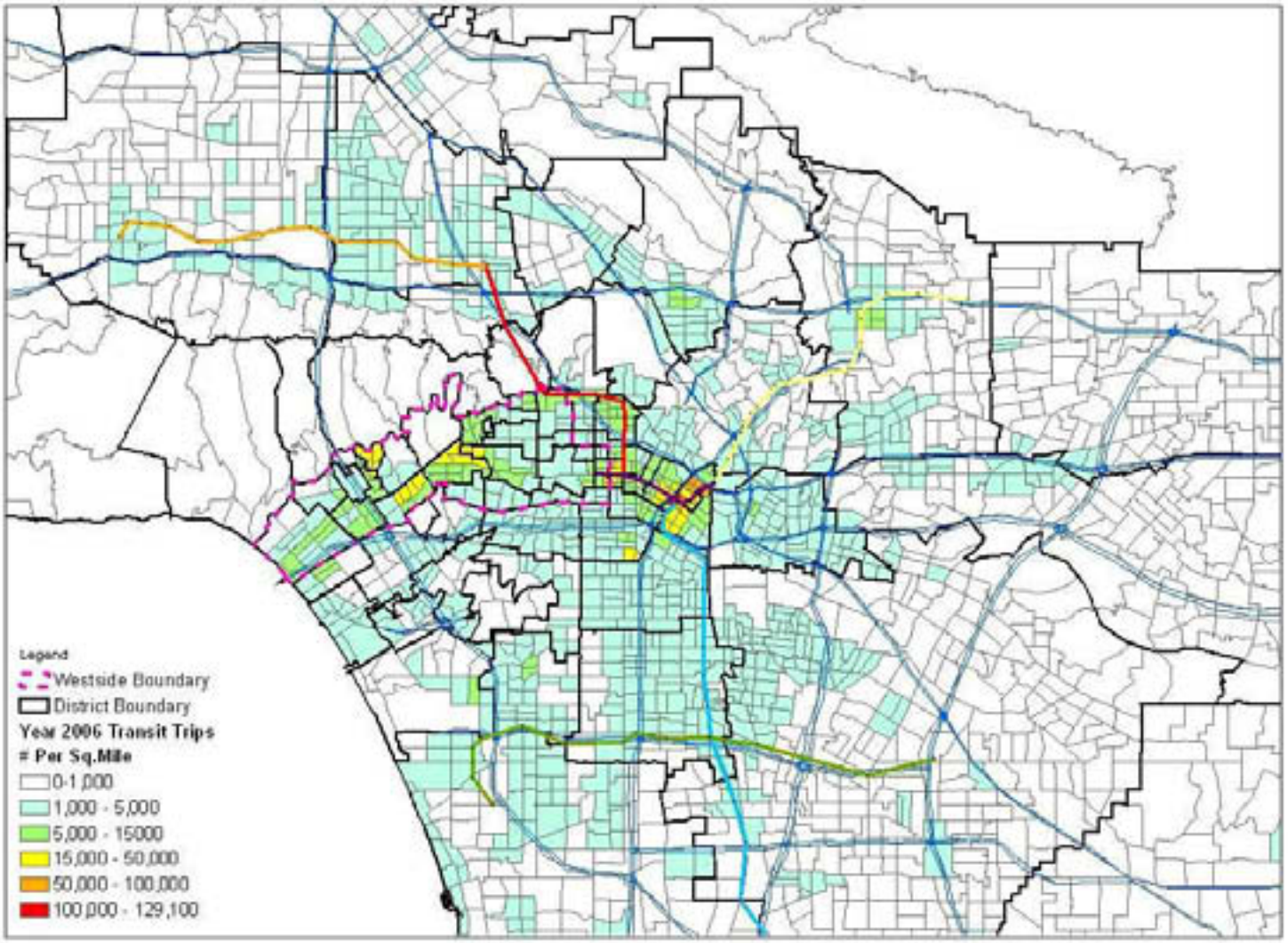


Figure 1-42. Transit Trips Density – All Purposes Daily Year 2030

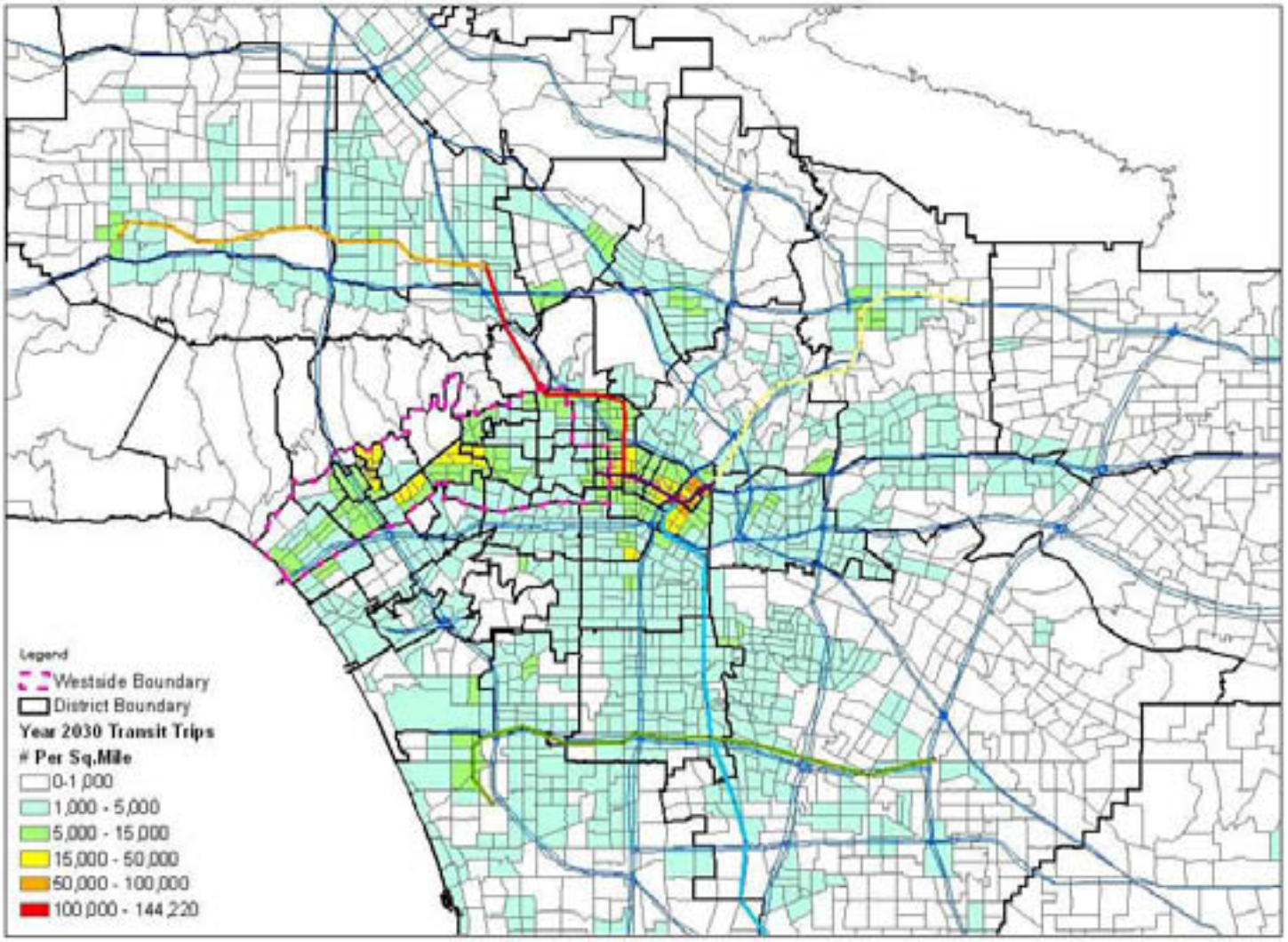


Table 1-23. Transit Share of Person Trips by District, Year 2006 and Year 2030

District#	District Name	All Purposes 2006	All Purposes 2030	Home-Based Work Peak 2006	Home-Based Work Peak 2030
1	Santa Monica N	5.3%	5.8%	13.2%	14.3%
2	Brentwood S	5.3%	6.0%	11.3%	12.0%
3	West LA	6.5%	7.1%	15.4%	16.5%
4	Westwood W	8.0%	8.6%	21.5%	22.2%
5	VA	8.4%	9.2%	22.9%	25.2%
6	UCLA	8.8%	9.0%	15.1%	15.7%
7	Westwood C	9.1%	9.5%	19.6%	20.5%
8	Westwood E	5.2%	5.5%	8.7%	9.3%
9	Westside N	9.7%	10.7%	25.0%	28.4%
10	Beverly Hills N	1.8%	1.8%	4.0%	3.8%
11	Beverly Hills S	8.9%	9.3%	21.9%	22.9%
12	S Robertson N	4.8%	5.1%	9.2%	9.5%
13	West Hollywood	6.0%	6.3%	14.9%	15.9%
14	Hollywood Hills West S	5.6%	5.5%	12.9%	11.8%
15	Mid City West N	3.6%	3.7%	9.0%	9.0%
16	Mid City West S	8.1%	8.4%	18.3%	18.8%
17	PICO	4.8%	5.1%	9.8%	10.0%
18	Central Hollywood	5.7%	5.7%	16.4%	16.4%
19	Greater Wilshire N	3.6%	3.8%	7.2%	7.0%
20	Greater Wilshire S	6.3%	6.6%	15.3%	15.0%
21	Olympic Park	5.6%	5.9%	15.7%	15.7%
22	Koreatown NW	5.8%	5.7%	17.6%	16.4%
23	Koreatown SW	8.3%	8.5%	20.8%	21.0%
	Study Area	**6.9%**	**7.3%**	**16.4%**	**17.4%**
	Los Angeles County	**3.5%**	**3.4%**	**9.6%**	**9.4%**
	Whole Region	**2.4%**	**2.2%**	**6.9%**	**6.4%**

Data Source: 2006 Model Refinement (8/22/2007) and 2030 No Build (10/18/2007)

However, transit usage in the Westside Study Area is still restricted by the limited capacity of the transit system. As discussed previously, the bus routes serving the Study Area are heavily loaded and the vehicle speed of these buses are declining as traffic congestion increases.

Figure 1-43 and Figure 1-44 demonstrate the transit share of person trips by district for the Home-Based Work Peak trip purpose and All Trip Purposes in 2006, respectively. These maps show that transit utilization is higher in the Study Area, especially along Wilshire Boulevard and Santa Monica Boulevard, than in most other areas of the region. Other districts with high transit utilization are along the Metro Rail Lines and Harbor Freeway which has exclusive bus lanes. This trend will continue through 2030.

Figure 1-43. Transit Share of Person Trips - Home-Based Work Peak Trip Purpose Year 2006

