CRENSHAW-PRAIRIE CORRIDOR
ROUTE REFINEMENT STUDY

Submitted to the:
Los Angeles County Metropolitan
Transportation Authority

First Final Draft
July 2, 1999

KORVE ENGINEERING RAW ARCHITECTURE

Submitted by:
Korve / RAW, A Joint Venture

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

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

In November 1997, changing LACMTA 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 included in the agency's Long Range Plan, a decision was made to defer completion of the MIS process, including the time-sensitive environmental work, and to instead prepare a Route Refinement Study (RRS) which would have a longer shelf life. This RRS documents the analytical work completed through definition of the Final Set of Alternatives, but does not provide detailed enough work for decision makers to select among the alternatives.

S.1 Future Growth Projected for Corridor

The Crenshaw-Prairie Corridor is an approximately ten-mile long, north-south-oriented corridor that runs from the Mid-City area of Los Angeles in the north, south to Downtown Hawthorne and west through Downtown Inglewood to the Los Angeles International Airport (LAX). The Corridor contains many major activity, employment and transportation centers including: a major regional transportation facility with related employment destinations (LAX), two civic centers and related retail areas (Downtown Inglewood and Hawthorne), four major shopping centers (Mid-Town Shopping Center, Santa Barbara Plaza, Baldwin Hills/Crenshaw Plaza, Hawthorne Plaza and Santa Barbara Plaza), two regional parks (Leimert Park and Centinela Park), and three major hospitals (Daniel Freeman Memorial Hospital, Centinela Hospital and Robert F. Kennedy Medical Center). Existing major Corridor transportation facilities include: Los Angeles International Airport, three freeways (the I-10/Santa Monica Freeway, the I-105/Century Freeway and the I-405/San Diego Freeway) and two rail lines (the Metro Green Line and the future extension of the Metro Red Line to the Mid-City area).

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

- *High population density* - Existing Corridor population densities are double the average of the County's urbanized area; more than triple in the Crenshaw segment of the Corridor.
- *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 households identified as low income.

Crenshaw-Prairie Transportation Corridor
Major Investment Study

Figure S.1
Project Corridor and Key Activity Centers

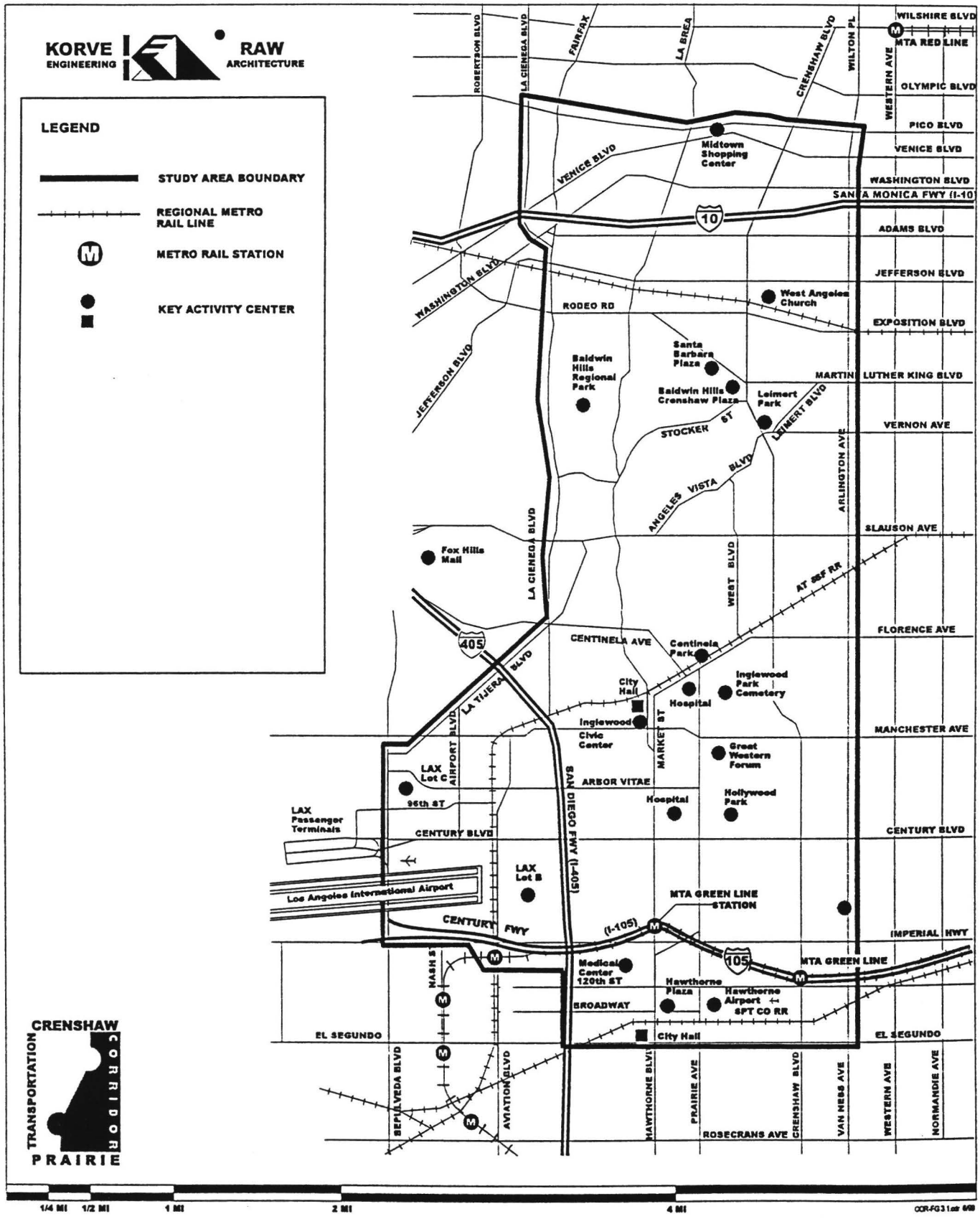
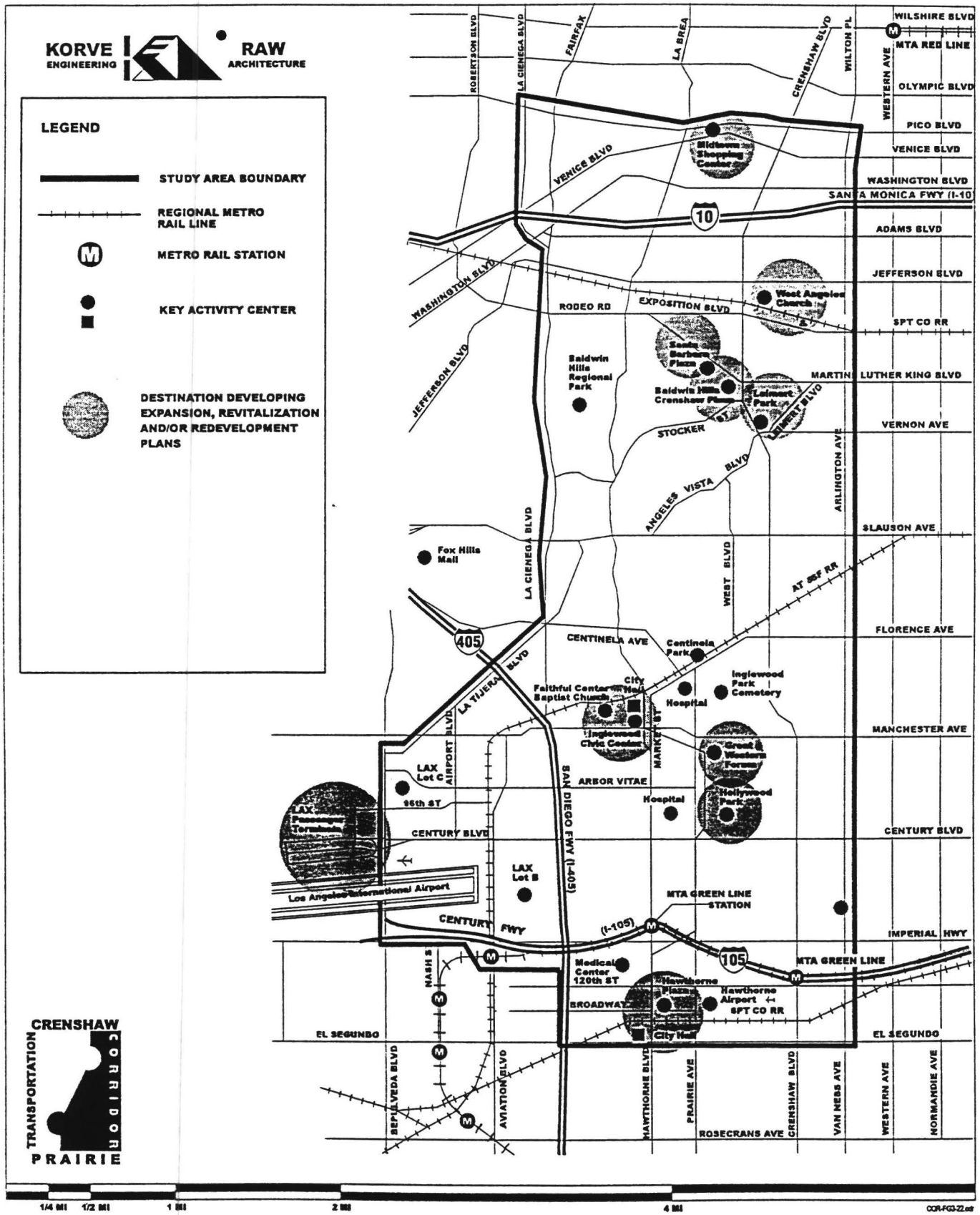


Figure S.2

Economic Opportunities

Crenshaw-Prairie Transportation Corridor
Major Investment Study



- *High number of households without an available automobile* - A Corridor-wide average of 16 percent of all households do not access to an automobile compared to eight percent in the County's urbanized area; 19 percent are car-less in the Crenshaw segment.

- *High percentage of transit dependency* - Currently the Corridor's transit mode split is 16 percent in the northern half of the study area and 11 percent in the southern portion compared to the County's average of eight percent.

All of these demographic trends are projected to increase in the future as the Corridor's population is expected to increase by 20 percent with employment projected to increase by 55 percent by 2015. Transit dependency is forecast to increase to 27 percent in the northern portion of the Corridor and 14 percent in the southern half compared to an expected urbanized County-wide increase to 11 percent.

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 linkages both within and outside of the Corridor. 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:

- *Increasing travel* - With a forecast 19 percent increase in daily trips, more than 750,000 additional daily trips will occur in the Corridor;

- *Growing transit-dependent population* - A projected 55 increase of residents reliant on the Corridor's transit system;

- *Continuing freeway congestion* - Currently 78 percent of the freeway system serving the Corridor operates at or below Level of Service F0 (15 minutes or more congestion) during the morning peak period; 92 percent of the Corridor's freeway system operates at or below Level of Service (LOS) F0, with the I-10/Santa Monica Freeway and large segments of the I-405/San Diego and I-105/Century Freeways experiencing LOS F2 and F3 (more than two hours of congestion). With the forecast growth in trips and no planned 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 Corridor's major streets and intersections will continue to worsen.

- *Slowing bus operations* - Operating on the same congested streets will slow the Corridor's bus service to 10.5 mph;

- *Limited travel options* - The Corridor's congested freeway and arterial street system, as well as the heavily-utilized bus service offer no additional capacity to accommodate the forecast 20 percent increase in population and 55 percent growth in employment; and

- *Continuing air quality concerns*- Needs to increase Corridor transportation system capacity to serve the forecast growth must do so without increasing mobile source emissions in this extreme nonattainment area.

S.2 Transportation Improvement Alternatives Defined

Through an extensive public involvement program, the Crenshaw-Prairie Corridor study process developed a comprehensive set of multi-modal transportation improvements. The comprehensive set of alternatives were screened through a three-step process to identify a Final Set of Alternatives for further study. Five local goals were identified through extensive consultation with the community to measure the effectiveness of the 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.

The following set of alternatives was identified as the best candidates to meet the goals and objectives for transportation improvements in the Corridor:

1. *No Build Alternative* - This option represents only those Corridor transportation improvements that are already programmed through the year 2015. This option provides a baseline for comparison among the alternatives. This alternative is required under the federal MIS planning process.

2. *Transportation System Management (TSM) Alternative* - This option evaluates implementing various lower capital cost improvements to address mobility problems in the Corridor. The TSM Alternative proposes increases to the type and frequency of Corridor bus transit services, and provides some bus transit priorities on local major streets. This option is required under the federal MIS planning process.

3. *Rail Alternative 3* - A primarily at-grade, community-oriented rail system which would bring new rail transit service to the Corridor. Two branches are proposed operating south from the planned Metro Red Line station a Venice/San Vicente Boulevards - one providing service southwest though Downtown Inglewood to LAX and a second branch running to Downtown Hawthorne. This option provides rail service over 14.1 miles and includes 17 possible station locations.

4. *Rail Alternative 4* - A primarily grade-separated, regionally-oriented rail system following the same alignment as Rail Alternative 3. This alternative would maximize the use of grade-separated operations to reduce traffic and community impacts, while increasing operating speeds and travel time savings. This alternative provides rail service over 14.1 miles and includes 16 stations.

Preliminary order-of-magnitude capital and operating/maintenance costs were identified for the rail alternatives. Primarily grade-separated rail Alternative 4 would cost approximately $... million more than primarily at-grade Alternative 3. The per mile cost of Alternative 4 would be ... and for Alternative 3. O+M costs... add language Talk about two branch option

S.3 Next Steps

The LACMTA has undertaken a Major Investment Study for the Crenshaw-Prairie Corridor, a north-south oriented travel corridor that covers portions of three cities - Los Angeles, Inglewood and

Hawthorne. The purpose of the Crenshaw-Prairie Corridor MIS was to conduct a thorough and comprehensive analysis of future transportation system improvements for this constrained and congested Corridor. The results of this MIS planning process were 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.

A three-step screening process provided a methodology to screen the candidate pool from all identified transportation options to a reduced set of the most viable alternatives for further detailed study. Screening efforts were based on a detailed set of evaluation criteria was used to provide decision makers and the public with a perspective on the magnitude of the impacts and benefits of the alternatives, as well as the differences between the options. The criteria were based on the Corridor purpose and need statements along with federal, state and regional requirements and were organized for this study into five major categories:

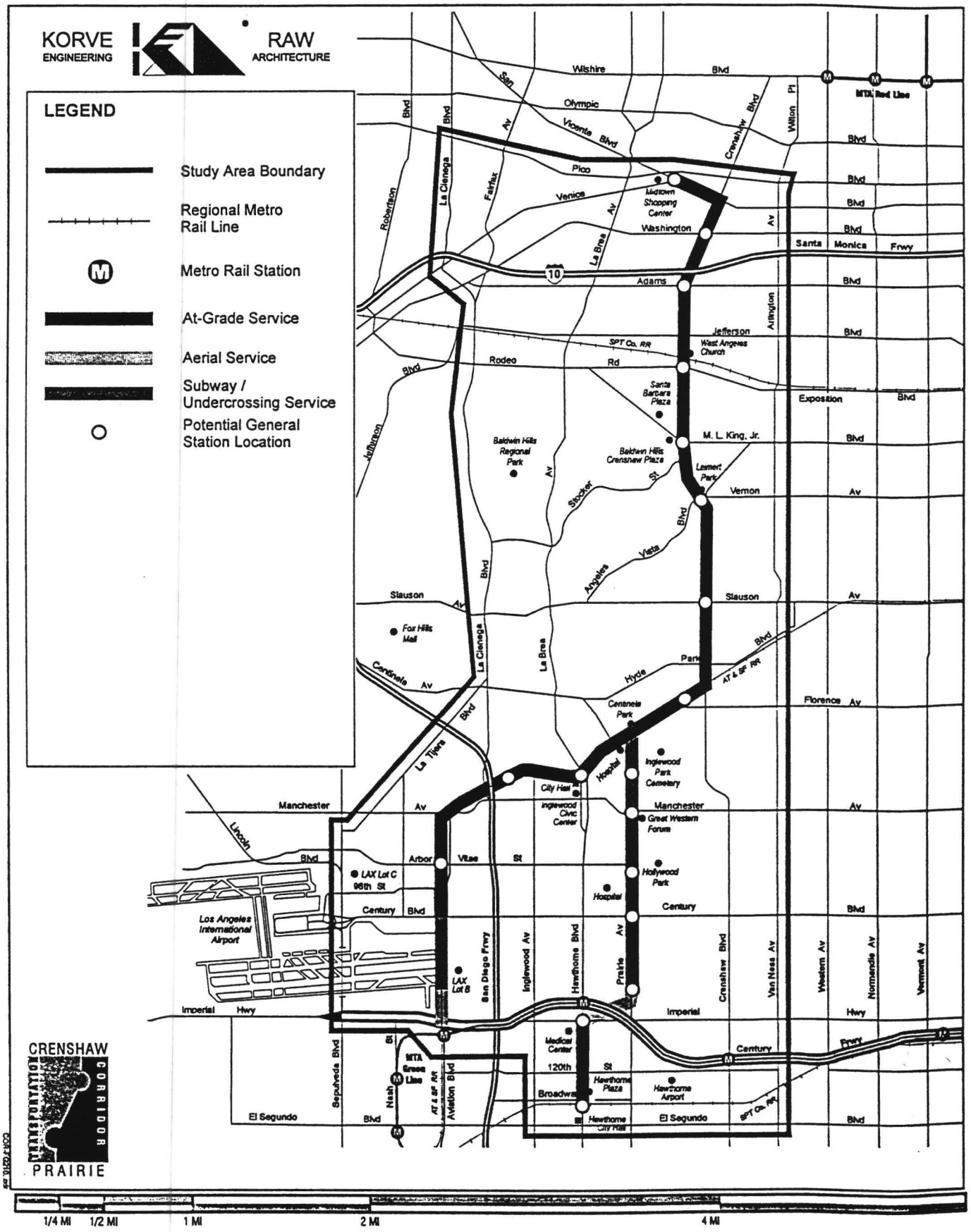
- Travel and mobility benefits
- Financial consideration
- Environmental impacts
- Economic and land use considerations and
- Policy support.

Based on extensive public involvement and past study efforts, a complete set of transportation improvement alternatives providing solutions for the Corridor's mobility problems was identified. Based on the decision by LACMTA staff to defer completion of the MIS process, including the time-sensitive environmental work, a Route Refinement Study (RRS) was prepared. This RRS documents the analytical work completed through definition of the Final Set of Alternatives, but defers the detailed work to select among the alternatives to a future date.

As implementation funding for the Crenshaw-Prairie Corridor transportation improvement project is identified in the future, the Major Investment Study process should be reinitiated and completed in order to qualify the resulting project for federal funding. The MIS process will allow for a thorough and comprehensive analysis of the Final Set of Major Investment Strategies identified through the Route Refinement Study process.

Crenshaw-Prairie Transportation Corridor
Major Investment Study

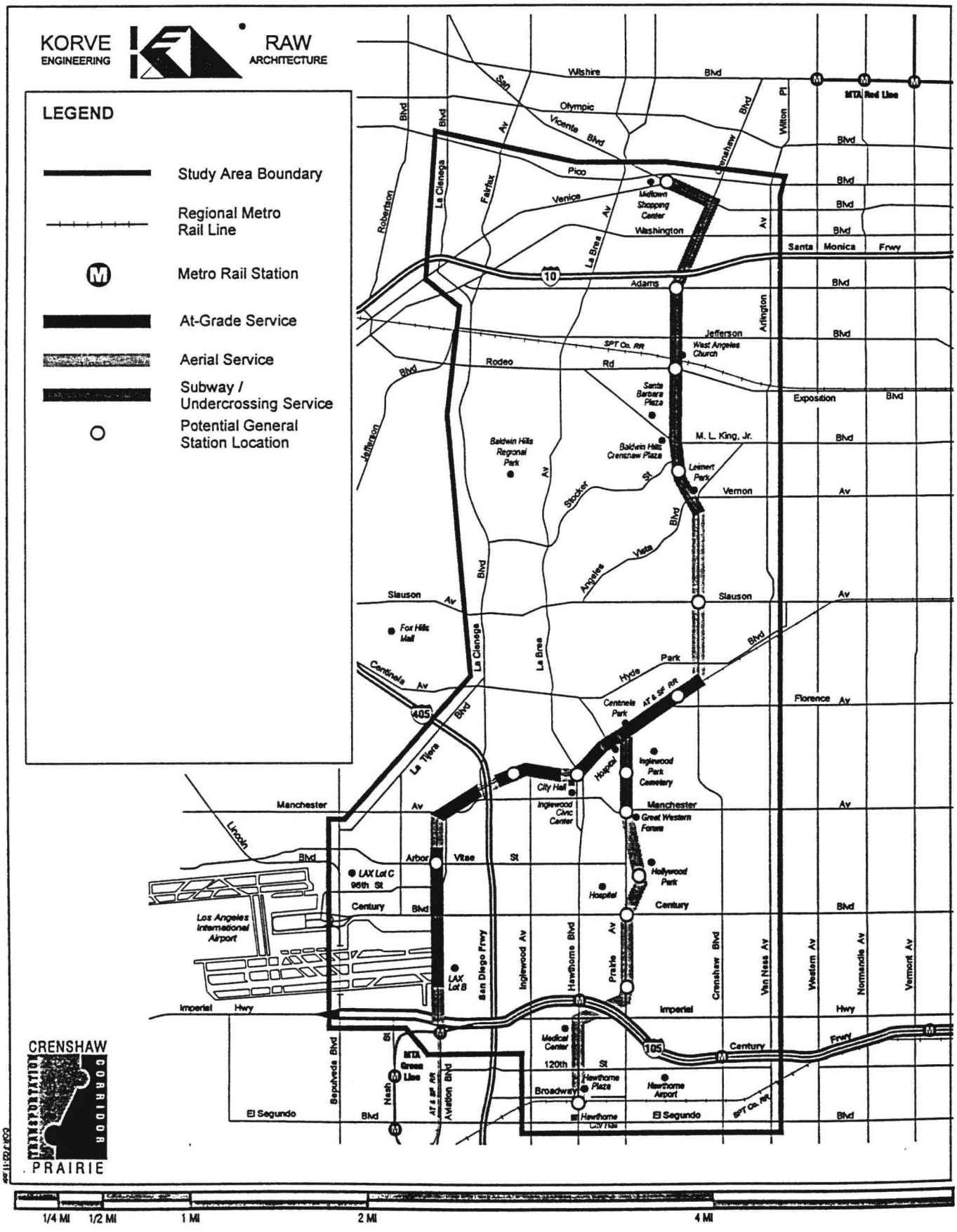
Figure S.3
Recommended Rail Alternative
Maximize At-Grade Operations



Crenshaw-Prairie Transportation Corridor
Major Investment Study

Figure S.4

Recommended Rail Alternative Minimum At-Grade Operations



SECTION 1

PURPOSE AND NEED FOR ACTION

1.0 PURPOSE AND NEED FOR ACTION

The Los Angeles County Metropolitan Transportation Authority (LACMTA) has undertaken a Major Investment Study (MIS) for the Crenshaw-Prairie Corridor, a north-south oriented travel corridor that covers portions of three cities- Los Angeles, Inglewood and Hawthorne. The purpose of the Crenshaw-Prairie Corridor MIS process was to conduct a thorough and comprehensive analysis of future transportation system improvements for this constrained and congested Corridor. The results of this MIS planning process were 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.

Based on extensive public involvement and past study efforts, a complete set of transportation improvement alternatives providing solutions for the Corridor's mobility problems was identified. This document provides an overview of the MIS planning process which led from consideration of a wide range of possible transportation alternatives to a Final Set of Major Investment Strategies. Descriptions of the full set of alternatives considered by the Crenshaw-Prairie Corridor MIS are described in detail in Section 2.0, Alternatives Considered.

In November 1997, MIS efforts were approximately 70 percent complete, when changing LACMTA 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 Plan, a decision was made by LACMTA staff to defer completion of the MIS process, including the time-sensitive environmental work, and to instead prepare a Route Refinement Study (RRS) which would have a longer shelf life. This RRS documents the analytical work completed through definition of the Final Set of Alternatives, but does not provide detailed enough technical work for decision-makers to select among the alternatives. RRS efforts included preparation of conceptual level engineering drawings allowing for a preliminary technical analysis of the identified alternatives, which is presented in Section 3.0, Conceptual Analysis of the Initial Set of Alternatives. A discussion of short- and long-range project implementation strategies is presented in Section 4.0.

1.1 Corridor Description

The Crenshaw-Prairie Corridor is an approximately ten-mile long, north-south oriented corridor that covers portions of three cities - Los Angeles, Inglewood and Hawthorne. The Corridor runs from the Mid-City area of Los Angeles in the north, south to Downtown Hawthorne and west through Downtown Inglewood to the Los Angeles International Airport (LAX). The Corridor encompasses a total of 27,000 acres or two percent of Los Angeles County in area. As illustrated in Figure 1.1, the approximate limits of the Crenshaw-Prairie Corridor study area are:

- Pico Boulevard in the north;
- Arlington Avenue/Van Ness Avenue in the east;
- El Segundo Boulevard in the south; and
- La Cienega Boulevard/La Tijera Boulevard/Sepulveda Boulevard in the west.

Figure 1.1

Project Corridor and Study Area

Crenshaw-Prairie Transportation Corridor
Major Investment Study

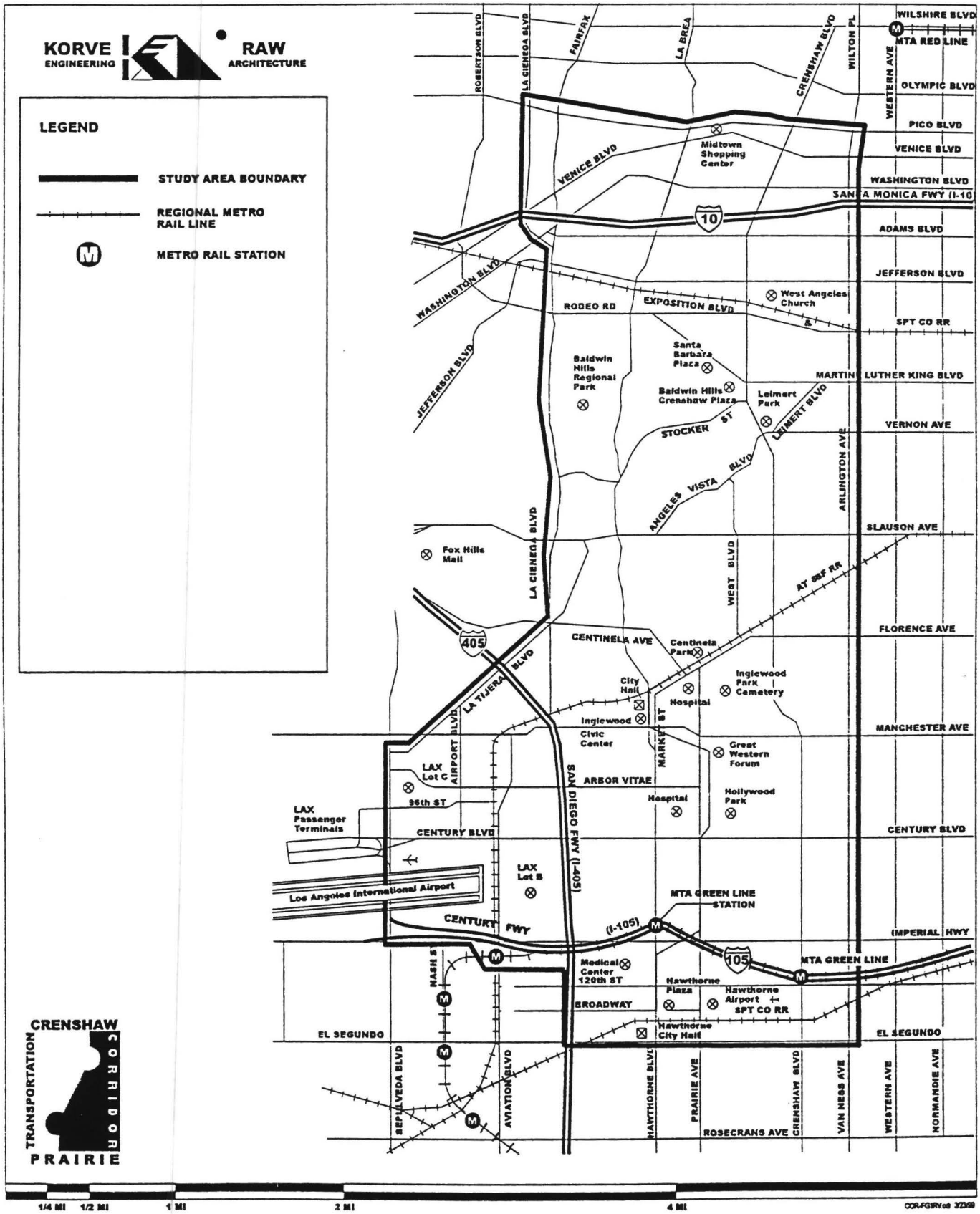
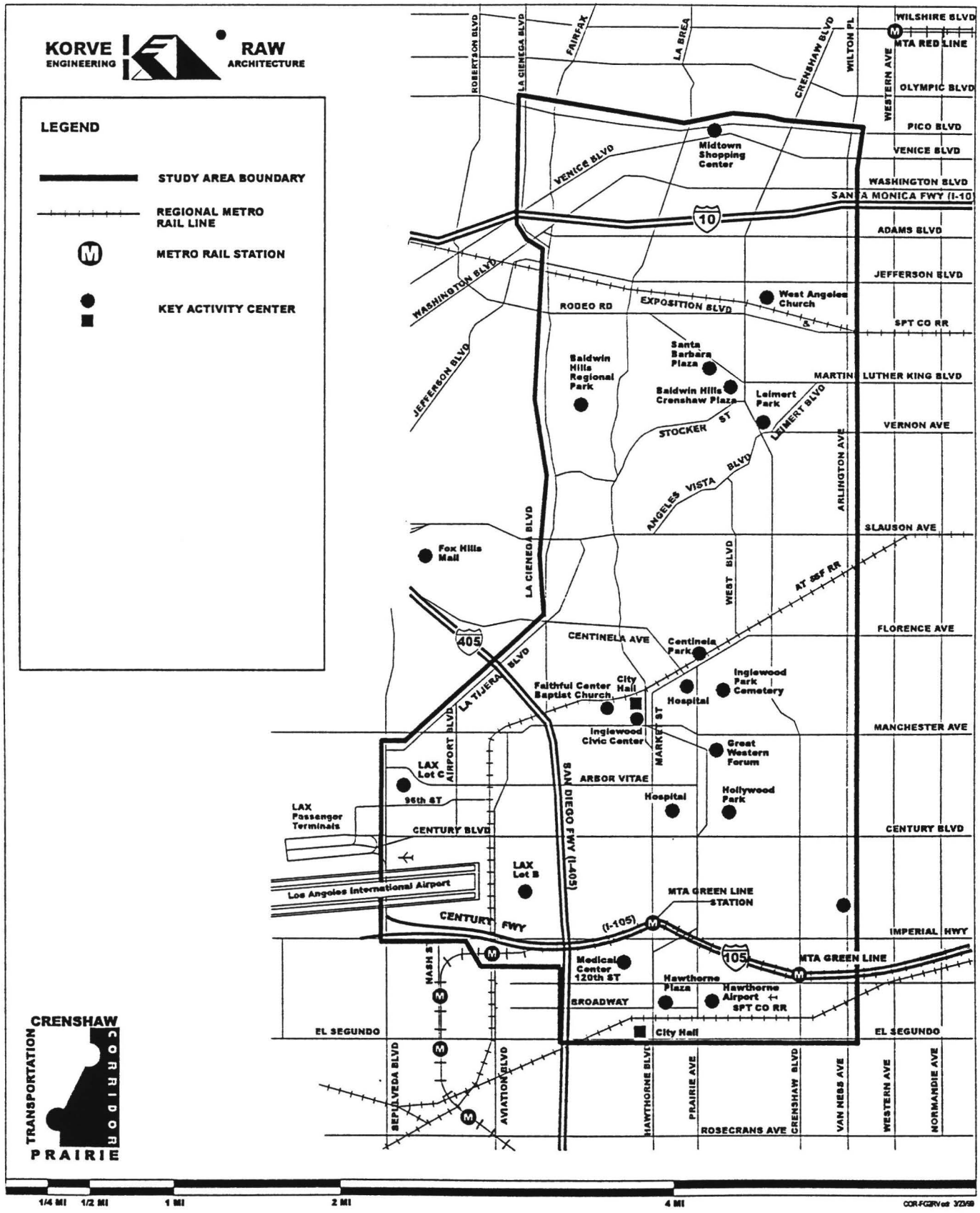


Figure 1.2

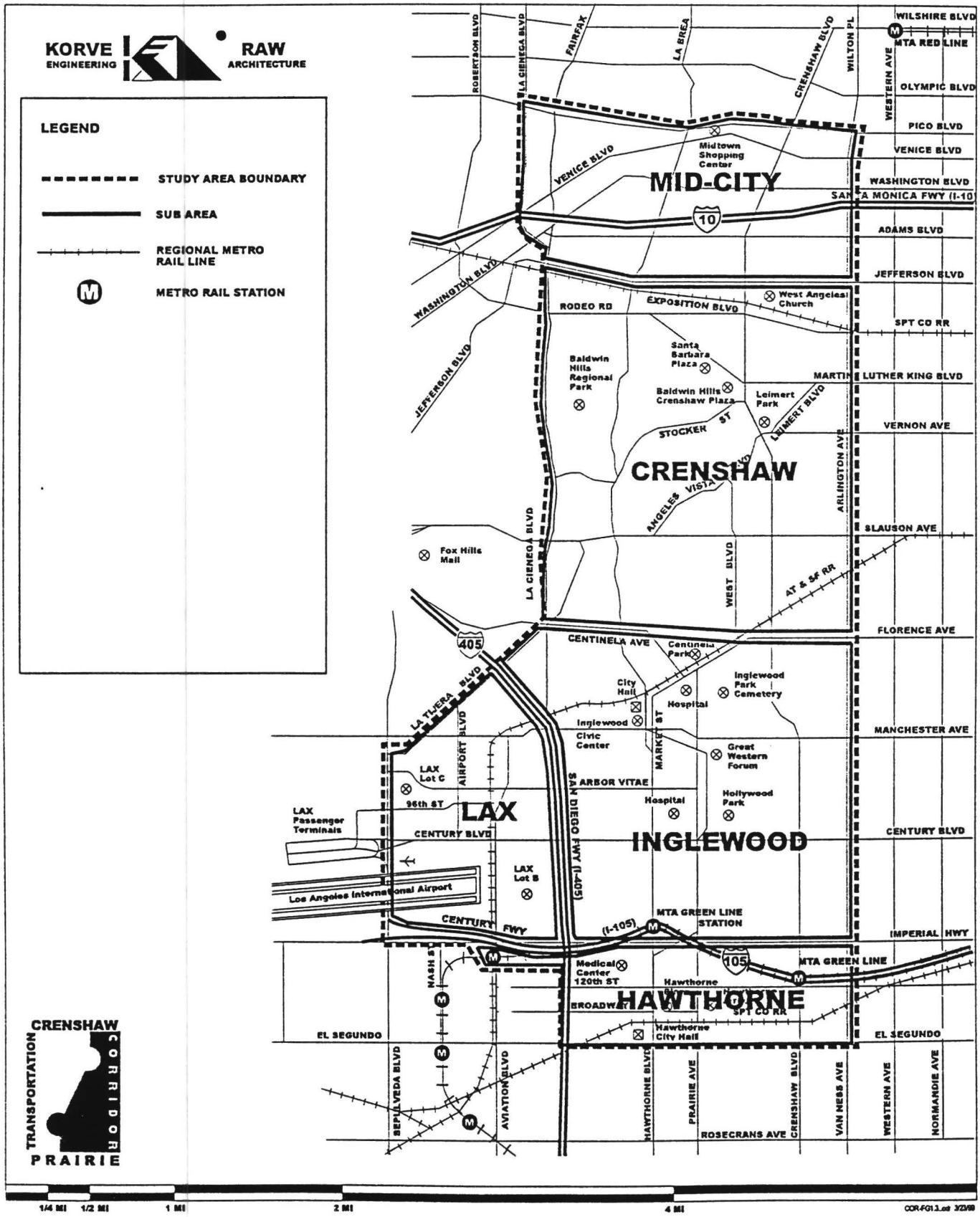
Crenshaw-Prairie Transportation Corridor
Major Investment Study

Key Activity Centers



Crenshaw-Prairie Transportation Corridor
Major Investment Study

Figure 1.3
Project Corridor Sub Areas



mail services, pass through LAX. The freight volume handled by LAX is expected to triple in the next 20 years. As such, LAX is a major activity center for the region as well as a major employer. The area surrounding LAX is significantly developed with regional commercial and industrial uses representing a significant activity and employment base.

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 points:

- *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 households designated as low income.

- *High number of households without an available automobile* - A Corridor-wide average of 16 percent of all households do not have access to an automobile compared to eight percent in the County's urbanized area; 19 percent are car-less in the Crenshaw subarea.

By 2015, the Crenshaw-Prairie Corridor's population is expected to increase by 20 percent with employment projected to increase by 55 percent. Future demographic trends show:

- *Increased population density* - The Corridor's already high population density is projected to increase by more than 20 percent, double the projected average density for the County's urbanized area.

- *Increased employment density* - Corresponding to the Corridor's projected employment growth, the future number of employees per acre is projected to increase by 55 percent, double the estimated average density for the County's urbanized area.

- *Continued high number of low income households* - Even with the projected growth in Corridor employment opportunities, a high percentage of households are projected to remain within the low income category.

- *Continued high percentage of households without access to an automobile* - Reflecting the projected high percentage of low income households, a large number of Corridor households will remain transit dependent.

All of these demographic trends contribute to a higher than average transit ridership 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. Changing demographics, including a projected increase in low income households and related transit dependency, are anticipated to create additional demands for transportation services. By the year 2015, estimates show 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 projected to increase to 16 percent, more than 50 percent higher than the county-wide average.

1.1.1 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 1.4. By 2015, the Corridor's population is expected to increase by more than 20 percent to over 431,000 residents. 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. In the Mid-City area, for example, the 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 expected 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 be the densest portion of the Corridor with 28.37 persons per acre, while the Hawthorne subarea is projected to have the highest population growth with a 152 percent increase.

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. 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.

1.1.2 Travel Characteristics

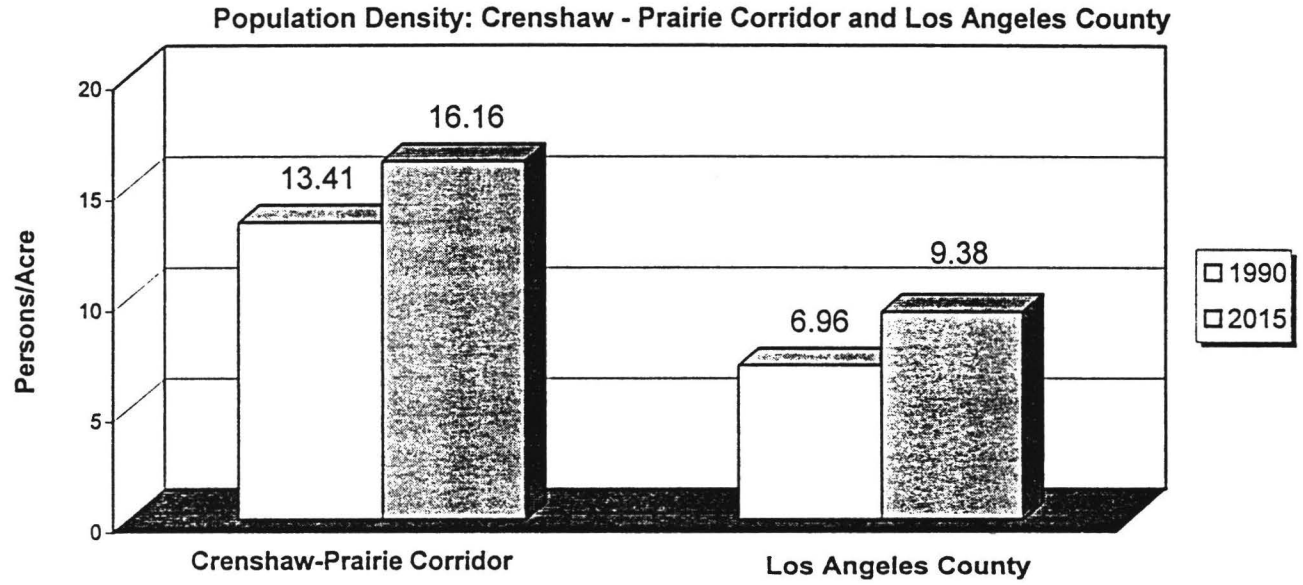
Based on LACMTA's travel forecasting model, approximately 64 percent of all Corridor-generated trips remain in the Corridor. The majority of non-work trips, including shopping, school and recreation trips, stay within the Corridor. In contrast, a majority of work trips are to destinations outside the Corridor. Approximately 80 percent of home to work trips are to destinations outside the Corridor area, while 20 percent are to employment destinations in the Corridor. The key work destinations for Corridor residents in order of importance are:

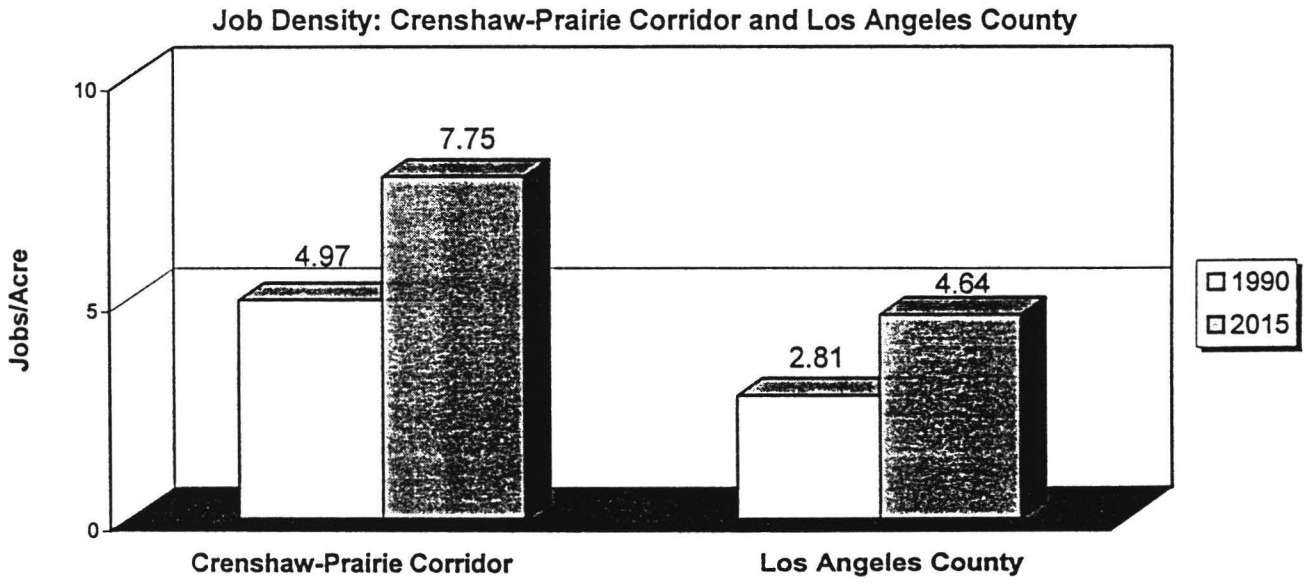
- Downtown Los Angeles;
- Southeast Los Angeles including Commerce, Vernon and South Gate;
- Century City, Westwood and West Los Angeles;
- South Bay;
- Mid-City and the Wilshire District; and
- Santa Monica, Marina del Rey and LAX.

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 as Hawthorne area development occurs.

Figure 1.4

Population and Employment





Source: LACMTA Travel Demand Model

1.1.3 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 and outside 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 regional transit connections to the bus and rail system including the Metro Red and Green Lines.

1.1.4 Changes in Economy

From an economic development perspective, the Crenshaw-Prairie Corridor represents a diverse area of tremendous opportunity and of 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 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 centers 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. Overdue 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 various locations in the Crenshaw-Prairie Corridor, particularly South Central Los Angeles, 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 work outside of the Corridor. The transportation implication of this job Loss has been that residents now must travel long distances to employment destinations. Access to employment has been exacerbated by the poor level of Corridor transportation connections to these 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.

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 is inadequate or not easily accessed by Corridor, as well as regional, shoppers.

Future economic opportunities are substantial with expansion, revitalization and/or redevelopment plans being prepared for many of the Corridor's activity centers including LAX, Downtown Inglewood and Hawthorne, Hollywood Park, the Great Western Forum, the West Angeles Church, Faithful Center Missionary Church, Hawthorne Plaza, the Baldwin Hills/Crenshaw Plaza, Leimert Park area, Mid-Town Shopping Center and Santa Barbara Plaza as presented in Figure 1.5. 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.

1.1.5 Air Quality Issues

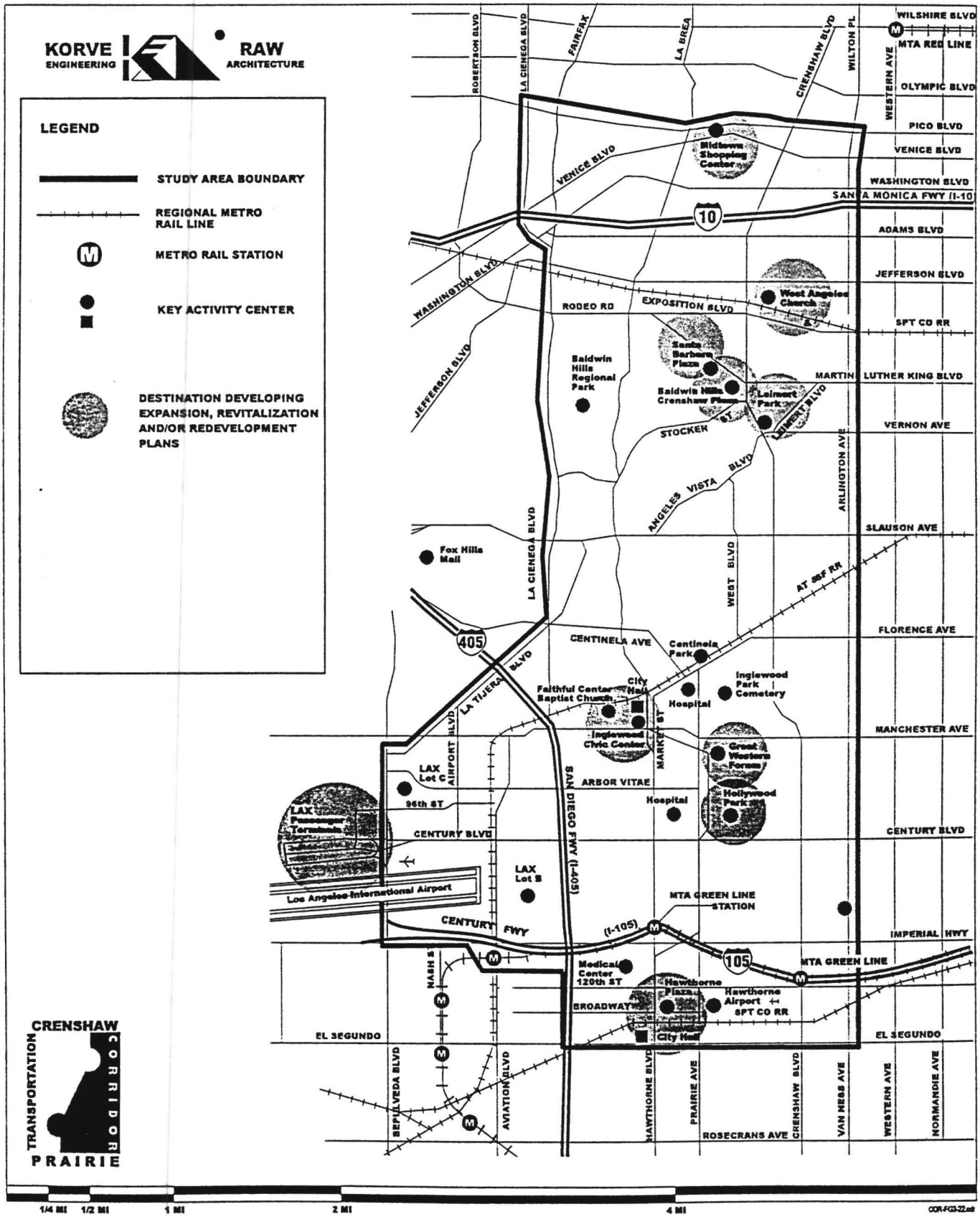
The Corridor is fully contained within the South Coast Air Basin, the airshed with the worst air quality in the nation. Mobile source emissions from transportation are the single largest contributor to air quality problems in the basin, therefore a complete description of transportation issues in the 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

Figure 1.5

Economic Opportunities

Crenshaw-Prairie Transportation Corridor
Major Investment Study



CRENSHAW TRANSPORTATION CORRIDOR PRAIRIE

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.

The 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 (PM_{10}).

The federal Clean Air Act and the California Clean Air Act include provisions for reducing transportation's contribution to air quality problems, with strict sanctions which could affect the region's economic base if actions are not taken. Two key objectives for transportation include achieving an average vehicle occupancy during peak commuter hours of 1.5 persons per vehicle by 1999, and ensuring no net increase in mobile source emissions after 1997.

The 1994 Air Quality Management Plan (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) including transit improvements, shared-ride services, traffic flow improvements (which do not increase lane-miles of capacity), demand management systems, and pedestrian and bicycle programs. Any proposed action to address transportation issues in the Corridor must be in conformity with the AQMP and must demonstrate a neutral or positive impact on air quality in the basin.

1.2 Overview of Corridor Transportation System

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 Line and future extension of the Metro Red Line), and an extensive arterial street network. But a closer examination reveals an 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. There are no currently funded or programmed capital improvements for transportation infrastructure in the Crenshaw-Prairie study area.

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 the future extension of the Metro Red Line;
- Southern - I-105/Century Freeway and the 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 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, the Crenshaw-Prairie 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 which 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 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 improvements 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 improvement challenging.

1.3 Mobility Problem

The current transportation system in the Crenshaw-Prairie Corridor can be characterized as heavily automobile-oriented with high bus transit use. Severe 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; and
- Limited travel options.

1.3.1 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. 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.

On the arterial street network, 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. There are no programmed nor planned transportation infrastructure capital improvements identified for the Corridor to address these significant mobility needs.

1.3.2 Transit System Conditions

Currently, the Crenshaw-Prairie Corridor is well-served by bus transit operations, and many of the transit routes in the Corridor are heavily utilized. Almost every major and secondary arterial in the study area is served by at least one bus route. Seven transit providers offer a combination of community-based, local, limited-stop and freeway-express service within the Corridor study area. In summary, even with this high level of service, the challenges facing bus transit services in the Corridor include:

- Operational problems due to utilization of the congested freeway and arterial street system;
- Capacity issues due to high Corridor transit dependency;
- Poor regional transportation system connections; and
- Inability to attract the choice rider.

The effectiveness of Corridor bus transit operations is severely impacted by freeway and arterial congestion resulting in slower bus speeds, negative impacts on schedule adherence, a decrease in service reliability and longer travel times. Bus operations in congested conditions also result in higher operational and maintenance costs. Operational cost increases 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 of stop-and-go operations.

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 beyond 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.

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 travel times. 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, Corridor travelers have a limited choice in travel options - auto or bus transit - circulating on the same congested freeway and arterial system. Existing operational issues with bus transit make bus use by transit dependents daunting, and makes 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 complete set of mode of access alternatives. The ability to attract and retain Corridor choice riders, and reduce congestion, will depend on a variety of factors including improved travel time, reliability, perception of safety, cleanliness and a seamless interface 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 Corridor will be significantly constrained. There is an urgent need to improve transportation mobility in the Corridor by improving both the level and quality of transit service both within and to destinations outside of the Corridor.

1.3.3 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 connection to the regional rail system. Future transportation improvements will need to reflect a multi-modal strategy providing Corridor travelers with a complete set of transportation alternatives.

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 Corridor travel in the future 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 Corridor high-capacity transit improvement could also provide a connection to potential transit service along the Exposition Corridor.

1.4 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:

- *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, with the I-10 Freeway and large segments of the I-405 and I-105 freeways experiencing LOS F2 and F3 (more than two hours of congestion) during the evening peak period. With the forecast growth in daily trips and no planned 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 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; and

- *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 55 percent increase in transit-reliant residents.

- *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.

In defining the purpose and need for this study, it was important to identify study objectives against which potential transportation improvements will be evaluated. Two MIS Tasks identified evaluation criteria for the Crenshaw-Prairie Corridor. In MIS Task 2.2, *Initial Set of Evaluation Criteria*, a detailed set of criteria was developed to provide decision-makers and the public with a perspective on the magnitude of the impacts and benefits of the alternatives, as well as the differences between

the options. The criteria were based on the Corridor purpose and need statements along with federal, state and regional requirements and were organized for this study into five major categories:

- Travel and Mobility Benefits;
- Financial Considerations;
- Environmental Impacts;
- Economic and Land Use Considerations; and
- Public Policy Support.

In Task 2.1, *Mobility Problem and Statement of Purpose and Need*, the following five local goals were identified through extensive consultation with the community 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.

The set of transportation alternatives under consideration, as described in Section 2.0, meet the study purpose and need, along with the local goals.

