CHAPTER 1
PURPOSE AND NEED

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1.0 PURPOSE AND NEED

1.1 Introduction

This Final Environmental Impact Statement (FEIS)/Final Environmental Impact Report (FEIR) presents information pertaining to the environmental impacts and benefits of the Crenshaw/Los Angeles International Airport (LAX) Transit Corridor Project, previously known as the Crenshaw Transit Corridor Project. This FEIS/FEIR also addresses agency and public comments on the Draft Environmental Impact Statement/Draft Environmental Impact Report (DEIS/DEIR) (February 2010) and the Supplemental Draft Environmental Impact Report/Recirculated Draft Environmental Impact Report (SDEIS/RDEIR) (March 2011). The Federal Transit Administration (FTA) is the federal lead agency pursuant to the National Environmental Policy Act (NEPA). The Los Angeles County Metropolitan Transportation Authority (Metro) is the local lead agency under the California Environmental Quality Act (CEQA). The Federal Aviation Administration (FAA) is also a cooperating agency for the project with expertise in aviation matters due to the project's proximity to LAX.

1.1.1 Organization of the FEIS/FEIR for the Crenshaw/LAX Transit Corridor Project

The organization of this FEIS/FEIR is as follows:

- Executive Summary
- 1.0 Purpose and Need
- 2.0 Alternatives Considered
- 3.0 Transportation Impacts of the Alignment and Stations
- 4.0 Affected Environment/Environmental Consequences of the Alignment and Stations
- 5.0 Affected Environment/Environmental Consequences of the Maintenance Facility
- 6.0 Section 4(f) Evaluation
- 7.0 Community Outreach
- 8.0 Financial Analysis and Comparison of Alternatives
- 9.0 Responses to Comments Received

Appendices (On Disc)

- Appendix A Engineering Drawings
- Appendix B List of Acronyms and Abbreviations
- Appendix C List of FEIS/FEIR Recipients
- Appendix D References
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- Appendix F Regulatory Setting
- Appendix G Traffic Analysis
- Appendix H Technical Analyses
- Appendix I Cultural Effects Report
- Appendix J SHPO Coordination
- Appendix K Responses to Comments

1.1.2 Focus of the Crenshaw/LAX Transit Corridor Project FEIS/FEIR

The FTA planning and project development process, within which federal, State, and local officials plan and make decisions regarding major transit capital investments, contains five phases. These phases include: (1) system planning; (2) alternatives analysis and environmental review; (3) preliminary engineering; (4) final design; and (5) construction. As projects are conceived and advanced through these phases, their design, costs, benefits, and impacts are more clearly defined, with alternatives screened with the goal of identifying a Locally Preferred Alternative (LPA), which is cost-effective and provides the greatest benefit with the fewest adverse impacts.

The analysis in this FEIS/FEIR focuses on the No-Build Alternative, the LPA, and design options for the LPA. Since the circulation of the DEIS/DEIR, a new evaluation of light rail maintenance sites for the Crenshaw/LAX Transit Corridor Project was completed in an SDEIS/RDEIR and circulated to the public for a 45-day period between February 25, 2011 and April 11, 2011. This process was required because the Metro Board directed that the prior sites evaluated in the DEIS/DEIR be removed from consideration. Since the circulation of the DEIS/DEIR, the area of potential effects (APE) for the project was refined to reflect the LPA, and the updated Section 4(f) resource analysis was included in the SDEIS/RDEIR to provide disclosure to the public and provide an opportunity to comment. The SDEIS/RDEIR was a focused document and not a recirculation of the entire DEIS/DEIR. Comments received on the SDEIS/RDEIR have been responded to in this FEIS/FEIR.

Public and agency participation and comments were solicited and helped guide both the site identification and selection process for the maintenance site alternatives. Both CEQA and NEPA require consideration of a reasonable range of alternatives. In order to create transparency and allow the public to be aware of this process, the evaluation of the Maintenance Facility Site Alternatives and Section 4(f) evaluation are evaluated in separate chapters within the FEIS/FEIR.

The analysis of environmental impacts presented in this document identifies the type and severity of environmental impacts for the alignment, stations and for the maintenance site alternatives. Measures to avoid and mitigate adverse environmental impacts also are identified in this FEIS/FEIR.

1.1.3 Use of the Crenshaw/LAX Transit Corridor Project FEIS/FEIR

The preparation of this FEIS/FEIR, together with the required circulation, public hearings, and review of the DEIS/DEIR, ensures that all significant transportation and

environmental impacts have been assessed, and that public participation and comments have been solicited to help guide the decision-making process.

The identification, examination, and assessment of all reasonable and feasible alternatives are necessary to meet the requirements of the NEPA. CEQA requires an Environmental Impact Report (EIR) evaluate a reasonable range of alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. NEPA and CEQA require similar environmental analysis in an EIS and an EIR, respectively, as well as public review for projects that will have significant effects on the environment. The State of California encourages joint preparation of EIRs and EISs and has produced guidelines to facilitate preparation of joint documents.

The DEIS/DEIR considered the following alternatives:

- No-Build Alternative, which serves as the baseline for evaluating transportation and environmental impacts potentially resulting from the build alternatives;
- Transportation System Management (TSM) Alternative; and
- Two build alternatives. The transit improvement build alternatives consist of a Bus Rapid Transit (BRT) Alternative and a Light Rail Transit (LRT) Alternative.

The SDEIR/RDEIR analyzed four new alternative maintenance facility sites for the proposed project:

- Site # 5 – Manchester/Portal
- Site # 11 – Imperial/Aviation
- Site #14 – Arbor Vitae/Bellanca; and
- Site #15 – Manchester/Aviation

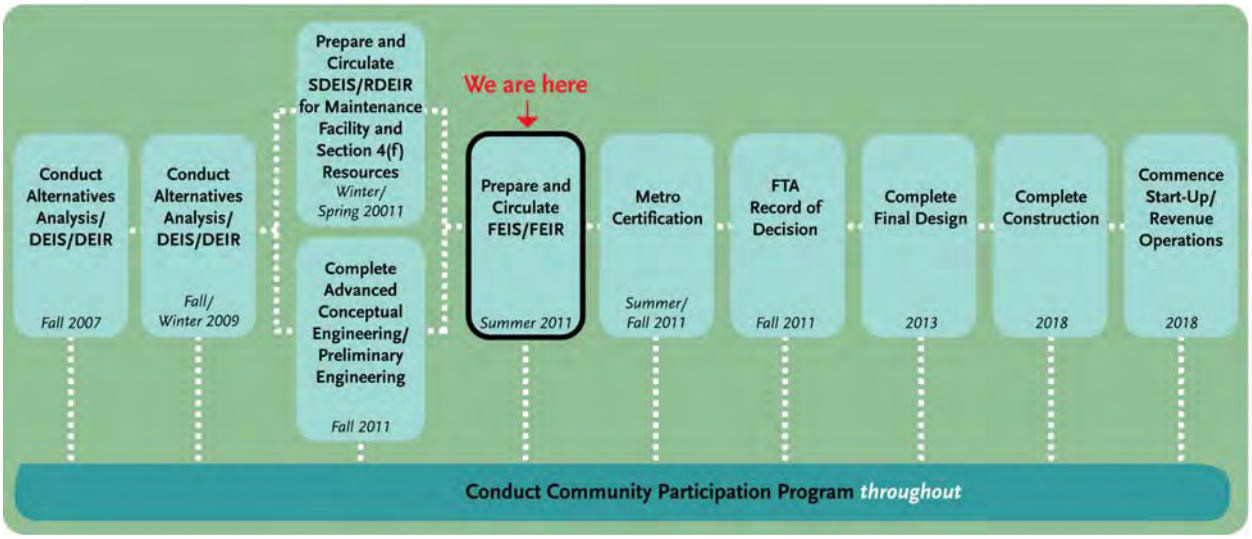
The analyses of the various alternatives presented in the DEIS/DEIR and SDEIR/RDEIR are incorporated into this FEIS/FIER by reference. The FEIS/FEIR also provides refinement and further evaluation of the LPA along with its design options, the maintenance facility at Site # 14, and the No-Build Alternative. In addition, this FEIS/FEIR also provides responses to comments received on the DEIS/DEIR and SDEIS/RDEIR during the public review periods. None of the new information presented in this FEIS/FEIR is significant new information requiring recirculation of all or a portion of the DEIS/DEIR or the SDEIS/RDEIR. In particular, no new significant and unavoidable adverse environmental impacts have been identified.

The document will allow the Metro Board of Directors to select the most appropriate project for the Crenshaw/LAX Transit Corridor while ensuring that potentially significant environmental consequences are considered as part of this process and significant environmental impacts of the project are avoided or reduced to the extent feasible. This FEIS/FEIR document will be circulated and made available as required by NEPA and CEQA to interested and concerned parties, including private citizens, community groups,

the business community, elected officials, and public agencies. This FEIS/FEIR will also be used by Federal, State, regional, and local agencies to make discretionary decisions regarding this project.

Appropriate local, state, regional, and Federal agencies will review the FEIS/FEIR to determine if all comments reflecting community issues of concern have been addressed properly and to determine if interagency agreements and project mitigation measures have been incorporated into the document. Metro may certify the EIR, adopt the findings of fact and Statement of Overriding Considerations for significant impacts, and approve the project. The FTA may issue a Record of Decision (ROD) culminating the environmental review process. Metro may then apply to the FTA for permission to enter the final design and construction phases of the project. Figure 1-1 shows the environmental process for Crenshaw/LAX Transit Corridor Project.

Figure 1-1. Environmental Process



1.1.4 Summary of Purpose and Need

This chapter, 1.0 Purpose and Need, describes the purpose and need for transit and transportation improvements in the Crenshaw/LAX Transit Corridor (corridor), a heavily traveled north-south oriented corridor in Los Angeles County, California. Since 1967, the inadequacies of connectivity and mobility within the corridor have been the subject of numerous Metro transportation and transit studies. They concluded that transportation within and from the corridor was constrained, congested, and urgently in need of system improvements. These previous studies, along with current and projected transportation data, are evaluated in this section further illustrating the continued need for enhanced transportation and transit services in the corridor.

Local policy direction has generally focused on first using travel demand management and transit solutions in addition to the expansion of the existing roadway network, supporting the consideration of transit improvements within the corridor. In addition,

the corridor is included in Metro's current *2009 Long-Range Transportation Plan* (LRTP) and in the Southern California Association of Governments' (SCAG) *2008 Regional Transportation Plan* (RTP), and the Measure R, a half-cent sales tax approved by the voters in November 2008.

Implementation of an effective north-south transportation network within the corridor is vital to alleviate current and projected connectivity and mobility problems affecting corridor residents and businesses by providing essential linkages from residential areas to commercial, activity, employment, and institutional centers within and adjacent to the corridor. The major themes and underlying needs supporting transit improvements in the corridor include the following:

- Peak Hour Congestion within the Corridor
- Transit Accessibility and Availability
- Land Use Integration and Economic Development
- Growing Demand for Transit Service
- Benefits for the Environment

This chapter begins by describing previous studies of the corridor, and then provides a description of the corridor, the regional transportation system and its performance. The chapter then addresses the purpose, goals, and objectives of the proposed alternatives. A discussion of the major themes and underlying needs for transit improvements in the corridor, followed by a discussion of the travel demand and travel markets in the study area, conclude the chapter.

1.2 History and Background

The corridor was initially included in the region's first rail system plan in 1967. Over the past 40 years, the need for transportation improvements in the corridor has been established through a series of transportation plans and studies undertaken by Metro and its predecessor agencies – the Southern California Rapid Transit District (SCRTD) and the Los Angeles County Transportation Commission (LACTC). These included the *Inner-City Transit Needs Assessment Study Final Report* (1993) and the *Crenshaw Corridor Recovery and Revitalization Environmental Impact Report* (1994).

Metro has completed three transportation studies of the corridor over the past 13 years. In 1994, the *Crenshaw-Prairie Corridor Preliminary Planning Study* clearly identified the need for high-capacity transit system improvements, with two viable transit service corridor alternatives. The related modal options were studied further in December 2000 with the publication of the *Crenshaw-Prairie Corridor Route Refinement Study*. This report identified a set of viable transportation alternatives for the corridor. In 2003, the *Crenshaw-Prairie Corridor Major Investment Study* (MIS) was completed to assist decision-makers in evaluating the most effective solution, or phasing of solutions, to the transportation challenges identified in the corridor within the context of local goals and objectives. In the process of completing these three studies, the corridor area was further defined. In the northern portion of the corridor the width of the boundaries was determined based on a logically equidistant area to the west and east of Crenshaw

Boulevard. In the southern portion of the corridor, the width of the boundaries was determined by similar equidistant areas to the west and east of the route alternative alignments extending southwest from and including Crenshaw Boulevard. A brief description of each of these three previous studies is presented below.

1.2.1 Crenshaw-Prairie Corridor Preliminary Planning Study (1994)

The purpose of the *Crenshaw-Prairie Corridor Preliminary Planning Study* was to provide information to Metro, interested agencies, and decision-makers on the viability of the corridor as a transit corridor. The study clearly recognized the need for high-capacity transit system improvements by identifying two possible transit service corridors with related modal options to be further studied. The two transit service corridors included: 1) Mid-City Los Angeles south to Hawthorne Plaza and 2) Mid-City Los Angeles south to LAX. Six preliminary alternatives were identified in the study using various transit technologies such as Electric Trolley Bus, at-grade and aerial Light Rail Transit (LRT), as well as Heavy Rail Transit (HRT) subway. Although these preliminary alternatives were evaluated, no specific alternatives were recommended.

1.2.2 Crenshaw-Prairie Corridor Route Refinement Study (2000)

Building on the general information and evaluation presented in the *Crenshaw-Prairie Corridor Preliminary Planning Study*, the *Crenshaw-Prairie Corridor Route Refinement Study* identified the need for and proposed a set of viable transportation alternatives for the corridor. During the study, a wide range of possible transportation improvements for the corridor was identified through a series of public workshops and a two-step screening process. As a result, all identified transportation options were reduced to 14 conceptual alternatives. Six reasonable initial alternatives were screened from the conceptual alternatives in addition to the No-Build and Transportation Systems Management (TSM) alternatives.

1.2.3 Crenshaw-Prairie Corridor Major Investment Study (2003)

The purpose of the *Crenshaw-Prairie Corridor Major Investment Study* was to comprehensively analyze potential future transportation improvements implemented within the corridor, building on the analysis conducted in the *Crenshaw-Prairie Corridor Route Refinement Study*. The results of the MIS were intended to assist Metro, interested agencies, and decision-makers in selecting the most effective solution, or phasing of solutions, to the transportation challenges identified in the corridor within the context of local goals and objectives. Several factors had changed since the completion of the *Crenshaw-Prairie Corridor Route Refinement Study*, which affected the analysis presented in the MIS including: (1) Metro was no longer planning to extend the Metro Red Line to the vicinity of Pico and San Vicente Boulevards; (2) Metro Rapid Bus service was successfully implemented on Wilshire and Whittier Boulevards from Santa Monica through downtown Los Angeles and from East Los Angeles to Montebello; and (3) the *Mid-City/Westside Transit Corridor Major Investment Study* was completed and recommended the implementation of Bus Rapid Transit (BRT) service on Wilshire Boulevard and LRT service on the former Exposition railroad right-of-way. Based on these changes, extensive public and stakeholder outreach, and fatal flaw level technical and environmental analysis, an initial set of alternatives was identified and evaluated. However, some of these alternatives were determined to not be

technically viable. As a result, a final set of four Alternatives were identified for further technical and environmental analysis. The final set of four alternatives included No-Build, Metro Rapid Bus, BRT, and LRT alternatives.

1.3 Description of the Corridor

The corridor study area (study area) is north-south oriented and extends approximately ten miles in length. The study area includes approximately 33 square miles and portions of five jurisdictions: the Cities of Los Angeles, Inglewood, Hawthorne, and El Segundo, as well as portions of unincorporated Los Angeles County. As evaluated in the MIS and other previous documents, the study area, as shown in Figure 1-2, is generally defined as the area extending north to Wilshire Boulevard and the Park Mile area of Los Angeles; east to Arlington Avenue; south to El Segundo Boulevard and northern Hawthorne; and west to Sepulveda Boulevard, La Tijera Boulevard, and La Brea Avenue. Three major interstate freeways traverse the study area, including the Interstate 10 Freeway (I-10), the Interstate 405 Freeway (I-405), and the Interstate 105 Freeway (I-105).

The topography and resulting street grid within the corridor varies widely, contributing to the unique challenges for the large number of transit-dependent residents in the study area. The study area includes hills in the west which contribute to the difficulty of corridor residents traveling to commercial, institutional, and employment centers in the West Los Angeles area. The presence of hills results in the lack of north-south arterials, which results in congestion along the few existing north-south arterials. Large numbers of study area residents travel on existing Metro bus lines north along Crenshaw Boulevard and then west along Wilshire Boulevard to reach destinations to the west, supporting the need for north-south transportation improvements.

