

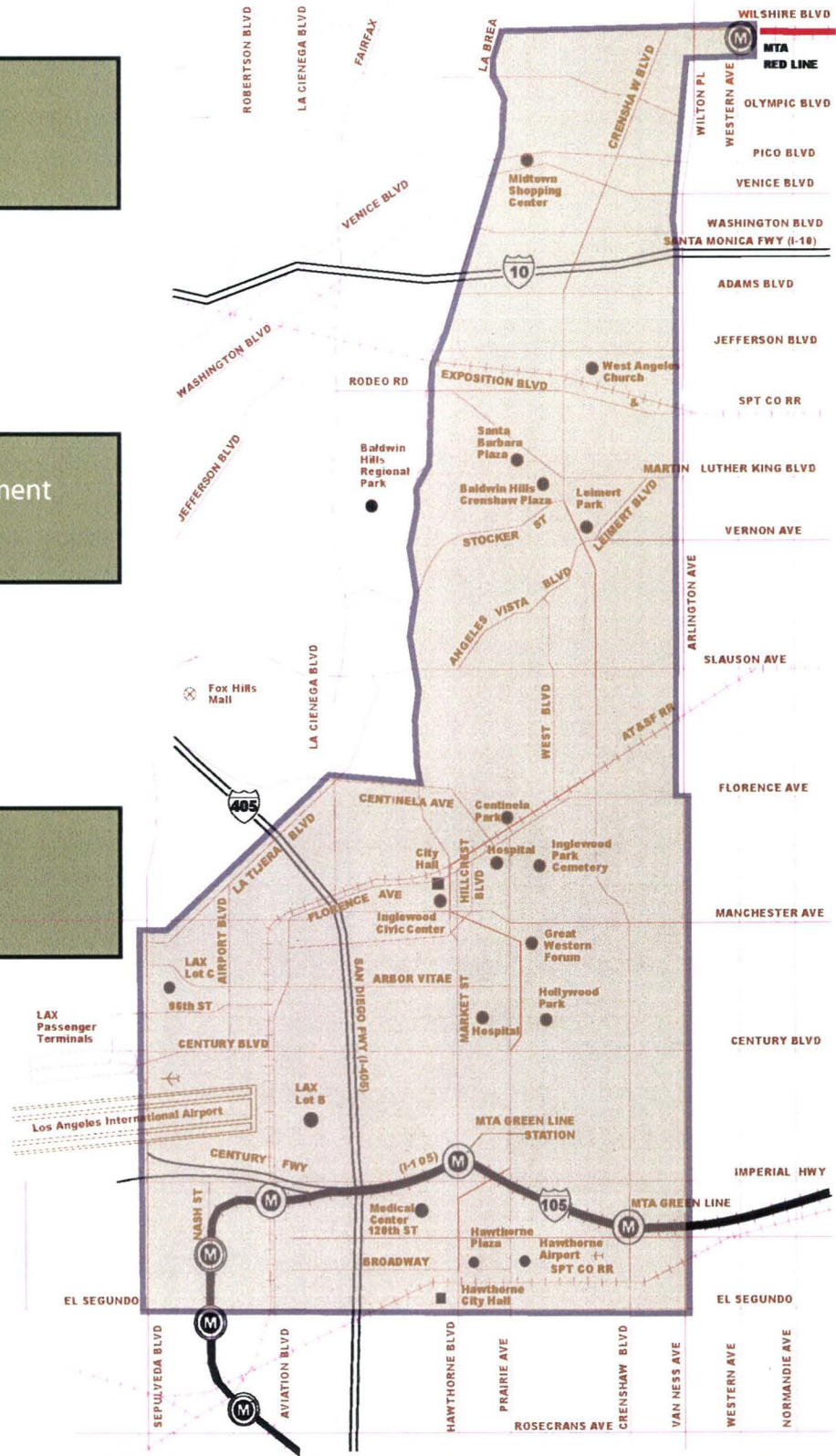
Crenshaw-Prairie



Final

Mobility Problem and Statement of Purpose and Need

July 18th, 2001



Los Angeles County Metropolitan Transportation Authority

**CRENSHAW-PRAIRIE CORRIDOR
MAJOR INVESTMENT STUDY**

**Mobility Problem and
Purpose and Need Statement**

Final Report: July 18, 2001

Submitted by:

RAW International, Inc.

with

KORVE Engineering

TABLE OF CONTENTS

1.0 INTRODUCTION 1
 1.1 Overview of Planning Efforts 1

2.0 CORRIDOR DESCRIPTION 3
 2.1 Population and Employment 8
 2.2 Travel Characteristics 10
 2.3 Travel Markets 10
 2.4 Economic Trends 11
 2.5 Air Quality Issues 12

3.0 MOBILITY PROBLEM 14
 3.1 Overview of Corridor Transportation System 15
 3.2 Freeway and Arterial Congestion 15
 3.3 Transit System Conditions 15
 3.4 Transportation System Accessibility 19

4.0 PURPOSE AND NEED 21
 4.1 Evaluation Criteria 21
 4.2 Study Goals 22
 4.3 Summary 22

FIGURES

1.0 Project Corridor and Study Area 4

2.0 Key Activity Centers 5

3.0 Project Corridor Sub Areas..... 7

4.0 Population and Employment..... 9

5.0 Economic Opportunities 13

6.0 Freeway Level of Service (A.M. Peak Period 1998)..... 16

7.0 Freeway Level of Service (P. M. Peak Period 1998)..... 17

8.0 P. M. Peak Period Arterial Level of Service..... 18

9.0 Existing Bus Service..... 20

1.0 INTRODUCTION

The Los Angeles County Metropolitan Transportation Authority (MTA) has initiated a Major Investment Study (MIS) for the Crenshaw-Prairie Corridor, a north-south oriented travel corridor that covers portions of four cities – Los Angeles, Inglewood, Hawthorne and El Segundo. The purpose of the Crenshaw-Prairie Corridor MIS process is to conduct a thorough and comprehensive analysis of future transportation system improvements for this Study Corridor. The results of this MIS planning process are intended to assist decision makers in selecting the most effective solution to the transportation problems identified in the Corridor in the context of local goals and objectives.

The purpose of the Mobility Problem & Purpose and Need Statement is to describe the current and projected future (year 2020) mobility problems in the Corridor, and define the overall project purpose and need for a Major Investment Strategy Study by:

1. Providing a description of the Crenshaw-Prairie Corridor, its characteristics and context;
2. Identifying mobility problems and concerns within the Corridor; and
3. Relating the mobility problems and concerns within the Corridor to applicable transportation, land use, economic development, air quality and other goals and objectives to identify the overall purpose and need for this Major Investment Study.

While the Crenshaw-Prairie Corridor MIS will be based on an analysis of future 2020 conditions, the mobility discussion presented in this initial statement of purpose and need reflects previous analytical findings which were based on a future year of 2015. As the study process continues, the initial statement information will be updated to reflect 2020 conditions.

1.1 Overview of Planning Efforts

Over the past 34 years, the need for transportation improvements in the congested and constrained Crenshaw-Prairie Corridor has been established through a series of transportation plans and studies undertaken by the MTA and its predecessor agencies – the Southern California Rapid Transit District (SCRTD) and the Los Angeles County Transportation Commission (LACTC). Starting in 1967, the Crenshaw Corridor was included in SCRTD's first rail system plan. In 1991, LACTC staff added the Crenshaw Corridor to the list of transportation corridors to be evaluated for possible inclusion in the agency's Long Range Transportation Plan (LRTP). The LRTP process was established to provide the policy and funding framework for transportation infrastructure investments in Los Angeles County over an extended time period. At that time, the Crenshaw-Prairie Corridor was identified as one of five rail corridors under consideration for the second decade on the Long Range Transportation Plan as additional funds became available.

Spurred by the civil unrest in 1992, a commitment was made to work with the Study Corridor community to provide transit improvements to underserved areas, and to identify how to best use transit investment as a catalyst for future economic development in the Corridor. In 1993, a *Preliminary Planning Study* was undertaken by MTA for the Crenshaw-Prairie Corridor. Intended as the first step in the development of transportation improvements in the Corridor, this study clearly defined the need for Corridor transportation system improvements. While the *Preliminary Planning Study* identified transportation alternatives, its purpose was not to recommend a specific alternative, but rather to provide a base of information upon which future, more detailed planning efforts would build. Completed in October 1994, the *Preliminary Planning Study* identified two feasible transit

service corridors with related modal options to be studied further. The study concluded that the implementation of rail transit was viable in the Crenshaw-Prairie Corridor, and that it would represent not only a significant mobility improvement, but would also serve to focus other public and private economic investment efforts in the Corridor.

In 1996, MTA initiated the next phase of the corridor transportation planning process – a Major Investment Study (MIS). The purpose of the MIS was to conduct a thorough and comprehensive analysis of alternative transportation improvements in the Crenshaw-Prairie Corridor within the framework of the MIS process, as required by federal regulations for comprehensive metropolitan planning. Reflecting the uniqueness of the challenges posed by this Corridor, the MIS process was defined to integrate transportation, land use and economic development efforts. And while the resulting Corridor was not identified as a funded improvement in MTA's 1995 Long Range Transportation Plan, the MIS process was viewed as an opportunity to identify and evaluate alternative funding sources beyond the typical funding strategies.

The overall objective of the previous Crenshaw-Prairie Corridor MIS effort was to develop and assess a full range of transportation strategies and identify a preferred strategy which best addressed mobility and capacity needs in the year 2015 and beyond, while being sensitive to community, environmental and economic concerns. During MIS Project Initiation efforts, a wide range of possible transportation improvements for the Corridor was identified through a series of public and stakeholder workshops. The identified transportation options were evaluated and combined into fourteen conceptual alternatives, which were then analyzed further and reduced to an Initial Study Set of six alternatives. A Final Study Set of the four most viable alternatives was defined through a preliminary technical evaluation process. A more detailed environmental and technical analysis of the Final Set of Alternatives was intended to provide the public and decision-makers with a technical basis to select the most viable transportation improvement.

In November 1997, changing MTA priorities called for the reconsideration of future transportation improvements not already under construction. As funding for the resulting recommended Crenshaw-Prairie Corridor improvement project was not currently included in the agency's Long Range Transportation Plan, a decision was made by MTA staff to defer completion of the MIS process, including the time-sensitive environmental work, and to instead prepare a Route Refinement Study (RRS) that would have a longer shelf life. The resulting RRS documented the analytical work completed through definition of the Final Study Set of Alternatives, but did not provide detailed enough technical work for decision-makers to select among the alternatives. The *Final Crenshaw-Prairie Corridor Route Refinement Study* was submitted to MTA in December 2000.