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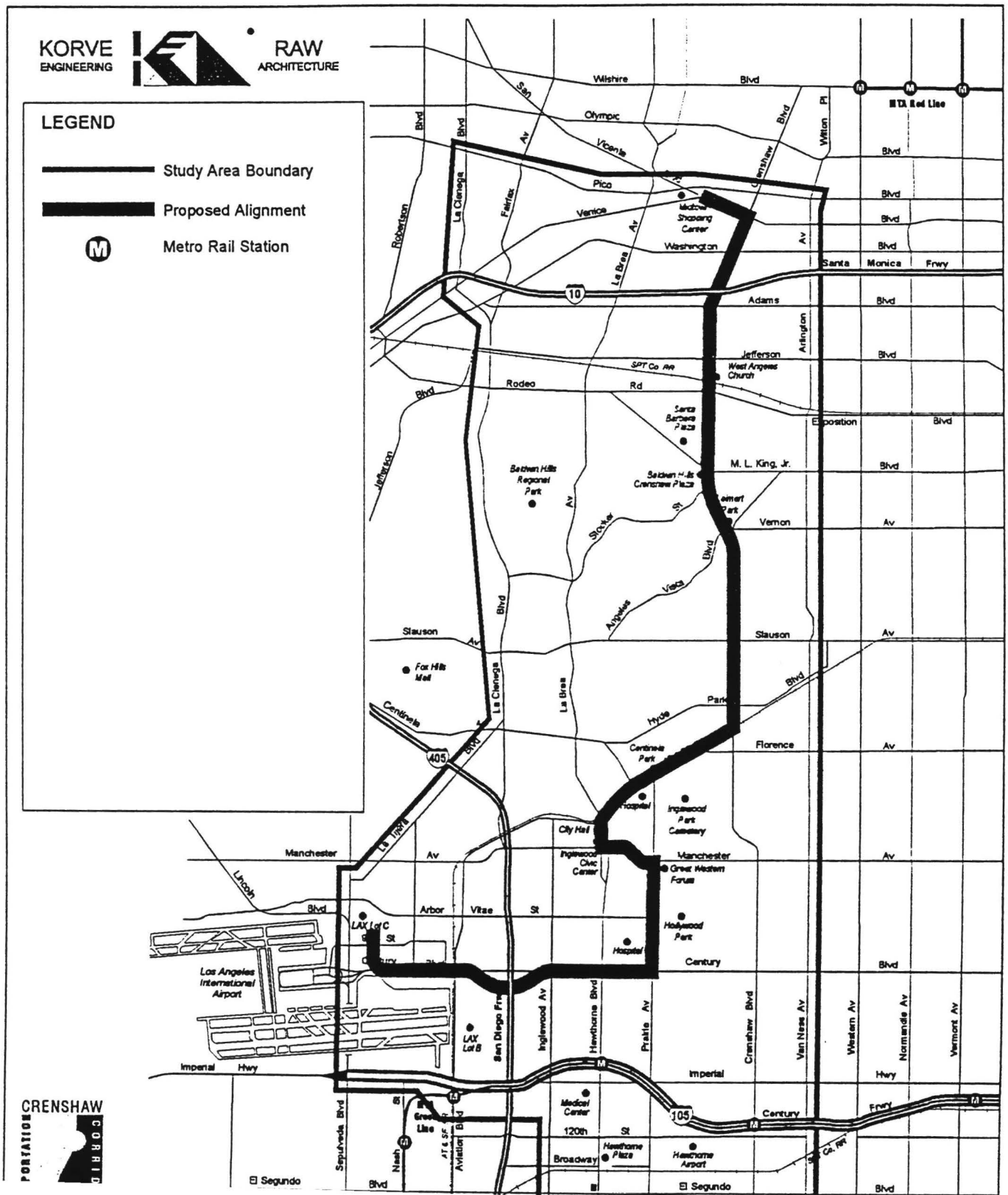
Figure 2.5

LAX via Century Boulevard



- *Minimize at-grade operations* - Provide a more regionally-oriented rail service operating above or below existing street rights-of-way, providing wider station spacing and faster travel speeds.

The resulting Initial Set of Major Investment Strategies consisted of the following options

1. *No Build Alternative*

   This option, representing only those transportation improvements that are already programmed through the year 2015, provides a baseline comparison for the other alternatives. These programmed Corridor improvements are included in each of the other alternatives.

2. *Transportation System Management (TSM) Alternative*

   This option provides a low capital cost option, increases the type and frequency of local bus transit services and provides some bus transit priorities on local major streets.

3. *Rail: Two Branch Option serving LAX (via the AT&SF right-of-way) and Hawthorne Plaza (via Prairie Avenue) - maximize at-grade operations (Figure 2.6)*

   This alternative would bring new rail transit service to the Crenshaw-Prairie Corridor, and provide a connection between the future Metro Red Line station at Venice/San Vicente Boulevards and one branch connecting west to the Los Angeles International Airport (LAX) and a second branch running south to Downtown Hawthorne connecting with the Metro Green Line. This alternative will evaluate a primarily at-grade rail system.

4. *Rail: Two Branch Option serving LAX (via the AT&SF right-of-way) and Hawthorne Plaza (via Prairie Avenue) - minimize at-grade operations (Figure 2.7)*

   This alternative would essentially follow the same horizontal alignment as alternative 3, but would minimize the use of at-grade service in favor of a primarily grade-separated system operating with segments of aerial and subway service.

5. *Rail: Century Boulevard Option - maximize at-grade operations (Figure 2.8)*

   This alternative would bring new rail transit service to the Corridor and would operate between the future Metro Red Line station at Venice/San Vicente Boulevards and Los Angeles International Airport. This alternative will evaluate a primarily at-grade rail system.

6. *Rail: Century Boulevard Option - minimize at-grade operations (Figure 2.9)*

   This alternative would essentially follow the same horizontal alignment as alternative 5, but would minimize the use of at-grade service in favor of a primarily grade-separated system operating with segments of aerial and subway service.

Figure 2.6

Alternative 3:Two Branch Maximize At-Grade

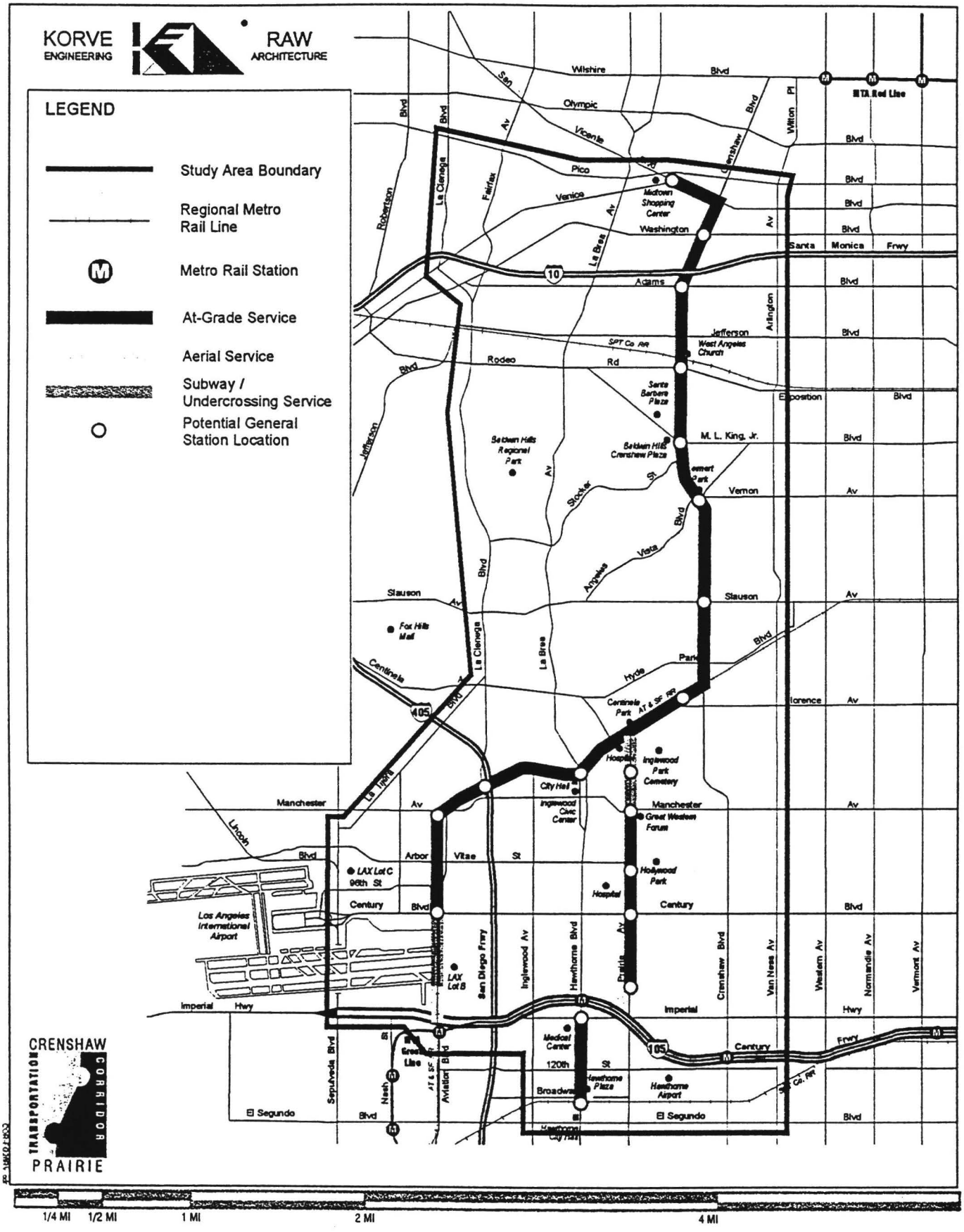


Figure 2.7

Alternative 4: Two Branch Minimize At-Grade

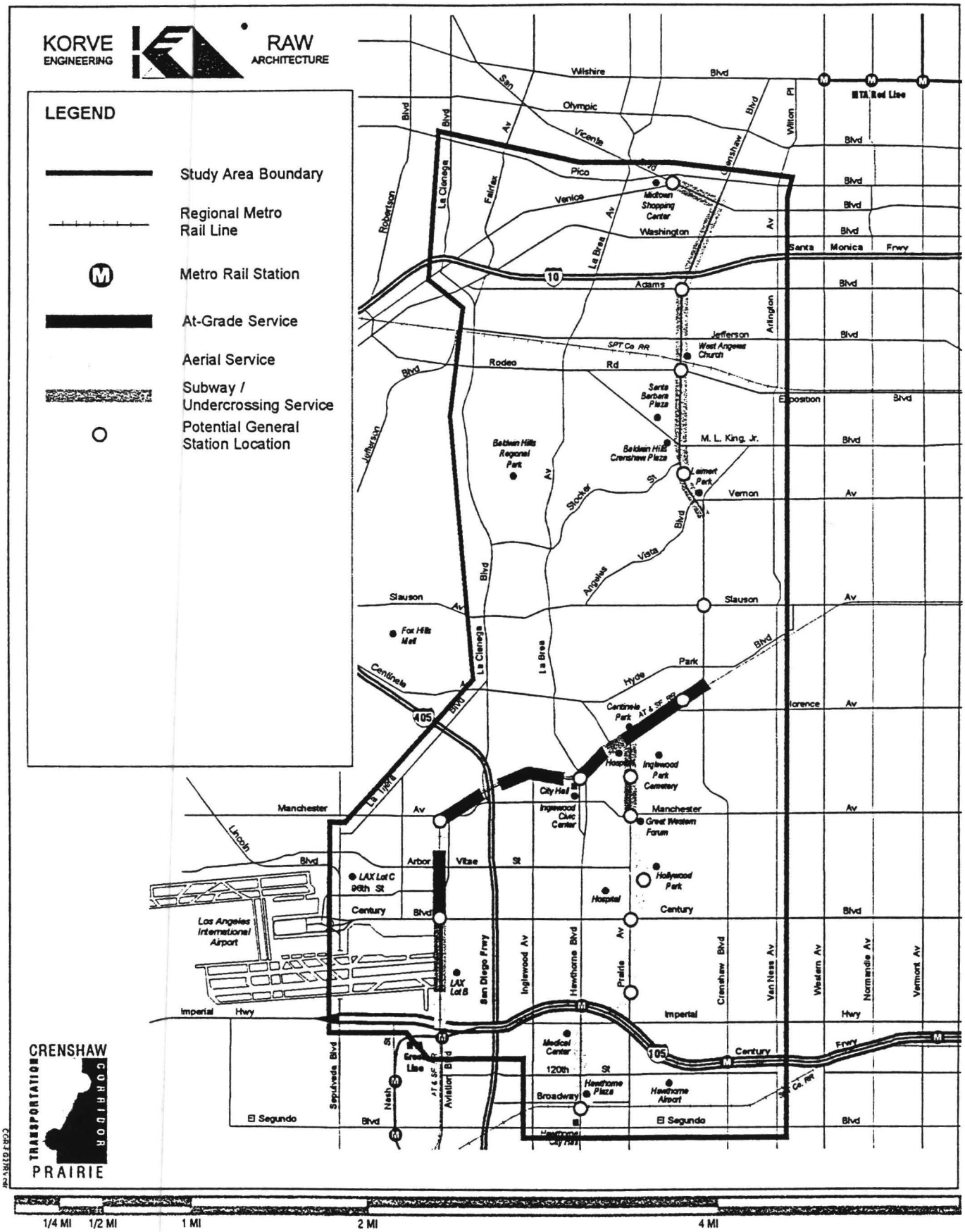


Figure 2.8

Crenshaw-Prairie Transportation Corridor
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Alternative 5: Century Boulevard Option Maximum At-Grade

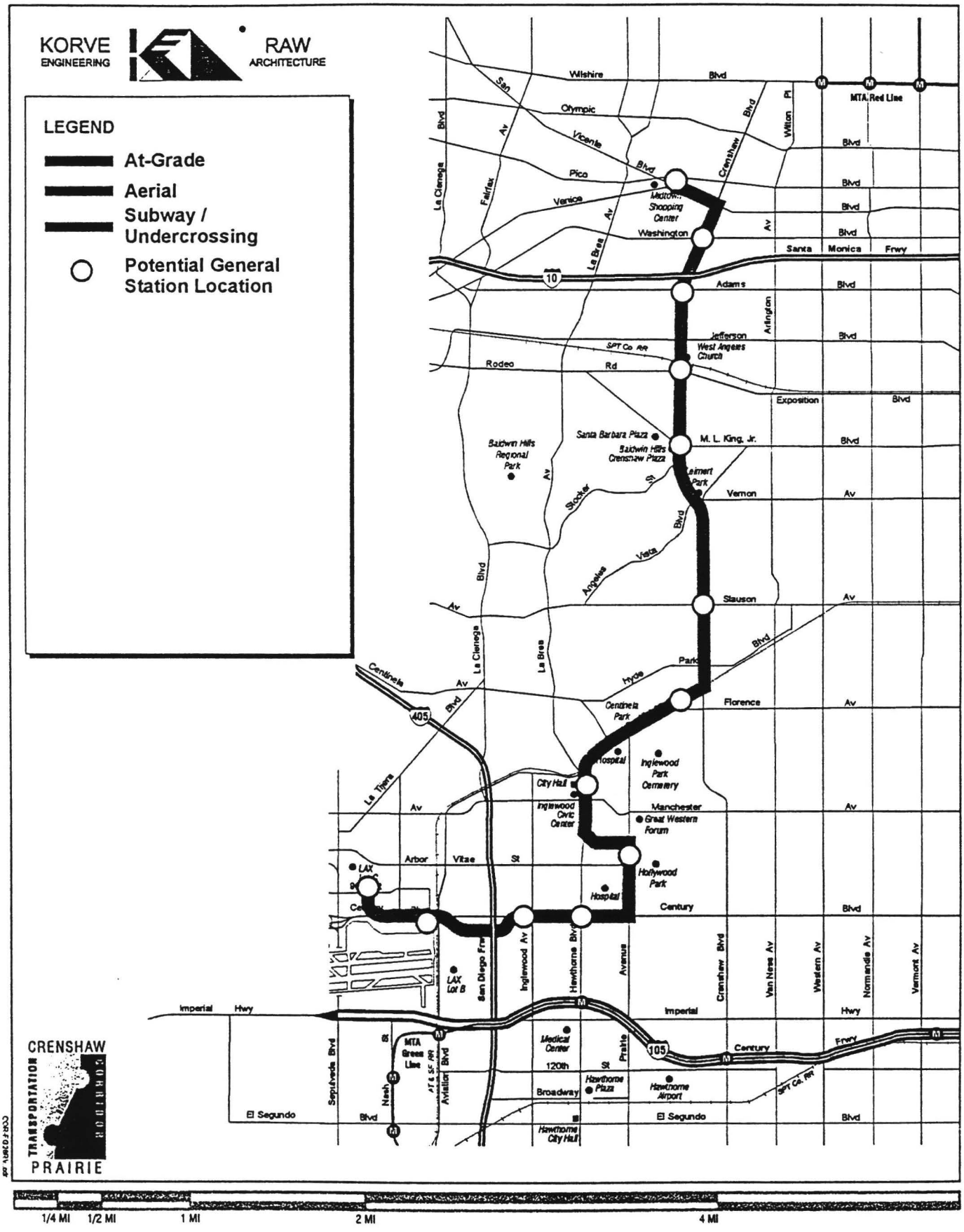
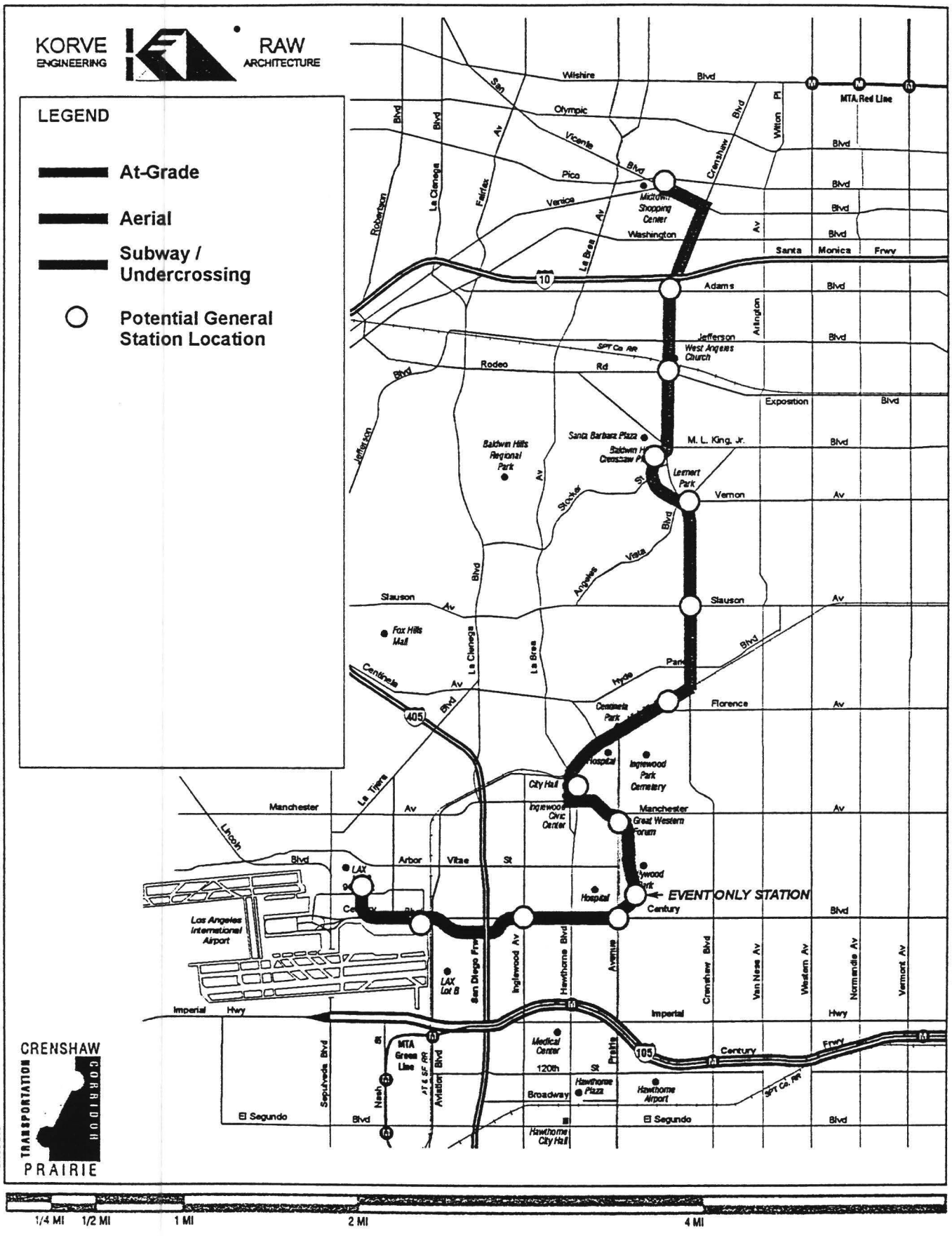


Figure 2.9

Alternative 6: Century Boulevard Option Minimum At-Grade



In formulating the two sets of rail alternatives described above - the Two Branch and Century Boulevard options - careful consideration was given to framing the study of a rail system within the Crenshaw-Prairie Corridor. There was a recognized desire to serve as much of the Corridor and its activity centers as possible within recognized cost constraints. The analysis of the related service coverage and cost issues were framed in two ways:

- Evaluating the difference in service and costs between primarily at-grade and primarily grade-separated systems; and

- Defining the rail alternatives with one option (Century Boulevard Alternative) having a single alignment serving a majority, but not all, of the Corridor's activity centers, and a second option operating along two branches (Two Branch Alternative) providing maximized Corridor coverage.

The identified Initial Set of Alternatives were next screened through a third evaluation level - preliminary technical analysis - which is presented in Section 3.0.

SECTION 3

CONCEPTUAL ANALYSIS OF ALTERNATIVES

3.0 CONCEPTUAL ANALYSIS OF THE INITIAL SET OF ALTERNATIVES

This section summarizes the preliminary technical and environmental analysis completed to support definition of the Initial Set of Major Investment Strategies. Details of this conceptual level of analysis are documented in MIS Task 4.1, *Development of the Final Set of Major Investment Strategies.* A detailed environmental and technical analysis of the final set of alternatives has been deferred until a time closer to the ultimate implementation date for the final recommended Crenshaw-Prairie Corridor transportation improvement project.

Section 3.1 presents an overview of the Affected Environment within the Corridor that would be affected by the proposed project alternatives under consideration in this study process. The following section 3.2 provides a detailed description of the Initial Set of Alternatives including a discussion of engineering and system issues related to the four rail alternatives. Section 3.3 presents an overview of the resulting mobility improvements including travel times and operating speeds of the alternatives, while Section 3.4 compares the resulting capital and operating costs. The discussion in section 3.5 presents a summary of the preliminary environmental review including a discussion of Corridor economic and land use issues. Finally, Section 3.6 provides a summary of the technical findings and describes the next steps.

3.1 Affected Environment

This section describes the existing environment within the Crenshaw-Prairie Corridor that would be affected by the proposed project alternatives under consideration in this study process. The study corridor contains many local and regional destinations attracting economic, social and visitor activity. This Corridor is being studied for a Major Transportation Investment due to its high employment and residential densities, congested traffic conditions, high transit dependency and its potential to connect key local and regional activity centers. The study process was intended to result in the identification of an effective transportation improvement project serving the Crenshaw-Prairie Corridor and providing a link to the regional transportation system which serves Los Angeles County.

The Crenshaw-Prairie Corridor is an approximately ten-mile long, north-south oriented corridor that covers portions of three cities - Los Angeles, Inglewood and Hawthorne. This Corridor runs from the Mid-City area of Los Angeles in the north, south to Downtown Hawthorne, and west through Downtown Inglewood to the Los Angeles International Airport (LAX). The study area encompasses a total of 27,000 acres or two percent of Los Angeles County in area. As illustrated in Figure 3.1, the approximate limits of the Crenshaw-Prairie Corridor study area are:

- Pico Boulevard in the north;
- Arlington Avenue/Van Ness Avenue in the east;
- El Segundo Boulevard in the south; and
- La Cienega Boulevard/La Tijera Boulevard/Sepulveda Boulevard in the west.

The Corridor's key activity, employment and transportation destinations as shown in Figure 3.1 include: a major transportation facility with related employment destinations (LAX); two regional entertainment venues (the Great Western Forum and Hollywood Park); two civic centers (Downtown Inglewood and Hawthorne); four major shopping centers (the Mid-Town Shopping

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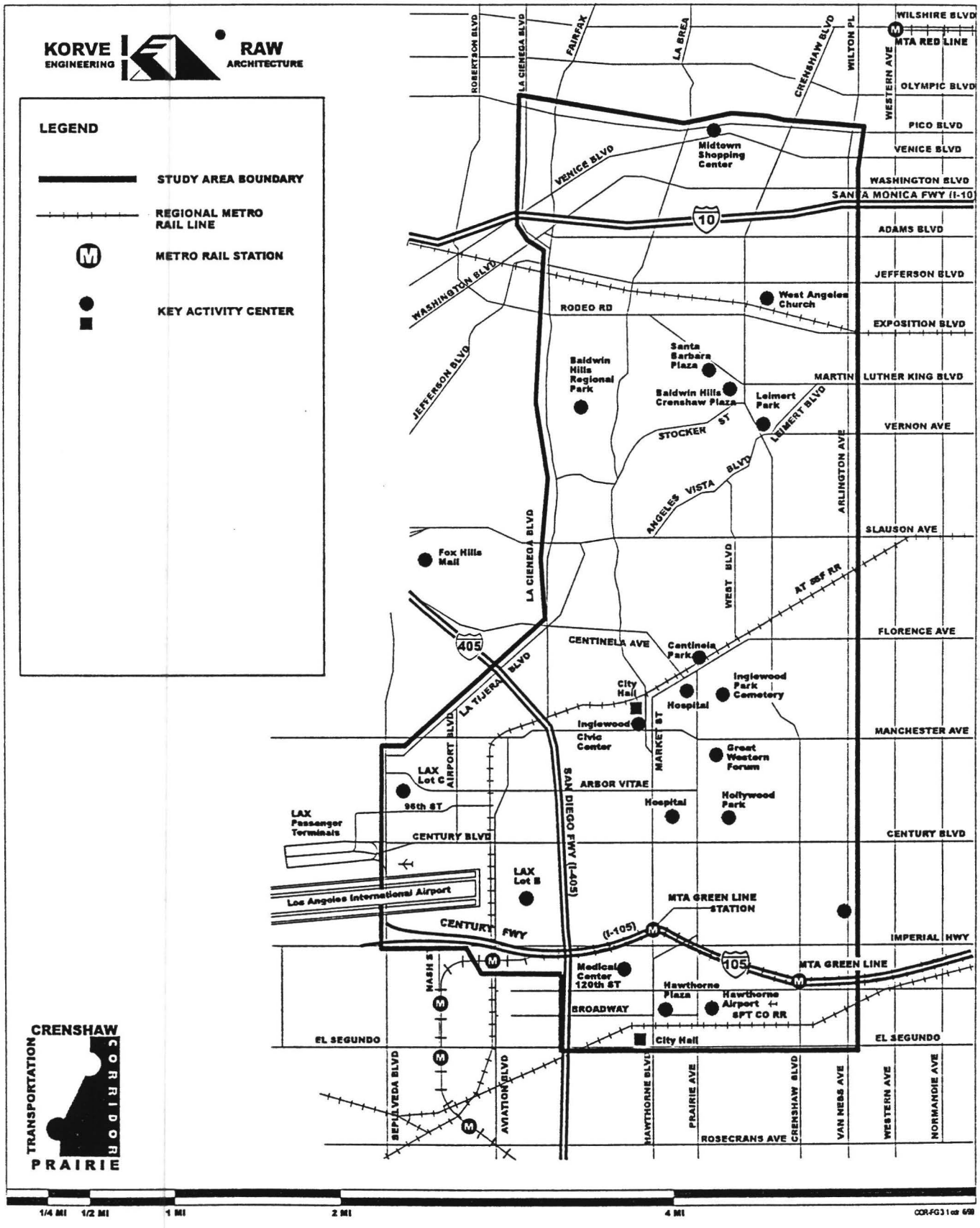
Figure 3.1
Project Corridor and Key Activity Centers



Center, Baldwin Hills/Crenshaw Plaza, Santa Barbara Plaza and Hawthorne Plaza); two regional parks (Leimert Park and Centinela Park); and three major hospitals (Daniel Freeman Memorial Hospital, Centinela Hospital and Robert F. Kennedy Medical Center). Transportation facilities serving the Corridor include: the Los Angeles International Airport; three freeways (the I-10/Santa Monica Freeway, the I-105/Century Freeway and the I-405/San Diego Freeway); and two rail lines (the Metro Green Line and the future extension of the Metro Red Line to the Mid-City area).

Within the Crenshaw-Prairie Corridor, there are five generally defined sub-areas or communities as shown in Figure 3.2:

- *Mid-City Area* - This portion of the Corridor extends south from Pico Boulevard to Adams Boulevard. A future Metro Red Line station is planned for the Mid-City area in the vicinity of Pico, Venice and San Vicente Boulevards. This is the current location of a regional bus interface facility serving LACMTA, Santa Monica, Culver City and Torrance Transit buses. The Mid-City subarea contains the Mid-Town Shopping Center and is primarily residential with some local 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 the 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. 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 southern end of the Corridor contains the Robert F. Kennedy Medical Center, Hawthorne Civic Center and the Hawthorne Plaza.

- *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 International Airport. The potential of providing an improved connection to LAX is significant to the mobility of the Crenshaw-Prairie Corridor communities, as well as to the region as a whole. In 1995, LAX was the fourth most active airport in the nation, handling almost 54 million passengers annually. This volume is expected to double over the next twenty years. In addition, approximately 1.5 million tons of freight, excluding mail services, pass through LAX. The freight volume handled by LAX is expected to triple in the next 20 years. The area surrounding LAX is

Figure 3.2

Project Corridor Sub Areas

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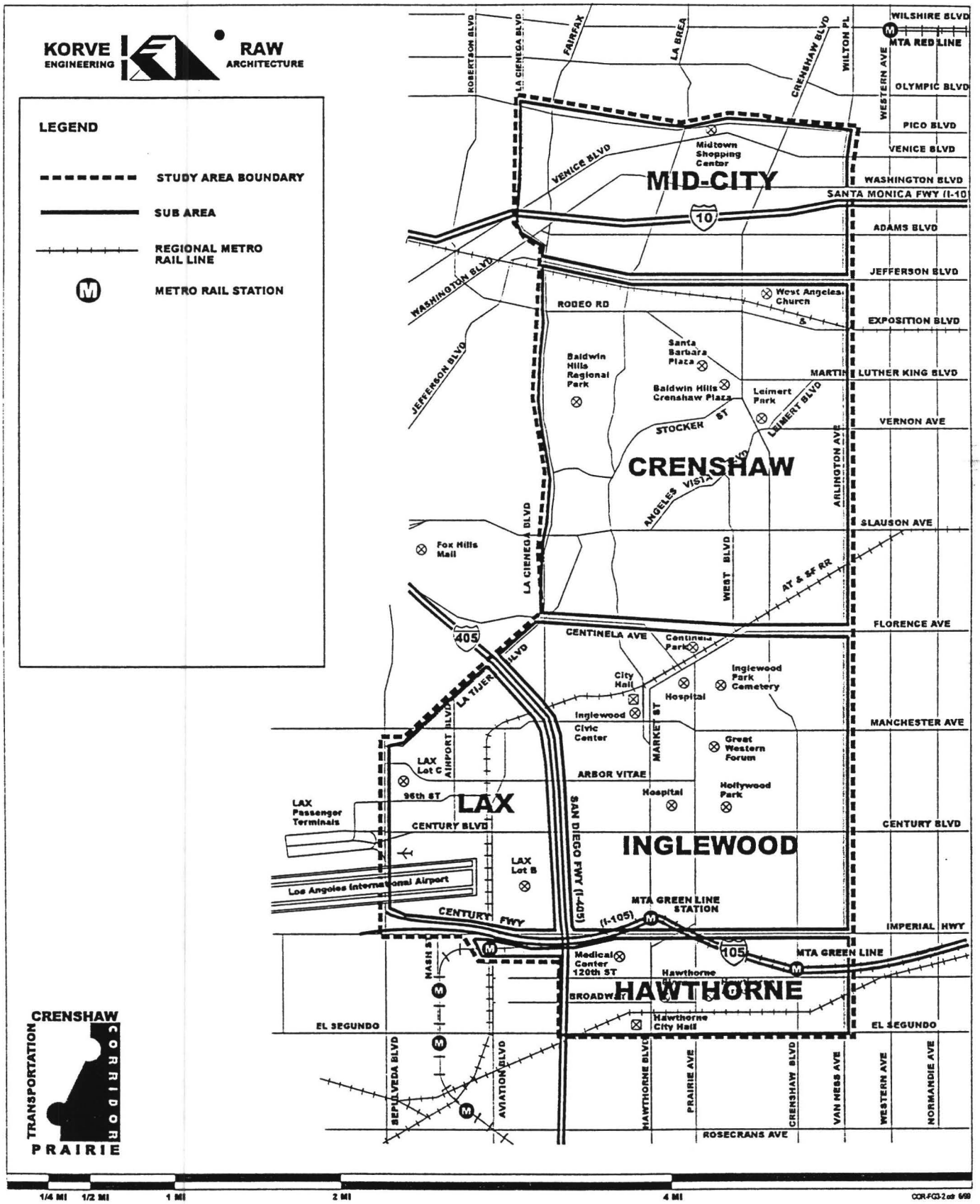
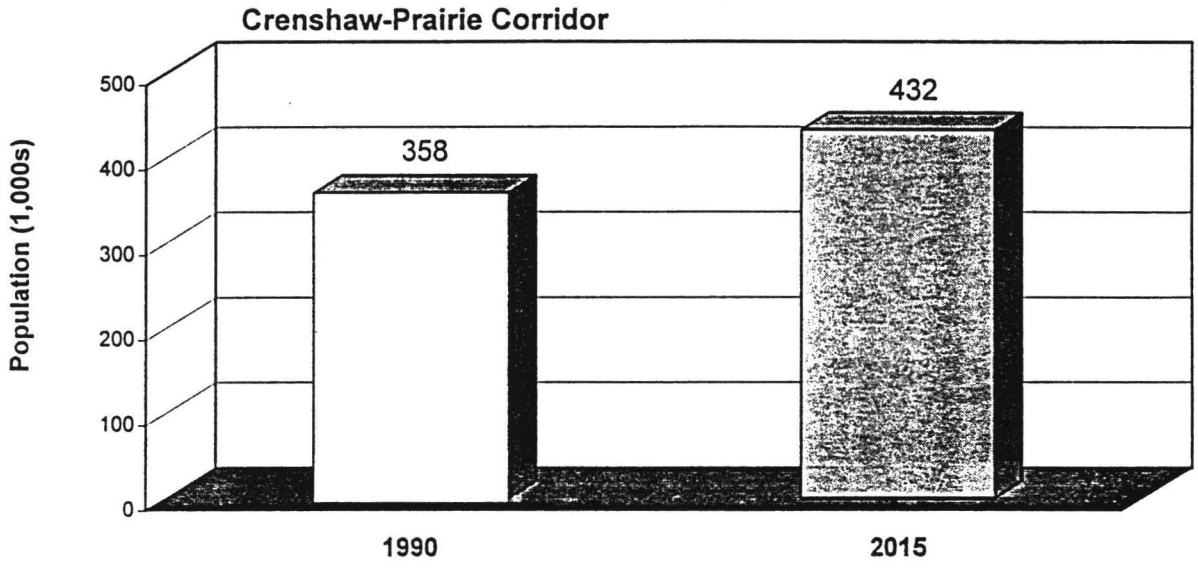
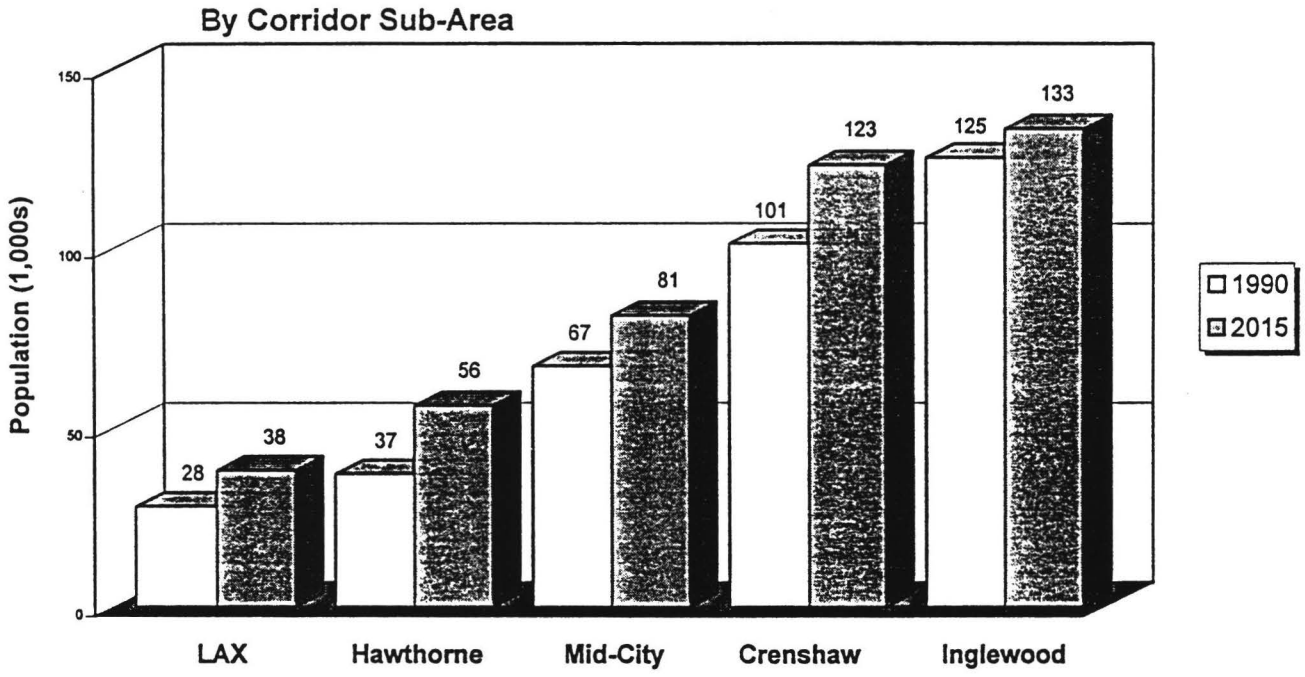


Figure 3.3

Population Growth





Source: LACMTA Travel Demand Model

developed with regional commercial and industrial uses representing a significant local and regional activity and employment base.

3.1.1 Population, Housing and Employment

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

- *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 this 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 do not have access to an automobile compared to eight percent in the County's urbanized area; 19 percent of the households have no automobile in the Crenshaw subarea.

By 2015, the Crenshaw-Prairie Corridor's population is expected to increase by 20 percent with employment projected to increase by 55 percent. Future demographic trends show:

- *Increased population density* - The Corridor's already high population density is projected to increase by more than 20 percent, double the projected average density for the County's urbanized area.

- *Increased employment density* - Corresponding to the Corridor's projected employment growth, the future number of employees per acre is projected to increase by 55 percent, double the estimated average density for the County's urbanized area.

- *Continued high number of low income households* - Even with the projected growth in Corridor employment opportunities, a high percentage of households are projected to remain within the low income category.

- *Continued high percentage of households without access to an automobile* - Reflecting the projected high percentage of low income households, a large number of Corridor households will remain transit dependent.

Population

The Crenshaw-Prairie Corridor is currently home to more than 358,000 residents or over four percent of the population of Los Angeles County. The Inglewood and Crenshaw subareas are the most populated with more than 63 percent of the Corridor's residents as shown below in Table 3.1.

The Mid-City subarea is home to more than 19 percent of Crenshaw-Prairie residents, while the Hawthorne and LAX subareas contain the least residents with 10 percent and 8 percent respectively of the Corridor's population.

Table 3.1: Current and Future Corridor Population

Sub-area	Current Population (1990 Census)	Percentage of Corridor Population	Forecast Population (2015)	Percentage of Corridor Population	Forecast Percentage of Growth
Inglewood	125,000	35%	133,000	31%	6%
Crenshaw	101,000	28%	123,000	28%	22%
Mid-City	67,000	19%	81,000	19%	21%
Hawthorne	37,000	10%	56,000	13%	**51%**
LAX	28,000	8%	38,000	9%	36%
Total	358,000	100%	431,000	100%	

As shown in Figure 3.3, the Corridor's population is expected to increase by more than 20 percent to over 431,000 residents by 2015. The Mid-City and Crenshaw subareas will remain fairly consistent in their residential growth, while the Inglewood subarea is forecast to experience the lowest population increase. The highest population growth is forecast to occur in the Hawthorne and LAX subareas with the Hawthorne subarea growing by more than 51 percent and LAX by more than 36 percent.

Current population densities within the Crenshaw-Prairie Corridor (13.41 persons per acre) are almost double the average of the County's urbanized area (6.91 persons per acre) as shown in Figure 3.4. The population density is even higher in some of the Corridor's subareas as illustrated in Table 3.2. In the Mid-City area, the population density is 23.33 persons per acre, more than three times the average of the County's urbanized area. The Inglewood subarea has both the highest population and the second highest population density in the Corridor with 20.10 persons per acre.

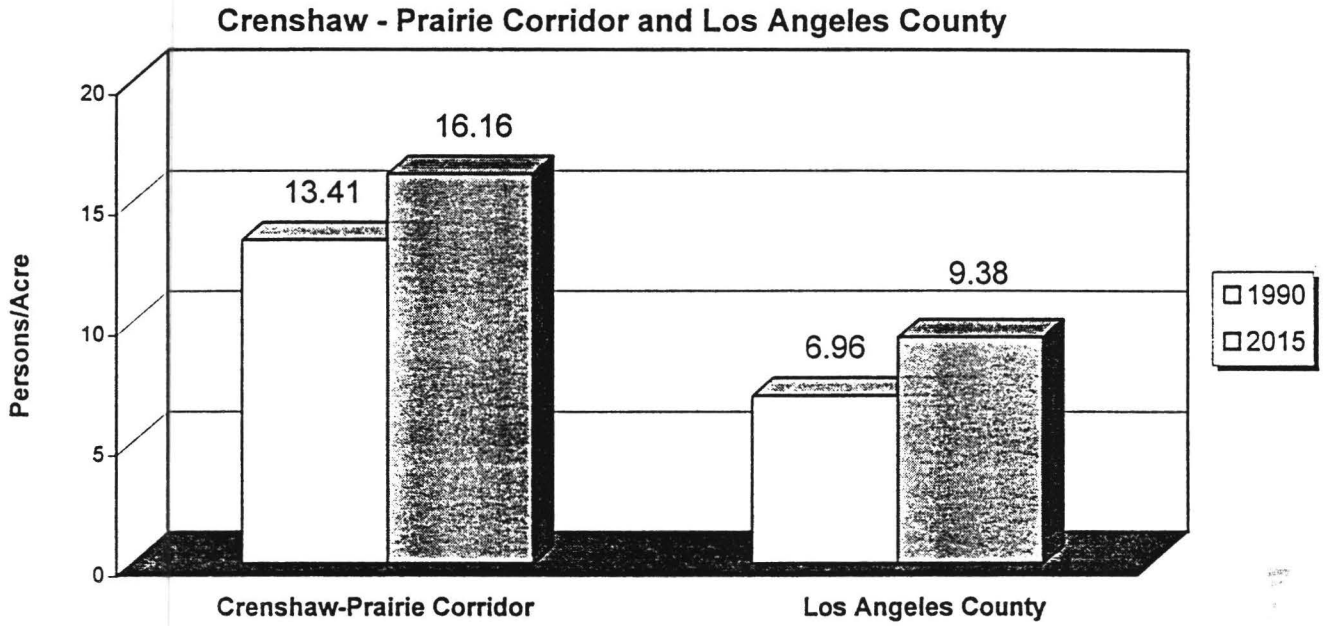
Table 3.2: Current and Future Population Densities

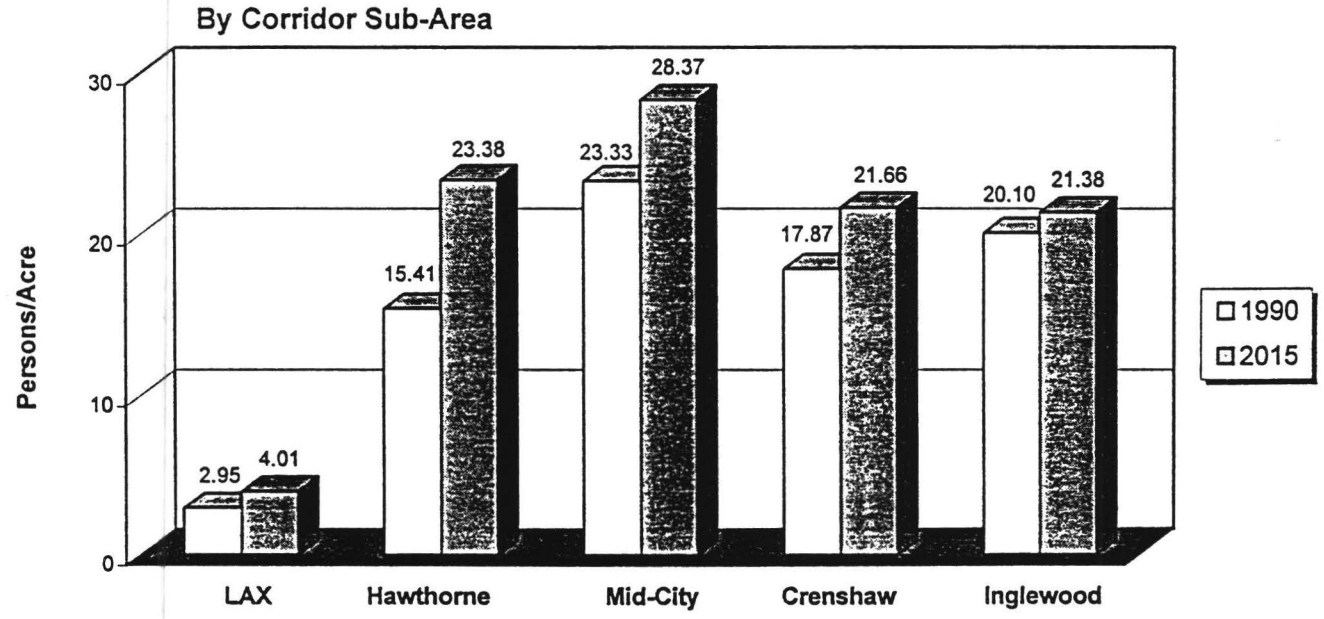
Sub-area	Current Residential Density (persons per acre)	Forecast Residential Density (persons per acre)	Forecast Percentage Increase in Density
*Los Angeles County**	*6.96*	*9.38*	
Inglewood	20.10	21.38	6%
Crenshaw	17.87	21.66	21%
Mid-City	**23.33**	**28.37**	22%
Hawthorne	15.41	23.38	**52%**
LAX	2.95	4.01	36%

* Urbanized area

Figure 3.4

Population Density





Source: LACMTA Travel Demand Model

By 2015, Crenshaw-Prairie Corridor population density is expected to increase with a more than 20 percent growth to the Corridor-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 Corridor with 28.37 persons per acre, more than double the urbanized County's density. The largest population density growth is projected to occur in the Hawthorne subarea with a 51 percent increase. Both the Crenshaw and LAX subareas are forecast to have substantial population density increases at 21 percent and 36 percent respectively. Only the Inglewood subarea is projected to remain fairly constant between 1990 and 2015 with a 6 percent projected increase in population density.

Housing

Similar to the Corridor's population densities discussed above, the residential densities are also significantly higher than the urbanized area of the County. The Mid-City subarea has the highest residential density with 8.1 dwelling units per acre, more than three times the average of the County's urbanized area (2.4 dwelling units per acre). With its heavy concentration of industrial and transportation-related uses, the LAX subarea has the lowest residential density with only 0.9 dwelling units per acre. As shown in Table 3.3, the residential densities of the Corridor's other three subareas are all more than double the average of the County's urbanized area.

Reflecting population growth, the greatest increase in residential density in the Corridor is projected to occur in the Hawthorne subarea. By 2015, the residential density is forecast to grow from 5.2 to 7.9 dwelling units per acre (a 52 percent increase). Similarly, the residential densities in the Mid-City and Crenshaw subareas are projected to increase by 19 and 21 percent respectively. Only the Inglewood area is projected to remain fairly constant between 1990 and 2015 with a five percent increase in residential density. However, at 6.6 dwelling units per acre, Inglewood will continue to have residential densities more than double the urbanized County average. And though the LAX subarea is forecast to have a 36 percent increase in dwelling units, it will continue to have a significantly low residential density.

Table 3.3: Current and Future Residential Densities

Sub-area	Current Residential Density (dwelling units per acre)	Forecast Residential Density (dwelling units per acre)	Forecast Percentage Increase in Density
*Los Angeles County**	*2.4*	*3.1*	
Inglewood	6.3	6.6	5%
Crenshaw	6.7	8.1	21%
Mid-City	8.1	9.6	19%
Hawthorne	5.2	7.9	52%
LAX	.9	1.2	36%

* Urbanized area

Employment

Employment densities within the Crenshaw-Prairie Corridor serve as indicators of the level of economic activity and strength within the study area, as well as its potential attractiveness as a employment destination. Based on the 1990 Census, there are approximately 4.97 employees per acre in the Corridor, which is 78 percent higher than the urbanized Los Angeles County average (2.81 employees per acre). The highest employment densities within the Corridor occur in the Mid-City, Hawthorne and Inglewood subareas, with densities ranging from 6.6 to 7.6 employees per acre, or 135 to 170 percent higher than the urbanized County average. The Crenshaw subarea has the lowest employment density with approximately 4.6 employees per acre - still 64 percent higher than the urbanized County average.

Reflecting current employment densities, the Inglewood subarea has the highest number of jobs, followed closely by the Crenshaw and LAX subareas. Employment within the Corridor is expected to increase significantly in the future with a forecast 55 percent growth in jobs by the year 2015. All of the subareas will share in the job growth, but several will experience a significant expansion in the number of employment opportunities. The LAX subarea is projected to have the most significant job growth with a doubling of the current number of jobs. The Mid-City area will be second with a substantial 63 percent expansion in the number of jobs followed by the Inglewood subarea with a 43 percent increase in employment opportunities. The Crenshaw subarea is forecast to have the lowest, but still strong employment increase of 12 percent by the year 2015.

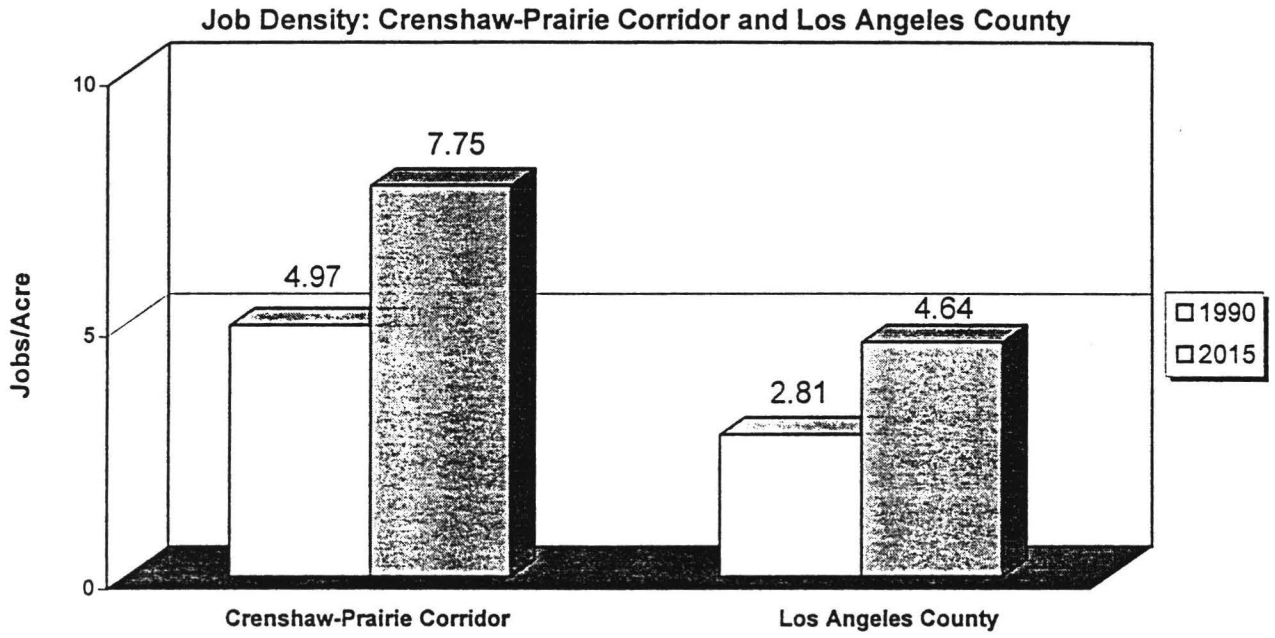
Table 3.4: Current and Future Employment

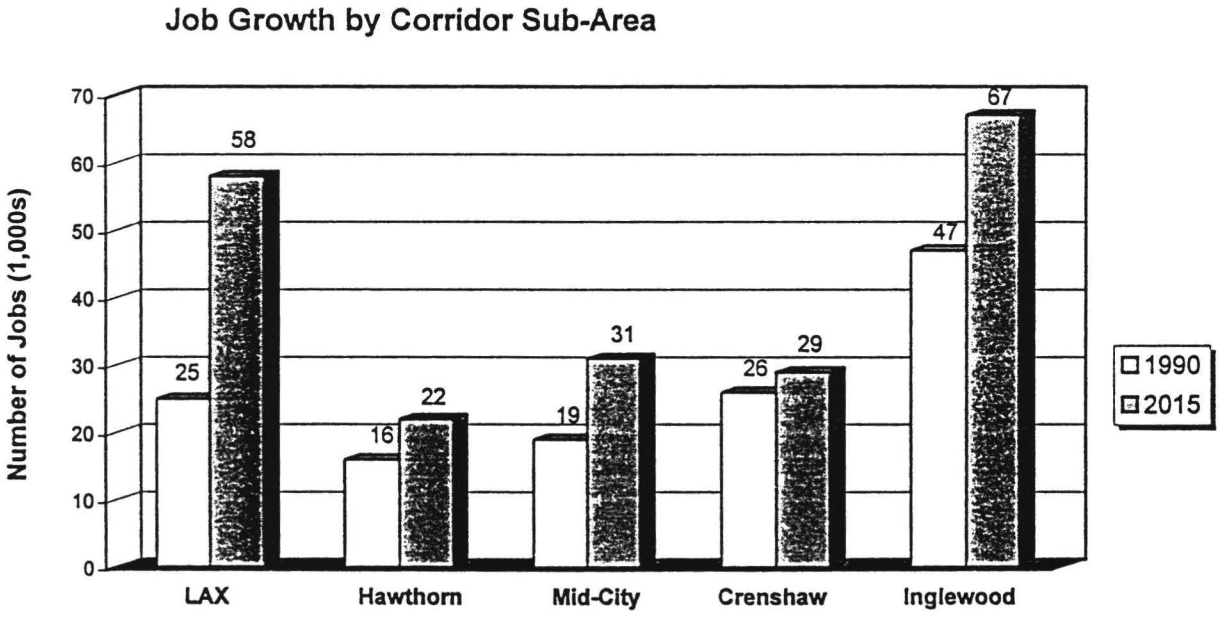
Sub-area	Current Employment (Number of jobs)	Forecast Employment (Number of jobs)	Forecast Percentage Increase in Employment
Inglewood	**47,000**	**67,000**	43%
Crenshaw	26,000	29,000	12%
Mid-City	19,000	31,000	63%
Hawthorne	16,000	22,000	38%
LAX	25,000	58,000	**132%**

Corresponding to the Corridor's projected employment growth, the future employee density (7.75 employees per acre) is forecast to be approximately double the estimated average density for the County's urbanized area (4.64 employees per acre). As illustrated in Figure 3.5, the highest employment density increase is forecast to occur in the job-rich LAX subarea where the number of jobs is projected to more than double. These future job projections do not reflect the current LAX Master Plan expansion plans which are currently being reviewed. The number of employment opportunities in the LAX subarea may increase with the adoption of the final plan. The Mid-City subarea is forecast to experience a significant increase in employment density with a projected increase to approximately 11.0 employees per acre, more than double the future urbanized County average.