There are several areas where the hills exist or topographic grades reach up to five percent. These areas include the area near the intersections of Crenshaw/Pico Boulevards and Crenshaw/Washington Boulevards, the area on Crenshaw Boulevard south of Florence Avenue, and the area in Baldwin Hills (unincorporated Los Angeles County) north of the La Brea/Slauson Avenues intersection. Corridor elevations range from just over 200 feet above mean sea level (amsl) in the flat areas to 431 feet amsl in Baldwin Hills.

Other unique challenges exist for the large number of transit-dependent residents in the study area. As described in this document, the existing frequency of transit service in the corridor is not commensurate with the study area needs, resulting in a transit system that is operating at or over capacity. In addition, the lack of connections to the existing regional transportation system also contributes to the unique challenges faced by transit-dependent residents in the study area.

A variety of land uses exist within the study area, including single- and multi-family residential and commercial uses north of the I-10 Freeway and south of Slauson Avenue, commercial uses along Crenshaw Boulevard and in Hawthorne, industrial and public land uses in Inglewood and El Segundo, as well as redevelopment areas in Los Angeles, Inglewood, and Hawthorne. Redevelopment areas, State Enterprise Zones, and Federal Empowerment Zones provide incentives to attract development, employment, and services to historically underserved areas, like the study area.

Figure 1-2. Study Area

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

The study area consists of many residential land uses. Study area residents must travel outside of the corridor to places of employment, colleges and universities, and shopping areas. Figure 4-1 in Section 4.1 Land Use and Development shows the land use map for the study area and illustrates that the study area contains many areas of residential and commercial land uses. Commercial uses exist along main arterials, such as Crenshaw Boulevard, La Brea Avenue, Hawthorne Boulevard, and Century Boulevard. Industrial uses are prevalent adjacent to the Exposition LRT Line under construction, the southeast portion of the study area, and along portions of the Harbor Subdivision Railroad right-of-way (Harbor Subdivision), a freight rail corridor originally owned by Burlington Northern Santa Fe (BNSF) that was purchased by Metro in the early 1990s to further the development of the region's rapid transit system.

Table 1-1 illustrates that the study area consists of approximately 60 percent residential, 11 percent commercial, and 6 percent industrial land uses.

Table 1-1. Percentage of Land Uses within the Study Area

Land Use Designation	Percentage of Study Area
Low-Density Residential /a/	45.4
Medium- to High-Density Residential /a/	14.6
Transportation & Utilities	15.7
Commercial	10.6
Industrial	5.9
Public Facilities & Institutional	3.6
Open Space & Recreational	3.0
Vacant	1.1
Under Construction	0.1
Agricultural	0.1

Source: SCAG, 2000.
/a/ SCAG does not assign specific densities for low, medium, or high residential development for planning purposes. Although SCAG uses the terms "low", "medium" and "high" density, the specific definitions of those densities are left to the individual city to determine. However, for mapping purposes, SCAG generally uses the following definitions for residential development: low-density 1 to 7 dwelling units per acre, medium-density 8 to 16 dwelling units per acre, and high density 17+ dwelling units per acre.

The study area includes some of the lowest income communities in the Cities of Los Angeles, Inglewood, and Hawthorne, as well as some of the hardest hit areas of the civil unrest of 1992. The average unemployment rate for the study area is approximately 14 percent, compared to the overall County of Los Angeles unemployment rate of 12 percent.[1] Unemployment has increased since the start of the recession in 2008. The median household income in the study area was $34,505 in 1999. According to the Census 2000, approximately 22.3 percent of the working population residing within the study area earned

[1] County of Los Angeles, Department of Regional Planning, Los Angeles County Economic Indicators, 2009-2010.

less than $10,000 per year. In addition, 99 percent of the study area's population was evaluated for poverty status.

Approximately 23 percent of the population in the study area is living below the poverty threshold.[2] The study area is located within the SCAG region which consists of six southern California counties: Los Angeles, Imperial, Orange, Riverside, San Bernardino, and Ventura. SCAG is the regional planning agency with responsibility for reviewing the consistency of local plans, projects, and programs with regional plans. SCAG has prepared the Regional Comprehensive Plan and Guide (RCPG) and the RTP to serve as frameworks to guide decision-making with respect to growth and changes that can be anticipated up to the year 2030 and beyond. At the regional level, the goals, objectives, and policies in the RCPG and RTP are used for measuring consistency with the adopted plan.

The City of Los Angeles Department of City Planning divides the City into seven large Certified Neighborhood Council (CNC) Areas, including Harbor, North Valley, South Valley, West, Central, East, and South Los Angeles. Each CNC Area is divided into smaller neighborhood councils.

1.4 Regional Transportation System

Existing transportation facilities and services within the study area include arterial streets, freeways, bus routes, and rail lines. The topography and street grid of the study area presents unique challenges to existing transportation facilities and services. Few north-south running arterials in the study area cross over the small hills located in the unincorporated Los Angeles County area on the western portion of the study area. This places pressure on north-south arterials in or adjacent to the study area, such as La Cienega Boulevard and La Brea Avenue. Section 3.0 Transportation Impacts includes a detailed description of the existing freeways and arterial streets and roadways.

Regional Transit Context

Typically, study area residents must make several bus transfers in order to access the existing regional transit system which consists of BRT, LRT, HRT, and commuter rail components. This system currently involves more than 141 miles of Metro Rapid bus service, 70 miles of Metro Rail service, and more than 500 miles of Metrolink commuter rail lines. Figure 1-3 illustrates the major transit routes serving the corridor.

Figure 1-4 illustrates the locations of Metro Rail, Metro Rapid bus, bus transitway, and Metrolink transit lines in Los Angeles County that currently exist or are under construction. With implementation of the proposed light rail improvements, along with the existing and proposed transit lines illustrated in the figures, study area residents and others could more easily access activity and employment centers in Downtown Los Angeles, the San Fernando Valley, Pasadena, the South Bay (e.g., the aerospace industry), Culver City, and West Los Angeles.

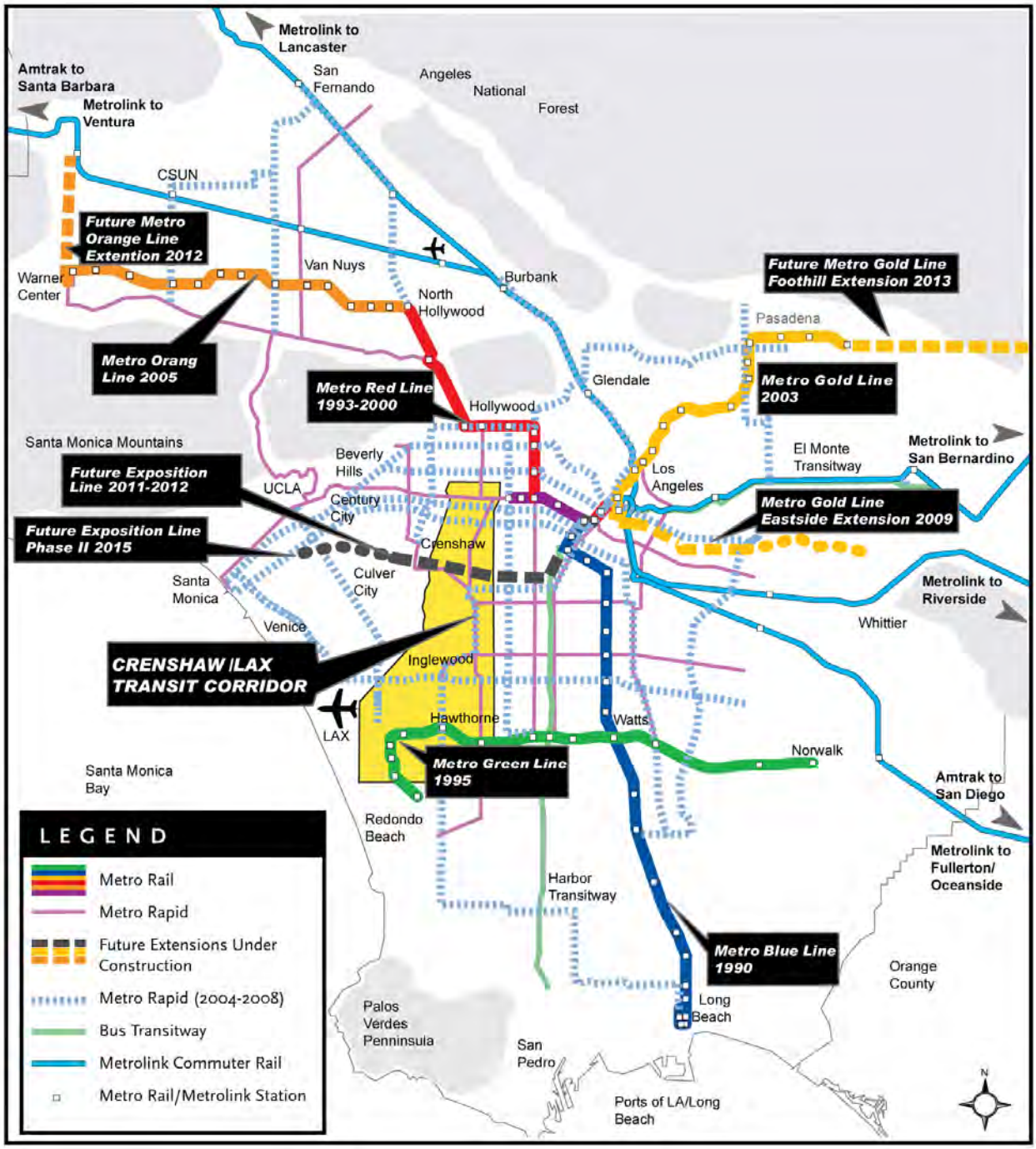
The existing and committed transit system currently includes the following components. As noted below, only some of these components pass through the study area: numerous

[2] More recent demographic data is available for only a limited number of statistical indicators. Therefore, for consistency purposes, Census 2000 demographic data (with some of that data gathered in 1999) is used throughout this document.

Figure 1-3. Existing Transit Lines

Source: Metro 2008.

Figure 1-4. Los Angeles County Fixed Guideway Transit and Metro Rapid Bus Route System



Source: Metro, 2004.

bus routes, the Metro Green Line and the Expo Phase I Line currently under construction. In addition, the western terminus of the Metro Purple Line is located just east of the study area.

Please refer to Table 3-1 in Chapter 3, transportation Impacts for a detailed route description and service area for each of component systems listed below.

Bus Routes and Lines

- Metro Rapid Bus Routes
- Metro Rapid Lines
- Limited Stop and Express Bus
- Local Bus Service
- The City of Santa Monica Big Blue Bus Rapid Line

Fixed Guideway (Rail and Bus Rapid Transit) Lines

- Metro Green Line
- Expo Phase I Line (LRT)
- Metro Red/Purple Lines (Heavy Rail)
- Metro Orange Line (BRT)
- Metro Blue Line (LRT)
- Metro Gold Line (LRT)
- Metro Gold Line Eastside Extension (LRT)
- Metrolink Commuter Rail

1.5 Transportation System Performance

As previously mentioned, regional transportation planning for Southern California's six-county area is the responsibility of SCAG, which is the Metropolitan Planning Organization (MPO) for the area. In May of 2008, the SCAG Regional Council adopted the RTP entitled "Making the Connections" to establish the goals, objectives, and policies for the transportation system, as well as to establish the implementation plan for transportation investments over the next 27 years.

The RTP includes regional performance indicators with objectives against which specific transportation investments can be measured. The performance indicators illustrate that travel conditions in the study area will worsen by 2030 and the area will not meet regional objectives for mobility, accessibility, reliability, or safety without the implementation of additional transportation improvements. This conclusion is supported by the data provided below describing the performance of the highway and transit systems serving the study area.

1.5.1 Highway System Performance

Los Angeles has the distinction of being consistently ranked as either the most or one of the most congested urban areas in the country, according to annual surveys of traffic

congestion levels conducted by the Texas Transportation Institute (*Urban Mobility Report 2010*, National Congestion Tables).[3] The study area contains some of the most congested traffic conditions in Los Angeles. The sections below describe the conditions on freeways and arterial streets within the study area.

1.5.1.1 Highway System Demand

Freeways

The I-10, I-105 and I-405 Freeways, similar to many freeways in Southern California, experience high levels of congestion, particularly during peak commute periods. The I-105 and I-405 Freeways, within the vicinity of the study area, also experience heavy traffic throughout the day as they provide regional access to the West Los Angeles area and LAX.

The West Los Angeles area contains several activity centers and destinations, which contribute to the congestion on the I-10 and I-405 Freeways during the weekday morning rush hour. These include the University of California at Los Angeles (UCLA), Santa Monica College, Century City, Beverly Hills, and Santa Monica. LAX is the world's fifth busiest passenger airport and eleventh-ranked airport in terms of air cargo tonnage handled.

Based on the 2006 State of California Department of Transportation (Caltrans) traffic counts, the I-105 and I-405 Freeways carry an annual average daily traffic (AADT) volume of approximately 247,000 and 305,000 vehicles per day near LAX, respectively. The AADT for the I-10 Freeway within the study area is also high, at approximately 301,000 vehicles per day. The percentage of truck traffic on the I-10 and I-405 Freeways is approximately 4 to 5 percent, while truck traffic on the I-105 Freeway accounts for over 5 percent of the total traffic volumes.

Between 2006 and 2030, peak period traffic volumes on the freeway segments within the study area are expected to increase by 20 to 90 percent. Based on traffic forecasts for the a.m. peak period (7:00 a.m. to 9:00 a.m.), traffic volumes on the I-10 Freeway near Crenshaw Boulevard are anticipated to increase by over 50 percent, from approximately 31,000 vehicles to 48,000 vehicles. During the same period, traffic volumes on the I-405 Freeway are forecasted to grow 40 to 50 percent, from approximately 30,000 vehicles to 43,000 vehicles. On the I-105 Freeway, a.m. peak period traffic volumes are expected to increase by approximately 20 percent or more, with up to 90 percent increases in the westbound direction near LAX. This would result in a.m. peak period traffic volumes growing from approximately 23,000 vehicles in 2006 to 30,000 vehicles in 2030.

Arterials

Major arterials in the study area that provide access to the freeways include Aviation Boulevard, La Cienega Boulevard, Inglewood Avenue, La Brea Avenue/Hawthorne Boulevard, Prairie Avenue, Crenshaw Boulevard, and Van Ness Avenue in the north-south direction In the east-west direction Wilshire Boulevard, Olympic Boulevard, Pico Boulevard, Washington Boulevard, Jefferson Boulevard, Slauson Avenue, Florence

[3] This survey compares traffic congestion levels in the 75 largest urban regions in the US. Los Angeles ranks number 1 in all three categories of congestion measurement: Annual Person Hours of Delay, Annual Delay per Peak Road Traveler, and Annual Delay per Person.

Avenue, Manchester Boulevard, Century Boulevard, and Imperial Highway provide access. Many of these roadways also serve as local and regional commercial corridors.

While there are various arterials for travel in the east-west direction, due primarily to topographic constraints, the study area has a limited number of north-south arterials. As a result limited north-south travel options in the study area, Crenshaw Boulevard, La Brea Avenue/Hawthorne Boulevard, and Prairie Avenue carry especially high volumes of traffic. Table 1-2 and Table 1-3 show the traffic volumes for primary study area arterials within the Cities of Los Angeles and Inglewood. In the City of Los Angeles, Crenshaw Boulevard and La Brea Avenue near the I-10 Freeway have the highest traffic volumes, whereas Century Boulevard just east of the I-405 Freeway experiences the highest traffic volumes in the City of Inglewood.

Table 1-2. Traffic Volumes for Primary Arterials in the City of Los Angeles

Primary Street	Cross Street/Segment	Count Date	Eastbound	Westbound	Total
East-West Arterials					
Wilshire Blvd	Western Blvd	9/28/2005	17,606	15,465	33,071
North-South Arterials					
Crenshaw Blvd	Adams Blvd	11/29/2005	27,886	26,360	54,246
Crenshaw Blvd	Florence Ave	3/30/2005	16,922	19,092	36,014
Crenshaw Blvd	Martin Luther King Blvd	3/8/2006	24,382	21,971	46,353
Crenshaw Blvd	Slauson Ave	3/31/2005	21,486	17,876	39,362
Crenshaw Blvd	Stocker Ave	3/15/2006	21,491	20,687	42,178
La Brea Ave	Olympic Blvd	6/11/2004	24,675	22,026	46,701
La Brea Ave	Venice Blvd	1/26/2004	27,613	28,983	56,596

Source: City of Los Angeles Department of Transportation - Traffic Survey Section.