Shortly after completion of the *Crenshaw-Prairie Corridor Route Refinement Study*, several new transportation services were implemented and studies undertaken which changed the Study Corridor context. First, MTA is no longer planning extension of Metro Red Line service to the vicinity of Venice and San Vicente Boulevards, which had provided the northern terminus point for the rail alternatives considered in the Route Refinement Study effort. Second, Metro Rapid Bus service was successfully implemented on Wilshire and Whittier Boulevards from Santa Monica through Downtown Los Angeles and East Los Angeles to Montebello. Third, a *Mid-City/Westside Transit Corridor Major Investment Study* was initiated to identify and evaluate transit service improvements along Wilshire and Exposition Boulevards, which intersect the Crenshaw-Prairie Corridor. The *Mid-City/Westside MIS* is evaluating a set of alternatives, including rapid bus, bus rapid transit and light rail service, which may provide new opportunities for interface with existing and future Crenshaw – Prairie Study Area transit services.

In response to MTA Board motions made at the July 2000 meeting, MTA staff recommended preparation of a Major Investment Study/Project Study Report for nine corridors, including the

Crenshaw Corridor, to better prepare Los Angeles County for future transportation funding opportunities at the state and federal levels. This study effort is intended to fulfill MTA Board direction by completing the Crenshaw-Prairie Corridor Major Investment Study, and build on the work effort completed as part of the Crenshaw-Prairie Corridor Route Refinement Study process.

Further support for this Study Corridor was provided with the adoption of the 2001 Long Range Transportation Plan at the April 2001 MTA Board meeting. This update of the 1995 Long Range Transportation Plan provided the Crenshaw Transit Corridor – from Wilshire and Crenshaw Boulevards to the Metro Green Line/Los Angeles World Airport – with \$346.1 million in future funding. Major capital projects that are identified in the LRTP have priority for future funding and construction. While these projects require further MTA Board approval at various stages of their development process, they are candidates for further planning and design. The actual transit technology – Metro Rapid Bus, Bus Rapid Transit (BRT) or Light Rail Transit (LRT) – and the phased project length for the Crenshaw Corridor will be determined through this Major Investment Study process.

2.0 CORRIDOR DESCRIPTION

The Crenshaw-Prairie Corridor is an approximately ten-mile long, north-south oriented corridor that covers portions of four cities – Los Angeles, Inglewood, Hawthorne and El Segundo. The Corridor runs from the Park Mile area of Los Angeles on the north, south to Downtown Hawthorne and west through Downtown Inglewood to the Los Angeles World Airport and El Segundo area. The Study Corridor boundaries have been expanded from those of the previous study efforts to reflect elimination of Metro Red Line service to Venice and San Vicente Boulevards, and to evaluate possible impacts and benefits to the El Segundo area. As illustrated in Figure 1, the approximate limits of the Crenshaw-Prairie Corridor Study Area north from Florence Avenue are:

- Wilshire Boulevard in the north;
- Wilton Place/Arlington Avenue in the east; and
- La Brea Avenue in the west.

South from Florence Avenue the approximate limits of the Study Area are:

- La Tijera Boulevard/Centinela Avenue in the northwest;
- Van Ness Avenue in the east;
- El Segundo Boulevard on the south; and
- Sepulveda Boulevard in the west.

The Corridor's key activity, employment and transportation destinations as shown in Figure 2 include:

- a major regional transportation facility with related employment destinations – Los Angeles World Airport;
- two regional entertainment venues – the Great Western Forum and Hollywood Park;
- two civic centers – Downtown Inglewood and Hawthorne;
- three concentrations of major office development – Wilshire Boulevard, Downtown Inglewood and El Segundo;
- four major shopping centers – the Mid-Town Shopping Center, Baldwin Hills/Crenshaw Plaza, Hawthorne Plaza and Santa Barbara Plaza;
- two regional parks – Leimert Park and Centinela Park;



