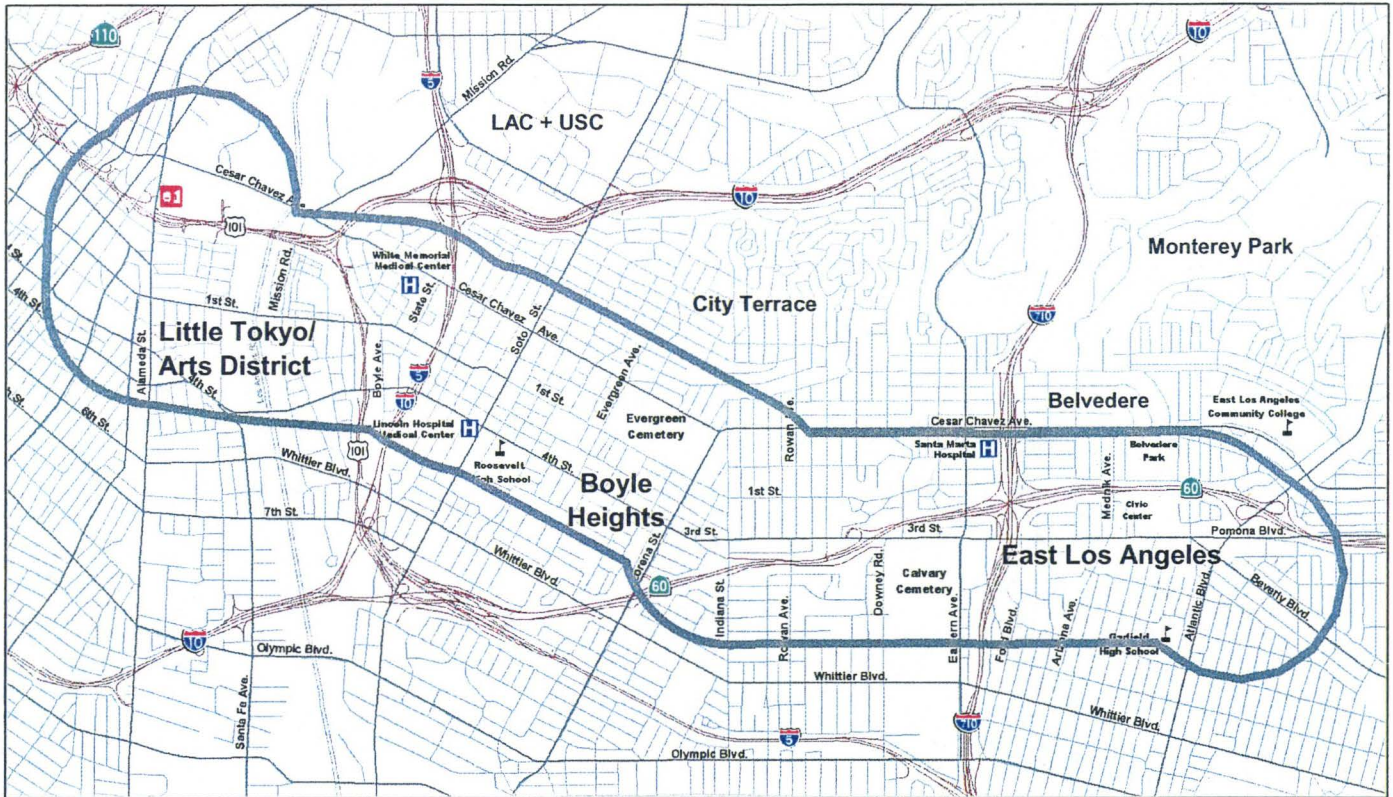


# Los Angeles Eastside Corridor



## Final Supplemental Environmental Impact Statement/ Final Subsequent Environmental Impact Report

### Executive Summary

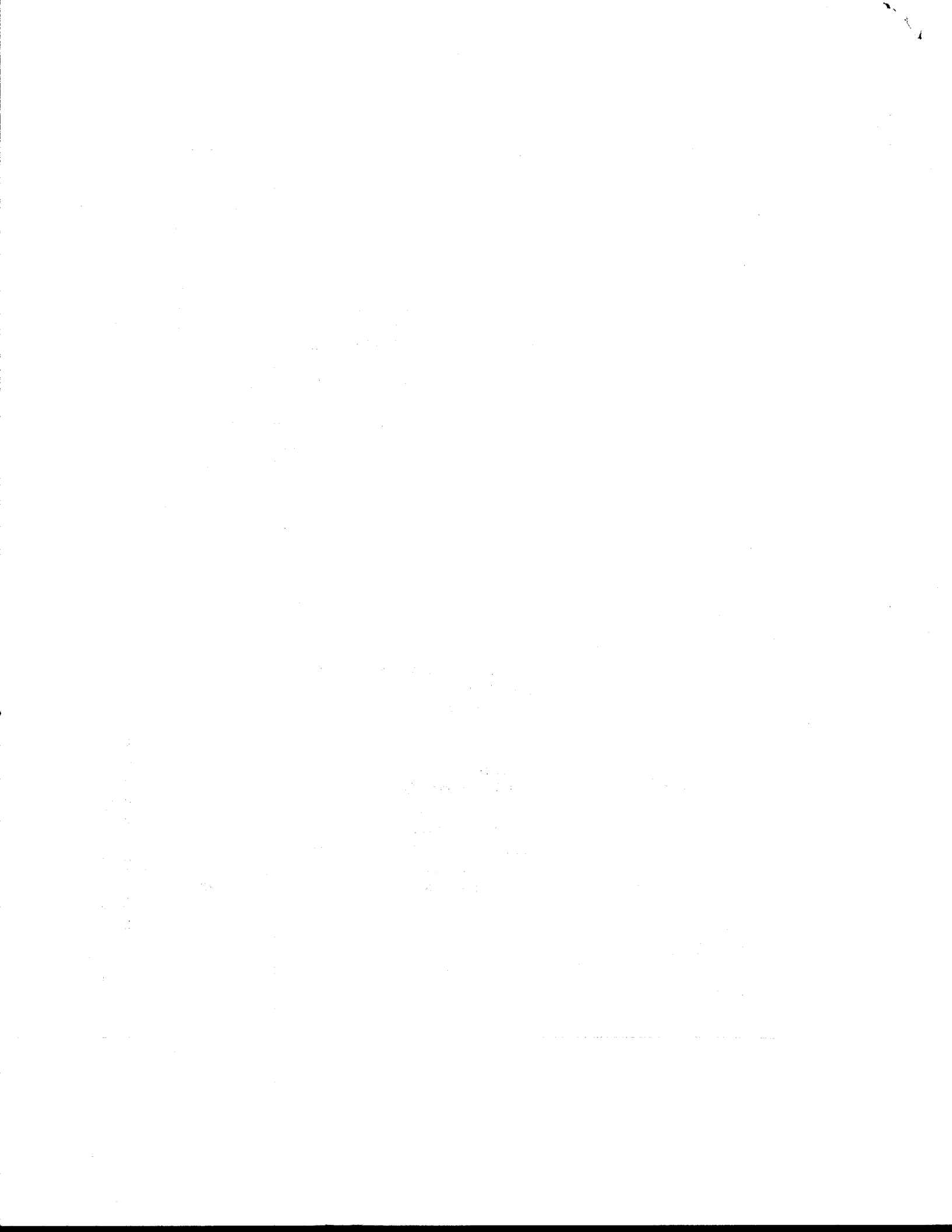
January 4, 2002

U.S. Department of Transportation  
Federal Transit Administration



Los Angeles County Metropolitan Transportation Authority





# TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
<b>Executive Summary .....</b>	<b>S-1</b>
S.1 Purpose of the Final SEIS/SEIR.....	S-1
S.2 Need for the Proposed Action .....	S-1
S.2.1 Regional Context.....	S-1
S.2.2 Eastside Study Area.....	S-2
S.2.3 The Mobility Problem .....	S-4
S.2.4 Goals and Objectives.....	S-4
S.2.5 Community Factors.....	S-5
S.2.6 Summary of Need.....	S-6
S.3 Alternatives Considered .....	S-7
S.3.1 Previous EIS/EIR and Suspended Project (1990-1998) .....	S-7
S.3.2 Re-Evaluation/Major Investment Study (1999-2000).....	S-9
S.3.3 Alternatives Considered in the Draft SEIS/SEIR (2000-2001) .....	S-13
S.3.4 Selection of the Locally Preferred Alternative (LPA).....	S-14
S.3.5 Response to Public Comments and Modifications to the LPA (Option 1).....	S-15
S.3.6 Alternatives Considered in this Final SEIS/SEIR (2001).....	S-18
S.4 Summary of Environmental Impacts and Proposed Mitigations.....	S-34
S.5 Financial Analysis and Evaluation.....	S-55
S.5.1 Financial Analysis.....	S-55
S.5.2 Evaluation.....	S-58
S.6 Issues to be Resolved/Areas of Controversy.....	S-64
S.7 Locally Preferred Alternative as Identified by the MTA Staff.....	S-64

## LIST OF TABLES

S-1	Los Angeles County Metro Rail Network in 2003 .....	S-2
S-2	A Comparison of Selected Population Characteristics Between the Los Angeles Eastside Corridor and Los Angeles County.....	S-6
S-3	Frequency of Weekday Bus Transit Service (in Minutes).....	S-20
S-4	Frequency of Weekday Rail Transit Service (in Minutes).....	S-21
S-5	Bus Route Interface at LRT Stations – Option A .....	S-25
S-6	Operating Plan – LRT Build Alternative .....	S-27
S-7	Bus Route Interface at Selected LRT Stations – Option B .....	S-32
S-8	Summary of Impacts.....	S-35
S-9	Capital Cost Estimates (2001\$ and Year of Expenditure \$) .....	S-56
S-10	Proposed Funding Sources and Amount for Eastside LRT Project .....	S-57
S-11	Comparative Analysis of Alternatives - Measures .....	S-58
S-12	Transit Travel Times (in minutes) from Selected Origins in the Eastside Corridor to Selected Destinations.....	S-59
S-13	Life Cycle Assumptions.....	S-60
S-14	Cost-Effectiveness Calculation: Incremental Values over No-Build.....	S-61
S-15	Cost-Effectiveness of LRT Build Alternative: Annualized Cost per New Daily Transit Trip.....	S-61

## LIST OF FIGURES

S-1	Eastside Corridor Study Area .....	S-3
S-2	Eastside Bus Routes.....	S-19





# TABLE OF CONTENTS

S-3	LRT Build Alternative – Option A .....	S-22
S-4	Modified Bus System With LRT .....	S-24
S-5	LRT Build Alternative – Option B .....	S-31



# EXECUTIVE SUMMARY

## S.1 PURPOSE OF THE FINAL SEIS/SEIR

The purpose of this Final SEIS/SEIR is to evaluate the LRT Build Alternative along with its two options (Option A and Option B) and the No-Build Alternative and for the MTA Board of Directors to select the most appropriate project for the Eastside Corridor while ensuring that potentially significant environmental consequences are considered as part of this process. This Final SEIS/SEIR document will be circulated and made available as required by NEPA and CEQA to interested and concerned parties, including private citizens, community groups, the business community, elected officials, and public agencies. This Final SEIS/SEIR will also be used by federal, state, regional, and local agencies to make discretionary decisions regarding this project.

In response to community comments received during circulation of the Draft SEIS/SEIR, the MTA Board, in their approval of the Draft SEIS/SEIR, directed staff to conduct additional analysis at specific locations. The additional analysis has resulted in refinements to the MTA Board approved LPA and are described as the LRT Build Alternative Options A and B in this Final SEIS/SEIR. LRT Build Alternative Option A considers changes related to the Alameda and 1<sup>st</sup> Streets concerns while keeping the balance of the project in the same context as adopted by the Board on May 24, 2000. LRT Build Alternative Option B, in this Final SEIS/SEIR, not only includes the modifications to the Alameda and 1<sup>st</sup> Streets concerns but addresses the other concerns of the Board and the public, specifically: (1) the transition at Indiana Street; and (2) the impacts related to the station location at Beverly and Atlantic Boulevards. Both options are minor refinements of the LRT Build Alternative presented in the Draft SEIS/SEIR.

Based on the comments received, the preliminary engineering activities, and the other technical studies conducted, as well as the extensive community outreach program (described in Chapter 6 of this Final SEIS/SEIR), the MTA staff has concluded that the option which best responds to the direction of the Board and the comments received is LRT Build Alternative Option B. Accordingly, LRT Build Alternative Option B is the MTA staff recommendation for consideration by the Board as the refined Locally Preferred Alternative.

## S.2 NEED FOR THE PROPOSED ACTION

### S.2.1 Regional Context

Los Angeles has a regional rail network that consists of heavy rail, light rail, and commuter rail components. The Los Angeles Rail Rapid Transit Project (Metro Red Line) is an 18-mile heavy rail rapid transit subway project extending from Union Station to North Hollywood. The final North Hollywood segment was completed and opened for revenue service on June 24, 2000. Opened for service in 1990, the 22-mile Metro Blue Line light rail system operates between Downtown Los Angeles and Long Beach. In 1994, the 19-mile Metro Green Line light rail system opened for service between Redondo Beach and Norwalk, primarily operating in the median of the Century Freeway (I-105). In 1992, commuter rail service was initiated with Metrolink, a regional rail network that connects Ventura, Los Angeles, Orange, San Bernardino, Riverside, and San Diego counties utilizing existing rail right-of-way. In 2003, the 13.8-mile Metro Blue Line to Pasadena will open for service and will connect Downtown Los Angeles with East Pasadena. All told, the region will have over 400 miles of commuter rail and over 70 miles of urban rail (Table S-1) by the year 2003.

**TABLE S-1  
LOS ANGELES COUNTY METRO RAIL NETWORK IN 2003**

Line	Length (Mi.)	Start	End
Blue Line (Long Beach)	22	Downtown Los Angeles	Downtown Long Beach
Green Line	19	Redondo Beach	Norwalk
Red Line	18	North Hollywood/Wilshire Center	Union Station
Blue Line (Pasadena)	13.8	Union Station	Pasadena

Source: MTA, 2000.