Table 1-3. Traffic Volumes for Key Arterials in the City of Inglewood

Street	Segment	24-Hour Traffic Volumes
East-West Arterials		
Century Blvd	Prairie Ave to La Brea Ave	33,000
Century Blvd	La Brea Ave to Inglewood Ave	42,000
North-South Arterials		
Prairie Ave	Florence Ave to Regent St	29,000
Prairie Ave	Arbor Vitae St to Century Blvd	33,000
Crenshaw Blvd	Arbor Vitae St to Century Blvd	35,000
Crenshaw Blvd	Manchester Blvd to 90th St	34,000
La Brea Ave	Florence Ave to Manchester Blvd	32,000
La Brea Ave	Arbor Vitae St to Century Blvd	30,000

Source: City of Inglewood Department of Public Works, 2005 Traffic Counts.

Recent downturns in the national and State economy since 2006 have led to higher unemployment and increases in gas prices. These conditions would result in fewer passenger miles and lower congestion. A full recovery to this economic downturn would likely take several years in the future. These factors are likely to slow the growth rates from the initial projections resulting in numbers in the future that may be lower than originally forecasted.

1.5.1.2 Highway System Level of Service

Heavy traffic congestion exists in the study area along the I-10, I-405, and I-105 Freeways, Crenshaw Boulevard, La Brea Avenue/Hawthorne Boulevard, and Prairie Avenue. Typical rush hours in the corridor extend from approximately 6:30 a.m. through 10:00 a.m. in the morning and 3:30 p.m. to 7:00 p.m. in the evening.

One measure of performance for traffic operations is the volume-to-capacity (V/C) ratio, which evaluates the traffic volume on a roadway compared to its available capacity. V/C ratios approaching or above 1.00 reflect congested conditions and restricted traffic movements.

Considering all roadways in the study area, including freeways and ramps, the total number of lane miles that experience V/C ratios above 0.90 (corresponding to a Level of Service (LOS) E or F) during the a.m. and p.m. peak periods is expected to increase by approximately 121 and 142 percents, respectively, between 2006 and 2030, as shown in Table 1-4. Table 1-5 and Table 1-6 show that travel times and delays on certain arterial segments in the study area will increase from 2006 to 2030 without transit improvements. At the same time, roadway capacity will remain approximately the same, with only approximately 1 percent additional lane miles provided in the study area. The additional lane miles are provided from the addition of high occupancy vehicle (HOV) lanes on the I-405 Freeway between the I-10 Freeway and State Route (SR) 90.

Further illustrating that the corridor is currently operating at capacity in terms of roadway traffic, Figure 1-5 through Figure 1-8 illustrate that the study areas currently has and is forecasted to have numerous segments with LOS E and F. By 2030, V/C ratios at or above 0.90 during the a.m. peak period are expected for all segments of Crenshaw Boulevard north of Manchester Boulevard. In addition, La Brea Avenue/Hawthorne Boulevard and Prairie Avenue, between Manchester Boulevard and the I-105 Freeway would continue to experience heavy traffic conditions, with most segments having V/C ratios above 0.90 during the a.m. peak period. The increased traffic congestion will also result in lower peak period travel speeds along these corridors, generally below 30 miles per hour and below 20 miles per hour along certain sections of Crenshaw Boulevard.

Table 1-4. 2006 and 2030 Peak Period Congestion Miles and Lanes in the Study Area

	2006		2030	
	AM Peak Period	PM Peak Period	AM Peak Period	PM Peak Period
STUDY AREA MILES /a/				
Total	291	291	297	297
Congested Miles /b/	34	61	76	143
Percent Congested	12	21	26	48
STUDY AREA LANE MILES /c/				
Total Number of Lane Miles	671	671	679	679
Congested Lane Miles /b/	72	129	159	312
Percent Congested	11	19	23	46

/a/ Highway ramps and centroid connectors are not included.
/b/ Congested corresponds to LOS E or F.
/c/ Lane miles equal the distance in miles times the number of lanes; highway ramps and centroid connectors are not included.
Source: Parsons Brinckerhoff, October 2007.

Table 1-5. 2006 Peak Period Congestion on Key Study Area Roadway Segments

From	To	Distance (miles)	AM Peak Period		PM Peak Period	
			Congested Time (Min.)	Speed (mph)	Congested Time (Min.)	Speed (mph)
Crenshaw Blvd/ Wilshire Blvd	Crenshaw Blvd / I-10 Fwy	1.8	5.6	19.5	6.0	18.3
La Brea Ave/ Wilshire Blvd	San Vicente Blvd/ Pico Blvd	1.2	2.9	24.1	3.2	22.2
La Brea Ave/ Stocker Street	La Brea Ave/I-10 Fwy	2.6	6.3	24.8	6.7	23.5
Crenshaw Blvd/I-10 Fwy	Crenshaw Blvd/ King Blvd	1.6	3.5	26.4	4.3	21.6
Century Blvd/ Prairie Ave	Century Blvd/ Aviation Blvd	2.0	4.1	29.3	4.0	30.4
La Brea Ave/ Florence Ave	Hawthorne/I-105 Fwy	2.1	4.6	27.2	5.7	22.1

Source: Parsons Brinckerhoff, October 2007.

Table 1-6. 2030 Peak Period Congestion on Key Study Area Roadway Segments

From	To	Distance (miles)	AM Peak Period		PM Peak Period	
			Congested Time (Min.)	Speed (mph)	Congested Time (Min.)	Speed (mph)
Crenshaw Blvd/ Wilshire Blvd.	Crenshaw Blvd/ I-10 Fwy	1.8	6.7	16.5	7.2	15.3
La Brea Ave/ Wilshire Blvd	San Vicente Blvd/Pico Blvd	1.2	3.7	19.2	3.7	19.0
La Brea Ave / Stocker St	La Brea/I-10 Fwy	2.6	7.1	22.2	9.1	17.3
Crenshaw Blvd /I-10 Fwy	Crenshaw Blvd/ King Blvd	1.6	4.2	22.4	5.4	17.3
Century Blvd/ Prairie Ave	Century Blvd/ Aviation Blvd	2.0	4.6	26.1	4.2	28.4
La Brea Ave/ Florence Ave	Hawthorne Blvd/ I-105 Fwy	2.1	5.1	24.7	6.7	18.8

Source: Parsons Brinckerhoff, October 2007.

Figure 1-5. 2006 AM Peak Period Level of Service E and F

Source: Viper and Parsons Brinckerhoff, 2008.

Figure 1-6. 2006 PM Peak Period Level of Service E and F

Source: Viper and Parsons Brinckerhoff, 2008.

Figure 1-7. 2030 AM Peak Period Level of Service E and F

Source: Viper and Parsons Brinckerhoff, 2008.

Figure 1-8. 2030 PM Peak Period Level of Service E and F

Source: Viper and Parsons Brinckerhoff, 2008.

The I-10 Freeway has peak period congestion levels rated at F3, meaning that the freeway operates at LOS "F" conditions for more than three hours (for each peak period direction of travel) in each peak travel period (California Department of Transportation, 1998). Figure 1-9 illustrates typical a.m. peak period congestion on the I-10 and I-405 Freeways.

In the coming years, LOS is not expected to improve and may significantly worsen as a result of population growth and increased trip making.

Table 1-7 shows the peak period travel times and average speeds for vehicles traveling southbound in the corridor for 2006 and 2030.

Overall, the southbound travel time for vehicles in major segments of the corridor during the a.m. and p.m. peak periods would increase by 28 and 30 percent, respectively. The southbound average speed during the a.m. and p.m. peak periods would decrease by 20 and 23 percent, respectively.

Figure 1-9. AM Peak Period Congestion - I-10 and I-405 Freeways

On the I-10 looking west from Crenshaw Boulevard, the commute toward the West Los Angeles area is particularly congested during the AM Peak Period.

During the AM Peak Period, the commute northbound on the I-405 towards the West Los Angeles area, is more congested than the southbound commute.

Source: Terry A. Hayes Associates LLC, 2008

Table 1-7. Southbound Peak Period Travel Times and Average Vehicle Speed 2006 and 2030

From	To	2006				2030			
		AM Peak		PM Peak		AM Peak		PM Peak	
		Time (min.)	Average Speed (mph)	Time (min.)	Average Speed (mph)	Time (min.)	Average Speed (mph)	Time (min.)	Average Speed (mph)
Wilshire Blvd/ Western Ave	Wilshire Blvd/ Crenshaw Blvd	1.90	18.30	2.11	16.50	2.85	12.2	2.67	13.0
Wilshire Blvd/ Crenshaw Blvd	Pico Blvd/ Crenshaw Blvd	3.85	16.70	4.23	15.20	5.20	12.30	5.46	11.80
Pico Blvd/ Crenshaw Blvd	Adams Blvd/ Crenshaw Blvd	3.45	20.50	4.62	15.30	4.38	16.20	6.26	11.30
Adams Blvd/ Crenshaw Blvd	Exposition Blvd/ Crenshaw Blvd	1.90	24.60	2.92	16.00	2.43	19.30	4.27	11.00
Exposition Blvd/ Crenshaw Blvd	Martin Luther King Jr. Blvd/ Crenshaw Blvd	1.47	28.60	1.73	24.30	1.68	25.00	2.17	19.40
Martin Luther King Jr. Blvd/ Crenshaw Blvd	Slauson Ave/ Crenshaw Blvd	4.00	23.60	5.88	16.00	5.17	18.20	7.49	12.60
Slauson Ave/ Crenshaw Blvd	West Blvd/ Florence Ave	3.79	20.70	4.73	16.60	5.59	14.10	6.38	12.30
West Blvd/ Florence Ave	La Brea Ave/ Florence Ave	3.14	23.50	2.67	27.60	3.93	18.80	3.09	23.90
La Brea Ave/ Florence Ave	Manchester Ave/ Aviation Blvd	3.94	23.10	3.93	23.20	5.01	18.20	4.50	20.30
Manchester Ave/ Aviation Blvd	Century Blvd/ Aviation Blvd	2.16	28.30	2.54	24.10	2.29	26.70	3.16	19.40
Century Blvd/ Aviation Blvd	Imperial Hwy/ Aviation Blvd	2.19	29.90	2.63	24.90	2.25	29.10	3.92	16.70
Total		31.79	22.70	37.99	19.00	40.78	17.70	49.37	14.60

Source: Metro Model 2006, 2030.

Table 1-8 shows the 2006 and 2030 peak period travel times and average speeds for vehicles traveling northbound in the corridor. Overall, the northbound travel time for vehicles in major segments of the corridor during the a.m. and p.m. peak periods would increase by 22 and 35 percent, respectively. The northbound average speed during the a.m. and p.m. peak periods would decrease by 18 and 26 percent, respectively.

Table 1-8. Northbound Peak Period Travel Times and Average Vehicle Speed 2006 and 2030

From	To	2006				2030			
		AM Peak		PM Peak		AM Peak		PM Peak	
		Time (min.)	Average Speed (mph)	Time (min.)	Average Speed (mph)	Time (min.)	Average Speed (mph)	Time (min.)	Average Speed (mph)
Wilshire Blvd/ Crenshaw Blvd	Wilshire Blvd/ Western Ave	1.77	19.70	2.11	16.50	2.06	16.90	3.03	11.50
Pico Blvd/ Crenshaw Blvd	Wilshire Blvd/ Crenshaw Blvd	3.84	16.70	4.24	15.10	4.76	13.50	6.20	10.40
Adams Blvd/ Crenshaw Blvd	Pico Blvd/ Crenshaw Blvd	4.25	16.70	3.96	17.90	5.57	12.70	5.79	12.20
Exposition Blvd/ Crenshaw Blvd	Adams Blvd/ Crenshaw Blvd	2.47	18.90	2.10	22.30	3.25	14.40	3.00	15.60
Martin Luther King Jr. Blvd/ Crenshaw Blvd	Exposition Blvd/ Crenshaw Blvd	1.61	26.10	1.57	26.80	1.87	22.50	1.89	22.20
Slauson Ave/ Crenshaw Blvd	Martin Luther King Jr. Blvd/ Crenshaw Blvd	5.44	17.30	4.59	20.50	6.58	14.30	6.01	15.70
West Blvd/ Florence Ave	Slauson Ave/ Crenshaw Blvd	4.34	18.10	4.31	18.20	5.21	15.10	6.63	11.90
La Brea Ave/ Florence Ave	West Blvd/ Florence Ave	2.38	31.00	3.17	23.30	2.53	29.20	4.04	18.30
Manchester Ave/ Aviation Blvd	La Brea Ave/ Florence Ave	3.43	26.60	4.29	21.30	3.74	24.40	5.46	16.70
Century Blvd/ Aviation Blvd	Manchester Ave/ Aviation Blvd	2.46	24.90	2.25	27.20	3.00	20.40	2.49	24.60
Imperial Hwy/ Aviation Blvd	Century Blvd/ Aviation Blvd	2.49	26.30	2.27	28.8	3.42	19.10	2.58	25.30
Total		34.48	21.00	34.86	20.70	41.99	17.20	47.12	15.30

Source: Metro Model 2006, 2030.

1.5.2 Transit System Performance

1.5.2.1 Transit System Demand

As described earlier, the study area is served by many bus routes operated by Metro, Los Angeles Department of Transportation (LADOT), as well as several local service providers. Ridership demand on existing bus lines in the study area is high. Table 1-9 shows the daily ridership for some of the key north-south Metro bus lines, as well as east-west Metro bus lines within the study area. As can be seen, the Fiscal Year 2007 Quarter 1 ridership data, show daily boardings for the east west bus lines ranging from 27,000 to 48,000. Several of the north-south bus routes also exhibit high ridership levels, from 9,000 to 20,000.

Table 1-9. Daily Ridership on Select Metro Bus Lines

Metro Bus Line	Street/Arterial	Daily Boardings
North-South Metro Bus Lines		
Route 40	Crenshaw Blvd and Hawthorne Blvd	20,000
Metro Rapid 740	Crenshaw Blvd and Hawthorne Blvd	9,000
Route 210	Crenshaw Blvd	14,000
Metro Rapid 710	Crenshaw Blvd	10,000
East-West Metro Bus Lines		
Metro Rapid 720	Wilshire Blvd	48,000
Route 28	Olympic Blvd	34,000
Route 30	Pico Blvd	30,000
Route 33	Venice Blvd	27,000
Route 35	Washington Blvd	24,000

Source: Parsons Brinckerhoff, 2008.

Refer to Figure 3-1 Existing Transit Lines in Section 3.0 Transportation Impacts of this FEIS/FEIR to view the locations of the existing bus lines listed in Table 1-9. In addition, refer to Figure 1-4 Los Angeles County Fixed Guideway Transit and Metro Rapid Bus Route System previously presented in this section and Figure 1-11 Regional Activity Centers presented subsequently in this section to view the interaction between existing transit lines and activity centers.

1.5.2.2 Transit System Speeds and Travel Times

The major factors influencing bus operating conditions are the traffic conditions under which the service operates, passenger loading time, and bus-stop spacing. The corridor 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.

Bus service in the corridor is slower than in Los Angeles County as a whole, and both are forecast to be slower by 2030. Metro Rapid Bus service in the corridor currently operates at approximately 15 miles per hour (mph) traveling north on Crenshaw Boulevard in the a.m. peak period, and approximately 13 mph traveling south on Crenshaw Boulevard in the p.m. peak period (Metro Rapid Line 710). For the Crenshaw area overall, the average bus operating speed during peak periods is estimated to be 10.9 miles per hour. This contrasts with an average county-wide bus speed of 15.7 mph. By 2030, average county-wide bus speeds will decrease to 14.2 mph. Table 1-10 shows the northbound and southbound average a.m. peak period bus speeds for 2006 and 2030 for major Rapid and Local bus lines in the corridor.

Table 1-10. Existing and Future AM Peak Period Average Bus Speeds (mph)

Bus Route	Street	2006		2030	
		Northbound	Southbound	Northbound	Southbound
Local Bus 210	Crenshaw Blvd	14.4	14.6	13.8	13.3
Rapid Bus 710	Crenshaw Blvd	17.4	16.4	16.1	15.9
Local Bus 40	Crenshaw Blvd	12.4	12.6	12.3	11.3
Rapid Bus 740	Crenshaw Blvd	13.9	15.0	14.1	13.4

Source: Metro Model 2006, 2030.

In-vehicle travel times on buses traveling through the study area are anticipated to increase between 2006 and 2030, along with increased traffic congestion on the roadways. Depending on the origins and destinations of bus riders, in-vehicle travel times may increase by a few minutes to ten minutes or more. Table 1-11 shows the changes in corridor bus travel times between 2006 and 2030.