**Crenshaw-Prairie Transportation Corridor
Major Investment Study**




**Figure 1
Project Corridor and
Study Area**

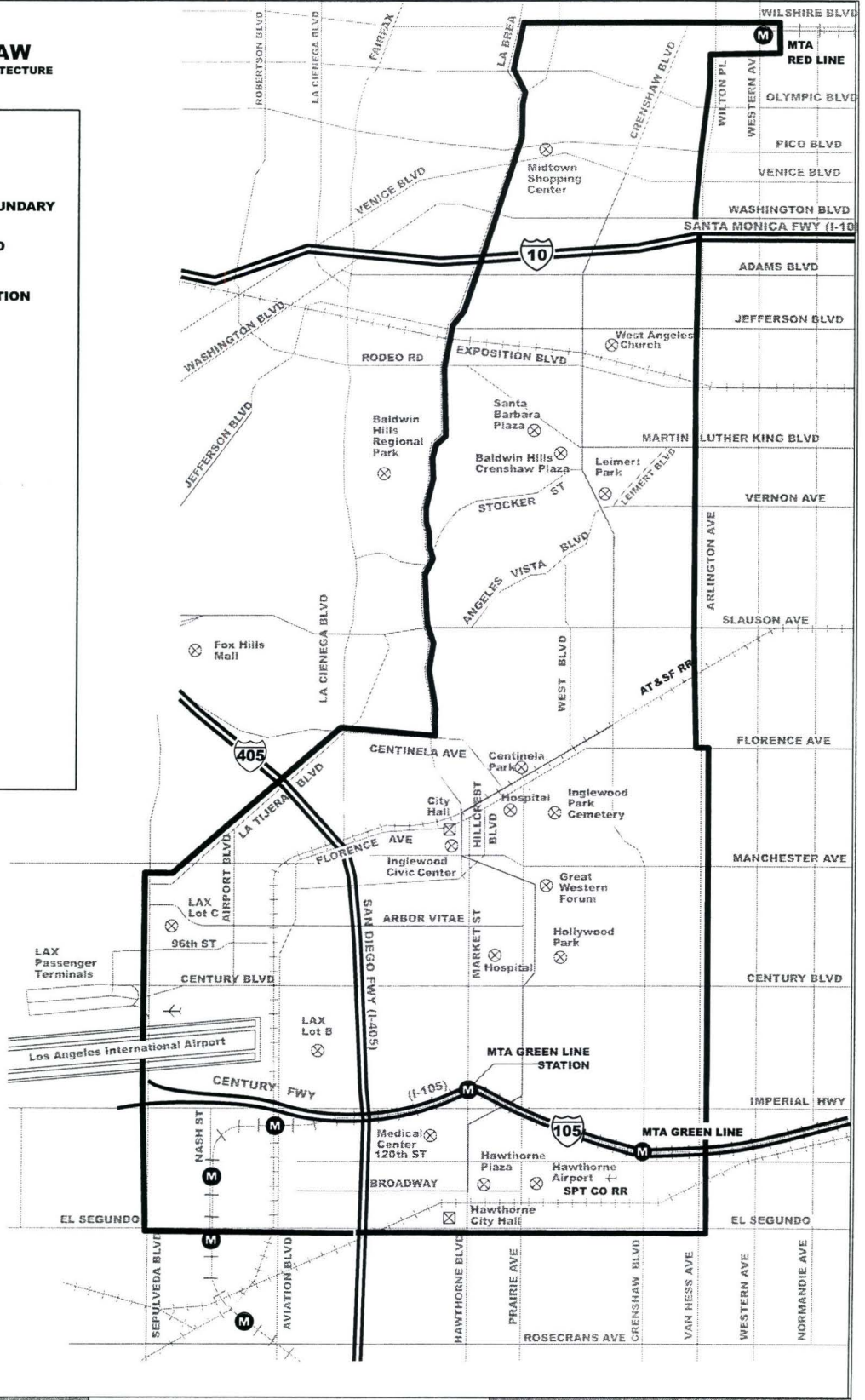
**KORVE
ENGINEERING**



**RAW
ARCHITECTURE**

LEGEND

-  **STUDY AREA BOUNDARY**
-  **REGIONAL METRO RAIL LINE**
-  **METRO RAIL STATION**



**CRENSHAW
CORRIDOR
PRAIRIE**

1/4 MI 1/2 MI 1 MI 2 MI 4 MI

Key Activity Centers



Crenshaw-Prairie Transportation Corridor Major Investment Study

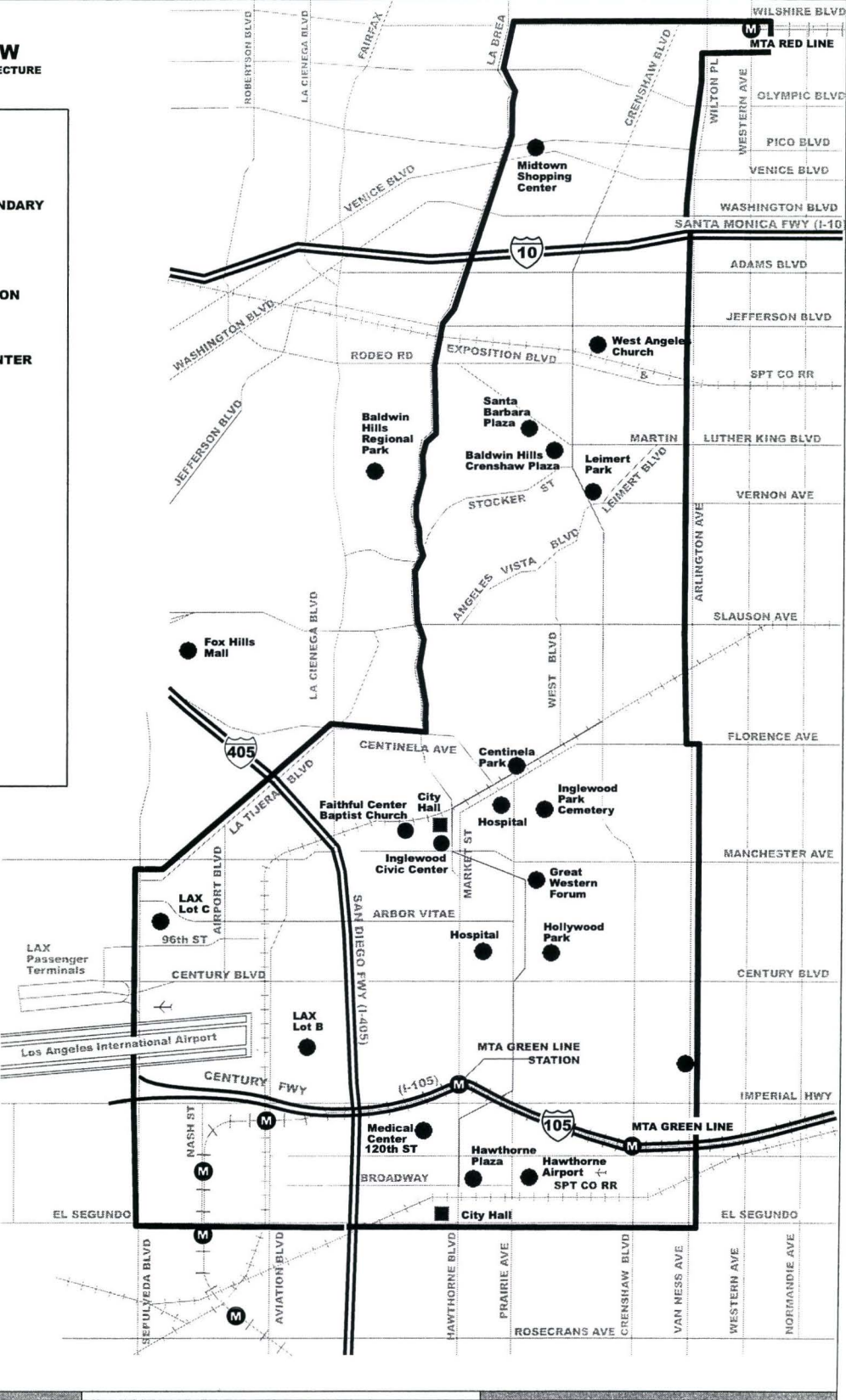
KORVE ENGINEERING



RAW ARCHITECTURE

LEGEND

- STUDY AREA BOUNDARY
- REGIONAL METRO RAIL LINE
- METRO RAIL STATION
- KEY ACTIVITY CENTER



- three major hospitals – Daniel Freeman Memorial Hospital, Centinela Hospital and Robert F. Kennedy Medical Center;
- two major churches – West Angeles Church and Faithful Central Bible Church;
- one air force base – the Los Angeles Air Force Base in El Segundo.

Major Crenshaw-Prairie Corridor transportation facilities include:

- Los Angeles World Airport – LAWA or more commonly known as LAX;
- three freeways – the I-10/Santa Monica Freeway, the I-105/Century Freeway and the I-405/San Diego Freeway; and
- two regional rail transit lines – the Metro Green and the Metro Red Lines.

The Crenshaw-Prairie Corridor study area contains the following seven major subareas as illustrated in Figure 3 on the following page:

- *Northern Area* – This portion of the Corridor extends south from Wilshire Boulevard to Olympic Boulevard. Metro Rapid Bus service currently operates along Wilshire Boulevard operating west to Santa Monica and east to Whittier Boulevard serving East Los Angeles and Montebello. The Hancock Park residential neighborhood is located immediately north of Wilshire Boulevard. The Park Mile area along Wilshire Boulevard contains a mix of commercial uses including low- to mid-rise office buildings and apartment buildings, cultural resources such as the Ebell Theater, and the historic Wilshire United Methodist Church. There are some local community commercial uses along Crenshaw Boulevard.
- *Mid-City Area* – This portion of the Corridor extends south from Olympic Boulevard to Adams Boulevard. A future regional bus interface facility is under construction in the Mid-City area, which will serve LACMTA, Santa Monica, Culver City and Torrance Transit buses. This subarea is primarily single-family residential with some duplex development, and includes several historic neighborhoods including Country Club Park, Victoria Park, Lafayette Square and Longwood Heights. This subarea contains the Mid-Town Shopping Center and some adjacent local commercial uses. New commercial development is planned for the property at Pico-San Vicente Boulevards that will include several big box commercial uses.
- *Crenshaw Area* – The next segment of the Corridor extends south between Adams Boulevard and Slauson Avenue. Major land uses in this subarea include Baldwin Hills/Crenshaw Plaza Shopping Center and the Santa Barbara Plaza Shopping Center. This segment also contains the Leimert Park area, which in recent years has become a focal point of the African-American community in Los Angeles. In the Leimert Park area, Crenshaw Boulevard is lined with many restaurants, clubs and art galleries, creating an active pedestrian environment. Stable residential neighborhoods are located on both sides of the commercially active Crenshaw Boulevard.
- *Inglewood Area* – The Inglewood portion of the Corridor extends south along Crenshaw Boulevard from Slauson Avenue to south of Florence Avenue. This subarea contains the Inglewood Civic Center and adjacent commercial uses, as well as the Great Western Forum, Hollywood Park, the Daniel Freeman Memorial Hospital and the Centinela Hospital. Market Street has been recently upgraded with streetscape improvements. The area south along Prairie Avenue is bounded by a mix of residential and local retail uses.
- *Hawthorne Area* – This segment of the Corridor extends south from Imperial Highway past the I-105/Century Freeway and Metro Green Line to Downtown Hawthorne. While this subarea is primarily residential, the Robert F. Kennedy Medical Center, Hawthorne Civic Center and the Hawthorne Plaza are located within the southern end of the Corridor.



**Crenshaw-Prairie Transportation Corridor
Major Investment Study**

**Figure 3
Project Corridor and
Study Area**

**KORVE
ENGINEERING**



**RAW
ARCHITECTURE**

LEGEND

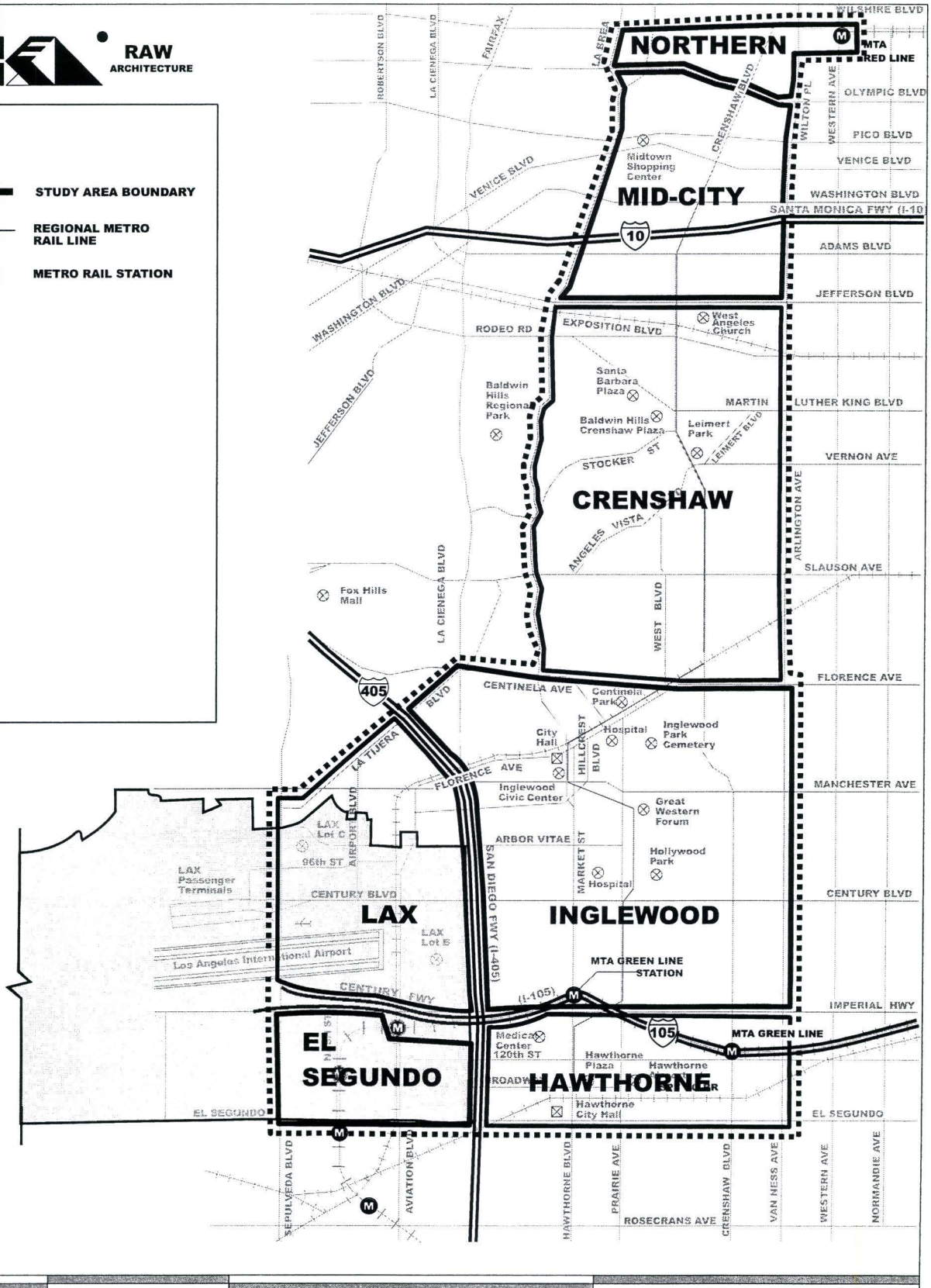
STUDY AREA BOUNDARY

**REGIONAL METRO
RAIL LINE**



METRO RAIL STATION

**CRENSHAW
TRANSPORTATION
CORRIDOR
PRAIRIE**



1/4 MI 1/2 MI

1 MI

2 MI

4 MI

COR-FG1R/cdr 3/23/99

- *LAX Area* – The LAX portion of the Corridor extends west of the I-405/San Diego Freeway to the extensive facilities of the Los Angeles World Airport. The potential of providing an improved connection to LAX is significant to the mobility of the Corridor communities, as well as to the region as a whole. LAX is the primary commercial air transportation hub of the Los Angeles region and is the dominant U.S. international gateway to the Pacific Rim. In 2000, it was the third busiest airport in the United States in terms of aircraft operations and passengers, and the world's fourth most active in terms of passengers. LAX is also the second busiest cargo airport in the world handling more than two million tons of air cargo of which 40 percent is international. An updated Master Plan for the future development of LAX through 2020 has been prepared and is currently under public discussion.
- *El Segundo Area* – This portion of the Corridor extends south from LAX, Imperial Highway and the I-105/Century Freeway. The Metro Green Line bends south through this Study Area section, which is developed with hotels, office buildings and air freight distribution-related businesses. New office development is occurring immediately south of the study area between Sepulveda and Aviation Boulevards. While initially impacted by aerospace and defense industry cutbacks, the City has successfully recruited other businesses and currently has a 6.4 percent office vacancy rate and a 1.6 percent industrial vacancy rate.