In 1994, the Metro Red Line Eastern Extension was selected as the Locally Preferred Alternative (LPA), and final design was begun on this project. The project was to be an extension of the heavy-rail Red Line subway system from Union Station to Whittier and Atlantic Boulevards through Boyle Heights and East Los Angeles. The project was split into two phases, with a minimum operable segment initially to be constructed to 1<sup>st</sup> and Lorena Streets. This 3.8-mile first phase extension was to have stations located at

Little Tokyo/Arts District near 3<sup>rd</sup> Street and Santa Fe Avenue, 1<sup>st</sup> Street and Boyle Avenue, Chavez Avenue and Soto Street, and 1<sup>st</sup> and Lorena Streets. Construction activities began on Phase 1 in 1997.

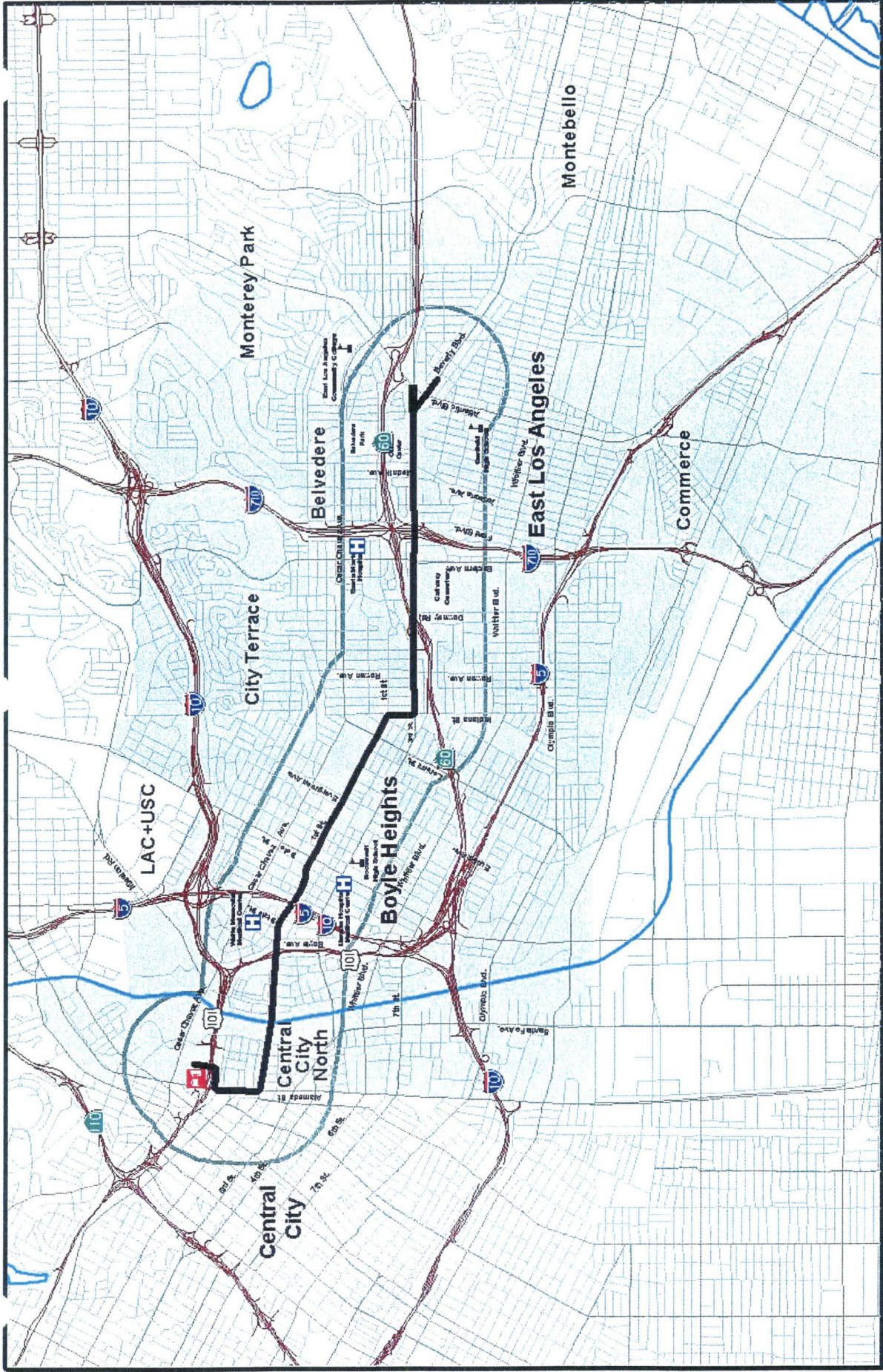
Work on the planned Eastside extension of the Metro Red Line subway was suspended by MTA in January 1998 due to local financial difficulties. The MTA Restructuring Plan (adopted in May 1998) called for the MTA to study "viable and effective options" for all parts of Los Angeles County, with an emphasis on the corridors in which rail projects had been suspended. Within the Eastside Corridor, this necessitated the examination of alternative fixed guideway options to the suspended heavy rail subway project.

Based on the results of the November 1998 Draft Regional Transit Alternatives Analysis (RTAA Study), the MTA Board approved the concept of a rapid bus plan in March 1999, which included a rapid bus demonstration project on the Eastside. The Board also reaffirmed its commitment to fund fixed guideway transit improvements beyond rapid bus in the suspended rail corridors. The Board subsequently authorized the preparation of the Re-Evaluation/Major Investment Study (MIS) and Draft and Final Supplemental Environmental Impact Statement/Subsequent Environmental Impact Reports (SEIS/SEIR) for the suspended Metro Red Line Eastside Transit Corridor Project. The Re-Evaluation/MIS was completed in February 2000 and analyzed several alternatives. This SEIS/SEIR identifies both beneficial and adverse environmental impacts associated with the Light Rail Transit (LRT) Build Alternative that was selected for further study following completion of the Re-Evaluation/MIS and compares them with those associated with the No-Build Alternative.

### **S.2.2 Eastside Study Area**

The Eastside Corridor study area is shown in Figure S-1, extending from Alameda Street in Central Los Angeles east through the Boyle Heights community in the City of Los Angeles and the City Terrace, Belvedere and East Los Angeles communities of unincorporated Los Angeles County. The study area also includes a portion of the City of Monterey Park.





0 0.25 0.5 Miles

0 0.25 0.5 0.75 1 Kilometers

**Eastside Corridor**  
**Transit Consultants**

Note: All names, primary, and secondary roads by Thomas  
 Rees. Map Prologia conditional use from MTA 1997.

Legend

- Eastside Corridor
- SEIS Project Study Area
- LRT Alignment
- Highway
- Primary Road
- Secondary Road
- River



Los Angeles Eastside Corridor SEIS/SEIR

**Eastside Corridor Study Area**

Figure S-1





### **S.2.3 The Mobility Problem**

The East Los Angeles Transit Corridor Technical Report was prepared by the Southern California Association of Governments (SCAG) in July 1998 and provides an overview of community transit needs for the area. The Eastside Corridor communities of Boyle Heights and East Los Angeles are characterized by a large and growing population (over 212,000 according to the 1990 census, 275,000 are expected by 2020) of predominantly Latino ethnic origin, a high percentage of low-income households, and relatively high rates of transit use and transit dependence. In these communities, nearly 20 percent of workers use the bus system on their journey to work (as compared to 6.5 percent for Los Angeles County as a whole), and rates of carpooling and walking to work are also higher than the County average.

East Los Angeles and Boyle Heights are served by a significant number of bus routes, primarily operated by the MTA, and generally organized in a grid pattern. There are approximately 40,000 weekday transit boardings in the area, with several heavily used bus transit corridors that include Soto Street, Cesar Chavez Avenue, 1<sup>st</sup> Street, Whittier Boulevard, and Olympic Boulevard. New Metro Rapid bus service was initiated on Whittier Boulevard on June 24, 2000 and provides limited stop service and buses equipped with devices to extend the green phase of traffic signals to make for speedier trips. The heaviest bus routes carry passengers in an east-west direction. The average speed for all bus routes in the area is 12.9 MPH, and the typical passenger trip length for transit riders is between one and three miles.

The existing bus system has very high ridership on many routes during peak periods and moderate to low levels of ridership on other routes during peak, as well as off-peak, periods. Adequate transit services are not being provided to some locations of high transit demand. Most person trips to key activity centers within the study area require at least one transfer. This can result in longer travel times, less convenience, and an ultimate compromise in mobility for the traveler.

### **S.2.4 Goals and Objectives**

The goals and objectives of the SEIS/SEIR for the Los Angeles Eastside Corridor have been developed from the extensive Corridor and systems planning studies carried out over the past ten years, including the Eastside Alternatives Analysis/DEIS/DEIR process, public reviews leading to selection of the Locally Preferred Alternative, and the Re-Evaluation/MIS. Based on these planning and community involvement activities, the following goals and objectives listed were used. They are based on established transportation and land use goals and objectives of the major government jurisdictions within the study area, including the City of Los Angeles and the County of Los Angeles. These goals and objectives were utilized in the development and evaluation of the Eastside Corridor transit alternatives.

1. Improve access and mobility for residents, employees, and visitors to the Eastside Corridor.
  - ◆ Provide direct service to employment opportunities
  - ◆ Provide direct service to education, medical, shopping, and cultural opportunities
  - ◆ Minimize total travel times
  - ◆ Maximize transit ridership
  - ◆ Minimize transfers and changes of mode by integrating the system
  - ◆ Provide convenient access and improve connectivity to the regional transit system
  - ◆ Provide for the long-term expansion of the future transit system
2. Support land use and development goals as stated in City of Los Angeles and County of Los Angeles plans for:
  - ◆ Community plan consistency
  - ◆ Regional plan consistency

- ◆ Joint development opportunities
  - ◆ Increased land use intensity in transit station areas
  - ◆ Mixed-use commercial/residential development
  - ◆ Create a pedestrian-oriented environment
  - ◆ Enhance urban design features
3. Achieve local consensus by ensuring that the process is responsive to the community and policy-makers.
    - ◆ Define the desired transit system attributes from a community perspective
    - ◆ Maximize the opportunities for community and resident input
    - ◆ Enhance the public image of the proposed transit improvements
    - ◆ Build community and political support through effective communication and integration with local and regional plans
  4. Provide a transportation project that is compatible with and enhances the physical environment wherever possible.
    - ◆ Implement an alternative that minimizes adverse impacts on the environment
    - ◆ Minimize air pollution
    - ◆ Minimize noise pollution
    - ◆ Minimize vibration impacts
    - ◆ Minimize the disturbance of public facilities
    - ◆ Minimize impacts on cultural resources, such as those that are historic, archaeological, or involve parkland
    - ◆ Conform to all local, state, and federal environmental regulations
  5. Provide a transportation project that minimizes adverse impacts on the community.
    - ◆ Minimize business and residential dislocations, community disruptions, and damage to property
    - ◆ Avoid creating physical barriers, destroying neighborhood cohesion, or diminishing the quality of the human environment
    - ◆ Minimize traffic and parking impacts
    - ◆ Minimize impacts during periods of construction
  6. Provide a transportation project that is reasonably within budget constraints for both capital and operating expenses.
    - ◆ Ensure adequate local funding commitments to secure federal and state contributions
    - ◆ Ensure adequate operating funds
    - ◆ Ensure fiscal consistency with the MTA's current financial plan
    - ◆ Minimize right-of-way costs by using land previously acquired by the MTA

### **S.2.5 Community Factors**

The Eastside Corridor study area contains a low- to moderate-income population, which is expected to grow by 30 percent to 275,000 by 2020, according to Southern California Association of Governments (SCAG) forecast data. The Eastside Corridor contains a dense concentration of households.

Access to employment opportunities is one of the major mobility problems that affect Eastside Corridor residents. The 1990 Census analysis of the study area work force revealed a breakdown of home-based work trips generated from the Eastside Corridor area. Nine percent of work trips from the Eastside Corridor were destined for the Los Angeles CBD, 36 percent for areas north and west of the CBD, 13 percent for the South Bay region of the County, 24 percent for locations within the Corridor, and 18 percent for areas in the remainder of the County.

SCAG forecast data for the year 2020 show an increase in the number of trips generated in the study area as the population grows. The forecast results indicate that there will be less reliance on the Los Angeles CBD and a greater number of trips being made to other sub-areas of the Los Angeles region. Work trips to the West Los Angeles area are projected to increase by 57% from the study area, and work trips to the southern part of the County are expected to increase by 42%. While work trips to the San Fernando Valley are expected to decrease by 46%, work trips to the San Gabriel Valley are expected to increase by 100%. Work trips destined for Orange County are expected to increase by 50%. As employment and activities in the region decentralize, greater reliance will be placed upon modes of travel that provide relatively convenient and timely service, especially in light of the increase in the amount of traffic congestion and resulting public transit delays that will be experienced in the coming 20 years.

The study area's mobility problems are exacerbated by socioeconomic factors. As reported in the 1990 Census, and as shown in Table S-2, the percentage of occupied dwelling units in the Corridor whose residents did not have access to an automobile was approximately 30 percent, which is almost three times greater than the figure for the County of Los Angeles as a whole (11 percent). Many of the area's residents were young, with 21 percent between the ages of six and 18 years, and only eight percent being elderly (over 65 years). About 26 percent of the housing units were owner-occupied, and vacancy rates were generally low, averaging less than four percent. Most of the housing units were single-family houses with an average household size of 4.0 persons, which is about 35 percent higher than the City and County of Los Angeles averages of 2.9 and 3.0 persons per household, respectively. The minority composition of the study area in 1990 was 96.7 percent, most of whom were of Latino ethnic background. Given the growing population and the number of low-income households in the Corridor (26 percent of total households), reliance on public transportation will not decrease, but will likely increase in the future.

Characteristic	Location	Percentage or Number
Percentage residents without access to an automobile	Eastside Corridor	30%
	Los Angeles County	11%
Percentage persons age 6-18 years	Eastside Corridor	21%
	Los Angeles County	18%
Percentage persons age over 65	Eastside Corridor	8%
	Los Angeles County	10%
Average household size	Eastside Corridor	4.0
	Los Angeles County	3.0
Percentage low-income households	Eastside Corridor	26%
	Los Angeles County	12%
Percentage minority households	Eastside Corridor	97%
	Los Angeles County	59%

Source: U.S. Census of Population and Housing, 1990.