Table 1-11. Study Area Bus Travel Times (2006) and Changes (2006 to 2030)

Route Name/Direction	Route End to End Run Time (2006 Minutes)	From/To	Percent Change in Travel Times from 2006 to 2030
	AM Peak Period		AM Peak Period
210 Southbound	70	Wilshire/Crenshaw	7% increase
210 Northbound	71	Crenshaw/Wilshire	1% increase
710 Southbound	66	Hollywood/Vine Red Line Station (2006)-Wilshire-Western Purple Line Station(2030)/ Crenshaw Green Line Station	11% decrease[1]
710 Northbound	62	Crenshaw Green Line Station/ Hollywood/Vine Red Line Station (2006)/Wilshire-Western Purple Line Station (2030)	7% decrease[1]
40 Southbound	93	MLK Blvd/Crenshaw/Hawthorne Green Line Station	11% increase
40 Northbound	95	Hawthorne Green Line Station/ /MLK Blvd/Crenshaw	1% increase
740 Southbound	75	MLK Blvd/Crenshaw/ / Hawthorne Green Line Station	11% increase
740 Northbound	82	Hawthorne Green Line Station/ MLK Blvd/Crenshaw	1% decrease

[1]Travel times decreased because the route was shortened by 13.4 percent in year 2030 with a shorter terminus based on the revised travel network.
Source: Metro Model 2006, 2030.

1.5.2.3 Transit Accessibility and Connectivity

Although the Crenshaw/LAX Transit Corridor contains several employment destinations, active retail centers, and stable residential neighborhoods, there are many more activity and employment centers located adjacent to or outside of the corridor to which corridor residents desire to travel. Corridor travelers have limited options and accessibility to existing transit because of continuing freeway and street system congestion, slowing and overburdened bus operations, and the lack of direct connections to the regional rail system. Future corridor transportation improvements will need to reflect a multi-modal strategy providing travelers with a more complete set of transportation alternatives.

1.5.2.4 Transit Reliability

Currently, at least one bus route serves each major and secondary arterial in the corridor. Six transit providers offer a combination of community based, local, limited stop, and freeway express service within the corridor. Although the frequency of corridor service is not commensurate with the corridor's needs, other challenges facing bus transit service in the corridor include the following:

- Capacity issues because of high corridor transit dependency
- Operational problems because of the congested arterial street system
- Poor regional transportation system connections
- Inability to produce benefits for all riders

As a result of the higher than average transit ridership in the corridor, approximately double the mode split of the Los Angeles County's urbanized area, many of the buses serving the corridor are at or over capacity. Operating beyond capacity results in overcrowding, rider pass-bys and loading delays, which create uneven headways and related schedule adherence problems. Overcrowding also reduces the life of buses and contributes to higher maintenance costs.

The effectiveness of corridor bus transit operations is severely impacted by arterial congestion resulting in slower bus speeds with negative effects on schedule adherence, as well as decreased service reliability and increased travel times. Buses operating in congested corridor conditions also results in higher operational and maintenance costs. Increased operational costs are incurred with the addition of buses and drivers (in an attempt to maintain the identified service schedule), and higher maintenance costs resulting from the physical wear on buses from stop-and-go operations.

By 2030, corridor transit demand is estimated to increase by approximately 55 percent (Metro Model 2006, 2030). Without significant improvements and capacity enhancement, the corridor's bus transit system will be substantially overburdened, and mobility to and from the corridor will be significantly constrained. There is an urgent need to improve transportation mobility and reliability in the study area by improving both the level and quality of transit service.

1.6 Purpose, Goals, and Objectives of the Proposed Project

The proposed project would provide for transit improvements in the corridor. The purpose of these improvements is to enhance mobility within the corridor, thereby connecting the corridor with existing transit in the region. The goals of the proposed project include the following:

- Improve north-south transit service and mobility
  - Connect with existing and/or approved transit lines
  - Connect activity and employment centers
- Develop improvements that are cost effective and affordable
- Support local land use policies
  - Develop a high capacity transit corridor connecting activity centers including Los Angeles, Inglewood, and Los Angeles International Airport (LAX)
  - Connect transit-supportive land uses and areas of high population and employment densities
- Minimize impacts on the community

1.7 Major Themes and Underlying Needs for Transit Improvements

Based on the SCAG forecasts, preliminary transit research, initial corridor ridership data, and analysis provided in the *Crenshaw-Prairie Corridor Preliminary Planning Study*, *Crenshaw-Prairie Corridor Route Refinement Study*, and the *Crenshaw-Prairie Corridor MIS*, several themes emerge with respect to the need for transportation improvements in the study area:

- High levels of **Peak Period Congestion** that suggest the need for an alternative mode of transit
- Need for improved **Transit Accessibility and Availability** because of strained capacity due to growth
- Opportunities for **Land Use Integration** with existing activity centers and support for **Economic Development** potential with transit
- **Growing Demand for Transit Service** as demonstrated by growing general population and employment, high levels of existing transit usage, and the presence of a significantly transit-dependent population
- **Benefits for the Environment** through improved air quality

These themes are further described below.

1.7.1 Peak Period Congestion

The extensive congestion occurring on the freeways and arterial streets that traverse the study area has a detrimental effect on transit operations within the corridor. For example, a.m. and p.m. peak period congestion on the I-10 Freeway and associated ramps

results in operational delays for any bus line utilizing the freeway and bus lines traveling on arterial streets adjacent to freeway on- and off-ramps (e.g., La Brea Avenue, Crenshaw Boulevard, and Arlington Avenue). In addition, congestion existing on arterial streets within the study area results in slow, delayed bus service and schedule adherence concerns. Section 1.5 (Transportation System Performance) describes the congestion levels in the study area in more detail.

According to current forecasts, future daily trips in Los Angeles County will increase by approximately 19 percent through 2030. Currently, approximately 40 percent of Los Angeles County freeways and major arterials experience heavy congestion in the a.m. and p.m. peak periods. Without improvements to the existing transportation system or changes in the behavior of the traveling public, the current average county-wide travel speeds of approximately 30 mph will decline to 26 mph.

According to the 2003 *Crenshaw-Prairie Corridor MIS*, 78 percent of the corridor's freeway system is currently operating at or below LOS F during the a.m. peak period, with 92 percent of the system operating at or below LOS F in the p.m. peak period. During both peak periods, current travel demand exceeds the corridor's arterial system capacity resulting in significant congestion and delay. Figure 1-10 shows the a.m. peak period congestion and delay associated with vehicles traveling northbound on Crenshaw Boulevard and La Brea Avenue in the study area. Current 2006 forecasts indicate that nearly 220,000 additional daily person trips will be made within the corridor by 2030, compared with 2006. With the additional travel forecast to occur by 2030, the congestion and delay will increase. The corridor's congested freeway and arterial system, as well as the heavily-utilized bus system, offer no additional capacity to accommodate the projected increase in daily trips.

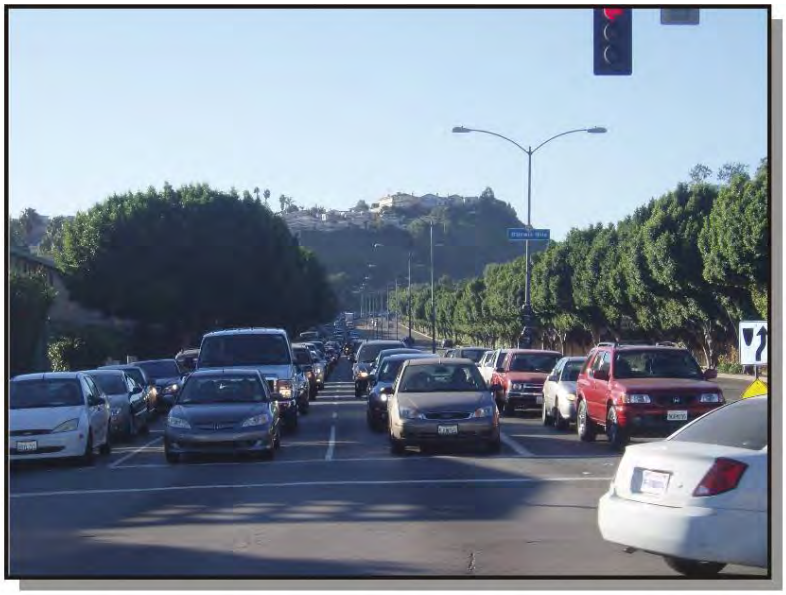
1.7.2 Limited Transit Accessibility and Availability

The data and forecasts used in the present study provide a basis for comparing transit services in the corridor with services in Los Angeles County overall. The forecasts are presented for two forecast years: 2006 and 2030. Currently, transit usage within the corridor is high and operating at or over capacity. Because of the higher than average transit ridership in the corridor, 43 percent more than in Los Angeles County as a whole for transit trip productions and 27 percent more overall, there is a high demand for and usage of existing bus services.

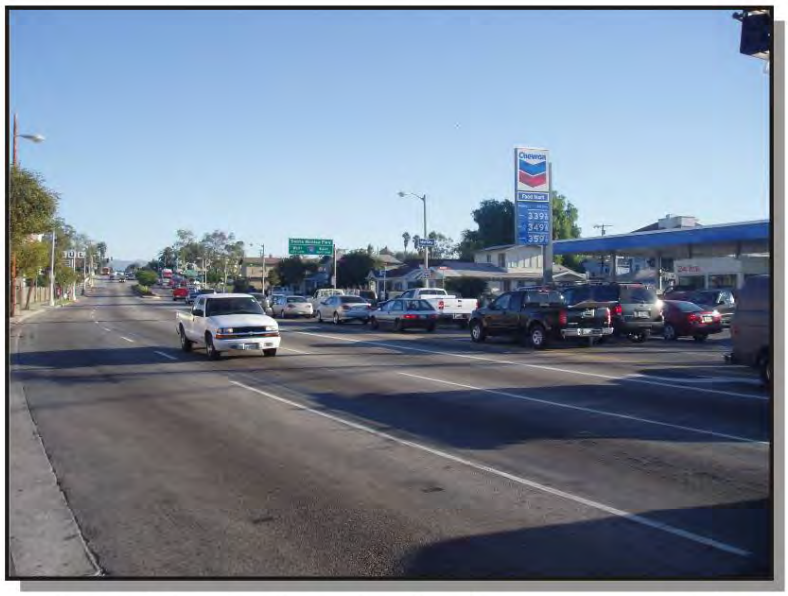
By 2030, the corridor is forecast to experience a 19 percent growth in total person trips, and 23 percent growth in transit passenger trips. The higher rate of transit use would assist in mitigating overall traffic congestion in the corridor, but further burden the ability to provide adequate public transportation services.

The ability to move quickly and efficiently in the corridor can be expressed in terms of transportation system choice. Currently, travelers in the corridor have a limited choice in travel options, auto or bus transit, circulating on the same congested street system. Existing traffic makes bus service slow and makes utilization undesirable to non-transit dependent residents. A multi-modal corridor strategy and speed improvements to bus transit service would provide all local residents with more travel options.

Figure 1-10. AM Peak Period Congestion Study Area Arterials



Looking south on La Brea Avenue towards Baldwin Hills, from Coliseum Street, northbound congestion and delay is evident.



Looking north along Crenshaw Boulevard, northbound congestion and delay is evident for vehicles waiting to enter the I-10.

Source: Terry A. Hayes Associates LLC, 2007.

The study area currently has poor connections to the regional transportation system and no north-south high capacity transportation connections within the corridor. The lack of transportation and transit connections limits mobility and transportation choices.

The corridor's primary transit service, bus transit, is constrained in terms of effectiveness and passenger convenience by vehicular congestion and increased demand for service. The lack of regional transportation system connections will become more detrimental to future corridor travel and economic development as population and employment continue to grow.

While the Crenshaw/LAX Transit Corridor is served by two east-west running interstate freeways, the I-10 and I-105 Freeways, the corridor is constrained by the lack of north-south mobility. The arterial network in the corridor is at or near capacity, resulting in severe congestion and a bottlenecked corridor. There are not sufficient arterials to allow unconstrained north-south movement throughout the corridor. In addition, the significant topographical changes in the central portion of the corridor, from Jefferson Boulevard south to Manchester Boulevard, create a formidable barrier that shapes the configuration of the transportation network serving the Crenshaw/LAX Transit Corridor.

More than 45 percent of the corridor has small hills that may constrain the design and operation of its transportation system. The predominance of small hills in the heart of

the corridor (primarily along La Brea Avenue at Stocker Street, on Crenshaw Boulevard south of Florence Avenue, and on Crenshaw Boulevard north of the I-10 Freeway) results in the creation of a non-grid street system with winding major streets and few minor streets, making travel through the corridor circuitous. The resulting street system affects traffic operations as in many cases there is no parallel street within 1 mile or closer to allow for diversion of traffic in case of accidents or major congestion. The terrain of the corridor also precludes the provision of major east-west streets in the study area from Exposition Boulevard south to Manchester Boulevard, adding further limitations to north-south traffic flow.

The corridor has strong potential because of its location and demographic characteristics, to connect with the regional rail system and provide a high-capacity north-south linkage enhancing corridor and regional connectivity, and providing needed intra- and inter-corridor linkages and services. A high-capacity transportation system improvement could connect to the Metro Purple Line at the northern end of the corridor, the Metro Green Line at the southern end, and the Exposition LRT Line (under construction) with a connection to West Los Angeles, Downtown Los Angeles, and the Metro Blue Line. A future Crenshaw/LAX Transit Corridor high-capacity transit alternative would also provide connection to existing Metro Rapid bus service in the study area.

1.7.3 Land Use Integration

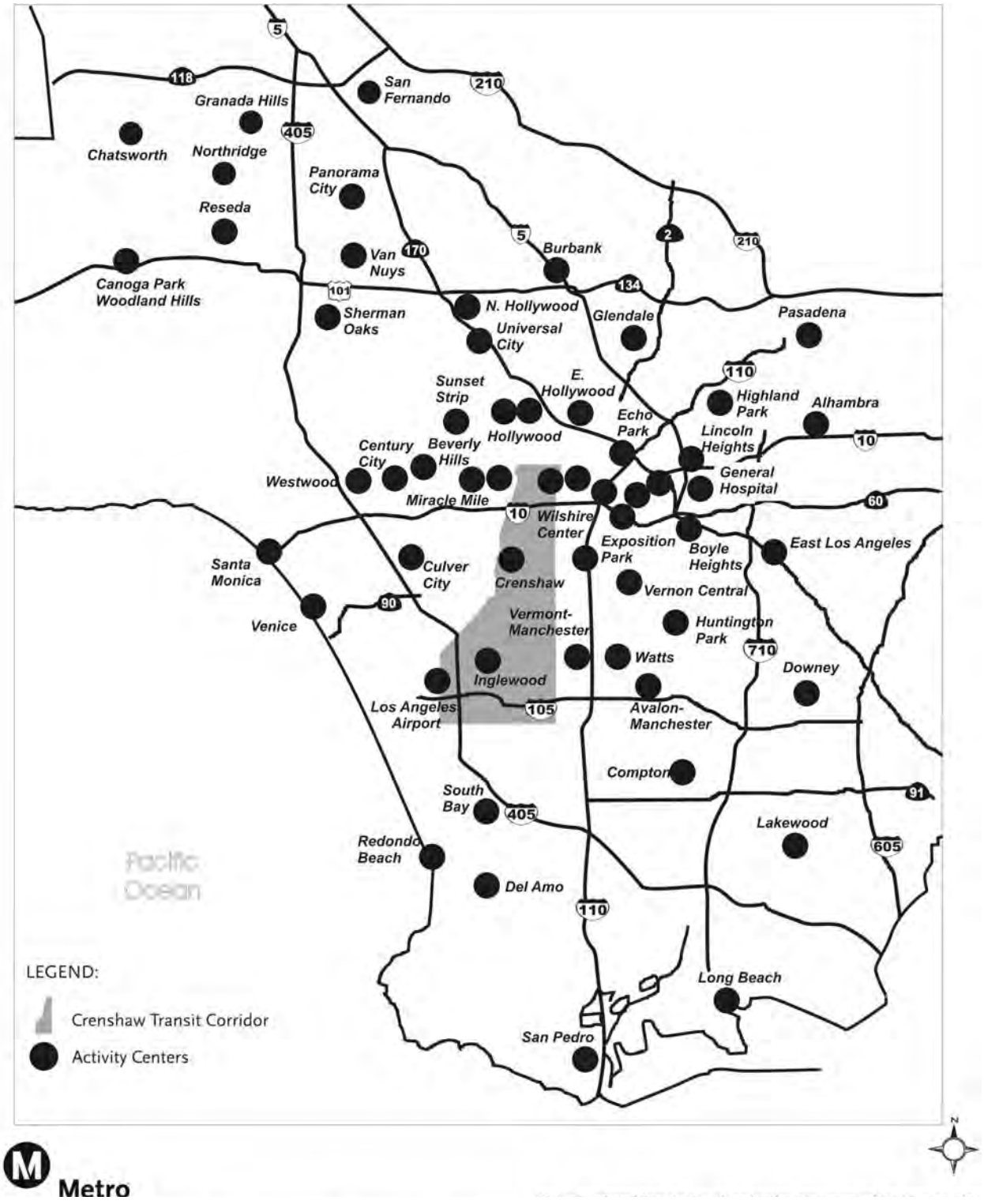
1.7.3.1 Major Concentrations of Activity Centers and Destinations within and Adjacent to the Corridor

The Crenshaw/LAX Transit Corridor includes portions of five jurisdictions, including, the Cities of Los Angeles, Inglewood, Hawthorne, and El Segundo, as well as portions of unincorporated Los Angeles County and has a unique combination of regional and local destinations, along with single- and multi-family residential uses. This dense and diverse study area includes regional destinations such as LAX, the Forum, and Hollywood Park. Local destinations include the Baldwin Hills-Crenshaw Plaza, the Magic Johnson movie theatre, the Nate Holden Performing Arts Center, and the West Angeles Church of God in Christ. Community civic centers are located in Inglewood and Hawthorne, and a large number of shopping districts and centers are located in Koreatown, the Crenshaw District, and downtown Inglewood. The corridor also has a concentration of office development along Wilshire Boulevard, in downtown Inglewood, and in El Segundo adjacent to the Metro Green Line.