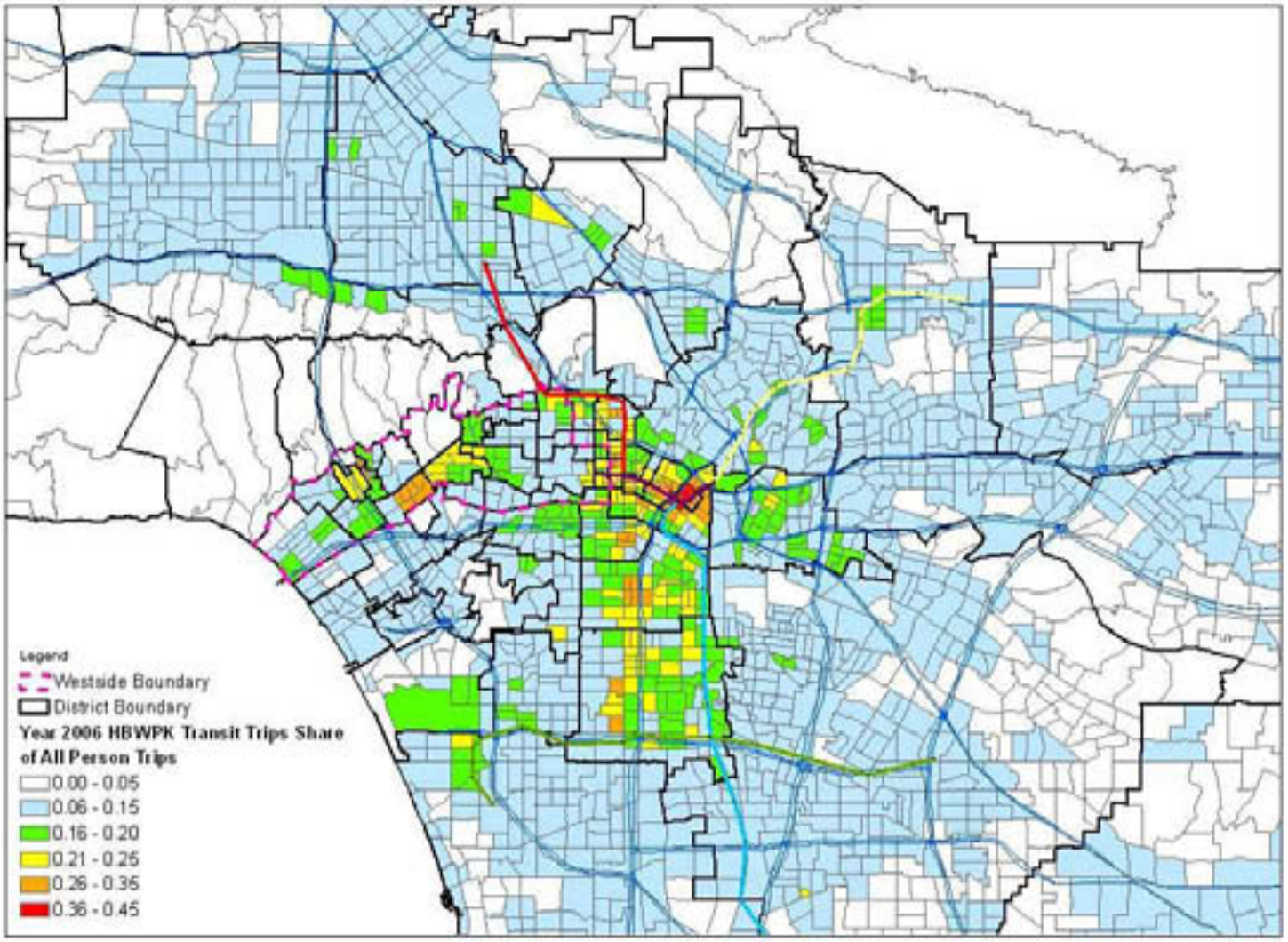
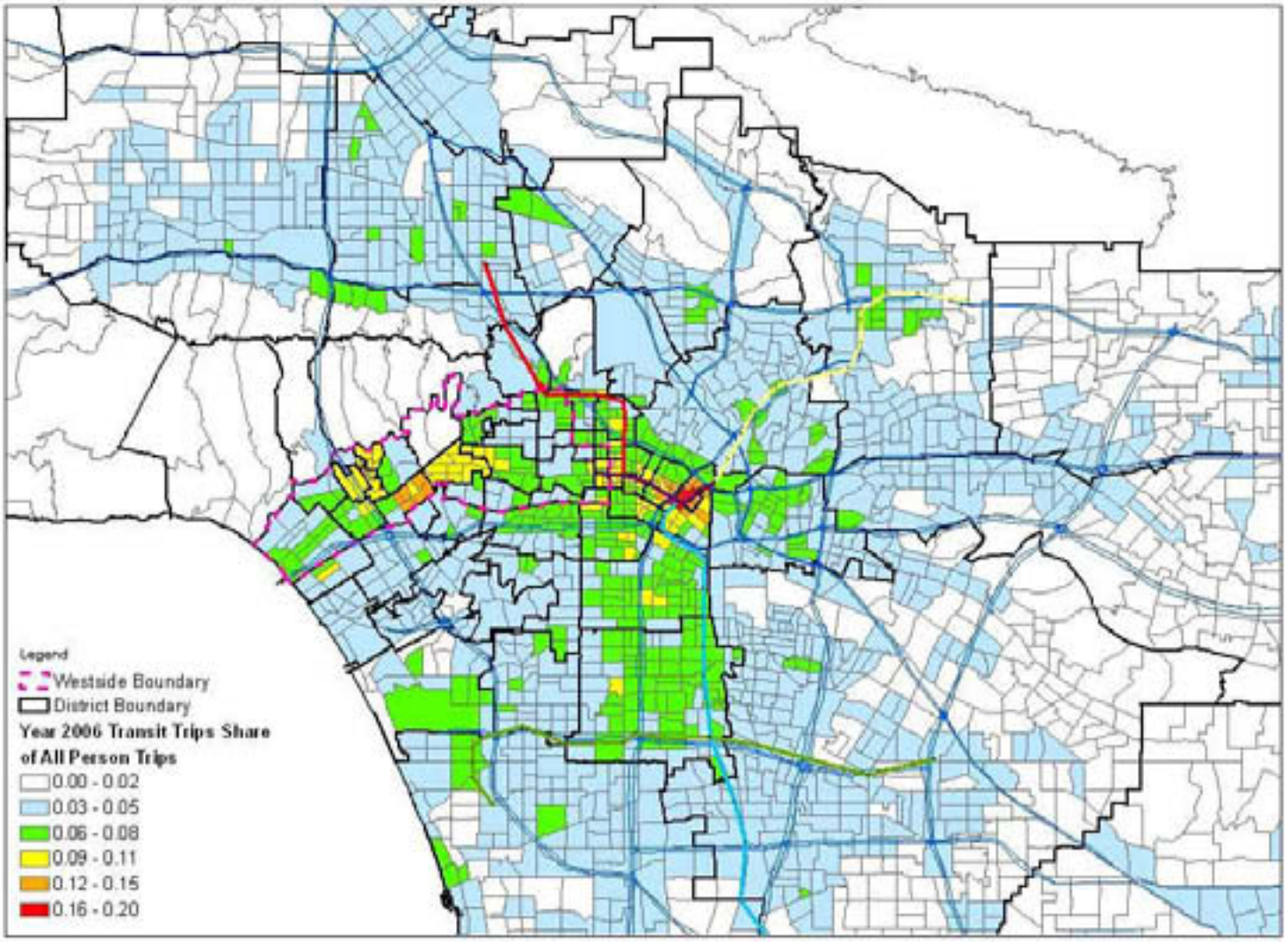


Figure 1-44. Transit Share of Person Trips – All Trip Purposes Year 2006



In 2006, the Study Area produced approximately 116,000 daily transit trips and attracted about 270,000 transit daily trips. Approximately 64.4 percent of transit trips produced by the Study Area stayed inside and 27.7 percent of transit trips attracted to the Study Area were from outside (See Table 1-24). Like the person trips, most transit trips produced by the Study Area had destinations inside the Study Area and at the same time, the Study Area was also the destination for many transit trips from other areas. In 2030, the Study Area is expected to produce about 137,000 transit trips and attract approximately 333,000 trips to the Study Area (See Table 1-25).

Among all trip purposes in the Study Area, Home-Based Work and Home-Based University trip purposes exhibit the two highest transit shares. As shown in the tables below, for the Home-Based Work purpose, the transit share is about 10 percent of total person trips on the production side and about 20 percent on the attraction side for the Study Area. The transit share for Home-Based University person trips is even higher in the Study Area with the data indicating about 20 percent of the production and almost 30 percent of the attraction trips in the peak period. The Home-Based Other trip purpose also has significant market share within the Study Area. Compared with the 2 percent transit share in the region, 5 to 8 percent of person trips in the Study Area are taken on transit for this purpose.