### S.2.6 Summary of Need

Travel demand forecasts prepared by SCAG and the MTA over the past decade have identified the need for transit improvements in the Southern California region, especially in Los Angeles County, to meet the

mandates of the federal Clean Air Act and address the increasing mobility needs of the region. Current freeway and surface arterial street facilities cannot be expanded sufficiently to handle the forecasted demand for mobility. Regional forecasts for the year 2020 based on 1990 census data estimate that person trips will increase by over 40 percent in the region and by almost 30 percent in Los Angeles County. The MTA, in the development and adoption of its 1992 30-Year Integrated Transportation Plan, addressed the mobility deficiency issues identified in the regional plan developed by SCAG. Subsequent travel demand forecasting conducted for the update of the MTA Long Range Plan has confirmed the continuing need for improvements in mobility.

The existing population and employment density in the Eastside Corridor is high and very transit supportive. The Corridor transit work trip mode split is 2.8 times higher than Los Angeles County as a whole. The Corridor has a high concentration of low-income, minority, transit-dependent residents. Over 19 percent of workers use the bus system on their journey to work (as compared to 6.8 percent for Los Angeles County as a whole), and rates of carpooling and walking to work are higher than the County average. Employment densities are six times higher within the Eastside Corridor than Los Angeles County as a whole. The Corridor is growing (20 percent population and 30 percent employment growth between now and 2020), and a new transit investment would make the Corridor attractive for other types of urban investment in the future. This will make the Corridor even more transit supportive over time, as new investments are attracted by transit and community centers and encouraged by potential development and tax incentives offered by other agencies responsible for these issues.

All major freeways serving the Eastside Corridor area are currently operating above their design capacities during peak periods, and for significant durations during off-peak periods. No major improvements to existing freeways in the study area are identified in the current SCAG Regional Transportation Plan except for the extension of the I-710 freeway north to Pasadena. During previous project scoping and community meetings, residents of the Eastside Corridor expressed their desire for improved transit service because many are transit-dependent and need improved access to the region's educational, employment and cultural opportunities. Current meetings with Eastside Corridor elected officials have confirmed the need for improved transit service and connections to the regional system, especially in light of community initiatives for revitalization, employment opportunities, and economic development on the Eastside. The project now under study in this SEIS/SEIR will further these goals and contribute to an improved overall transportation system for the Los Angeles region and for the Eastside Corridor specifically.

### **S.3 ALTERNATIVES CONSIDERED**

#### **S.3.1 Previous EIS/EIR and Suspended Project (1990 –1998)**

Eastside Corridor planning for the Red Line Extension was initiated in 1990 through the Alternative Analysis/DEIS/DEIR process. Following extensive public review of the ten alternatives presented in the April 1993 Alternative Analysis/DEIS/DEIR document, the MTA Board of Directors in June 1993 selected the Locally Preferred Alternative (LPA) for the Los Angeles Eastside Corridor. The LPA was subsequently incorporated into SCAG's Regional Mobility Element (RME) planning process and included as part of the regional Air Quality Management Plan. The East Side Extension Preferred Alternative was identified as a heavy rail subway line from Union Station to Whittier and Atlantic Boulevards, to be implemented in two phases.

The Final EIS/EIR for the Eastside Corridor was completed in June 1994. It evaluated the LPA to ensure that all significant environmental consequences and all reasonable and feasible mitigation measures were considered in its selection. The Record of Decision was signed on December 1994. Full Funding Grant

Agreements were subsequently executed with the Federal Transit Administration and the projects were transitioned into the construction phase.

In January 1998, the MTA suspended work on extensions of the Metro Red Line heavy rail subway project, including the initial 3.7-mile segment of the Eastside LPA from Union Station to 1<sup>st</sup> and Lorena Streets. Since the suspension, several planning initiatives have provided further guidance for the development of Eastside transit alternative improvements.

The MTA Restructuring Plan titled: *Analysis and Documentation of the MTA's Financial and Managerial Ability to Complete North Hollywood Rail Construction and Meet the Terms of the Bus Consent Decree* was adopted by the MTA Board of Directors on May 13, 1998 and subsequently approved by the FTA on July 2, 1998. The Restructuring Plan documented that the MTA did not have sufficient local matching funds to finance heavy rail subway projects in the Eastside and Mid-City corridors as anticipated in the original Full Funding Grant Agreements for those projects. At the same time, the Restructuring Plan called for the MTA to study "viable and effective options" for transit in all parts of Los Angeles County, with an emphasis on the corridors in which the rail lines had been suspended.

Within the Eastside and Westside corridors, this necessitated the examination of alternative fixed guideway options to heavy rail subway. It also committed the MTA to a re-evaluation of the financial capacities of the agency to undertake new start, fixed guideway projects. To that end, the Board authorized the Regional Transit Alternatives Analysis (RTAA) Study that commenced in July 1998 and was completed in November 1998.

The RTAA Study accomplished several important objectives for the MTA. The study identified the amount of funding available for new projects between FY1999 and FY2004. It suggested possible funding allocations, identified immediate bus transit improvements in Los Angeles County, and established a framework for further fixed guideway project development in the Eastside, Westside, and San Fernando Valley corridors.

The study included a preliminary evaluation of fixed guideway alternatives in the three corridors. The study did not make recommendations with regard to preferred fixed guideway transit modes or configurations, but recommended that a Major Investment Study (MIS) level of analysis be conducted to provide more information regarding these choices.

Results of the RTAA Study were presented to the MTA Board on November 9, 1998. At that meeting, the Board approved the concept of a recommended rapid bus system serving the Eastside, Westside and San Fernando Valley. The Board also reaffirmed its commitment to fund fixed guideway transit improvements beyond rapid bus in the suspended rail corridors. A priority funding commitment of \$220 million through FY2004 was made to the Eastside and Mid-City areas from remaining uncommitted funds.

In a step made to obtain greater flexibility in project definition for the project corridors, the MTA sought to expand the definition of Metro Red Line Segment 3. Segment 3 was defined in both the Intermodal Surface Transportation and Efficiency Act (ISTEA) and the Segment 3 Full Funding Grant Agreement as a "heavy rail subway" project. With the cooperation and assistance of the Los Angeles congressional delegation, the MTA obtained revised definitional language in the Transportation Equity Act for the Twenty-First Century (TEA-21), which was signed into law by the President of the United States on June 9, 1998. This action was taken with the intent to have the option available to utilize the Segment 3 funding balance in the future for any type of fixed guideway project in the Eastside and other corridors. The TEA-21 legislation expanded the definition of the Segment 3 project to include "any fixed guideway project" (not necessarily heavy rail subway) in the transportation corridors to be served by the three

extensions of Segment 3. It also authorized the start of final design and construction for the Segment 3 project during the FY1998-2003 funding cycle under FTA section 5309 (new starts funding).

A 1998 ballot initiative sponsored by County Supervisor Zev Yaroslavsky, referred to as the Metropolitan Transportation Authority Reform and Accountability Act, was approved (and became effective) on November 3, 1998. The most significant provision of the new law stipulates that no local Proposition A or C sales tax monies will be used to fund the planning, design, construction, or operation of any New Subway. The term "New Subway" is defined to mean any subway project (a rail line which is in a tunnel below grade) other than the Metro Red Line Segments 1,2 or 3 (North Hollywood). As a result, the initiative prohibits the use of these sales tax revenues to build subway extensions in the Eastside or Mid-City/Westside corridors.

The initiative does not prohibit the use of sales tax revenues to design and construct light rail, at-grade rail, elevated rail systems, or busways in the Eastside, or other areas of Los Angeles County. Nor does this initiative prevent the MTA from using State or federal revenues or local revenues other than sales tax, to design and construct a new subway in the Eastside or other areas.

### **S.3.2 Re-Evaluation/Major Investment Study (1999 –2000)**

In June 1999, the MTA initiated a Re-Evaluation/Major Investment Study (MIS) for the Eastside Transit Corridor. The MTA also authorized parallel Re-Evaluation/Major Investment Studies for the Mid-City/Westside and San Fernando Valley Corridors.

There were two major objectives for the Eastside Corridor Re-Evaluation/MIS study: (1) develop alternatives to the Suspended Project, and (2) identify the Corridor long-term transportation needs to be addressed in the MTA Long Range Plan. The Re-Evaluation/MIS Report provided the public and MTA Board of Directors the technical information needed in order to make an informed decision related to selecting an alternative or alternatives that satisfy the needs of the Eastside Corridor. The selected alternatives were then subjected to the next phase of analysis, the preparation of the Draft Supplemental Environmental Impact Statement/Subsequent Environmental Impact Report (Draft SEIS/SEIR).

#### **S.3.2.1 First-round Screening of Alternatives**

The MIS included not only alignments but also three different transit modes: Bus Guideway (also called Bus Rapid Transit or Busway and predominately at-grade or surface running); Light Rail Transit (mainly at-grade or surface running); and Heavy Rail Transit (mainly subway). The first task was to assemble and document the alternatives that had been considered over the last ten years. Six major relevant studies (listed below) have been conducted in the Eastside Corridor.

1. Regional Transit Alternatives Analysis, November 1998, MTA.
2. East Los Angeles Study for 1<sup>st</sup> District, October 1998, ACG Environments.
3. 1998 RTP Transit Restructuring Evaluation, East Los Angeles, Transit Corridor Technical Report, July 1998, SCAG.
4. Los Angeles East Side Extension, FEIS/FEIR, September 1994, MTA.
5. Route 10/60 Corridor Preliminary Planning Study, June 1993, MTA.
6. Los Angeles Eastside Corridor, AA/DEIS/DEIR, April 1993, MTA.

From these six studies as well as input from the public and staff, 47 alternatives were identified. The goal was to reduce the identified alternatives to eight fixed guideway alternatives for analysis in the MIS in addition to the No Build and Transportation Systems Management (TSM) Alternatives. The eight



alternatives had to consider the three possible modes of fixed guideway transit and service the full length of the Eastside Corridor.

As part of the federal and local project development and environmental clearance process, a local and Federal process called "scoping" was initiated, in addition to a very aggressive public involvement program. The scoping process was initiated with the cooperation of the Federal Transit Administration (FTA) and was properly noticed through a federal Notice of Intent (August 13, 1999) and the State required Notice of Preparation (August 10, 1999) by MTA. The purpose of the intensive scoping process was to invite interested individuals, organizations, and federal, state, and local agencies to participate in defining the alternatives to be evaluated in the Re-Evaluation Major Investment Study (MIS) and the subsequent environment impact statement and report and identifying any significant social, economic, or environmental issues related to the alternatives. The study area was defined in the scoping information booklets and the 47 alternatives were shown at the scoping meetings.

Three official community scoping meetings were noticed and conducted on August 24, 1999, August 26, 1999, and September 2, 1999. Seven major follow-up community meetings were conducted over the course of the study and discussed in Chapter 6 of this document. Over 270 persons attended the three community scoping meetings and the comments are fully documented in the *Scoping Meeting Summary Report* dated September 24, 1999. In addition to the three community scoping meetings a separate governmental agency scoping meeting was conducted on August 25, 1999 at MTA Headquarters. Their comments are also documented in the *Scoping Meeting Summary Report*.

To further enhance the initial community outreach program for the MIS, meetings with the MTA Review Advisory Committee (RAC) for the Eastside were conducted on July 21, 1999; August 4, 1999; and August 18, 1999. These meetings brought the committee up to date on the efforts that had been initiated by MTA and presented the study process and schedule leading to a decision for an Eastside fixed guideway transit project by the MTA Board of Directors. The meeting agendas, distributed materials, and meeting minutes are also included in the *Scoping Meeting Summary Report*.

In addition to the above meetings with the community, meetings were held with the MTA Elected Officials Committee (representing the Eastside communities). A number of community ad-hoc meetings were conducted during the scoping period.

In order to reduce the number of identified alternatives, the first task was to identify a list of screening evaluation criteria that could be applied to the 47 alternatives. This was a very difficult and controversial undertaking by the staff and consultant team. A number of staff and consultant teamwork sessions were undertaken after scoping to identify the eight fixed guideway alternatives to be analyzed. Some 32 measures, or criteria, listed below, were used in the first round of screening.

1. Alternative considered in formal MTA study process.
2. Scoping meetings input – support.
3. Right-of-way acquired by the MTA is not used.
4. Alternative eliminated by previous studies.
5. Alternative does not penetrate the corridor.
6. Alternative does not serve major activity centers.
7. Section 4(f) or 106 properties (recreational or cultural resources) potentially affected.
8. Parking for businesses is removed.
9. Sensitive resources are affected by noise, vibration, etc.
10. Connections with existing transit facilities are non-existent.
11. Access is provided to high-density areas.
12. Major right of way impacts anticipated.

13. Major traffic impacts anticipated resulting in slow travel times.
14. Redevelopment/development potential low.
15. Major impacts on utilities.
16. Construction implementation difficult.
17. Major new structures or other high cost items are needed.
18. Major existing structures will be impacted.
19. Community supports the alternative.
20. Elected officials support for the alternative.
21. Equity is an issue.
22. Major visual impacts on surroundings.
23. Potential high-contaminated lands affected (from previous studies).
24. Geotechnical/seismic issues.
25. Lane miles of traffic lanes removed.
26. Lane miles of parking lanes removed.
27. Provisions for north-south bus interface connections (major MTA, Montebello, and other community bus systems).
28. Cultural resources potentially impacted; schools, parks, churches, hospitals and cemeteries.
29. Street curb-to-curb width.
30. Street right of way width.
31. Serves the study goals and objectives.
32. Conceptual preliminary cost within reason.

From the 47 alternatives, some 15 alternatives were identified for further consideration.

### **S.3.2.2 Second-Round Screening of Alternatives**

A second round of evaluation was conducted in order to reduce the number of alternatives to eight. The eight alternatives were chosen based on a review of previous alternatives and studies, three fixed guideway technologies (Bus Rapid Transit, Light Rail Transit, and Heavy Rail Transit), a workshop by the consultant team to consider the initial screening criteria in reducing the number of alternatives, discussion with the MTA/consultant study team, identification of logical termini (Union Station and Whittier/Norwalk Boulevards) to serve the identified study area, and the basic objective to recommend eight build alternatives for analysis in the Re-Evaluation/MIS Report.