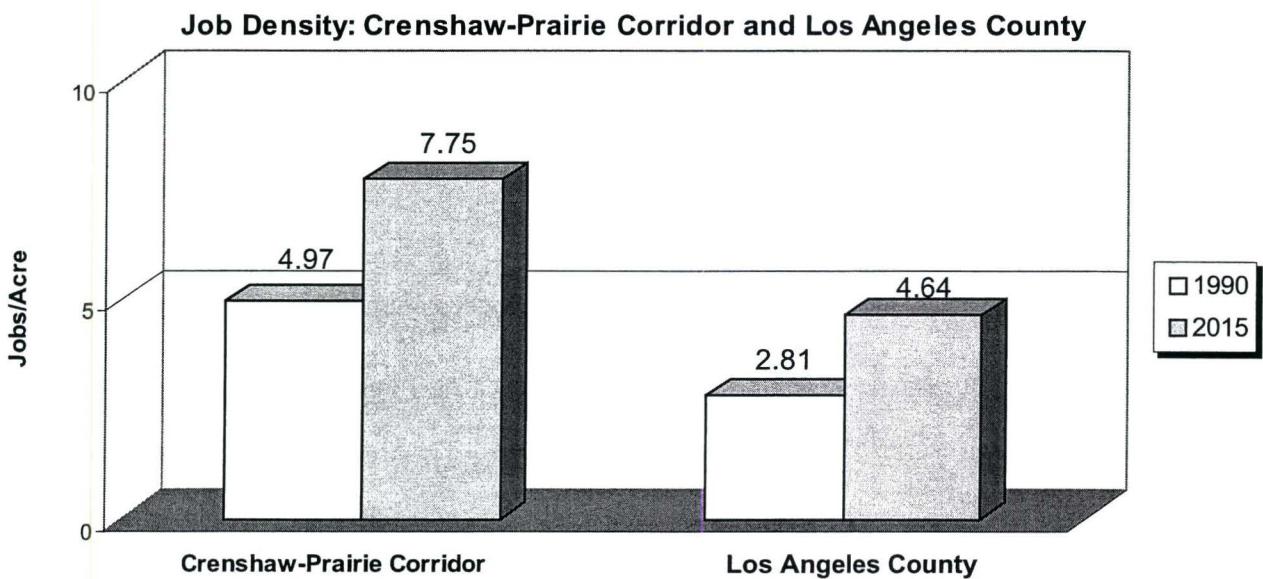
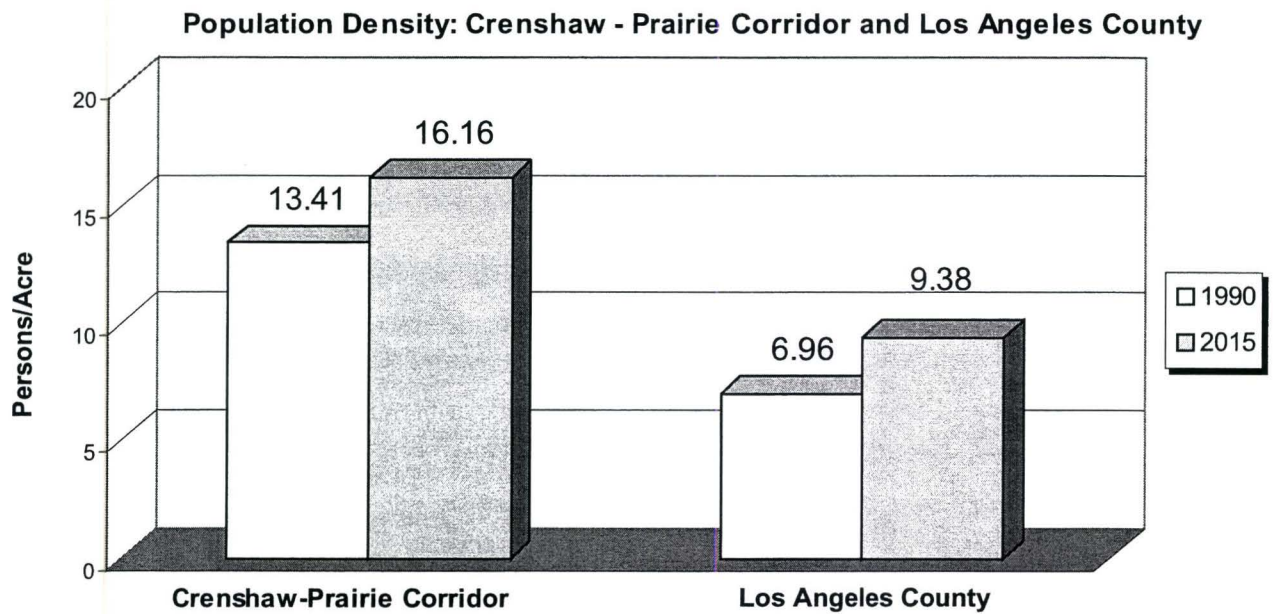
The Crenshaw-Prairie Corridor was recommended for study based on its high population and employment densities, travel characteristics and high transit dependency as illustrated by the following:

- *High population density* – Existing Corridor population densities are double the average of the County's urbanized area; more than triple in the Crenshaw subarea.
- *High employment density* – Current Corridor employment density is double the urbanized County average.
- *High number of low income households* – More than 49 percent of all Corridor households are designated as low income. The Crenshaw segment has an even higher percentage – with 56 percent of the subarea's households designated as low income.
- *High number of households without an available automobile* – A Corridor-wide average of 16 percent of all households does not have access to an automobile compared to eight percent in the County's urbanized area; 19 percent have no auto access in the Crenshaw subarea.

As discussed below, these trends are forecast to continue with increased Corridor population and employment density, increased number of low income households and increased percentage of households without access to an automobile

2.1 Population and Employment

The Crenshaw-Prairie Corridor is currently home to more than 358,000 residents or over four percent of the population of Los Angeles County as shown in Figure 4. By 2015, the Corridor's population is expected to increase by more than 20 percent to over 431,000 residents. Currently, population densities within the Corridor (13.41 persons per acre) are almost double the average of the County's urbanized area (6.91 persons per acre). The density is even higher in some of the Corridor's subareas. For example, the Mid-City subarea's population density is 23.33 persons per acre, more than three times the average of the County's urbanized area. By 2015, Corridor population density is forecast to increase with a more than 20 percent growth to an average of 16.16 persons per acre, nearly double the projected 9.38 persons per acre for the County's urbanized area. The Mid-City subarea is forecast to continue to be the densest portion of the Study Corridor with 28.37 persons per acre, while the Hawthorne subarea is forecast to have the highest population growth (152 percent).



Source: LACMTA Travel Demand Model

The Crenshaw-Prairie Corridor currently provides more than 132,000 jobs or over four percent of the County's jobs. Employment within the Corridor is projected to increase by more than 55 percent by 2015 to more than 207,000 jobs. This projected employment increase varies by subarea from a 12 percent increase in the Crenshaw area to a more than 63 percent increase in the Mid-City area. Currently, the Corridor's employment density (4.97 employees per acre) is almost double the urbanized County's average of 2.81 employees per acre. Future employment density is projected to grow by more than 55 percent to 7.75 employees per acre – well above the projected 4.64 for the County's urbanized area.

2.2 Travel Characteristics

Based on MTA's travel demand forecasting model, approximately 53 percent of all current Corridor-generated trips remain in the Crenshaw-Prairie Corridor, and 47 percent of all Corridor trips are to destinations outside of the Corridor. While the overall trip percentages appear almost balanced, an analysis based on trip purpose – non-work or work-related – presents a very different pattern. Approximately 80 percent of non-work trips, including shopping, school and recreation trips, are to locations within the Corridor. In contrast, more than 75 percent of home-to-work trips are to employment destinations outside the Corridor area, while 25 percent are to job locations in the Corridor. The key work destinations for Study Corridor residents, in order of importance, are:

- Downtown Los Angeles
- Southeast Los Angeles including Commerce, Vernon and South Gate
- Century City, Westwood and West Los Angeles
- South Bay
- Mid-City and the Wilshire District
- Santa Monica, Marina del Rey and LAX.

By 2015, the Corridor home-to-work trips are estimated to increase by approximately 25 percent. The distribution pattern of Corridor trips is projected to remain predominantly the same with some intensification of internal Corridor trips due to forecast Hawthorne area development.

The demographic trends discussed above contribute to higher than average transit usage in the Crenshaw-Prairie Corridor. Currently, the County's urbanized area transit mode split is eight percent compared to 16 percent in the northern half of the Corridor and 11 percent in the southern portion. By the year 2015, estimates project a transit mode split increase to 27 percent in the northern portion of the Corridor – more than double the expected increase in the County's urbanized area to 11 percent. The transit mode split in the southern portion of the Corridor is forecast to increase to 16 percent – more than 50 percent higher than the countywide average.

2.3 Travel Markets

Given the high number of employment and activity centers in the Crenshaw-Prairie Corridor, the primary travel markets can be defined as:

- Commuters accessing employment areas both within the Corridor, including El Segundo, LAX, Downtown Inglewood, Mid-City and along Wilshire Boulevard, and beyond the Corridor.
- Corridor residents making non-work trips, including shopping, recreational and other activities, throughout the Los Angeles region.
- Entertainment and recreational visitors (including residents and tourists) traveling to special event generators such as the Great Western Forum and Hollywood Park.

- Shoppers traveling to the Corridor's retail destinations including the Mid-Town Shopping Center, Santa Barbara Plaza, Baldwin Hills/Crenshaw Plaza and Hawthorne Plaza.
- Patients, visitors and employees traveling to the Corridor's three medical centers – Daniel Freeman Memorial Hospital, Centinela Hospital and Robert F. Kennedy Medical Center.
- Students attending educational institutions both within and outside of the Corridor.
- Transit dependent residents (with no access to a private automobile) including senior, student, disabled and low income residents desiring to make transit connections to the regional bus and rail system including the Metro Red and Green Lines.