Figure 3.5

Job Growth and Density





Source: LACMTA Travel Demand Model

Transit Dependency

Currently, more than 49 percent of households within the Crenshaw-Prairie Corridor are classified as low income, and approximately 16 percent of Corridor households have no automobile available. Both of these factors contribute to a higher than average transit usage. The urbanized County transit mode split is eight percent compared to an average of more than 13 percent in the study area. Transit usage in the Mid-City subarea (21 percent) is approximately three times the average for the County's urbanized area. A majority of the Corridor, represented by the Crenshaw, Inglewood and Hawthorne subareas, has a transit mode share ranging between 10 and 14 percent, or 25 to 75 percent higher than the average of the County's urbanized area. Even the subarea with the Corridor's lowest transit usage - LAX with a 9 percent transit mode share - is higher than the urbanized County average. The estimated trip generation for LAX is based on the socio-economics of the transportation analysis zone in which it is located, including the number of employees. Since the airport is not represented in the model as a special generator, the estimates of trip making and mode choice do not reflect airport-user trips or the use of public transportation to and from LAX. If these trips were taken into account, the transit mode share in this zone would be higher.

Table 3.5: Current and Forecast Transit Mode Share

Sub-area	Current Transit Mode Share	Forecast Transit Mode Share	Forecast Percentage Increase in Mode Share
*Los Angeles County**	*8%*	*11%*	
Inglewood	14%	15%	7%
Crenshaw	12%	16%	**33%**
Mid-City	**21%**	**27%**	29%
Hawthorne	10%	12%	20%
LAX	9%	11%	22%

* Urbanized area

By 2015, the Corridor's high transit usage is projected to continue into the future, with the transit mode share increasing to an average of more than 21 percent as compared to 11 percent for the County's urbanized area. Transit usage in the northern portion of the Corridor (north of Slauson Avenue) is expected to increase by 69 percent, while the southern portion is projected to have a 27 percent increase in transit mode share. The Mid-City subarea will continue to have the highest percentage of transit utilization with a forecast 27 percent transit mode share. The Crenshaw subarea is projected to have the highest percentage increase in transit usage with a 33 percent growth in transit mode share. The other subareas also are forecast to have increases in transit usage maintaining their higher than average transit mode share. The Corridor's higher than average transit mode share is based on the current level of bus transit service and does not reflect the addition of a high capacity transit facility in the Crenshaw-Prairie Corridor.

3.1.2 Travel Demand

Given the 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 and outside 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, Market Street in Downtown Inglewood and Hawthorne Plaza.
- Patients, visitors and employees traveling to the Corridor's three medical centers - Daniel Freeman Memorial Hospital, Centinela Hospital and the Robert F. Kennedy Medical Center.
- Students attending education 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 regional transit connections to the bus and rail system including the Metro Red and Green Lines.

In general, current travel demand is greater in the northern portion of the Crenshaw-Prairie Corridor than in the southern portion of the Corridor. For trips that leave the Corridor, travel originating in the northern portion of the Corridor primarily occurs to destinations to the east such as Downtown Los Angeles, and west to West Los Angeles and Santa Monica. Trips in the southern portion of the Corridor are typically more oriented to destinations to the south such as the South Bay area and Southeast Los Angeles.

Based on LACMTA's travel forecasting model, approximately 64 percent of all Corridor-generated trips remain within the Crenshaw-Prairie Corridor. The majority of non-work trips, including school, shopping and recreational trips, stay within the Corridor. In contrast, a majority of work trips (80 percent) are to destinations outside the Corridor. Key work destinations for Corridor residents, in order of importance, are:

1. Downtown Los Angeles;
2. Southeast Los Angeles including Commerce, Vernon and South Gate;
3. Century City, Westwood and West Los Angeles;
4. South Bay;
5. Mid-City/Wilshire District; and
6. Santa Monica, Marina del Rey and LAX.

By 2015, Crenshaw-Prairie Corridor home-to-work trips are forecast to increase by approximately 25 percent with the distribution pattern of Corridor trips projected to remain predominately the same. Some intensification of internal Corridor trips between the northern and southern portions of the Corridor is forecast as development occurs and employment intensifies, particularly in the Hawthorne and LAX areas. Over 12 percent of the trips in the northern portion of the Corridor will continue to be oriented towards Downtown Los Angeles and another 14 percent to the area southeast of Downtown. Trips in the southern portion of the Corridor will continue to be oriented towards the South Bay and Southeast Los Angeles. An increase is forecast for travel between the southern portion of the Corridor and the West Los Angeles/Santa Monica area.

While a majority of the home-work trips originating within the Crenshaw-Prairie Corridor travel to destinations outside the Corridor, non-work trips are primarily to locations within the Corridor. These non-work trips, which include travel for school, shopping and recreation, are typically served by Corridor destinations. Based on the travel forecast model, of those non-work related trips which travel outside the Corridor area, the travel patterns are similar to the work destinations. Trips originating in the northern portion of the Corridor destinations are fairly evenly distributed between west (West Los Angeles, Santa Monica and Marina del Rey), east towards downtown Los Angeles, and southeast to the area south of Downtown, including Commerce, Vernon and South Gate. Trips in the southern portion of the Corridor are more heavily oriented towards the South Bay and the area southeast of Downtown.

3.1.3 Transportation System

This section describes the existing transportation system within the Crenshaw-Prairie Corridor that would be affected by the proposed project alternatives under consideration. The current Corridor transportation system can be characterized as heavily automobile-oriented with substantial bus transit usage. Severe congestion is experienced by automobile and bus transit users alike as many Corridor roadways operate at or over capacity during peak travel periods. Automobile drivers are negatively impacted by increased delays, while transit users must contend with slowing bus travel on the same congested street system.

Clearly, bus transit is dependent on the arterial street system, and the effectiveness of bus transit is severely impacted and constrained by traffic congestion which slows bus speed, decreases reliability, and leads to long journey times for bus patrons to reach their destinations.

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. As discussed in the following sections, with anticipated future population, employment and related daily trip growth and without future transportation system improvements, the Corridor will have:

- Continuing freeway congestion;
- Increasing arterial congestion;
- Continuing slowing of bus service; and
- Continuing poor connections to the regional transportation system.

Freeway Network

An extensive freeway system serving the Crenshaw-Prairie Corridor provides a high degree of access to areas throughout Los Angeles County and beyond. When operating effectively, this freeway network is capable of moving high volumes of vehicles. Figure 3.6 illustrates the portions of the existing freeway network within the Corridor study area:

- *I-10/Santa Monica Freeway* - Part of the east-west interstate freeway corridor connecting Los Angeles County with destinations to the east including the San Gabriel Valley and San Bernardino County. This freeway links the northern portion of the Corridor with Santa Monica, Westwood and Downtown Los Angeles.

- *I-405/San Diego Freeway* - Part of the northwest-southeast interstate freeway corridor connecting Los Angeles County with Orange and San Diego counties to the south and the Central Valley to the north. This freeway links the western portion of the Crenshaw-Prairie Corridor with the South Bay, West Los Angeles and the San Fernando Valley.

- I-105/Century Freeway - Part of the east-west interstate freeway system primarily serving the area of Los Angeles County located between the I-405 and I-710 Freeways. This freeway links the southern portion of the Corridor to the west with the South Bay area, and to the east to the Southeast Los Angeles and Norwalk area.

Caltrans uses Level of Service (LOS) estimates to assess the performance of the region's freeway system. Levels of Service A and B indicate free flow travel, while LOS C indicates the start of traffic congestion. Freeways operating at LOS D have traffic volumes that are beginning to approach capacity, but have not yet resulted in break down or unstable flow conditions. LOS E indicates traffic volumes that have reached capacity with unstable flow, and Level of Service F represents a break down in traffic flow caused by excessive demand, and is indicated by stop and go traffic congestion and significant delay. LOS F has been further broken down into four sub-categories designed to indicate the duration of the congestion as summarized in Table 3.6.

Table 3.6: Freeway LOS F Sub-Categories

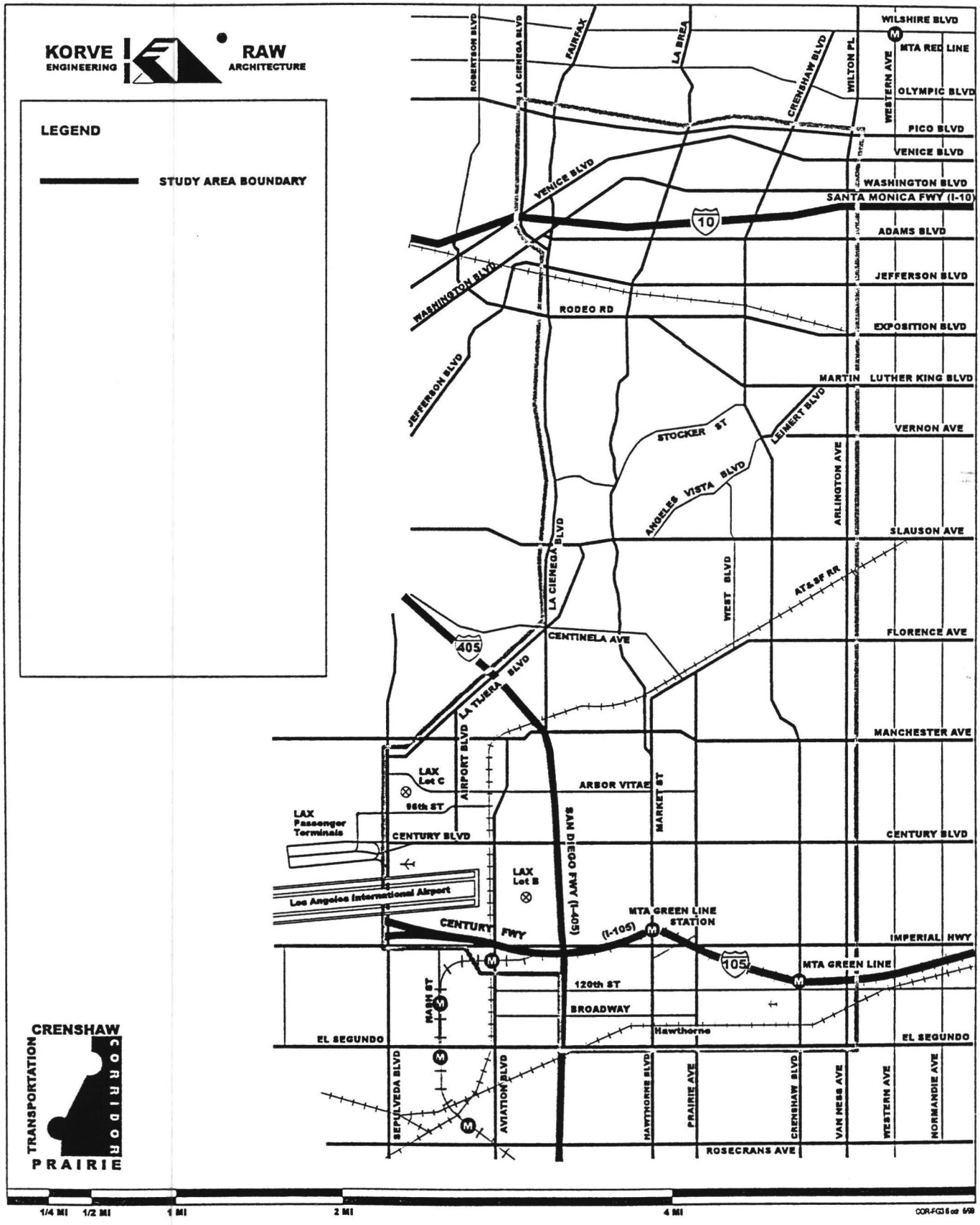
LOS	Congestion Duration
F0	15 minutes - 1 hour
F1	1 hour - 2 hours
F2	2 hours - 3 hours
F3	Greater than 3 hours

Source: Caltrans

Caltrans documents peak period congestion on an annual basis for the Los Angeles County Freeway system. The resulting maps are representative of operating conditions during peak hours on incident-free days. Caltrans defines an incident-free day as one on which operating conditions are not influenced by incidents such as accidents, disabled vehicles and lane closures. Incident-

Figure 3.6

Existing Freeway and Arterial Network



free days are estimated to occur approximately 50 percent of the time and as such represent a best case scenario for Corridor freeway congestion. Figures 3.7 and 3.8 illustrate the most recently available 1998 congestion levels of the freeways serving the Crenshaw-Prairie Corridor for the A.M. and P.M. peak periods respectively. Table 3.7 presents a summary of the typical peak period duration, while Table 3.8 identifies the peak period level of service and operating speed for the Corridor's freeway system.

Table 3.7: Typical Peak Hours of Congestion

Freeway/Direction		A.M. Peak Period	P.M. Peak Period
I-10	Eastbound	7:00 - 10:00	3:15 - 7:30
	Westbound	6:45 - 10:00	4:45 - 7:30
I-405	Northbound	6:45 - 10:00	5:30 - 7:45
	Southbound	7:30 - 8:15	4:15 - 7:00
I-105	Eastbound	--	3:00 - 6:45
	Westbound	6:45 - 9:00	--

Source: Caltrans, District 7

During the A.M. peak period, the freeways serving the Corridor typically operate at LOS F2 and F3 with two to more than three hours of congestion. The I-10/Santa Monica Freeway is the most congested and experiences peak period slowing in both travel directions. In the morning, the eastbound peak hour period is slightly shorter (three hours) with a typical operating speed between 20 and 35 mph, while the westbound side experiences more than three hours of congestion with speeds under 20 mph. The I-405/San Diego Freeway is primarily congested in the northbound direction as commuters travel to LAX, El Segundo, West Los Angeles and Santa Monica. The morning LOS for the I-405 ranges between F2 and F3 with two or more hours of congestion and operating speeds typically under 20 mph. The region's newest freeway - the I-105/Century Freeway - has the least congestion with morning congestion only in the westbound direction east of the I-405 between Crenshaw Boulevard and the I-110/Harbor Freeway. This freeway experiences approximately two hours of congestion with a typical operating speed of 20 to 35 mph.

During the P.M. peak period, the Corridor's freeways are congested for a longer period of time, but typically operate at a higher speed. The I-10 Freeway again experiences the most congestion with more than three hours of stop and go traffic in both directions operating at speeds ranging between 20 and 35 mph. Segments of the I-405 Freeway have significant congestion with operating speeds under 35 mph. As in the morning, the I-105 Freeway has congestion in only one direction - between Crenshaw Boulevard and the I-405. In the evening, the congestion lasts longer than three hours and results in a lower operating speed.

In summary, the Crenshaw-Prairie Corridor's freeway system exceeds capacity and experiences a significant level of congestion and delay:

- In the A.M. peak period, approximately 78 percent of the freeway system serving the Corridor operates at or below LOS F0, with the I-10/Santa Monica Freeway and large segments of the I-405/San Diego Freeway experiencing LOS F2 and F3.

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Figure 3.7

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

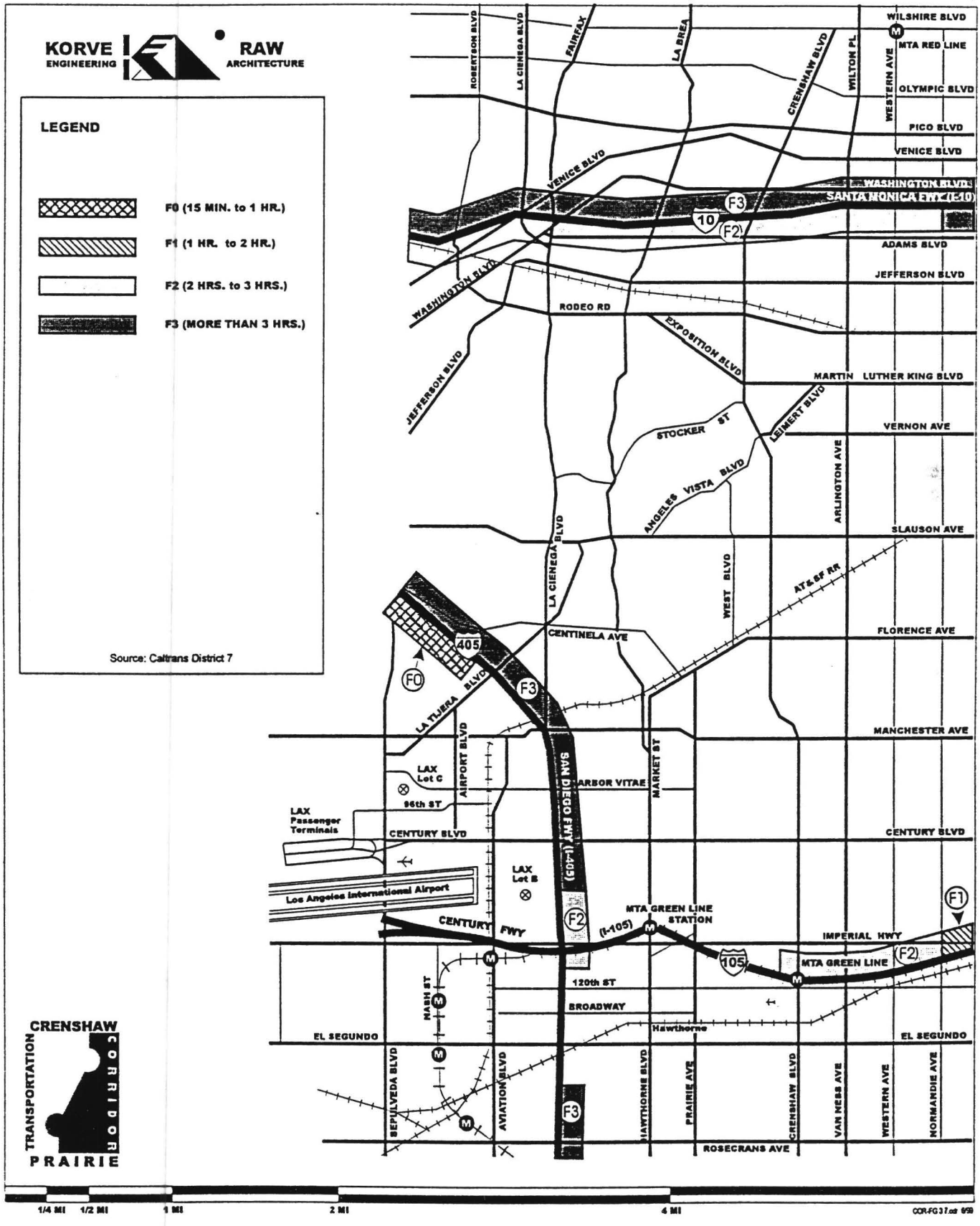

Figure 3.8

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

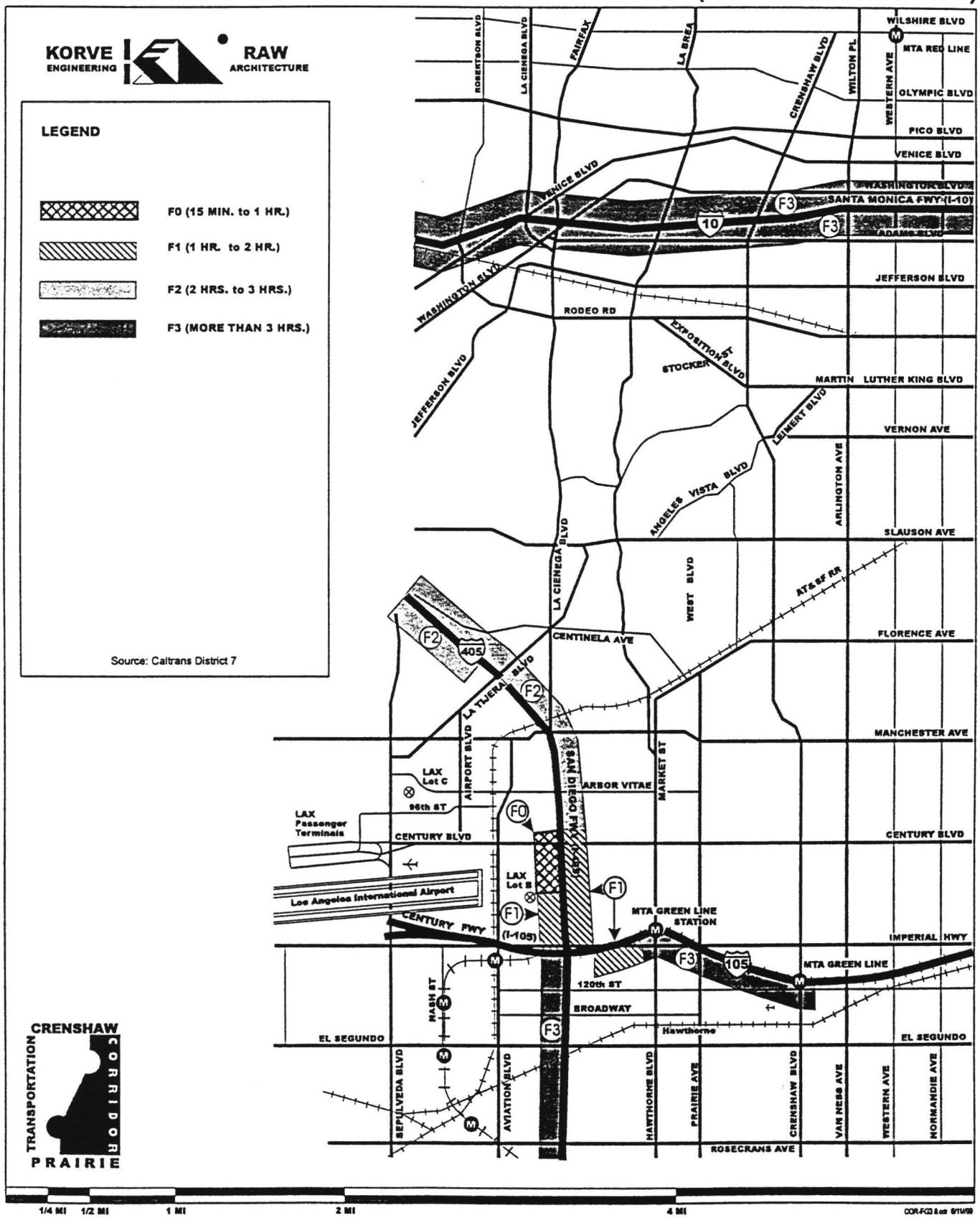

Table 3.8: Freeway System Peak Period Congestion

A.M. Peak Period			
Freeway	**Direction**	**Duration**	**Speed**
I-10/Santa Monica			
Eastbound (to Los Angeles)	EB	F2	20 - 35 mph - 85% Under 20 mph - 15%
Westbound (to Santa Monica)	WB	F3	20 - 35 mph - 30% Under 20 mph - 70%
I-405/San Diego			
North of La Tijera	NB	F3	20 - 35 mph - 30% Under 20 mph - 70%
South of La Tijera to I-105	NB	F3 - 90 % F2 - 10%	20 - 35 mph - 30% Under 20 mph - 70%
South of I-105	NB	F3	20 -35 mph
I-105/Century			
East of I-405	WB (segment)	F2 - 75% F1 - 25%	20 - 35 mph
West of I-405	–	–	–
P.M. Peak Period			
I-10/Santa Monica			
Eastbound	Both	F3	20 - 35 mph - 80% Under 20 mph - 20%
Westbound			
I-405/San Diego			
North of La Tijera	Both	F2	20 - 35 mph
South of La Tijera to I-105	Both	F2 - 50% F1 - 50%	20 - 35 mph - 50% Under 20 mph - 50%
South of I-105	SB	F3	20 - 35 mph - 50% Under 20 mph - 50%
I-105/Century			
East of I-405	EB (segment)	F3 - 90% F0 - 10%	20 - 35 mph - 60% Under 20 mph - 40%
West of I-405	–	–	–

Source: Caltrans, District 7

- In the P.M. peak period, approximately 92 percent of the Corridor's freeway system operates at or below LOS F0, with the I-10/Santa Monica and large segments of the I-405/San Diego and I-105/Century Freeways experiencing LOS F2 and F3.

It should be noted again that the system operations identified and discussed above represents incident-free days, and that 50 percent of the time freeway system operations are more severe. On incident-free days, the Corridor's freeways have the following operational delays:

- The I-10 Freeway experiences eastbound congestion for more than 7.25 hours and westbound congestion for over 6.25 hours a day, resulting in more than 13.5 hours of operations at under 35 mph.

- The I-405 Freeway has 5.5 hours of northbound congestion and 3.5 hours of southbound delay per day, resulting in more than 9.0 hours of operations at under 20 mph.

- The I-105 Freeway experiences 2.5 hours of westbound congestion in the morning and 3.75 hours of eastbound delay in the evening, resulting in more than 6.0 hours of constrained operations at under 35 mph.

By the year 2015, the only funds programmed for freeway infrastructure improvements in the Crenshaw-Prairie Corridor are for carpool-lane gap closure on the I-405 Freeway between the I-105 Freeway and the US-101/Ventura Freeway. While this improvement will help Corridor residents traveling to jobs in the West Los Angeles area, the project will primarily benefit drivers traveling through the Corridor. Even with infrastructure improvements, the region's freeway system serves only the edges of the study area and provides no north-south high-capacity transportation connection directly serving this heavily-traveled Corridor. Projections show more than 350,000 additional daily person trips will be generated in the Corridor by 2015. With 80 percent of the Corridor's residents traveling to work outside of the study area, it can be assumed that a large proportion of those trips will occur on the Corridor's freeway system with a corresponding increase in freeway congestion and delay.

Arterial Network

The Crenshaw-Prairie Corridor's arterial street system is illustrated in Figure 3.6. In the City of Los Angeles, street systems are typically arranged in a "grid" network, with major arterial streets spaced at approximately one mile intervals. A majority of the Corridor's arterial network is designed as a grid system except for the central portion of the study area. Here the street system is impacted by significant topographical changes which constrain the design and operations of the Corridor's street system. Covering more than 45 percent of the study area, this major hill system results in a non-grid street system with winding major streets and few minor streets, making circulation through the Corridor difficult. The resulting circuitous street system negatively impacts traffic operations as in many cases there is no nearby parallel street to allow for diversion of traffic in case of accidents or major congestion. Hilly terrain also precludes major east-west streets in the Corridor from Exposition Boulevard south to Manchester Avenue.

Another physical issue impacting the Corridor's arterial network is the existing constrained right-of-way for many of the streets, and primarily Crenshaw Boulevard. Running through a substantially

built-out community and with a sometimes winding street configuration, many of the Corridor's have resulted in narrow curb-to-curb widths for some segments of the Corridor's streets. Figure 3.9 shows the right-of-way and curb-to-curb widths of Crenshaw Boulevard and Prairie Avenue for the entire length of the Corridor. From Pico Boulevard to Venice Boulevard, Crenshaw Boulevard has a curb-to-curb width of 56 feet within a 90 feet of right-of-way. Along this heavily-traveled segment of Crenshaw Boulevard, there are two travel lanes in each direction. From Venice Boulevard south to Adams Boulevard, Crenshaw Boulevard's right-of-way is 100 feet with 80 to 84 feet of paved roadway width and two travel lanes in each direction. Parking prohibitions allow three lanes of travel in each direction during peak traffic periods. The widest points occur between Coliseum Street and Martin Luther King Boulevard and again between Vernon Avenue and Slauson Avenue. An important feature of the street itself is the extremely wide right-of-way in these segments, along with the use of frontage roads for parking on either side of the street. Between Martin Luther King Boulevard and Vernon Avenue, through the Leimert Park area, Crenshaw Boulevard again narrows to a street width of 70 to 78 feet within a 100-foot right-of-way, although still allowing for six travel lanes during peak traffic periods. ADD what the city requires for a major arterial for comparison

The performance of the arterial street network is typically measured in terms of intersection Level of Service (LOS). Current LOS was calculated for the major intersections in the study area using the Intersection Capacity Utilization (ICU) methodology. The thresholds which assign a letter value to the resulting LOS are shown in Table 3.9.

Table 3.9: Intersection Level of Service Criteria by ICU Methodology

LOS	Volume/Capacity Ration (V/C)
A	0-0.60
B	0.61 - 0.70
C	0.71 - 0.80
D	0.81 - 0.90
E	0.91 - 1.00
F	> 1.00

The Crenshaw-Prairie Corridor's arterial streets are typically designed to accommodate a medium to high traffic volumes (2,000 to 3,000 vehicles per hour per direction). Daily traffic volumes for the Corridor's north-south streets and east-west streets are illustrated in Figures 3.10 and 3.11 respectively. During peak periods, the current travel demand on the Corridor's roadway network exceeds the system's capacity in many places, resulting in considerable congestion during peak periods. As shown in Table 3.10 and on Figure 3.12, a majority of the study area intersections operate under constrained circumstances:

- 47 percent of the Corridor's intersection operate at LOS E or worse; and
- 84 percent of the Corridor's intersection operate at LOS D or worse.

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Figure 3.9
Curb-to-Curb and Right-of-Way Widths

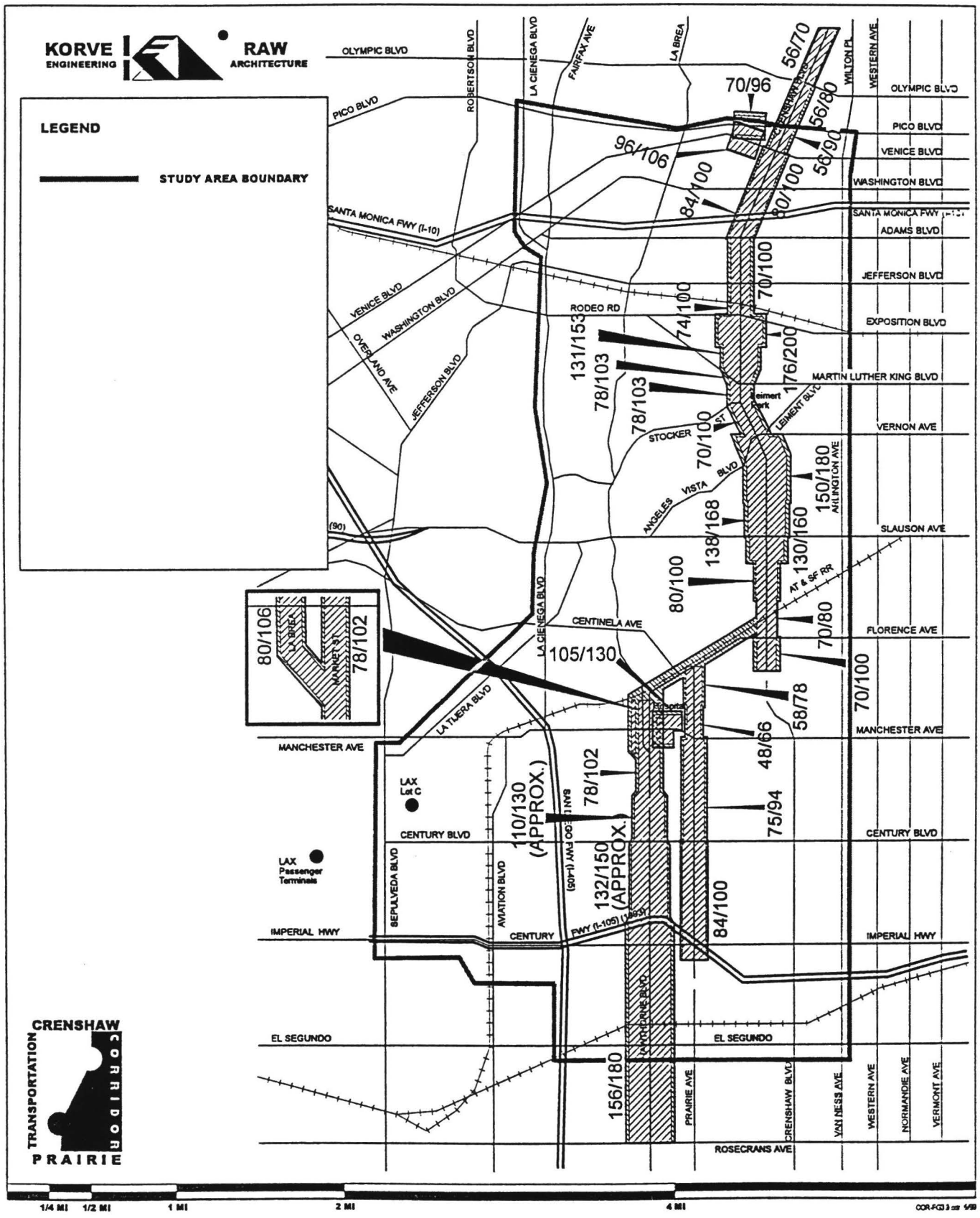

Figure 3.10

Daily Traffic Volume (North-South Streets)

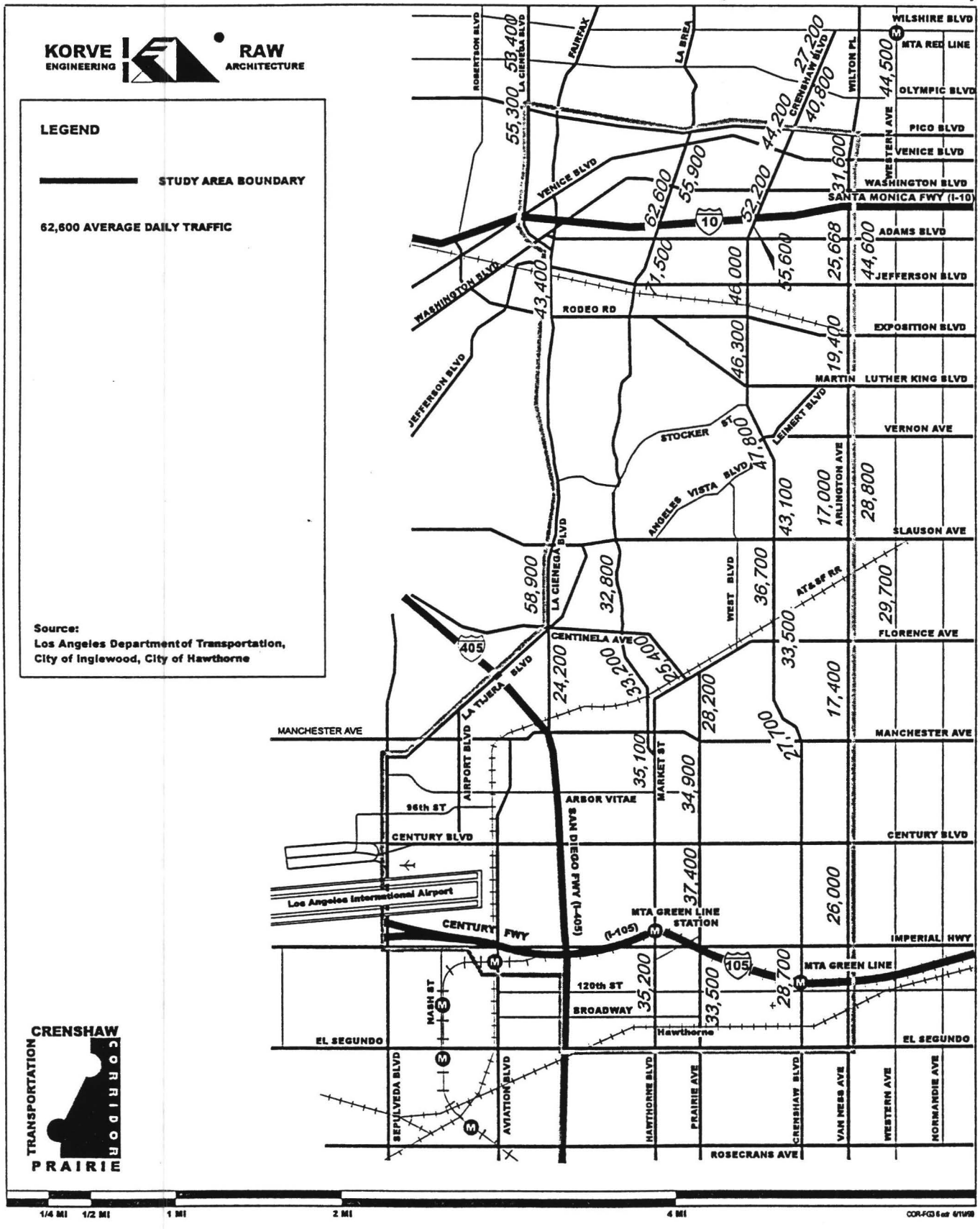

Table 3.10: Current Corridor Intersection Level of Service (PM Peak 1992)

LOS	Number of Intersections	Percentage of Intersections
B	2	11%
C	1	5%
D	7	37%
E	4	21%
F	5	26%

Following is a summary of existing traffic operations in several of the Corridor's subareas:

- *Mid-City Area* - An average traffic carrying capacity for this segment of Crenshaw Boulevard, which allows for reasonably uncongested travel, ranges from approximately 30,000 vehicles per day along the four-lane section at the north end to approximately 42,000 vehicles per day along the wider section south of I-10. The current traffic volumes along Crenshaw Boulevard are significantly in excess of this capacity. As a result significant congestion and delay occurs, particularly at signalized intersections during peak traffic periods .

- *Crenshaw Area* - Average daily traffic volumes along this segment of Crenshaw Boulevard south from Jefferson Boulevard range from 43,100 to 47,800 vehicles per day. With the provision of six lanes during peak periods, the average daily capacity of this roadway is approximately 36,000 to 42,000 vehicles per day. Again, daily traffic volumes are significantly in excess of the roadway carrying capacity. Arterial intersections along this segment currently operate at level of service D or worse in the P.M. peak period.

- *Inglewood Area* - Between Slauson Avenue and the AT & SF RR right-of-way, Crenshaw Boulevard carries approximately 36,700 vehicles per day. Average daily traffic volumes along Prairie Avenue range from 34,900 to 37,400 vehicles per day between the AT&SF RR right-of-way and Imperial Highway. Again, the volumes along these roadways, approach or exceed the average carrying capacity of the roadways. Intersections along both Crenshaw Boulevard and Prairie Avenue in this segment of the Corridor currently operate at level of service D or worse and congestion occurs during peak traffic periods.

- *Hawthorne Area* - The average daily traffic volumes along this segment of Prairie Avenue are approximately 33,500 vehicles per day. With a carrying capacity of approximately 28,000 to 32,000 vehicles per day, traffic volumes along Prairie Avenue presently approach and exceed the existing roadway capacity, operating at LOS D or worse. As a result congestion and delay occur, particularly at signalized intersections, during peak traffic periods. In this segment, average daily traffic volumes along Hawthorne Boulevard are approximately 35,200 vehicles per day. Although average daily traffic volumes along this roadway are within the capacity of the roadway, congestion occurs during peak traffic periods, particularly at intersections providing freeway access (El Segundo Boulevard, Rosecrans Avenue and Manhattan Beach Boulevard).

Crenshaw-Prairie Transportation Corridor
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Figure 3.11

Daily Traffic Volume (East - West Streets)

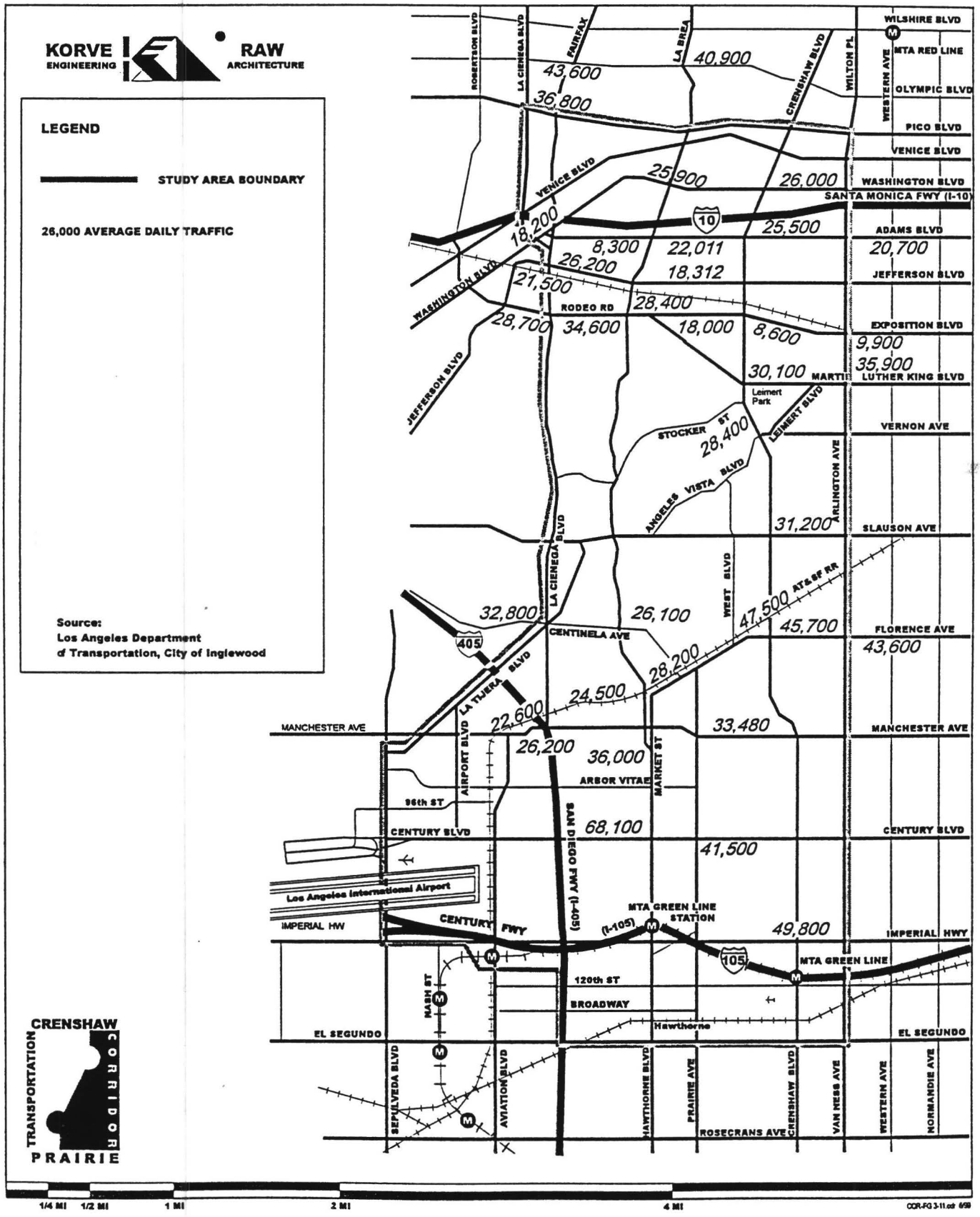


Table 3.11: Arterial Intersection Level of Service (PM Peak Period)

Intersection	Volume to Capacity Ratio	Level of Service
Crenshaw Blvd./Wilshire Blvd.	0.880	D
Crenshaw Blvd./Olympic Blvd.	1.13	F
Crenshaw Blvd./Pico Blvd.	0.990	F
Crenshaw Blvd./Adams Blvd.	0.895	D
Crenshaw Blvd./Jefferson Blvd.	0.877	D
Crenshaw Blvd./Exposition Blvd.	0.869	D
Crenshaw Blvd./MLK Blvd.	0.869	D
Crenshaw Blvd./Stocker Rd.	0.724	C
Crenshaw Blvd./Vernon Ave.	0.700	B
Crenshaw Blvd./Manchester Ave.	0.960	E
La Brea Ave./Jefferson Blvd.	0.885	D
La Brea Ave./Rodeo Rd.	1.045	F
Rodeo Rd./Martin Luther King Blvd.	0.675	B
La Brea Ave./Manchester Ave.	0.950	E
Prairie Ave./Manchester Ave.	0.927	E
Prairie Ave./Century Blvd.	0.812	D
Fairfax Ave./Jefferson Blvd.	0.972	E
Fairfax Ave./Rodeo Rd.	1.174	F
La Cienega Blvd./Venice Blvd.	1.187	F

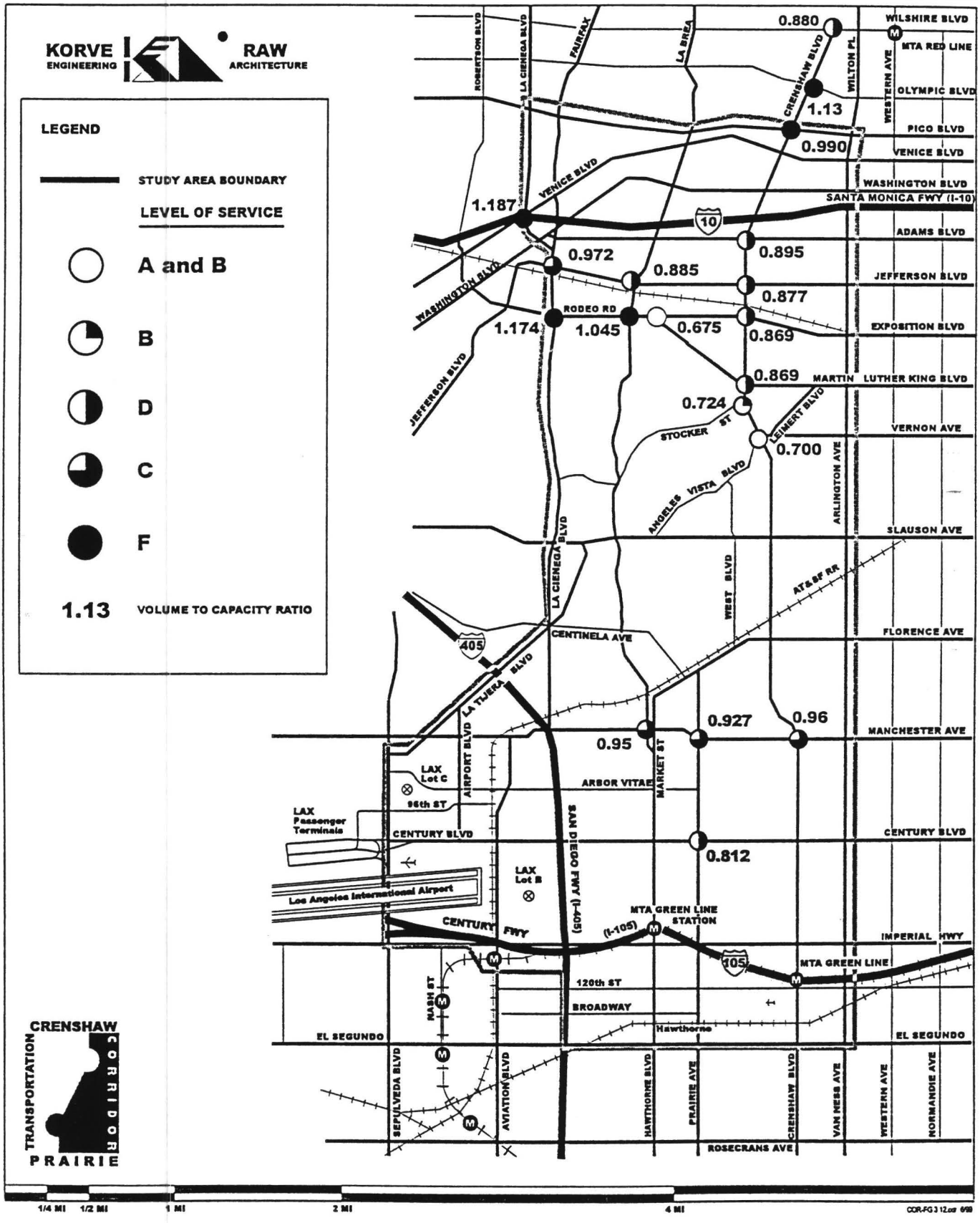
In summary, the Corridor's street system is experiencing significant congestion and delay. Current traffic volumes are substantially in excess of carrying capacity and 84 percent of the Corridor's intersections are operating at Level of Service D or below. There are no programmed capital projects for Corridor arterial roadway capacity improvements. With the projected substantial growth in daily person trips generated in the Corridor, increasing arterial congestion and delay will occur.

Transit Service

Currently, the Crenshaw-Prairie Corridor is well-served by bus transit operations, and many of the transit routes in the Corridor are heavily utilized. Almost every major and secondary arterial in the study area is served by at least one bus route as illustrated in Figure 3.13. Seven providers offer a combination of community-based, local, limited-stop and freeway-express service within the study

Figure 3.12

P.M. Peak Period Arterial Level of Service



area. Bus service providers include LACMTA, LADOT DASH, Santa Monica Municipal Bus Lines, Culver City Bus, Torrance Transit, Gardena Bus and Inglewood Transit. In summary, even with this high level of service, the challenges facing bus transit services in the Corridor include:

- Operational problems due to utilization of the congested freeway and arterial street system;
- Capacity issues due to high Corridor transit dependency;
- Poor regional transportation system connections; and
- Inability to attract the choice rider.

The effectiveness of Corridor bus transit operations is severely impacted by freeway and arterial congestion resulting in slower bus speeds, negative impacts on schedule adherence, a decrease in service reliability, and longer travel times. Bus service in congested conditions also typically has higher operational and maintenance costs. Operational cost increases are incurred with the addition of buses and drivers in an attempt to maintain the identified service schedule; higher maintenance costs result from the wear on the buses due to stop-and-go operations.

Many of the buses serving the Crenshaw-Prairie Corridor are beyond capacity due to the Corridor's higher than average transit ridership which is approximately double the mode split of the County's urbanized area. The Corridor's high number of low income households and households without an available automobile contribute to the heavy utilization of the existing bus transit service. Operating beyond capacity results in overcrowding, rider pass-bys and loading delays which result in uneven headways and related schedule adherence problems. Overcrowding also reduces the life of buses and contributes to higher maintenance costs.

In July, 1993, LACMTA published an *Inner City Transit Needs Assessment Study* for an area bounded by the I-10 Freeway on the north, the I-405 Freeway on the west, the I-105 Freeway on the south, and the I-110 Freeway on the east. The Inner City study area encompassed much of the Crenshaw-Prairie Corridor. The study found that the highest transit demand within the study area generally occurred in the north-south direction, with Vermont Avenue lines carrying the highest volumes (in excess of 5,000 daily riders in one direction) followed by Crenshaw Boulevard (4,000 to 5,000+ daily riders in one direction through the Crenshaw and Mid-City segments). The study also identified the need to improve both the level and quality of transit service both in the Corridor and in strengthening regional connections. The *Inner City Transit Needs Assessment Study* identified the following areas of mobility needs:

- Need for more direct and faster transit service from the study area into Downtown Los Angeles and other employment centers, as well as better access to county wide transportation options; and

- Relief from bus overcrowding including addressing: uneven service intervals due to over-crowding and operator problems with schedule adherence; greater security, cleanliness and comfort on the bus and at bus stops to minimize concerns related to crime, graffiti and other behavioral problems; and the need for convenient and affordable community transit service.

The study recommended transit service improvements such as the following:

- Decrease transit travel times;

Crenshaw-Prairie Transportation Corridor
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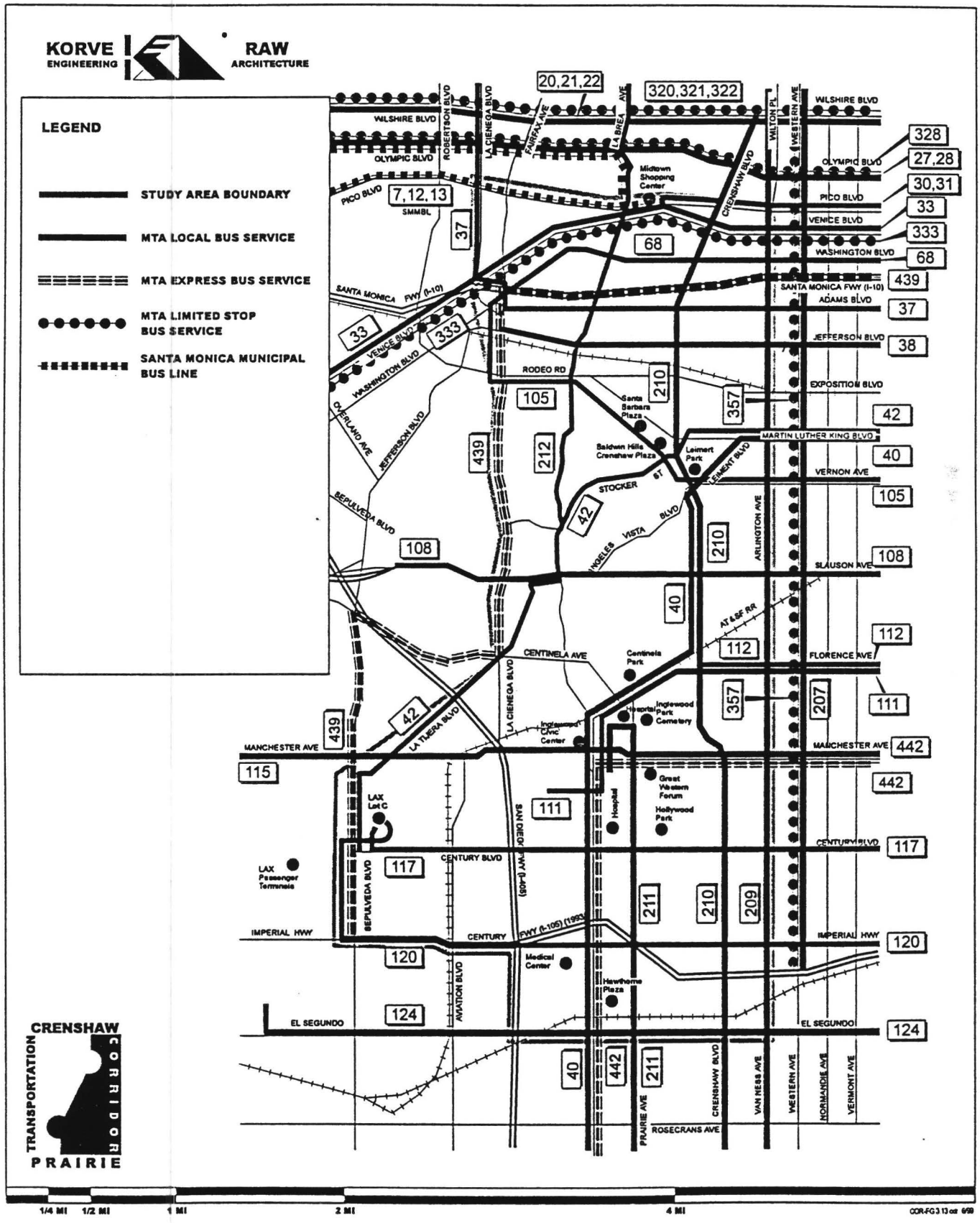
Figure 3.13
Existing Bus Service



- Increase service reliability including evaluating options that do not use the same congested street system as automobiles;
- Increase transit system capacity; and
- Improve connections to 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 Corridor will be significantly constrained. There is an urgent need to improve transportation mobility in the Corridor by improving both the level and quality of transit service both within and to destinations outside of the Corridor.

Regional Transportation System Connection

The lack of investment in the Corridor's transportation infrastructure has resulted in 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 period periods. Currently, 80 percent of Crenshaw-Prairie Corridor residents work outside of the study area. Access to employment opportunities has been exacerbated by the poor level of Corridor transportation connections to the regional transportation system being developed to serve local and regional employment centers. Corridor travelers have a limited choice in travel options - auto or bus transit - both utilizing the same congested freeway and arterial system. There is a demonstrated need for improved connections to regional job destinations, as well as better access to county-wide transportation options.