Other assumptions included the provision that no traffic lanes would be replaced for the at-grade alignments, as much on-street parking would be retained as possible, and that the fixed guideway technologies would operate on exclusive rights-of-way. In addition, a key assumption was that the alternatives presented be implementable, even though they may have impacts and capable of being constructed in phases over time, based on the resources available.

### **S.3.2.3 Alternatives Considered for Evaluation in Re-Evaluation/MIS**

Based on the community, technical staff, and consultant team inputs, eight fixed guideway build alternatives, the No-Build Alternative, and the TSM Alternative were developed for environmental and technical analysis in the study. The alternatives are summarized below.

The No-Build Alternative includes all highway and transit projects and operations that the region and MTA expect to be in place in the year 2020 (the future analysis year for this SEIS/SEIR). These include improvements to the local bus system and the completion of the Red Line to North Hollywood and the Pasadena Blue Line to Sierra Madre Villa in Pasadena.

The Transportation System Management (TSM) Alternative is defined by the Federal Transit Administration (FTA) as the No-Build Alternative, plus lower cost transit capital and operational improvements that are intended to enhance the performance of the transportation system within the study Corridor. The TSM Alternative, in comparison to the "build" alternatives, should be a relatively low cost approach to addressing the transportation problems. The TSM should represent the best that can be done to improve transit mobility in the Corridor without the construction of major new transit facilities. The TSM Alternative for the Eastside Corridor includes additions in bus service frequencies to the major east-west and north-south existing transit routes, as well as the implementation of the Whittier/Wilshire Rapid Bus line from Whittier and Garfield (Montebello) to Colorado and Ocean (Santa Monica). This Rapid Bus Line was approved for implementation in June 2000 and provides a combined operating frequency of 1.75 minutes during the peak periods and five minutes during the off-peak periods. There are 24 stops along the route, with six on the stops within the Eastside Corridor study area. This service would provide a strong linkage (no transfers) between a portion of the Eastside Corridor study area to Downtown, Mid-Wilshire, and the far westside of Los Angeles. The TSM Alternative also includes more frequent service for the Metro Red Line.

The eight fixed guideway build alternatives are listed below.

1. Bus Rapid Transit (BRT) (Dedicated Busway), At-Grade. 1<sup>st</sup>/Alameda to Union Station (northside) to Whittier and Norwalk Boulevards via Cesar Chavez, Soto, 4<sup>th</sup>, 3<sup>rd</sup>, Beverly, and Whittier.
2. Bus Rapid Transit (Dedicated Busway), At-Grade. Union Station (southside) to Whittier and Norwalk Boulevards via Alameda, 1<sup>st</sup>, Soto, 4<sup>th</sup>, 3<sup>rd</sup>, and Whittier.
3. Light Rail Transit (LRT), At-Grade. Union Station (southside) to Whittier and Norwalk Boulevards via Alameda, 1<sup>st</sup>, Soto, 4<sup>th</sup>, 3<sup>rd</sup>, and Whittier.
4. Bus Rapid Transit (Dedicated Busway), At-Grade. Union Station (southside) to Whittier and Norwalk Boulevards via Alameda, 1<sup>st</sup>, Soto, 4<sup>th</sup>, 3<sup>rd</sup>, Beverly, and Whittier.
5. Light Rail Transit, At-Grade. Union Station (southside) to Whittier and Norwalk Boulevards via Alameda, 1<sup>st</sup>, Soto, 4<sup>th</sup>, 3<sup>rd</sup>, Beverly, and Whittier.
6. Light Rail Transit. At-grade Union Station (southside) to 1<sup>st</sup>/Boyle. LRT (subway) 1<sup>st</sup>/Boyle to 1<sup>st</sup>/Lorena. LRT (at-grade) from 1<sup>st</sup>/Lorena to Whittier and Norwalk Boulevards via Alameda, 1<sup>st</sup>, Indiana, 4<sup>th</sup>, 3<sup>rd</sup>, and Whittier.
7. Heavy Rail Transit and Light Rail Transit. Heavy Rail (subway) from Union Station to 1<sup>st</sup>/Lorena subway station with a subway station at 1<sup>st</sup>/Boyle and 1<sup>st</sup>/Lorena. Light Rail Transit (at-grade) from 1<sup>st</sup>/Lorena to Whittier and Norwalk Boulevards via Indiana, 4<sup>th</sup>, 3<sup>rd</sup>, Beverly, and Whittier.
8. Heavy Rail Transit and Bus Rapid Transit (Dedicated Busway). Heavy Rail (subway) from Union Station to Chavez/Soto subway station with a subway station at 1<sup>st</sup>/Boyle. Bus Rapid Transit (at-grade) from Chavez/Soto to Whittier and Norwalk Boulevards via Soto, 4<sup>th</sup>, 3<sup>rd</sup>, Beverly, and Whittier.

In the Re-Evaluation/MIS study each of the eight fixed guideway alternatives, the TSM Alternative, and the No-Build Alternative were analyzed with respect to each of the environmental conditions or potential impacts listed below. In addition, preliminary mitigation measures were discussed for each of the potentially adverse impacts identified.

- |                          |                        |                                    |
|--------------------------|------------------------|------------------------------------|
| ◆ Transit Service Levels | ◆ Visual and Aesthetic | ◆ Energy                           |
| ◆ Transit Ridership      | ◆ MTA Arts Program     | ◆ Cultural/Paleontologic Resources |
| ◆ Traffic                | ◆ Air Quality          | ◆ Parks and Recreation Facilities  |

- |                                       |                        |                                   |
|---------------------------------------|------------------------|-----------------------------------|
| ◆ Parking                             | ◆ Noise and Vibration  | ◆ Major Utilities                 |
| ◆ Land Use and Development            | ◆ Geotechnical         | ◆ Safety                          |
| ◆ Population and Employment           | ◆ Hazardous Substances | ◆ Capital Costs                   |
| ◆ Residences and Businesses Displaced | ◆ Water Resources      | ◆ Operating and Maintenance Costs |
| ◆ Environmental Justice               | ◆ Wetlands             | ◆ Community Involvement Response  |

#### **S.3.2.4 MTA Board Action (February 24, 2000)**

In February 2000, the MIS study recommendations were presented to the MTA Board of Directors. The Board considered the environmental and technical information contained in the MIS study in making their decision. On February 24, 2000, the Board adopted a Light Rail Transit (LRT) Build Alternative that would extend from Union Station (as an extension of the Pasadena Blue Line) to Beverly and Atlantic Boulevards utilizing Alameda St., 1<sup>st</sup> St., Indiana St., 3<sup>rd</sup> St. and Beverly Boulevard, with a tunnel under Boyle Heights from approximately Utah St. to Lorena St. under 1<sup>st</sup> St. In selecting the LRT Build Alternative, the Board considered the reduced environmental impacts associated with tunneling through Boyle Heights as represented by the chosen alternative. The Board-adopted alternative was a combination of alignments and station locations from the MIS Alternatives 5 and 6. The Board also directed that Bus Rapid Transit (BRT) be studied further in the EIS phase of project development, subject to financing availability for the LRT Build alternative.

#### **S.3.2.5 MTA Board Action (June 22, 2000)**

On June 22, 2000, the MTA Board of Directors officially dropped the Bus Rapid Transit technology from any further analysis, and consideration in the project development phases, and in the Draft SEIS/SEIR. The basis for the Bus Rapid Transit technology to be officially dropped from further consideration was based on the project funding being approved for the LRT Build Alternative in the state's Traffic Congestion Relief Program.

In addition, the Southern California Association of Governments (SCAG) found the MIS study process and technical work effort conducted for the Eastside Transit Corridor in full compliance with SCAG's adopted procedures. A Letter of Completion has been approved by SCAG. SCAG has also determined that the LRT Build Alternative, as the Locally Preferred Alternative for the Los Angeles Eastside Corridor, is part of the currently adopted Regional Transportation Plan and the Transportation Improvement Program.

### **S.3.3 Alternatives Considered in the Draft SEIS/SEIR (2000-2001)**

#### **S.3.3.1 No-Build Alternative**

The No-Build Alternative, as defined by FTA, represented the alternative consisting of existing and committed elements of the region's transportation plan, excluding the proposed fixed guideway transit (bus and light rail transit) investments for the study Corridor. The No-Build Alternative includes all highway and transit projects and operations that the region and MTA expect to be in place by the year 2020. These include improvements to the local bus systems and operation of the existing Red, Blue, and Green lines as well as completion of the Pasadena Blue Line from Union Station to Sierra Madre Villa in Pasadena.

### **S.3.3.2 LRT Build Alternative**

The LRT Build Alternative introduces the light rail transit (LRT) mode to the Los Angeles Eastside Corridor. The LRT fixed guideway concept would operate in a dual track configuration in the center of selected streets and provide for high platform center station arrangements for the at-grade LRT segments (similar to that in use on the Long Beach Blue Line) and cut-and-cover station boxes for the subway segment (similar, but of shorter length, to that in use on the Metro Red Line subway). LRT is electrically powered and receives its electric power from overhead power lines (like the Long Beach Blue Line and Green Line) within the street rights-of-way or in the tunnel for the subway segment. LRT operations would include a traffic signal priority system, to allow for faster travel times, similar to other MTA in-street running operations.

The LRT Build Alternative is approximately six miles long with eight new stations from a connection with the Pasadena Blue Line currently under construction at Union Station to Beverly and Atlantic Boulevards via Alameda Street, 1<sup>st</sup> Street, Indiana Street (with the exception of the options discussed below), 3<sup>rd</sup> Street, and Beverly Boulevard.

From about Lorena Street to about Hicks Avenue, three alignment options were studied. They include: 1) Indiana Street Remove Parking Option; 2) Indiana Street Acquire Additional Right-of-Way Option; and 3) Extended Subway Option. The Indiana Street Remove Parking Option (Option 1) includes an at-grade segment traversing 1<sup>st</sup> Street east from Lorena Street to Indiana Street where it turns south and continues along Indiana Street to 3<sup>rd</sup> Street. At 3<sup>rd</sup> Street, the alignment turns eastward to Hicks Avenue. This option removes the existing parking lanes on both sides of Indiana Street and results in narrower sidewalks along that street. The Indiana Street Acquire Additional Right-of-Way Option (Option 2) is similar to Option 1 except that an additional 26-foot width of right-of-way on the west side of Indiana Street would be required to accommodate the two LRT tracks. However, the parking lanes and current sidewalk widths would be preserved with implementation of Option 2. Indiana Street has a narrower right-of-way than the other streets along the alignment, thus the LRT double-track facility requires additional area from the parking lanes or adjacent right-of-way to accommodate it. The Extended Subway Option (Option 3) involves continuation of the tunnel from Lorena Street in a southerly and easterly direction under several properties, including Ramona High School, to a point along 3<sup>rd</sup> Street just east of Hicks Avenue where the alignment again becomes at-grade.

The LRT Build Alternative also included provisions for an eight to ten acre maintenance and storage facility (M&SF), to house the required new light rail vehicles using Ducommun and Commercial Streets as the possible connections to the three optional sites considered. Three alternative sites were considered for the maintenance and storage facility (M&SF) for the new light rail cars for the Los Angeles Eastside Corridor LRT extension. Refer to Chapter 2 of the Draft SEIS/SEIR for a complete description of each location considered.

As a major component of implementing Light Rail Transit service in the Eastside Corridor, MTA designed a corresponding increase in feeder bus and increased service to existing routes that would serve the LRT stations. Increased service is proposed for MTA bus services in the Eastside Corridor, as well as increased service for routes operated by City of Monterey Park and Los Angeles County. This increase in bus service will require an increase of over 40 peak period buses.

### **S.3.4 Selection of the Locally Preferred Alternative (LPA)**

The public review of the Draft SEIS/SEIR began on March 2, 2001 through the Notice of Availability in the Federal Register, and with a Notice of Completion filed with the California State Clearinghouse. Public notices also appeared in local newspapers and through an extensive mailing to provide the public

advance notice of the three community public hearings held on March 29, April 4, and April 5, 2001. The public hearings and other informational community meetings were held to discuss the contents and comparisons presented in the Draft SEIS/SEIR. Considerable public input has been sought through additional community meetings, station area meetings, etc. during the Final SEIS/SEIR development process regarding the modified options discussed in Section S.3.5.

At the Board meeting of May 24, 2001, the MTA Board of Directors considered the comments received from the meetings, public hearings, and public testimony. The MTA Board formally adopted the Locally Preferred Alternative (LPA) for the Eastside Corridor to be the Light Rail Transit project with Option 1 (transition from 1<sup>st</sup> Street and Lorena, via Indiana Street at-grade in the existing right of way, to 3<sup>rd</sup> Street) and the shared use of the existing Red Line Yard, Option 1, for the Eastside LRT Maintenance and Storage Facility (M&SF). The selection of the existing Red Line Yard, Option 1, for the Eastside M&SF facility was based on the requirement that additional property and/or construction of a bridge over the Los Angeles River would be needed for M&SF Options 2 or 3. The existing Red Line yard was considered to have sufficient capacity to handle the Eastside requirements. The Board also directed staff to prepare the Final SEIS/SEIR, taking into account the comments received on the Draft SEIS/SEIR and directed the staff to “continue to work with the City of Los Angeles and the residents of Little Tokyo to mitigate the concerns about the alignment on Alameda and 1<sup>st</sup> Streets and to continue to further study the transition at Indiana Street and the impacts to parking at the end of the alignment on Beverly Boulevard.”

### **S.3.5 Response to Public Comments and Modifications to the LPA (Option 1)**

Since completion of the Draft SEIS/SEIR circulation period, MTA has decided to modify some portions of the LPA adopted by the MTA Board on May 24, 2001. In addition, MTA has added one route refinement option for consideration within portions of the LPA alignment. All of these changes have come about in response to community concerns that were revealed during circulation of the Draft SEIS/SEIR. Since that time, some portions of the MTA Board approved route of the LRT Build Alternative have been modified (Option A), and one refinement option (Option B) has been added to respond to public comments and to direction of the MTA Board when they approved the preferred alternative to be carried forward. Option A responds to the board’s direction to “...continue to work with the City and the resident’s of Little Tokyo to mitigate their concerns about the alignment on Alameda and 1<sup>st</sup> Streets.” Option B responds to the board’s direction to “...continue to further study the transition at Indiana Street and the impacts to parking at the end of the alignment on Beverly Boulevard.”