2.4 Economic Trends

From an economic development perspective, the Crenshaw-Prairie Corridor represents a diverse area of tremendous opportunity *and* tremendous challenge. For while the Corridor contains many significant employment destinations, active retail centers and stable residential neighborhoods, it faces many economic challenges. The Study Area includes some of the lowest income communities in the cities of Los Angeles, Hawthorne and Inglewood, as well as some of the areas hardest hit during the civil disturbances of 1992. In summary, the Crenshaw-Prairie Corridor faces the following economic challenges:

- Poor accessibility to and from destinations both within and beyond the Corridor;
- Loss of employment opportunities; and
- Leakage of retail activity.

All of the above economic impacts have resulted in increased unemployment, reduced incomes and the related decline of some of the Corridor's residential neighborhoods. But the Corridor also offers significant economic opportunities for residents and employers. A majority of the Corridor's key activity and employment destinations are currently preparing expansion, revitalization and/or redevelopment plans. The success of these projects and the Corridor's economic future are strongly dependent on improved local and regional accessibility.

The lack of transportation system investment in the Crenshaw-Prairie Corridor has resulted in constrained mobility, which has negatively impacted commercial and retail activity in the Corridor. Many of the Corridor's retail destinations suffer from constrained and congested accessibility, negatively impacting access by both Corridor and regional residents. Constrained mobility has also been viewed as negatively impacting property values and income in the area. Future transportation system investment in the Corridor would provide improved access for Corridor residents to a wider range of employment, shopping, entertainment and recreational opportunities, while providing improved access to the Corridor's many destinations.

Over the years, the loss of jobs from locations throughout the Crenshaw-Prairie Corridor has contributed to a significant increase in study area unemployment, and the related decline in Corridor incomes and residential neighborhoods. In addition, the geographical distribution of new jobs created in the Southern California region has tended to bypass the older industrial areas, such as the Crenshaw Corridor, in favor of areas including the San Fernando Valley, San Gabriel Valley and Orange County. Currently, 80 percent of Crenshaw-Prairie residents travel to work beyond the Corridor. The transportation implication of this job loss has been that residents now travel longer distances to employment destinations. Access to employment has been exacerbated by the poor level of Corridor transportation connections to these new employment centers. A high-capacity transportation improvement would greatly increase the access of Corridor residents to employment, educational and training centers throughout the Southern California region. In addition, improved Corridor mobility would provide all local residents – not only those that are transit dependent – with an alternative to the automobile as the primary mode of access.

Current socioeconomic and market factors in the Crenshaw-Prairie Corridor suggest a Corridor buying potential in excess of \$3.3 billion annually. However, much of that buying power is currently spent outside of the Corridor. This “leakage” of retail expenditures to locations outside the Corridor suggests that the quality, quantity and/or range of retail purchasing opportunities in the Corridor are inadequate or not easily accessed by Corridor, as well as regional, shoppers.

Future economic opportunities are substantial with expansion, revitalization and/or development plans being prepared for many of the Corridor’s activity centers including LAX, Downtown Inglewood, El Segundo office development, Hollywood Park, the Great Western Forum, the West Angeles Church, Faithful Central Bible Church, Hawthorne Plaza, the Baldwin Hills/Crenshaw Plaza, Leimert Park area, Mid-Town Shopping Center and Santa Barbara Plaza as presented in Figure 5. All of these opportunities are dependent on the provision of improved accessibility to, from and through the Corridor. An effective multi-modal transportation network within the Corridor is necessary to meet the future mobility needs of businesses and residents by providing vital intra- and inter-corridor linkages and services. This transportation investment is viewed as not only improving Corridor mobility, but also as serving as a catalyst for public and private investment in the Corridor as shown elsewhere in the region.

2.5 Air Quality Issues

The Corridor is fully contained within the South Coast Air Basin – the airshed with 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 also address air quality.

The Environmental Protection Agency (EPA) rates the South Coast Air Basin as an “extreme” nonattainment area for ozone, the only area so designated in the nation. Ozone problems in the basin are an order-of-magnitude worse than anywhere else in the country. According to EPA’s most recent evaluation, the basin exceeds the National Ambient Air Quality Standard for ozone approximately 130 days each year. By comparison, the next worst areas – Houston and New York – exceed the standard only 12 to 17 days each year.

In addition, the South Coast Air Basin is the only area in nonattainment of the nitrogen dioxide air quality standard. In 1992, the basin recorded the greatest number of exceedances of the carbon monoxide standard, more than twice the number of the next worst area. It is classified as a “serious” nonattainment area for both carbon monoxide and particulates (PM₁₀).

The federal Clean Air Act and the California Clean Air Act include provisions for reducing mobile sources’ contribution to air quality problems with strict sanctions for non-compliance that could affect the region’s economic base. Two key objectives for vehicles include achieving an average vehicle occupancy during peak commuter hours of 1.5 persons per vehicle, and ensuring no net increase in mobile source emissions after 1997.

The most recently adopted Air Quality Management Plan (1994 AQMP) recognizes that in addition to technological innovations which serve to reduce the quantity of pollutants emitted per vehicle-mile of travel (VMT), there is also a need to reduce VMT through the use of Transportation Control Measures (TCMs). Possible options include transit improvements, shared-ride services, traffic flow improvements, demand management systems, and pedestrian and bicycle programs. Any proposed action to address transportation issues in the Study Corridor must be in conformity with the AQMP and must demonstrate a neutral or positive impact on air quality in the South Coast Air Basin.



**Crenshaw-Prairie Transportation Corridor
Major Investment Study**

Figure 5

Economic Opportunities

**KORVE
ENGINEERING**



**RAW
ARCHITECTURE**

LEGEND

STUDY AREA BOUNDARY

REGIONAL METRO RAIL LINE



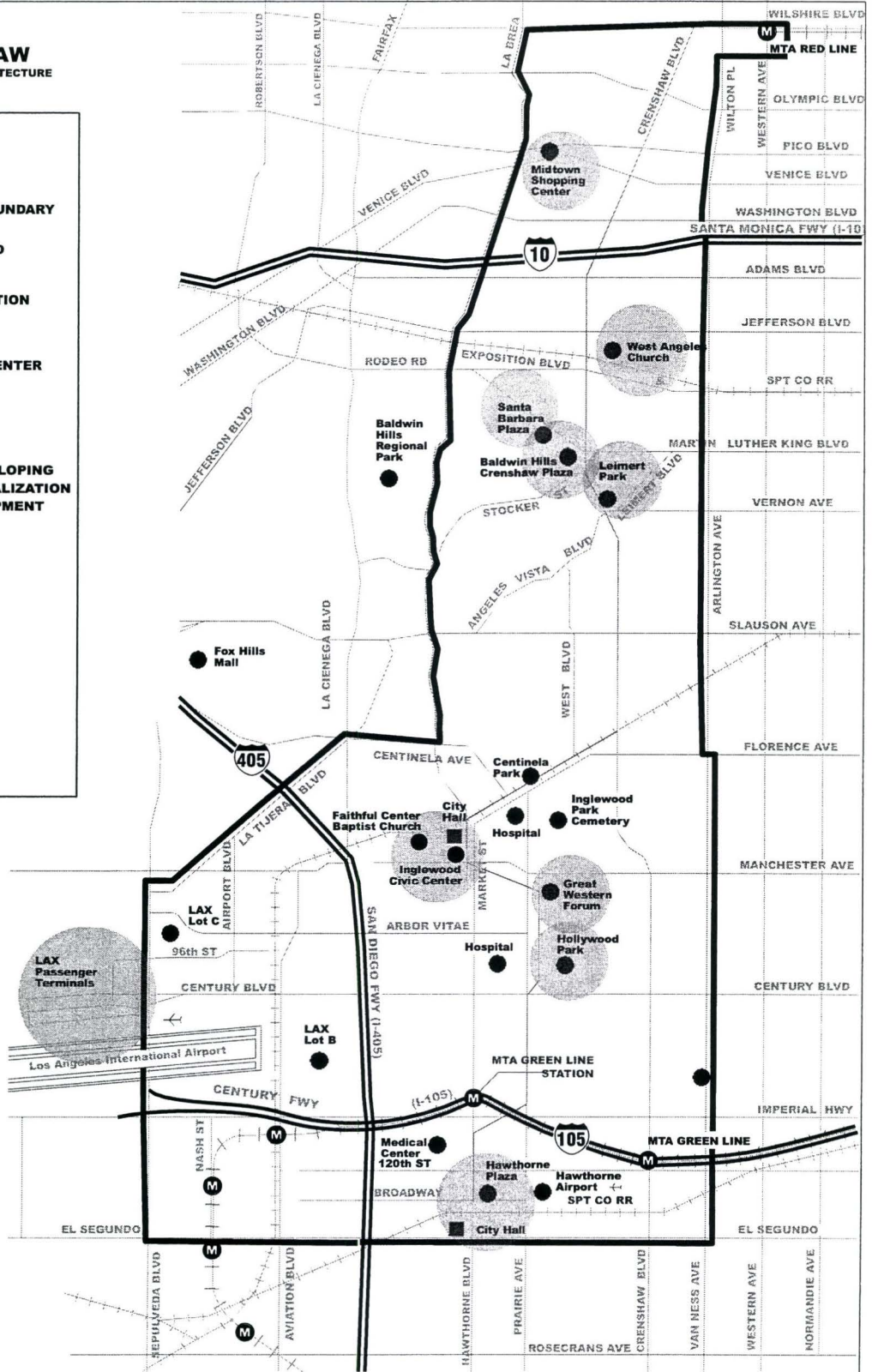
METRO RAIL STATION



KEY ACTIVITY CENTER



**DESTINATION DEVELOPING
EXPANSION, REVITALIZATION
AND/OR REDEVELOPMENT
PLANS**



**TRANSPORTATION
CORRIDOR
CRENSHAW
PRAIRIE**

1/4 MI 1/2 MI 1 MI 2 MI 4 MI

COR-FG3-22.cdr

3.0 MOBILITY PROBLEM

At first glance, the Crenshaw-Prairie Corridor appears to be well-served by the regional transportation system with three freeways (I-10/Santa Monica Freeway, I-105/Century Freeway and I-405/San Diego Freeway), two rail systems (the existing Metro Green and Red Lines), and an extensive arterial street network. But a closer examination reveals a Study Area isolated from the regional transportation system due to a lack of on-going infrastructure investment as well as significant topographical challenges.