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

- Northern edge - I-10/Santa Monica Freeway and the future extension of the Metro Red Line;
- Southern edge - I-105/Century Freeway and the Metro Green Line; and
- Western edge - the I-405/San Diego Freeway.

There is no regional transportation system connection along the study area's eastern edge. The closest 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, the Corridor is isolated with no direct high-capacity connection to either the regional freeway or rail systems.

A future high-capacity transportation project within the Crenshaw-Prairie Corridor offers the potential to provide linkages to the regional transit system at a number of points, offering transfer opportunities and regional connections. These linkage opportunities include three major bus transfer centers (Venice/San Vicente, Downtown Inglewood and LAX); numerous local and regional bus lines crossing the Corridor; and several rail lines - the Metro Red Line, Metro Green Line and potentially the Exposition Boulevard right-of-way transit improvement. The regional rail system connection opportunities are illustrated in Figure 3.14. The Crenshaw-Prairie Corridor is one of five

rail transit projects which the LACMTA considers a candidate corridor which is still under consideration for future implementation if funding can be identified. The Corridor has a demonstrated high transit usage, which based on demographic forecast, is projected to continue and grow in the future. Although the Corridor has been substantially served by bus transit, residents have not been provided with direct access to the regional rail system.

3.1.4 Economic Development

From an economic development perspective, the Crenshaw-Prairie Corridor represents a diverse area of tremendous opportunity and challenge. For while the Corridor contains many significant employment destination, active retail centers and stable residential neighborhoods, it faces many existing and future economic challenges. The study area includes some of the lowest income neighborhoods 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 factors have resulted in increased unemployment, reduced incomes and the related decline of some of the Corridor's 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. Future plans are being identified and implemented for: LAX, Downtown Inglewood and Hawthorne, Hollywood Park, the Great Western Forum, the West Angeles Church, the Leimert Park area, the Baldwin Hills/Crenshaw Plaza, Mid-Town Shopping Center and Santa Barbara Plaza. All of these opportunities are dependent on the provision of much needed transportation system investment in the Corridor. This investment is viewed as not only improving Corridor mobility, but also serving as a catalyst for public and private investment as demonstrated elsewhere in the region. Section 3.7 below provides a detailed discussion of economic and land use issues in the Crenshaw-Prairie Corridor.

As identified in the discussion of economic development issues in Section 1.0, 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. Due to this shift in jobs, 80 percent of Corridor residents work outside the study area. The resulting impact on workers, but bus riders in particular, has been longer travel distances and travel times. Access to employment has been exacerbated by the poor level of Corridor transportation connections to the regional transportation system being developed to serve the existing employment centers. There is a demonstrated need for faster, more direct transit service from the study area to regional job destinations, as well as improved access to other regional transportation options. Future demographic projections show a substantial growth in employment opportunities primarily in the Mid-City, Inglewood and LAX subareas of the Corridor. In order to support that future job growth and related improved economic health of Corridor, need to improve regional connections into and within the Corridor.

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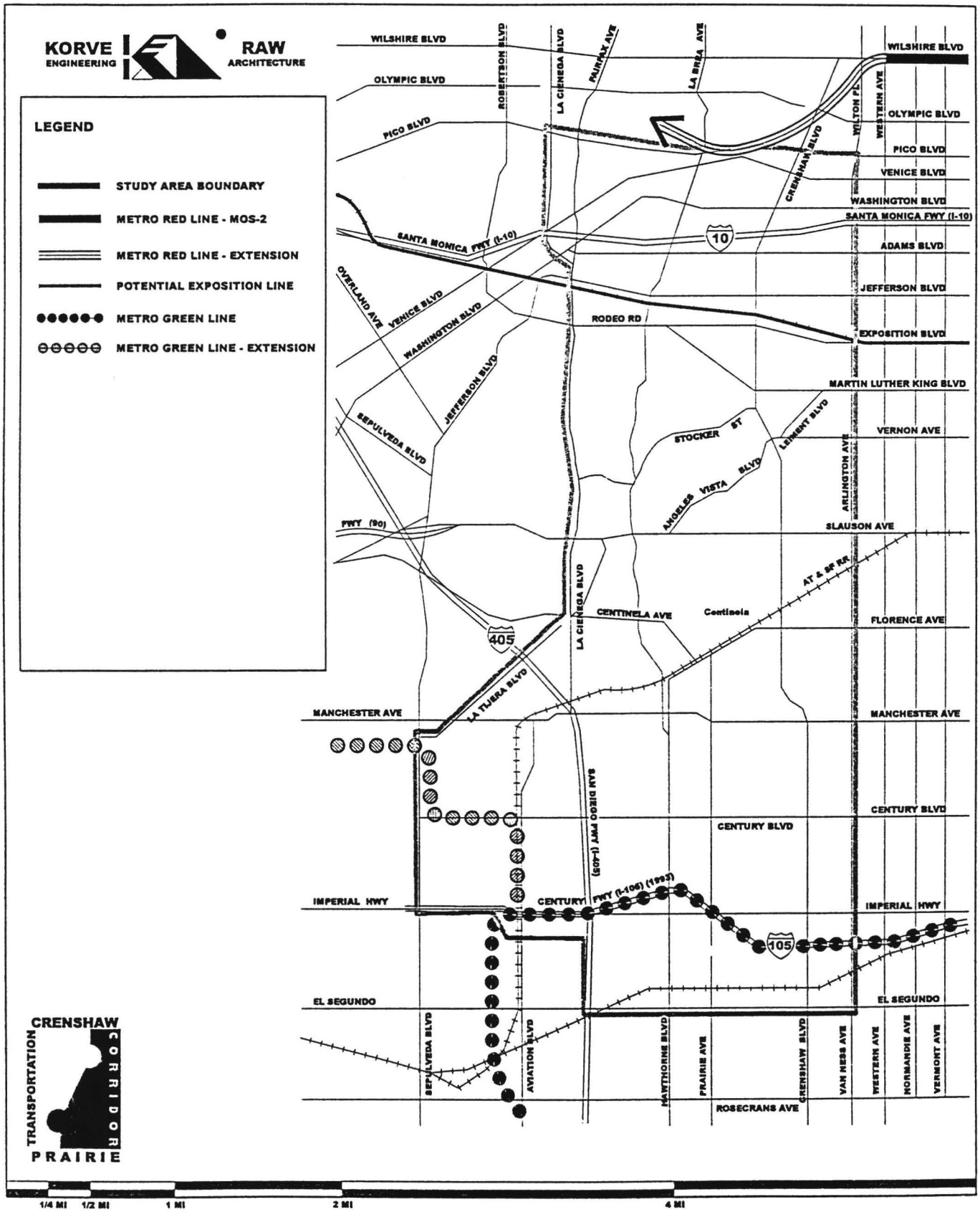
Figure 3.14

Planned and Proposed Rail Transportation Corridors



3.2 Detailed Description of Alternatives

Based on the three-step screening process described in Section 2.0, the following Initial Set of Major Investment Strategies was identified to be studied further through a preliminary technical analysis:

1. *No Build Alternative*

   This option, representing only those transportation improvements that are already programmed through the study year 2015, provides a baseline comparison for the other alternatives. These programmed Corridor improvements are included in each of the other alternatives.

2. *Transportation System Management (TSM) Alternative*

   This option provides a low capital cost option, increases the type and frequency of local bus transit services and provides some bus transit priorities on local major streets.

3. *Rail: Two Branch Option serving LAX (via the AT&SF right-of-way) and Hawthorne Plaza (via Prairie Avenue) - maximize at-grade operations (Figure 3.15)*

   This alternative would bring new rail transit service to the Crenshaw-Prairie Corridor, and provide a connection between the future Metro Red Line station at Venice/San Vicente Boulevards and one branch connecting west to LAX through Downtown Inglewood, and a second branch running south to Downtown Hawthorne connecting with the Metro Green Line. This alternative evaluated a primarily at-grade rail system.

4. *Rail: Two Branch Option serving LAX (via the AT&SF right-of-way) and Hawthorne Plaza (via Prairie Avenue) - minimize at-grade operations (Figure 3.16)*

   This alternative would essentially follow the same horizontal alignment as Alternative 3, but would minimize the use of at-grade rail service in favor of a primarily grade-separated system operating with segments of aerial and subway service.

5. *Rail: Century Boulevard Option - maximize at-grade operations (Figure 3.17)*

   This alternative would bring new rail transit service to the Corridor and would operate between the Metro Red Line station at Venice/San Vicente Boulevards and LAX. This alternative evaluated a primarily at-grade rail system.

6. *Rail: Century Boulevard Option - minimize at-grade operations (Figure 3.18)*

   This alternative would essentially follow the same horizontal alignment as Alternative 5, but would minimize the use of at-grade rail service in favor of a primarily grade-separated system operating with segments of aerial and subway service.

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Figure 3.15
Alternative 3: Two Branch Maximize At-Grade

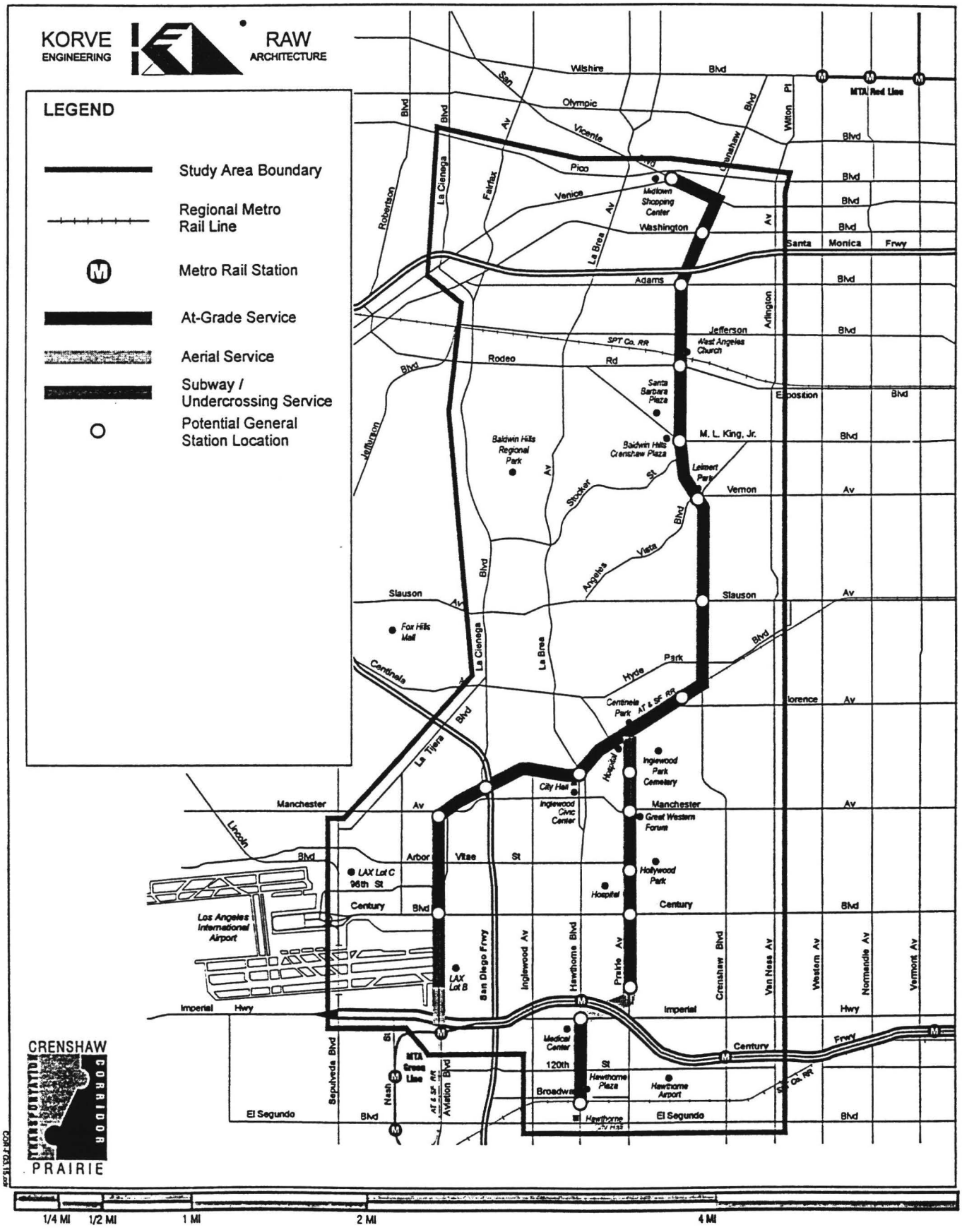


Figure 3.16

Alternative 4: Two Branch Minimize At-Grade

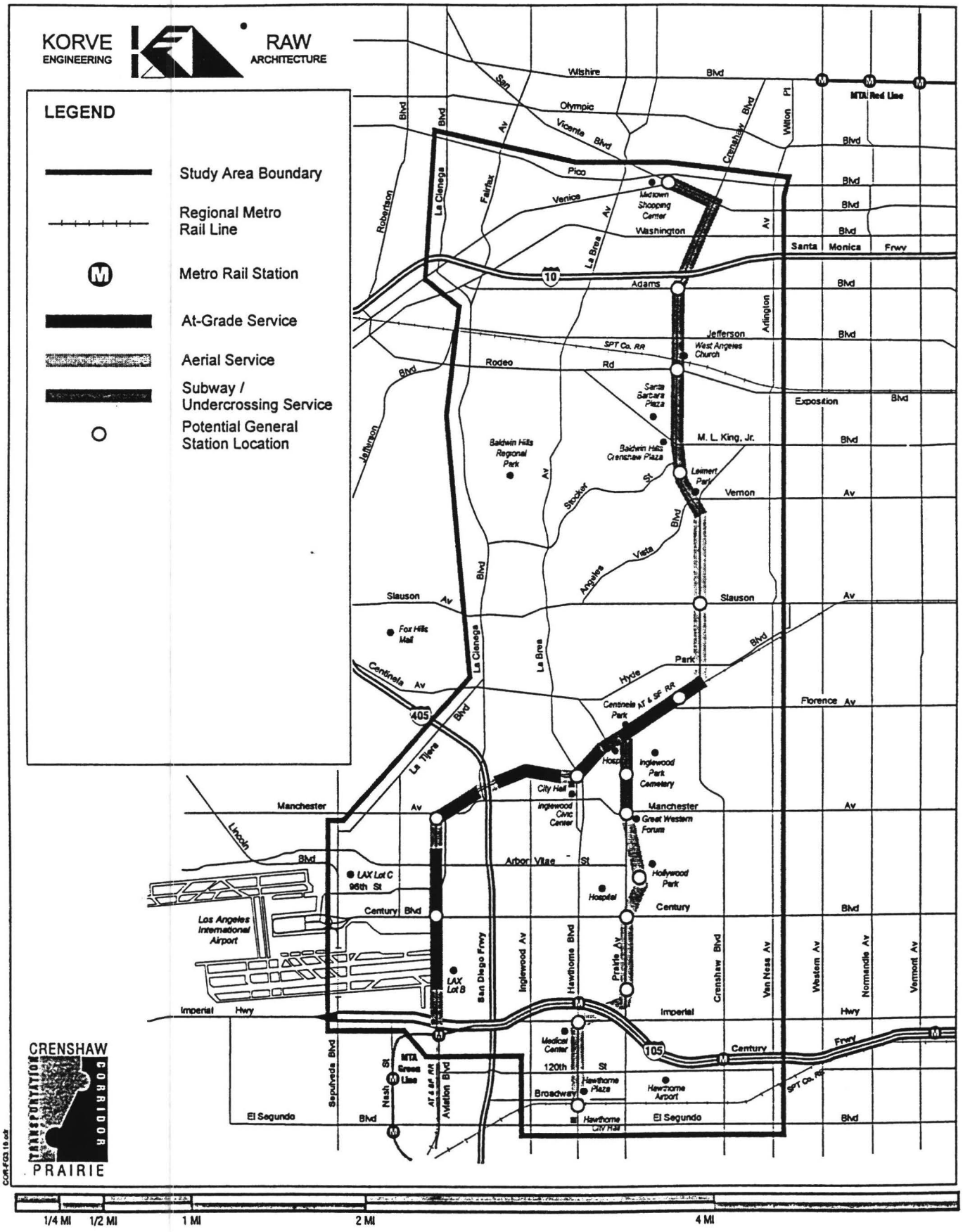


Figure 3.17

Crenshaw-Prairie Transportation Corridor
Major Investment Study

Alternative 5: Century Boulevard Option Maximum At-Grade

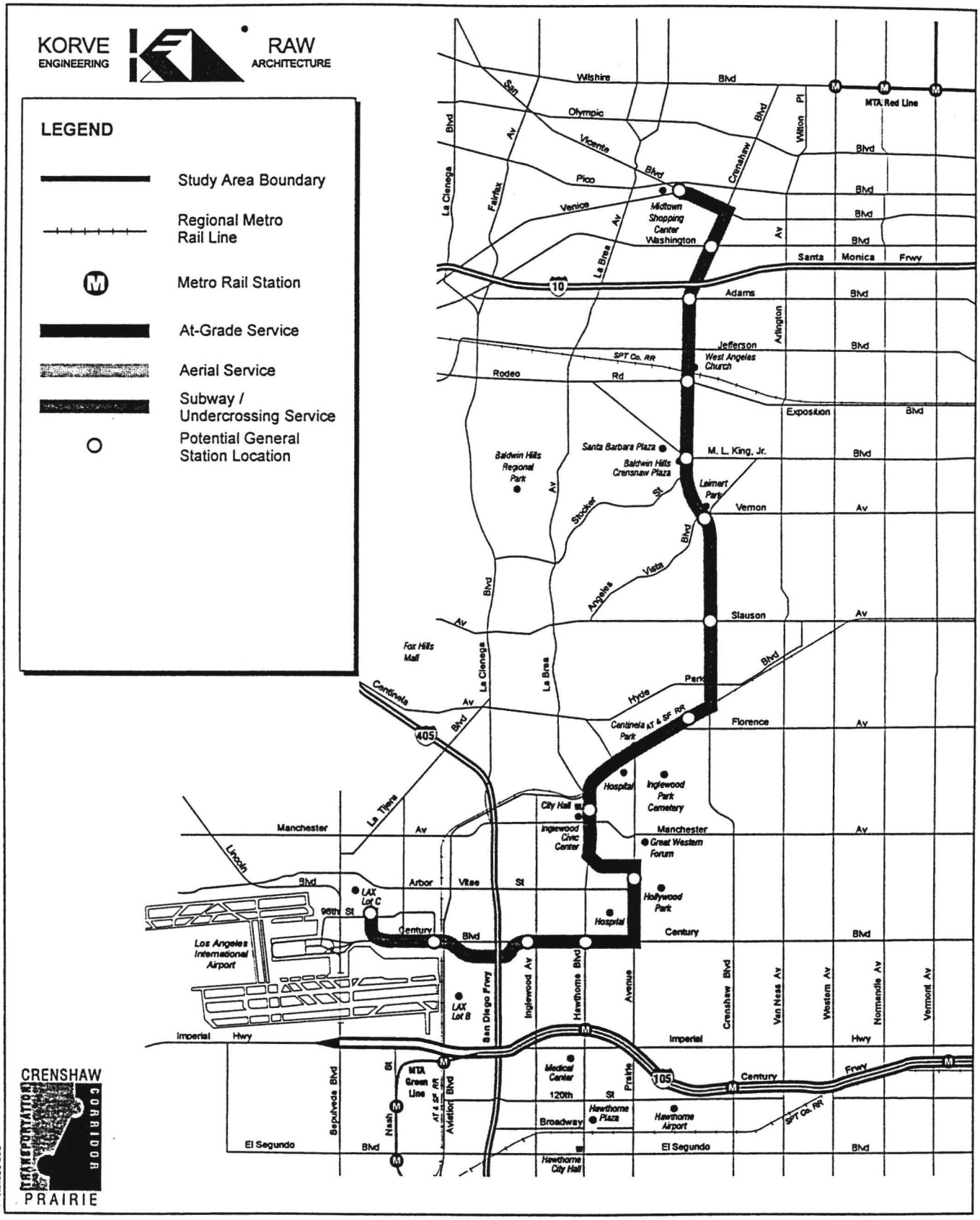
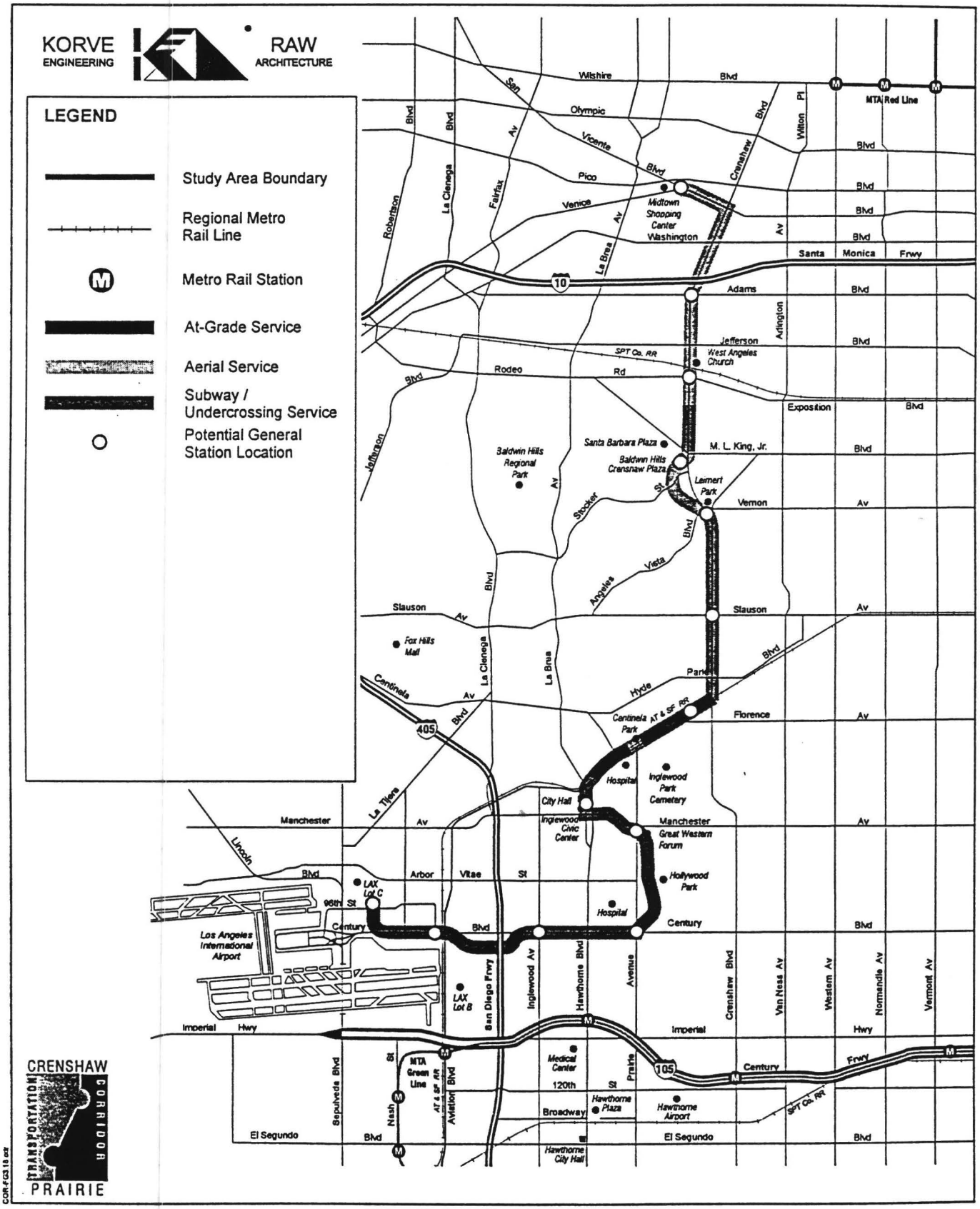


Figure 3.18

Alternative 6: Century Boulevard Option Minimum At-Grade



In formulating the two sets of rail alternatives described above, careful consideration was given to the study parameters of a rail system within the Crenshaw-Prairie Corridor. There was a recognized desire to serve as much of the Corridor and its activity centers as possible within recognized cost constraints. The analysis of the related service coverage and cost issues were framed in two ways:

- Evaluating the difference in service and costs between primarily at-grade and primarily grade-separated systems; and

- Defining the rail alternatives with one option (Century Boulevard Alternative) having a single alignment serving a majority, but not all, of the Corridor's activity centers, and a second option operating along two branches (Two Branch Alternative) providing maximized Corridor coverage.

Table 3.12 presents a system summary of the four rail alternatives included in the Initial Set of Major Investment Strategies, while Table 3.13 provides the vertical alignment description by segment of the four rail alternatives. The potential station locations listed in Table 3.14 were identified based on work performed during the Preliminary Planning Study and in this study process, through public outreach efforts.

Table 3.12: Overview of Initial Set of Rail Investment Strategies

	Alternative 3 Two Branch Maximize At-Grade	Alternative 4 Two Branch Minimize At-Grade	Alternative 5 Century Blvd. Maximize At-Grade	Alternative 6 Century Blvd. Minimize At-Grade
At-Grade (miles)	12.0	3.3	9.3	1.4
Aerial (miles)	0.3	8.9	2.0	7.1
Subway (miles)	2.3	2.4	0.0	3.1
Total (miles)	14.6	14.6	11.3	11.7
Number of Stations	19	16	14	14

The four rail alternatives are discussed in the context of the four main Crenshaw-Prairie Corridor segments:

1. *Crenshaw Boulevard* - Common to all alternatives, this segment runs from a northern station integrated with the future Metro Red Line Venice/San Vicente Station south along Crenshaw Boulevard to the former Atkinson, Topeka and Santa Fe Railroad right-of-way (AT&SF RR ROW) now owned by LACMTA at West Boulevard.

2. *AT&SF RR ROW* - The first portion of this segment is common to all four alternatives, but is used in its entirety only by Alternatives 3 and 4 (Two Branch options). The railroad right-

Table 3.13: Description of Initial Set of Rail Alternatives

		Alternative 3 Two Branch Maximize At-Grade	ALT 4 Two Branch Minimize At-Grade	ALT 5 Century Blvd. Maximize At-Grade	ALT 6 Century Blvd. Minimize At-Grade
A	**Crenshaw Boulevard**				
A-1	Venice/San Vicente Metro Red Line Station to Crenshaw/Adams	At-grade	Subway w/aerial	At-grade	Subway
A-2	Crenshaw/Adams to Crenshaw/Vernon	At-grade	Aerial w/subway	At-grade	Subway w/aerial
A-3	Crenshaw/Vernon to Crenshaw/AT&SF ROW	At-grade	Aerial	At-grade	Aerial
B	**AT&SF Railroad Right-of-Way**				
B-1	Crenshaw/AT&SF ROW to AT&SF ROW/Market or La Brea	At-grade	At-grade w/subway	At-grade	At-grade w/subway
B-2	AT&SF ROW/Market or La Brea to Century/ Aviation	At-grade	At-grade w/aerial	–	–
C	**Prairie/Hawthorne**				
C-1	AT&SF ROW to Prairie/Manchester	Subway	Subway	–	–
C-2	Prairie/Manchester to Prairie/111th	At-grade	Aerial	–	–
C-3	Prairie/111th to Hawthorne/Imperial	Aerial	Aerial	–	–
C-4	Hawthorne/Imperial to Hawthorne/El Segundo	At-grade	Aerial	–	–
D	**Century**				
D-1	AT&SF ROW/Market or Queen to Prairie/Manchester	–	–	At-grade	Aerial
D-2	Prairie/Manchester to Prairie/Century	–	–	At-grade	Aerial
D-3	Prairie/Century to Century/Inglewood	–	–	At-grade	Aerial
D-4	Century/Inglewood to LAX Lot C	–	–	Aerial	Aerial

Table 3.14: Potential Station Locations

Alternative 3 Two Branch Option Maximize At-Grade	Alternative 4 Two Branch Option Minimize At-Grade
1. Venice/San Vicente 2. Crenshaw/Washington 3. Crenshaw/Adams 4. Crenshaw/Exposition 5. Crenshaw/King 6. Crenshaw/Vernon 7. Crenshaw/Slauson 8. AT&SF ROW/West LAX Branch: 9. AT&SF ROW/La Brea (Downtown Inglewood 10. AT&SF ROW/La Cienega 11. AT&SF ROW/Manchester 12. Aviation/Century Hawthorne Branch: 13. Prairie/Grace (Daniel Freeman Hospital) 14. Prairie/Manchester (Great Western Forum) 15. Prairie/Hollywood Park (event only) 16. Prairie/Century 17. Prairie/111th 18. Hawthorne/Imperial 19. Hawthorne/El Segundo	1. Venice/San Vicente 2. Crenshaw/Adams 3. Crenshaw/Exposition 4. Crenshaw/Stocker (Baldwin Hills/Crenshaw Plaza and Leimert Park) 5. Crenshaw/Slauson 6. AT&SF ROW/West LAX Branch: 7. AT&SF ROW/La Brea (Downtown Inglewood) 8. AT&SF ROW/Manchester 9. Aviation/Century Hawthorne Branch: 10. Prairie/Grace (Daniel Freeman Hospital) 11. Prairie/Manchester (Great Western Forum) 12. Prairie/Hollywood Park (event only) 13. Prairie/Century 14. Prairie/111th 15. Hawthorne/Imperial 16. Hawthorne/El Segundo
Alternative 5 Century Boulevard Maximize At-Grade	**Alternative 6 Century Boulevard Minimize At-Grade**
1. Venice/San Vicente 2. Crenshaw/Washington 3. Crenshaw/Adams 4. Crenshaw/Exposition 5. Crenshaw/King 6. Crenshaw/Vernon 7. Crenshaw/Slauson 8. AT&SF ROW/West 9. Market/Queen 10. Prairie/North of Arbor Vitae (Great Western Forum/Hollywood Park) 11. Century/Hawthorne 12. Century/Inglewood 13. Century/Aviation 14. LAX Parking Lot C	1. Venice/San Vicente 2. Crenshaw/Adams 3. Crenshaw/Exposition 4. Crenshaw/King 5. Crenshaw/Vernon 6. Crenshaw/Slauson 7. AT&SF ROW/West 8. La Brea/Queen 9. Prairie/Manchester Great Western Forum) 10. Prairie/Hollywood Park (event only) 11. Century/Prairie 12. Century/Inglewood 13. Century/Aviation 14. LAX Parking Lot C

of-way runs from West Boulevard west and then south to Aviation Boulevard adjacent to LAX.

3. *Prairie Avenue/Hawthorne Boulevard* - Utilized by Alternatives 3 and 4, this segment runs south along Prairie Avenue from the AT&SF RR ROW over the I-105/Century Freeway to Hawthorne Boulevard and south to El Segundo Boulevard in Downtown Hawthorne.

4. *Century Boulevard* - Utilized by Alternatives 5 and 6 (Century Boulevard options), this segment runs south from the AT&SF RR ROW along either Market Street or La Brea Avenue to Prairie Avenue and then west on Century Boulevard to LAX.

These four main Corridor segments are further detailed as the subareas presented in Table 3.13 to further clarify the differences between the four rail alternatives which include:

- *Horizontal or route alignment variations* - Alternatives 3 and 4 evaluate a two branch alignment option providing service west to LAX and south to Downtown Hawthorne, while Alternatives 5 and 6 assess providing service through Downtown Inglewood and then west along Century Boulevard to LAX;

- *Vertical or system operational variations, including subway, elevated or at-grade service*- Alternatives 3 and 5 evaluate primarily at-grade systems, while Alternatives 4 and 6 assess predominately grade-separated systems incorporating sections of both elevated and subway service; and

- *Station variations, both in the number and the location of potential stations* - While all of the rail alternatives explore how to best serve key Corridor destinations, there are different benefits and impacts of at-grade and grade-separated systems. With a lower system cost, at-grade rail systems typically allow for more stations providing additional assess to Corridor destinations, but resulting in a slower average operational speed. The more costly grade-separated system options typically result in fewer stations, but provide a higher travel speed and reduced travel times balancing local access and regional connectivity.

This level of analysis provides a preliminary assessment of how a rail system would be best accommodated within the existing Crenshaw-Prairie Corridor. Constructing a passenger rail system can be typically constructed along existing railroad rights-of-way or wide streets, particularly those with a center median, with minimal traffic and community impacts. The challenge lies in integrating a new passenger rail system into the areas of the Corridor with narrower, heavily-used streets. The following cross-sections illustrate the major community and traffic trade-offs to be evaluated in determining the optimal location of future rail service. Figure 3.19 presents the at-grade system alternatives and associated issues:

- *Build within the existing street right-of-way* - Locate the system in a median configuration or within curb lanes, taking traffic lanes and/or parking, while minimizing impacts on adjacent residential and retail buildings; or

- *Build the system outside the existing street right-of-way* - Locate the system outside of the street system by taking adjacent property, avoiding traffic and parking impacts, while providing future development opportunities.

For at-grade systems, building within the existing street right-of-way preserves adjacent buildings, but results in a significant loss in traffic capacity. Building outside of the existing street right-of-way preserves traffic capacity, but requires property takes which may have significant community impacts, or may provide future transit-oriented redevelopment opportunities.

Figure 3.19 also shows how an aerial rail system would fit into the existing community. While a grade-separated system does minimize impacts on traffic capacity and adjacent properties, it would result in scale, visual, noise and shadow impacts on existing buildings that would need to be addressed.

The resulting Initial Set of Alternatives was evaluated through a preliminary technical analysis to identify a final set of the most viable transportation investment strategies for the Crenshaw-Prairie Corridor. In this level of analysis, the identified alternatives were evaluated against the evaluation criteria identified in Task 2.2, *Initial Set of Evaluation Criteria*, and organized into four major categories:

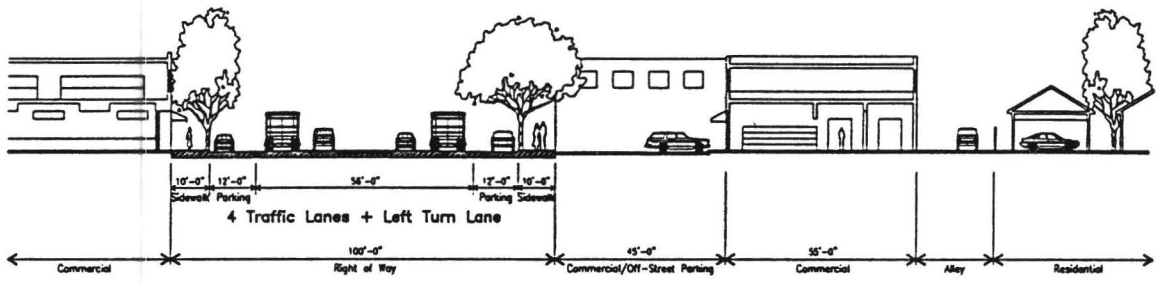
1. *Travel and Mobility Benefits* - Measures of transit system efficiency, speed usage and connectivity.

2. *Financial Considerations* - Costs including capital, operating and maintenance needs.

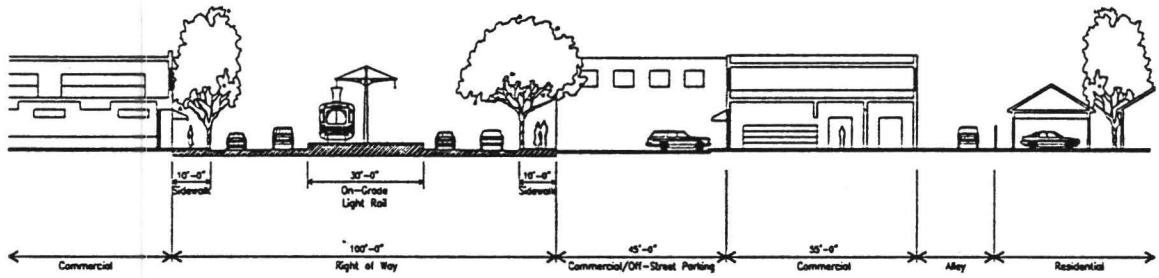
3. *Environmental Impacts* - Community impacts including noise/vibration, visual/aesthetic, historic/cultural, parks/recreation, traffic/parking and community disruption/displacement impacts.

4. *Economic and Land Use Considerations* - Number of low income households and Corridor activity centers served, as well as resulting Corridor economic development activity.

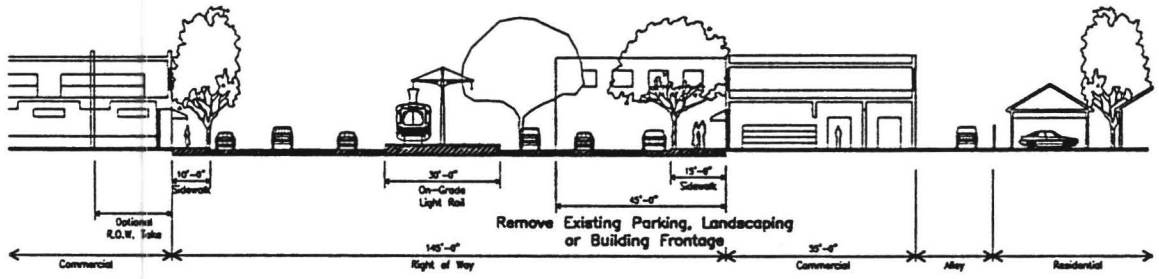
This set of criteria provided an analytical framework presenting the impacts and benefits of each alternative, as well as the differences between the alternatives. In addition to the technical work, public input on the options was provided through an Interagency Task Force and focused public outreach. The results of this technical analysis is documented in MIS Task 4.1, *Development of the Final Set of Major Investment Strategies*, and is summarized in the following sections.



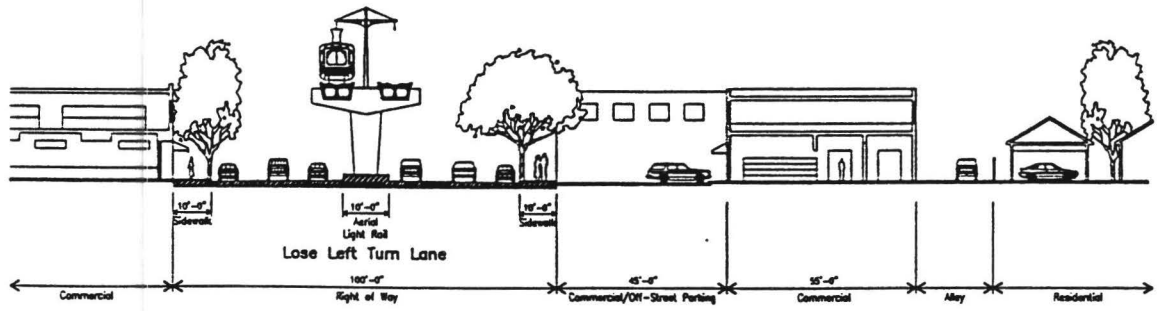
Existing Conditions



Option 1: At-Grade – Reduce traffic Lanes to Preserve Right Of Way



Option 2: At-Grade – Take Right of Way (Widen Street) to Retain Traffic Lanes and Capacity



Option 3: Aerial Structure – To Minimize Need to Take Traffic Lanes or Right of Way

3.3 Travel and Mobility

At this level of preliminary technical analysis, Corridor travel and mobility benefits for each of the Initial Set of Alternatives were measured by five key factors: average operating speed, travel time savings, regional connectivity, range of transportation alternatives and potential patronage. The analytical results are summarized in Table 3.15 and discussed in detail in the following sections. An option was given a "High" ranking if there was a major benefit; a medium designation indicated some minor benefit and Low indicates Minimal or No benefit.

Table 3.15: Summary of Travel and Mobility Benefits

	No Build	TSM	Alt. 3 Two Branch Maximize At-Grade	Alt. 4 Two Branch Minimize At-Grade	Alt. 5 Century Bl. Maximize At-Grade	Alt. 6 Century Bl. Minimize At-Grade
Length (Miles)	NA	NA	14.6	14.6	11.3	11.7
Travel Time Savings	Base	Medium	Medium	High	Low	Medium
Average Operating Speed (mph)	Base 10.0[1]	Low 10.5	Medium 22.6	High 29.4	Medium 20.5	High 27.9
Regional Connectivity	Base	Low	High	High	Medium	Medium
Range of Transportation Alternatives	Base	Low	High	High	High	High

[1] Source: LACMTA, projected average system-wide bus speed in 2015. LACMTA Line 210 (Crenshaw Boulevard) currently operates at 12.5 mph.

3.3.1 Operating Speeds

Operating speeds have been identified for the TSM and rail alternatives and then been compared to the No Build baseline alternative as presented in Table 3.15. Rail system operating speeds were estimated using a train performance model based on actual Metro Blue Line vehicle performance. While new rail vehicles will have higher top speeds than the existing Blue Line trains (65 mph versus 55 mph), the combination of the proposed fairly close station spacing and tight curve restrictions in the Corridor are projected to constrain the operating speed to be attained in most of the Corridor segments. Resulting rail operating speeds have been framed by the following system design issues:

- Alternatives 3 and 5 are proposed to be primarily at-grade systems running along Corridor streets and existing railroad rights-of-way. Street operating speeds will be constrained by traffic conditions. Depending on the area, trains would be programmed to operate with the traffic signal progression along the street or would use signal pre-emption.

- Alternatives 4 and 6 are proposed to be primarily grade-separated systems operating predominately in aerial or subway rail service. Operating speeds would be limited only by station spacing and alignment curve restrictions. For sections where the alternatives run at-grade along the AT&SF RR ROW, full priority for train service has been assumed at the few at-grade crossings.

The analytical results presented above in Table 3.15 and below in Table 3.16 show that all of the rail alternatives to have higher estimated operating speeds than the No Build and TSM alternatives, as increased arterial congestion negatively impacts future bus operational speeds. Currently, LACMTA Bus Line 210 operating on Crenshaw Boulevard has an average operating speed of 12.5 mph. This speed is projected to further decrease to 10.5 mph by the year 2015. Among the rail options, Alternatives 4 and 6, which minimize at-grade operations, are projected to operate at the highest overall system speeds. Alternative 4 is the faster of the two grade-separated options with an average end-to-end speed of 29.4 mph compared to 27.9 mph for Alternative 6. Of the two at-grade options, Alternative 3 is the faster option with an average speed of 22.6 mph compared to 20.5 mph for Alternative 5. The following discussion summarizes the operating speeds of each of the rail alternatives:

- *Alternative 3: Two Branch Option serving LAX (via the AT&SF RR ROW) and Hawthorne Plaza (via Prairie Avenue) - Maximize At-Grade Operations.* With an estimated average operational speed of 22.6 mph, Alternative 3 is the faster at-grade option and the third fastest alternative in the initial set of alternatives. Speeds for this alternative range from a low of 15 mph as the at-grade system turns from Venice Boulevard on to Crenshaw Boulevard to a high of 65 mph along the AT&SF RR ROW between Florence Avenue and the Aviation/ Century station. Approximately 32 percent of this alternative has a maximum speed of 55 mph or faster.

- *Alternative 4: Two Branch Option serving LAX (via the AT&SF RR ROW) and Hawthorne Plaza (via Prairie Avenue) - Minimize At-Grade Operations.* With a projected average operational speed of 29.4 mph, primarily grade-separated (77 percent) Alternative 4 is the fastest option in the Initial Set. Speeds for this alternative range from a low of 25 mph as the northern subway segment curves from Venice Boulevard on to Crenshaw Boulevard to a high of 65 mph along the AT&SF RR ROW. Approximately 58 percent of this alternative would operate at 55 mph or faster.

- *Alternative 5: Century Boulevard serving LAX - Maximize At-Grade Operations.* With an estimated average operational speed of 20.5 mph, Alternative 5 improves on bus service speeds, but is the slowest rail option. Speeds for this alternative range from a low of 15 mph as the at-grade rail system turns from Venice Boulevard south on to Crenshaw Boulevard, and at the curve from the AT&SF RR ROW on to Market Street in Downtown Inglewood. Slower system speeds would also be experienced along the mixed-flow operations on Market Street. The highest speed of 55 mph would be experienced along the small segment of the AT&SF RR ROW before it turns south to serve Downtown Inglewood. A majority of this alternative runs at 30 mph or less with only nine percent of the alignment operating at 55 mph. This option never reaches 65 mph.

- *Alternative 6: Century Boulevard serving LAX - Minimize At-Grade Operations.* With an estimated average operational speed of 27.9 mph, primarily grade-separated Alternative 6 is the second fastest option in the Initial Set. Maximum speeds for this alternative range from a low of 25 mph as the northern subway segment curves from Venice Boulevard south on to Crenshaw Boulevard to a high of 55 mph along Crenshaw Boulevard and a small portion of the AT&SF RR ROW. Only 43 percent of this option has a potential maximum speed of 55 mph. This option never operates at 65 mph as does Alternative 4.

Table 3.16: Summary of Maximum Rail Operating Speeds[1] (Percentage of Alternative Alignment)

	Alternative 3 Two Branch Maximize At-Grade	**Alternative 4** Two Branch Minimize At-Grade	**Alternative 5** Century Blvd. Maximize At-Grade	**Alternative 6** Century Blvd. Minimize At-Grade
30 mph and below	56%	0.7%	72%	8%
35 mph and higher	44%	99%	28%	92%
45 mph and higher	40%	89%	18%	75%
55 mph and higher	32%	58%	9%	43%

[1] Actual speeds will be lower than maximum speeds where the train is accelerating or decelerating near stations.

3.3.2 Travel Time Savings

Travel time savings have been estimated for the TSM and rail alternatives based on proposed station spacing or bus priority treatments and resulting projected operating speeds. The resulting travel times were then compared to the No Build baseline alternative. As presented below in Table 3.17, Corridor travel times were identified for the following four major origin and destination pairs:

1. Venice/San Vicente (northern terminus) to Hawthorne Plaza (southern terminus);
2. Venice/San Vicente to Los Angeles International Airport (western terminus);
3. Crenshaw Plaza to Downtown Los Angeles (7th/ Flower Station); and
4. Crenshaw/Slauson Station to the Metro Green Line El Segundo Station.

Table 3.17 illustrates the following findings about the alternatives:

- With implementation of the proposed bus service and priority treatment improvements, the TSM Alternative would provide travel time savings for most bus trips over the No Build baseline scenario. But even with priority treatment, future bus service improvements would be negatively impacted due to projected increased arterial congestion and constrained operating speeds.

- From Venice/San Vicente to Hawthorne Plaza, Alternatives 3 and 4 (Two Branch options) provide the fastest travel times primarily due to a more direct route and fewer stations. In addition, passengers using Alternative 5 and 6 (Century Boulevard options) would have to transfer from the rail line to bus service to reach Hawthorne Plaza. Grade-separated Alternative 6 would approximate the travel time savings for at-grade Alternative 3, but the

Table 3.17: Estimated Travel Time Summary (Minutes)

[redacted]	No Build	TSM	Alt. 3 Two Branch Maximize At-Grade	Alt. 4 Two Branch Minimize At-Grade	Alt. 5 Century Bl. Maximize At-Grade	Alt. 6 Century Bl. Minimize At-Grade
Venice/San Vicente to Hawthorne Plaza	40	36	29	22	39	30
Venice/San Vicente to LAX	57	54	34	29	43	33
Crenshaw Plaza to Downtown LA	31	31	25	23	25	23
Crenshaw/Slauson to Green Line	29	28	24	21	29	29

similar at-grade alternative 5 would provide only a one minute improvement over No Build and would increase travel time over the TSM option. Alternative 4, designed as a primarily grade-separated rail system, provides the fastest travel time from the northern end of the Corridor to the southern terminus, saving 18 minutes over No Build and 14 minutes over TSM service.

- From Venice/San Vicente to LAX, grade-separated Alternatives 4 and 6 would provide the fastest travel times. With a more direct alignment along the AT&SF RR ROW, Alternatives 3 and 4 would provide travel time improvements over No Build and TSM ranging from 20 to 28 minutes. Alternatives 5 and 6, following a more circuitous alignment through Downtown Inglewood, would still provide an 11 to 24 minute improvement over No Build and TSM. Alternative 4, with its higher operating speed, would provide the fastest travel time between these two key Corridor destinations saving 28 minutes over No Build and 25 minutes over TSM.

- Using the same alignment, all four rail alternatives would provide travel time savings between Crenshaw Plaza and Downtown Los Angeles. The two primarily at-grade alternatives would save six minutes over No Build and TSM, while the two primarily grade-separated options would save eight minutes.

- From the proposed Crenshaw/Slauson Station to the Metro Green Line El Segundo Station, providing improved access to the El Segundo employment area, Alternatives 3 and 4 provide the fastest travel times due to a direct Metro Green Line connection. Requiring a bus transfer to make the same trip due to a lack of a direct connection to the Metro Green Line, Alternatives 5 and 6 would provide no travel time improvement over the No Build baseline conditions and would result in a minor increase in travel time over TSM service. Alternative 4 is the fastest option, saving eight minutes over No Build and seven minutes over TSM.

- Alternatives 3 and 4 offer a substantial travel time savings on all Corridor origin and destination pairs over No Build and TSM service. The highest travel time savings would be

for trips within the Corridor - Venice/San Vicente to Hawthorne Plaza and LAX. Direct rail service between these important Corridor destinations would provide a per trip savings ranging from 20 to 28 minutes.

- Primarily grade separated Alternative 4 would provide the highest travel time savings on all Corridor origin and destination pairs among the identified options. Per trip travel time savings range from 14 to 28 minutes on the north to south Corridor pairs to seven minutes between the proposed Crenshaw/Slauson Station and the Metro Green Line El Segundo Station.

- Primarily at-grade Alternative 5 provides the lowest travel time savings among the rail alternatives; in two origin and destination pairs, this alternative provides similar travel time to the No Build baseline scenario and increased travel time over the TSM option.

- Primarily grade-separated Alternative 6 provides travel time savings for only three pairs over the No Build baseline scenario and results in increased travel time in one pair over the TSM option.

Table 3.18: Transfers Between Key Origin and Destination Pairs

	No Build	TSM	Alt. 3 Two Branch Maximize At-Grade	Alt. 4 Two Branch Minimize At-Grade	Alt. 5 Century Bl. Maximize At-Grade	Alt. 6 Century Bl. Minimize At-Grade
Venice/San Vicente to Hawthorne Plaza	1	1	0	0	1	1
Venice/San Vicente to LAX	2	2	1	1	1	1
Crenshaw Plaza to Downtown LA	1	1	1	1	1	1
Crenshaw/Slauson to Green Line	1	1	1	1	1	1
Total Number of Transfers	4	4	3	3	4	4

The total number of transfers is reduced on two origin-destination pairs with implementation of the Two Branch options. The Century Boulevard options would continue to require transfers for all four origin and destination pairs. While the number of transfers is not reduced for all of the above origin and destination pairs, three of the four rail alternatives would provide a faster total travel time, including transfers, than both the No Build and TSM options. A reduction in transfers to destinations reached by rail may not feasible as the proposed Crenshaw-Prairie Corridor rail line, which would provide a missing north-south rail system link, would continue to require transfers to the predominately east-west oriented Metro Red and Green Lines.

All of the proposed alternatives would improve service to and through under-served areas of the Corridor. Implementation of the TSM option would increase the coverage and frequency of bus service in all areas of the Crenshaw-Prairie Corridor. The four rail alternatives, which would be enhanced by increased community-based bus service to the rail stations along the proposed alignments/routes, would significantly increase transit service throughout the Corridor.

In summary, the following points can be made about the alternatives:

- While the TSM Alternative would improve the coverage and frequency of bus service within the Corridor, it does not provide any major access improvements. The TSM alternative would not reduce the number of transfers required in regional travel, nor would it provide improved travel times that might compensate for the lack of transfer reductions.

- The Two Branch options (Alternatives 3 and 4) would reduce the number of transfers required for inter- and intra-Corridor travel and would provide significant travel time improvements, even with transfers, over No Build and TSM.

- The Century Boulevard options (Alternatives 5 and 6) would not reduce the number of transfers required for inter- and intra-Corridor travel over No Build and TSM. While Alternative 6 provides a significant travel time improvement, even with transfers, in three of the four pairs, Alternative 5 provides relatively small travel time improvement over No Build, and no overall travel time savings compared to TSM.

3.3.3 Regional Connectivity

The Crenshaw-Prairie Corridor currently has poor connections to the regional transportation system, and no north-south high-capacity connection within the Corridor. Currently, 80 percent of Corridor residents work outside of the study area. This lack of major transit infrastructure seriously limits Corridor mobility and transportation choices. The inability to connect with the regional transportation system will become more detrimental to Corridor travel in the future as Corridor population and employment continue to grow. There is a demonstrated need for faster, more direct transit service from the study area to regional job destinations, as well as better access to county-wide transportation options.

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

Each of the alternatives in the Initial Set was evaluated based on their ability to improve Corridor regional connectivity as measured by the following three goals (reflecting Purpose and Need);

- Enhance regional system connections;
- Reduce the number of transfers required to reach key destinations; and
- Improve service through under-served areas within the Corridor.

Enhancing regional system connections was assessed for both bus and rail system connectivity. Corridor bus service is currently well-integrated with the regional bus system. Creation of a major bus transit center adjacent to the future Metro Red Line Venice/San Vicente Station would further improve Corridor regional bus connections. Connectivity to the regional rail system was evaluated based on the directness of the connection between each rail alternative and the three existing and future rail lines providing service to the Corridor:

1. *Metro Red Line* - The Red Line is a heavy rail line currently providing service between Downtown Los Angeles and the Mid-Wilshire area and the first portion of Hollywood. Extension of service to North Hollywood in the San Fernando Valley will open mid-2000. Future system extensions are being considered in the Mid-City area in the Crenshaw-Prairie Corridor, East Los Angeles and San Fernando Valley. Long-term system expansion will consider service to the I-405 Freeway in West Los Angeles.

   The northern end of all four rail alternatives is the Venice/San Vicente Station where passengers will be able to transfer to and from the Crenshaw Line. The design of the interface would depend on the station alternative selected for the Crenshaw Line (aerial or retained cut) and the final location of the Metro Red Line's subway station. From here Crenshaw Line riders will be able to ride the Red Line: eastbound to Downtown Los Angeles, transfer at the Wilshire/Vermont Station to travel to Hollywood, or transfer at 7th/Flower to travel on the Metro Blue Line to Southeast Los Angeles and Long Beach. In Downtown Los Angeles, connections would be made to the future Metro Blue Line service to Pasadena, Metrolink commuter rail service and Amtrak train service.

2. *Metro Blue Line* - The Blue Line provides light rail service operating between Downtown Los Angeles and Long Beach through Southeast Los Angeles. A northern system extension from Union Station to Pasadena has been designed and is ready for construction. A possible future extension of the Metro Blue Line from Downtown Los Angeles south along Flower Street to Exposition Boulevard would serve the Coliseum, Exposition Park and University of Southern California area. Reuse of the former Exposition Boulevard railroad right-of-way, now owned by LACMTA, runs west through the Crenshaw-Prairie Corridor to West Los Angeles and Santa Monica.

   If the proposed Exposition Branch of the Metro Blue Line is built, the Crenshaw Line would interface with it at the Crenshaw/Exposition Station. The design of the interface would depend on the alternative selected for the Crenshaw Line (subway or at-grade) and on the mode and alignment of the Exposition Line. Station platforms along the Exposition Branch would be located close to the proposed Crenshaw Line Station, allowing passengers to transfer easily from one line to the other. A proposed station design facilitating that transfer is presented in Section 4.0. For Crenshaw Line patrons coming from south of Exposition Boulevard, travel times via the Exposition Line to Downtown and Southeast Los Angeles may be slightly faster than via the Metro Red Line.