Although several activity centers are located within the study area, numerous activity centers and destinations are located adjacent to or outside of the corridor. Figure 1-11 illustrates that many activity centers are located immediately beyond the study area boundary. These activity centers include Culver City (to the west), Exposition Park (to the east), Miracle Mile and Wilshire Center (to the north).

Other activity centers and destinations located outside of the corridor include Westwood, UCLA, Hollywood, Century City, the Sunset Strip, the University of Southern California (USC), Downtown Los Angeles, Santa Monica, the South Bay, and southeast Los Angeles County.

Figure 1-11. Regional Activity Centers



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

Figure 4-2 in Section 4.1 Land Use and Development illustrates the general locations of activity centers within the corridor with a majority of the activity centers located within the southern portion of the corridor.

With the implementation of transit improvements in the corridor, many of the transit-dependent residents residing in the study area would be able to easily access destinations outside of the corridor.

This concept is further illustrated by Figure 1-12, which shows the general locations of other transit supportive land uses such as offices, retail developments, and medium- to high-density residential areas. As illustrated, concentrations of transit supportive land uses are located within and just outside of the study area, supporting the implementation of transit improvements to connect study area residents to the larger region.

1.7.3.2 Transit Enhances Development Potential

A majority of the study area is covered by redevelopment areas associated with the Cities of Los Angeles, Inglewood, and Hawthorne (refer to Figure 4-3 in Section 4.1 Land Use and Development). City redevelopment agencies function in attracting private investment into economically depressed communities, eliminating blight and abandoned or unsafe properties. There is a strong connection between redevelopment and revitalization of these areas and transportation system improvements. Increased accessibility, mobility, and links to transit provide opportunity for increased development densities. Some improvements and strategies being employed focus on increasing pedestrian amenities and reducing or eliminating vehicular traffic, which place increasing demand on increased transit access and on the level of transit service to help support existing and future land use development objectives.

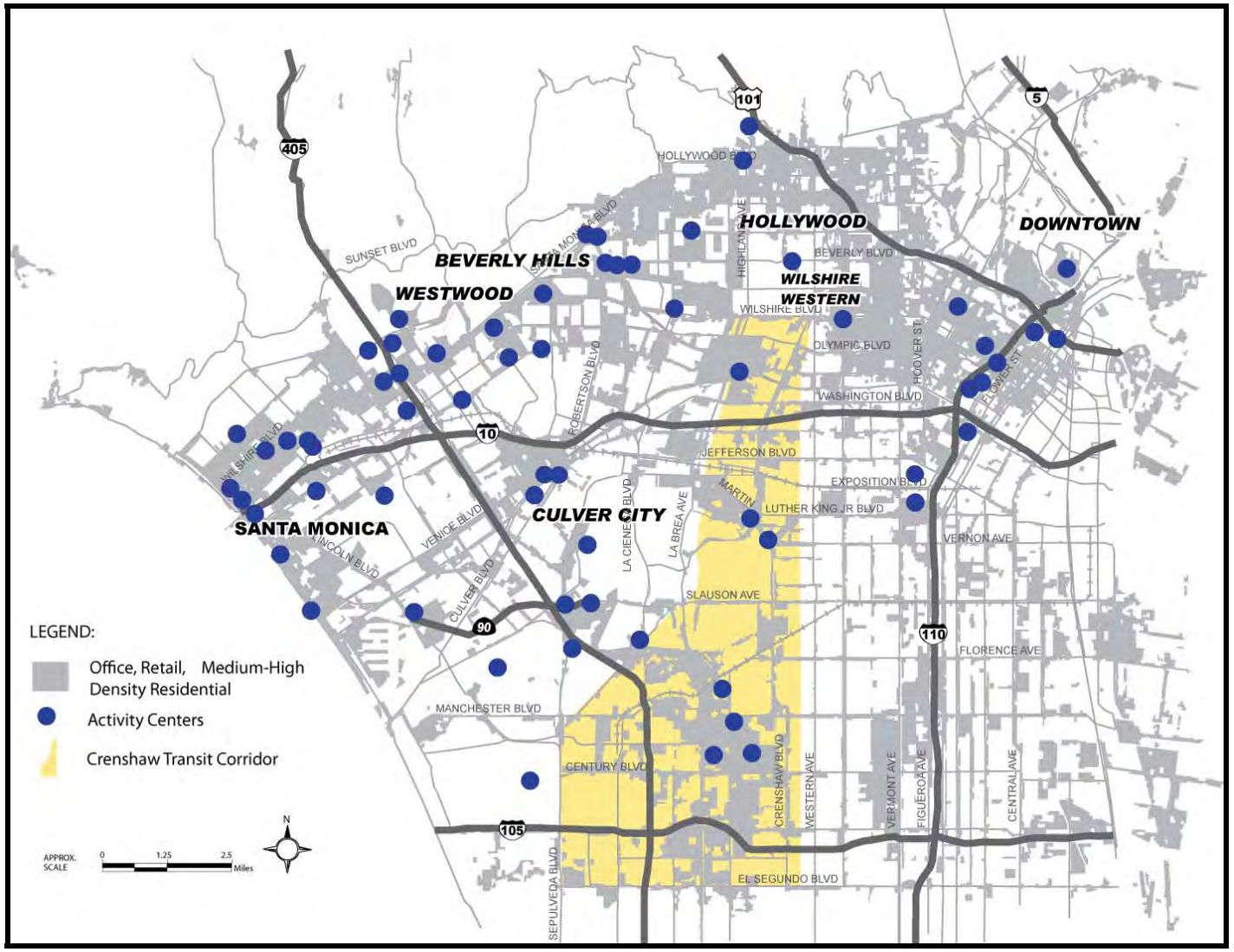
All or portions of the following 11 redevelopment plan areas are located within the study area:

- City of Los Angeles: Mid-City, Crenshaw, Crenshaw-Slauson, and Wilshire Center-Koreatown, and Western-Slauson.
- City of Inglewood: Century, Manchester-Prairie, In-Town, North Inglewood Industrial Park, and La Cienega.
- City of Hawthorne: Hawthorne Boulevard, Crenshaw-120th.

In addition, the corridor includes a portion of the Los Angeles State Enterprise Zone and is directly adjacent to a U.S. Department of Housing and Urban Development (HUD) Empowerment Zone and Renewal Community. Within these areas, businesses can take advantage of state and/or federal tax credits and deductions not available to businesses elsewhere. The goal of the incentives is to stimulate business attraction, growth, and increased employment opportunities within economically challenged areas.

A majority of the corridor's key activity and employment destinations are currently preparing expansion, revitalization, or redevelopment plans (i.e., Hollywood Park). The success of these projects and the corridor's economic future are strongly dependent on improved local and regional accessibility.

Figure 1-12. Transit Supporting Land Use



Source: Terry A. Hayes Associates LLC, 2007.

1.7.4 Demand for Transit Service

1.7.4.1 High Study Area Population and Employment Densities Support Transit

Population and employment densities are two key factors influencing transit use. As population and employment densities increase higher transit demand supports higher levels of service for transit. For purposes of summarizing population, employment, and travel demand, the study area and surrounding area has been divided into analysis districts adapted from SCAG regions and the City of Los Angeles CNC Areas maps.

The study area includes a portion of eight districts including North Mid-Wilshire/Hollywood, South Mid-Wilshire, Crenshaw, View Park, Inglewood, Lennox, Hawthorne, and LAX. A map of these districts and detailed population and employment data is provided in Section 1.7 (Major Themes and Underlying Needs for Transit Improvements).

The high population density in the study area provides a base and concentration of potential riders for transit improvements in the corridor. The population density of the study area is approximately four times that of Los Angeles County based on SCAG's 2006 and projected 2030 data. The majority of the study area has a population density of 10,000 to 20,000 persons per square mile. Population is expected to grow by about 18 percent between 2006 and 2030 in the study area, further increasing population densities. Refer to Figure 1-17 Population Density presented subsequently in this chapter.

Similar to population, the employment density of the study area is approximately four times the employment density of Los Angeles County. As expected, the districts in the study area with the highest employment densities are those with key activity centers. These include the LAX and Inglewood Districts. The LAX District includes the airport, and businesses and hotels along Century Boulevard. The Inglewood District includes the City of Inglewood City Hall and Civic Center, the Forum, Hollywood Park, and commercial developments along Century Boulevard. In 2006, these districts had approximately 6,900 and 5,900 jobs per square mile, respectively. Examining densities at a smaller scale, the highest employment densities within the study area, ranging from 10,000 to 25,000 jobs per square miles, are found in portions of the corridor including along Wilshire Boulevard and along the Harbor Subdivision near downtown Inglewood. Employment is expected to grow by about 20 percent between 2006 and 2030 in the study area, further increasing employment densities.

1.7.4.2 High Existing Transit Usage

The high population density, employment density, and numbers of households with zero vehicles in the study area contribute to higher than average transit usage in the corridor. Transit usage within the corridor is high and operating at or over capacity. Daily boardings on the east-west Metro bus lines serving the study area range from 27,000 to 48,000. The north-south Metro bus lines have daily boardings ranging from 9,000 to 20,000. Maximum passenger loads within the study area are as high as 47 passengers per bus at the peak load point. The No-Build Alternative forecast indicates a growth of 23 percent in transit usage through 2030, which exceeds the corridor's overall person trip growth during that period (19 percent). The lack of significant transit improvements in the corridor will contribute to further overloading the transit system, as well as the

roadway system. In addition, the recent increase in vehicle gasoline prices has forced some corridor residents to rely on public transit services. This will result in adverse effects on the mobility of the population and the quality of transit service in the corridor.

1.7.4.3 Existing Transit-Dependent Population

The demographic profile of corridor residents suggests a high potential to produce large numbers of transit riders. More than 49 percent of all corridor households are designated as low income. In addition, 16 percent of all households in the corridor do not have access to an automobile, compared to 8 percent in the County's urbanized area. Forecasts show a growing transit-dependent population, with a projected 55 percent increase in corridor residents that rely on or will rely on the study area's transit system. According to the U.S. Census Bureau's *2000 Census*, in order for an area to be designated as transit-dependent, one of the following criteria must apply:

- 21.7 percent or more of the households include individuals aged 65 or older, and less than 34.1 percent of the households have two automobiles, and less than 17.1 percent of the households have three or more automobiles;
- 17.9 percent or more of the households have an income of $15,000 or less (1999 dollars); or
- 13.5 percent or more of the households do not have an automobile.

Figure 1-13 illustrates the transit-dependent population within the study area and shows that a majority of the northern and southern portions of the corridor qualify as transit dependent areas. Figure 1-14 illustrates the large areas of households with no automobiles are located along Pico Boulevard, adjacent to the I-10 Freeway, along Crenshaw Boulevard, and in the downtown Inglewood area. Figure 1-15 illustrates that a majority of households within the study area earn the same as or below the Los Angeles County median annual income of $42,189.

1.7.5 Benefits for the Environment

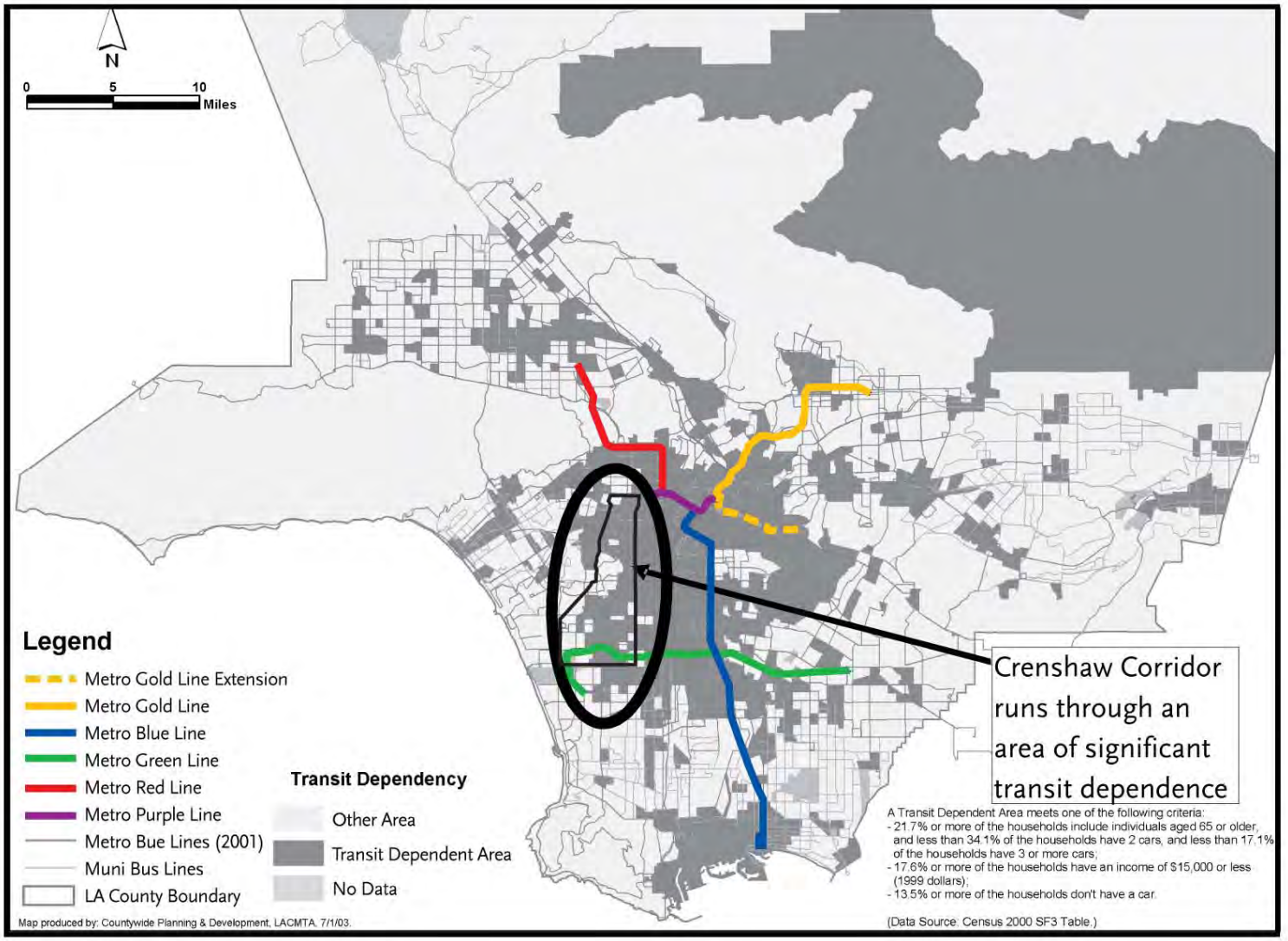
1.7.5.1 Transit Contributes to Improved Air Quality

Background Information

The corridor is fully contained within the South Coast Air Basin, which has the worst air quality in the nation. 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 in the study area include the United States Environmental Protection Agency (USEPA), the California Air Resources Board (CARB), and the South Coast Air Quality Management District (SCAQMD).