The following sections discuss and analyze the transit markets outside and inside the Study Area.

1.7.5.5 Markets Outside the Study Area - Transit

Los Angeles CBD and Los Angeles Central are the top outside destination districts with about 5,900 (5 percent) and 5,000 (4 percent) transit trips daily, respectively, in 2006. They are the top destinations for Home-Based Work, Home-Based Other and Non Home-Based trip purposes. For Home-Based University trips, the top destinations outside the Study Area are Santa Monica South and East Hollywood, where Santa Monica College and Los Angeles Community College are located, respectively. Gateway and South Bay are the top origin districts outside the Study Area for most purposes. In 2006, Gateway produced about 18,000 daily transit trips (7 percent) to the Study Area and South Bay produced about 12,000 daily transit trips (5 percent) to the Study Area. 2030 is anticipated to have similar transit trip-making patterns as 2006 for top production/attraction districts outside the Study Area.

1.7.5.6 Markets Inside the Study Area - Transit

Chart 1-5 to Chart 1-8 below indicate that in both 2006 and 2030, Santa Monica N, Mid City West S, and Central Hollywood are the top districts in the Study Area for producing transit trips, while Westside N, Beverly Hills S, and Mid City West S are the leading districts in attracting transit trips.

In 2006, for the Home-Based Work Peak trip purpose, the top districts producing transit trips are Central Hollywood, Greater Wilshire S and Koreatown SW. The top districts attracting transit trips are Westside N, Beverly Hills S and Mid City West. In 2030, it is estimated that the top districts to produce the trips inside the Study Area will be Central Hollywood, Santa Monica N, Greater Wilshire S, Koreatown, and UCLA. The top destination districts for this trip purpose will be Westside N, Beverly Hills S and Mid City West S. Table 1-26 and Table 1-27 display the number of trips produced and attracted by these top districts.

Table 1-24. Transit Trips by Purpose, Year 2006

	Home-Based Work Peak	Home-Based University Peak	Home-Based Other Peak	Non Home-Based Peak	All Purposes Peak	Home-Based Work Off-peak	Home-Based University Off-peak	Home-Based Other Off-Peak	Non Home-Based Off-peak	All purposes Off-peak	All Purposes Daily
Total Number of Trips	461,309	66,823	247,351	81,436	856,919	187,618	54,380	231,435	59,825	533,258	1,390,177
Number of Trips Produced by the Study Area	25,580	3,930	19,977	12,627	62,114	11,644	4,015	27,046	11,275	53,980	116,094
Number of Trips Attracted to the Study Area	76,882	10,485	51,675	18,164	157,206	30,800	8,104	58,966	15,558	113,428	270,634
Number of Trips Start and End within the Study Area	10,263	2,595	15,035	8,351	36,244	5,076	2,628	22,659	8,345	38,708	74,952
% of Production Trips Stay in the Study Area	40.1%	66.0%	75.3%	66.1%	58.4%	43.6%	65.5%	83.8%	74.0%	71.7%	64.6%
% of Attraction Trips from the Study Area	13.3%	24.7%	29.1%	46.0%	23.1%	16.5%	32.4%	38.4%	53.6%	34.1%	27.7%
% of Trips Start and End within the Study Area	20.0%	36.0%	42.0%	54.2%	33.1%	23.9%	43.4%	52.7%	62.2%	46.2%	38.8%
Transit Share of Person Trips by Purpose											
Regional Trips	7%	7%	2%	1%	3%	6%	6%	2%	1%	2%	2%
Trips Produced by the Study Area	11%	20%	5%	2%	5%	11%	22%	6%	2%	5%	5%
Trips Attracted to the Study Area	19%	31%	7%	4%	10%	17%	26%	8%	2%	7%	8%

Data Source: 2006 Model Refinement (8/22/2007)

Table 1-25. Transit Trips by Purpose, Year 2030

	Home-Based Work Peak	Home-Based University Peak	Home-Based Other Peak	Non Home-Based Peak	All Purposes Peak	Home-Based Work Off-peak	Home-Based University Off-peak	Home-Based Other Off-Peak	Non Home-Based Off-peak	All purposes Off-peak	All Purposes Daily
Total Number of Trips	549,326	84,052	295,836	99,963	1,029,177	226,617	69,791	279,428	76,909	652,745	1,681,922
Number of Trips Produced by the Study Area	28,801	4,236	24,097	16,034	73,167	13,250	4,581	31,949	14,256	64,036	137,203
Number of Trips Attracted to the Study Area	97,357	12,575	62,173	23,088	195,193	38,891	9,953	68,982	20,220	138,045	333,239
Number of Trips Start and End within the Study Area	11,950	2,706	17,951	10,708	43,315	5,953	2,915	26,360	10,527	45,755	89,070
% of Production Trips Stay in the Study Area	41.5%	63.9%	74.5%	66.8%	59.2%	44.9%	63.6%	82.5%	73.8%	71.5%	64.9%
% of Attraction Trips from the Study Area	12.3%	21.5%	28.9%	46.4%	22.2%	15.3%	29.3%	38.2%	52.1%	33.1%	26.7%
% of Trips Start and End within the Study Area	18.9%	32.2%	41.6%	54.7%	32.3%	22.8%	40.1%	52.2%	61.1%	45.3%	37.9%
Transit Share of Person Trips by Purpose											
Regional Trips	6%	7%	2%	1%	3%	6%	6%	1%	1%	2%	2%
Trips Produced by the Study Area	11%	20%	5%	3%	6%	11%	24%	7%	2%	5%	5%
Trips Attracted to the Study Area	21%	29%	8%	4%	10%	18%	25%	8%	3%	7%	9%

Data Source: 2030 No Build (10/18/20)

Chart 1-5. Top Production Districts within the Study Area, Year 2006 Daily Transit Trips (All Purposes)