3. *Metro Green Line* - The Metro Green Line operates light rail service in the median of the Century Freeway from Norwalk to Aviation Boulevard in the LAX area, where it turns south to serve the El Segundo employment area. Originally a branch of the Metro Green Line was planned to serve LAX Lot C north from a junction just west of the Aviation Station.

Future extensions to LAX are being considered as part of the LAX master planning process currently underway.

Alternatives 3 and 4 (Two Branch options) would connect with the Metro Green Line at two locations:

- The Hawthorne Branch of the Crenshaw Line would interface with the Metro Green Line at the Hawthorne Station. This station is in the median of the freeway, which is one level below Hawthorne Boulevard. The Crenshaw Line station platform is proposed to be elevated and located just south of the I-105 Freeway. Passengers would transfer between the lines by changing levels.

- The LAX Branch of the Crenshaw Line at the Aviation Station. Possible interface configurations include the following:

    - Separate platforms for the Crenshaw Line could be built adjacent to the Metro Green Line Station. A non-revenue track connection could allow yard access.
    - The Crenshaw Line could merge into the Metro Green Line immediately west of the Aviation Station, similar to the earlier plan for the North Coast Branch of the Metro Green Line. The Crenshaw Line trains could then operate to the Aviation Station, then use the crossover tracks just to the east to reverse direction. Or, the operations of the Metro Green and Crenshaw Lines could be integrated, and Green Line trains would alternate between serving the El Segundo Branch and the Crenshaw-LAX branch.

Alternatives 5 and 6 (Century Boulevard options) would not connect directly with the Metro Green Line. Passengers wishing to transfer between the Crenshaw and Metro Green Lines would have to take an intermediate bus. Alternatives 5 and 6 would serve LAX Lot C directly and passengers could transfer to any of the bus routes at the LAX Transit Center, or to the proposed LAX People-Mover if it connects with Lot C.

In summary, all four of the rail alternatives would provide a direct connection with the Metro Red Line at the proposed Venice/San Vicente Station and the possible Exposition Branch of the Metro Blue Line at the Crenshaw/Exposition Station. Only the Two Branch options (Alternatives 3 and 4) would provide a direct connection to the Metro Green Line, at both the Aviation Station in the LAX area and the Hawthorne/Imperial Station north of Downtown Hawthorne.

The technical analysis shows that all of the Initial Set of Alternatives would provide some level of increased regional connectivity over the existing and future No Build conditions. Table 3.15 at the beginning of this section presented the resulting rankings of the alternatives in this travel and mobility category:

- The TSM option received a low ranking for regional connectivity. While it would improve the coverage and frequency of bus service in the Corridor, this alternative would not provide any major access improvement to existing regional destinations or the regional rail system.

- The Two Branch options (Alternatives 3 and 4) received a high ranking as implementation of these alternatives would significantly improve transit service within, as well as to and from, the Crenshaw-Prairie Corridor. Both options would provide a direct connection with the Metro Red and Green Lines, and the rest of the county-wide rail system.

- The Century Boulevard options (Alternatives 5 and 6) were ranked as medium in regional connectivity. While implementation of these two alternatives would improve transit service within the Corridor, they do not provide service to Downtown Hawthorne. Both options would provide a direct connection with the Metro Red Line, but a future Metro Green Line connection would depend on the undetermined extension of the Metro Green Line.

3.3.4 Transportation Options

Accessibility to a full range of transportation options is important in addressing the Crenshaw-Prairie Corridor Mobility Problem. Now and in the future, Corridor travelers will have limited travel options with continuing freeway and street system congestion, slowing and overburdened bus operations and no regional rail system. Future transportation improvements will need to reflect a multi-modal strategy providing Corridor travelers with a complete set of transportation options. Currently, Corridor travelers have a limited choice in travel options - auto or bus transit - circulating on the same congested freeway and arterial system. Existing operational issues with bus transit make bus use by transit dependents daunting, and makes 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 complete set of mode of access alternatives.

While the TSM Alternative would provide improved coverage and frequency of bus service in the Corridor, it would not provide Corridor residents and visitors with additional transportation options. The rail alternatives were ranked as providing the greatest improvement in the range of Crenshaw-Prairie Corridor transportation options as they would provide a new, high-capacity transportation system with expandable capacity.

3.3.5 Potential Patronage

During the preliminary technical analytical work documented in Task 4.1, *Development of the Final Set of Major Investment Strategies*, potential Crenshaw-Prairie transit patronage was assessed by two methods:

- Evaluation of existing transit usage along with projected land use, demographic and trip-making trends, and analysis of trip-making in the tributary areas for each alternative.

- Utilization of computer models for ridership forecasting. Unfortunately, it was possible for MTA staff to do only one model run for one of the four rail alternatives. Therefore, at this point comparisons among the alternatives are based on professional judgement reflecting the past experience of MTA and other rail systems. Detailed travel demand forecasting work/ridership estimates will be performed in the next planning phase.

At this point in the planning process, MTA staff performed a single model run for one of the four rail alternatives. Therefore, at this point comparisons among the alternatives are based on

professional judgement reflecting the past experience of MTA and other rail systems. Detailed travel demand forecasting work/ridership estimates will be performed in the next planning phase.

Trip Pattern Analysis

During the initial screening/conceptual analysis documented in Task 4.1, potential ridership was assessed based on an evaluation of existing transit usage and trip-making in the contributing areas of each of the alternative. The Crenshaw-Prairie Corridor has demonstrated strong transit usage with a current mode split of 16 percent in the northern half of the Corridor and 11 percent in the southern portion. This is approximately double the average of the eight percent transit usage for the County's urbanized area. This higher transit usage is attributable to a number of factors including:

- *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 identified as low income.
- *High number of households without an available automobile* - A Corridor-wide average of 16 percent of all households do not have access to an automobile; 19 percent have no available automobile in the Crenshaw subarea.

Table 3.19: Overview of Corridor Households by Segment (1990 Census)

Segment	Low Income Households	Households Without Access to an Auto	Percentage of Total Corridor Households
Crenshaw	56%	19%	36%
AT&SF RR ROW	43%	11%	19%
Prairie/Hawthorne	46%	13%	21%
Century	48%	13%	24%

Tables 3.19 and 3.20 present overviews of the current number of Crenshaw-Prairie Corridor households either designated as low income or lacking access to an automobile by Corridor segment and rail alternative:

- Both the Two Branch options (Alternatives 3 and 4) and the Century Boulevard options (Alternative 5 and 6) would serve a significant number of low income and auto-less households.

- The Crenshaw subarea has the highest number for low income households - approximately double the other Corridor subareas - and the highest number of auto-less households by a factor of two to three over the other segments.

- The Two Branch rail options would serve a higher number of both low income and auto-less households than the Century Boulevard options.

- Looking at the rail alternatives on a households per mile basis, the Two Branch and Century Boulevard options are close, with the Century Boulevard alternatives serving a slightly higher number of low income and auto-less households. This is partially due to the fact that the additional miles in the Two Branch options serve an area that is largely non-residential, but has a high employment density.

As previously discussed, the Crenshaw-Prairie Corridor contains a high number of local and regional employment and activity centers. These range from regional entertainment, shopping and medical centers to local commercial and business districts and government centers to the international destination of LAX. Many of these Corridor activity centers have expansion and/or development planning efforts currently underway; others offer future revitalization opportunities. Future expansion, revitalization and/or redevelopment plans are being prepared for: LAX, Downtown Inglewood and Hawthorne, the Great Western Forum, Hollywood Park, the West Angeles Church, the Baldwin Hills/Crenshaw Plaza, Leimert Park area, Santa Barbara Plaza and Mid-Town Shopping Center. The planned extension of the Metro Red Line, with its associated joint development opportunities, will further upgrade the Mid-City area. All of these development and revitalization efforts will improve the attractiveness of the Crenshaw-Prairie Corridor as a destination, providing additional employment and recreational opportunities and attracting additional work and non-work trips.

Table 3.20: Overview of Corridor Households by Rail Alternative (1990 Census)

Segment	Low Income Households		Households w/o Autos	
	Two Branch Options	Century Blvd. Options	Two Branch Options	Century Blvd. Options
Crenshaw	24,579	24,579	8,396	8,396
AT&SF RR ROW	10,044	–	2,641	–
Prairie/Hawthorne	11,755	–	3,282	–
Century	–	13,546	–	3,718
Total	**46,378**	**38,125**	**14,319**	**12,114**
Households Per Mile	**3,180**	**3,260**	**980**	**1,035**

By 2015, the Crenshaw-Prairie Corridor's population is projected to increase by 20 percent with employment estimated to increase by 55 percent. Future demographic trends show with an estimated 20 percent increase in Corridor population and 55 percent increase in employment. Future demographic trends demonstrate increased population and employment density along with

a continued higher number of low income households and higher percentage of Corridor households without access to an automobile.

- *Increased population density* - The Corridor's already high population density is projected to increase by more than 20 percent; double the projected average density for the County's urbanized area.

- *Increased employment density* - Corresponding to the Corridor's projected employment growth, the future number of employees per acre is projected to increase by 55 percent; double the estimated average density for the Corridor's urbanized area.

- *Continued high number of low income households*- Even with the anticipated growth in Corridor employment opportunities, a high percentage of Corridor households are projected to remain within the low income category.

- *Continued high percentage of households without access to an automobile* - Similar to the continuing high percentage of low income households, a large number of Corridor households will remain transit dependent.

All of these demographic trends are projected to result in increased transit ridership in the Crenshaw-Prairie Corridor. By 2015, the Corridor's high transit usage is projected to continue with the Corridor's transit mode share increasing to an average of more than 21 percent as compared to 11 percent for the County's urbanized area. Transit usage in the northern portion of the Corridor (north of Slauson Avenue) is projected to increase by 69 percent, while the southern portion is estimated to have a 27 percent increase in transit mode share. The Mid-City subarea will continue to have the highest percentage of transit utilization with a forecast 27 percent transit mode share, more than double the transit usage projected for the urbanized area of the County.

When assessing trip-making trends, the Crenshaw-Prairie Corridor currently produces and attracts 4.5 times more non-work trips than work trips. This significantly higher number of non-work trips is primarily due to the major regional destinations locations with the Corridor - most significantly LAX as well as the Great Western Forum and Hollywood Park. In 2020, this trip-making trend is projected to increase with 4.8 times more non-work trips produced in and attracted to the Crenshaw-Prairie Corridor than work trips as presented below in Table 3.21.

For work trips, the approximately balanced percentage of productions and attractions is projected to continue with a slight increase in the percentage of trips produced within the Corridor. For non-work trips, the number of trips attracted to the Crenshaw-Prairie Corridor is over 150 percent higher that the number of trips produced to the Corridor's significant regional destinations. Future projections show some balancing out with an increase in Corridor trip productions and a corresponding decrease in trip attractions.

A comparison of the ability of the two sets of rail alternatives to serve Crenshaw-Prairie Corridor work and on-work trip-making trends is discussed below and presented in Tables 3.22 and 3.23. At this initial level of analysis, the projected daily corridor trips were identified based on all households within a quarter mile of the alignments of each of the alternatives. Future more detailed work will refine these projections to identify more specific ridership tributary areas related to the

Table 3.21: Existing and Future Projected Daily Corridor Trips

	1990		2020	
	Productions	Attractions	Productions	Attractions
Work Trips	316,170	278,185	379,110	326,850
Percent of Work Trips	53%	47%	54%	46%
Percent of Total Trips	10%	9%	9%	8%
Non-Work Trips	1,037,245	1,672,825	1,051,810	1,896,805
Percent of Non-Work Trips	38%	62%	44%	56%
Percent of Total Trips	31%	50%	37%	46%

Source: LACMTA

proposed station areas and will consider walk, bus/shuttle, kiss-and-ride and park-and-ride access characteristics.

Current data shows that the Two Branch options have the potential to serve 71 percent of the Corridor's work trips (both productions and attractions), or 44 percent more trips than the Century Boulevard alternatives. While the Two Branch options are three miles longer, the difference is primarily due to a higher density of work trips per mile. Trip-making projections for 2020 show an increase in Corridor work trips resulting in a 19 percent increase in work trips in the segments of the Two Branch options and a 21 percent growth in the Century Boulevard alternatives. The Two Branch options are projected to continue to serve a higher percentage of future Corridor work trips and more work trips per mile than the Century Boulevard options.

Table 3.22: Daily Work Trips (Corridor Productions and Attractions)

Segment	1990		2020	
	Two Branch Options	Century Blvd. Options	Two Branch Options	Century Blvd. Options
Crenshaw	127,790	127,790	168,055	168,055
AT&SF RR ROW	151,515	–	173,445	–
Prairie/Hawthorne	150,490	–	169,385	–
Century	–	171,555	–	195,075
Total	429,795	299,345	510,885	363,130
Per Mile	29,440	26,030	34,990	31,575
Percent of Corridor Trips	71%	50%	72%	51%

Source: LACMTA

Among the four Corridor segments, the Century Boulevard segment currently produces and attracts more work trips than the other three segments. The AT&SF RR ROW and Prairie/Hawthorne segment generate a slightly smaller number of work trips, while the Crenshaw segment ranks last with the lowest number of work trips. In the future, the number of Crenshaw-Prairie Corridor work trips is projected to increase among all of the segments, with the greatest increase in the Crenshaw segment by over 32 percent. Future work trips in the other segments are projected to increase by 13 to 14 percent. It should be noted that the work trip numbers presented here do not include any increase due to the anticipated LAX expansion.

As presented below in Table 3.23, current data shows the Two Branch options have the potential to serve 69 percent of the Corridor's non-work trips (both productions and attractions), or 37 percent or 502,000 more daily trips than the Century Boulevard options. This difference is due to a longer system length of three miles, but primarily is due to a higher density on non-work trips per mile due to serving Downtown Inglewood and Hawthorne. Trip-making projections for 2020 show an increase in Corridor non-work trips resulting in a 30 percent increase in non-work trips in the segments of the Two Branch alternatives and a 17 percent non-work trip growth in the Century Boulevard options. The Two Branch options are projected to continue to serve a higher percentage of future Corridor non-work trips and more non-work trips per mile than the Century Boulevard alternatives.

Table 3.23: Daily Non-Work Trips (Corridor Productions and Attractions)

Segment	1990		2020	
	Two Branch Options	Century Blvd. Options	Two Branch Options	Century Blvd. Options
Crenshaw	514,780	514,780	615,585	615,585
AT&SF RR ROW	589,950	–	814,590	–
Prairie/Hawthorne	758,520	–	994,195	–
Century	–	846,815	–	974,245
Total	1,863,250	1,361,595	2,424,370	1,589,830
Per Mile	127,620	118,400	166,055	138,245
Percent of Corridor Trips	69%	50%	71%	47%

Source: LACMTA

Among the four Corridor segments, the Century Boulevard segment which contains LAX currently produces and attracts more daily non-work trips than the other three segments. The Prairie/ Hawthorne segment with the Great Western Forum and Hollywood Park ranks second, the AT&SF RR ROW is third, and the Crenshaw segment ranks last. In the future, the number of Corridor non-work trips is projected to increase with the greatest growth occurring in the AT&SF RR ROW segment serving Downtown Inglewood by over 38 percent. While non-work trips in the other segments are projected to increase by 15 percent in the Century segment, 22 percent in the Crenshaw segment and 28 percent in the Prairie/Hawthorne area. It should be noted that the future projections do not include any trip increases due to the LAX Master Plan which is not

completed at this time. Also, as the airport is not represented in the regional travel model as a special generator, the estimates of Corridor trip-making does not reflect airport-user trips.

Based on the projected land use, demographic and trip-making trends described above, the Crenshaw-Prairie Corridor will:

- Grow with a 20 percent increase in population and a 55 percent increase in employment;
- Have continued high population and employment densities supportive of transit usage;
- Implement development and revitalization plans that will continue to support the Corridor as a local and regional destination;
- Continue to demonstrate strong transit usage based on the continued high number of low income and auto-less households; and
- Grow in daily person trips ranging from 33 percent in the northern portion of the Corridor to 15 percent in the southern section resulting in a projected total of more than 350,000 additional daily trips.

All of the above trends indicate a strong need for additional capacity within the Crenshaw-Prairie Corridor in the future. Analysis of the rail alternatives showed:

- The Two Branch alternatives would have the potential to serve 72 percent of the Corridor's future daily work trips versus 51 percent that would be served by the Century Boulevard options;
- The Two Branch alternatives would have the potential to serve 71 percent of the Corridor's future daily non-work trips versus 47 percent that would be served by the Century Boulevard options; and
- Daily work and non-work trip densities are higher along the Two Branch alternatives than adjacent to the Century Boulevard options.

Ridership Model Forecast

As discussed above, LACMTA staff was able to only perform a computer-model forecast for one of the rail alternatives (Alternative 4) as part of this study effort. The resulting forecast is described below, followed by a discussion of how the ridership for the other three alternatives would be expected to differ from Alternative 4. In the *Preliminary Planning Study* completed in 1994, more detailed ridership forecasts were made for several alternative alignments. In addition, separate forecasts were made of potential ridership at special generators. Some of that data is incorporated in the analysis of the more recent ridership forecast.

The LACMTA forecast for Alternative 4 showed approximately 22,300 boardings. However, this appears to under-estimate the potential ridership for two reasons:

- The LACMTA model has under-estimated current actual ridership on the Metro Blue Line by as much as 20 percent. Since the proposed Crenshaw-Prairie Corridor rail alternatives serve an area with somewhat similar density and demographics, it is likely that the Corridor forecast is also under-estimated.

- The LACMTA model does not specifically estimate trips to and from special generators. In the Crenshaw-Prairie Corridor, there is no representation of air passengers at LAX, or event attendees at the Great Western Forum and Hollywood Park.

Based on these factors and actual Metro Blue Line ridership, it is projected that the total potential ridership for Alternative 4 would likely be approximately 30,000 daily passengers.

The forecast also shows that many of the Crenshaw-Prairie Corridor passengers would transfer to the Metro Red Line, with a net increase of Metro Red Line boardings of approximately 10,000 daily riders. Corridor bus boardings are projected to decrease as passengers switch to the faster rail service. In the LACMTA model forecast, the net impact on overall transit ridership is an increase of 4,000 daily linked transit trips. A linked trip is defined as a complete origin-to-destination trip, regardless of transfers. In this case, it also represents the estimated diversion of trips from auto to transit. If the adjustments described above are reflected, the total increase in linked trips could be as much as 8,000 daily linked transit trips.

In Alternative 4, the segment of the Crenshaw-Prairie Corridor rail line serving LAX would attract approximately 3,000 more daily riders than the branch line serving Downtown Hawthorne. The station with the highest ridership is projected to be the Pico-San Vicente Station in the Mid-City area where transfers to/from the Metro Red Line and regional bus service providers would occur. The next two busiest stations will also be the proposed Metro Green Line transfer stations (Hawthorne and Aviation) followed by the stations at Century Boulevard (AT&SF RR ROW/Century), Downtown Inglewood (AT&SF RR ROW/La Brea) and the Baldwin Hills/Crenshaw Plaza Crenshaw/Stocker).

Alternative 5 and 6 are projected to have significantly lower ridership as they do not include a connection with the Metro Green Line. As noted above, the Metro Green Line connections will generate a large number of trips to and from the Crenshaw-Prairie Corridor rail system. In addition, the longer travel times to the LAX area would be less attractive, especially for Alternative 5. It is difficult to quantify the decrease without detailed model runs, but based on station assignments made in the *Preliminary Planning Study*, it appears that overall ridership for Alternatives 5 and 6 would be 15 to 25 percent lower than with Alternative 4. This finding is consistent with the previous analysis of Corridor tributary area population and employment.

3.4 Cost and Financial Analysis

At this level of preliminary technical evaluation, the analysis of financial considerations focused on developing conceptual capital and operating and maintenance costs for each of the alternatives. These conceptual costs identify the financial impacts of each of the alternatives and highlight the cost differences between the alternatives. The alternatives were designed to allow for identification of the resulting costs for two distinctive rail system operational configurations: primarily at-grade operations and primarily grade-separated operations. This approach results in the identification

of a full range of cost estimates, allowing for vertical configuration refinement in the next, more detailed phase of study. Conceptual operating and maintenance costs were identified for all of the proposed alternatives and compared to the No Build baseline system cost. Technical analysis presented in this section draws from MIS Task 4.1, *Development of the Final Set of Major Investment Strategies.*

3.4.1 Capital Cost Analysis

The conceptual order-of-magnitude cost to implement each of the rail alternatives has been estimated in 1997 dollars and is summarized below in Table 3.24. Capital cost estimates were based on: rail system construction including subway, aerial and at-grade trackway, freeway crossings, stations and power, control and communications systems; vehicles; fare systems; signage and graphics; necessary right-of-way; parking lots and structures; and street reconstruction. At this initial level of analysis, order-of-magnitude costs are based on conceptual engineering and will be refined in the next level of study based on more detailed engineering work.

The cost for a maintenance yard is also included in the preliminary capital cost estimates presented below. The Crenshaw Line would use light rail vehicles, similar to those being operated on the Metro Blue and Green Lines. The projected Crenshaw Line fleet size is fairly small, ranging between 14 and 18 vehicles, and it would inefficient to build and operate a totally independent storage and maintenance facility. However, there are capacity and linkage limitations involved in using other facilities:

- The existing Metro Blue Line facility at Del Amo has no additional capacity for the Crenshaw Line for daily storage, cleaning, inspection and preventive maintenance. Heavy maintenance, overhaul, paint and body repair work, which are done less frequently, could be performed at this facility if a track connection is provided. Alternatives 3 and 4 would allow a direct track connection to the Metro Green Line through the Aviation Station, from which a connection can be made to the Blue Line. Alternatives 5 and 6 do not connect with the Metro Blue Line, and vehicles would need to be transported by truck for maintenance and repair work.

- The Metro Green Line facility is located along the Green Line at approximately Aviation Boulevard and Rosecrans Avenue in the City of Hawthorne. This yard services the 15 vehicles providing Green Line service. By 2015, the fleet size is estimated to be 28 vehicles which begins to approach the yard's capacity of 36 vehicles. If there were sufficient room for the Crenshaw Line vehicles, Alternatives 3 and 4 would allow a direct track connection to the Metro Green Line at the Aviation Station. Alternatives 5 and 6 do not connect with the Metro Green Line and vehicles would need to be transported by truck for maintenance and repair work.

Several locations have been identified along the Crenshaw Corridor for a small maintenance facility, which could handle day-to-day storage, cleaning and minor repairs:

- *AT&SF RR ROW north of Florence Avenue between West Avenue and Crenshaw Boulevard* - This alternative would work for any of the four alternatives. It is near the branch junction in Alternatives 3 and 4, so would be readily accessible from either branch.

- *AT&SF RR ROW between Manchester Avenue and Arbor Vitae* - This option is located along the LAX Branch of Alternatives 3 and 4, and would easily serve these two options. The site is more than a half-mile from Alternatives 5 and 6, but a track connection could be provided along the LACMTA-owned AT&SF RR ROW.

From a total capital cost perspective, the two alternatives evaluating a primarily grade-separated system have the highest resulting cost: Alternative 4 (Two Branch option) and Alternative 6 (Century Boulevard option). These higher costs are consistent with a typically higher construction

Table 3.24: Preliminary Capital Cost Estimates (Millions of FY 1997 Dollars)

	Alt. 3 Two Branch Maximize At-Grade	Alt. 4 Two Branch Minimize At-Grade	Alt. 5 Century Blvd. Maximize At-Grade	Alt. 6 Century Blvd. Minimize At-Grade
Venice/SV to AT&SF	$380	$ 500	$270	$ 705
AT&SF RR ROW to LAX	240	260	--	--
Subtotal	$620	$ 760	$270	$ 705
Hawthorne Branch	315	380	--	--
Subtotal	$935	$1,140	$270	$ 705
Century Branch	--	--	290	400
Subtotal	$935	$1,140	$560	$1,105
Maintenance Yard	20	20	20	20
Total	**$955**	**$1,160**	**$580**	**$1,125**
No. of Stations	19	16	14	14
Total Miles	14.6	14.6	11.3	11.7
Cost Per Mile	**$65**	**$80**	**$50**	$95

Source: LACMTA and Korve Engineering

cost for aerial and subway systems than at-grade systems. With a longer system length and more stations, Alternative 4 is estimated to cost $35 million more than Alternative 6. Of the two primarily at-grade system options, Alternative 3 is projected to cost $375 million more than Alternative 5. Similar in approach to Alternative 4, option 3 has a longer system length and more stations than Alternative 5. And again, while both alternatives are primarily at-grade system options (82 percent), the remainder of Alternative 3 operates in a subway configuration while Alternative 5 runs in an elevated configuration.

When evaluating the two primarily grade-separated options on a cost per mile basis, while Alternative 4 has a higher total cost, Alternative 6 is projected to cost $15 million more per mile. This higher cost is due to: longer segments of subway construction in the northern portion of the

Corridor, diversion off Crenshaw Boulevard to provide direct service to the Baldwin Hills/Crenshaw Plaza, and more aerial construction in the southern portion where Alternative 4 is able to operate at-grade along the AT&SF RR right-of-way.

Of the two primarily at-grade alternatives, the higher total cost of Alternative 3 is projected to cost $15 million more a mile than Alternative 5. In addition to a longer system length and five more stations, the higher per mile cost for Alternative 3 is attributable to proposed subway construction in Inglewood adjacent to the cemetery and along Aviation Boulevard at the end of the LAX runways.

The estimated rail capital costs fall within current LACMTA system costing guidelines. At this early stage of planning, presenting both at-grade and grade-separated system costs is intended to provide a range of cost possibilities. Preliminary cost estimates show that it is possible to maximize Corridor service coverage with implementation of the at-grade Two Branch Alternative for less cost than the grade-separated single branch (Century Boulevard) option.

While capital cost is an important factor, the ultimate decision on which transportation alternative to implement in the Crenshaw-Prairie Corridor should be balanced against the full range of related benefits and impacts. The Century Boulevard primarily at-grade option appears attractive from a capital cost perspective, but other technical analysis has identified significant operational flaws associated with this alternative. Section 3.3 provides a summary comparison of the Travel and Mobility benefits and impacts of the alternatives, and Section 3.5 presents a summary of the Environmental and Community benefits and impacts of each option.

3.4.2 Operating and Maintenance Cost Analysis

Conceptual annual operating and maintenance cost estimates were identified in 1997 dollars for all alternatives that add bus and/or rail service. Projected costs were based on the current LACMTA cost structure for similar services and are presented below in Table 3.25. The annual operating and maintenance costs are compared to the No Build option to determine the estimated annual incremental change above the current baseline. At this level of evaluation, the estimated bus and rail costs are based on approximate levels of service; service plans and related costs will be refined in the following more detailed planning phase.

As shown in Table 3.25, the annual incremental change for bus operations is highest for the TSM Alternative reflecting the proposed higher increase in bus service than that proposed to support the rail alternatives. While some north-south bus service can be deleted with implementation of the rail system alternatives, a minor increase in bus service over the No Build baseline service has been identified for the rail operations. This slight increase in Corridor bus service reflects a placeholder for future service needs including: implementation of the recommendations from the recently completed Mid-Cities bus system restructuring efforts; improvement of east-west bus connections to the proposed rail system; and provision of community-based service to the rail stations.

Table 3.25 shows a minor difference in the projected rail operating and maintenance costs between the alternatives. Both primarily at-grade options (Alternatives 3 and 5) are estimated to annually cost $1 million more than their corresponding grade-separated options. On a total incremental cost

Table 3.25: Conceptual Annual Operating and Maintenance Cost Estimates (In Millions, FY 1997 Dollars)

	No Build	TSM	Alt. 3 Two Branch Maximize At-Grade	Alt. 4 Two Branch Minimize At-Grade	Alt. 5 Century Blvd. Maximize At-Grade	Alt. 6 Century Blvd. Minimize At-Grade
Bus O&M Costs	$585	$593	$586	$586	$587	$587
Rail O&M Costs[1]	$ 67	$ 67	$ 93	$ 92	$ 90	$ 89
Total O&M Costs	$652	$660	$679	$678	$677	$676
Incremental Bus O&M Costs	Base	$ 8	$ 1	$ 1	$ 2	$ 2
Incremental Rail O&M Costs	Base	--	$ 26	$ 25	$ 23	$ 22
Total Incremental O&M Costs[2]	Base	$ 8	$ 27	$ 26	$ 25	$ 24

[1] LACMTA light rail costs only [2] Compared to No Build

increase basis, Alternatives 3 and 4 are projected to cost slightly more to operate due to longer, more complicated systems with two leg systems providing service west to LAX area and south to Downtown Hawthorne. The operational and maintenance costs for Alternative 4 are slightly less costly than Alternative 3 due to more grade-separation operations and faster operating speeds. The approximately 28 percent increase in LACMTA rail operating costs for these two options corresponds directly with a 28 percent increase in total light rail system length provided by both of these alternatives. When evaluating the incremental annual operation and maintenance cost per mile added to the region's light rail system, Alternative 5 is the highest at $2.2 million per mile, Alternative 6 follows closely at $2.1 million, followed by Alternatives 3 and 4 at an estimated $1.8 million per mile.

Table 3.26: Incremental Operations and Maintenance Cost Per New System Mile

Alternative	Miles Added to Light Rail System	Annual Total Incremental O&M Cost	Annual O&M Cost Per New System Mile
3 - Two Branch Maximize At-Grade Operations	14.6	$27	$1.85
4 - Two Branch Minimize At-Grade Operations	14.6	$26	$1.78
5 - Century Blvd. Maximize At-Grade Operations	11.3	$23	$2.04
6 - Century Blvd. Minimize At-Grade Operations	11.7	$22	$1.88

Table 3.27: Summary of Environmental Impacts

	Alternative 3 Two Branch Maximize At-Grade Operations	Alternative 4 Two Branch Minimize At-Grade Operations	Alternative 5 Century Boulevard Maximize At-Grade Operations	Alternative 6 Century Boulevard Minimize At-Grade Operations
Noise and Vibration	Medium	High	Medium	High
Visual and Aesthetic	Medium	High	Medium	High
Historic and Cultural Resources	Medium	High	Medium	High
Parks and Recreation	Low	Medium	Low	Medium
Traffic and Parking	High	Medium	High	Medium
Community Disruption and Displacement	High	Medium	High	Medium

generate the greatest noise impacts along the proposed alignments, while aerial operations would generate greater vibration impacts, but could also generate significant noise levels which could travel some distance over adjacent buildings.

In the Mid-City and Crenshaw segments of the Corridor, the possible impacts may include the following:

- Alternative 3 would operate at-grade through mixed commercial and residential neighborhoods. Noise from rail operations in this segment, particularly at the northern end of the alignment where Crenshaw Boulevard narrows, could produce significant impacts. In addition, the tight-radius turn made by this alternative at Venice Boulevard/Crenshaw Boulevard may generate a significant level of noise.

- Over this same segment, Alternative 4 would run primarily in an aerial configuration with some subway operations. Where aerial service is proposed, noise and vibration would be produced which could impact not only properties immediately adjacent to the alignment, but also those in adjoining blocks.

- Alternative 5 would affect adjacent neighborhoods in the similar ways as discussed under Alternative 3.

- Alternative 6 would operate primarily in a subway configuration in this segment with some aerial service. The aerial portions south of Vernon Avenue could produce noise and vibration impacts on the adjacent residential properties.

In the LAX segment of the Corridor, the possible impacts of Alternatives 3 and 4 which use this segment are:

- While at-grade rail vehicles would emit audible warnings (bell or horn) at grade crossings, the impacts of Alternative 3 would be minor due to the fact that most of this segment follows an existing railroad right-of-way with few cross streets.

- Alternative 4 runs at-grade in this segment, but is impacts would be lower than those of Alternative 3 as this option would provide grade separations at Centinela Avenue, La Brea Avenue and Manchester Avenue.

In the Hawthorne segment of the Corridor, the possible noise and vibration impacts of Alternatives 3 and 4 which operate in this segment may include the following:

- The resulting impacts of Alternative 3 would be moderate in this segment. Impacts would be minimal adjacent to the subway section at the north end of the segment and moderate between Manchester Avenue and 111th Street, where this alternative would operate at-grade in a semi-exclusive right-of-way along the east side of Prairie Avenue. Aerial rail operations between Prairie Avenue and Hawthorne Boulevard likely would be quieter than the ambient noise level, caused by the proximity of the I-105 Freeway and Los Angeles International Airport.

- Alternative 4 would result in minor impacts in this segment. Noise from the subway section at the northern end of this segment would be minimal, but noise impacts may be moderate in the aerial section south of Manchester Avenue, particularly south of Century Boulevard where the primary adjacent land use is residential.

In the Century segment of the Corridor, the possible noise and vibration impacts of Alternatives 5 and 6 which operate in this segment may include the following:

- Alternative 5, which maximizes at-grade rail operation, would generate significant noise and vibration impacts, particularly where the alignment passes through the residential neighborhood south of Manchester Boulevard. In addition, the tight-radius turns at La Brea Drive/Prairie Avenue and at Prairie Avenue/Century Boulevard may generate significant noise impacts. The aerial section of this alternatives, located to the west of Inglewood Avenue, does not travel near any sensitive receptors.

- The impacts of Alternative 6 would greater than those of Alternative 5 as this option minimizes at-grade operations and runs in an aerial configuration through the residential areas south and east of Downtown Inglewood and along Century Boulevard east of Inglewood Avenue. This alternative's alignment also includes more tight-radius turns through this area than Alternative 5.

3.5.2 Visual and Aesthetic

Visual and aesthetic impacts may occur when a proposed project is out of scale with its immediate surroundings, or when it blocks views or sight lines which now exist, such as scenic vistas of

Downtown Los Angeles and the Hollywood Hills from the Baldwin Hills/View Park area of the Corridor. The introduction of catenary wires, station platforms and especially aerial structures could cause visual and aesthetic impacts. Aerial structures located within street rights-of-way may create shaded or dark areas which pedestrians may perceive as unsafe, while supporting columns and structures may provide opportunities for graffiti.

In the Mid-City and Crenshaw segments of the Corridor, the possible visual and aesthetic impacts may include the following:

- In this segment, Alternative 3 would run at-grade along Venice Boulevard and Crenshaw Boulevard. Impacts are possible at the northern end of the alignment where Crenshaw Boulevard is relatively narrow. The *City of Los Angeles Scenic Highways Plan* and the *West Adams-Baldwin Hills-Leimert Park Community Plan* designate Crenshaw Boulevard between the I-10/Santa Monica Freeway and Slauson Avenue as a "Scenic Highway." This designation may affect the final design and appearance of any rail construction in this segment.

- Alternative 4 would operate in a primarily aerial configuration with some subway service in this segment. Where aerial operations are proposed, visual and aesthetic impacts would result which could impact not only properties immediately adjacent to the alignment, but those on adjoining blocks as well. Existing scenic vistas to the north and east could be affected. As with the other alternatives, the designation by the City of Los Angeles of a portion of Crenshaw Boulevard as a Scenic Highway may affect the design and appearance of any rail system constructed in this segment.

- Alternative 5 would have the same visual and aesthetic impacts as Alternative 3.

- Alternative 6 is proposed to run in a primarily subway configuration in this segment with some aerial operations. The aerial portions located south of Vernon Avenue would have visual and aesthetic impacts on the adjacent residential neighborhoods. As with the other alternatives, the designation by the City of Los Angeles of a portion of Crenshaw Boulevard as a Scenic Highway may affect the design and appearance of any rail system constructed in this segment.

In the LAX segment of the Corridor, the possible impacts of Alternatives 3 and 4 which use this segment are:

- Any visual or aesthetic impacts from the implementation of Alternative 3 would be very minor due to the fact that a majority of this segment runs along an existing railroad right-of-way through an industrial area.

- The impacts of Alternative 4 would be very minor, similar to those of Alternative 3.

In the Hawthorne segment of the Corridor, the possible visual and aesthetic impacts of Alternatives 3 and 4 which operate in this segment may include the following:

- Alternative 3 would have minor impacts because Prairie Avenue and Hawthorne Boulevard are relatively wide where at-grade rail operations are proposed.

- Alternative 4 would have minor to moderate impacts, concentrated primarily south of Century Boulevard, where the aerial alignment would pass through residential areas. The design of the aerial structure would need to be designed to complement on-going plans to upgrade the Hawthorne Mall and Hawthorne Boulevard streetscape.

In the Century segment of the Corridor, the possible visual and aesthetic impacts of Alternatives 5 and 6 which operate in this segment may include the following:

- Alternative 5 would create visual and aesthetic impacts between Manchester Boulevard and La Brea Drive, where catenary wires and at-grade tracks may be considered to be out of scale and out of character with the surrounding residential neighborhoods.

- The impacts of Alternative 6 would be greater than those of Alternative 5 as it is proposed to operate over aerial structures through residential areas south and east of Downtown Inglewood.

3.5.3 Historic and Cultural Resources

A records search of the California Historic Resources Information System was completed for the Crenshaw-Prairie Corridor. This search included a review of all recorded historic and archaeological sites within the study area, as well as a review of all known cultural resource surveys, excavation reports and previously prepared environmental documents. In addition, a check was made of the California State Historic Resources Inventory, the National Register of Historic Places, the listing of California Historical Landmarks, the California Points of Historical Interest, the City of Los Angeles Historic-Cultural Monuments, and UCLA's file of historic maps. The resources identified in the search are presented in Tables 3.28, 3.29 and 3.30 along with Figure 3.22. In summary, the search identified the following historic and cultural resources within the Corridor study area:

- *Archaeological sites* - Five sensitive archaeological sites.
- *National Register of Historic Places* - Eight study area properties are listed on the federal register.
- *California Historical Landmarks* - One state landmark - the Centinela Springs - is located in Centinela Park north of the AT&SF RR ROW.
- *City of Los Angeles Historic-Cultural Monuments* - Fifteen designated landmarks including an adobe, two libraries, two churches, one cultural facility, one industrial building and several residences.

In addition, there are numerous residential and commercial buildings which have been identified as potential historic resources within the Crenshaw-Prairie study area. The resources are located in three main areas within the Corridor:

- *West Adams Boulevard* - There are 23 potential historic resources located along this street throughout the study area. The resources are predominantly residential to the east of Crenshaw Boulevard. Constructed between 1903 and 1914, these structures display a

range of architectural styles including Tudor Revival, Beaux Art, Gothic Revival and Mediterranean. From Crenshaw Boulevard west, the potential historic resources are primarily commercial with some churches and related facilities. Constructed between 1923 and 1936, these historic buildings reflect commercial architectural styles popular at that time including Spanish Colonial Revival, Art Deco and Zigzag Moderne.

- *Northern Crenshaw Boulevard* - Between Venice Boulevard and the I-10/Santa Monica Freeway, there is a significant set of Craftsman-style residences lining both sides of Crenshaw Boulevard. These 38 resources, built between 1910 and 1922, were identified as worthy of protection and are listed in Table 3.28.

Table 3.28: Crenshaw Corridor Craftsman Clusters

Resource Address	Potential Impacts
1618,1622, 1628, 1632 Crenshaw	Possible visual and aesthetic impacts
1702, 1705, 1716, 1717, 1726, 1727, 1742, 1757, 1758 Crenshaw	Possible visual and aesthetic impacts
1802, 1816, 1822, 1826, 1832, 1838, 1843, 1847, 1852 Crenshaw	Possible visual and aesthetic impacts
1928, 1929, 1933 Crenshaw	Possible visual and aesthetic impacts
2104, 2105 Crenshaw	Possible visual and aesthetic impacts
2210, 2220, 2224, 2234 Crenshaw	Possible visual and aesthetic impacts

- *Central Crenshaw Boulevard* - A significant number of potentially historic commercial resources are located between Exposition Boulevard and Slauson Avenue along both sides of Crenshaw Boulevard. Primarily built between 1927 and 1949, the structures are predominately designed in the Streamline and Postwar Moderne styles with some examples of Tudor, French and Spanish Colonial revival designs. These historic resources complement and add to the importance of this area's two National Register buildings - the May Company and Broadway Department Store structures. The Corridor's historic commercial resources are listed in Table 3.29.

As illustrated in Figure 3.20, the Corridor's five identified archaeological areas are located as follows:

- Vicinity of La Brea Avenue between Jefferson Boulevard and Rodeo Road;
- Area west of Crenshaw Boulevard between the AT&SF RR right-of-way;
- Vicinity of the intersection of Martin Luther King Boulevard and Crenshaw Boulevard;
- Along Crenshaw Boulevard south of Vernon Avenue; and
- Area southwest of the intersection of Aviation Boulevard and Manchester Avenue.

To the extent that construction and operation of a Corridor rail system would occur primarily within existing street rights-of-way, there would be no resulting physical impacts on historic or cultural resources. Only if the resources were destroyed or altered, most likely through the acquisition of required additional right-of-way for the rail system, would physical impacts occur. The two primarily at-grade alternatives may result in physical impacts due to the need for acquisition of adjacent

Crenshaw-Prairie Transportation Corridor
Major Investment Study

Figure 3.20

Historic, Cultural and Archaeological Resources

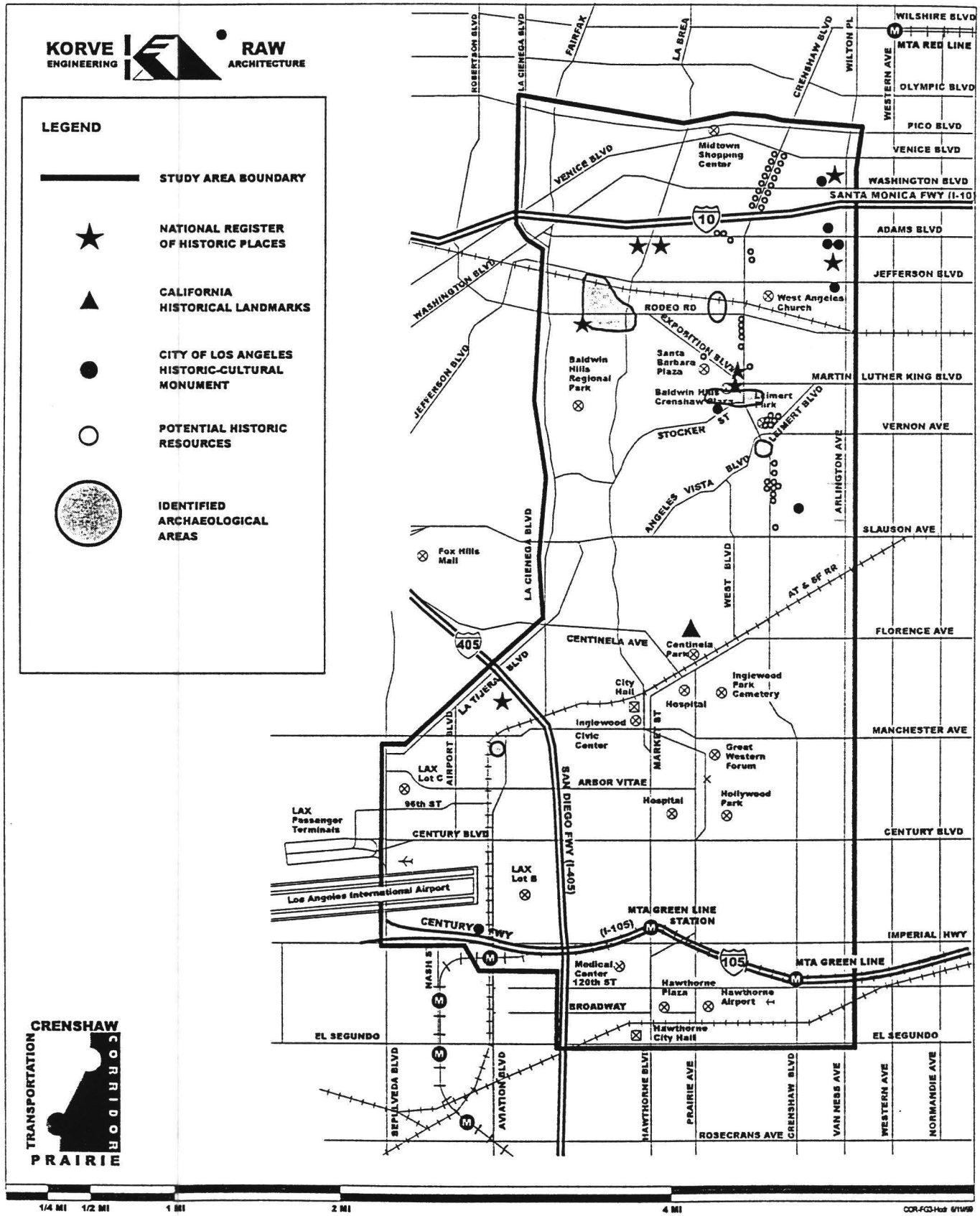


Table 3.29: Crenshaw Corridor Potential Commercial Historic Resources

Resource Address	Historic Name or Style	Potential Impacts
2620 - 2628 Crenshaw	Streamline Moderne	Possible visual and aesthetic impacts
3651 Crenshaw	Owl Drug Store, Streamline Moderne	Possible visual and aesthetic impacts
3653 - 3657 Crenshaw	Postwar Moderne	Possible visual and aesthetic impacts
3663 Crenshaw	Streamline Moderne	Possible visual and aesthetic impacts
3669 Crenshaw	Streamline Moderne	Possible visual and aesthetic impacts
3683 Crenshaw	Family Savings & Loan Association	Possible visual and aesthetic impacts
3875 Crenshaw	Safeway/Angelus Funeral Home	Possible visual and aesthetic impacts
3956 - 3958 Crenshaw	Courtyard Housing, Tudor Revival	Possible visual and aesthetic impacts
3960 - 3962 Crenshaw	Courtyard Housing, Tudor Revival	Possible visual and aesthetic impacts
3964 - 3970 Crenshaw	Colonial Revival	Possible visual and aesthetic impacts
4030 Crenshaw	DWP, Streamline Moderne	Possible visual and aesthetic impacts
5311 Crenshaw	Crenshaw Motors, Streamline Moderne	Possible visual and aesthetic impacts
5344 - 5350 Crenshaw	Spanish Colonial Revival	Possible visual and aesthetic impacts
5356 - 5360 Crenshaw	Commercial Vernacular	Possible visual and aesthetic impacts
5419 -5421 Crenshaw	Art Deco	Possible visual and aesthetic impacts
5424 -5428 Crenshaw	Spanish Colonial Revival	Possible visual and aesthetic impacts
5440 - 5442 Crenshaw	French Revival	Possible visual and aesthetic impacts
5450 Crenshaw	Spanish Colonial Revival	Possible visual and aesthetic impacts
5454 Crenshaw	Baroque Influence	Possible visual and aesthetic impacts
5460 Crenshaw	Spanish Colonial Revival	Possible visual and aesthetic impacts
5730 Crenshaw	Spanish Colonial Revival	Possible visual and aesthetic impacts

properties to provide sufficient right-of-way for rail operations and station areas at constrained points of the Corridor. The at-grade and aerial segments of all four alternatives may have visual and aesthetic impacts on historic and cultural resources. The following analysis by segment identifies the extent to which each of the rail alternatives may affect historic and archaeological resources. Future detailed environmental analysis, along with development of more detailed engineering plans, will identify specific impacts and possible mitigation measures.

Potential impacts to historic and cultural resources in the Mid-City segment of the Corridor may include the following:

- At-grade alternatives 3 and 5 are designed to operate within the existing right-of-way in this segment. The stations are also located within the existing street right-of-way, or as at the

off-street Washington Boulevard Station, do not impact any historic resources. These alternatives may result in visual and aesthetic impacts to the Crenshaw Corridor Craftsman Clusters.

- Alternative 4 is proposed to operate in an aerial configuration along Crenshaw Boulevard south of Venice Boulevard. This aerial segment is designed to operate within the street right-of-way and has no stations proposed in this section. This alternative would have no physical impacts, but may result in significant visual and aesthetic impacts to the Crenshaw Corridor Craftsman Clusters.

- Alternative 6 is designed to operate in a subway configuration in this segment and has no stations in this section other than the initial one at Venice/San Vicente Boulevards. This alternative would have no impacts on historic and cultural resources.

The Crenshaw segment, with its constrained right-of-way between King Boulevard and Vernon Avenue and adjacent to Leimert Park, may have the most substantial impacts on the Corridor's historic and cultural resources. In addition, all of the rail alternatives may impact two archaeological sites: one in the vicinity of the intersection of King and Crenshaw Boulevards; and along Crenshaw Boulevard south of Vernon Avenue.

- At-grade alternatives 3 and 5 are designed to operate within the existing street right-of-way in this segment. These alternatives may result in visual and aesthetic impacts on the Crenshaw Corridor's historic commercial resources. As more detailed engineering proceeds, future decisions will need to made balancing between taking of traffic and/or parking lanes for rail operations versus property acquisition and the potential for physical impacts to this segment's substantial number of historic and cultural resources.

- Alternative 4 is proposed to operate in an aerial median-running configuration except for a subway segment adjacent to the Baldwin Hills/Crenshaw Plaza. This section of subway operations was added to mitigate any rail system impacts on this area's retail activity at this most constrained right-of-way point. The subway segment would also mitigate impacts on this area's significant number of historic and cultural resources. North of King Boulevard, this alternative may result in significant visual and aesthetic impacts on the Corridor's historic commercial structures.

- Alternative 6 is designed to continue in a subway configuration in this section except for a small median running aerial segment between Exposition and King Boulevards. This aerial segment may result in significant visual and aesthetic impacts on the Corridor's historic commercial structures.

In the Inglewood segment of the Corridor, potential impacts to historic and cultural resources are minimal.

- Alternatives 3 and 4 are planned to operate on the former AT&SF railroad right-of-way. As this right-of-way has existed since the late 1800s, impacts to historic and cultural resources are not expected to occur. The only resource in this area - Centinela Springs - is located adjacent to the right-of-way in Centinela Park. There may be visual and aesthetic impacts

Table 3.31: Designated Historic and Cultural Resources

Resource	Location	Potential Impacts
National Register of Historic Places		
Baldwin Hills Village	5300 Rodeo Road	None
Jefferson Branch Library	2211 W. Jefferson Boulevard	None
Washington Irving Branch Library	1803 S. Arlington Avenue	None
Centinela Adobe	7634 Midfield Avenue	None
Church of the Advent	4976 W. Adams Boulevard	None
Saint Agatha Catholic Church	5064-5072 W. Adams Blvd.	None
May Company	4001 Crenshaw Boulevard	Visual and aesthetic
Broadway Department Store	4101 Crenshaw Boulevard	Visual and aesthetic
California Historical Landmarks		
State Landmark No. 363 - Centinela Springs	Centinela Park, Inglewood	None
City of Los Angeles Historic - Cultural Monuments		
No. 44 - Hangar No. 1 Building	5701 W. Imperial Highway	None
No. 170 - Paul R. Williams Residence	1690 Victoria Avenue	None
No. 174 - Village Green (Baldwin Hills Village)	5112-5595 Village Green	None
No. 229 - Westminister Presbyterian Church	2230 W. Jefferson Boulevard	None
No. 258 - Fitzgerald House	3115 W. Adams Boulevard	None
No. 307 - Washington Irving Branch Library	1803 S. Arlington Avenue	None
No. 344 - Institute of Musical Art	3210 W. 54th Street	None
No. 417 - Gordon L. McDonough House	2532 5th Avenue	None
No. 419 - Walker Mansion	3300 W. Adams Boulevard	None
No. 477 - Briggs Residence	3734 W. Adams Boulevard	None
No. 478 - Guasti Villa/Busby Berkeley Estate	3500 W. Adams Boulevard	None
No. 479 - Grandville MacGowan House	3726 W. Adams Boulevard	None
No. 487 - Sanchez Ranch	3725 Don Felipe Drive	None
No. 496 - Lycurgus Lindsay Mansion	3424 W. Adams Boulevard	None
No. 512 - Church of the Advent	4976 W. Adams Boulevard	None

on this resource, but the right-of-way has been used for rail operations for over 100 years. There is an archaeological/paleontological resource site in the area southwest of the intersection of Aviation Boulevard and Manchester Avenue. As both alternatives are designed to remain within the existing railroad right-of-way, no impacts are anticipated.

- Alternatives 4 and 6 are designed to operate within the street right-of-way in this segment. As there are no identified historic resources along the proposed alignment, no impacts are anticipated.

There are no known historic, cultural, archeological or paleontological resources in the Hawthorne and LAX segments of the Crenshaw-Prairie Corridor.

3.5.4 Parks and Recreation

The numerous parks and recreational resources in the Crenshaw-Prairie Corridor have been identified and are presented in Table 3.32 and Figure 3.23. To the extent that construction and operation of a Corridor rail system would occur primarily within existing street rights-of-way, there would be no physical impacts on parks or recreational resources. Only if such resources were destroyed or altered, most likely through the acquisition of required additional right-of-way for the rail system, would physical impacts occur. The two primarily at-grade alternatives may result in physical impacts due to the need for acquisition of adjacent properties to provide sufficient tight-of-way for rail operations and station areas at constrained points of the Corridor adjacent to Leimert Park. The at-grade and aerial segments of all four alternatives may have noise and visual impacts on parks and recreational resources. The following analysis by segment identifies the extent to which each of rail alternatives may affect parks and recreational resources. Future detailed environmental analysis, along with development of more detailed engineering plans, will identify specific impacts and possible mitigation measures.

In the Mid-City segment of the Corridor, there are seven parks and recreational resources, none of which are impacted by the rail alternatives. The Eleanor Green Roberts Aquatic Center, a City of Los Angeles community park located on the southwest corner of Pico and West Boulevard, may be impacted by the future extension of the Metro Red Line to Venice Boulevard/San Vicente Boulevard.

In the Crenshaw segment of the Corridor, there are seven parks and recreational resources, but only Leimert Park may be impacted as follows:

- Primarily at-grade alternatives 3 and 5 may physically impact Leimert Park. While construction and operation of the rail system would occur primarily within street rights-of-way, a physical impact may occur at the constrained right-of-way adjacent to Leimert Park. This portion of Crenshaw Boulevard has narrow, curving narrow street width bracketed on one side by a historic and cultural landmark (Family Savings & Loan Associates) and on the other side by Leimert Park. At-grade rail system operations are further constrained by a complex three-way intersection configuration just south of the park. Further detailed engineering plans will need to be developed to identify and evaluate specific physical impacts of the at-grade alternatives on Leimert Park. Both alternatives may also have noise and visual impacts on the park.

- Alternative 4 operates in a subway configuration in this section and would have no impacts on Leimert Park.