The lack of investment in the Corridor's transportation infrastructure has resulted in severely constrained travel and a limited range of transportation alternatives. The current travel demand on the freeway and roadway network exceeds the system's capacity in many places, resulting in considerable congestion during peak periods. The bus system is heavily utilized and must operate on the same congested highway system. While there are no currently funded transportation improvement projects in the Study Area, the 2001 Long Range Transportation Plan has identified future funding for the Crenshaw Transit Corridor.

Connections within the Corridor and to the regional transportation system are particularly lacking in the north-south direction. Currently, all of the major regional transportation system facilities serving the Corridor are located along the edges of the study area:

- Northern – I-10/Santa Monica Freeway and Metro Red Line;
- Southern – I-105/Century Freeway and Metro Green Line; and
- Western – I-405/San Diego Freeway.

There is no regional transportation system connection along the study area's eastern edge. The nearest vehicular transportation facility to the east is the I-110/Harbor Freeway, more than three miles from the heart of the Corridor. The only north-south connection in the regional rail system – the Metro Blue Line – is located more than seven miles to the east of the Crenshaw-Prairie Corridor. In summary, with no north-south high-capacity connection to either the regional freeway or rail systems, a majority of the Crenshaw-Prairie Study Corridor lies isolated between the I-110 and I-405 freeways on the east and west respectively, and the I-10 and I-105 freeways on the north and south.

In addition, the significant topographical changes in the central portion of the Study Area – running east from Crenshaw Boulevard to the I-405 Freeway outside of the study area, and from Jefferson Boulevard south to Manchester Avenue – create a formidable barrier that shapes the configuration of the transportation network serving the Crenshaw-Prairie Corridor. More than 45 percent of the Corridor has significant hills that constrain the design and operation of its transportation system. The predominance of hilly terrain in the heart of the Corridor 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 negatively impacts traffic operations as in many cases there is no parallel street within a mile's distance or closer to allow for diversion of traffic in case of accidents or major congestion. The Study Area's hilly terrain also precludes the provision of major east-west streets in the Corridor from Exposition Boulevard south to Manchester Avenue.

Without taking significant portions of the existing community, any high-capacity transportation improvement would need to be built largely within arterial rights-of-way. Many of the Corridor's major streets currently accommodate peak period volumes significantly in excess of their capacity. In addition, the Corridor has some very narrow street segments, which will make accommodation of a future high-capacity transportation improvement challenging.

3.1 Overview of Corridor Transportation System

The current transportation system in the Crenshaw-Prairie Corridor can be characterized as heavily automobile-oriented with high bus transit use. Heavy congestion is experienced by automobile and bus transit users alike. Many Corridor roadways operate at- or over-capacity during peak travel periods, while transit users must contend with overcrowding and slowing bus travel on the same congested street system.

The ability to move quickly and efficiently in the Crenshaw-Prairie Corridor, both now and in the future, can be expressed in terms of freeway and arterial congestion along with transportation system accessibility and choice. With the anticipated future population and employment growth and without future transportation system improvements, the Corridor will have:

- Increasing travel
- Growing transit-dependent population
- Continuing freeway congestion
- Increasing arterial congestion
- Continuing slowing of bus service
- Limited travel options.

3.2 Freeway and Arterial Congestion

Currently, the freeway system serving the Crenshaw-Prairie Corridor is highly congested resulting in travel time delays for a significant portion of each day. Using the California Department of Transportation's (Caltrans') definition of congestion as travel speeds less than 35 m.p.h. for a duration of 15 minutes or longer, all of the freeways serving the Corridor experience congestion for at least six hours a day and, more typically, nine to thirteen hours per day on an incident-free day as shown in Figures 6 and 7. Incident-free days are estimated to occur approximately 50 percent of the time and as such represent a best case scenario for Corridor freeway congestion. With the occurrence of incidents, including accidents, lane closures and disabled vehicles, the hours of delay increase.

As illustrated in Figure 8, 47 percent of the major intersections in the Corridor currently operate at or below the Congestion Management Program standard of LOS E (40 to 60 seconds average of intersection delay per vehicle or waiting more than one light cycle). Approximately 84 percent of the Corridor's major intersections operate at LOS D or worse. The current peak period traffic volumes are significantly in excess of capacity on the major streets, resulting in significant congestion and delay.

By 2015, the Corridor population is anticipated to increase by more than 20 percent and employment opportunities by 55 percent. With a forecast 19 percent increase in daily Corridor trips, it is projected that peak hour freeway and arterial congestion will continue to occur. The projected delay impacts are anticipated to have increasing impacts on Corridor travelers, including longer commute times. Continuing congestion may adversely impact the accessibility and economic future of the Crenshaw-Prairie Corridor. Currently, there are no funded transportation infrastructure improvements identified for the Corridor to address these significant mobility needs.

3.3 Transit System Conditions

Currently, the Crenshaw-Prairie Corridor has a high level of transit service coverage with almost every major and secondary Study Area arterial served by at least one bus route as shown in Figure 9. Seven transit providers offer a combination of community-based, local, limited-stop and freeway-express service within the Corridor. Even with this high level of service coverage, the frequency of Corridor service is not commensurate with the number of bus lines in the Corridor. Other challenges facing Corridor bus transit service include:

- Capacity issues due to high Corridor transit dependency;



**Crenshaw-Prairie Transportation Corridor
Major Investment Study**

Figure 6





**Freeway Level of Service
(A.M. Peak Period 1998)**

**KORVE
ENGINEERING**

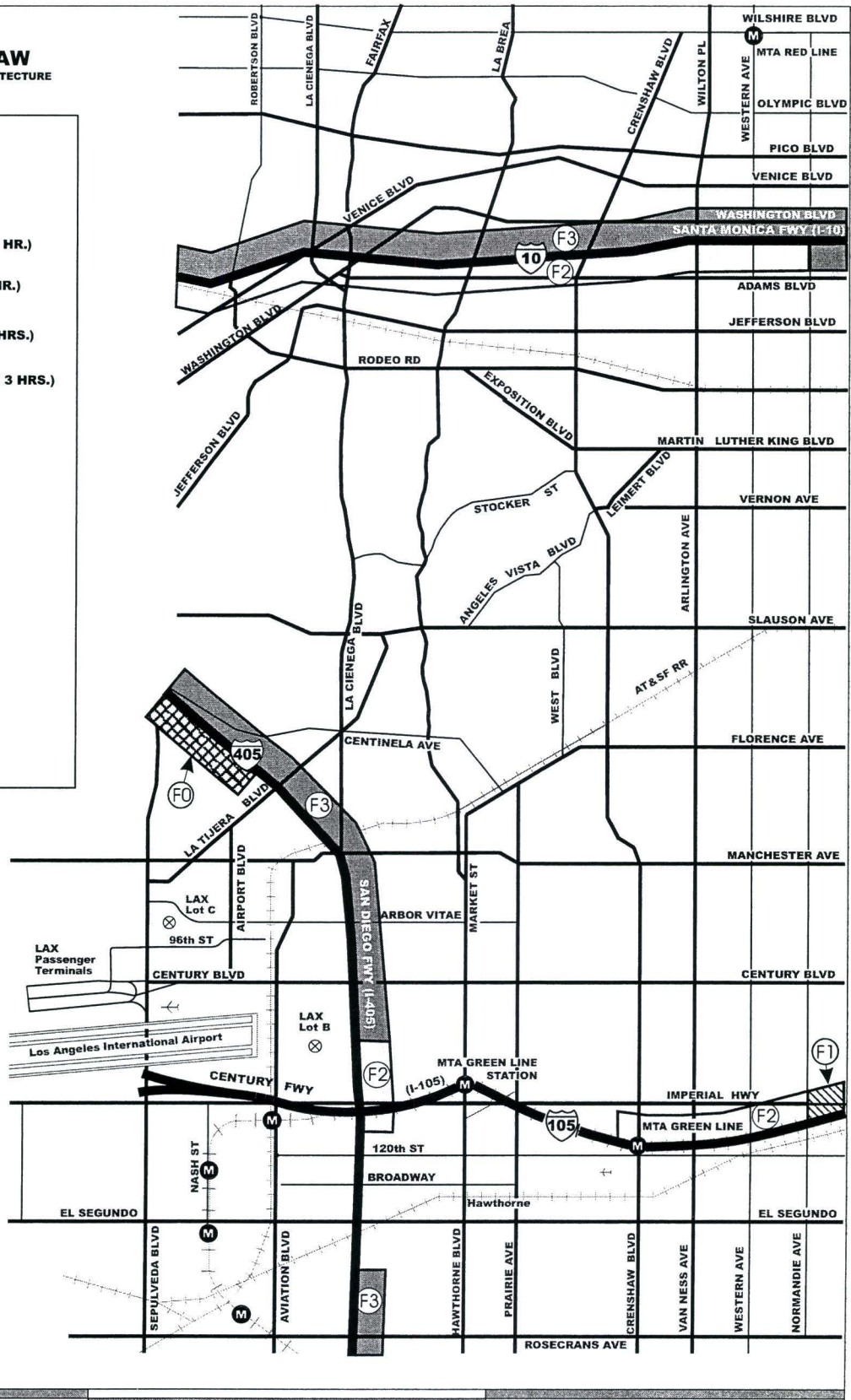


**RAW
ARCHITECTURE**

LEGEND

-  F0 (15 MIN. to 1 HR.)
-  F1 (1 HR. to 2 HR.)
-  F2 (2 HRS. to 3 HRS.)
-  F3 (MORE THAN 3 HRS.)