The two options, A and B, are described in Section 2.5 and Sections 2.4.3.1 and 2.4.3.2 of this Final SEIS/SEIR discuss the modifications made to the adopted LPA based on community concerns and comments received on the Draft SEIS/SEIR and by the MTA Board direction. Chapters 6 and 7 discuss the public involvement program and the written response to all written and verbal comments received.

In a report submitted to FTA by MTA in October 2001, MTA updated FTA regarding the modified Options A and B and identified potential impacts that may be associated with the changes. The report, presented in final form as Appendix H of this Final SEIS/SEIR, concluded that following implementation of recommended mitigation, neither Option A nor Option B will result in any significant adverse impacts that were not already evaluated in the Draft SEIS/SEIR. In some cases, as further described in Appendix H, the options will result in a lessening of adverse impacts. Although the report is addressed to FTA and addresses NEPA issues and the standard set forth in 23 CFR Part 771, the standard set forth by CEQA is substantially similar to that set forth in 23 CFR Part 771.

CEQA Guidelines Section 15088.5 states “A lead agency is required to recirculate an EIR when significant new information is added to the EIR after public notice is given of the availability of the draft EIR for public review... but before certification... New information added to an EIR is not ‘significant’



unless the EIR is changed in a way that deprives the public of meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect...that the project's proponents have declined to implement." Application of the standard set forth in CEQA Guidelines Section 15088.5 to the impacts described in Section 3 of the report to FTA in Appendix H yields the same conclusions as set forth in the checklist in Section 4 of that report, i.e., no further CEQA documentation is required.

### **S.3.5.1 Modifications to the LRT Build Alternative Since Completion of the Draft SEIS/SEIR and MTA Board Approval – Option A**

The changes below are included in Option A:

- ◆ Alameda Street—Alignment has been moved from the middle of the street to the east side necessitating some additional partial acquisitions and full acquisition of a gas station along the east side of that street from Commercial Street to 1<sup>st</sup> Street. This will provide higher traffic capacity on Alameda Street and address other LADOT concerns.
- ◆ 1<sup>st</sup>/Alameda Station—Station has been moved a short distance from 1<sup>st</sup> Street just east of Alameda to off-street right-of-way on the east side of Alameda just north of 1<sup>st</sup> Street. The movement of the station responds to Little Tokyo businesses' concerns to provide a more convenient location.
- ◆ 1<sup>st</sup> Street from Alameda to Vignes Street—Two lanes of traffic in each direction will be provided instead of one traffic lane in each direction to provide higher traffic capacity.
- ◆ 1<sup>st</sup> Street Bridge—LADOT intends to widen both ends of the bridge that they will environmentally clear as part of a separate project. The bridge itself will not be widened within the time frame of this project. The overhead catenary system for the LRT will use center poles over the bridge instead of span wire to address LA Bureau of Street Lighting concerns. (See Section 4.15 of this Final SEIS/SEIR for additional information.
- ◆ 1<sup>st</sup> Street Bridge— The 1<sup>st</sup> Street Bridge will require retrofitting to meet the current seismic codes and will be part of this project.
- ◆ 1<sup>st</sup>/Soto Station (Underground)—Station has moved 13 feet south of the previous planned location. The stairway configuration has been changed so that all of the station entrance will be under MTA property and not Soto Street. This reduces the need to excavate Soto Street for the station. A large storm drain on the north side of 1<sup>st</sup> Street will eliminate the need to acquire property on the northeast corner. Instead a property on the southeast corner will be acquired to accommodate the subway vent shafts and other facilities.
- ◆ 1<sup>st</sup>/Lorena Station—Station is in an open cut as before but has been moved to the north side of 1<sup>st</sup> Street. No property will be acquired from Evergreen Cemetery to accommodate the station. The station has been moved to respond to the LADOT concern that split lanes on both sides of the station box will not satisfy their fire/life safety criteria. This will require a traffic signal to be installed at Cheesbroughs Lane (east of Lorena) to accommodate traffic on 1<sup>st</sup> Street and the transition of the LRT alignment from the north side to the middle of 1<sup>st</sup> Street.
- ◆ Traction Power Substations (TPSS)—Four TPSSs were assessed in the Draft SEIS/SEIR. Engineering refinements have determined that a total of six TPSSs are required.
- ◆ Construction Staging—A new staging area has been added at Chavez/Soto on property currently owned by MTA. The other staging areas assessed in the Draft SEIS/SEIR remain the same.
- ◆ 3<sup>rd</sup> Street Overcrossing of the I-710 Freeway—The overcrossing will require substantial structural strengthening or alteration in order to support the LRT vehicles. The current approach intends to reduce the dead load of the bridge to compensate for the increased live load, thereby allowing the foundations to remain unchanged for both live load and seismic forces. However, some seismic retrofit is anticipated to be required.
- ◆ Parking Loss Mitigation—MTA will provide replacement parking for areas with high utilization. The areas include: 1) 1<sup>st</sup> Street from Anderson to Utah Streets; 2) 1<sup>st</sup> Street east of Lorena Street; and 3)

Indiana Street. For the first area, there is currently active redevelopment by the City of the Pico-Aliso complexes. The parking requirements of new developments, redevelopments, and new uses will be taken care of as part of the development approval process of the City. MTA will contribute an appropriate parking space replacement fee (to be negotiated) to the City for the 24 spaces of high utilization that will be removed between Anderson and Utah Streets. For 1<sup>st</sup> Street just east of Lorena Street, nine spaces currently have high utilization. These spaces will be replaced on property currently owned by MTA at that location. To accommodate the parking losses along Indiana Street under Option A only, three parcels located on the east side of that street just north of Ramona High School will be purchased to provide replacement parking.

- ◆ Park and Ride—Based on further evaluation, the park-and-ride site locations at Beverly and Atlantic have been modified to use the former Kaiser facility on the northwest corner of Pomona and Atlantic as a replacement site for the southwest corner location at Beverly and Atlantic. The joint use of the Pep Boys parking lot as recommended in Option 1 is still being considered.
- ◆ Maintenance and Storage Facility (M&SF) – The existing Red Line maintenance yard will be used for the M&SF for the Eastside Corridor LRT. Excess capacity currently exists at the Red Line yard and is available to provide the needed facilities. The yard lead will consist of dual tracks branching off the LRT mainline at Alameda Street/Ducommun Street. The lead tracks will continue eastward on Ducommun Street to a point just east of Center Street where it will turn and traverse in a northeasterly direction for a short distance to the point where it enters the Red Line maintenance yard. At this point, the lead tracks turn south and continue into the yard. This is slight change to the yard lead location as described in the Draft SEIS/SEIR. All curb parking will be eliminated on Ducommun Street to allow for the dual track lead to the M&SF. This will impact 97 mostly-metered curb parking spaces. MTA will develop a metered parking lot on the northwest corner, and also possibly the northeast corner, of Ducommun and Garey Streets in the parcels that will be acquired for this project. The lot will be administered by the LADOT in a manner similar to that of the metered curb parking currently in place. In addition, the remaining property to be acquired at Commercial and Alameda Streets will also be used for replacement parking.

### **S.3.5.2 Option B – Option A including Modifications to the Indiana Street Transition and Eastern Terminus**

Option B basically follows the same alignment as Option A except that there is an off-street at-grade alignment between 1<sup>st</sup> and 3<sup>rd</sup> Streets (on the eastern side of Indiana Street outside the current street right-of-way), and Ramona High School (located at the northeast corner of 3<sup>rd</sup> Street/Indiana Street) will either be relocated to another site acceptable to the Los Angeles Unified School District (LAUSD) and MTA or reconstructed on the existing site. The 1<sup>st</sup>/Lorena, 3<sup>rd</sup>/Rowan, and Beverly/Atlantic Stations would be moved to 3<sup>rd</sup>/Indiana (off-street location on the Ramona High School property), 3<sup>rd</sup>/Ford, and Pomona/Atlantic (west of Atlantic), respectively. Therefore, the following stations will be included in this alternative: Union Station, 1<sup>st</sup>/Alameda, 1<sup>st</sup>/Utah, 1<sup>st</sup>/Boyle, 1<sup>st</sup>/Soto, 3<sup>rd</sup>/Indiana, 3<sup>rd</sup>/Ford, 3<sup>rd</sup>/Mednik, and Pomona/Atlantic. Because the eastern terminal station has been moved from Beverly/Atlantic to Pomona/Atlantic, the alignment for Option B does not traverse the short distance from 3<sup>rd</sup> Street along Beverly Boulevard to just east of Atlantic. Instead, the alignment continues east on 3<sup>rd</sup> Street and a short distance on Pomona Boulevard to the optional eastern terminal station west of Atlantic Boulevard. However, the revised station is within walking distance of the former site. Two areas for park-and-ride facilities are also associated with this alternative. Like Option A, the first is the existing lot at Union Station. The second includes surface parking to be built on land adjacent to Kaiser Hospital, which is located near the eastern terminal station at Pomona/Atlantic. Unlike Option A, Option B would not require shared use of the existing Pep Boys lot.

### **S.3.6 Alternatives Considered in this Final SEIS/SEIR (2001)**

#### **S.3.6.1 No-Build Alternative**

The No-Build Alternative, as defined by FTA, should represent the transportation condition consisting of existing and committed elements of the region's transportation plan, excluding the proposed fixed guideway transit (bus and light rail transit) investments for the study Corridor. The No-Build Alternative includes all highway and transit projects and operations that the region and MTA expect to be in place by the year 2020. These include improvements to the local bus systems and operation of the existing Red, Blue, and Green lines as well as completion of the Pasadena Blue Line from Union Station to Sierra Madre Villa in Pasadena.

##### ***Transit Service***

Figure S-2 shows the Eastside bus routes by MTA, Montebello, Monterey Park, Commerce, LADOT, and Los Angeles County in the Eastside service area. Table S-3 shows the existing weekday service frequencies for the major bus routes in the Eastside Corridor as well as the frequencies planned for the No-Build Alternative. The development of the No-Build Alternative was based on a fiscally constrained local and regional plan. Additional service improvements are proposed for a number of the major east-west and north-south transit routes as well as more frequent service for the MTA operated rail lines as shown in Table S-4.

##### ***Highway/Roadway Improvements***

Within the Eastside Corridor, no major arterial street or freeway improvements are planned. Studies have identified the need for substantive improvements to the operations and capacity of the Santa Ana Freeway (I-5), the Pomona Freeway (SR 60), the Long Beach Freeway (I-710), and the San Bernardino Freeway (I-10), but agreement on the improvements to be made and the source of funding have not been agreed upon.

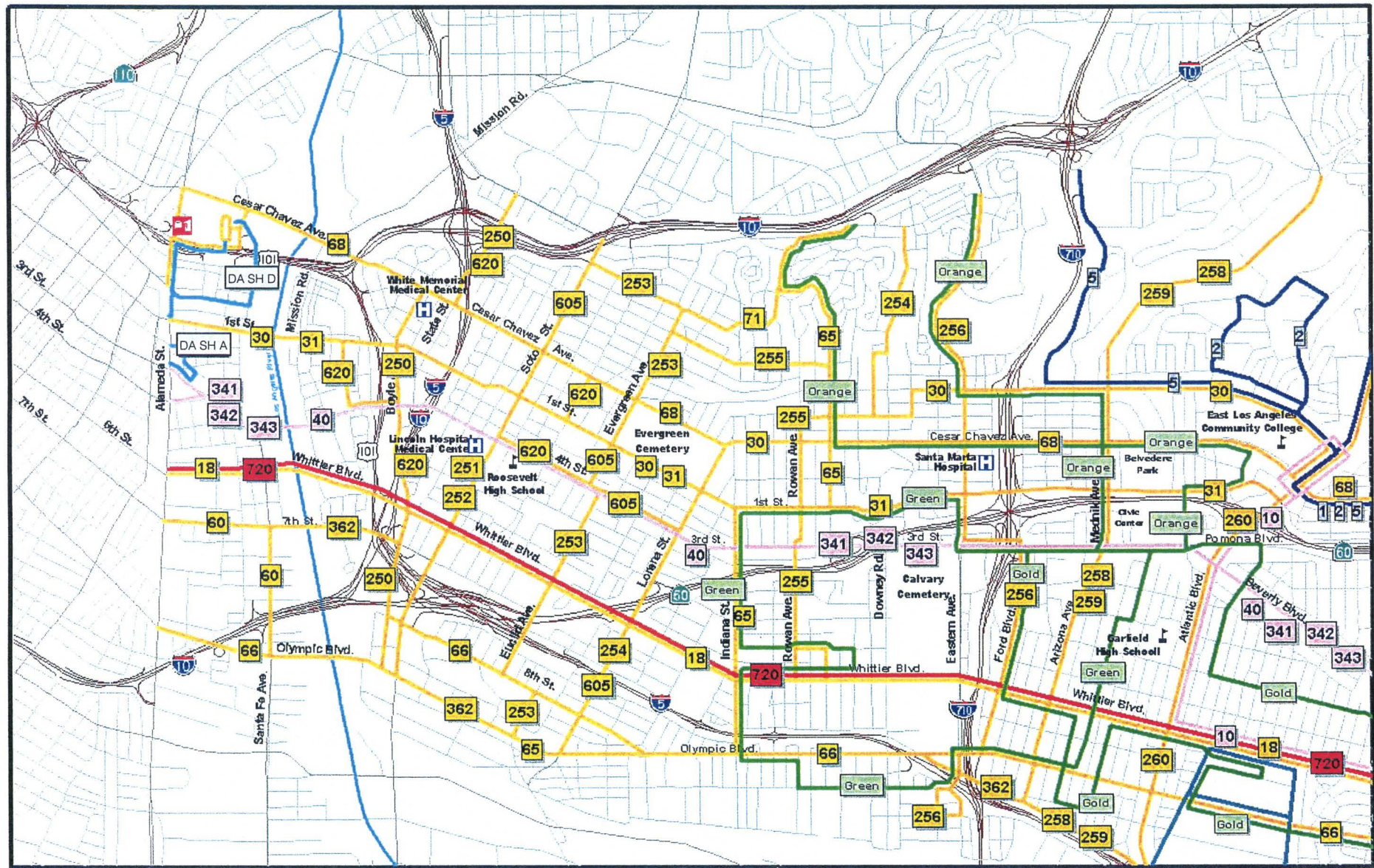
The only improvement planned is the widening of the U.S. 101 in the vicinity of Union Station, including relocation of the freeway entrances and exits at Vignes St. In this same area, the City of Los Angeles has proposed to widen Commercial Street from Alameda to Santa Fe Avenue, which is parallel to the U.S. 101 freeway in this area.