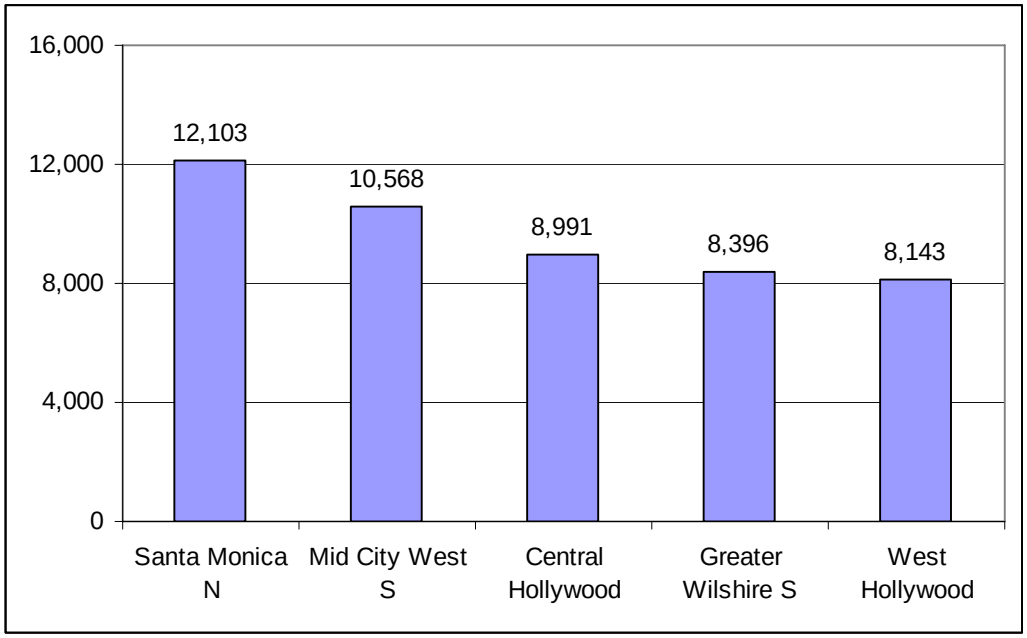


Chart 1-6. Top Attraction Districts within the Study Area, Year 2006 Daily Transit Trips (All Purposes)

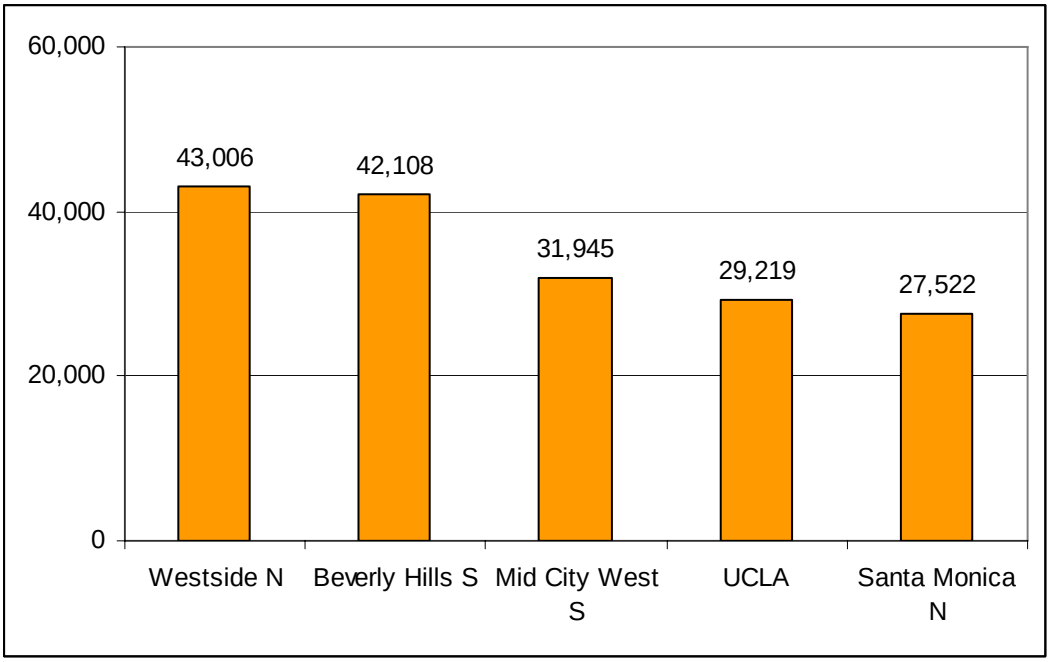


Chart 1-7. Top Production Districts within the Study Area, Year 2030 Daily Transit Trips (All Purposes)

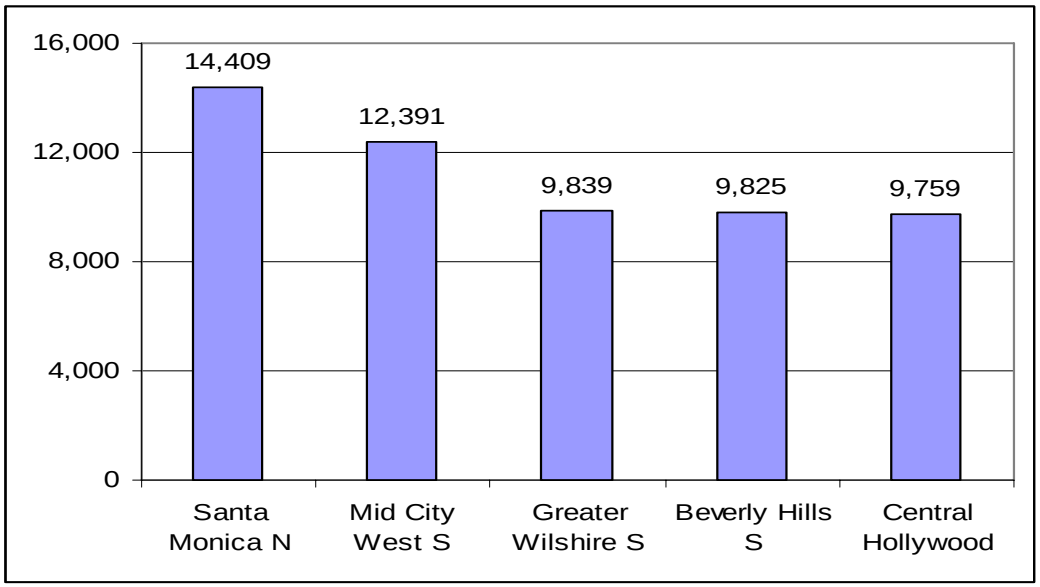


Chart 1-8. Top Attraction Districts within the Study Area, Year 2030 Daily Transit Trips (All Purposes)