Source: Caltrans District 7



**CRENSHAW
CORRIDOR
PRAIRIE**

1/4 MI 1/2 MI 1 MI 2 MI 4 MI

COR-FG 3.7.cdr 6/99



**Crenshaw-Prairie Transportation Corridor
Major Investment Study**

Figure 7





**Freeway Level of Service
(P.M. Peak Period 1998)**

**KORVE
ENGINEERING**

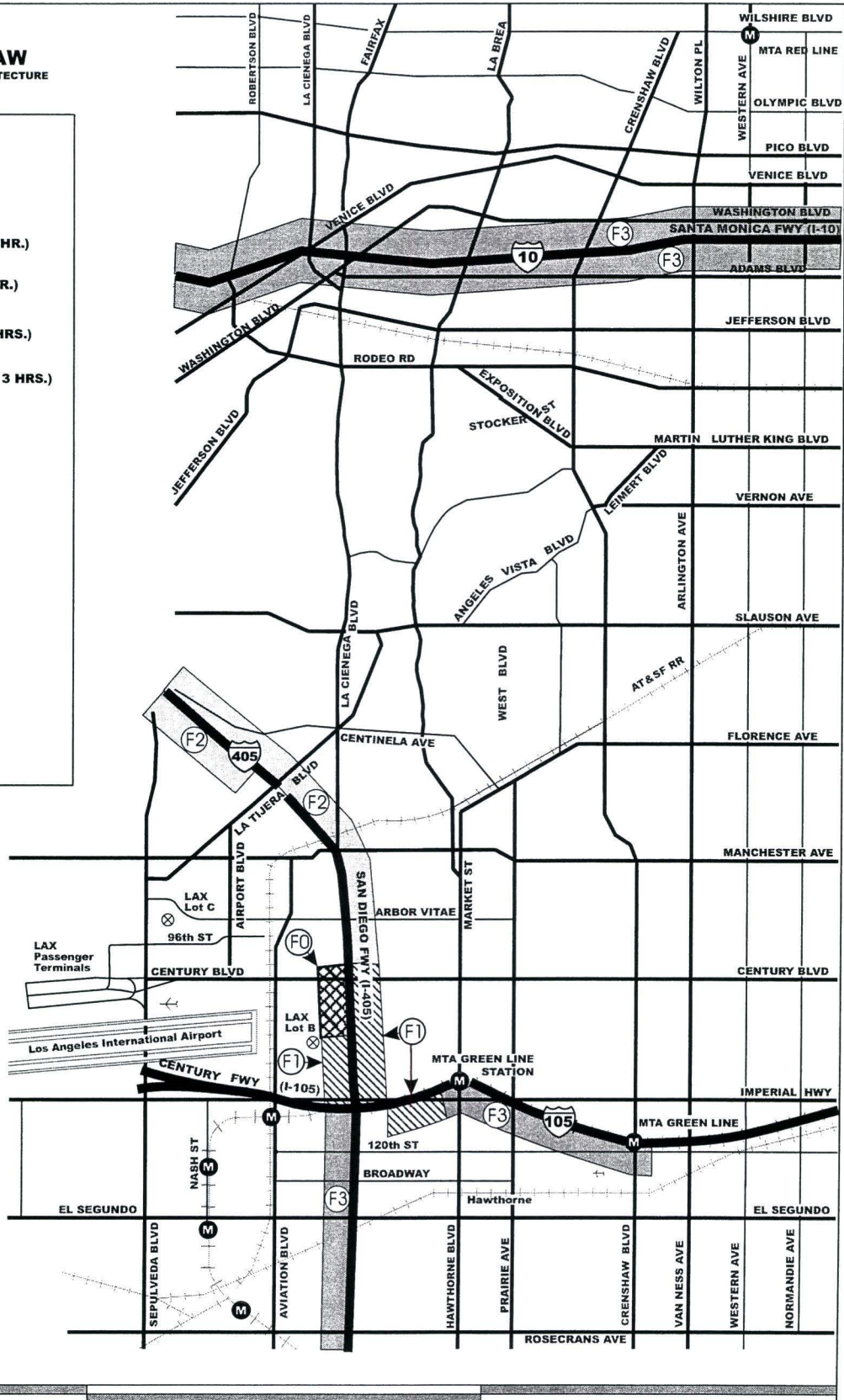


**RAW
ARCHITECTURE**

LEGEND

-  F0 (15 MIN. to 1 HR.)
-  F1 (1 HR. to 2 HR.)
-  F2 (2 HRS. to 3 HRS.)
-  F3 (MORE THAN 3 HRS.)

Source: Caltrans District 7



1/4 MI 1/2 MI 1 MI 2 MI 4 MI



**Crenshaw-Prairie Transportation Corridor
Major Investment Study**

Figure 8

**P.M. Peak Period
Arterial Level of Service**

**KORVE
ENGINEERING**



**RAW
ARCHITECTURE**

LEGEND

— STUDY AREA BOUNDARY

LEVEL OF SERVICE

○ **A and B**

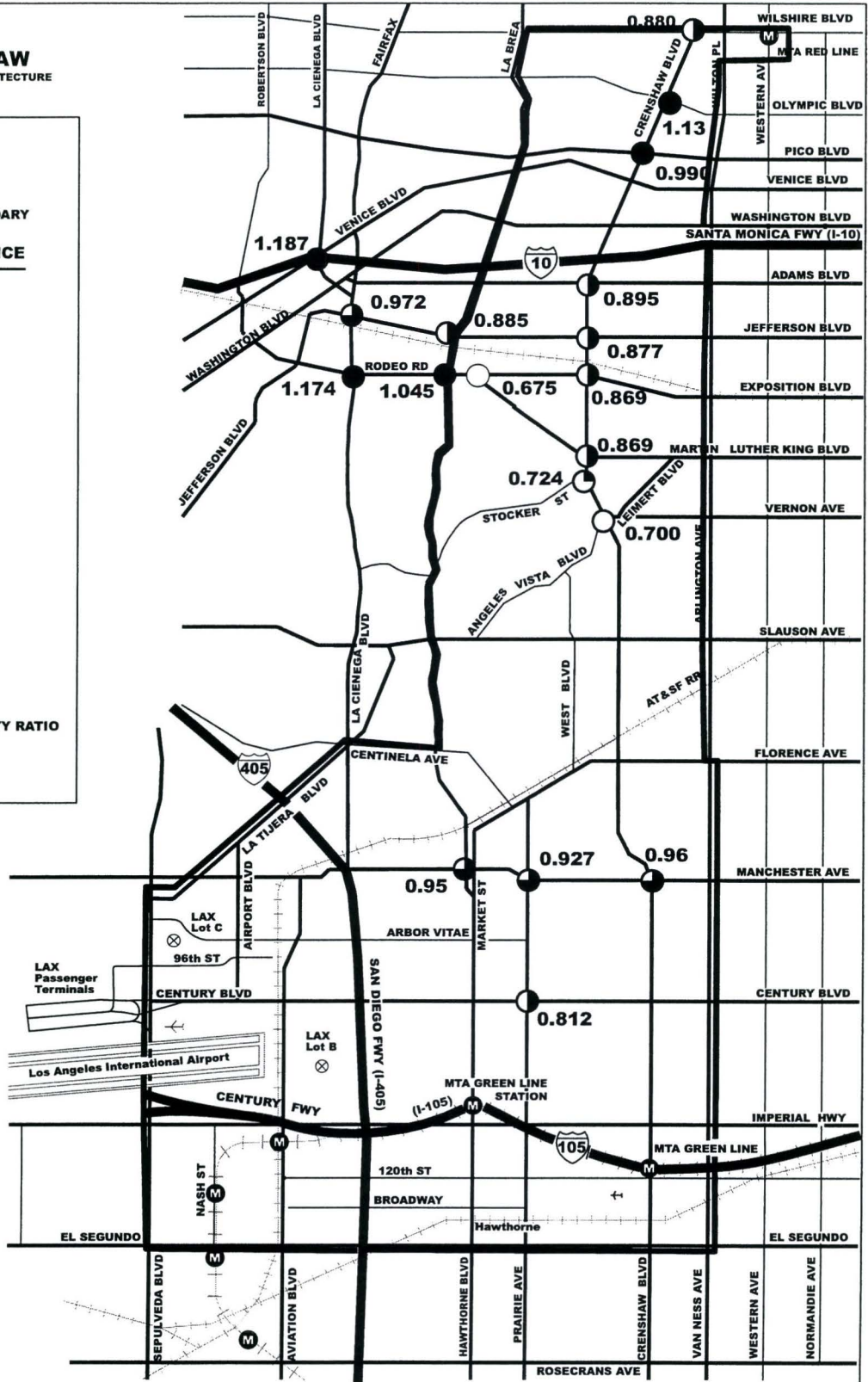
◐ **C**

◑ **D**

◒ **E**

● **F**

1.13 VOLUME TO CAPACITY RATIO



1/4 MI 1/2 MI

1 MI

2 MI

4 MI

COR-FG 3.12.cdr 6/99

- Operational problems due to utilization of the congested arterial street system;
- Poor regional transportation system connections; and
- Inability to attract and retain the choice rider.

Due to the Corridor's higher than average transit ridership – approximately double the mode split of the County's urbanized area – many of the buses serving the Crenshaw-Prairie 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 impacts on schedule adherence, as well as decreased service reliability and increased travel times. Bus operations in congested Corridor conditions also result 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; higher maintenance costs result from the physical wear on buses due to stop-and-go operations.

As identified in the previous discussion of economic development issues, the geographical distribution of new jobs created in the Southern California region has bypassed the Corridor in favor of areas including the San Fernando Valley, San Gabriel Valley and Orange County. Currently, 80 percent of Crenshaw-Prairie Corridor residents work outside of the Corridor. The resulting impact on bus riders has been longer travel distances and trip times. Constrained access to employment has been exacerbated by the poor level of Corridor transportation connections to the regional transportation system being developed to serve these newer employment centers. There is a demonstrated need to provide faster, more direct transit service from the Study Area to regional job destinations, as well as better access to county-wide transportation options.

Currently, Crenshaw-Prairie Corridor travelers have a limited choice in travel options – auto or bus transit – circulating on the same congested street system. Existing operational issues make bus usage by transit dependent riders daunting, and make utilization undesirable to non-transit dependent residents or choice riders. Expanded Corridor travel options would provide all local residents – not just the transit dependent – with a more complete set of mode of access alternatives. The ability to attract and retain Corridor choice riders, provide additional Corridor travel capacity and reduce congestion will depend on a variety of factors including improved travel time, reliability, perception of safety, cleanliness and seamless interfaces with the regional transportation system.

By 2015, Corridor transit demand is estimated to increase by approximately 55 percent. Without significant improvements and capacity enhancements, the Corridor's bus transit system will be significantly overburdened, and mobility to and from the Crenshaw-Prairie Corridor will be significantly constrained. There is an urgent need to improve transportation mobility in the Study Corridor by improving both the level and quality of transit service both within and to destinations outside of the Corridor.