##### ***Other Committed Improvements***

The only other committed transportation improvement is the proposed extension of the Amtrak service tracks from Union Station, over U.S. 101 and parallel to the Eastside LRT Build Alternative, to the mainline Amtrak tracks in the vicinity of Jackson Street.







Los Angeles Eastside Corridor SEIS/SEIR

0 0.25 0.5 Miles  
 0 0.25 0.5 0.75 1 Kilometers

**M** Eastside Corridor  
 Transit Consultants

Note: Highways, primary, and secondary roads by Thomas Bros. Maps. Frouga's conditional use from MTA 1997.

**Legend**

MTA Routes	LA County Routes
Metro Rapid Route	Commerce Routes (All Routes)
Montebello Routes	Highway
Monterey Park Routes	Primary Road
LADOT Routes	Secondary Road
	River

**Eastside Bus Routes**  
 Figure S-2



**TABLE S-3  
FREQUENCY OF WEEKDAY BUS TRANSIT SERVICE (IN MINUTES)**

Operator	Route	Destinations	Existing		No-Build		LRT Build		
			Peak	Off-Peak	Peak	Off-Peak	Peak	Off-Peak	
MTA	18	Wilshire Center - Whittier	10	15	6	10	6	10	
	30/31	Mid City – East Los Angeles	4-5	7.5	4	6.5	3.5	5	
	31A	East Los Angeles – 1 <sup>st</sup> /Lorena	-	-	-	-	10	15	
	65	Downtown Los Angeles - CSULA	15-25	30	13	45	10	15	
	66	Wilshire Center - Montebello	3-7	8	5.5	12	5.5	12	
	68	West LA Transit Ctr - Montebello Towne Center	8-12	12	8	10.5	8	10.5	
	250	LAC+USC - Boyle Heights	40	40	40	40	15	20	
	251	Cypress Park – Watts	12	24	15	24	10	20	
	252	El Sereno - Lynwood	12	24	12	24	10	20	
	253	LAC+USC - Boyle Heights	40	40	40	40	15	20	
	254	LAC+USC - Willowbrook	30-60	55	45	60	10	20	
	255	Montecito Heights - East Los Angeles	45	50	45	50	10	20	
	256	Altadena - East Los Angeles	35	50	30	50	30	50	
	258	Alhambra - South Gate	45	60	45	60	30	30	
	258A	Olympic - Floral	-	-	-	-	15	20	
	259	El Sereno - South Gate	45	60	45	60	30	30	
	260	Altadena – Compton	12-15	15	5.6	20	5.5	20	
	530	Panorama City – East Los Angeles	-	-	15	30	15	30	
	L.A. County	605	LAC+USC - Boyle Heights	15	30	22	30	10	12
		620	LAC+USC - Boyle Heights	0-12	12	0-12	14	10	12
720		Santa Monica – Montebello	8	10	6	10	6	10	
Gold		East Los Angeles	60	60	45	45	10	15	
Green		East Los Angeles	60	60	45	45	10	15	
Monterey Park	Orange	East Los Angeles – CSULA	60	60	45	45	10	15	
	1	Community Circulator	40	40	35	35	20	30	
	2	Community Circulator	40	40	35	35	20	30	
	5	Community Circulator	50	50	35	35	20	30	
Montebello	10	East LA College – Whittier	8-15	10	8	12	8	12	
	40	Whittier – Downtown LA	10-30	12	12	20	10	20	
	341(2) (3)	Downtown LA – Montebello Express Routes	30-60	-	30-60	-	30-60	-	
LADOT	Dash A	Little Tokyo – Convention Center	5	5	5	5	5	5	
	DashD	South Park	5	5	5	5	5	5	



**TABLE S-4  
FREQUENCY OF WEEKDAY RAIL TRANSIT SERVICE (IN MINUTES)**

Operator	Route	Destinations	Existing		No-Build		LRT Build	
			Peak	Off-Peak	Peak	Off-Peak	Peak	Off-Peak
MTA	Blue	7 <sup>th</sup> /Flower to Long Beach	6	12	5	12	5	12
	Blue	Union Station – Sierra Madre Villa	-	-	5	12	5	12
	Blue	Beverly/Atlantic – Union Station (Eastside) through to Pasadena (no transfer required at Union Station)	-	-	-	-	5	12
	Red	Union Station – North Hollywood	5	10	4	8	4	8
	Red	Union Station – Wilshire/Western	5	10	4	8	4	8
	Green	I-105/I-605 – El Segundo (Marine)	8	15	5	12	5	12

### S.3.6.2 LRT Build Alternative

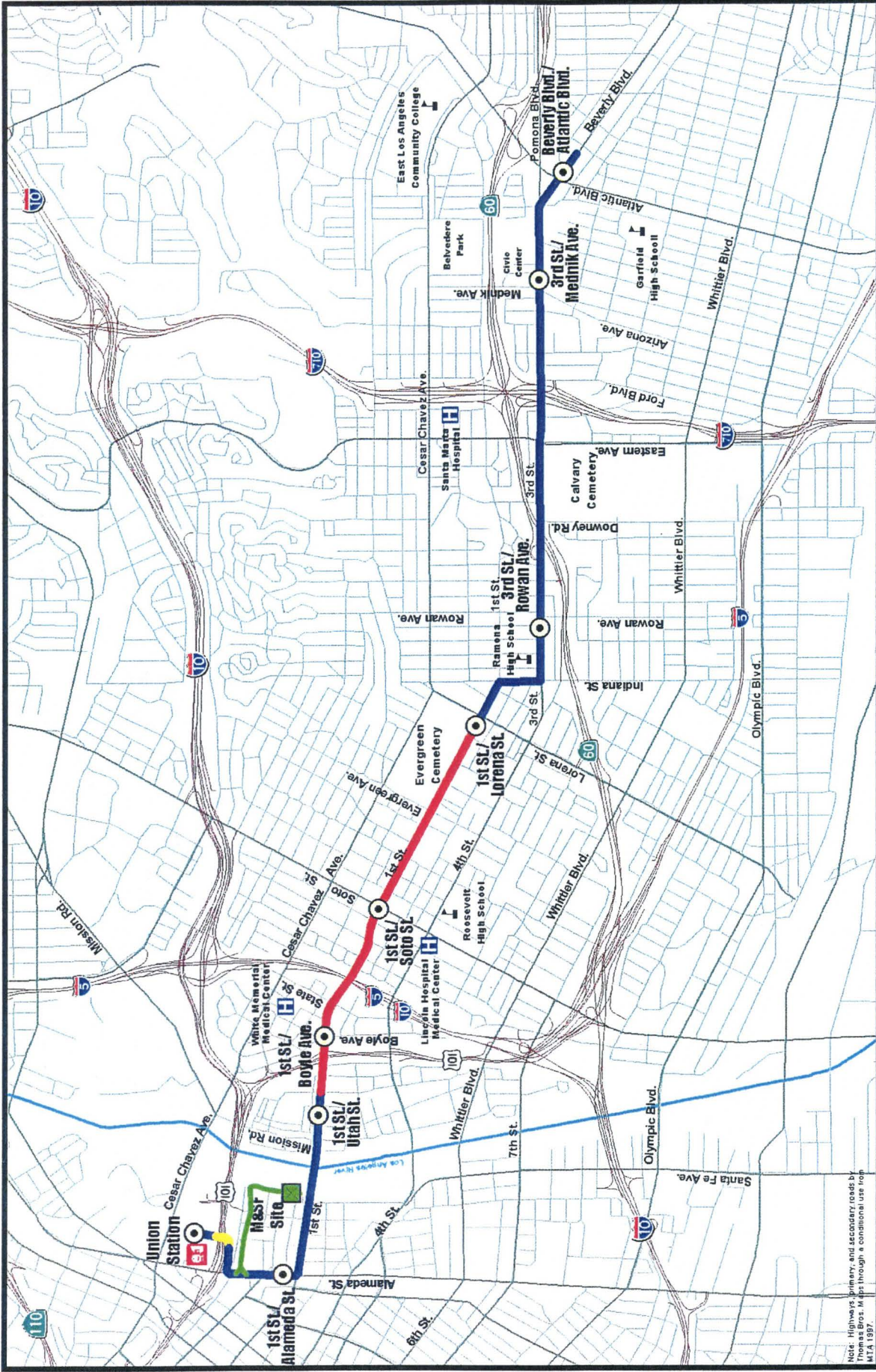
This section describes the two options (Option A and Option B) that are being considered in this Final SEIS/SEIR. The process leading to the decision to consider these options is described in Section S.3.5.

#### *LRT Build Alternative – Option A*

LRT Build Alternative Option A introduces the light rail transit (LRT) mode to the Los Angeles Eastside Corridor. The LRT fixed guideway concept would operate in a dual track configuration in the center of selected streets and provide for high platform center station arrangements for the at-grade LRT segments (similar to that in use on the Long Beach Blue Line) and cut-and-cover station boxes for the subway segment (similar, but of shorter length, to that in use on the Metro Red Line subway). LRT is electrically powered and receives its electric power from overhead power lines (like the Long Beach Blue Line and Green Line) within the street rights-of-way or in the tunnel for the subway segment. The LRT operations would include a traffic signal priority system, to allow for faster travel times, similar to other MTA in-street running operations. Fiber optics communications lines will be provided. The necessary communications connections between the LRT vehicle detectors and traffic signals will also be provided. Also additional space will be provided in the piping to allow for future expansion of fiber optic lines.

Option A is approximately six miles long with eight new stations from a connection with the Pasadena Blue Line currently under construction at Union Station to Beverly and Atlantic Boulevards via Alameda Street, 1<sup>st</sup> Street, Indiana Street, 3<sup>rd</sup> Street, and Beverly Boulevard (Figure S-3). Appendix E shows the plans and profiles and station site plans for Option A. Appendix E also shows the proposed property acquisitions and easements for Option A.

Option A also includes provisions for the shared use of the existing Red Line maintenance facility as the needed maintenance and storage facility (M&SF) to house the required 26 new light rail vehicles using Alameda Street and Ducommun Street as the connection to the Red Line yard. An emergency power generator will also be provided at the M&SF facility in order to provide emergency power for the tunnel segment and subway stations. There are six traction power substations along the six-mile route. They are located in the Red Line yard, near the 1<sup>st</sup>/Soto station, near the 1<sup>st</sup>/Lorena station on property owned by MTA, at 3<sup>rd</sup>/Sunol, at 3<sup>rd</sup>/Arizona, and at Beverly/Atlantic. The subway or tunnel segment of Option A

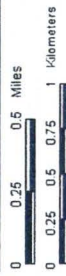


Los Angeles Eastside Corridor SEIS/SEIR

# LRT Build Alternative Option A

Figure S-3

- LEGEND**
- Stations
  - At Grade
  - Tunnel
  - Elevated
  - M&SF Lead Line
  - Highway
  - Primary Road
  - Secondary Road



Note: Highways, primary, and secondary roads by Thomas Bros. Map through a conditional use from M&SF, 1997.



includes a number of ventilation and emergency exit areas for the subway segment in the vicinity of the subway stations.

### Bus Service

As a major component of implementing Light Rail Transit service in the Eastside Corridor, MTA has designed a corresponding increase in feeder bus and increased service to existing routes that would serve the LRT stations. Table S-3 shows the increase in service frequency as well as the addition of two routes (31A and 258A) expressly recommended to support the LRT Build Alternative. Increased service is proposed for MTA bus services in the Eastside Corridor as well as increased service for routes operated by Monterey Park and Los Angeles County. This increase in bus service will require an increase of over 40 peak period buses. The capital cost of these improvements as well as the increased bus operating costs are included in the costs for the LRT Build Alternative Option A.