Table 3.32: Corridor Park and Recreational Resources

Resource	Location	Potential Impacts
1. Eleanor Green Roberts Aquatic Center	West/Pico Boulevards, Los Angeles	Possible Metro Red Line impacts
2. Saint Charles Park	Saint Charles Place between Buckingham and Victoria, Los Angeles	None
3. Genesee Avenue Park	2330 S. Genesee Avenue, Los Angeles	None
4. Westside Park	3085 S. Fairfax Avenue, Los Angeles	None
5. Baldwin Hills Recreation	5401 Highlight Place, Los Angeles	None
6. Rancho Cienega Sports Center Park	5001 Rodeo Road, Los Angeles	None
7. Vineyard Recreation Center	2942 Vineyard Avenue, Los Angeles	None
8. 2nd Avenue Park	2413 2nd Avenue, Los Angeles	None
9. Leslie N. Shaw Park	2250 W. Jefferson Boulevard, Los Angeles	None
10. Kenneth Hahn State Recreation Area	S. La Cienega Blvd./La Brea Ave., Los Angeles	None
11. Leimert Park	4395 Leimert Boulevard, Los Angeles	Possible physical, noise and visual impacts
12. Van Ness Recreation Ctr.	5720 2nd Avenue, Los Angeles	None
13. Ladera Park	6027 Ladera Park Avenue, Ladera Heights	None
14. North Park	Hargrave St./Wexham Way, Inglewood	None
15. Centinela Park	700 Warren Avenue, Inglewood	Possible noise and visual impacts
16. Rogers Park	N. Oak St./N. Eucalyptus Ave., Inglewood	None
17. Queen Park	Queen St./Manchester Ter., Inglewood	None
18. Darby Park	3400 W. Arbor Vitae Street, Inglewood	None
19. Ashwood Park	Ash Ave./I-405 Freeway, Inglewood	None
20. Siminiski Park	9717 S. Inglewood Ave., Inglewood	None
21. Carl E. Nielsen Youth Park	Will Rogers St./Yorktown Ave., Los Angeles	None
22. Lennox Park	Lennox Blvd./Condon Ave., Lennox	None
23. Center Park	W. 111th Street, Inglewood	None
24. Eucalyptus Park	Inglewood Ave./Gale Ave.,Hawthorne	
25. Hawthorne Memorial Park	3901 W. El Segundo Blvd., Hawthorne	None

- Alternative 6 is proposed to transition from subway operations to an aerial configuration adjacent to Leimert Park which may result in noise and visual impacts. In addition, a station is planned adjacent to the park, which may have physical, noise and visual impacts.

The Inglewood segment of the Corridor includes the AT&SF RR ROW and Prairie Avenue alignments of all four alternatives. There are eight parks and recreational resources located in this segment, none of which are impacted by any of the alternatives. Centinela Park is located immediately adjacent to the AT&SF RR ROW, which is used partially or in its entirety by all four rail options. The railroad right-of-way is sufficient in width for all planned rail operations and there will be no physical impact on the adjacent parklands. There may be noise and visual impacts from light rail operations, though the current use of the right-of-way is for freight rail activities and light rail operations may be viewed as less intrusive from a noise and visual perspective.

In the Hawthorne segment, there are four parks: Darby Park, Center Park, Eucalyptus Park and Hawthorne Memorial Park. There will no impacts on these resources by the proposed alignments of Alternatives 3 and 4, the only options which are planned to operate in this segment.

There are two parks and recreational resources in the LAX segment of the Crenshaw-Prairie Corridor - Ashwood Park and the Carl E. Nielsen Youth Park. Neither resource would be impacted by Alternatives 3 and 4, the only options which are planned to operate in this segment.

3.5.5 Traffic Impacts

Possible traffic and parking impacts that may result from the development of a rail transit system in the Crenshaw-Prairie Corridor may include any or all of the following impacts:

- *Roadway configuration* - such as the loss of through travel lanes and roadway widths and on-street parking;
- *Intersection configuration* - including the loss of left-turn lanes and changes in intersection geometrics; and
- *Station area configuration* - such as the loss of parking and reduction of sidewalk widths.

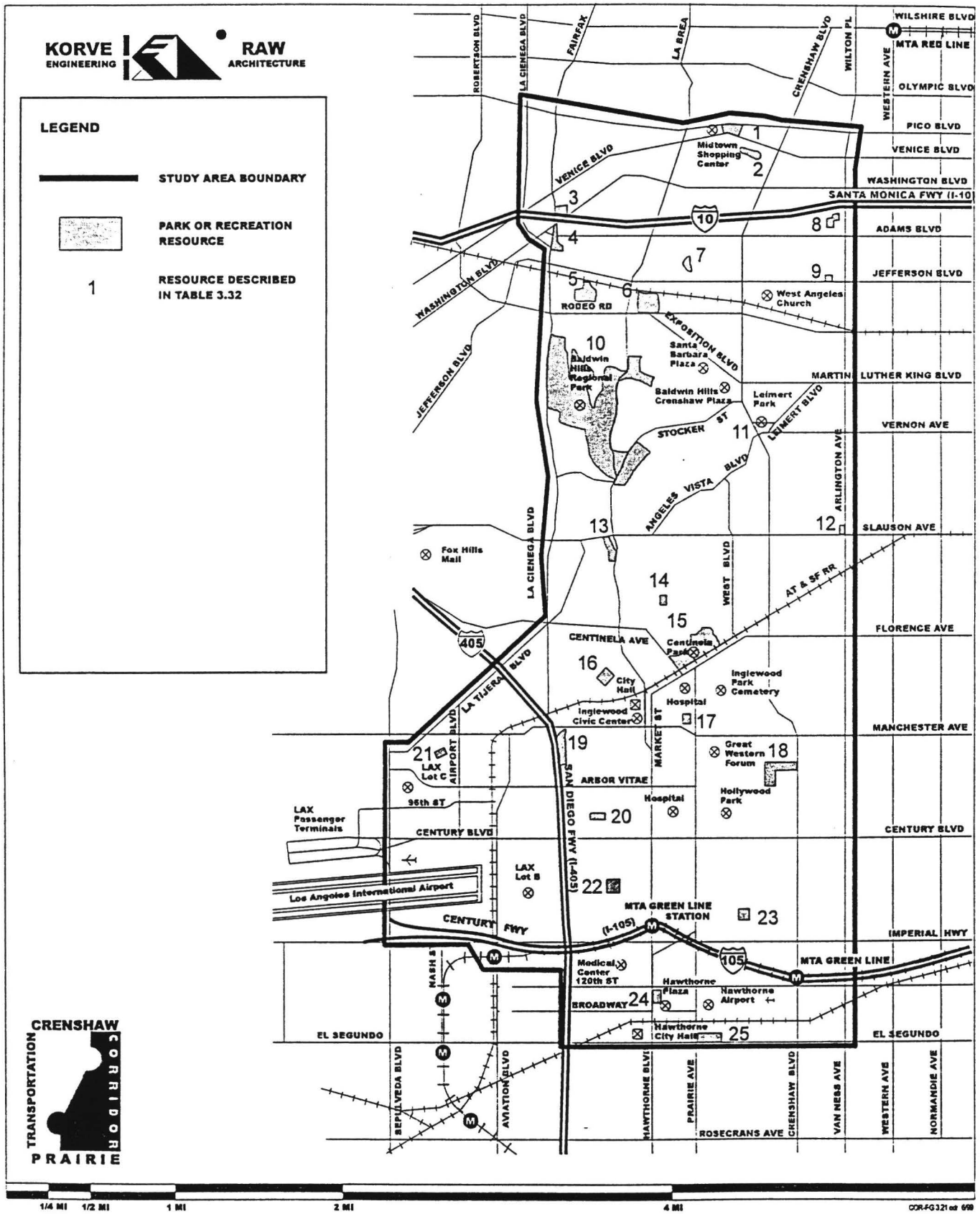
These impacts may be more significant at locations where the rail alignment is proposed to operate at-grade or in an aerial configuration. Subway sections typically do not affect roadway or intersection configurations except during construction, and may or may not produce station area impacts.

Roadway configuration impacts can include the loss of through travel lanes and roadway capacity, increased right-of-way needs, the loss of on-street parking, a reduction in sidewalk widths, and a reduction in access to and from minor cross streets. At-grade, in-street rail systems typically require a minimum width of 30 feet, increasing to 50 feet at station locations. Aerial segments typically require a 12 foot median to allow for six foot columns and to provide the necessary clearance for safety purposes, increasing to 40 feet at station locations. When these dimensions cannot be accommodated within the existing street width (curb-to-curb) or within the existing street right-of-way (including two-way left-turn lanes, sidewalks and any medians), it may be necessary to narrow the sidewalks and/or medians, or acquire additional right-of-way. If neither of these efforts to gain the space required to accommodate the rail system is possible, street right-of-way devoted to existing travel lanes can be converted to rail transit use, resulting in the loss of lanes and the capacity of the roadway to carry vehicles. A key concern when considering a reduction in

Crenshaw-Prairie Transportation Corridor
Major Investment Study

Figure 3.21

Parks and Recreation Resources



the number of traffic lanes on a particular street is whether parallel streets have sufficient capacity to handle the traffic that would be diverted. It may be necessary to prohibit on-street parking at some locations to accommodate at-grade or aerial rail segments. Access to and from minor streets (left turns) which cross the rail alignment may be reduced to allow for at-grade or aerial rail segments.

Intersection configuration impacts can include the loss of left-turn lanes, creation of additional right-of-way requirements and changes in intersection geometries. Where at-grade or aerial rail segments pass through intersections, the most common impact is the loss of existing left-turn lanes and/or the prohibition of left turn movements. If travel lanes are to be maintained, it may be necessary to reconfigure the existing street right-of-way or to acquire additional right-of-way. Adjusting traffic signals to provide split phasing can maintain left-turn movements, but will reduce the roadway capacity.

Station area impacts can include the loss of on-street and/or off-street parking, reduction in sidewalk widths and creation of additional right-of-way needs. The additional width required to accommodate aerial or at-grade station platforms or subway station portals may necessitate the elimination of on-street parking and/or a reduction in sidewalk widths. Where these measures are inadequate, it may be necessary to acquire additional right-of-way. At locations where the proposed aerial or at-grade stations are not in the street, such as the proposed event-only station near Hollywood Park, existing off-street parking spaces may be lost.

Among the alternatives, the at-grade options typically have greater traffic and parking impacts that the grade separated alternatives. In summary, Alternative 4 has the lowest level of impact (moderate), while Alternatives 3 and 6 will have somewhat higher levels of impact (moderate to high) and Alternative 5 has the highest level of impact (high).

In the Mid-City and Crenshaw segments of the Corridor, traffic and parking impacts may include the following:

- Alternative 3 is proposed to operate at-grade and would require either substantial widening of portions of Crenshaw Boulevard, or the displacement of parking lanes and/or travel lanes. Roadway configuration impacts, particularly right-of-way impacts would be high. Intersection impacts also would be high as existing left-turn lanes and pockets would have to be eliminated or redesigned.

- Alternative 4 is planned to run primarily in an aerial configuration with some subway portions in this segment. Structural supports for the aerial system would occupy space in the center of the roadway where a two-way, left-turn lane or center median currently exists. Intersection impacts and roadway configuration impacts would be moderate to high, with additional right-of-way possibly being needed at the portals where the alignment transitions between aerial and subway operations.

- Alternative 5 would affect traffic operations in similar ways as those identified for Alternative 3 except for right-of-way impacts. Because this alternative would take travel lanes rather than acquiring additional right-of- way, the right-of-way impacts would be minimal, while the impact on traffic operations would be high. An analysis of the ability of parallel arterial

streets to carry traffic that would be diverted from Crenshaw Boulevard shows that these major parallel streets would become overloaded and operate at unsatisfactory levels of service. Increased activity on secondary parallel streets would negatively impact residential neighborhoods.

- Alternative 6 would run primarily in subway service over this segment with some aerial operations. Structural support for the aerial sections would occupy space in the center of the roadway where a two-way, left-turn lane or center median currently exists. Intersection impacts at these locations would be moderate to thigh, with additional right-of-way possibly being required at portals where the alignment transitions between aerial and subway operations.

In the Inglewood and LAX segments of the Corridor, the possible traffic and parking impacts of Alternatives 3 and 4 which use this segment are:

- The impacts of Alternative 3 would be low as a majority of the alignment in this segment follows an existing railroad right-of-way. At existing grade crossings through Inglewood, traffic would experience additional delays due to the increased rail activity. These delays, however, would be frequent, but very brief (typically 30 seconds, or the equivalent of one traffic signal cycle), and are anticipated to have little impact on traffic flow in the area.

- The impacts of Alternative 4 would be lower than Alternative 3, but would cause some disruptions due to maximized at-grade operations in this segment. At existing grade crossings through Inglewood, traffic would experience additional delays due to the increased rail activity. These delays would be frequent, but very brief (typically 30 seconds, or the equivalent of one traffic signal cycle), and so are anticipated to result in minor impacts on traffic flow in the area.

In the Hawthorne segment of the Corridor, the possible traffic and parking impacts of Alternatives 3 and 4 which operate in this segment may include the following:

- The impacts of Alternative 3 would be moderate in this segment. Additional right-of-way may be required south of Manchester Avenue, where a transition from subway to at-grade operations would occur. Between Manchester Avenue and 111th Street, this alternative would run along the east side of Prairie Avenue, where it would require additional right-of-way and displace existing off-street parking for Hollywood Park visitors. The proposed "event-only" station near Hardy Street would displace additional off-street parking spaces. At-grade operation on Hawthorne Boulevard south of the I-105 Freeway would displace two travel lanes and two curb parking lanes.

- The impacts of Alternative 4 would be moderate in this segment. The portal at the transition from subway beneath Prairie Avenue to aerial south of Manchester Avenue may require additional right-of-way. The aerial portion of this option is located over the Hollywood Park parking lot, immediately east of Prairie Avenue, as would the proposed "event only" station, displacing some off-street parking. South of Century Boulevard, the aerial alignment would continue along the east side of Prairie Avenue to 111th Street and would require additional right-of-way. At 111th Street, the alignment is proposed to transition southwest to join

Hawthorne Boulevard, where it would displace the existing shoulder and operate over the center median. Through these portions of this option, configuration and intersection impacts would be moderate.

In the Century segment of the Corridor, the possible traffic and parking impacts of Alternatives 5 and 6 which operate in this segment may include the following:

- The impacts of Alternative 5, which maximizes at-grade operation, would be high. At-grade mixed-flow operation through Downtown Inglewood would displace travel lanes and street parking on Market Street, which would become pedestrianized, and possibly also displace travel lanes or parking in the residential streets south of Manchester Avenue. Where this alignment runs on the east side of Prairie Avenue between 90th Street and Century Boulevard, rail operations would displace existing off-street parking at Hollywood Park. On Century Boulevard from Prairie Avenue to Inglewood Avenue, this alternative would displace two travel lanes, which analysis shows would not cause major impacts because Century Boulevard and nearby parallel arterial streets have significant unused capacity. West of Inglewood Avenue where the alignment would become aerial, impacts to left-turn pockets at intersections and left-turn access to properties along Century Boulevard would be moderate.

- The impacts of Alternative 6, which minimizes at-grade operation, would be moderate. At existing at-grade crossings on the existing railroad right-of-way, traffic would experience additional delays due to the increased rail activity. These delays would be frequent but very brief (typically 30 seconds, or the equivalent of one traffic signal cycle), and so would have little impact on traffic flow in the area. A majority of this segment would be aerial and would cause left-turn impacts at intersections and would limit left-turn access to and from adjacent properties through Downtown Inglewood along La Brea Avenue, Manchester Avenue and Century Boulevard. Between Manchester and Century Boulevards, the alignment would run along the east side of Prairie Avenue through the parking lot of Hollywood Park and would displace existing off-street parking.

3.5.6 Community Disruption and Displacement

This section evaluates the possible changes in activity patterns of residents, employees and visitors due to both rail construction and operation. Short-term effects that are likely to occur during rail construction include: noise impacts, visual and aesthetic impacts, travel delays and detours, and reduced accessibility to land uses adjacent to the rail system construction sites. Dependent on the alternative ultimately identified, a rail system may require significant land takes and thus displace existing structures and associated persons, or the system may permanently alter the travel patterns of residents and employees who find previous trips destinations no longer as attractive or accessible. As may be expected, it is difficult to add a high-capacity transportation improvement into a fully built-out Corridor without some resulting disruption and displacement. Possible community disruption and displacement impacts may include the following:

- *Alternative 3* - This predominately at-grade alternative evaluates acquiring additional right-of-way rather than taking of travel lanes. Implementation of this alternatives in its present configuration is anticipated to result in significant community displacement due to the many

property takes that would be required. The majority of these property takes most likely would occur in the northern segment of the Corridor where the existing street right-of-way may need to be widened by as much as 40 feet. Property acquisition may be required between the intersections of Crenshaw/Washington Boulevards and Crenshaw Boulevard/Rodeo Road, as well as between Crenshaw/Martin Luther King Boulevards and Crenshaw Boulevard/Vernon Avenue. The property takes along Crenshaw Boulevard between Washington Boulevard and Rodeo Road would reduce front yard space and leave structures unaffected. However, between Martin Luther King Boulevard and Vernon Avenue, acquisition of land and taking of structures may permanently displace businesses and their employees. Additional property takes may be required further south along Crenshaw Boulevard between Slauson Avenue and the AT&SF railroad right-of-way, and on Hawthorne Boulevard between Century and the I-105 Freeway. The costs of such property takes would need to be weighed in light of possible redevelopment and enhanced ridership opportunities.

- *Alternative 4* - This options avoids the substantial property takes associated with Alternative 3 by operating primarily in an aerial configuration with some subway portions along constrained segments of Crenshaw Boulevard. The only at-grade portions of this option are located along the former AT&SF railroad right-of-way and a portion of Aviation Boulevard where disruption and displacement effects would be minimal. The predominately aerial configuration of this alternative may alter the environment of businesses and residences to a greater extent than an at-grade or subway configuration. The visual and aesthetic characteristics of the Corridor may be altered, and the proposed aerial operations would require additional right-of-way or the elimination of traffic lanes and/or parking which may disrupt travel through and access to locations within the Corridor.

- *Alternative 5* - The disruption and displacement impacts of this alternative are very similar to those of Alternative 3. This alternative proposes the elimination of traffic lanes and parking at the northern end of the Corridor, rather than the taking of additional right-of-way. This would increase the disruption effects of this alternative, while mitigating the displacement effects as compared to Alternative 3.

- *Alternative 6* - Disruption in the Crenshaw segment of the Corridor during construction of this alternative would be high because of the subway configuration in this northern segment. However, once construction is completed, community disruption and displacement in the northern portion of the Crenshaw segment would be minimal. The resulting effects in the southern portion of the Corridor would be similar to those of Alternative 4, which also primarily incorporates aerial operations. Disruption due to the construction of the aerial portions of this alternative may be greater than those for the subway segments. Displacement would occur only where additional right-of-way is required, but neighborhood characteristics may be altered by an aerial-running rail system.

3.5.7 Economic and Land Use

This section evaluates the economic and land use benefits and impacts of each of the alternatives due to both rail construction and operation for the following factors:

- Improving low income household accessibility to employment opportunities;
- Addressing retail services leakage;
- Serving Corridor activity centers; and
- Increasing economic activity.

Short-term effects are more likely to occur during rail construction and may include travel delays and detours resulting in reduced accessibility to and from Corridor activity centers impacting local businesses adjacent to the rail system construction sites. Dependent on the alternative ultimately identified, property acquisition may adversely impact existing businesses and residents. Conversely, rail system related property acquisition may offer system-related development opportunities particularly in station areas. Such development can strengthen the Corridor's neighborhoods by providing expanded and upgraded space for businesses as well as housing and community services, while strengthening system ridership.

More than 49 percent of the Crenshaw-Prairie Corridor's households are classified as low income and approximately 16 percent of the Corridor's households have no auto available. Both of these factors contribute to a higher than average transit usage in the Corridor. At the same time, 80 percent of the Corridor's residents travel to job opportunities outside of the Corridor due to the loss of jobs from various locations within the Crenshaw-Prairie Corridor, particularly in South Central Los Angeles. The loss of Corridor jobs and constrained access to jobs outside of the Corridor has contributed to a significant increase in study area unemployment and the related decline in Corridor incomes and maintenance of some residential neighborhoods. Future projections show a continued high number of low income households without access to an automobile, and projected higher percentage of transit dependency. At the same time, employment within the Corridor is projected to increase by more than 55 percent by 2015, adding more than 75,000 jobs at existing and new businesses.

All of the rail system alternatives increase the access and mobility of Corridor low income residents to employment opportunities by providing a high-capacity, high-speed regional linkage to Corridor businesses, and enhancing access by Corridor residents to job opportunities outside the Corridor by providing a transit alternative that reduces travel times and improves regional system connectivity. Enhanced access to employment opportunities would strengthen Corridor's economic position, result in lowered unemployment rates, stop the decline in Corridor incomes, and improve neighborhoods with deferred maintenance. Conversely, provision of a rail system within the Corridor would make existing and future job opportunities more accessible to people within and outside of the Corridor- making it a desirable location for new businesses.

Socioeconomic and market factors in the Crenshaw-Prairie Corridor suggest a Corridor buying power 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 non-Corridor locations suggests that the quality, quantity and/or range of retail purchasing opportunities in the Corridor is inadequate or not easily accessed by Corridor, as well as regional shoppers. All of the rail system alternatives would provide enhanced access to the Corridor's retail facilities by all residents, as well as by non-Corridor residents.

The Crenshaw-Prairie Corridor has a significant number of activity, employment and transportation destinations. As illustrated in Figure 3.24, the Corridor's economic opportunities are substantial

with expansion, revitalization and/or redevelopment plans being prepared for many of the Corridor's activity centers including: LAX, Downtown Inglewood and Hawthorne, Hollywood Park, the Great Western Forum, the West Angeles Church, the Faithful Center Missionary Baptist Church, the Leimert Park area, the Baldwin Hills/Crenshaw Plaza, Santa Barbara Plaza, and the Mid-Town Shopping Center. All of these opportunities are dependent on the provision of improved inter- and intra-Corridor transportation access. This much needed transportation system investment is viewed as not only improving Corridor mobility, but also as serving as a catalyst for public and private investment as demonstrated elsewhere in the Los Angeles region. All of the rail alternatives would support these plans by providing a high-capacity, high-speed addition to creating an effective multi-modal transportation network necessary to meet the future mobility needs of businesses and residents by providing vital transportation linkages to, from and within the Crenshaw-Prairie Corridor.

Implementation of rail system may stimulate growth within the Corridor and station areas as has been shown by the Metro Blue Line and systems in other California cities. This resulting economic growth would fit with the identified goals of the Crenshaw-Prairie community. Five local goals were identified through extensive consultation with the public to measure the effectiveness of potential Corridor transportation strategies. Two of the goals addressed economic issues:

- Act as a catalyst for economic development of the Corridor.
- Stimulate revitalization of neighborhoods around station sites.

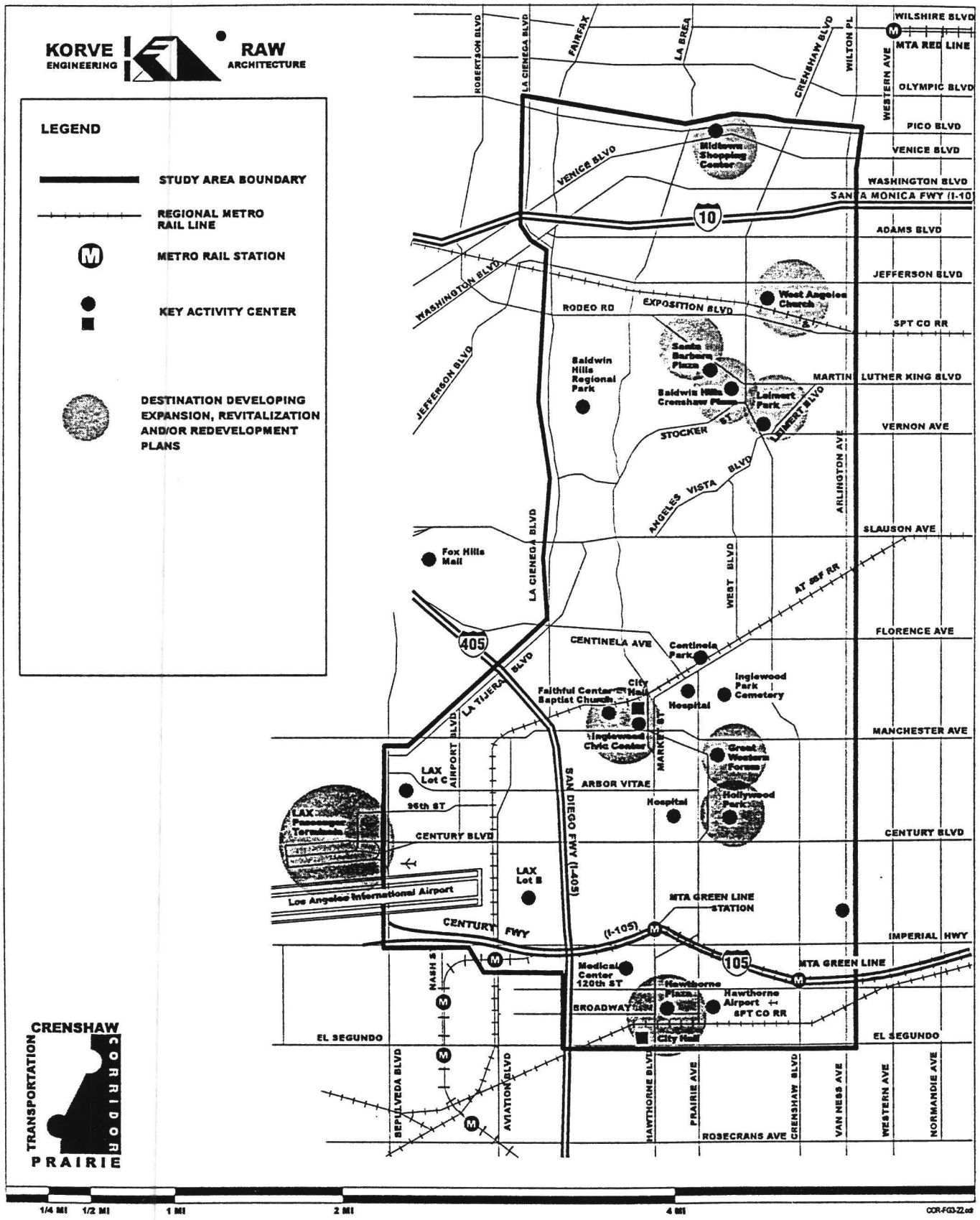
Economic development was a key impetus for starting the Corridor study process with the *Preliminary Planning Study* in 1993. The goal was to provide necessary transit improvements for the Corridor while identifying how to use transit investment as a catalyst for economic development. All of the rail system alternatives, if integrated with the identification and implementation of a proactive economic development strategy, would accomplish the goal of spurring economic growth as demonstrated by other rail systems.

All of the rail system alternatives would act as a catalyst for Corridor economic development.

- *Alternatives 3 and 4* - The best support for the Corridor's economic development goals is provided by these two rail system options partly due to the proposed Two Branch configuration. The two alternatives serve of higher percentage of future Corridor work trips (72 percent versus 51 percent) and future non-work trips (72 percent versus 47 percent) than Alternatives 5 and 6. They best improve low income household accessibility to employment opportunities both outside of and within the Corridor. Alternatives 3 and 4 have a direct connection to the Metro Red and Green Lines providing better job access for Corridor residents. Within the Corridor, the two options directly serve all 15 of the Corridor's activity centers including all of the Corridor's retail destinations. Both alternatives provide substantial travel time savings on all Corridor origin and destination pairs. Alternative 3 is designed to evaluate opportunities to facilitate economic activity related to the transit investment by acquisition of property at key points along the Corridor. Alternative 3 provides a more community-oriented service and therefore has greater potential for attracting community-oriented development. As an economic catalyst, Alternative 4 ranks the highest among the four alternatives under consideration. Not only

Figure 3.22

Development / Land Use Planning Efforts



does its grade-separated alignment result in the best travel times, but its 16 stations provide access to the Corridor's key development and activity centers.

- *Alternative 5* - This option provides improved support for economic goals, but serves only 8 of the Corridor's 15 activity centers. While this alternative is proposed to directly serve Downtown Inglewood by running at-grade along Market Street, it would not serve Downtown Hawthorne. Alternative 5 would improve low income household access to employment opportunities, but provides a direct connection only to the Metro Red Line. Corridor residents desiring to connect with job opportunities in South East Los Angeles via the Metro Green Line would need to transfer from the Crenshaw Line to the study area's bus system. This alternative ranks the lowest as an economic catalyst with a shorter alignment, only 14 stations and no taking of adjacent land for development at station areas. Alternative 5 also has the lowest travel times of the four alternatives and would thus be expected to have the lowest ridership as well, providing the least support for new development in the Corridor.

- *Alternative 6* - This option provides improved support for the Corridor's economic goals by providing inter- and intra-Corridor high-capacity linkages, but serves only 9 of the Corridor's 15 activity centers. While this alternative is proposed to directly serve Downtown Inglewood with aerial service running along La Brea Avenue, it would not serve Downtown Hawthorne. Alternative 6 improves low income household access to employment opportunities, but provides a direct connection only to the Metro Red Line. Corridor residents desiring to connect with job opportunities in South East Los Angeles via the Metro Green Line would need to transfer from the Crenshaw Line to the study area's bus system. Like Alternative 5, this alternative provides only one branch of service and 14 stations thus limiting the potential for new development, but still generating a wider range of Corridor development than currently exist.

3.6 Summary of Findings

The Crenshaw-Prairie Corridor's Initial Set of Major Investment Strategies has been evaluated through a screening process with public input to identify a final set of viable alternatives to be studied further. This technical evaluation process provided an analytical framework identifying the benefits and impacts of each alternative along with the differences between the options. The technical screening process is documented in MIS Task 4.1, *Development of the Final Set of Major Investment Strategies* and highlights of the process results are summarized below. The TSM alternative is not included in this summary analysis, since as a federally required alternative, it will be included in the Final Set of Major Investment Strategies. In summary, the following points provided the basis for elimination of the Century Boulevard options (Alternatives 5 and 6) from further consideration:

- Capital costs show that it is possible to construct two branch, at-grade rail service (Alternative 3) providing increased/extensive Corridor service coverage along with better travel time savings and regional connectivity at less cost than a one branch grade-separated system (Alternative 6).

- The Two Branch options (Alternatives 3 and 4) serve all of the Corridor's 15 key activity centers, while the Century Boulevard alternatives provide access to only 8 or 9.

- The on-going operating and maintenance costs for rail feeder service are double for the Century Boulevard options as increased bus service is required to compensate for the rail alignments not directly serving all of the Corridor's activity centers and connecting with the Metro Green Line.

- The circuitous Century Boulevard options have seven tight curves, more than double the three curves for the Two Branch options. Constrained alignment curves result in a reduction in operating speeds and travel times, increased noise impacts on adjacent neighborhoods, and on-going operating and maintenance issues and higher costs.

- The Two Branch options have less of an impact on the Corridor's street system with only 69 percent of the alignment operating along streets versus 87 percent of the Century Boulevard options. Over 31 percent of the Two Branch alternatives operate in a separate railroad right-of-way, while only 13 percent of the Century Boulevard options use the separate right-of-way.

- The Two Branch options provide entirely new rail service for the Corridor, while 29 percent of the Century Boulevard options run parallel and within one mile of the Metro Green Line.

Based on public input and the technical evaluation of the Initial Set of Alternatives, the following four alternatives were recommended for inclusion in the Final Set of Major Investment Strategies to be studied further through detailed environmental and technical analysis in future planning work. This set of alternatives, including the required No Build and Transportation System Management (TSM) alternatives, was seen as representing a range of alternatives with the greatest potential to improve transportation mobility and support economic development in the Crenshaw-Prairie Corridor.

1. *No Build Alternative*

   This option represents only those Corridor transportation improvements that are already programmed through the year 2015. This option provides a baseline for comparison among the alternatives. All of the transportation elements in the No Build Alternative are included in each of the other alternatives described below, since the No Build option represents future Corridor conditions in the study year 2015.

2. *Transportation System Management (TSM) Alternative*

   This option evaluates implementing various lower capital cost improvements to address mobility problems in the Corridor. The TSM Alternative includes increases to the type and frequency of Corridor bus transit services and provides some bus transit priorities on local major streets. Combined, these measures represent a set of improvements that can result in minor, short-term transportation benefits for the Corridor with relatively low investment, separating possible mobility benefits from those which can only be realize through implementation of major capital intensive improvements such as a rail system.

The Two Branch rail service options from the Initial Set are recommended for further study. While the vertical configuration for Alternative 3 remains the same as that studied during the preliminary technical analysis effort, some vertical configuration modifications were recommended for Alternative 4 based on public outreach and technical work. The recommended rail alternatives continue the following rail service policy discussions:

- Evaluation of the different benefits and impacts of a primarily at-grade rail system versus a primarily grade-separated system;

- Assessment of the best way to accommodate a rail system within a heavily used and fully developed corridor;

- Definition of the primary role of a future Crenshaw-Prairie Corridor rail system - Community-based service operating primarily at-grade and integrated into the Corridor's existing neighborhoods with a resulting slower operating speed and longer travel times, or regionally-oriented service both to and from the Corridor operating primarily in a grade-separated configuration and integrated with new development at key locations with a resulting faster operating speed and shorter travel times; and

- Assessment of the viability of traffic and land use policies for successful implementation of an at-grade system, or segments of an at-grade system, including transit supportive land use, pedestrian-oriented and parking policies, along with economic intervention strategies.

A summary description of each of the Two Branch options recommended for further study follows. Detailed descriptions, including updated capital and operating/maintenance costs are presented and discussed below.

3. *Rail: Two Branch Option serving LAX (via the AT&SF RR right-of-way) and Hawthorne Plaza (via Prairie Avenue) - maximize at-grade operations (Figure 3.23)*

   This primarily at-grade, community-oriented alternative would bring new rail transit service to the Crenshaw-Prairie Corridor. Two branches are proposed operating south the planned Metro Red Line station at Venice/San Vicente Boulevards - one providing service southwest to LAX and a second running south to Downtown Hawthorne. This alternative would maximize the use of at-grade operations to reduce construction costs. Implementation of this option would require widening of the existing street right-of-way and/or replacing travel lanes or parking at certain locations. This option provides service over 14.1 miles and includes 17 possible station locations.

4. *Rail: Two Branch Option serving LAX (via the AT&SF RR right-of-way) and Hawthorne Plaza (via Prairie Avenue) - minimize at-grade operations (Figure 3.24)*

   This alternative would follow the same alignment as Alternative 3, but would minimize the use of at-grade operations with segments of subway and aerial service It would provide a more regionally-oriented rail service between the planned Metro Red Line station at Venice/San Vicente Boulevards and both LAX and Downtown Hawthorne. This alternative would maximize the use of grade-separated operations to reduce traffic and community

impacts. This option provides service over 13.6 miles, includes 16 possible station locations and would have a higher construction cost than Alternative 3.

Some changes were made to the two recommended rail alternatives based on public input and conceptual engineering drawings developed during the technical analysis effort. Both Alternative 3 and 4 were shortened by approximately 0.5 mile in the LAX area. Previously the alternatives terminated at the intersection of Aviation Boulevard and Manchester Boulevard. Given the uncertainty of the LAX master plan efforts and the Metro Green Line extension plans, the terminus for the Crenshaw Rail Line was pulled back to the AT&SF RR ROW and Arbor Vitae. This horizontal distance would accommodate the distance required to make the connection in either aerial or subway configuration, as well as remaining at-grade. This station location also provides a parking opportunity for this interim terminus.

Primarily at-grade Alternative 3 had minor changes made to its horizontal alignment with slightly more aerial service adjacent to the interface with the Metro Green Line. The subway operations along the Hawthorne branch adjacent to the Inglewood Park Cemetery south to Manchester Boulevard were shortened and continue in a retained fill configuration adjacent to the Great Western Forum.

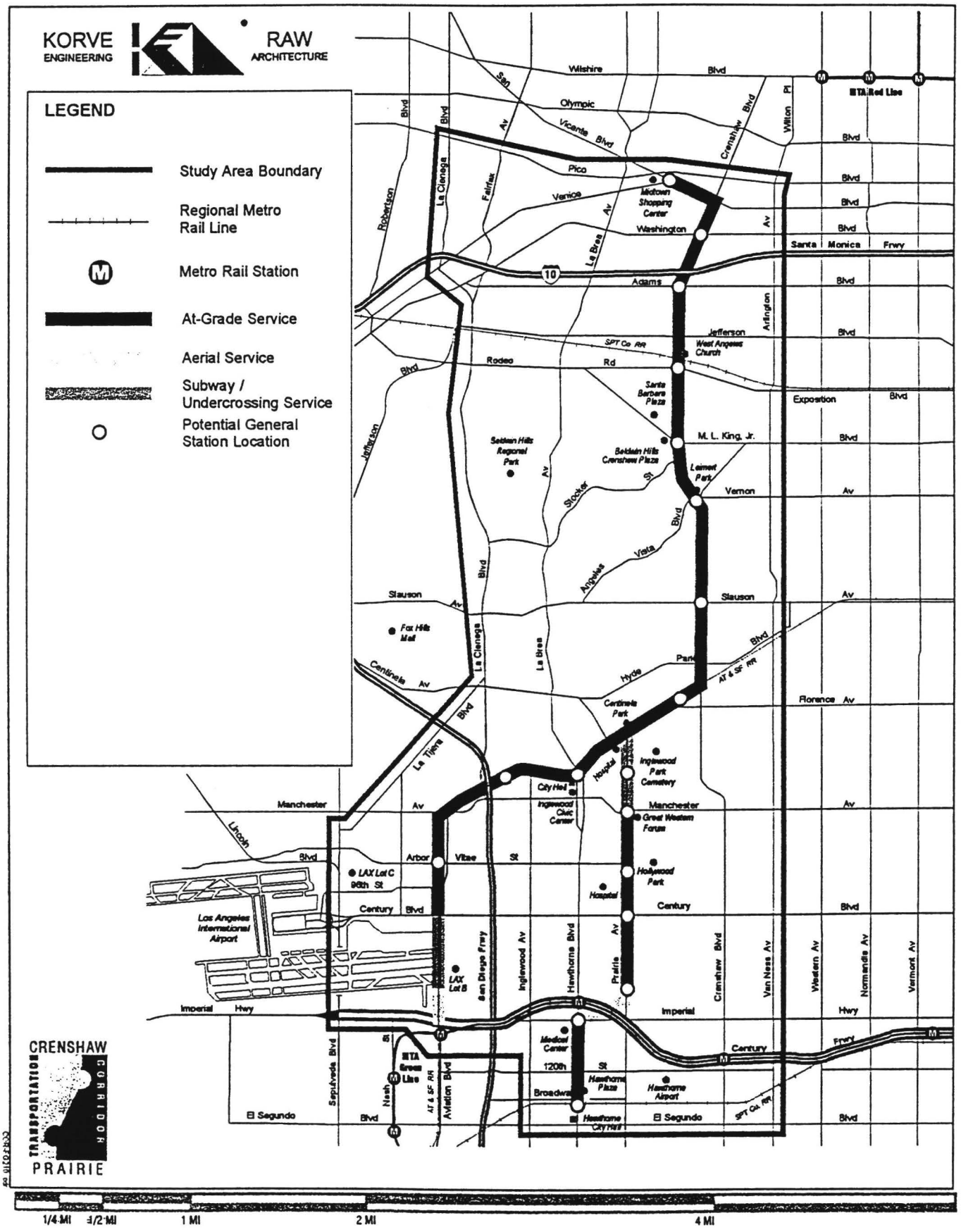
Based on public input and engineering analysis, the vertical configuration of Alternative 4 was revised to provide more subway operations. Formerly, Alternative 4 operated in a subway configuration between the interface with the Metro Red Line at Venice/San Vicente and Venice/Crenshaw Boulevard. At this point, the alignment transitioned to an aerial configuration to MLK Boulevard. Due to the substantial impacts of the aerial system on the large number of residences along this segment, the large number of historic and cultural resources and the negative impact on Crenshaw Boulevard traffic flow, as well as the difficulty in crossing the I-10/Santa Monica Freeway in an aerial configuration, the decision was made to evaluate this segment remaining in a subway operations south from the connection with the Metro Red Line to below Exposition Boulevard. Engineering changes were also made along the AT&SF RR ROW to further reduce rail operations impacts on the area's north-south running streets.

Table 3.33: Overview of Final Set of Rail Investment Strategies

	Alternative 3 Two Branch Option Maximize At-Grade Operations	Alternative 4 Two Branch Option Minimize At-Grade Operations
At-Grade (miles)	11.6	–
Aerial (miles)	1.0	6.8
Subway (miles)	1.2	4.9
Retained Cut (miles)	0.3	1.9
Total (miles)	14.1	13.6
Number of Stations	17	16

Crenshaw-Prairie Transportation Corridor
Major Investment Study

Figure 3.23
Recommended Rail Alternative
Maximize At-Grade Operations



Several changes were made to the stations proposed by each alternative as a result of public input and conceptual engineering drawings developed during the technical evaluation process. For both alternatives, the terminal station on the LAX branch was relocated and the station interfacing with the Metro Green Line refined.

Table 3.34: Potential Station Locations

Alternative 3 Two Branch Option Maximize At-Grade Operations	Alternative 4 Two Branch Option Minimize At-Grade Operations
1. Venice/San Vicente 2. Crenshaw/Washington 3. Crenshaw/Adams 4. Crenshaw/Exposition 5. Crenshaw/King 6. Crenshaw/Vernon (Leimert Park) 7. Crenshaw/Slauson 8. AT&SF ROW/West LAX Branch: 9. AT&SF ROW/La Brea (Downtown Inglewood 10. AT&SF ROW/Ash 11. AT&SF ROW/Arbor Vitae Hawthorne Branch: 12. Prairie/Manchester (Great Western Forum) 13. Prairie/Hollywood Park (event only) 14. Prairie/Century 15. Prairie/111th 16. Hawthorne/I-105/Metro Green Line 17. Hawthorne/El Segundo	1. Venice/San Vicente 2. Crenshaw/Adams 3. Crenshaw/Exposition 4. Crenshaw/Stocker (Baldwin Hills/Crenshaw Plaza and Leimert Park) 5. Crenshaw/Slauson 6. AT&SF ROW/West LAX Branch: 7. AT&SF ROW/La Brea (Downtown Inglewood) 8. AT&SF ROW/Oak 9. AT&SF ROW/Arbor Vitae Hawthorne Branch: 10. Prairie/Grace (Daniel Freeman Hospital) 11. Prairie/Manchester (Great Western Forum) 12. Prairie/Hollywood Park (event only) 13. Prairie/Century 14. Prairie/111th 15. Hawthorne/I-105/Metro Green Line 16. Hawthorne/El Segundo

Primarily at-grade Alternative 3 previously had 19 stations and is now proposed to have 16 daily stations and 1 event-only station at Hollywood Park. Two initial stations in the LAX area - AT&SF RR ROW/Manchester and Aviation/Century - were consolidated into a single terminal station at AT&SF RR ROW and Arbor Vitae. This new station location serves adjacent employment destinations, provides a station area parking opportunity and allows for future policy and engineering decisions to be made regarding how the rail lines will interface in the LAX area. Also in this alternative, the station previously located at the AT&SF RR ROW and La Cienega was relocated east to the AT&SF RR ROW and Ash Avenue. This new site provides I-405 commuters with a park-and-ride opportunity and connections to the Metro Red, Blue and Green lines via the Crenshaw Line. The proposed station at Prairie Boulevard serving Daniel Freeman Hospital was dropped from this alternative. Due to the adjacent Inglewood Park Cemetery and the constrained street right-of-way width, Alternative 3 operates in a subway configuration south from the AT&SF RR ROW to Manchester Avenue. Alternatives 3 and 4 were designed to bracket the potential cost of building a Crenshaw Corridor rail line - a lower cost, primarily at-grade system versus a higher

cost, primarily grade-separated system. In order to maintain the lower capital cost for this option, the costly subway station that would be required at this location was deleted. It is included in Alternative 4 for costing purposes and can always be included in the ultimately identified project.

For both alternatives, the location of the Hawthorne/Imperial Highway station was refined to provide a closer interface with the Metro Green Line. The new site provides I-105 commuters with a park-and-ride opportunity and connections to the Metro Green Line. Reflecting the refined location, the station was renamed as the Hawthorne/I-105 station.

Primarily grade-separated Alternative 4 has retained its original number of stations - 16 daily and one event only station at Hollywood Park. As discussed above for Alternative 3, two initial stations in the LAX area - AT&SF RR ROW/Manchester and Aviation/Century - were consolidated into a single terminal station at AT&SF RR ROW and Arbor Vitae. This new station location serves adjacent employment destinations, provides a station area parking opportunity and allows for future policy and engineering decisions to be made regarding how the rail lines will interface in the LAX area. Also in this alternative, the station previously located at the AT&SF RR ROW and La Cienega was relocated east to the AT&SF RR ROW and Oak Street. This new site provides I-405 commuters with a park-and-ride opportunity and connections to the Metro Red, Blue and Green lines via the Crenshaw Line.

The preliminary order-of-magnitude cost estimates identified in MIS Task 4.1, *Development of the Final Set of Major Investment Strategies* and presented in Section 3.4.1 have been revised to reflect engineering design changes and updated to FY 1998 dollars. Conceptual order-of-magnitude capital cost estimates were identified for the rail alternatives by LACMTA staff using unit costs prepared by the consultant team. The two rail alternatives were designed to allow for identification of costs for two distinctive rail system operational configurations: primarily at-grade operations and primarily grade-separated operations. These capital costs are based on conceptual engineering drawings and should be used as a guideline for comparing the two rail alternatives and understanding the trade-offs between the two system types and related decisions. Future work will refine the engineering drawings and capital costs. Refined engineering drawings will reflect more precise right-of-way requirements which have been estimated at this point and may be on the high side as far as land requirements and costs.

Table 3.35: Order-of-Magnitude Capital Cost Estimates (Millions of FY 1998 Dollars)

	Alternative 3 Maximize At-Grade Operations	**Alternative 4** Minimize At-Grade Operations
Venice/SV to LAX	$ 794.3	$1,456.6
Hawthorne Branch	$ 211.1	$ 387.2
Subtotal	$1,005.4	$1,843.8
Maintenance Yard	$ 10	$ 10
TOTAL	**$1,015.4**	**$1,853.8**
Total Miles	14.1	13.6
Average Cost Per Mile	$ 72.0	$136.3

From a total capital cost perspective, primarily grade-separated Alternative 4 has the highest resulting cost. This higher cost is consistent with a typically higher construction cost for grade-separated systems that at-grade systems. Alternative 4 is estimated to cost $838.4 million more than primarily at-grade Alternative 3. Alternative 3 is projected to cost approximately $72 million a mile compared to $136 million a mile for Alternative 4.

Looking at the cost for the two branches separately, for Alternative 3 the 11 miles of the LAX branch is estimated to cost $794.3 million and the 3.1 miles of the Hawthorne branch $211.1 million. The higher cost for the Hawthorne segment reflects the need for subway and aerial operations in this portion of the study area. The 1.49 miles of subway and retained fill operation is required adjacent to the Inglewood Park Cemetery and due to the constrained street width. Aerial operations in this branch allow for the system to cross the I-105 Freeway and interface with the Metro Green Line.

For Alternative 4, the LAX branch is estimated to cost $1,46.6 million, and the Hawthorne branch $387.2 million. As in Alternative 3, the higher cost for the Hawthorne segment reflects the need for subway and aerial operations in this portion of the study area. The 1.49 miles of subway and retained fill operation is required adjacent to the Inglewood Park Cemetery and due to the constrained street width. Aerial operations in this branch allow for the system to cross the I-105 Freeway and interface with the Metro Green Line.

While capital cost is an important factor, the ultimate decision on which transportation alternative to implement in the Corridor should be balanced against the full range of related benefits and impacts. The primarily at-grade alternative appears very attractive from a capital cost perspective, but technical analysis has shown this option would result in slower operating speeds and longer travel times.

Table 3.37: O&M Costs Per New System Mile (Millions of FY 1998 Dollars)

	Alternative 3 Maximize At-Grade Operations	**Alternative 4** Minimize At-Grade Operations
Miles Added to Rail System	14.1	13.6
Annual O&M Cost	$27	$26
O&M Cost Per New System Mile	$1.91	$1.91

Conceptual annual operating and maintenance cost estimates were identified in 1998 dollars for the two rail alternatives and reflect additional bus and rail costs. Projected costs were based on the current LACMTA cost structure for similar services. At this level of evaluation, the estimated costs are based on approximate levels of service. Specific service plans and related costs will be refined in future planning work along with detailed patronage projections.

While some north-south bus service can be deleted with implementation of the rail system alternatives, a minor increase of $1 million annually in bus service over No Build conditions has been identified for the rail options. This slight increase in Corridor bus service reflects a placeholder for future service needs including: implementation of the Mid-Cities bus system restructuring recommendations; improvements of east-west bus connections to the proposed rail system; and

provision of community-based service to the rail stations. Table 3.37 shows no real difference in the projected operating and maintenance costs between the alternatives. Though at-grade systems typically cost more to operate that a corresponding grade-separated system, the shorter alignment of alternative 4 due to less double tracking required along the AT&SF RR ROW to accommodate the split into two service branches.

3.7.1 Fit with Purpose and Need

In MIS Task 2.1, *Mobility Problem and Statement of Purpose and Need,* five local goals were identified through extensive consultation with the public to measure the effectiveness of potential Crenshaw-Prairie Corridor transportation strategies. The alternatives included in the Final Set of Alternatives meet and address the purpose and need for this project.

1. *Improve mobility within the Corridor.*

   When assessing resulting mobility improvements, the rail alternatives provide improved operating speeds, travel time savings and Corridor connectivity. LACMTA bus line 210 currently operates at 12.5 mph along Crenshaw Boulevard. By 2015, as increased arterial congestion negatively impacts future bus operation speeds, the Corridor's bus system is forecast to operate at 10.5 mph. Alternatives 3 and 4 are projected to operate at 22.6 mph and 29.4 mph respectively. Even with primarily at-grade operations constrained by traffic conditions, Alternative 3 would operate at more than double the estimated bus system speed. Primarily grade-separated Alternative 4, limited only by station spacing and alignment curve restrictions, would operate at approximately three times the bus system. More than 90 percent of Alternative 4 would operate at 45 mph or faster, with 40 percent of Alternative 3 running at 45 mph or higher. With these higher operating speeds, alternatives 3 and 4 offer a substantial travel time savings over the No Build and TSM alternatives. The highest travel time savings would be within the Corridor with the trip from Venice/San Vicente in the north to the Hawthorne Plaza in the south taking 22 minutes on Alternative 4, approximately half the time it currently takes on the bus at 40 minutes. Traveling from Venice/San Vicente to LAX would go from 57 minutes on the bus to 29 minutes on grade-separated Alternative 4 and 34 minutes on at-grade Alternative 3.

2. *Improve regional connections to and from the Corridor.*

   Currently, the Crenshaw-Prairie Corridor has poor connections to the regional transportation system, and no north-south high-capacity connection. This lack of transit infrastructure limits mobility to and from the Corridor. Both rail alternatives connect with the regional rail system and provide a north-south, high-capacity linkage enhancing Corridor- and region-wide connectivity. Alternatives 3 and 4 would connect with the Metro Red Line at the northern end of the Corridor, and the Metro Green Line at the southern end. These system interfaces provide linkages to the regional rail system including the Metro Blue Line and Metrolink system.

   The resulting higher system operating speeds would provide faster connections to employment opportunities for the 80 percent of the Corridor's residents who work outside of the Corridor. Primarily grade-separated Alternative 4 would provide substantial travel

time savings to and from the Corridor. Though the total number of transfers is reduced on some trips, transfer would continue to be required from the north-south Crenshaw Line to the predominately east-west oriented Metro Red and Green Lines.

3. *Meet the transportation needs of Corridor residents.*

Existing Corridor population and employment densities are double the average of the County's urbanized area. More than 49 percent of the Corridor's households are classified as low income and approximately 16 percent of the households have no auto available. Approximately 80 percent of the Corridor's residents travel to jobs outside the Corridor area. Currently, the Crenshaw-Prairie Corridor's transit mode split is more than double the County average. Corridor travelers have limited travel options with no connection to the regional rail system.

The proposed rail alternatives would provide a high-capacity transportation connection improving the access of Corridor residents to employment, educational and recreational opportunities throughout the Corridor and the Southern California region. These options offer an alternative to travel by auto and bus, which are increasingly impacted by arterial congestion, and would provide improved travel time savings and improved connections to regional rail system. Both alternatives would improve service to and through under-served areas of the Corridor, particularly as the rail alternatives would be enhanced by increased community-based bus service to the rail stations. The two branch alignment configuration serves a majority of the Corridor's low income and auto-less households. And the rail alternatives provide the greatest improvement in the range of Corridor transportation options as they would provide a new, high-capacity transportation system with expandable capacity.

4. *Act as a catalyst for economic development of the Corridor.*

A majority of the Corridor's activity centers have expansion, revitalization and/or redevelopment plans. All of these economic opportunities are dependent on the provision of improved accessibility to, from and through the Corridor. The rail options add to creating an effective, multi-modal transportation network within the Corridor to meet the future mobility needs of businesses and residents. This investment will not only improve Corridor mobility, but also serve as a catalyst for public and private investment in the Corridor as demonstrated elsewhere in the region.

5. *Stimulate revitalization of neighborhoods around station sites.*

Over the years, loss of jobs from various locations in the Crenshaw-Prairie Corridor, particularly South Central Los Angeles, has contributed to a significant increase in study area unemployment and the related decline in Corridor incomes and residential neighborhoods. A high-capacity transportation improvement such as a rail system would greatly increase the access of Corridor residents to employment, educational and training centers throughout the Southern California region. Conversely, improved regional access through a direct connection to the regional rail system will make the Crenshaw-Prairie Corridor attractive to new businesses. A economic development policy with strong

incentives to attract jobs to the rail system's station areas can bring job opportunities directly to Corridor residents.

The lack of transportation system investment in the Corridor has resulted in constrained mobility, which has negatively impacted commercial and retail activity in the Corridor. Many of the Corridor's retail centers suffer from constrained and congested accessibility, negatively impacting access by both Corridor and regional residents. Providing a direct high-capacity connection to the regional rail system would improve access for both Corridor residents and visitors.

3.7.2 Next Steps

The LACMTA has undertaken a Major Investment Study for the Crenshaw-Prairie Corridor, a north-south oriented travel corridor that covers portions of three cities - Los Angeles, Inglewood and Hawthorne. The purpose of the Crenshaw-Prairie Corridor MIS was to conduct a thorough and comprehensive analysis of future transportation system improvements for this constrained and congested Corridor. The results of this MIS planning process were 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.

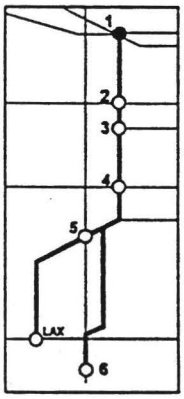
Based on extensive public involvement and past study efforts, a complete set of transportation improvement alternatives providing solutions for the Corridor's mobility problems was identified. Based on the decision by LACMTA staff to defer completion of the MIS process, including the time-sensitive environmental work, a Route Refinement Study (RRS) was prepared. This RRS documents the analytical work completed through definition of the Final Set of Alternatives, but defers the detailed work to select among the alternatives to a future date.

As implementation funding for the Crenshaw-Prairie Corridor transportation improvement project is identified in the future, the Major Investment Study process should be reinitiated and completed in order to qualify the resulting project for federal funding. The MIS process will allow for a thorough and comprehensive analysis of the Final Set of Major Investment Strategies identified through the Route Refinement Study process.