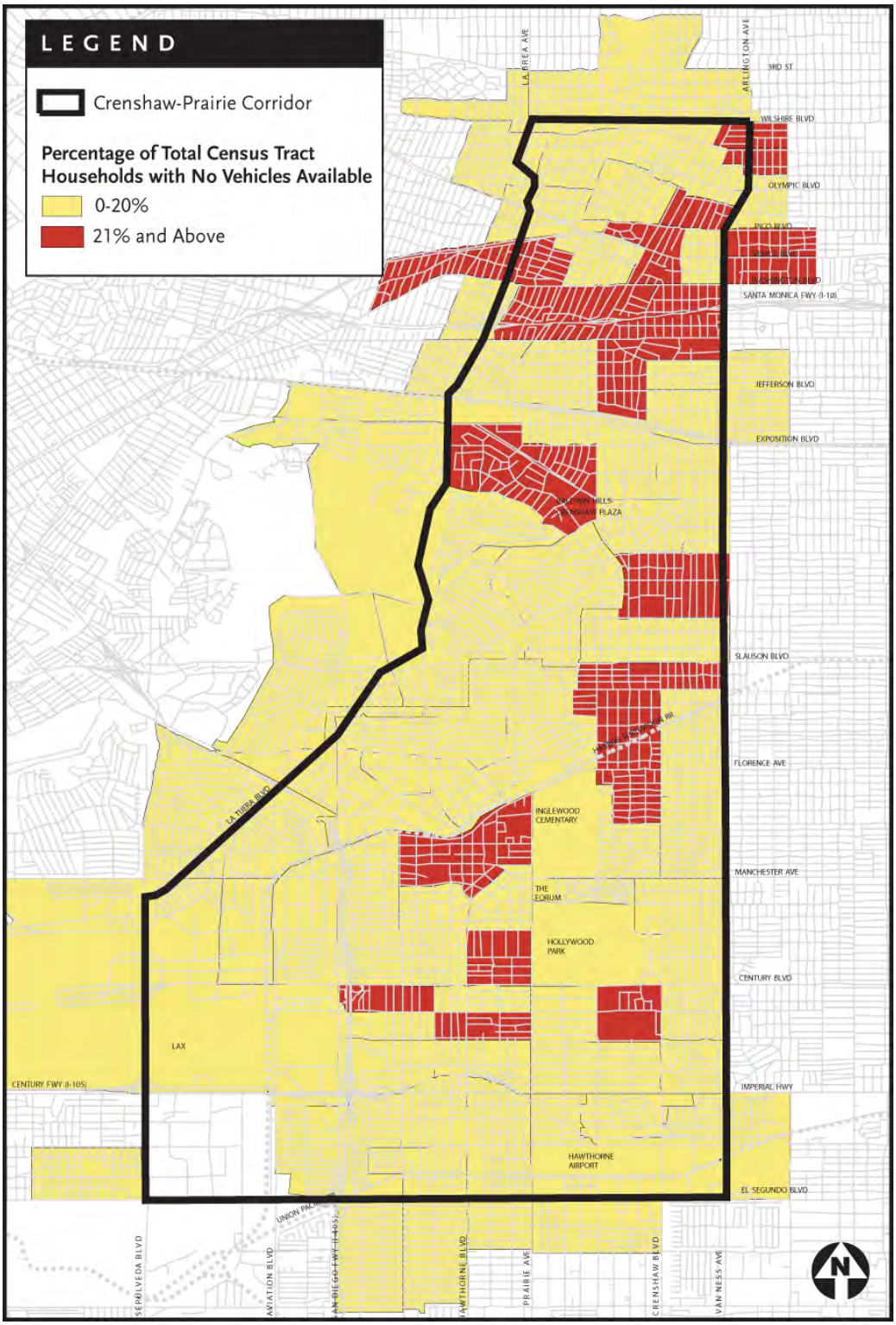
The Federal Clean Air Act and Amendments (CAAA) regulate air quality in the United States. At the federal level, the CAAA is administered by the USEPA. The USEPA is also responsible for establishing the National Ambient Air Quality Standards (NAAQS). As required by the federal CAAA, NAAQS have been established for seven major air pollutants: carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter 2.5 microns or less in diameter ($PM_{2.5}$), particulate matter ten

Figure 1-13. Transit Dependent Population



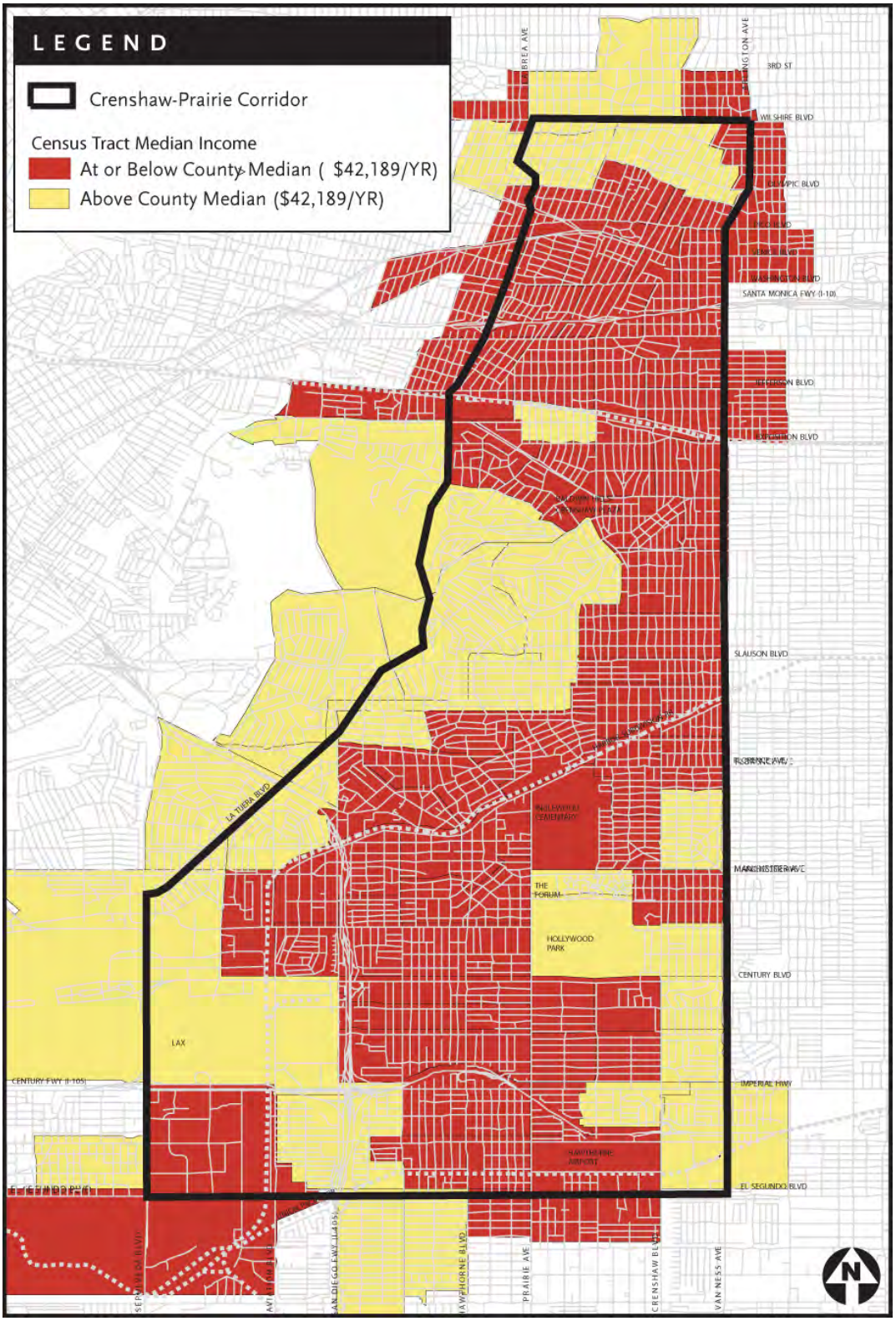
Source: Census 2000, Metro 2003.

Figure 1-14. Households with No Vehicles



Source: SCAG. 2000.

Figure 1-15. Median Household Income



Source: ESRI and Terry A. Hayes Associates LLC, 2007.

microns or less in diameter (PM_{10}), and lead (Pb). The CAAA requires USEPA to designate areas as attainment, nonattainment, or maintenance (previously nonattainment and currently attainment) for each criteria pollutant based on whether the NAAQS have been achieved. The USEPA has classified the South Coast Air Basin as maintenance for CO and nonattainment for O_3, $PM_{2.5}$, and PM_{10}.

In addition to being subject to the requirements of the CAAA, air quality in California is also governed by more stringent regulations under the California Clean Air Act (CCAA). The CCAA requires the CARB to designate areas within California as either attainment or non-attainment for each criteria pollutant based on whether the California Ambient Air Quality Standards (CAAQS) have been achieved. Areas are designated as nonattainment for a pollutant if air quality data shows that a state standard for the pollutant was violated at least once during the previous three calendar years.

Exceedances that are affected by highly irregular or infrequent events are not considered violations of a state standard and are not used as a basis for designating areas as nonattainment. Under the CCAA, the Los Angeles County portion of the South Coast Air Basin is designated as a nonattainment area for O_3, $PM_{2.5}$, and PM_{10}.

Existing Monitored Air Quality Conditions

The SCAQMD monitors air quality conditions at 38 locations throughout the South Coast Air Basin. The Los Angeles-North Main Street monitoring station is located 6.7 miles northeast of the northern boundary of the study area at 1630 North Main Street within the Central Los Angeles Source Receptor Area. The LAX-Hastings monitoring station is located in the southwest portion of the study area at 7201 West Westchester Parkway in the Southwest Coastal Source Receptor Area. Criteria pollutants monitored at both monitoring stations include O_3, CO, PM_{10}, SO_2, and NO_2. Only the Los Angeles-North Main Street station monitors $PM_{2.5}$.

The eight-hour federal standard for O_3 was exceeded between one and four days at the Los Angeles-North Main Street monitoring station during the 2005 through 2007 period. The 24-hour federal standard for PM_{10} was exceeded on two days in 2007 at the LAX-Hastings monitoring station and the annual federal standard for $PM_{2.5}$ was exceeded each year from 2005 through 2007 at the Los Angeles-North Main Street station.

Existing Hotspot Analysis

There is a direct relationship between traffic, circulation, congestion, and CO impacts since exhaust fumes from vehicular traffic are the primary source of CO. CO is a localized gas that dissipates very quickly under normal meteorological conditions. Therefore, CO concentrations decrease substantially as distance from the source increases. The highest CO concentrations are typically found along sidewalk locations directly adjacent to congested roadway intersections.

Existing CO concentrations adjacent to ten study intersections were modeled for daily conditions. The study intersections were selected to be representative of the project area and were based on traffic V/C ratio and the traffic LOS as indicated in the traffic analysis. Level of service is used to indicate the quality of traffic flow on roadway segments and at

intersections. Level of service ranges from LOS A (free flow, little congestion) to LOS F (forced flow, extreme congestion).

The selected intersections are as follows:

- Aviation Boulevard/Century Boulevard – a.m. peak hour
- Crenshaw Boulevard/Adams Boulevard - a.m. peak hour
- Crenshaw Boulevard/Jefferson Boulevard – p.m. peak hour
- Crenshaw Boulevard/Slauson Avenue - a.m. peak hour
- Crenshaw Boulevard/Stocker Street - p.m. peak hour
- Crenshaw Boulevard/Washington Boulevard - a.m. peak hour
- La Brea Avenue/Jefferson Boulevard - p.m. peak hour
- La Brea Avenue/Rodeo Road - p.m. peak hour
- La Brea Avenue/Slauson Avenue - p.m. peak hour
- Wilton Place/Wilshire Boulevard – a.m. peak hour

At each intersection, traffic-related CO contributions were added to background CO conditions. Traffic CO contributions were estimated using the USEPA CAL3QHC dispersion model, which utilizes traffic volume inputs and CARB EMFAC2007 emissions factors. Consistent with the California Department of Transportation (Caltrans) CO protocol, model receptors were located three meters (approximately ten feet) from each intersection corner. One-hour CO concentrations at the analyzed intersections are approximately 5 parts per million (ppm) and eight-hour CO concentrations range from approximately 3.6 to 3.9 ppm. Presently, none of the study intersections exceed the federal one- and eight-hour CO standards of 35 and 9 ppm, respectively.

Summary

The Crenshaw/LAX Transit Corridor Project would provide transportation and transit improvements potentially that would provide the study area with an efficient way of reducing the number of vehicles on roadways and freeways and increasing the number of non-motorized and transit trips. Therefore, the proposed project would contribute to the improvement of the region's local air quality.

1.8 Travel Demand and Identification of Potential Transit Markets

This section identifies the travel markets for the development of transit service improvements in the corridor. The travel markets were determined based on the identification of activity centers, a review of population and employment distribution, as well as the analysis of travel patterns within the study area and the Southern California region. The purpose of the market analysis is to determine the potential level of ridership for the proposed project, the types of trips that may 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 proposed transit improvements.

For purposes of summarizing population, employment, and travel demand, the study area and surrounding area has been divided into analysis districts adapted from SCAG regions and the City of Los Angeles CNC Areas maps (Figure 1-16). The study area includes a portion of seven districts including South Mid-Wilshire, Crenshaw, View Park, Inglewood, Lennox, Hawthorne, and LAX.

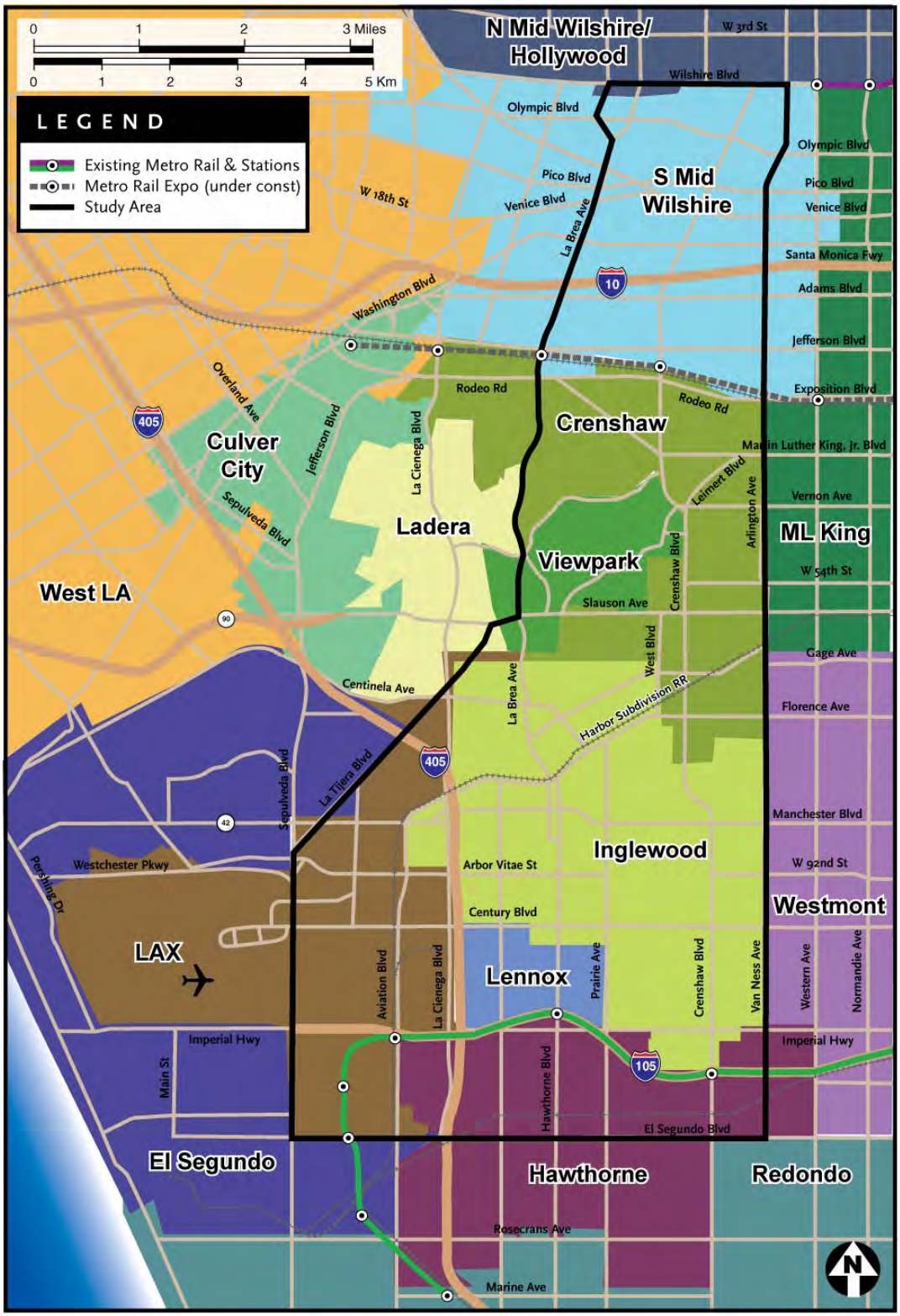
1.8.1 Activity Centers

The study area has a number of local and regional activity centers that generate a high volume of trips. These are potentially key sites for providing improved transit connections. The major activity centers located within the study area are summarized below.