In order to maintain connectivity with other transit operators and bus services within the Corridor, it is important that proposed stations interface with existing and proposed bus routes. The transit operating plan for Option A provides for a connection of existing bus lines at each station location. Figure S-4 shows how the LRT system would fit into the Eastside Corridor's bus route network. At four station locations, bus lines would be rerouted in order to provide improved access to the light rail system. These rerouted lines include:

- ◆ MTA Line 65 to 3<sup>rd</sup>/Rowan Station via 3<sup>rd</sup> Street and Rowan Avenue
- ◆ MTA Line 530 to 1<sup>st</sup>/Soto Station via Soto and 1<sup>st</sup> Street
- ◆ MTA Line 620 to 1<sup>st</sup>/Utah Station via Utah Street
- ◆ Monterey Park Lines 1, 2 and 5 to Beverly/Atlantic Station via Atlantic Boulevard

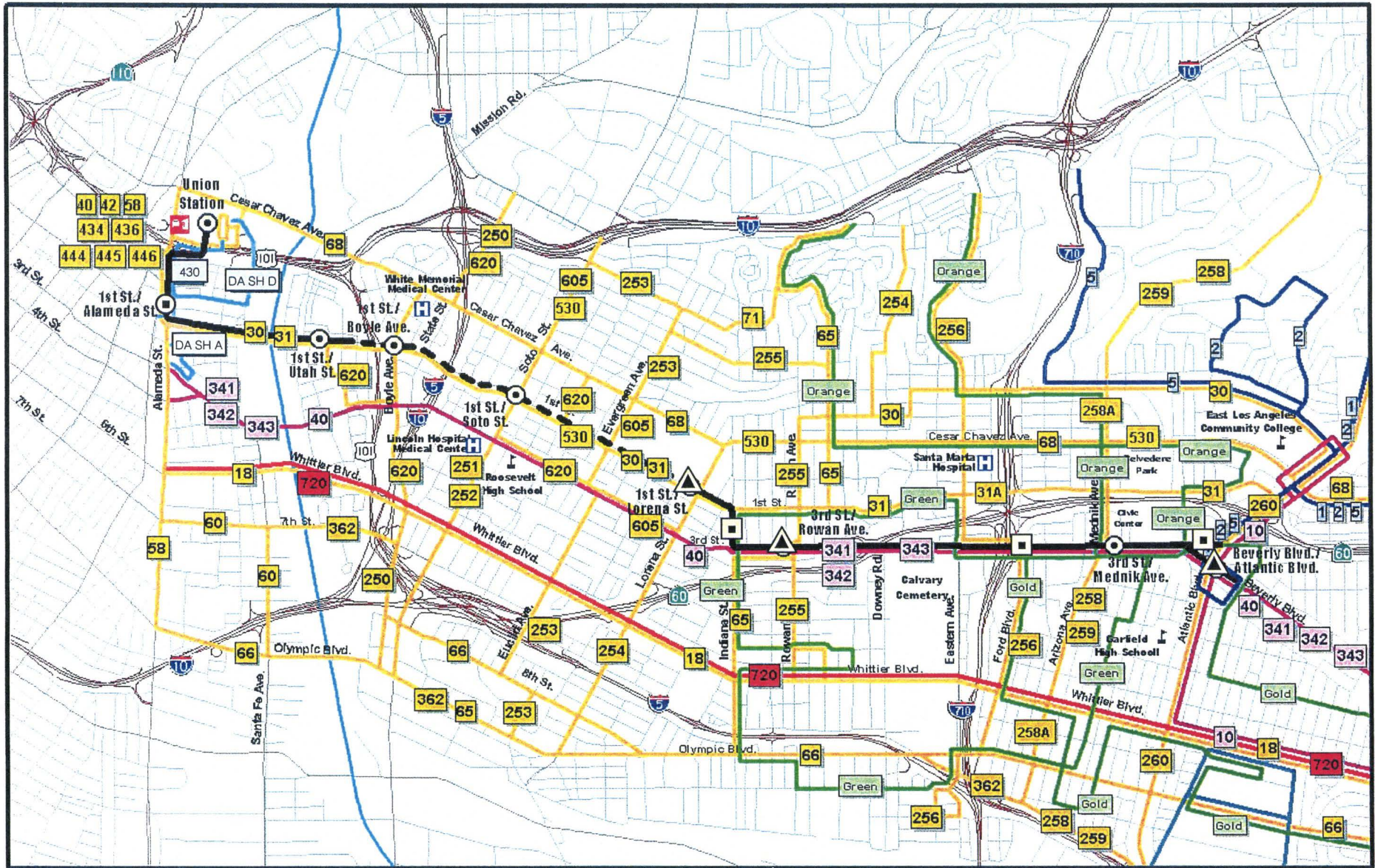
MTA Line 65 is a local bus line that currently runs north on Indiana Street in the vicinity of the LRT Build Alternative alignment and turns east on 1<sup>st</sup> Street to Gage Avenue. In order to provide access to the 3<sup>rd</sup>/Rowan Station, this line will be rerouted onto 3<sup>rd</sup> Street east to Rowan Avenue and then on Rowan to 1<sup>st</sup> Street. This minor reroute will not have a significant impact on transit ridership or transit access due to its proximity to the current routing one quarter of a mile to the west on Indiana Street. Access to the business district on 1<sup>st</sup> Street would still be provided at 1<sup>st</sup> and Rowan. Routing this bus line away from Indiana Street also will help to mitigate the impacts of Option A on Indiana Street for the transition between 1<sup>st</sup> and 3<sup>rd</sup> Streets if this option is chosen.

MTA Line 530 is a new service that will debut in 2001 as outlined in the MTA's 1998 Five-Year Plan. Line 530 is an express route that will connect East Los Angeles College and Boyle Heights with Panorama City via the County-USC Medical Center and the Burbank Media District. Line 530 currently is proposed to run south on Soto Street from the San Bernardino Freeway (I-10) to Cesar Chavez Avenue and then turn east to East Los Angeles College. In order to provide service to the 1<sup>st</sup>/Soto Station, this line will be rerouted south on Soto Street to 1<sup>st</sup> Street. It will then continue east on 1<sup>st</sup> Street to Lorena Street back to Cesar Chavez Avenue. Line 530 will also serve the 1<sup>st</sup>/Lorena Station on its amended route.

MTA Line 620 is a community shuttle service jointly operated by MTA and LADOT that currently runs on Gless Street west of the 101 Freeway between 4<sup>th</sup> and 1<sup>st</sup> Streets. It is proposed that this line be rerouted from Clarence Street to 3<sup>rd</sup> Street and Utah Street where it will continue north to interface with the 1<sup>st</sup>/Utah Station at the corner of 1<sup>st</sup> and Utah Streets. This minor reroute will not affect line patronage because of the close proximity of Utah Street to Clarence Street one block away.







0 0.25 0.5 Miles

0 0.25 0.5 0.75 1 Kilometers



**Eastside Corridor  
Transit Consultants**

Note: Highways, primary, and secondary roads by Thomas Bros. Maps through conditional use from MTH, 1997.



- ⊙ Stations - Both Options
- ▲ Stations - Option A Only
- Stations - Option B Only

**Legend**

- 30 MTA Routes
- 40 Metro Rapid Route
- 5 Montebello Routes
- 5 Monterey Park Routes
- DASHA LADOT Routes
- Gold LA County Routes
- Commerce Routes (All Routes)
- LRT Alignment
- Highway
- Primary Road
- Secondary Road
- River

Los Angeles Eastside Corridor SEIS/SEIR

**Modified Bus System with LRT**

Figure S-4





Monterey Park's Spirit Transit system provides community transportation services on five routes within the City of Monterey Park. Three of its lines currently operate in the vicinity of Cesar Chavez Avenue and Atlantic Boulevard. These three routes (1, 2, and 5) will be extended southward along Atlantic to the Beverly/Atlantic Station. The extension of these three routes will provide convenient access to the LRT system from the City of Monterey Park. The three Monterey Park lines will also provide connecting service from the LRT system to the Atlantic Square shopping area as well as to East Los Angeles College.

Table S-5 shows the interface of bus lines at each station along the alignment of the LRT Build Alternative Option A.

Station	Operator	Line	Destinations
Union Station	Antelope Valley LADOT MTA	785	Gateway Transit Center – Antelope Valley
		DASH D	Union Station – Grand Blue Line Station
		33	Union Station – Venice Bl.
		40	Union Station – South Bay Galleria
		42	Union Station – LA Int'l Airport
		55	Union Station – Rosa Parks Metro Rail Station
		60	Union Station – Long Beach
		333	Union Station – Venice Bl.
		434	Union Station – Malibu
		436	Union Station – Ocean Park
		439	Union Station – Redondo Beach
		442	Union Station – South Bay Galleria
		444	Union Station – Rancho Palos Verdes
		445	Union Station – San Pedro
	446	Union Station – San Pedro	
	447	Union Station – San Pedro	
	OCTA Santa Clarita	466	Union Station – La Mirada
701		Union Station – Huntington Beach	
794		Union Station – Santa Clarita	
1 <sup>st</sup> /Alameda	LADOT	DASH A	Little Tokyo – Los Angeles Convention Center
		DASH D	Union Station – Grand Blue Line Station
	MTA	30 / 31	Mid City – East LA College
		40	Union Station – South Bay Galleria
		42	Union Station – LA Int'l Airport
		58	Union Station – Washington Blue Line Station
		434	Union Station – Malibu
		436	Union Station – Ocean Park
		442	Union Station – South Bay Galleria
		445	Union Station – San Pedro
446	Union Station – San Pedro		
1 <sup>st</sup> /Utah	MTA	30 / 31	Mid City – East LA College
		620 (reroute)	LAC+USC – Boyle Heights
1 <sup>st</sup> /Boyle	MTA	30 / 31	Mid City – East LA College
		250	LAC+USC – Boyle/Olympic
		620	LAC+USC – Boyle Heights
1 <sup>st</sup> /Soto	MTA	30 / 31	Mid City – East LA College
		250	Cypress Park – Watts
		251	El Sereno – Lynwood
		530 (reroute)	Panorama City – East LA College
		605	LAC+USC – Boyle Heights

Station	Operator	Line	Destinations
1 <sup>st</sup> /Lorena	MTA	30 / 31 254 530 (reroute)	Mid City – East LA College LAC+USC – Willowbrook Panorama City – East LA College
3 <sup>rd</sup> /Rowan	Montebello MTA	40 65 (reroute) 255	Downtown LA – Whittier Downtown LA – CSULA Montecito Heights – East Los Angeles
3 <sup>rd</sup> /Mednik	Los Angeles County  Montebello MTA	Gold Green Orange 40 258 259	East Los Angeles East Los Angeles East Los Angeles – City Terrace – CSULA Downtown LA – Whittier El Sereno – South Gate Alhambra – South Gate
Beverly/Atlantic	Montebello  Monterey Park  MTA	10 40 341, 342, 343 1 (reroute) 2 (reroute) 5 (reroute) 260	East LA College – Pico Rivera Downtown LA – Whittier Downtown LA – Montebello Express Monterey Park Monterey Park Monterey Park – CSULA Altadena – Compton
Source: 1999-2000 MTA, Montebello, Monterey Park, Los Angeles County, and Commerce bus timetables; Parsons Brinckerhoff.			

#### LRT Build Alternative Option A Alignment

The alignment begins at Union Station and crosses over US 101 on an aerial structure (approximately 1,000 feet in length) and then gradually becomes an at-grade segment near where it intersects with Alameda Street. The alignment continues south along the east side of Alameda Street and then turns east to the center of 1<sup>st</sup> Street where it continues at grade to Clarence Street in Boyle Heights and then becomes a subway segment. The subway segment traverses underneath or adjacent to 1<sup>st</sup> Street for about 1.8 miles east to just west of Lorena Street in Boyle Heights.

For Option A, the alignment continues as an at-grade segment traversing 1<sup>st</sup> Street east from Lorena Street to Indiana Street where it turns south and continues along Indiana Street to 3<sup>rd</sup> Street. At 3<sup>rd</sup> Street, the alignment turns eastward to Hicks Avenue. This option removes the existing parking lanes on both sides of Indiana Street and results in narrower sidewalks along that street. From Hicks Avenue, the alignment travels east on 3<sup>rd</sup> Street at grade to Beverly Boulevard where it turns to the southeast and continues for a short distance on Beverly Boulevard to a point just east of Atlantic Boulevard.

For the at-grade sections, the LRT would operate mostly on existing arterial streets and would generally require removal of one general purpose travel lane in each direction. The center sections of all the designated arterial streets would require major reconstruction in order to implement the LRT system. This design configuration would allow for the retaining of a majority of the on street parking on the arterial streets that are used. MTA will provide replacement parking for those areas where parking utilization is high.

#### LRT Service Characteristics

The future operating plan for the LRT Build Alternative Option A is comprised of two components: 1) the LRT operating line (extension of the Pasadena Blue Line) between Sierra Madre Villa and

Beverly/Atlantic Boulevards with five-minute peak service (7.5 minutes initial service) and 12-minute off-peak service; and 2) local connecting bus routes to all stations along the LRT line. Because the individual cars can be "trained" together, the train lengths can then vary from one to three cars depending on the demand and time of day. Local buses with local stops would continue to operate along the same arterial streets as the LRT but would be at lower service frequencies. This will also allow transit patrons to access areas that are not directly served by the LRT station stops. The LRT running time with making stops at each station is estimated to be 17 minutes from Beverly/Atlantic Boulevards to Union Station. Based on the LRT operating plan, the number of trains per hour in the peak direction on the LRT track would be 12 (8 initially) during the peak times and five during the off-peak times.

The LRT operating speeds for the at-grade segments would be similar to existing street-running LRT operations in other parts of Los Angeles. Because of the placement of the LRT track and stations mainly within arterial streets, the maximum speed of operation would be limited by the streets' speed limit (varies from 25 mph to 35 mph) with a 35 mph maximum speed allowed under all circumstances by State PUC regulations. Based on experience with the Long Beach Blue Line operations, the lower speed at-grade operation has fewer fatalities than high speed (55 mph) operations even though the numbers of minor accidents are greater with the in-street operation proposed for most of the Los Angeles Eastside Corridor. The maximum LRT operating speed of the subway portion would be much faster (55 mph) than the at-grade segments because it would not operate along the existing street rights-of-way. The Eastside Corridor would not have high-speed surface-running operations in a reserved right-of-way such as exists in the mid-Corridor of the existing Long Beach Metro Blue Line.

Table S-6 shows the travel time between each proposed station and the total travel time from each station to Union Station.

		Option A		Option B	
Station (A)	Station (B)	Travel Time between Stations, minutes	Total Travel Time from Station (A) to Union Station, Minutes	Travel Time between Stations, minutes	Total Travel Time from Station (A) to Union Station, Minutes
Beverly/Atlantic	3 <sup>rd</sup> /Mednik	1.6	17.2	-	-
Pomona/Atlantic	3 <sup>rd</sup> /Mednik	-	-	1.4	16.9
3 <sup>rd</sup> /Mednik	3 <sup>rd</sup> /Rowan	3.6	15.6	-	-
3 <sup>rd</sup> /Mednik	3 <sup>rd</sup> /Ford	-	-	1.2	15.5
3 <sup>rd</sup> /Ford	3 <sup>rd</sup> /Indiana	-	-	3.4	14.3
3 <sup>rd</sup> /Indiana	1 <sup>st</sup> /Soto	-	-	3.1	10.9
3 <sup>rd</sup> /Rowan	1 <sup>st</sup> /Lorena	2.4	12.0	-	-
1 <sup>st</sup> /Lorena	1 <sup>st</sup> /Soto	1.8	9.6	-	-
1 <sup>st</sup> /Soto	1 <sup>st</sup> /Boyle	1.6	7.8	1.6	7.8
1 <sup>st</sup> /Boyle	1 <sup>st</sup> /Utah	1.4	6.2	1.4	6.2
1 <sup>st</sup> /Utah	1 <sup>st</sup> /Alameda	1.8	4.8	1.8	4.8
1 <sup>st</sup> /Alameda	Union Station	3.0	3.0	3.0	3.0
	Total	17.2		16.9	

Automobiles and delivery vehicles would operate in a different fashion along the at-grade segments than they do now. In order to maximize the safety of the LRT operation and to minimize private vehicles conflict with the LRT trains, left turns and crossings of the LRT train track would be limited and mostly

restricted to major intersecting streets where advanced traffic and train control systems can be implemented. Between major intersections, a six-inch curb next to the travel lane would protect the LRT track section and, therefore, driveways and minor or secondary streets would be limited to right-turns in and out. Private vehicles would not be able to make left turns across the LRT tracks or cross from one side to the other (no straight through movements) between intersections. Private vehicles left turns at designated intersections would be controlled and all safety measures (including the possibility of left-turn gates) would be taken. The mountable curb for the track section would allow for emergency vehicles to park on or cross the track when necessary. MTA would arrange a permit system for non-peak hour large truck deliveries across the tracks to furniture stores and other businesses with occasional oversized deliveries. All of these changes will be similar to those encountered when a street has a raised center median of any type.