The Crenshaw-Prairie Corridor is a north-south oriented corridor running from the Mid-City area in the north, south along Crenshaw Boulevard to the Florence Boulevard railroad right of way; and west through Inglewood to the Los Angeles International Airport (LAX). The second leg of the corridor goes through Hollywood Park, the Forum all the way along Hawthorne Boulevard to the Hawthorne Plaza.

OVERVIEW OF THE CRENSHAW-PRAIRIE CORRIDOR

The majority of the Crenshaw/Prairie Corridor is located within the Inner City communities of South Los Angeles. Because the Corridor is in the Inner City, Crenshaw/Prairie faces a unique, complex set of challenges. Yet, in large part due to its location, the Crenshaw/Prairie Corridor enjoys a tremendous amount of assets, which create a wealth of opportunities, and potential for economic revitalization.



The essence of this study of major rail/transit investment in the Crenshaw/Prairie Corridor focuses on building on the assets rather than the deficits of the area. These assets such as LAX, Baldwin Hills/Leimert Park and Mid-Cities, to name a few, must be nurtured and developed. By connecting them to the County's outlining regional destination points and job centers the area can become revitalized.

As our society moves into the new millennium, the trends of the 21st Century will provide powerful opportunities to the Corridor due to Crenshaw/Prairie's unique assets. The goal of economic development and revitalization through Transit investment will require innovative thinking and planning along with collaborative partnerships to leverage these assets into a viable vision for the communities surrounding the Corridor.

THE PHASED STUDY

In this phase the proposals for the six Station Areas are studied in detail with some preliminary design of the area in conjunction with engineering analysis of each station and platform. Some general proposals for the immediate and adjacent station areas are also proposed. In this section of the report the main issues addressed are:

Land Use and Economic Development Issues - The importance of linkages between transit, land use, and economic development are unique in this corridor. The concept of Transit Investment acting as a catalyst for economic development has been the thrust of this study. Recent completion of transit projects has firmly established that transit improvements do not promote economic development without an infrastructure of government and private business components working together. The importance of developing a plan that insures the

SECTION 4

IMPLEMENTATION STRATEGIES

INNOVATIVE PLANNING AND THE CRENSHAW-PRAIRIE CORRIDOR.

The Crenshaw-Prairie Transit Lines have the potential for development far beyond the implementation of a much-needed high-density, rail network. In actual terms, it connects the existing Metro Red Line with the Los Angeles International Airport through south Los Angeles along the Crenshaw-Prairie corridor. This proposed transportation corridor has the potential to be the catalyst for community development at specific nodes or "events" along the corridor.

This Major Investment Study is based on a vision of unleashing community development focused on the "station-areas" of the transit lines. The stations along the corridor have been identified, studied and developed for addressing the needs of mobility for residents of the area, as well as those using the corridor to reach destination points at either end of the corridor. The physical configurations of the stations have been crafted to leverage maximum economic development resulting from an appropriate connection of existing "assets" and potential development.

Underlying the precise economic analyses, urban planning, engineering studies, and architectural design of each station is a Vision for Crenshaw. It is based on the community's aspirations for healthy economic growth, rooted in the dream of a cultural Mecca of African-American Commerce, Arts and Culture. The vision is informed by the history of a healthy and viable community that has existed 50 years ago.

Historically, transit corridors between destination centers have successfully revived the communities along the corridor. Even today, the renewed proximity between Hollywood and Los Angeles' downtown has begun to shift the recession that retail businesses have suffered in the area. The Crenshaw Prairie corridor promises much more. This is because there are several "Hollywoods" along the corridor. Independently, each has enormous potential for growth. The investment from the transit development and "station areas" will ignite and unleash this community development in a shared vision, today.

TRENDS IN THE NEW MILLENNIUM

At the edge of the millennium, we are confronted with an unprecedented level of global interconnectedness, facilitated by the proliferation of electronic media, the application of universal technology, and the flow of capital and international trade. This has influenced the phenomenal growth of our cities. Challenges to existing infrastructure, increasingly limited natural resources, they are the most conspicuous and ruthless reminders of social poverty and alienation.

The intention here is to explore the trends of the new millennium and distinguish those urban interventions that are crucial in shaping a physical environment. Those that nurture inspire and empower our communities and people. What role can transit investment play in shaping cities at this edge of the millennium? How can the designer create a physical environment that empowers communities?

cooperation and empowerment of the community through a public-private partnership is crucial. A partial list of strategies is as follows:

- focus development around station areas
- design pedestrian linkages to encourage interaction with adjacent venues
- prioritize station areas for development
- utilize existing community development corporations
- encourage equity participation opportunities
- identify new and non-traditional funding mechanisms
- provide access to jobs during design and construction
- increase opportunities for home ownership through affordable housing

Community Outreach - To ensure maximum participation of homeowners and local businesses, an extensive grassroots Public Outreach Program has been conducted. We have The community workshops completed yielded a strong support for transit improvements in the Corridor by the community. Valuable input and concerns have been expressed, and these insights have been utilized in the design and engineering of transit improvements.

Regional Transit Hub: The Region has a large population that currently uses the expansive but inefficient network of buses. The development of the corridor will result in the creation of a Transit Hub that connects residents to employment centers throughout the county. The creation of the hub will also consolidate the resident population in investing in the community once easy mobility is established. As a major transit hub the corridor completes the network comprised of the existing Red line to the Valley and West-Los Angeles, the Green Line through south Los Angeles and the potential for development of the Exposition to downtown and beyond.

Airport Transit Corridor: Currently, the only major public access to the airport from central Los Angeles is either through the Green Line or by automobile along the century freeway. By connecting the Red-line to LAX, it facilitates mobility through southern Los Angeles. Simultaneously this traffic alone will provide residents and visitors from other areas to become aware of the existing assets further reinforcing and developing these by return visits

Regional/Retail-Entertainment Destination Point: The gradual improvement in the Los Angeles economy and increase in the buying-power of the residents in the area is a major attraction for retailers and developers. With the implementation of the corridor, the Retail and Entertainment complex potential becomes viable with Crenshaw and Leimert Park becoming destination points for additional patrons from outside the region

Art-Walks as the Tourist Attraction: There is a pre-dominant hip-hop culture that can easily grow itself around the consolidation of a Jazz and Arts center in the Leimart Park area developing as an off-shoot of the proposed Crenshaw-Martin Luther King Blvd Station. There are possibilities for a few of these projects located within the hinterland of "station-areas", that is of enormous potential for developers.

DEMONSTRATION PROJECT

The Crenshaw-Prairie Transit Corridor promises potential to be a model demonstration project that can be implemented with relative ease given the transit investment available and the benefits that this development can generate. Because of the momentum that has gradually evolved the opportune moment for the investment is now.

- Inner City Urban Area: The Crenshaw community at large has existing infrastructure in place which distinguishes itself from many inner city urban communities that still require extensive infrastructure development. In addition it has the potential to provide a resident market and work force that will have easy mobility to the city center-downtown Los Angeles.

- Economic Development: The economic impacts of the station areas are enormous and they fully develop the existing infrastructure to their optimal levels. This concept of station area development and the resulting economic impact is explored in detail and evident in the proposed development of the stations.

- Creation of Main Street: There is the potential to develop a "main street community" with church, civic and retail uses that provide the varied anchors around which the community can grow. Retail and Entertainment points are balanced by civic facilities and churches.

KORVE/RAW AND COMMUNITY BUILD

The collective experience of the RAW team has been to shape the community by participating in many development projects along the Crenshaw Corridor. The experience gained from these projects has evolved and shaped the vision of a thriving community in the area. RAW has been involved in the community friendly retail development at Leimert Park, the revitalization of the Santa Barbara Shopping Center and several Pedestrian Linkages and Projects for the Crenshaw/MLK area.

The Crenshaw community is envisioned as a thriving Mecca of African-American Commerce Arts and Culture. There is an existing culture evolving in the area over time from the civil rights paradigms to the hip-hop culture that predominates today. This powerful evolution of a living culture has driven the momentum of a vision that can be unleashed and fuel the community's development.

2.1 THE PROPOSED CRENSHAW CORRIDOR

CONCEPT OF THE CRENSHAW-PRAIRIE CORRIDOR

- Chain of Events: Conceptually, the Crenshaw/Prairie Corridor may be best described as a "chain of events", anchored on the North by the Mid-Cities Red Line. Transit Center and on the South by LAX. The Corridor is held together by a chain retail and commercial "events" or assets such as Baldwin Hills, Leimert Park, Market Street, Hollywood Park, and Hawthorne Mall. For the most part, the "events" between the anchors are currently underutilized, due to dis-investment from the Inner Cities to the outlying suburbs.

- Connect the Events: The areas between the chain of events can be described as "missing links" in the way of blighted buildings, poorly maintained properties, disconnected and deteriorated pedestrian linkages, and substandard transit connections. The concept of the corridor is to connect these "events" or assets to create a continues strong chain.

- Use Transit Investment as Catalyst for Economic Development: Crenshaw Boulevard from El Segundo at the south to Venice at the north is part of the rail transit corridor being studied to connect the Crenshaw Corridor to Los Angeles International Airport (south) and the Red Line at Mid City (north). The intention of this major investment study is based on the principle of building communities through the development of transit stations along the corridor.

THE METHODOLOGY OF THIS STUDY

- Asset Inventory: In order to develop a cohesive, asset oriented vision for Crenshaw/Prairie, the assets of the Corridor, particularly at station areas, has been inventoried. These assets have then be reconciled with the trends of the community on the local scale and the County on the broader scale. This reconciliation resulted in a holistic vision that connects the inner city vitality of Crenshaw/Prairie with the overall vision of the broader region.

- Quarter Mile Radius This study thus places particular emphasis on development in and around station areas. By focusing development within a ¼-mile radius of a rail station maximum benefit can be achieved for transit ridership and patronage of new commercial development. New housing will provide an integral market population for commercial development and transit ridership. In addition increased pedestrian activity will provide the street level retail businesses that is the basis of Economic Development and revitalization of inner cities throughout the United States.

AN OVERVIEW OF ASSETS

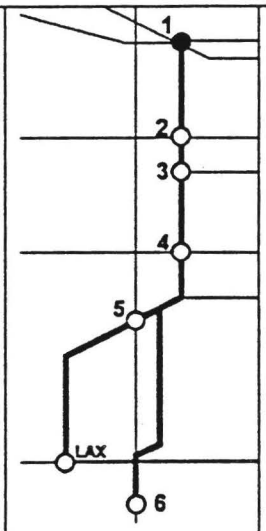
There are numerous assets in the area. A description of these may be found in section 3.3 The Inventory of Assets

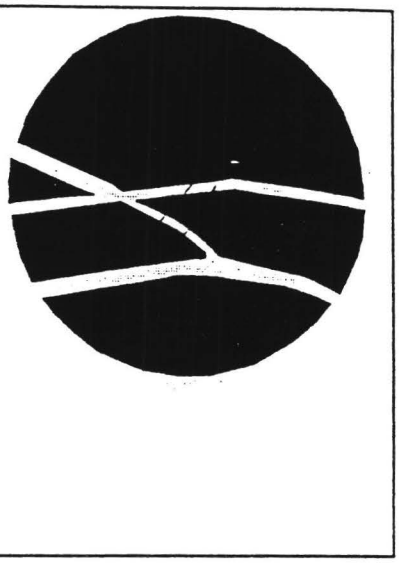
- LAX-Los Angeles International Airport:
- Hawthorne City Hall:
- Hawthorne Mall:
- Hollywood Park:

- The Forum:
- Inglewood City Hall / Civic Center:
- Market Street:
- Leimert Park:
- Baldwin Hills Shopping Center:
- West Angeles Church:
- Mid-Cities Red Line Connection:
- Green-Line Century Freeway Connection:
- Santa Barbara Plaza:
- The Crenshaw Mall:
- Magic Johnson Theaters
- Crenshaw/Slauson.

1 MID-CITIES STATION

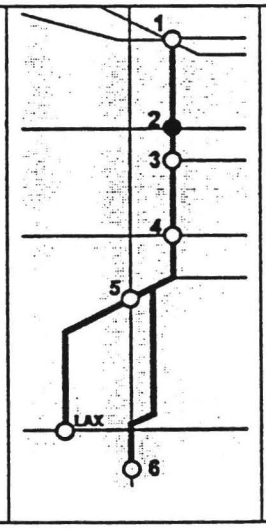
The MidCity station is a key transfer station or transit "hub" where Crenshaw Prairie rail line patrons can transfer to the Metro Rail Red line, as well as to MTA and Santa Monica bus lines. Directly west is the recently renovated MidCity shopping center. In the future, the stable low-density residential neighborhoods that surround the MidCity station will remain, with some infill housing at compatible densities. In the central "island" bounded by Pico and Venice, medium-density housing may be developed along the Venice frontage. The Pico frontage provides an opportunity for larger-scale commercial development, as well as the renovation of the Sears building. Both building should include shops and display windows along the Pico sidewalk Across the street, commercial storefront and mixed-use (housing over storefronts) will in-fill the frontage to provide a continuous pedestrian street that provides access from the neighborhoods to transit station. Street trees, as well as public and private landscaping and open space, will enhance the livability and pedestrian character of the station neighborhood.

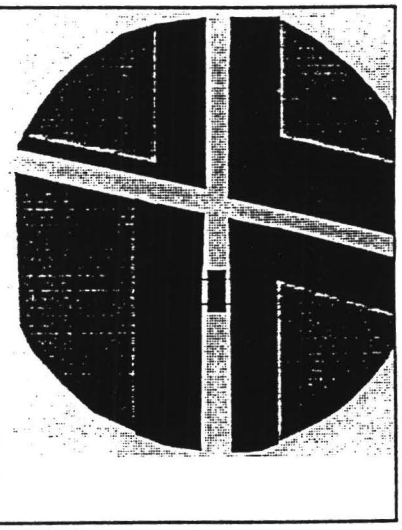




2 CRENSHAW-EXPOSITION STATION

The Exposition station area possesses key attributes for a successful community-serving transit station. It is surrounded by stable, well-maintained single4amily and medium-density residential neighborhoods, which will remain intact, with some compatible infill. The West Angeles Cathedral provides a physical and social focus for the station, as well as the potential to attract a wide-range of community-serving uses. Such uses may include shops and services, a hotel and family housing. A park"plaza just south of the Cathedral could provide a gather place for the community. The light-industrial site to the east serves as a "land bank" for future development That development could take a variety of forms in response to the evolution of the district, for example, a light industrial center that w6uld provide jobs to the community or a low-medium-density housing development in a parklike setting. Streetscape improvements, including street trees and pedestrian-scale lighting will contribute to the livability of the district,





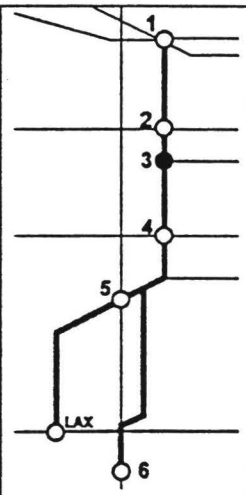
3 CRENSHAW-MARTIN LUTHER KING STATION

A key factor in achieving improvements in the Crenshaw District is how effectively new and existing developments can capture the pedestrian activity generated by transit functions.

Santa Barbara Plaza - A transit stop at this site could be ideally situated between Santa Barbara Plaza and Magic Johnson Theaters, creating excellent pedestrian linkage opportunities. The housing component could be linked to the transit stop by a defined pedestrian path highlighted by lighting and landscaping

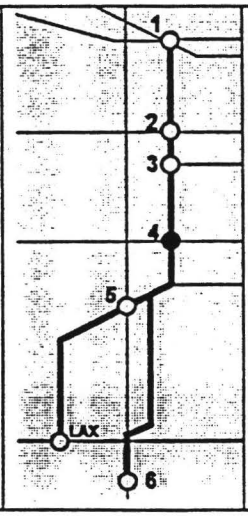
Crenshaw Mall - The existing transit stop at the Crenshaw Mall offers a direct opportunity to stimulate further commercial development at the shopping center and along Crenshaw Boulevard. Transit users could utilize the shopping center as the pedestrian linkage to such activity centers as the Magic Johnson Theaters and a revitalized Santa Barbara Plaza.

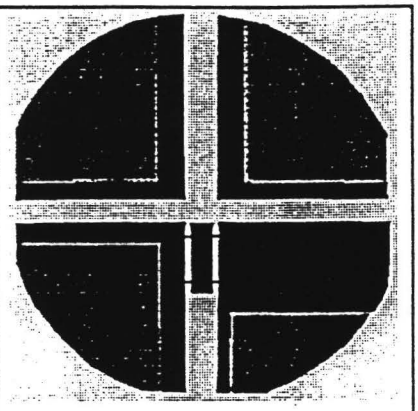
Leimet Park - Situated as the southern anchor of the chain, Leimert Park is a burgeoning mecca of the arts and entertainment. Transit functions here should include a shuttle stop to transfer pedestrians to the northern end (Crenshaw Mall



4 CRENSHAW-SLAUSON STATION

The Slauson station is typical of community-serving transit stations on the Crenshaw Prairie corridor. It is surrounded by single-family residential neighborhoods, which will remain, with low-intensity commercial development along the main arterials. Commercial development on Crenshaw between 5t and 54'h Streets occupies a relatively continuous "street wall" of storefront buildings, most of which are in good condition and architecturally interesting. The block between Slauson and 5~ Street could be infilled with 2- to 3 story commercial and mixed used buildings with shops and display windows along the street to provide a two-block long pedestrian-oriented shopping street linked to the transit station. Commercial development south of Slauson is largely automobile-oriehted and is interspersed with housing. In the longer term future, after the northern block has been infilled, commercial and mixed-use development could extend south.

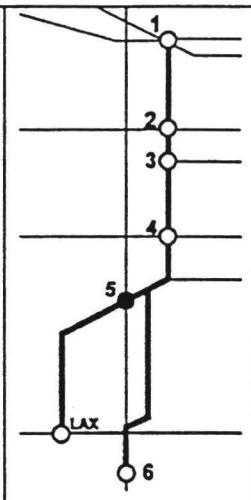


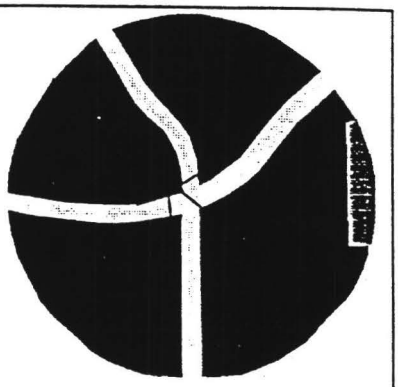


5 FLORENCE-LABREA STATION

This station would serve Downtown Inglewood and the City's Civic Center. It may be located either along the existing rail right-of-way north of Florence Avenue or on Market Street between Florence Avenue and Regent Street In either case, the two blocks between Florence and Queen Street on both Market and La Brea constitute a key link from the transit station to the Civic Center and to commercial development at Manchester. To complement the transit station, this district should be developed to be more pedestrian friendly, making it possible and enjoyable to walk from the station to the downtown. Development of the block bounded by Market, Regent, La Brea and Florence is crucial to the development of this district. As an intensive anchor use, it should have continuous shops and display windows along the sidewalks. Similarly, the existing storefronts on blocks in the district should be maintained and gaps should be infilled.

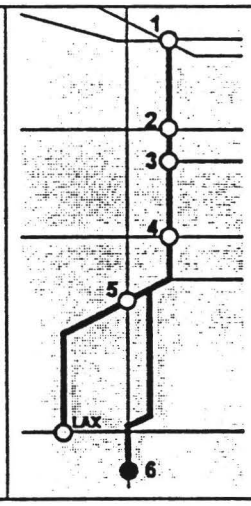
It the station is located along the railroad right-of-way, the pedestrian connection up the hill to Market Street will be critical. It should include both generous stairs and assisted access (elevator or escalator) and abundant landscaping, including shade trees.

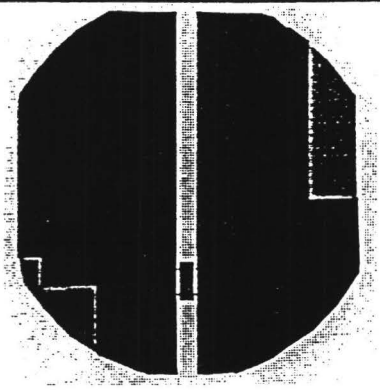




6 HAWTHORNE MALL STATION

The Hawthorne Mall station would serve the shopping center, other downtown shops and services, and the Hawthorne Civic Center. The transit station provides a catalyst for the expansion of Hawthorne Plaza south of J.C. Penney in a new building that would include shops and display windows along the street To provide a connection to City Hall and the rest of the Civic Center from the transit station, as well as the rest of the downtown, a small City park and plaza could be created, Infill mixed-use and commercial development, both with shops and display windows along the street, could occur over time in the vicinity of the station.





2.3 IMPLEMENTATION STRATEGY

THE 20 YEAR VISION FOR THE CORRIDOR

In establishing an Economic Development Strategy for the Crenshaw/Prairie Corridor, we must first define a 20-year vision for the Corridor. This 20-year vision reflects the reality of the time required to fund, design, construct, and implement transit improvements and station area plans. This 20-year vision also identifies the socio-economic trends of the 21st century, which are the programmatic parameters of the implementation strategy.

The concept of transit investment as a catalyst for economic development in the is not new, but it is perhaps the first time that this has become a viable alternative. The overarching issue of the Economic Development Strategy is to empower the community through catalyzing extensive development through the use of market forces. This empowerment will leverage transit investments to provide opportunities to improve the economic well being of the residents and the existing businesses. New development around station areas in and of itself is not a viable strategy unless specific steps are taken to ensure that local residents and businesses participate in the development and share in the returns on this investment.

Another issue is the promotion of the Crenshaw/Prairie corridor as a viable candidate for public and private investment. Several significant features of the corridor have been identified that make it uniquely feasible for investment. These include access to entertainment centers (Hollywood Park, Baldwin Hills Mall) and access to transit centers (LAX- Red Line). A key component of the implementation strategy must be the promotion of the corridor by public officials.

PHASED DEVELOPMENT

A number of mechanisms must be in place in order to implement the Economic Development Strategy. The following outline delineates a methodology for implementation of the Crenshaw/Prairie Corridor. The notion of the phased development is based on strengthening the heart of the corridor and then expanding out. Land must be strategically planned so that further expansion of land is possible once the transit investment is implemented. Thus plan for the future and implement now.

- Inventory of Assets:
  a. Preparation of an inventory of assets that comprise the "chain of events" is the first task in the process of implementation. Particular attention is given to the assets around potential station areas. This begins to create a Master Plan that is based on these assets.
  b. Prioritize those areas that have the most crucial assets and the potential to be developed further as station areas.
  c. Determine Immediate needs of the station area. Include needs such as housing, goods and services, recreation, traffic requirements and so forth.

- Development of the Assets:
  Develop the areas with economically realistic plans but maintain room for significant growth. In the next decade or two, the additional influx of transit investment dollars and subsequent investments will result in increased development beyond the initial planned development and must be accounted for.

- Land Use Strategies:
  An important feature of a high capacity transit alignment along the Crenshaw-Prairie Corridor is its proximity to existing and potential development centers/locations/nodes. There are at least 10 major activity centers within 1/4 mile of the proposed rail station sites. Many of these centers have the potential to be significantly revitalized by mass transit. In addition, the vast majority of the Crenshaw-Prairie Corridor is located within either existing development areas or in recovery areas that are likely to be designated redevelopment areas.

- Funding strategy:
  Current funding strategies for transportation improvements are primarily dependent on MTA's transit investment. If the Crenshaw-Prairie Corridor Proposal is able to project itself as an integrated land use and transit project then a whole series of other funding opportunities become available. These include federal, state, regional and local funding options. In particular, the project is eligible under the Federal Livable Communities Initiative for support in complementing the transit funding for sustained community growth. It is prudent to identify sources that may be utilized for Land use improvement or for Transit system funding opportunities

THE STRATEGY

In this process, economic development is thus expected to be initiated by Transit Investment and sustained by Public-Private Investment of the Retail/Entertainment complex. The strategy is to consolidate the basis for transit investment and identify the trends for further investment in the retail-commercial complexes that will become the engine of further development.

- Identify the Assets of the Crenshaw Prairie Corridor
  Identify and Exploit the Unique Components of the Crenshaw-Prairie Corridor. They include
  1. Access to Major Existing Activity Centers - Potential Job and Revenue Generators such as the Baldwin Hills Mall/Magic Johnson Theaters, Leimert Park, Forum, Hollywood Park, West Angeles Church, Downtown Inglewood, Hawthorne Mall,
  2. Access to Major Transit Nodes such as the Red Line to the West Side Job Centers, the Green Line to the South Bay Employment Centers, LAX- Airport Related Employment opportunities and the Exposition line to the Downtown Employment Centers.
  3. Potential for Transit Investments to Revitalize an Economically Depressed Corridor
  4. Potential for Patronage from Outside the Corridor to Destination Points.

- Identify the Economic/Social Trends affecting the Corridor:
  These include the burgeoning Entertainment Industry and the Declining Defense Industry. The Rise in Telecommunications and working from Home. The Downsizing of Government and its relocation in the Central City, a Renewed interest on Environmental Concerns. The

development of High Tech Entertainment and Virtual Reality. The movement of Employment Centers moving even Further from the City

- Focus Development along Station Areas.
  Develop Station Area Prototypes to coordinate with City, County and State transit policies. Promote policies that encourage Station Area development, Write down the land costs and Provide Tax incentives. Additionally, consolidate land assembly and identify appropriate uses for undeveloped properties. In addition, create viable and vibrant Station Area designs, establishing security and safety as a major design criteria. Encourage Public/Private Partnerships to stimulate growth and development.

- Enlist Public Agencies and Officials to Promote the Corridor.
  Promote Crenshaw/Prairie as a viable venue for retail and entertainment investment. Cite recent examples- Lucky's Market and Magic Johnson Theaters. Develop a succinct Economic Development Plan, Clearly articulate the potential of the corridor. Enlist public officials to assist in identifying non-traditional funding sources. Establish an organizing Economic Development theme for the Crenshaw/Prairie entertainment zone.

- Enlist and empower the Community in Implementation.
  For each of the three main groups that constitute the members that will make the implementation possible, outline the goals and the results of the proposal. In brief, they are.
  1. Residents:
  Improve Access to Employment Centers outside the Corridor and Increase Employment Centers within the Corridor. Provide Equity Sharing Opportunities for New Development. Provide Affordable Housing Opportunities. Create Station Area Developments that Stabilize or Increase Property Values. Provide Job Training and Employment Opportunities During Design and Construction. Improve the Existing Quality of Space.
  2. Local Businesses
  Establish Existing Businesses as the Foundation of the Revitalized Small Business Infrastructure. Nurture Existing Viable Businesses for Growth. Provide Business Planning and access to Financial Management and Computer Technology. Utilize Existing Economic Development Corporations to Develop Station Areas. Identify New Business Opportunities Transit System Design and Construction Contracts. Encourage Support from Large Business Stakeholder at Station Areas
  3. New Businesses
  Encourage Major Sports and Entertainment Investment within the Corridor thereby resulting in an Urban Entertainment Complex and Sports Arena and even Production Studios. Provide Incentives for New Businesses to Locate in the Corridor and assist with Infrastructure Improvements and Tax Incentives.

3.1 THE COMMUNITY SPEAKS

COMMUNITY OUTREACH

The Korve/RAW Team has implemented an extensive grassroots Public Outreach Program to ensure maximum participation of homeowners and local businesses. We have completed workshops that have yielded a strong community support for transit improvements in the Corridor. The community meetings have focused on engaging the public to feel it is both part of the process and the solution. The following meetings have been conducted:

Community Workshops	(4)
Station Area Meetings	(5)
Small Stakeholder Meeting	(1)
Neighborhood Briefings	(12)

Valuable input and concerns have been expressed at these meetings. The Korve/RAW Team has the benefit of these insights to utilize in the design and engineering of transit improvements in the Crenshaw-Prairie Corridor. Some of the community main concerns are noted here.

THE COMMUNITY SPEAKS

- Extend Beyond the Study:
  Of prime importance to the community was the sense that there had been too many meetings and studies. It was important for them that implementation be started and that we got past the studies.

- Perception of Ethnic Bias:
  The perception was that the Crenshaw/Mid-Cities/Inglewood community had not received a fair share of the Transit Investment dollars. It was felt that that rail projects were focused on the East side and the Valley. The community perceived there to be an ethnic bias in the making major transit decisions.

- Visual Impact:
  The visual impact of aerial structure either at grade or catenary bridges were a cause for concern. It was evident that the community is sensitive to design issues.

- Environmental Impact
  There was additional concern for the environmental impact of tunneling for the subway construction underground, as well as for the noise generated above grade.

- Economic Impact:
  The underlying sentiment shared by all was a need to understand how the community would benefit economically. There was a need to understand what the job Opportunities were. There was also a desire to understand how this related to the kind of development around the station areas.

- Crime:
  Most residents consider the area unsafe and inquired about the possibilities to make the safety of the community a prime concern. They suggested ways to make the area safer. Perhaps by the implementation of additional lighting or the presence of more police.

- Youth:
  It was noted that there were not sufficient alternatives for the youth other than the conspicuous activity of cruising. It was important to create opportunities for participation in activities and programs that promote pride in the community.

- Housing:
  The Not-In-My-Back-Yard principle was a strong sentiment shared by a large section of the community. There was concern that large Multi-Family and Low Income Housing developments moving into the area would create a negative impact on property values.

- Lack of Services:
  There is a severe dearth of quality shops and services that will attract people. The types of retail and services that would likely attract people would be fabric stores, office supplies, linen stores, book stores, restaurants, pharmacies, copy centers, day care, family entertainment, hotels and office space. The plans should provide for these.

- Traffic Impact
  Of crucial importance to most residents was the ability to park around the stations. This would allow seamless mobility. The convenience of shuttle services was prominent. However there was some concern about perceived speeding and congestion.

- Disruption of Services during Rail Construction
  It is perceived by the community that the short-term impact of construction would affect the survival of businesses and possible displacement. The enormous impact to business on Hollywood Blvd. was discussed.

- Eminent Domain
  There was concern that property value would fluctuate and that residential property values would be adversely affected if Eminent Domain was implemented around the station areas for Land Assembly by the Transportation authority.

- Funding:
  The community was concerned about the actual funds available for implementation of the station area development and the associated programs.

3.2 SYNOPSIS OF EXISTING STUDIES

The existing Major Investment Study is indebted to numerous other redevelopment plans, studies, and projects that have focussed on the area either directly or by extension. These have contributed significantly to the development of principles otlined here. The most prominent ones are includeded here to note the manner their content contributed to the study. These studies reinforces the thrust of the implementation strategy and the goals of Transit investment along the Crenshaw-Prairie Corridor.

- LAX MASTER PLAN
- CITY OF INGLEWOOD - MARKET STREET REVITALIZATION PLAN
- CITY OF INGLEWOOD - CULTURAL ARTS MASTER PLAN
- CRA-CRENSHAW / SLAUSON REDEVELOPMENT PLAN
- CRA- CRENSHAW REDEVELOPMENT PLAN
- LADOT/MTA- CRENSHAW PEDESTRIAN LINKAGES
- LANI AND OTHER PROJECTS AROUND LEIMERT PARK
- CRA-VISION THEATER
- CRA-GREATER MID-CITY AREA COMMERCIAL CORRIDOR REVITALIZATION STUDY

3.3 THE INVENTORY OF ASSETS

- LAX-Los Angeles International Airport: LAX is the primary gateway to the pacific rim and is the pre-eminent gateway for trade and tourism. It is also responsible for 5% of jobs in the Los Angeles area and generates an annual economic impact of $43.5 billion. With passenger traffic increasing by over 150% and cargo over 200% its significane to the regions economy is significant.

- Hawthorne City Hall: The Hawthorne City Hall is virtually hidden on a side street behind Hawthorne Boulevard. A pedestrian promenade on axis between the rail station and City Hall could he created to create a statement of civic pride, and a direct pedestrian linkage from the rail station.

- Hawthorne Mall: Hawthorne is an existing activity center. It is a regional shopping center with Montgomery Ward and J.C. Penney as anchor tenants. The mall is presently underutilized and experiencing financial difficulties. The design of the mall focuses inward with little or no effort to engage any pedestrian activity along the streetscape (Hawthorne Blvd.). The City of Hawthorne is currently considering a developer's plan to renovate the mall by creating a revitalized street facade encouraging pedestrian activity along Hawthorne Blvd. Additional entertainment related components are also proposed for construction on the lot south of J.C. Penney.

- Hollywood Park:

- The Forum:

- Inglewood City Hall / Civic Center:

- Market Street:

- Leimert Park: The Leimert Park Village is the mecca of the Black arts, jazz and entertainment community. The village itself is home to several arts and jazz venues such as the Museum in Black, Ramesses Studio, World Stage, and Fifth Street Dick's. Additionally, Leimert Park is virtually surrounded by underutilized entertainment venues such as the Vision Theatre, Regency West, Mavericks Flat, and the Pied Piper. Most of these facilities require significant investment for upgrading to support major entertainment.Leimert Park has experienced a steady, albeit slow, growth since April 1992. The former Chapman's' Market (destroyed) located at the southwest corner of 43rd and Degnan, is being developed by Community Build as an 11,000 square foot, commercial/retail project scheduled to open this summer. Several new eating establishments have opened including The Sweet Potatoe, Elephant Walk, and Rick's. The Shoe Warehouse was built on a destroyed site, and the internal parking lot has been fenced and lighted to provide secure parking for patrons of Leimert Park Village.

- Baldwin Hills Shopping Center: The shopping center is located between the proposed transit station and bus connections on Crenshaw Boulevard. A clear and direct linkage may be developed which goes through the shopping center. This linkage will offer the opportunity for transit users to be "captured" by the retail components of the shopping center as pedestrians are en route to bus connections on Crenshaw Blvd.

- West Angeles Church:

- Mid-Cities Red Line Connection: The MidCity station is a key transfer station or transit "hub" where Crenshaw Prairie rail line patrons can transfer to the Metro Rail Red line, as well as to MTA and Santa Monica bus lines. Directly west is the recently renovated MidCity shopping center. In the future, the stable low-density residential neighborhoods that surround the MidCity station will remain, with some infill housing at compatible densities. In the central "island" bounded by Pico and Venice, medium-density housing may be developed along the Venice frontage. The Pico frontage provides an opportunity for larger-scale commercial development, as well as the renovation of the Sears building. Both building should include shops and display windows along the Pico sidewalk Across the street, commercial storefront and mixed-use (housing over storefronts) will in-fill the frontage to provide a continuous pedestrian street that provides access from the neighborhoods to transit station. Street trees, as well as public and private landscaping and open space, will enhance the livability and pedestrian character of the station neighborhood.

- Green-Line Century Freeway Connection:

- Santa Barbara Plaza: Being a prime example of a "missing link~, this existing site is severely deteriorated and in need of major renovation. A revitalized Santa Barbara Plaza has excellent potential to be developed into a thriving retail and commercial center with a residential component. The Community Redevelopment Agency has recently selected Magic Johnson Development to redevelop the Plaza site as a new power center. This center could potentially house restaurants, technology center, home and gardening store, and "Big Box" retail components.

- The Crenshaw Mall: Serves as the northern anchor portal to the Crenshaw District. The streamline modern designs of the Macy's and May Company are historical landmarks. The Mall has experienced continued growth since its major renovation in 1986. The anchor tenants have remained in the mall despite the myriad of d~nnrimpnt q.tom meroers and closures throuahout the city.

- Magic Johnson Theaters - Proven to be an economic shot in the arm for the Mall. The vacancy rate of the Mall has declined considerably, as the Mall reaps the benefits of increased pedestrian activity generated by the theaters. Meanwhile, the Magic Johnson Theaters has posted outstanding attendance numbers, consistently performing as one of the top Sony Theaters on a national basis. Four new arena style theaters are currently under construction for the Magic Johnson Theaters.

- Crenshaw/Slauson. The shopping center at the southeast corner was rebuilt in 1992, and some of the existing stores were upgraded and additional retail services were provided. For example, the former Boy's Market was upgraded to a Ralphs Market and a laundromat business was added. This shopping center has always enjoyed a high patronage from the community

4.0 GOALS OF STATION-AREA DEVELOPMENT

The overall objective of this section is to analyze and evaluate two goals as they relate to transit investment in the Crenshawiprairie Corridor:

- Transit investment shall act as a catalyst for the economic development of the Corridor.
- Transit investment shall stimulate revitalization of neighborhoods around station areas.

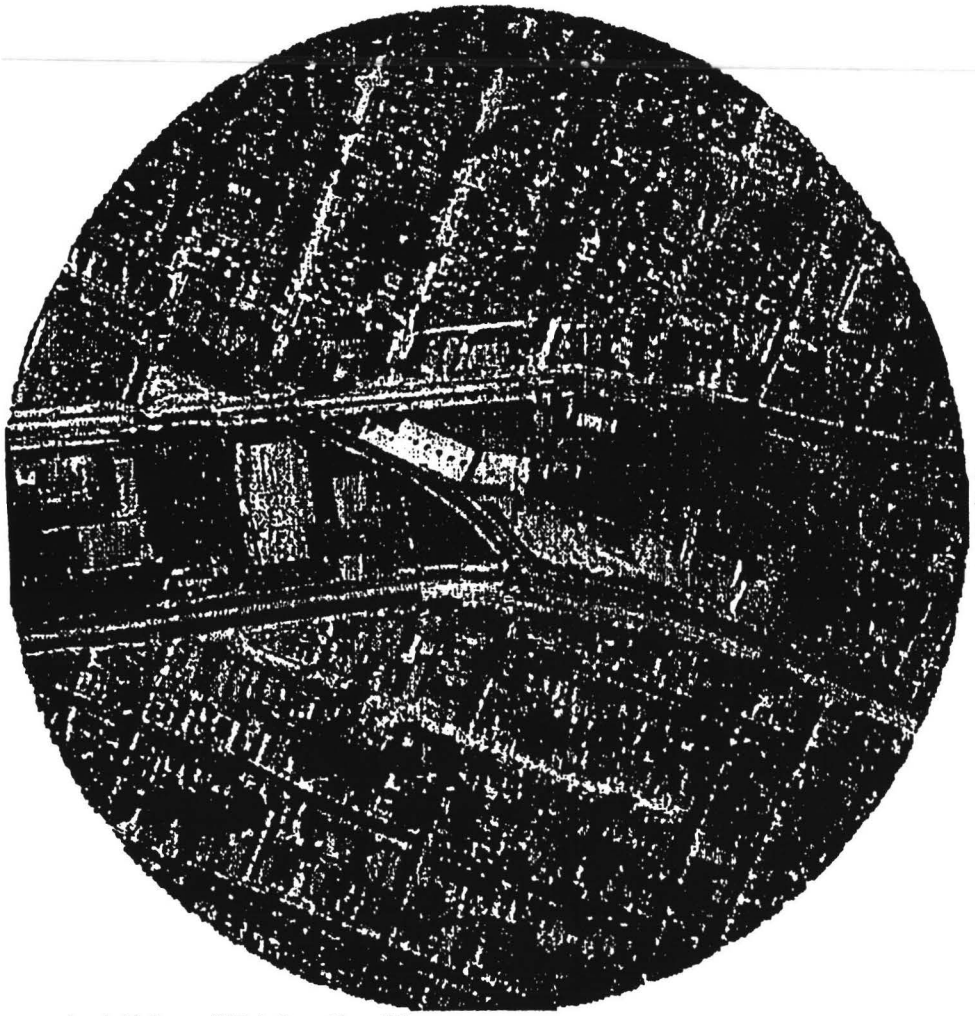
5.0 DEVELOPMENT OF ASSETS

The focus of inner city revitalization and development must look beyond the damaging misconceptions and reveal the real assets that sustain urban communities, particularly in areas such as South Los Angeles. The development of the Assets must be nurtured and and connected to broader regional support for rebuilding initiatives.

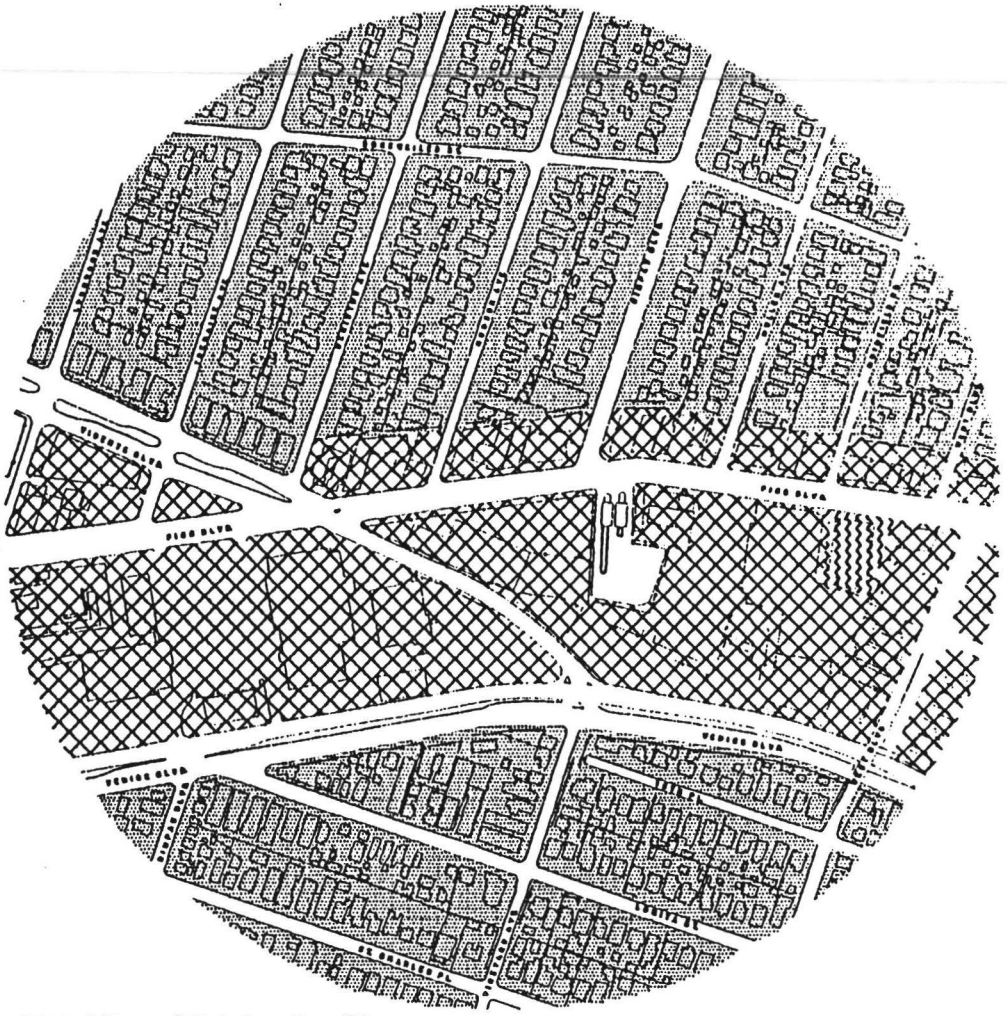
This study acknowledges that the economic revitalization and development of the Crenshaw-Prairie Corridor within the inner city cannot be detached from the growth of metropolitan Los Angeles or the the greater Southern California Region. With the Corridor being the piece

6.0 STATIONS AND DEVELOPMENT

6.1 MID-CITIES STATION



Aerial View of Existing Conditions



Digital Map of Existing Conditions

0 340' 680' 1020' 1360' 1700' 2040' 2380' 2720'

0 1/4 MILE 1/2 MILE

LEGEND

SINGLE FAMILY HOUSING
MULTI FAMILY HOUSING
COMMERCIAL/RETAIL
INDUSTRIAL
PUBLIC
OPEN SPACE
REHAB COMMERCIAL
MIXED USE
INSTITUTIONAL
PARKING STRUCTURE

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RAW INTERNATIONAL

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CONTRACT	REVISION	DATE
		4/28/99

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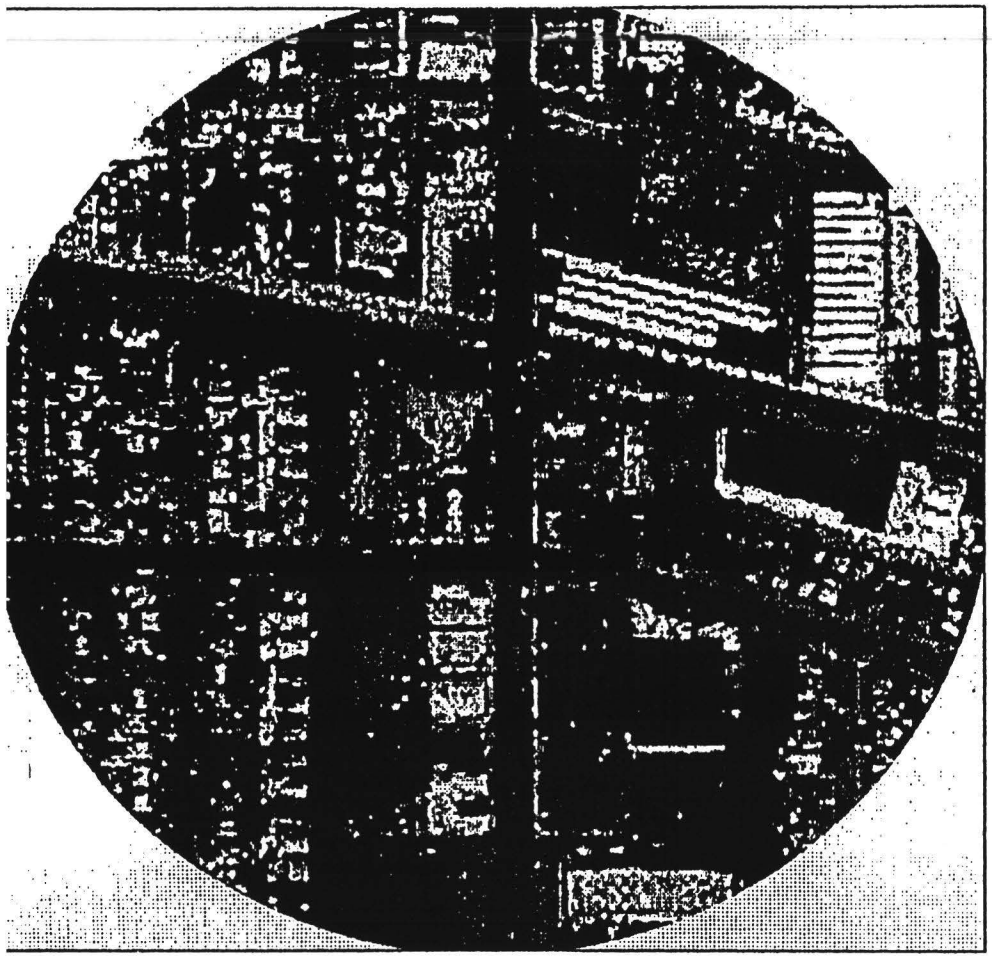
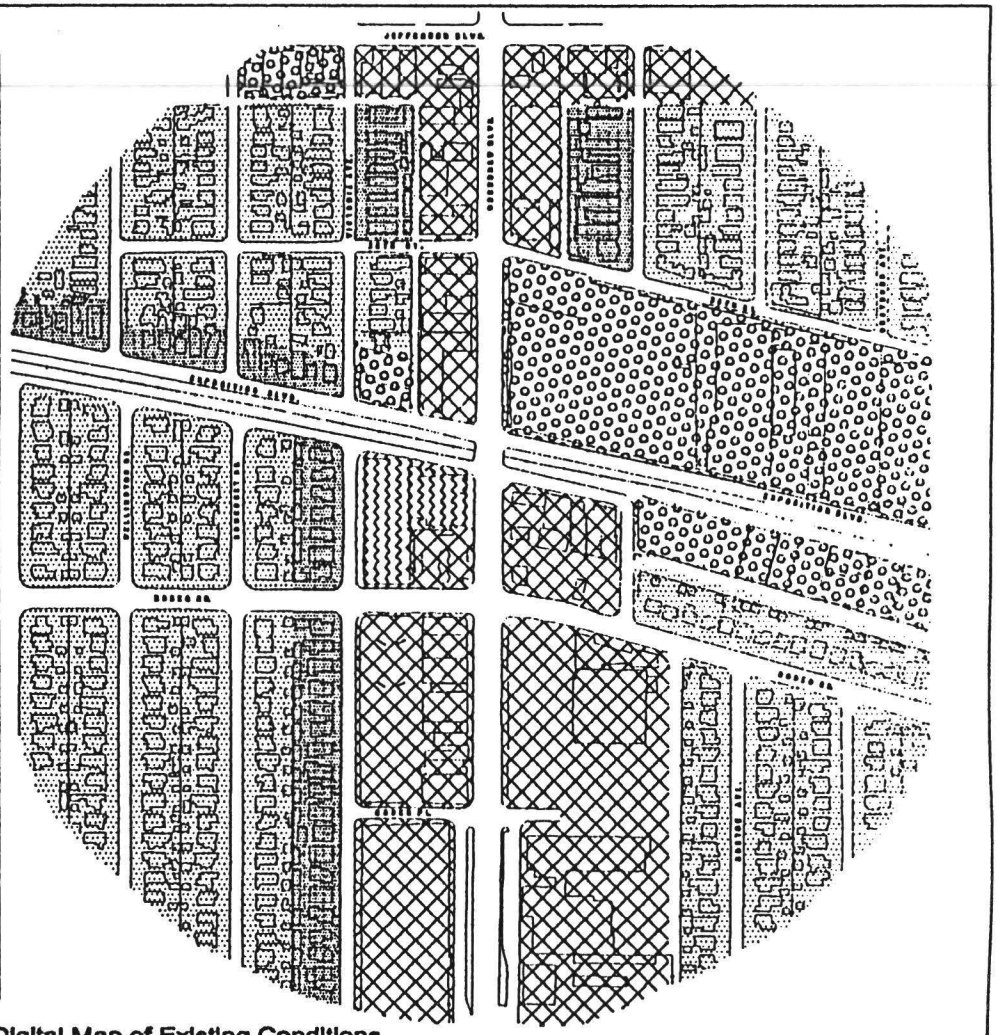
MID-CITY (PICO/ SAN VINCENTE)
EXISTING CONDITIONS MAP

6.2 CRENSHAW-EXPOSITION STATION



Aerial View of Existing Conditions



Digital Map of Existing Conditions

0 340' 680' 1020' 1360' 1700' 2040' 2380' 2720'

0 1/4 MILE 1/2 MILE

LEGEND

- SINGLE FAMILY HOUSING
- MULTI FAMILY HOUSING
- COMMERCIAL/RETAIL
- INDUSTRIAL
- PUBLIC
- OPEN SPACE
- REHAB COMMERCIAL
- MIXED USE
- INSTITUTIONAL
- PARKING STRUCTURE

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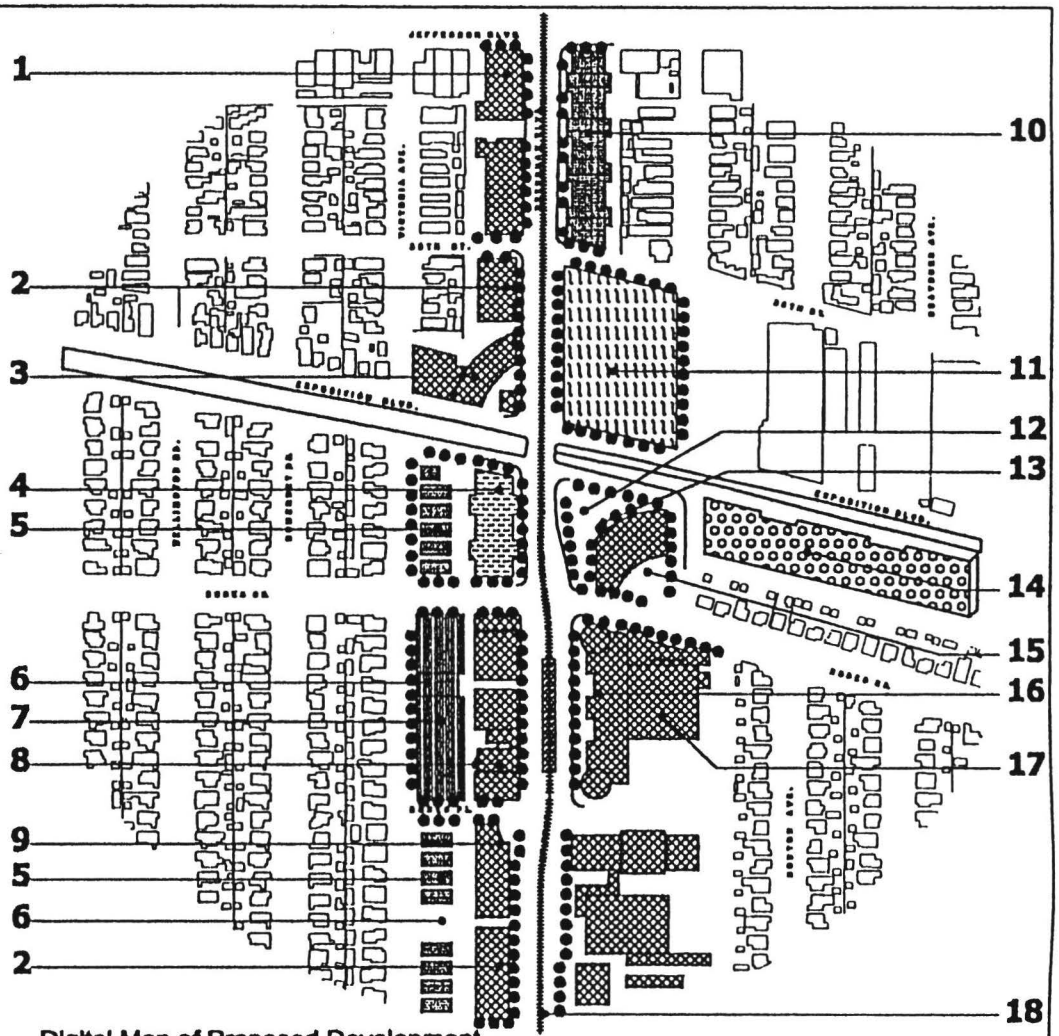
CRENSHAW/EXPOSITION
EXISTING CONDITIONS MAP

CRENSHAW / EXPOSITION

Sub-Heading

1. Renovate or infill existing Retail Storefronts
2. New Retail
3. Retail Development with possible Residential Hotel above
4. Mixed-use with Housing above
5. New Multi-Family Housing scaled to compliment existing housing on west side of street
6. Pedestrian Path
7. Parking Structure with Park & Ride
8. Renovate existing Retail
9. Major Restaurant/Retail Development
10. Mixed-use Housing over Storefronts
11. Future Home of West Angeles Cathedral
12. Urban Plaza for linkage with West Angeles Church
13. Possible R.O.W. for connection to Exposition Transit corridor
14. Incubator space for Light Industrial
15. Family oriented Retail
16. New Retail with Parking above
17. Existing Ralph's
18. Create Pedestrian friendly Streetscape to encourage walking



Digital Map of Proposed Development

0 340' 680' 1020' 1360' 1700' 2040' 2380' 2720'