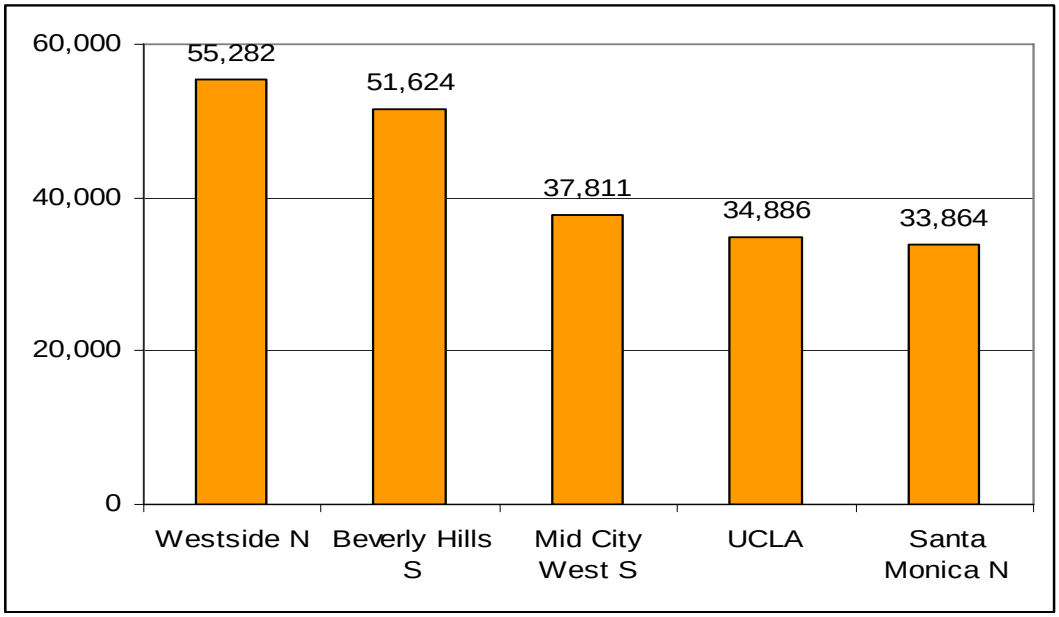


Table 1-26. Top Production/Attraction Districts within the Study Area, Year 2006 Home-Based Work Peak Transit Trips

	Rank	1	2	3	4	5
HBWPK	Top Production Districts	Central Hollywood	Greater Wilshire S	Koreatown SW	Santa Monica N	West Hollywood
	Number of Trips	3,069	2,386	2,346	2,160	1,869
	Top Attraction Districts	Westside N	Beverly Hills S	Mid City West S	Santa Monica N	West LA
	Number of Trips	13,497	11,868	9,150	8,409	5,046

Table 1-27. Top Production/Attraction Districts within the Study Area, Year 2030 Home-Based Work Peak Transit Trips

	Rank	1	2	3	4	5
HBWPK	Top Production Districts	Central Hollywood	Santa Monica N	Greater Wilshire S Koreatown	Koreatown SW	West Hollywood
	Number of Trips	3,224	2,569	2,515	2,514	2,273
	Top Attraction Districts	Westside N	Beverly Hills S	Mid City West S	Santa Monica N	West LA
	Number of Trips	18,198	14,892	11,075	10,513	6,318

Figure 1-45 shows the daily transit trip making pattern in the Study Area for 2030, which is an magnification of the transit trips pattern of today. The two major transit trip corridors will be:

- Santa Monica N – West LA – Westside N – Beverly Hills S – Mid Wilshire S – Greater Wilshire S
- UCLA – Westwood C - Beverly Hills S – Mid Wilshire S – Greater Wilshire S

Figure 1-46 demonstrates the trip making pattern within the Study Area for the Home-Based Work Peak purpose in 2030. The most important transit trip corridor is Santa Monica N – West LA – Westside N – Beverly Hills S – Mid City West S – Greater Wilshire S – Koreatown SW. Similar to the analysis of person trips, the corridor is also along the Wilshire Boulevard.

The Home-Based Work Off-peak trip purpose has transit trip markets similar to the Home-Based Work peak trip purpose. For the Home-Based University purpose, there are no major transit markets from the production perspective. But on the attraction side, UCLA and Westwood C are the dominant transit markets with about 18,000 transit trips in 2006 and more than 21,000 transit trips in 2030. For the Home-Based Other and Non Home-Based trip purposes, the major transit markets are Santa Monica N, West LA, Westside N, Beverly Hills S, Mid City West S, Greater Wilshire S and West Hollywood. All of these districts are along Wilshire Boulevard except West Hollywood.

Figure 1-45. Year 2030 Transit Trips Making Pattern within the Study Area for All Trips