- Airports - LAX is located in the southwestern portion of the study area near the intersection of the I-105 and I-405 Freeways. It serves as a regional and international gateway for residents and visitors who travel from around the world to Southern California for business and recreation. In 2006, 61 million passengers utilized LAX (16.9 million international and 44.1 million domestic) (Los Angeles World Airports, 2007). Currently, shuttle buses connect LAX with the Metro Green Line. An automated people mover to connect passengers to the regional transit system is being contemplated by Los Angeles World Airports. The Hawthorne Municipal Airport, located on Crenshaw Boulevard between 120th Street and El Segundo Boulevard in the City of Hawthorne, is also located within the southern portion of the study area. The city owned Hawthorne Municipal Airport is a Federal Aviation Administration (FAA)-designated general aviation reliever airport.
- Commercial Development - Offices and businesses are clustered in downtown Inglewood and along Wilshire Boulevard and other major arterials that traverse the study area. In addition, the study area is home to the Baldwin Hills-Crenshaw Plaza, located at the corner of Martin Luther King Jr. Boulevard and Crenshaw Boulevard in Los Angeles and various clusters of community oriented retail along Crenshaw Boulevard, in Leimert Park Village and downtown Inglewood.
- Entertainment - The Forum is a sports and entertainment arena with a seating capacity of up to 18,000. The venue is located in the City of Inglewood near Prairie Avenue and Manchester Boulevard. South of the Forum is Hollywood Park, a thoroughbred racecourse and casino. The City of Inglewood currently has been working with a developer to redevelop the Hollywood Park property, which would add increased commercial development and residential units to this section of the city.

  Other notable activity centers in the study area include the West Angeles Church of God in Christ Cathedral, the Magic Johnson Movie Theater, the Nate Holden Performing Arts Center in Los Angeles, and the Edward Vincent Park in Inglewood. Table 1-12 summarizes the main land uses of eight districts in the study area and shows that a majority of the land uses are either residential or commercial. 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 section.

Figure 1-16. SCAG/City of Los Angeles Districts for the Crenshaw/LAX Transit Corridor



Source: Adopted from the City of Los Angeles, Neighborhood Council Maps (2006) and SCAG (2004).

Table 1-12. Study Area Land Use and Activity Centers by District

District No.	District Name	Main Land Uses	Activity Centers
1	Inglewood	Low Density Residential, Medium to High Density Residential, Commercial, Open Space	Edward Vincent Park, Downtown Inglewood, the Forum, Hollywood Park
2	View Park	Low Density Residential	N/A
3	Crenshaw	Low Density Residential, Medium to High Density Residential, Commercial	Baldwin Hills-Crenshaw Plaza
4	South Mid-Wilshire	Low Density Residential, Medium to High Density Residential, Commercial	West Angeles Church of God in Christ Cathedral
5	LAX	Transportation Utilities, Industrial	LAX
6	Lennox	Low Density Residential, Medium to High Density Residential, Commercial	N/A
7	Hawthorne	Low Density Residential, Medium to High Density Residential, Commercial, Transportation Utilities	Hawthorne Municipal Airport

Source: Parsons Brinckerhoff, October 2007.

1.8.2 Population

SCAG's 2006 and 2030 population data, based on the travel demand model, are summarized for the study area and Los Angeles County in Table 1-13. The table shows that population density in the study area will increase by 18 percent, while the population density of the County as a whole will increase by 22 percent. Although the County's growth rate is slightly greater, the population density will still remain higher in the study area in 2030. As can be seen in Table 1-13, the population density is expected to be about four times that of the County as a whole in 2030. Population data for the study area include Districts 1 through 7, which are the primary districts that comprise the study area. The small portion (less than one square mile) of the El Segundo District (District 15), located within the study area boundaries, was excluded.

Table 1-13. Study Area Population and Population Density by District, 2006 and 2030

District No.	District Name	Area, Sq. Mi.	Year 2006		Year 2030		Percent Change
			Population	Population Density per Sq. Mi.	Population	Population Density per Sq. Mi.	
1	Inglewood	9.06	117,554	12,972	134,776	14,873	15%
2	Viewpark	1.86	11,737	6,314	13,699	7,369	17%
3	Crenshaw	5.61	74,795	13,340	89,370	15,939	19%
4	S Mid Wilshire	4.82	77,420	16,069	92,569	19,213	20%
5	LAX	8.08	16,744	2,072	19,029	2,354	14%
6	Lennox	1.21	22,904	18,976	26,018	21,556	14%
7	Hawthorne	3.48	42,118	12,113	54,534	15,684	29%
	Study Area Subtotal	34.11	363,272	10,649	429,995	12,605	18%
	Los Angeles County	3,977	10,010,315	2,517	12,193,030	3,066	22%

Source: Southern California Association of Governments travel demand model, October 2007.

In 2006, the population of the study area was approximately 363,300 persons, approximately 3.7 percent of the Los Angeles County population. According to population projections, there will be approximately 430,000 persons residing in the study area by 2030, an 18 percent growth from 2006. Population in the Hawthorne District is anticipated to grow the fastest, with an increase of approximately 29 percent, which is higher than the 22 percent growth rate anticipated for Los Angeles County during the same period.

Based on 2006 and projected 2030 conditions, the population density of the study area is approximately four times that of Los Angeles County. The districts in the study area with the highest population densities are Lennox and South Mid Wilshire, with approximately 19,000 and 16,100 persons per square mile, respectively in 2006, and an estimated 21,000 and 19,200 persons per square mile, respectively in 2030. Figure 1-17 examines population densities in the study area at a smaller scale. The figure shows that some study area neighborhoods have population densities ranging from 20,000 to 45,000 persons per square mile.

1.8.3 Employment

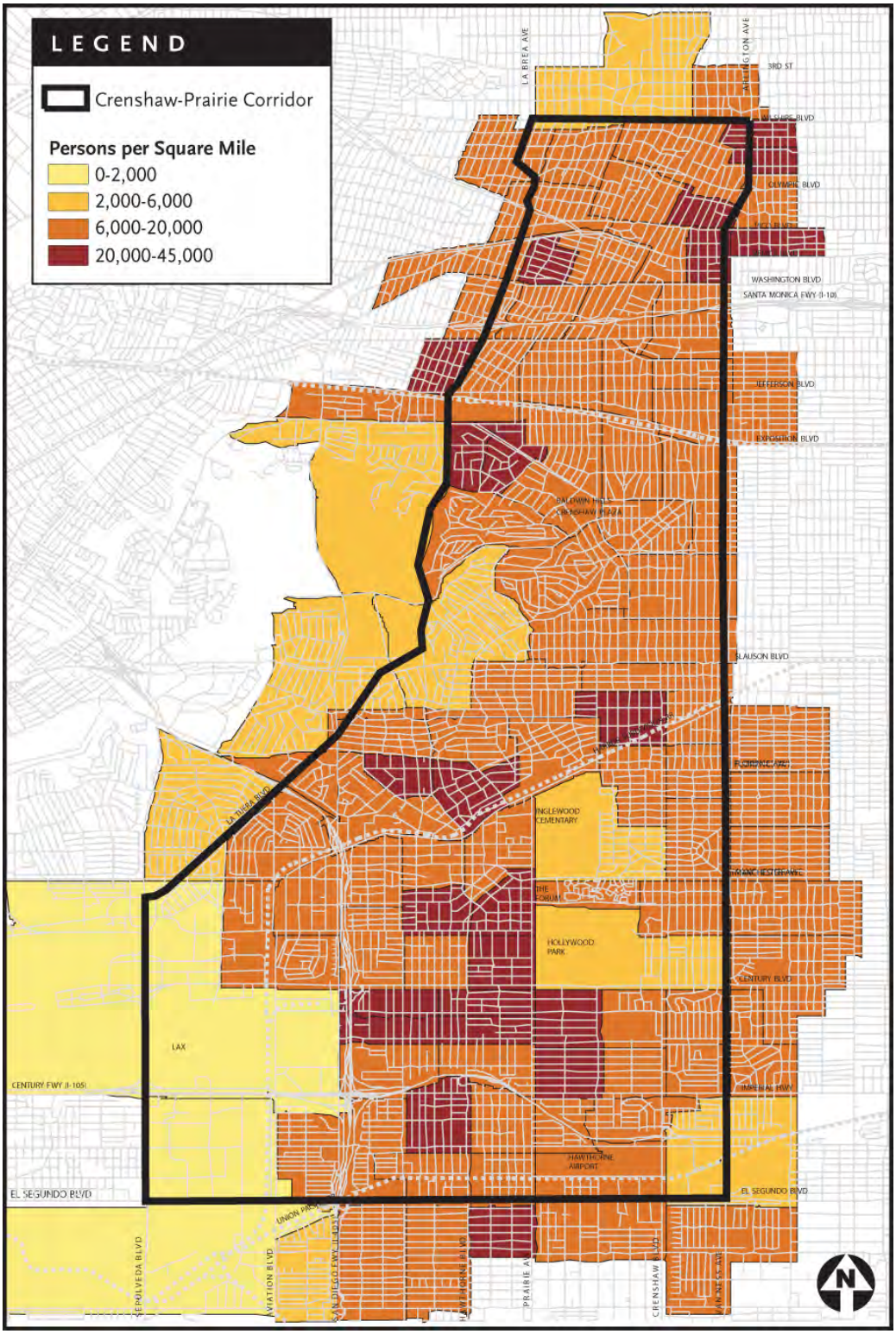
As shown in Table 1-14, the total employment in the study area (Districts 1 through 7) was approximately 164,400 jobs in 2006 and is projected to be 197,100 jobs in 2030. This is an anticipated increase of approximately 20 percent, which is comparable to the County's projected 22 percent growth in employment during the same period. The Lennox, Crenshaw and South Mid-Wilshire Districts are projected to have the highest rates of employment growth at 29, 24, and 23 percent, respectively. The proportion of employment in the study area relative to Los Angeles County is similar to population at approximately 3.6 percent in 2006.

Table 1-14. Study Area Employment and Employment Density by District, 2006 and 2030

District No.	District Name	Area, Sq. Mi.	Year 2006		Year 2030		Percent Change
			Employment	Employment Density per Sq. Mi.	Employment	Employment Density per Sq. Mi.	
1	Inglewood	9.06	53,360	5,888	63,032	6,956	18%
2	Viewpark	1.86	1,672	899	2,030	1,092	21%
3	Crenshaw	5.61	15,408	2,748	19,120	3,410	24%
4	S Mid Wilshire	4.82	18,179	3,773	22,349	4,639	23%
5	LAX	8.08	55,489	6,866	65,528	8,108	18%
6	Lennox	1.21	4,456	3,692	5,761	4,773	29%
7	Hawthorne	3.48	15,859	4,561	19,272	5,543	22%
	Study Area Subtotal	34.11	164,423	4,820	197,092	5,778	20%
	Los Angeles County	3,977	4,644,010	1,168	5,651,043	1,421	22%

Source: Southern California Association of Governments travel demand model, October 2007.

Figure 1-17. Population Density



Source: ESRI & Terry A. Hayes Associates LLC, 2007.

Similar to population density, the employment density of the study area is approximately four times that of the county. As expected, the districts with the highest employment densities are those with key activity centers in the study area, LAX and Inglewood, with approximately 6,900 and 5,900 jobs per square mile, respectively in 2006, and an estimated 8,100 and 7,000 jobs per square mile, respectively in 2030.

Figure 1-18 examines employment densities in the study area at a smaller scale. The figure shows that the highest employment densities found in the study area range from 10,000 to 25,000 jobs and could be found along Wilshire Boulevard and along the Harbor Subdivision near downtown Inglewood and near LAX along Century Boulevard. Moderate employment densities are along Crenshaw Boulevard.

1.8.4 Travel Demand and Patterns

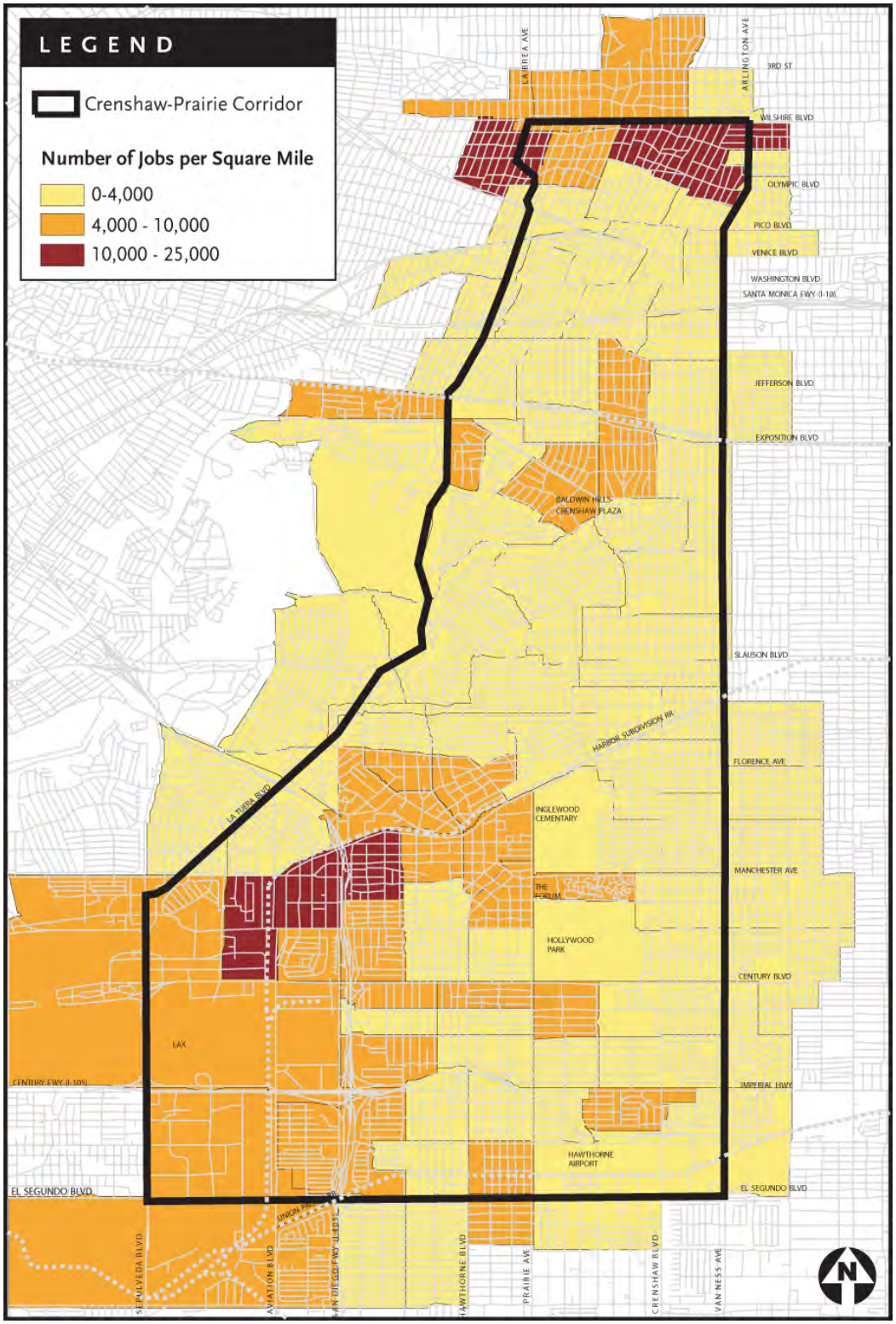
After locating the activity centers and the most populous and job rich districts in the study area, the next step was to identify the major trip making areas and travel patterns for different purposes and time periods. The basic method for conducting the travel demand analysis was to compress person and transit trips into district by district matrices and then use "desire line" diagrams and Geographic Information Systems (GIS) maps to illustrate the potential markets to be served by the corridor improvements.

There are eight trip purposes, four labeled as home-based work (HBW), home-based university (HBU), home-based other (HBO) and non-home based (NHB) in the peak period and the same four categories in the off-peak period. Trip making activity can be described in terms of trips produced in or attracted to the study area. For example, when someone living within the Crenshaw/LAX Transit Corridor leaves their residence and travels to work, school, or the store, that is a trip produced or originating in the corridor. When someone travels to the Walmart, Macy's, schools, parks, etc. that are located within the corridor, those trips are attracted to the corridor. Trip making activity for the study area is summarized for person trips and transit trips in the discussion below.