0 1/4 MILE 1/2 MILE

Development Opportunities

LEGEND: SINGLE FAMILY HOUSING; MULTI FAMILY HOUSING; COMMERCIAL/RETAIL; INDUSTRIAL; PUBLIC; OPEN SPACE; REHAB COMMERCIAL; MIXED USE; INSTITUTIONAL; PARKING STRUCTURE

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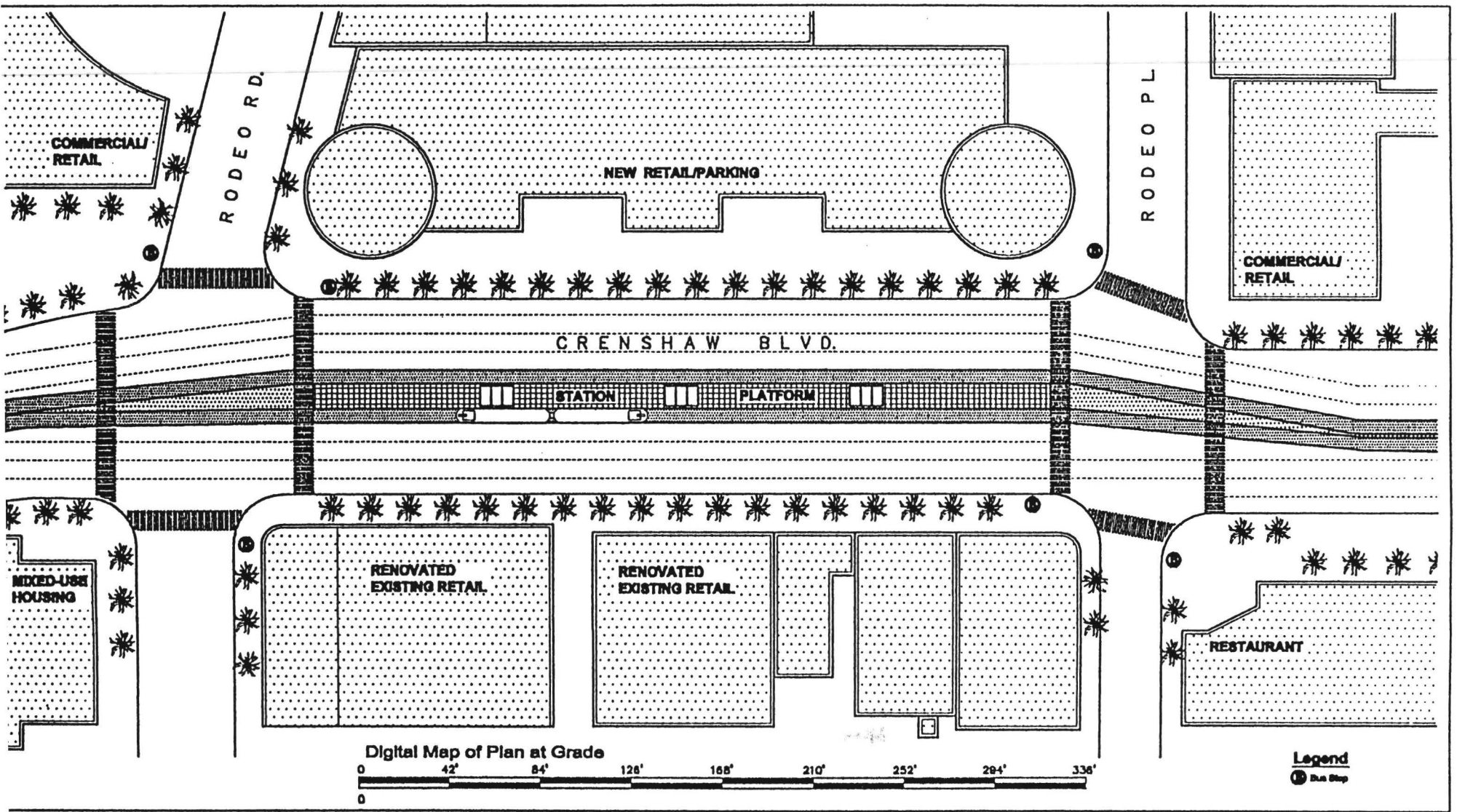
CRENSHAW/EXPOSITION

SHEET



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CRENSHAW/EXPOSITION
STATION PLAN MAP

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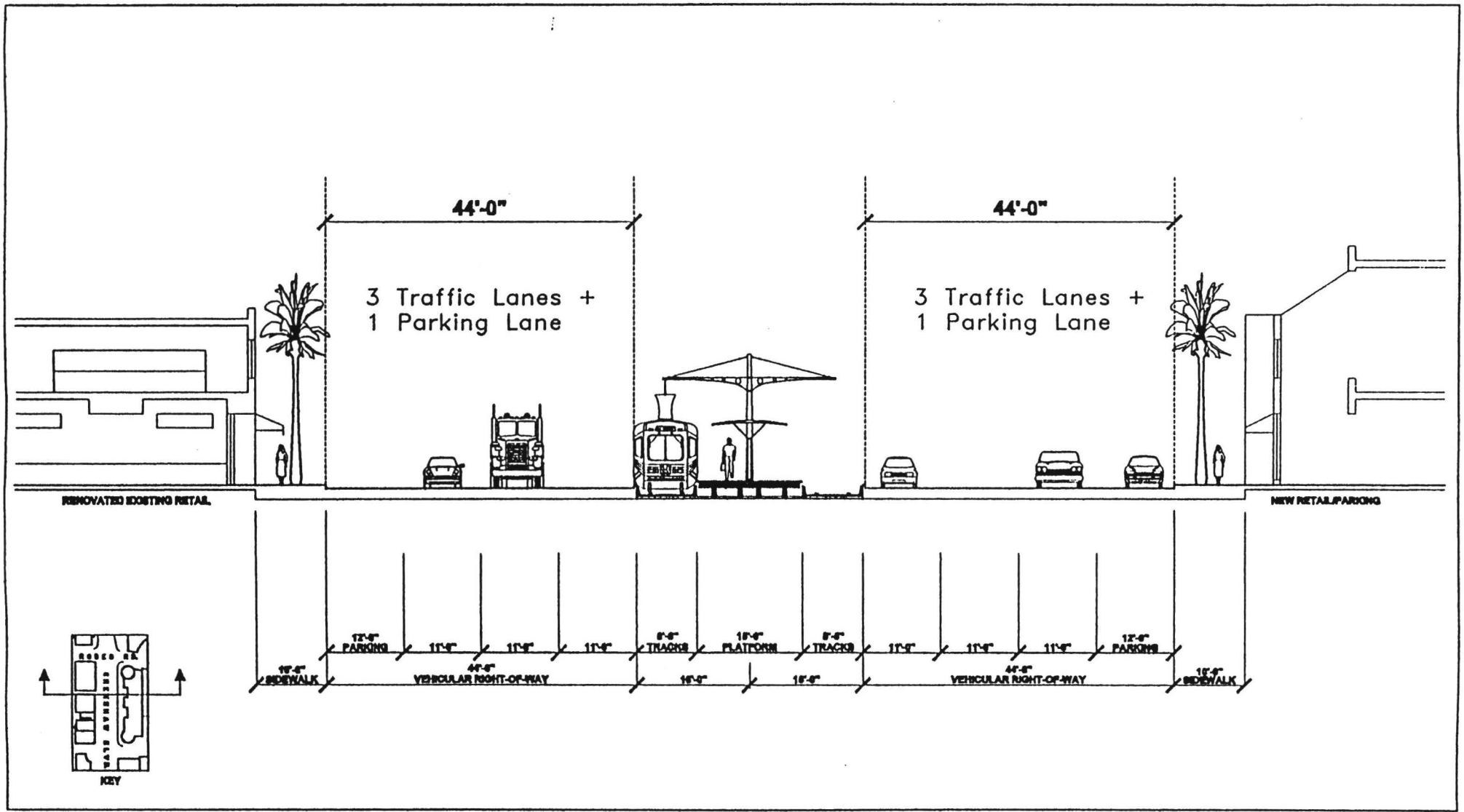

CRENSHAW TRANSPORTATION CORRIDOR PROJECT

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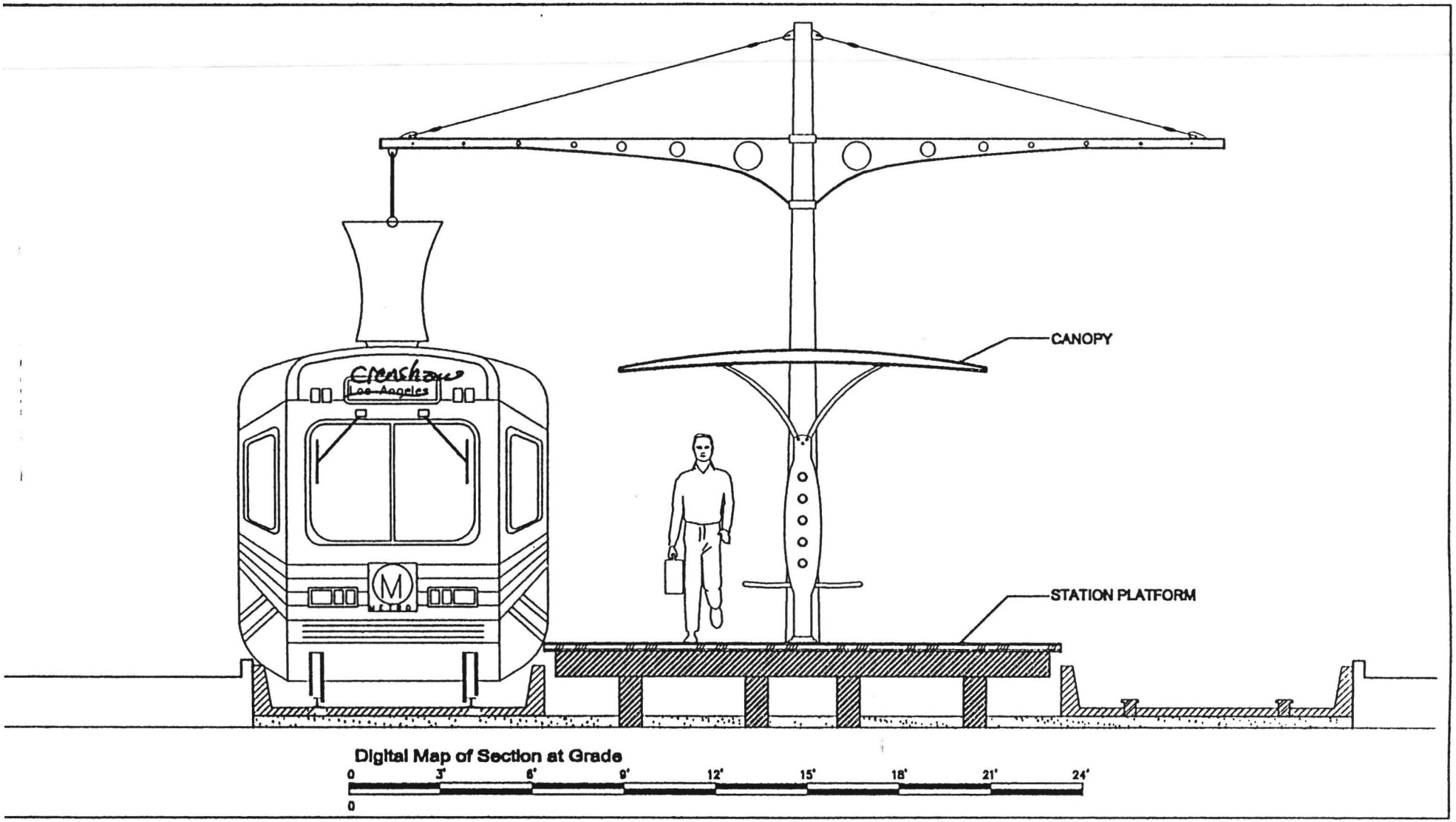

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	CRENSHAW/EXPOSITION PLATFORM/CANOPY DETAIL DRAWING	SHEET	

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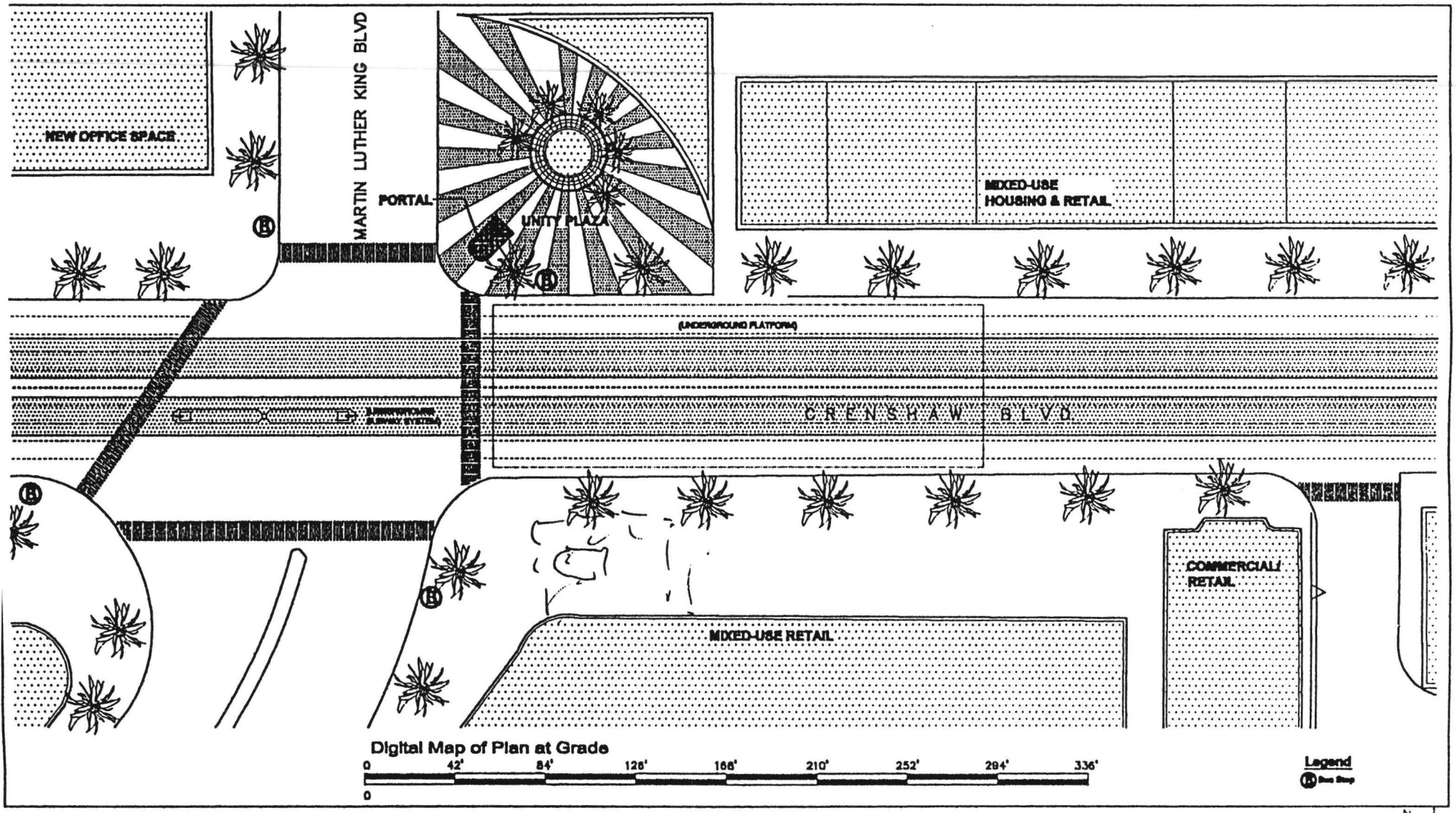
6.3 CRENSHAW-MARTIN LUTHER KING STATION



CRENSHAW TRANSPORTATION CORRIDOR COALITION

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CRENSHAW / PRAIRIE CORRIDOR

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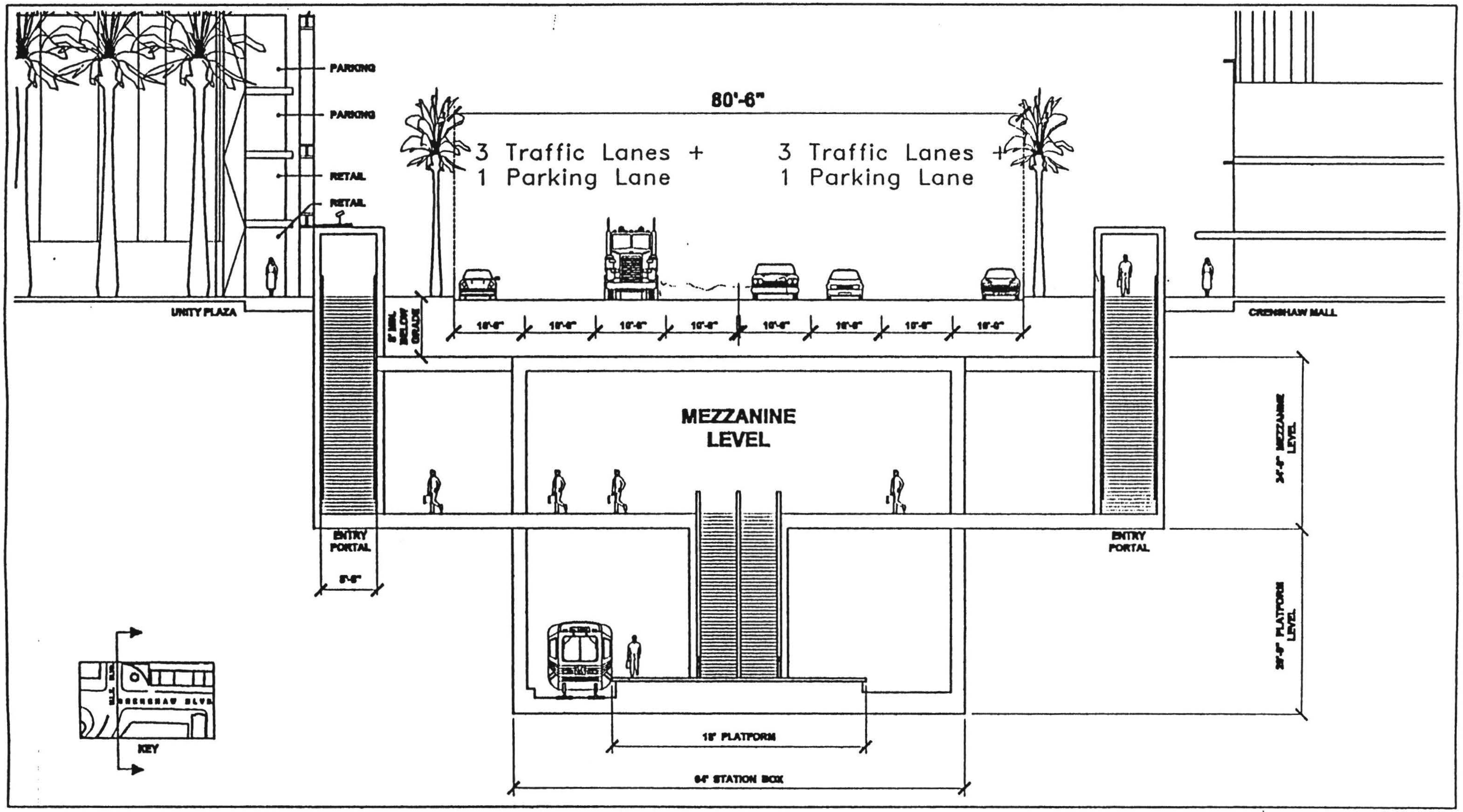
CRENSHAW-M.L. KING/LEIMERT PARK
STATION PLAN MAP

SHEET



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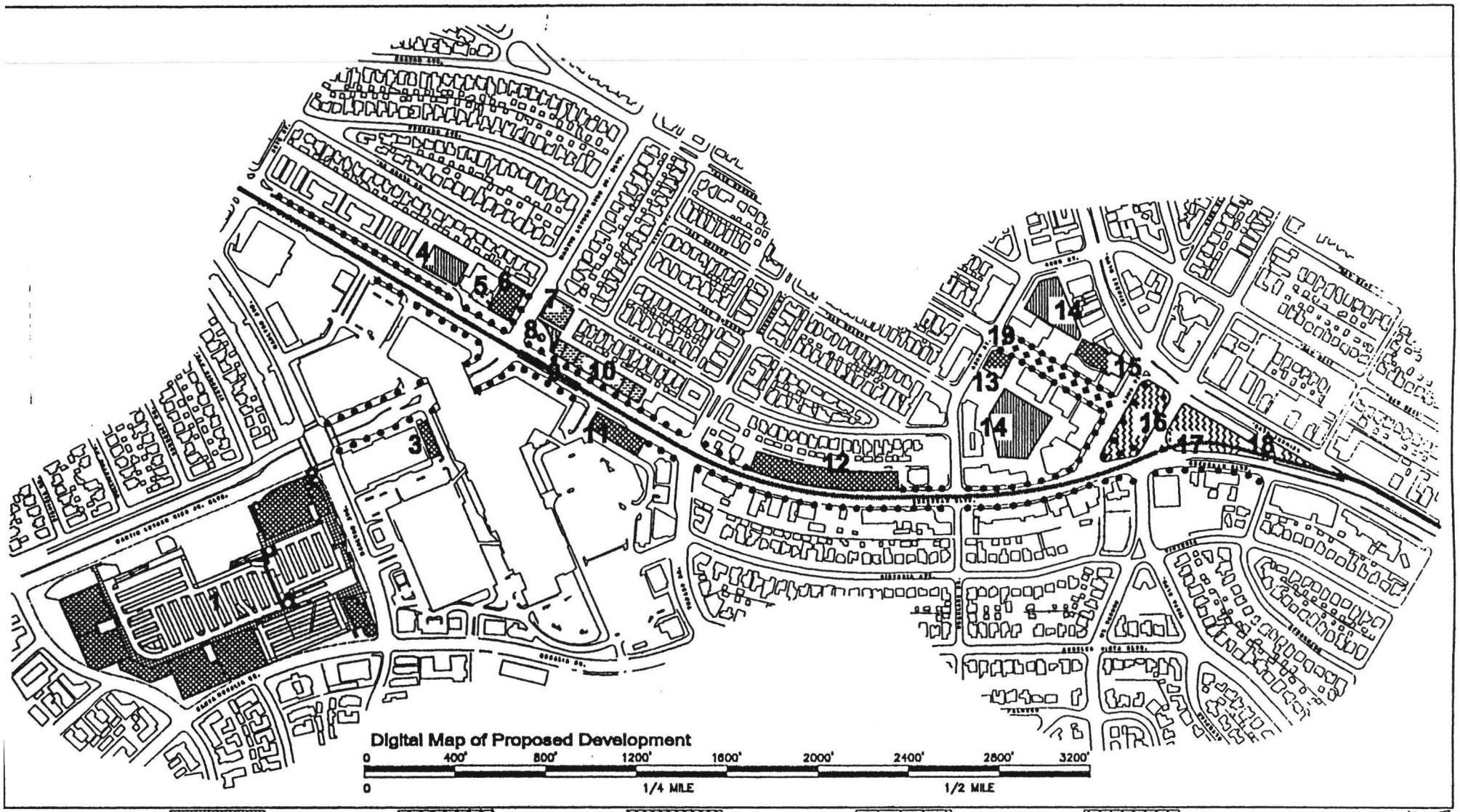
KORVE ENGINEERING / RAW INTERNATIONAL	LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY CRENSHAW / PRAIRIE CORRIDOR	CONTRACT	REVISION	DATE 4/28/99
	CRENSHAW/M.L. KING/LEIMERT PARK STATION SECTION DRAWING	SHEET		



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CONTRACT	REVISION	DATE
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CRENSHAW-M.L. KING/LEIMERT PARK
PROPOSED DEVELOPMENT MAP

SHEET

CRENSHAW/MARTIN LUTHER KING JR. DR.

Sub-Heading

1. Santa Barbara Plaza
2. Dr. martin Luther King Jr. Plaza
3. Magic Johnson Theaters Expansion
4. Parking Structure
5. Partial Preservation of Dept. of Water & Power Building
6. New Office Building
7. Mixed–use: Parking Structure/Retail
8. Unity Plaza
9. M.L.K. Community Transit Station & Platform
10. Urban Frame–Transit Oriented Mixed Use Development: 1st Floor Retail, 2nd & 3rd Floor–Parking, 4th–6th Multi Family Housing.
11. Street–oriented New Retail Development
12. Mixed–use Development–Car Wash, Bookstore, and Restaurant
13. Community Build Retail Building
14. Improved City Parking Lot
15. Vision Theater
16. Leimert Park Improvements
17. M.L.K. Station Subway Portal
18. Malcolm X –Plaza
19. Jazz Walk of Fame

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CRENSHAW / PRAIRIE CORRIDOR

CRENSHAW-M.L. KING/LEIMERT PARK
PR DC ON MAP

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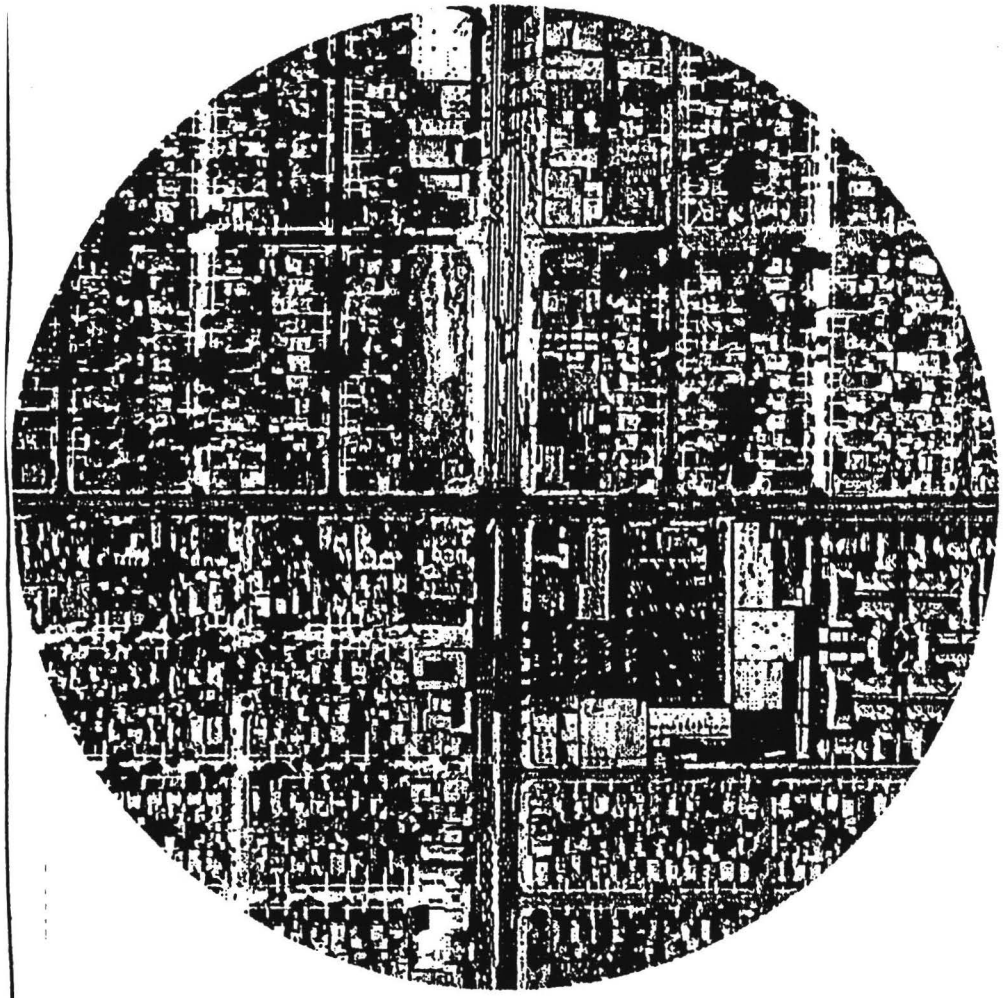
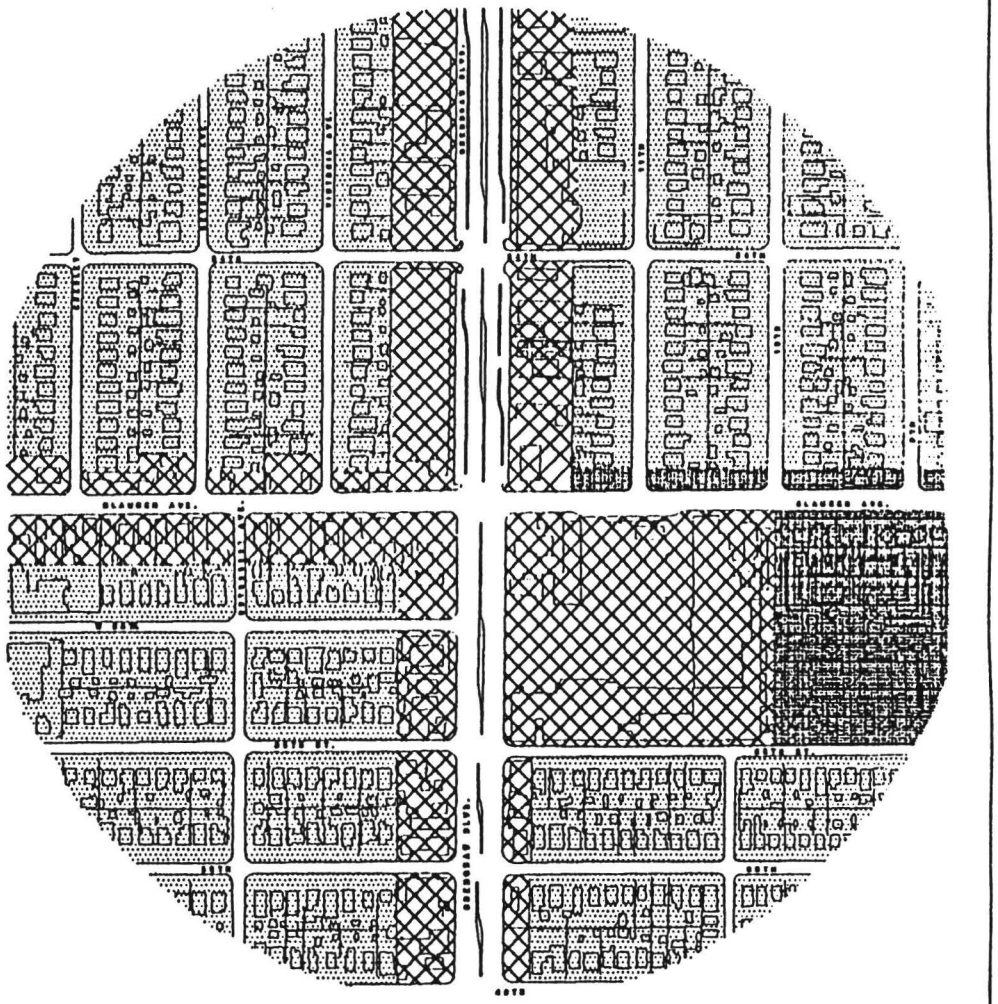
6.4 CRENSHAW-SLAUSON STATION



Aerial View of Existing Conditions



Digital Map of Existing Conditions

0 340' 680' 1020' 1360' 1700' 2040' 2380' 2720'

0 1/4 MILE 1/2 MILE

LEGEND

SINGLE FAMILY HOUSING
MULTI FAMILY HOUSING
COMMERCIAL/RETAIL
INDUSTRIAL
PUBLIC
OPEN SPACE
REHAB COMMERCIAL
MIXED USE
INSTITUTIONAL
PARKING STRUCTURE

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CRENSHAW/SLAUSON

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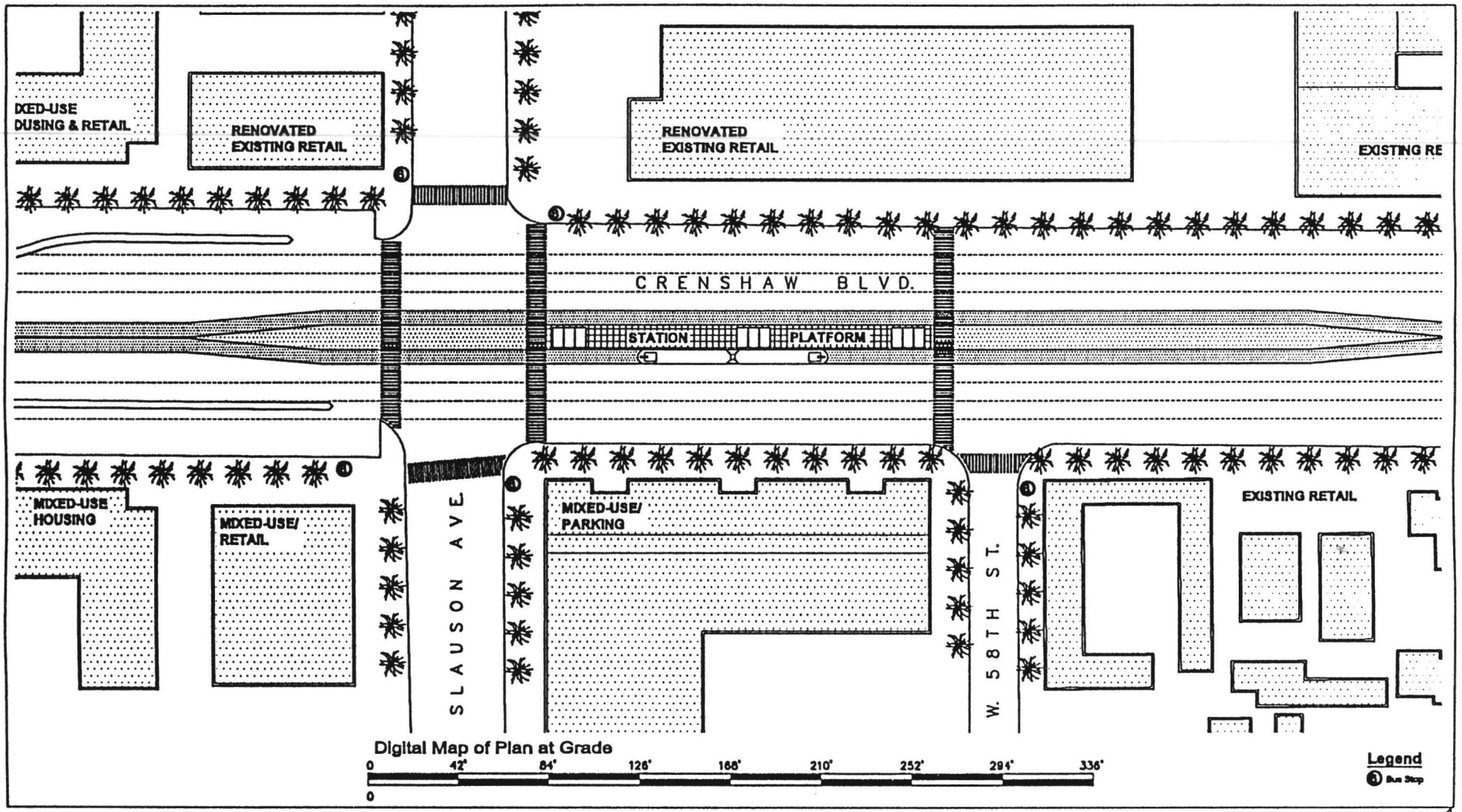

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CRENSHAW/SLAUSON
STATION PLAN MAP

CONTRACT	REVISION	DATE
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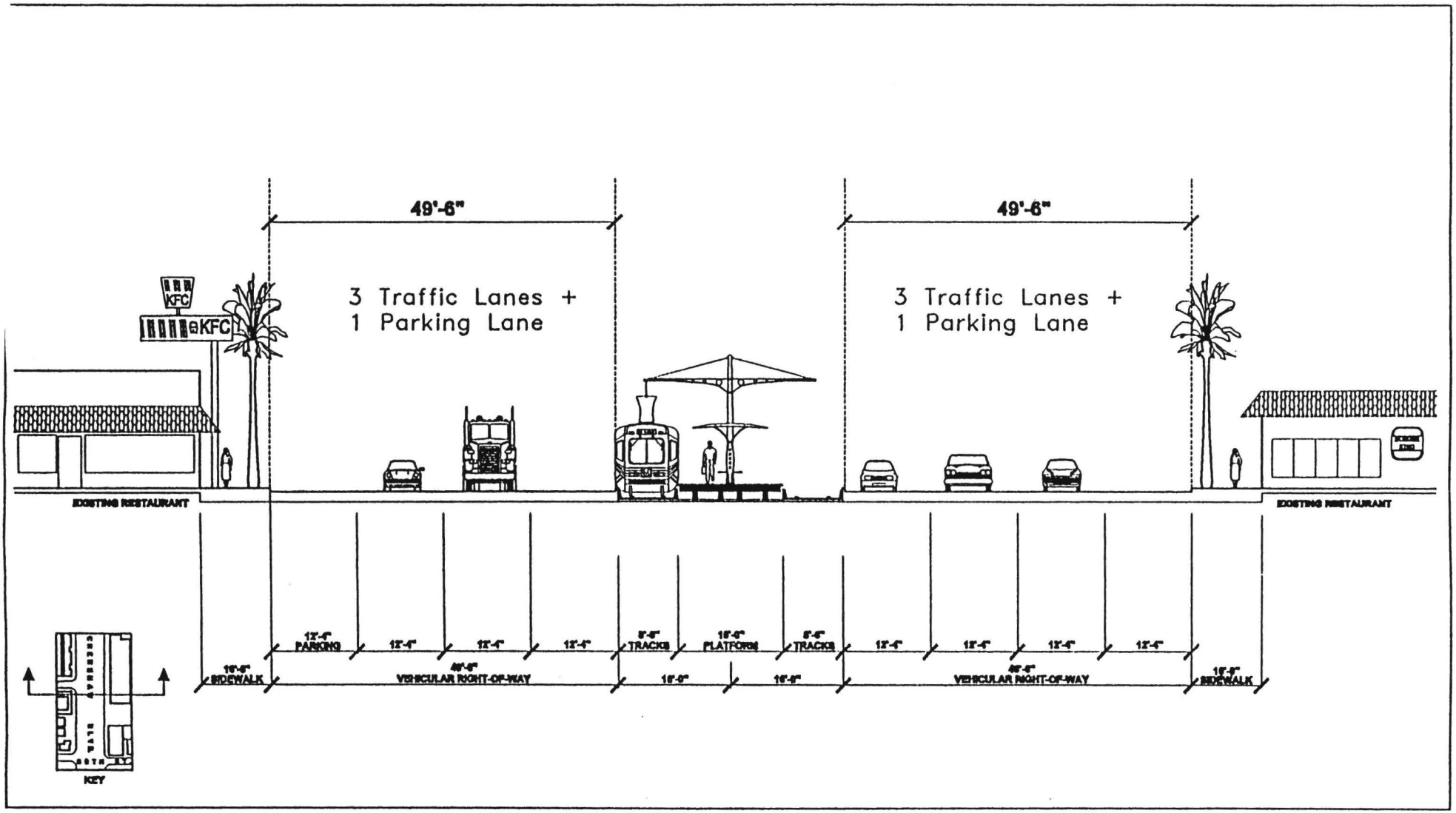

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CRENSHAW/SLAUSON
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CONTRACT	REVISION	DATE
		4/28/99

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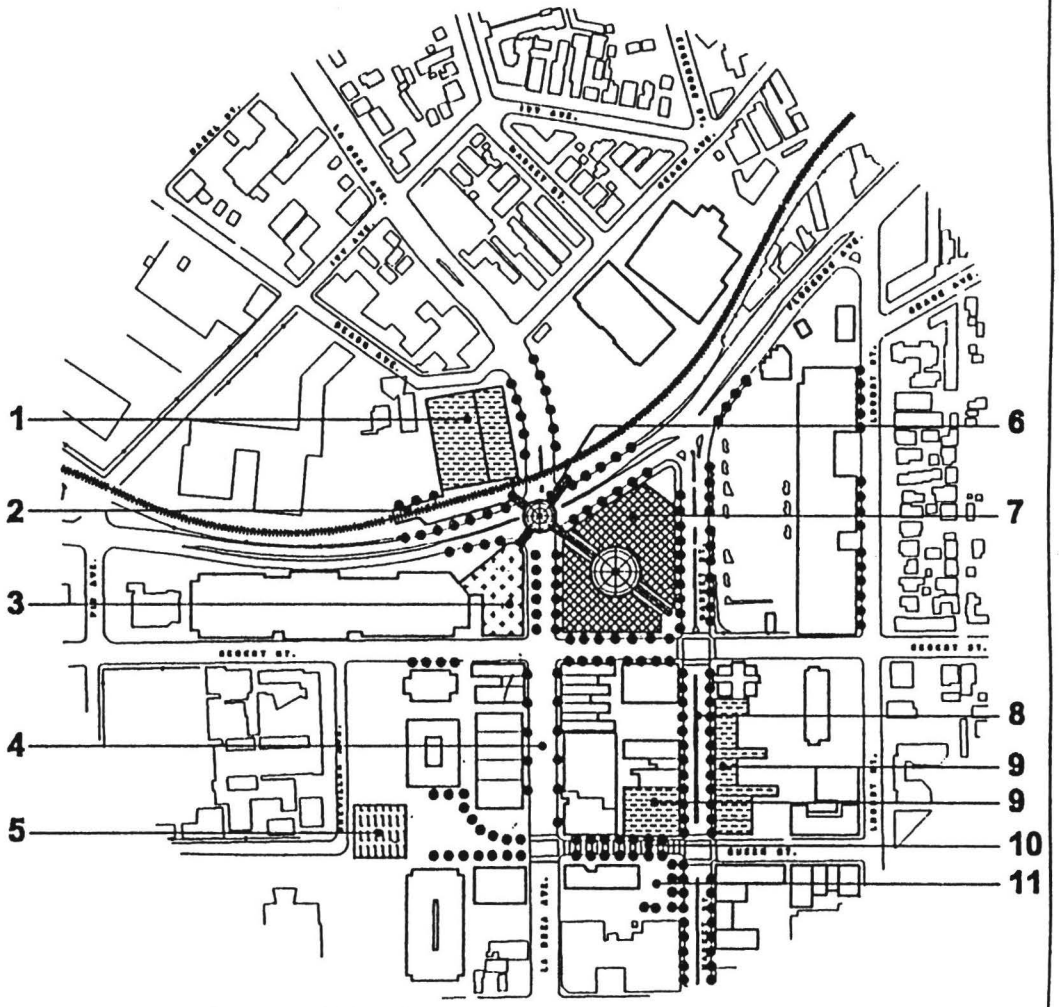
6.5 FLORENCE-LABREA STATION

FLORENCE / LA BREA

Sub-Heading

1. Park & Ride Structure with Shops along the Street
2. Aerial Platform bridging over LaBrea
3. Rehab existing Building to provide complimentary uses to Civic functions
4. LaBrea Blvd. – Transit oriented street
5. City Hall
6. Pedestrian Plaza Structure bridging Florence & LaBrea–Create Architectural Landmark for the City of Inglewood.
7. Entertainment Complex features Cineplex, Virtual games, Retail with below grade Parking and Commercial upper level.
8. Market street – Redevelop into pedestrian oriented street with new trees, lighting, and facade improvements.
9. Convert upper level of Retail Buildings to Artist's Lofts
10. Possible closure of street to create Pedestrian Promenade from City Hall to Market street.
11. Urban Plaza



Development Opportunities

Digital Map of Proposed Development

0 340' 680' 1020' 1360' 1700' 2040' 2380' 2720'

0 1/4 MILE 1/2 MILE

LEGEND

SINGLE FAMILY HOUSING
MULTI FAMILY HOUSING
COMMERCIAL/RETAIL
INDUSTRIAL
PUBLIC
OPEN SPACE
REHAB COMMERCIAL
MIXED USE
INSTITUTIONAL
PARKING STRUCTURE

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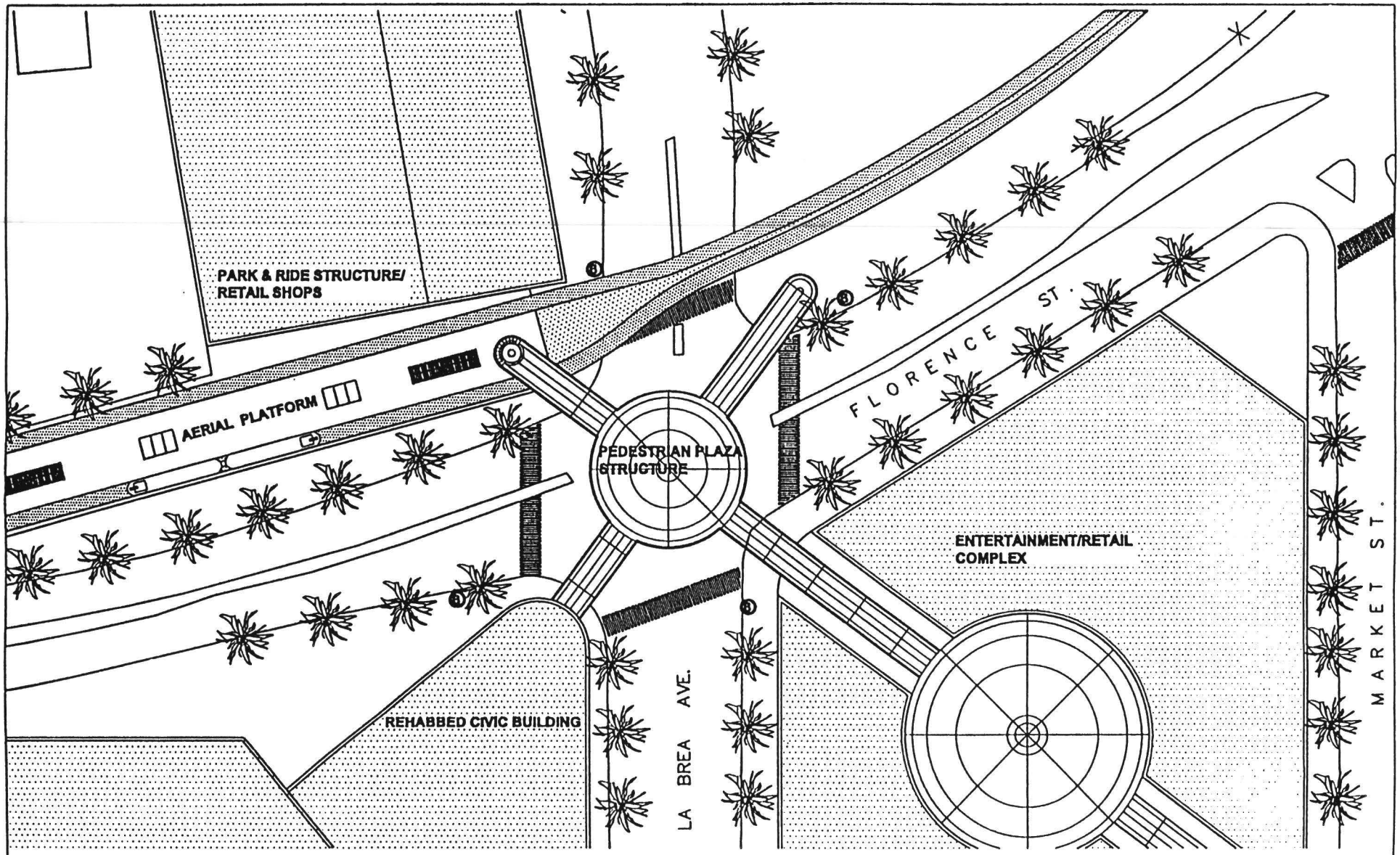
FLORENCE/LaBREA



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FLORENCE/LaBREA
STATION PLAN MAP

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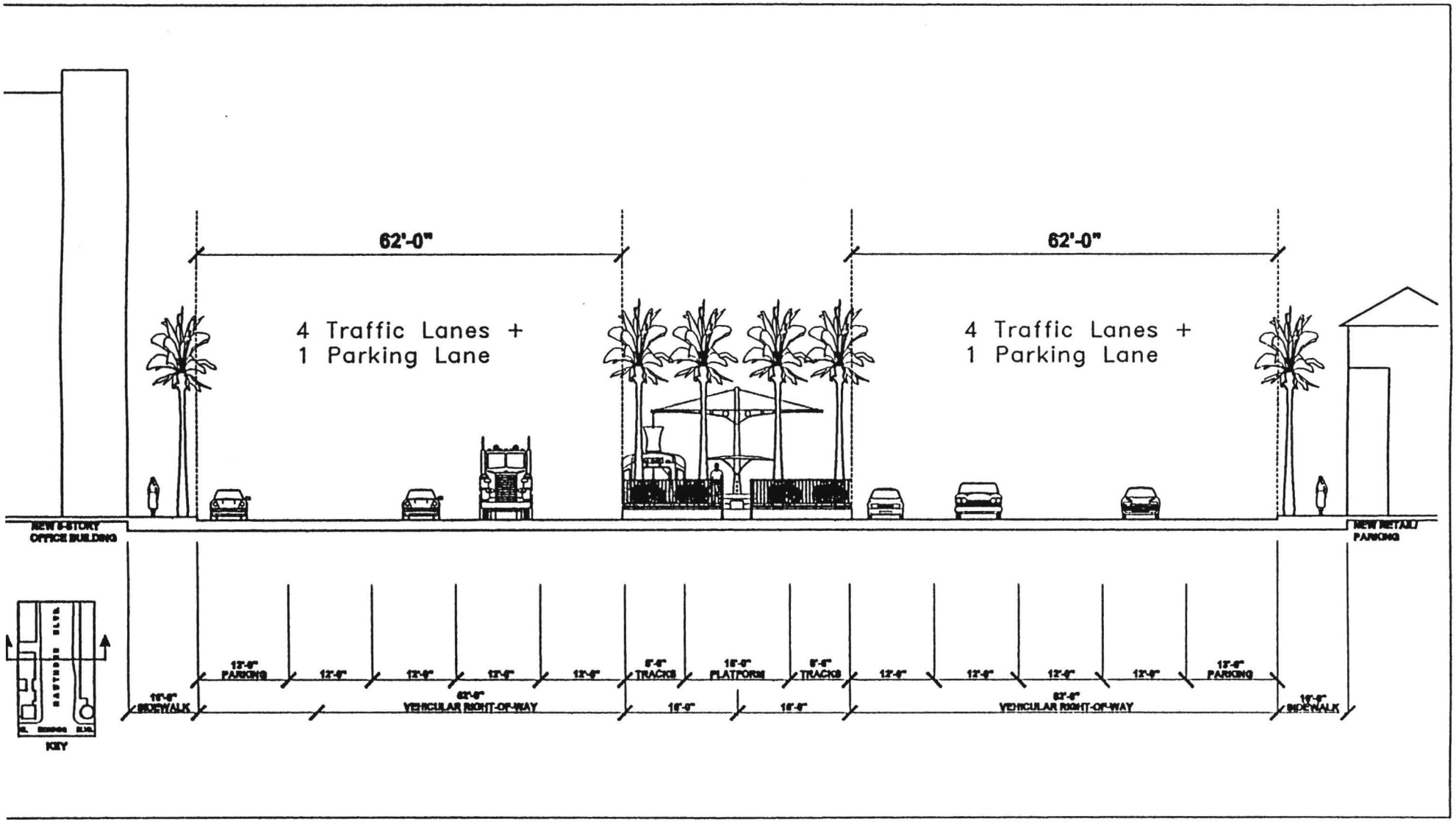

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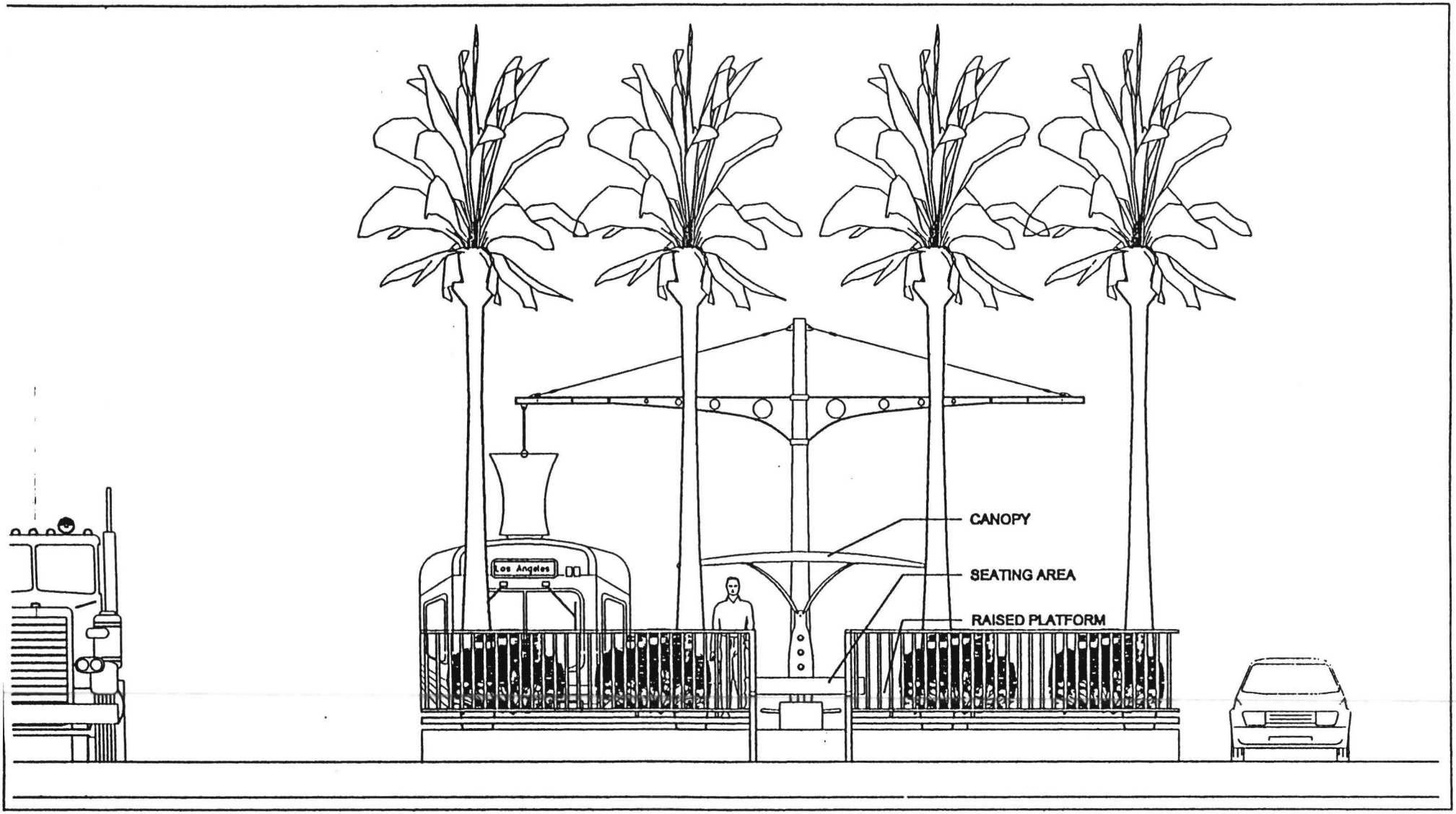

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	HAWTHORNE MALL S SE DR	SHEET	

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Crenshaw/Prairie corridor

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