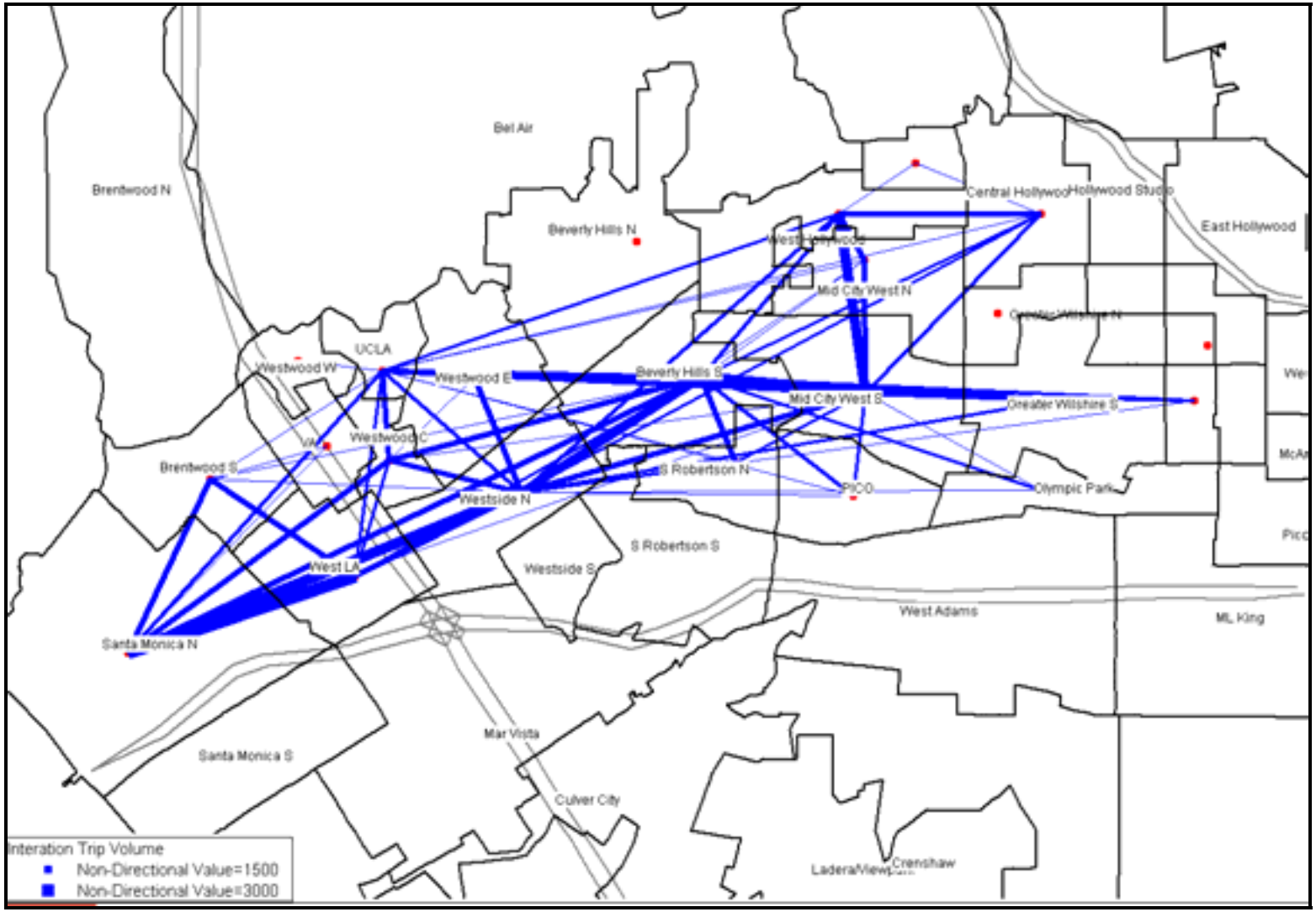
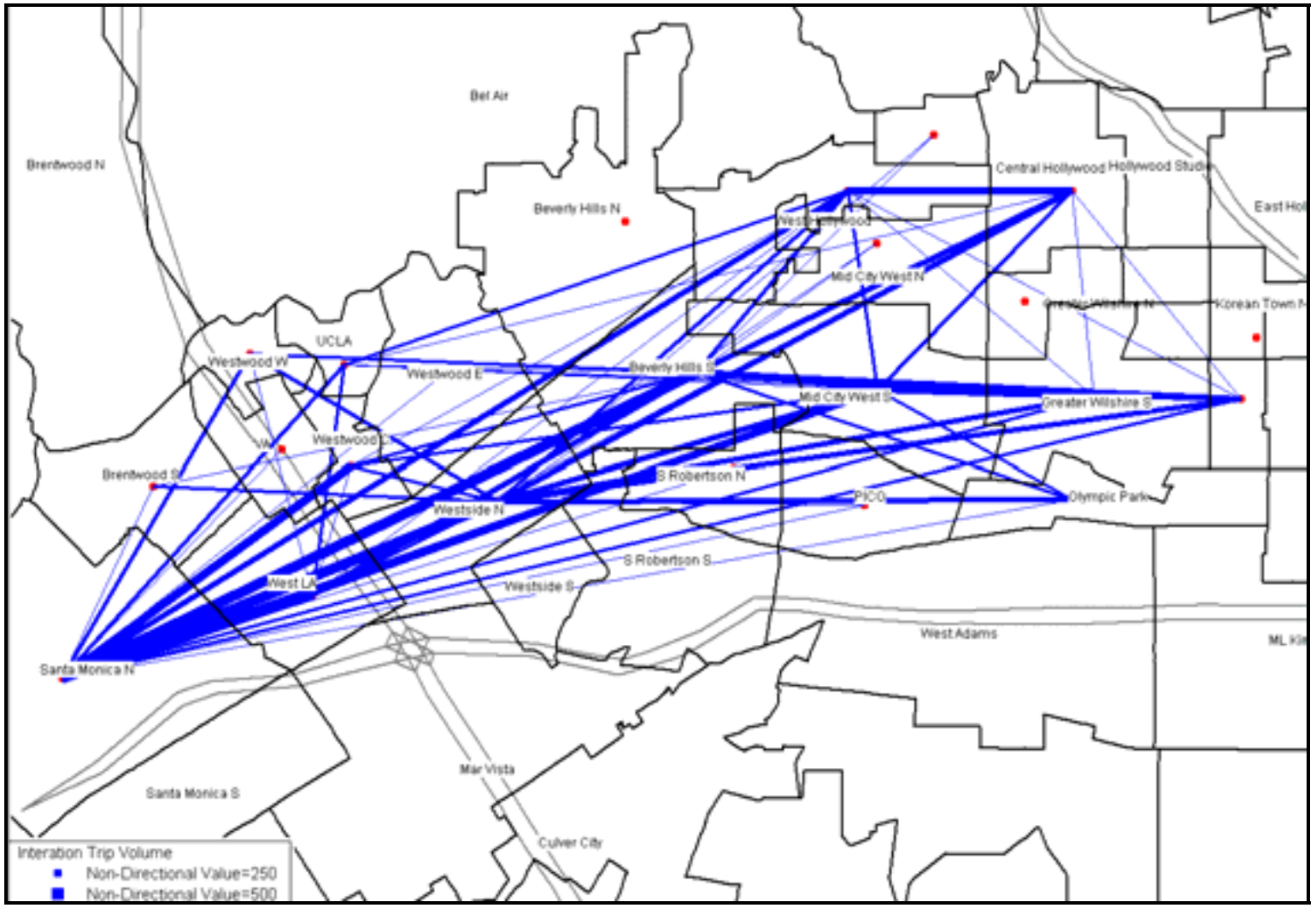


Figure 1-46. Year 2030 Transit Trips Making Pattern within the Study Area for Home-Based Work Peak Trips



1.8 Goals and Objectives

The primary purpose of the proposed action is to improve public transit service and mobility in the Westside Extension Transit Corridor. A set of goals was established at the project outset to determine the ability of each alternative to meet the primary purpose, as well as secondary purposes and related issues. Objectives associated with each goal were identified, and criteria for measuring the achievement of each objective were specified.

The goals and associated objectives and criteria are illustrated in Figure 1-47, Goals, Objectives, and Criteria for the Westside Extension Transit Corridor Study.

These goals and objectives are structured to capture the priorities for mobility improvement and transit performance that have been raised and discussed by transportation planning agencies, community leaders, and concerned citizens and stakeholders for the past several years.

Goals and objectives for the Westside Extension Transit Corridor address the major considerations related to making choices among different transportation alternatives such as effectiveness, impacts, cost-effectiveness, financial feasibility, and equity. For the Westside Extension Transit Corridor, seven goals have been identified and are described as follows:

Goal A – Mobility Improvement: The primary purpose of the project is to improve public transit service and mobility in the Westside Extension Transit Corridor. To evaluate the goal of Mobility Improvement, the analysis will examine how well each alternative improves the ability of residents and employees to reach desired destinations through the provision of high quality, convenient, and reliable east-west transit service throughout the Corridor.