3.4 Transportation System Accessibility

Accessibility to a full range of transportation options is also of importance in addressing the Crenshaw-Prairie Corridor mobility problem. Now and in the future, Corridor travelers will have limited options with continuing freeway and street system congestion, slowing and overburdened bus operations, and no direct connection 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.



**Crenshaw-Prairie Transportation Corridor
Major Investment Study**

**Figure 9
Existing Bus Service**

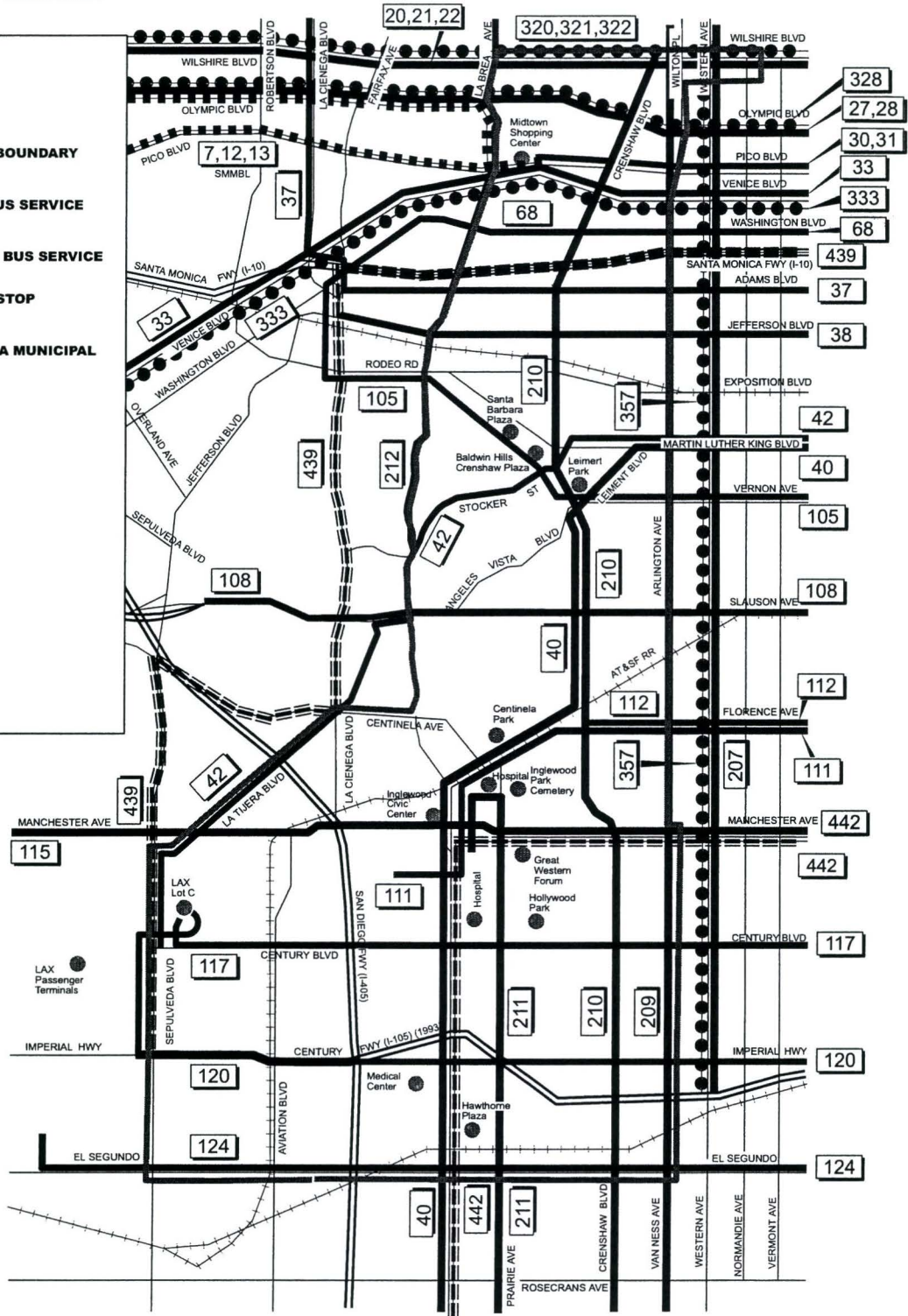
**KORVE
ENGINEERING**



**RAW
ARCHITECTURE**

LEGEND

- STUDY AREA BOUNDARY
- MTA LOCAL BUS SERVICE
- MTA EXPRESS BUS SERVICE
- MTA LIMITED STOP BUS SERVICE
- SANTA MONICA MUNICIPAL BUS LINE



**TRANSPORTATION
CRENSHAW
PRAIRIE**

1/4 MI 1/2 MI

1 MI

2 MI

4 MI

COR-FG 3.13.cdr 6/99

The Crenshaw-Prairie Corridor currently has poor connections to the regional transportation system, and no north-south high-capacity transportation connection within the Corridor. This lack of transit infrastructure limits mobility and transportation choices. The Corridor's only available transit service – bus transit – is constrained in effectiveness and patron convenience by traffic congestion. The lack of regional transportation system links will become more detrimental to future Corridor travel and economic development as Corridor population and employment continue to grow.

A unique opportunity of the Corridor is its strong potential to connect with the regional rail system and provide a second north-south linkage enhancing Corridor- and region-wide connectivity and providing much-needed intra- and inter-Corridor linkages and service. A high-capacity transportation improvement could connect to the Metro Red Line at the northern end of the Corridor, and the Metro Green Line at the southern end. A future Crenshaw-Prairie Corridor high-capacity transit project could also provide a connection to planned transit service improvements along Wilshire and Exposition Boulevards.

4.0 PURPOSE AND NEED

Development of an effective multi-modal transportation network within the Crenshaw-Prairie Corridor is necessary to meet the future mobility needs of residents and businesses by providing vital intra- and inter-corridor linkages and services. By the year 2015, the magnitude and nature of the Corridor's population, employment and transit dependency growth trends are projected to result in continuing transportation challenges in the Corridor as evidenced by the following:

- *Increasing travel* – With a forecast 19 percent increase in daily trips, more than 350,000 additional daily trips will occur in the Corridor.
- *Growing transit-dependent population* – Forecasts show a projected 55 percent increase in Corridor residents reliant on the area's transit system.
- *Continuing freeway congestion* – Currently 78 percent of the Corridor's freeway system operates at or below Level of Service F0 (15 minutes or more congestion) during the morning peak period; 92 percent of the freeway system operates at or below Level of Service (LOS) F0. During the evening peak period, the I-10 Freeway and large segments of the I-405 and I-105 freeways experience LOS F2 and F3 (more than two hours of congestion). With the forecast growth in daily trips and no planned Crenshaw-Prairie Corridor transportation improvements, Corridor freeway congestion will worsen.
- *Increasing arterial congestion* – During both peak periods, current travel demand exceeds the arterial system capacity. Approximately 47 percent of the Corridor's intersections operate at LOS E or worse. With an increasing number of daily Corridor trips, the peak period operation of the Crenshaw-Prairie Corridor's major streets and intersections will continue to worsen.
- *Continuing slowing of bus service* – Crenshaw bus service currently operates at 12.5 mph; projections show an average system-wide bus speed of 10 m.p.h. in the year 2015.
- *Limited travel options* – The Corridor's congested freeway and arterial street system, as well as the heavily-utilized bus system, offer no additional capacity to accommodate the forecast 19 percent increase in daily trips.
- *Continuing air quality concerns* – There is a demonstrated need to increase Corridor transportation capacity to serve the forecast growth without increasing mobile source emissions in this extreme nonattainment area.

4.1 Evaluation Criteria

In defining the purpose and need for the Crenshaw-Prairie Corridor MIS, it was important to identify criteria and study objectives against which potential Corridor transportation improvements will be evaluated. A detailed set of criteria has been developed to provide the public and decision-makers with a perspective on the magnitude of the impacts and benefits of the alternatives, as well as the differences between the options. The resulting evaluation criteria and related measures are presented in the *Crenshaw-Prairie Corridor MIS Evaluation Criteria Report*. The identified criteria are based on community goals, presented below and the Corridor purpose and need statement discussed in this report, along with federal, state and regional requirements. Reflecting recent FTA guidance, the study criteria are organized into six major categories:

- Mobility Improvements
- Environmental Benefits
- Operating Efficiencies
- Transportation System User Benefits
- Land Use and Economic Considerations
- Public Support.

4.2 Study Goals

During previous planning efforts, five goals were identified through extensive consultation with the Crenshaw-Prairie Corridor community. Their continued appropriateness was confirmed during the initial round of this study's outreach effort. The following local goals are intended to measure the effectiveness of potential Corridor transportation improvements:

1. Improve mobility within the Corridor.
2. Improve regional connections to and from the Corridor.
3. Meet the transportation needs of Corridor residents.
4. Act as a catalyst for economic development in the Corridor.
5. Stimulate revitalization of neighborhoods around station sites.

4.3 Summary

The Crenshaw-Prairie Corridor was recommended for study based on its high population and employment densities, travel characteristics and significant transit dependency. Without future transportation system improvements, the magnitude and nature of forecast population and employment growth will result in an increasingly constrained Study Corridor as evidenced by extensive freeway and arterial congestion, slowing and overcrowded transit service conditions, lack of direct connections to the regional transit system, and limited travel choice options. With a forecast 19 percent increase in daily Corridor trips and a 55 percent increase in Corridor transit demand, a high-capacity transit system improvement is necessary to meet the future mobility needs of residents and businesses by providing vital intra- and inter-corridor linkages. This transportation investment would not only improve Corridor mobility and connectivity, but also could serve as a catalyst for public and private investment in the Corridor as demonstrated elsewhere in the region and nation.

Over the past 34 years, the need for transportation improvements in the congested and constrained Crenshaw-Prairie Corridor has been established through a series of transportation plans and studies. Existing and future high population and employment densities, along with a demonstrated high level of transit usage, combine to make the Study Corridor ideal for the successful addition of a high-capacity transit system improvement. Recent support for the Corridor was provided with the adoption

of future funding for the Crenshaw Transit Corridor in the *2001 Long Range Transportation Plan* at the April 2001 MTA Board meeting. An unique opportunity exists to complete the transportation planning process and implement a project to address the Corridor's demonstrated existing and future mobility needs.