1.8.4.1 Person Trips

In 2006, the study area produced or attracted a total of approximately 2.6 million daily all-purpose person trips. Approximately 40 percent of the trips produced by the study area traveled to locations within the study area. Other destinations for trips produced by the study area were the West LA (13 percent), Martin Luther King (8 percent), and Redondo (7 percent) Districts. Overall, 75 percent of trips produced by or attracted to the study area had an endpoint outside of the study area. The top outside districts that produced the highest number of trips attracted to the study area included: Redondo (14 percent), West LA (13 percent), and Gateway (11 percent). Trips attracted to the study area from outside the study area were primarily traveling to the South Mid-Wilshire and Inglewood Districts, followed by LAX. Similar travel patterns are anticipated for 2030. Figure 1-19 illustrates the number of 2030 person trips attracted to the study area from outside districts (or imported trips) and the number of 2030 person trips produced by the study area and attracted to outside districts (or exported trips). The study area will continue to export person trips to outside districts at a high number in 2030, particularly to the West Los Angeles area. These findings reinforce the notion that there are strong linkages

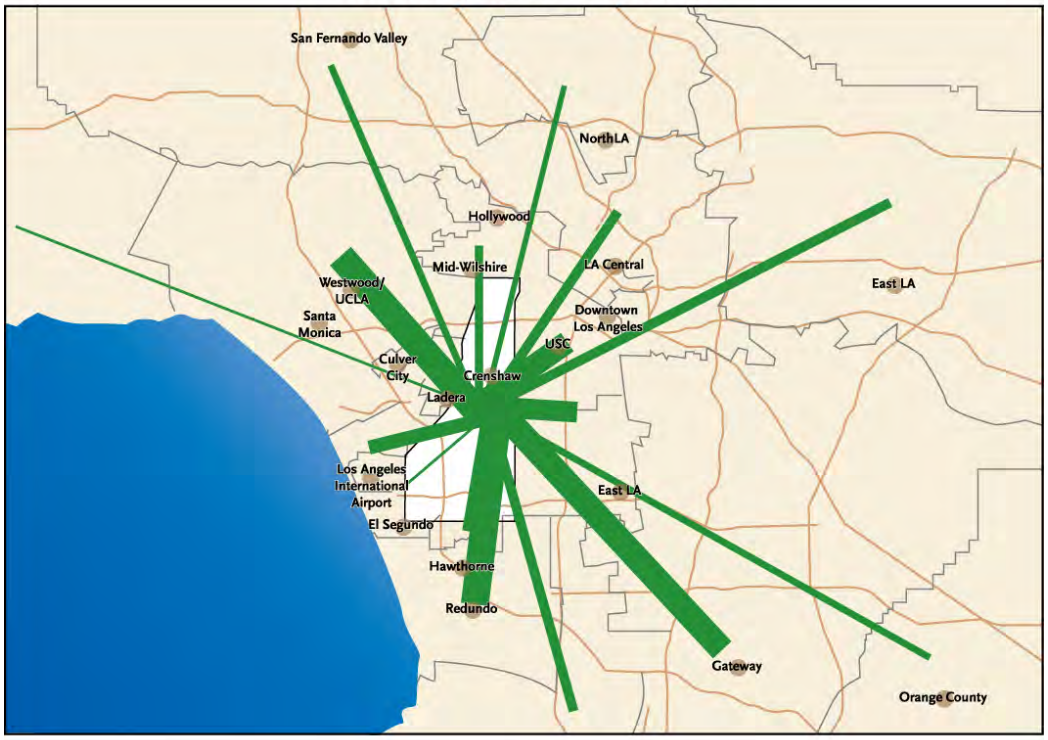
Figure 1-18. Employment Density



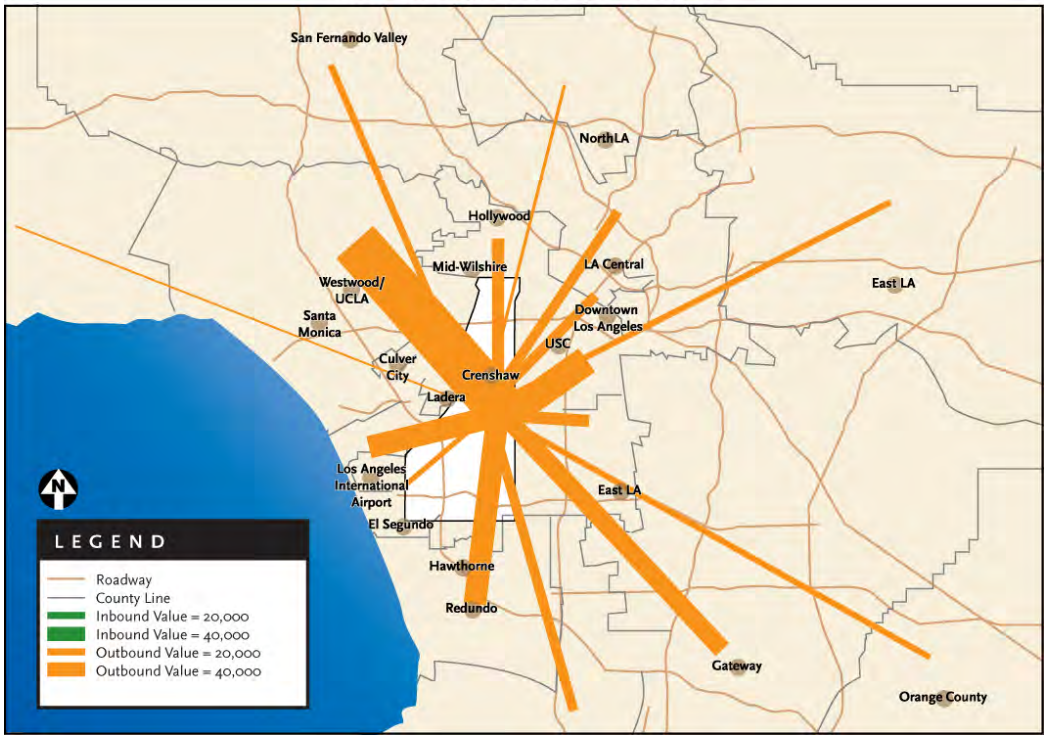
Source: ESRI and Terry A. Hayes Associates LLC, 2007.

Figure 1-19. 2030 Person Trips

2030 Person Trips Attracted to the Study Area



2030 Person Trips Produced by the Study Area



Source: Parsons Brinckerhoff, 2008.

between the study area and the Westside Central Los Angeles and the South Bay. These markets can all be potentially saved by the implementation of the proposed project.

Based on 2030 forecasts, the HBO trip purpose will have the most trips (58 percent) to and from the study area, followed by NHB (34 percent), HBW (8 percent) and HBU (approximately 1 percent). Table 1-15 shows that while HBW trips comprise only 8 percent of all trips to and from the study area, 21 percent and 17 percent of all HBW trips are both to and from the study area during the off-peak and peak periods, respectively. Table 1-15 also shows this breakdown for the other trip purposes.

Table 1-15. Study Area Travel Activity by Trip Purpose, 2030

Trip Origin	Trip Purpose /a/		
	HBO	NHB	HBW
Study Area to Study Area Trips (Off-Peak/Peak)	50% / 47%	46% / 35%	21% /17%
Study Area Districts that Produce the Most Trips	Inglewood, South Mid Wilshire	Inglewood, South Mid Wilshire	Inglewood, Hawthorne
Study Area Districts that Attract the Most Trips	Inglewood, South Mid Wilshire	Inglewood, LAX	Inglewood, LAX
Study Area Districts that Attract the Most Trips from Outside	Inglewood, South Mid Wilshire	Inglewood, South Mid Wilshire	Inglewood, South Mid Wilshire

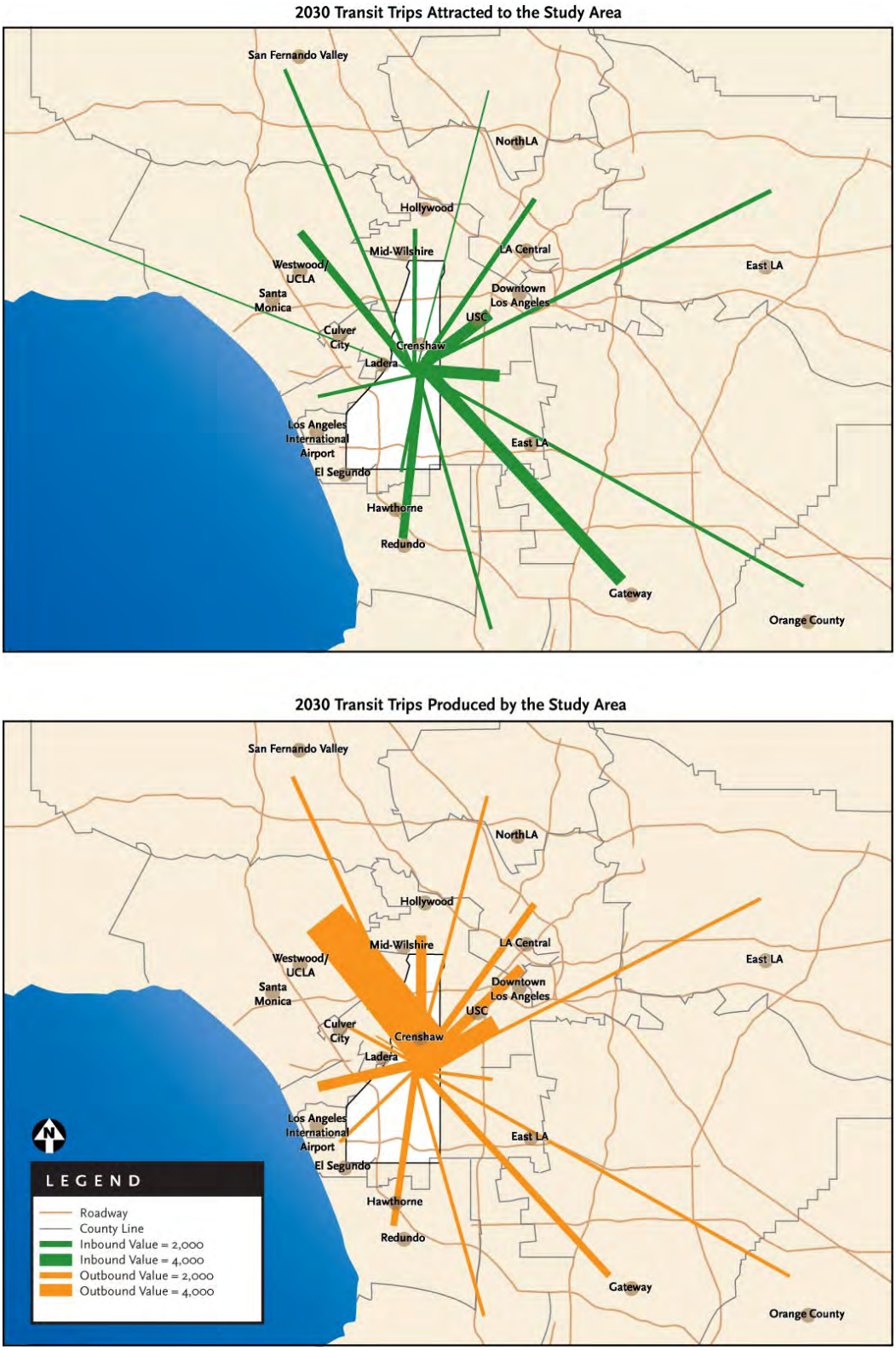
/a/ HBU trips not analyzed since HBU trips are less than 1 percent of study area trips.
Source: SCAG travel demand model, October 2007.

1.8.4.2 Transit Trips

In 2006, the study area produced or attracted approximately 130,700 all-purpose daily transit trips. Of the approximately 85,000 transit trips produced by the study area, only 18 percent remained in the study area. The primary destinations outside of the study area for these trips were the West LA (28 percent) and Martin Luther King (11 percent) Districts. Most trips (88 percent) produced by/attracted to the study area by transit have an endpoint outside of the study area, including those trips to the study area originating from the Gateway (15 percent), Martin Luther King (12 percent), and Westmont (12 percent) Districts. These transit trip-making patterns are anticipated to be the same for 2030.

Figure 1-20 illustrates the number of 2030 transit trips attracted to the study area from outside districts (or imported trips) and the number of 2030 transit trips produced by the study area and attracted to outside districts (or exported trips). Exported transit trips from the study area will continue at a high number in 2030 to the West Los Angeles, North Mid-Wilshire, and Martin Luther King (i.e., USC) Districts. This would result from the growing transit, activity, and employment opportunities located in the West Los Angeles area (and other areas outside of the study area) in conjunction with the fact that the study area is primarily a residential area. The pattern of transit trips and transit trip growth reflects the strong linkages inherent in the person trips patterns especially the need for connections to the Westside and Central Los Angeles.

Figure 1-20. 2030 Transit Trips



Source: Parsons Brinckerhoff, 2008.

1.8.5 Summary of Travel Markets

The analysis of activity centers, land use, population, employment, person trips and transit trips in the study area and region identified the major travel markets for the Crenshaw/LAX Transit Corridor as follows:

- **Trips from Study Area Districts to Outside Districts** - According to 2030 forecasts, over half a million daily person trips produced by the study area will travel to the West LA, Martin Luther King, or Redondo Districts. These districts will attract approximately 260,000, 142,000 and 137,000 daily person trips, respectively from the study area. The West LA and Martin Luther King Districts are also primary destinations for daily transit trips from the study area at approximately 11 and 8 percent, respectively.
- **Trips from Outside Districts to Study Area Districts** - In 2030, the Redondo, West LA, and Gateway Districts are anticipated to produce over 430,000 combined daily person trips to the study area. These districts, individually, would produce approximately 154,000, 149,000 and 130,000 daily person trips to the study area, respectively. Approximately 4 percent of the person trips from the Redondo and West LA Districts to the study area will be made by transit, while 7 percent of those from the Gateway District to the study area will be made by transit.
- **Trips Produced/Attracted by Study Area Districts** - In 2030, the number of trips produced and attracted (or internal trips) by the study area is forecast to 754,000. This is the estimated number of trips that will remain in the study area. An estimated 19,000 trips, or 3 percent, will be made by transit.

The trip patterns reinforce the need for better north-south connectivity.

1.9 Summary of Purpose and Need for Project

In summary, travel demand forecasts prepared by the SCAG and Metro over the past decade also have identified the need for transit improvements throughout the Southern California region, especially in Los Angeles County, to meet the mandates of the federal Clean Air Act and address the increasing mobility needs of the region. The *2008 SCAG Regional Transportation Plan* determined travel conditions in the study area will worsen by 2030 and the area will not meet regional objectives for mobility, accessibility, reliability, or safety without the implementation of additional transportation improvements. Subsequent travel demand forecasting conducted for the current update of the Metro Long Range Plan has confirmed the continuing need for improvements in mobility.

The existing population and employment density in the corridor is high and very transit supportive. The corridor population and employment densities are four times higher than Los Angeles County as a whole. The corridor has a high concentration of low-income, minority, transit-dependent residents. More than 49 percent of all corridor households are designated as low income. In addition, 16 percent of all households in the corridor do not have access to an automobile, compared to 8 percent in the county's urbanized area. Forecasts show a growing transit-dependent population, with a projected 55 percent increase in corridor residents that rely on or will rely on the study area's transit system.

The topography and street grid of the corridor present unique challenges to existing transportation facilities and services. There are few north-south arterials in the corridor which cross over the small hills located in the unincorporated Los Angeles County area in the western portion of the study area. This constrained arterial network restricts north/south movement within the corridor and places pressure on north-south arterials in or adjacent to the study area, such as La Cienega Boulevard and La Brea Avenue.

There is a strong connection between redevelopment and revitalization and transportation system improvements. Increased accessibility, mobility, and links to transit provide opportunity for increased development densities. All or portions of 11 redevelopment plan areas are located within the corridor. A majority of the corridor's key activity and employment destinations are currently preparing expansion, revitalization, or redevelopment plans (i.e., Hollywood Park). The success of these projects and the corridor's economic future are strongly dependent on improved local and regional accessibility.

The corridor is fully contained within the South Coast Air Basin, which has the worst air quality in the nation. Mobile source emissions from vehicles are the single largest contributor to air quality problems in the basin. The proposed project would provide transportation and transit improvements that would provide the area with an efficient way of reducing the number of vehicles on roadways and freeways. This would contribute to the improvement of the area's local air quality, and a reduction in greenhouse gas emissions.

Without significant improvements and capacity enhancement, the corridor's transit system will be substantially overburdened, and mobility to and from the corridor will be significantly constrained. There is an urgent need to improve transportation mobility and reliability in the corridor and invest in a major capital transportation improvement project.

The purpose of the Crenshaw/LAX Transit Corridor Project is to provide for the implementation of transit improvements that addresses the identified transportation needs in the corridor. The proposed project would address the needs by expanding transit capacity in the corridor to accommodate existing and future travel demand and by providing a higher speed and reliable transit alternative that improves mobility in the corridor by connecting with or extending existing lines, such as the Metro Green Line, or transit lines under construction, such as the Exposition LRT line.

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