Goal B – Transit Supportive Land Use Policies and Conditions: A major aspect of this goal is to locate transit alignments and stations in areas with existing land uses conducive to transit use or in those areas which have the greatest potential to develop transit supportive land uses.

Goal C – Cost Effectiveness: This goal ensures that both the capital and operating costs of the project are commensurate with its benefits.

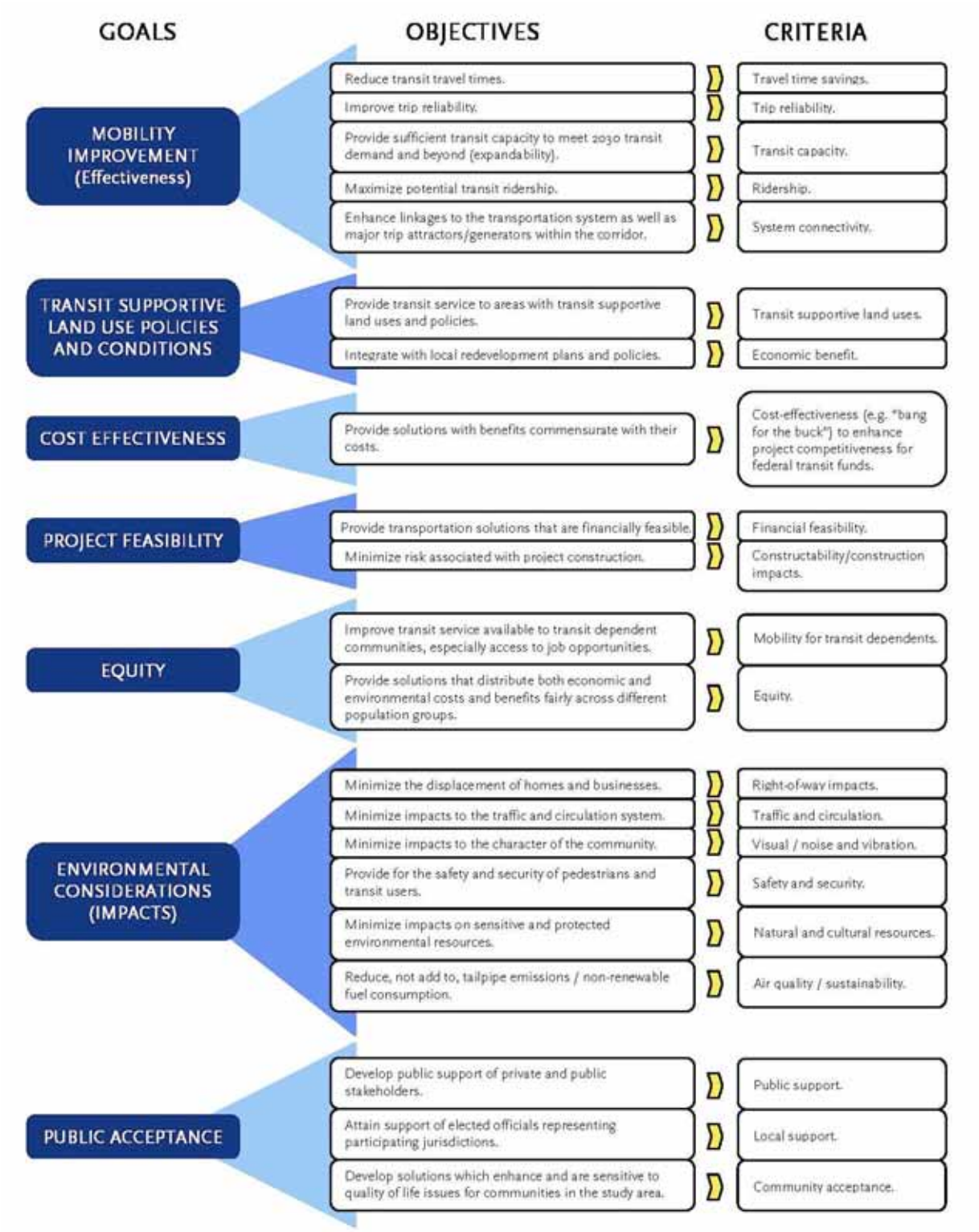
Goal D – Project Feasibility: The fourth goal is that the project be financially feasible, in other words, that funds for the construction and operation of the alternative be readily available in the sense that they do not place undue burdens on the sources of those funds.

Goal E – Equity: This goal evaluates project solutions based on how well costs and benefits are distributed fairly across different population groups, with particular emphasis on serving transit dependent communities.

Goal F – Environmental Considerations: The sixth goal, Environmental Benefits, is to develop solutions which minimize impacts to environmental resources and communities within the study area.

Goal G – Public Acceptance: This goal aims to develop solutions that are acceptable to a reasonable portion of the public with special emphasis on residents and businesses within the study area.

Figure 1-47. Goals, Objectives and Evaluation Criteria



Performance measures will be used to measure the achievement of the goals, objectives according to the evaluation criteria shown in Figure 2-2. The specific evaluation criteria proposed for each step in the study's evaluation process are further described in Section 3.3 and 3.4 of this report. The evaluation criteria and performance measures are developed in consultation with elected officials and participating public agencies. It is anticipated that the number and character of the performance measures will vary at each stage of the analytical process depending on the number of alternatives under consideration and the types of choices that are being made.

A comprehensive list of potential performance measures has been identified for the Westside Extension Transit Corridor Study for each phase of analysis and is presented in Section 3.6 of this report.

1.9 Role of this Alternatives Analysis

The purpose of this Alternatives Analysis is to provide a more detailed and thorough examination of the top proposals identified in the earlier screening process, concluding with recommendations of which alternative would best serve the transportation needs of the Westside. This report first reviews the entire set of alternatives originally considered for the early scoping process, and the seventeen alternatives advanced for additional screening. Those seventeen alternatives were then narrowed down to the set of detailed alternatives, which are evaluated in this report. These detailed alternatives include No Build, TSM, Alternative 1, Alternative 14, Alternative 11 (A and B), Alternative 16, and Alternative 17.

In order to determine which of these remaining options would result in the best transit service for the Westside, this report first considers the transportation impacts and benefits of the various alternatives. The analysis then covers the environmental and financial implications of each alternative. The plans are then compared to each other based on a set of criteria, including effectiveness, efficiency, environmental, financial feasibility, equity, and the community's response. Finally, the report concludes with an overview of the public involvement process and agency coordination and consultation.

The intention of this report is to provide a clear, straight-forward analysis of the various transportation plans that are currently on the table for the Westside.