It is expected that the streets where the LRT tracks are located will become more "transit" oriented, and through traffic will be reduced and shifted to other streets within the Corridor. On the narrower streets, left turns may need to be restricted at certain intersections during some portions of the day (probably peak periods) because of the lack of space for a dedicated left turn pocket. The reduction of one traffic lane in each direction in most locations would impact the level of service and possibly the ease of access by automobile to commercial buildings and other public activities. It is expected that, over time, traffic would re-orient itself because many of the streets in the Corridor have some available capacity and might accept more traffic and still operate at acceptable levels of service. In addition, the LRT will provide an improved level of service of public transit service, which some may choose in preference to using an automobile.

If the LRT Build Alternative were implemented, an increase in the provision of transit service would occur in the Eastside Corridor. There would be the introduction of a premium service that would be regionally serving and provide improved service reliability and a decrease in travel times for transit patrons. Forecast data indicate that transit ridership would increase in the Corridor with the introduction of the improved service.

The introduction of a light rail system into the Eastside Corridor would provide passengers with greater access to regional transit opportunities and would provide for improved regional transit connectivity. Transfers could be made at Union Station to a variety of different transit alternatives. The Eastside Corridor Light Rail system will provide continuing service to Pasadena via the Pasadena Blue Line, which is expected to open for service in 2003. Transfers can be made to the Metro Red Line at Union Station with its subway service to Wilshire Center and North Hollywood. The Long Beach Blue Line can also be accessed via the Red Line at the 7<sup>th</sup>/Metro Center station in Downtown Los Angeles, and the Green Line to Norwalk and Redondo Beach is accessible via the Long Beach Blue Line. Dozens of local and express bus lines converge at Union Station including the Big Blue Bus's popular Line 10 express to Santa Monica. Several transit providers serve Union Station, including Santa Monica's Big Blue Bus, LADOT, Foothill Transit, Torrance Transit, Santa Clarita Transit, Orange County Transportation Authority, and the Antelope Valley Transportation Authority. Metrolink commuter rail service is also available for regional travel to Ventura, San Bernardino, Riverside, Orange, and San Diego counties, as well as to northern Los Angeles County. Amtrak rail service can also be accessed at Union Station for long-distance travel to other cities in California and the nation. Impacts on regional transit access and connectivity as a result of the LRT Build Alternative are beneficial.

#### Passenger Stations

As discussed in the bus service section, the LRT Build Alternative Option A consists of eight new stations and one station modification: Union Station (station modification), 1<sup>st</sup>/Alameda, 1<sup>st</sup>/Utah, 1<sup>st</sup>/Boyle, 1<sup>st</sup>/Soto, 1<sup>st</sup>/Lorena, 3<sup>rd</sup>/Rowan, 3<sup>rd</sup>/Mednik, and Beverly/Atlantic. All stations are at grade with



the exception of 1<sup>st</sup>/Boyle and 1<sup>st</sup>/Soto, which are within the subway segment and 1<sup>st</sup>/Lorena, which is located in an open cut. The LRT at grade station stops would entail constructing a 270-foot long platform (allows for a maximum of three-car trains) along with pedestrian walkways to allow for safe passage to crosswalks for arriving and departing passengers. The LRT underground stations will include 270-foot platforms. The subway stations are projected to have center platforms, a bridge-like mezzanine and single entrances located in plazas adjacent to 1<sup>st</sup> Street. The at-grade stations will be similar to the Long Beach and Pasadena Blue Line stations.

#### Park-and-Ride Facilities (including bus interface at Beverly/Atlantic)

Two areas for park-and-ride facilities are associated with this alternative. The first is the existing lot at Union Station, which is the western terminus of the Los Angeles Eastside Corridor LRT line. The project does not involve any expansion or improvements to that lot. The second is near the Beverly/Atlantic Station at the eastern terminus of the line. Park-and-ride surface parking for a total of about 200 vehicles would be provided near the station. One location is land adjacent to the former Kaiser facility on the northwest corner of Pomona/Atlantic, which is within walking distance of the Beverly/Atlantic station. The other location is the existing parking lot behind (to the east of) the Pep Boys auto parts store that is located on the east side of Atlantic Boulevard north of Beverly Boulevard (between Beverly and Pomona Boulevards). MTA intends to enter into negotiations with the owners of Pep Boys to develop a joint use agreement with them for the existing parking lot. Minor improvements to the Pep Boys lot are anticipated. It is expected that a long-term agreement will be entered into that will allow control of the parking spaces for the expected life of the improvement.

#### Vehicle Fleet

The type of light rail transit (LRT) vehicles to be used for the Eastside Corridor will be the same as used on the Long Beach and Pasadena Blue lines. They will be standard conventional articulated light rail transit vehicles. In order to provide the future service level of 5-minute frequencies between trains, as well as a maximum train length of 3 cars, a total of 26 new LRT vehicles will be required for the LRT Build Alternative Option A.

#### Maintenance and Storage Facility – Red Line Yard

The existing Red Line maintenance yard will be used for the Maintenance and Storage Facility (M&SF) for the Eastside Corridor LRT. Excess capacity currently exists at the yard and is available to provide the needed facilities. The site was previously environmentally cleared for the Metro Red Line in the *Final Environmental Impact Statement, Los Angeles Rail Rapid Transit Project, Metro Rail*, USDOT, UMTA, and Southern California Rapid Transit District, December 1983. The yards and shops currently provide space for the following functions: storage of trains when not in mainline service; dispatch, receipt, and change in trains for mainline service; interior and exterior cleaning of trains; preventive and corrective maintenance of cars; and testing of cars before revenue service and after major repairs. The M&SF will include the addition of a blow down pit, car cleaner platform, and car wash for cleaning the light rail vehicles as well as two storage tracks. The yard lead will consist of dual tracks branching off the LRT mainline at Alameda Street/Ducommun Street. The lead tracks will continue eastward on Ducommun Street to a point just east of Center Street where it will turn and traverse in a northeasterly direction for a short distance to the point where it enters the Red Line maintenance yard. At this point, the lead tracks turn south and continue into the yard.



### ***LRT Build Alternative – Option B***

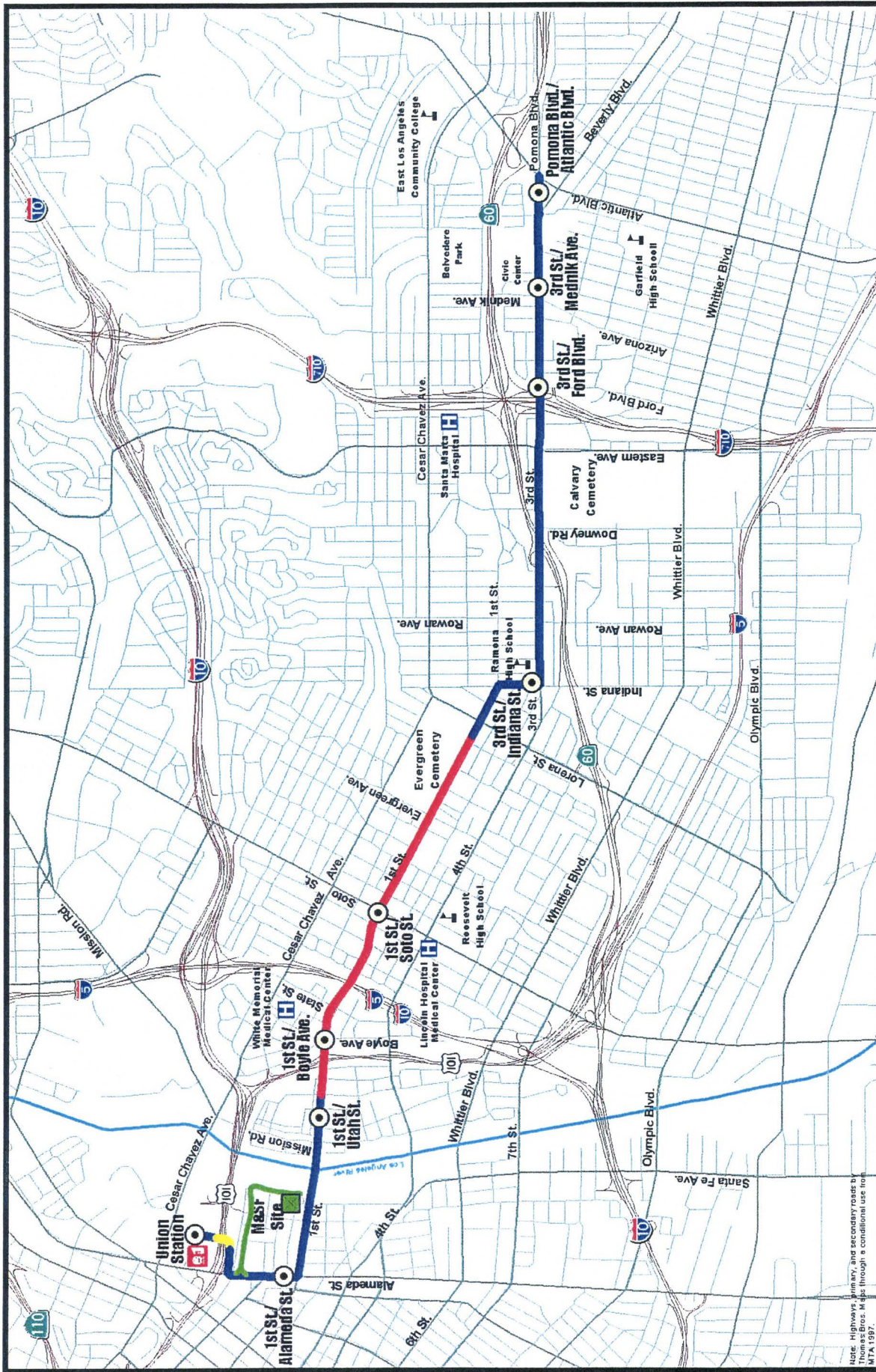
As shown in Figure S-5, Option B basically follows the same alignment as Option A except that there is an off-street at-grade alignment between 1<sup>st</sup> and 3<sup>rd</sup> Streets (on the eastern side of Indiana Street outside the current street right-of-way), and Ramona High School (located at the northeast corner of 3<sup>rd</sup> Street/Indiana Street) will either be relocated to another site acceptable to the LAUSD and MTA or reconstructed on the existing site. The 1<sup>st</sup>/Lorena, 3<sup>rd</sup>/Rowan, and Beverly/Atlantic Stations would be moved to 3<sup>rd</sup>/Indiana (off-street location on the Ramona High School property), 3<sup>rd</sup>/Ford, and Pomona/Atlantic (west of Atlantic), respectively. Therefore, the following stations will be included in this option: Union Station, 1<sup>st</sup>/Alameda, 1<sup>st</sup>/Utah, 1<sup>st</sup>/Boyle, 1<sup>st</sup>/Soto, 3<sup>rd</sup>/Indiana, 3<sup>rd</sup>/Ford, 3<sup>rd</sup>/Mednik, and Pomona/Atlantic. Because the eastern terminal station has been moved from Beverly/Atlantic to Pomona/Atlantic, the alignment for Option B does not traverse the short distance from 3<sup>rd</sup> Street along Beverly Boulevard to just east of Atlantic Boulevard. Instead, the alignment continues east on 3<sup>rd</sup> Street and a short distance on Pomona Boulevard to the optional eastern terminal station west of Atlantic Boulevard. However, the revised station is within walking distance of the former site.

Option B is approximately six miles long with eight new stations from a connection with the Pasadena Blue Line currently under construction at Union Station to Pomona and Atlantic Boulevards via Alameda Street, 1<sup>st</sup> Street, Indiana Street, 3<sup>rd</sup> Street, and Pomona Boulevard. Appendix F shows the plans and profiles and station site plans for the changed areas between 1<sup>st</sup>/Lorena and Pomona/Atlantic. Appendix F shows the proposed property acquisitions and easements for Option B from 1<sup>st</sup>/Lorena Streets to Pomona/Atlantic Boulevards.

Option B also includes provisions for the shared use of the existing Red Line maintenance facility as the needed maintenance and storage facility (M&SF) to house the required 26 new light rail vehicles using Alameda Street and Ducommun Street as the connection to the Red Line yard. An emergency power generator will also be provided at the M&SF facility in order to provide emergency power for the tunnel segment and subway stations. There are six traction power substations along the six-mile route. All are at the same locations as Option A, with the exception that the easternmost substation is at Pomona/Atlantic instead of Beverly/Atlantic. The subway or tunnel segment of Option B includes a number of ventilation and emergency exit areas for the subway segment in the vicinity of the subway stations and portal areas.

### **Bus Service**

As a major component of implementing Light Rail Transit service in the Eastside Corridor, MTA has designed a corresponding increase in feeder bus and increased service to existing routes that would serve the LRT stations. Table S-3 shows the increase in service frequency as well as the addition of two routes (31A and 258A) expressly recommended to support the LRT Build Alternative. Increased service is proposed for MTA bus services in the Eastside Corridor as well as increased service for routes operated by Monterey Park and Los Angeles County. This increase in bus service will require an increase of over 40 peak period buses. The capital cost of these improvements as well as the increased bus operating costs are included in the costs for the LRT Build Alternative Option B.



Los Angeles Eastside Corridor SEIS/SEIR

# LRT Build Alternative Option B

Figure S-5

- LEGEND**
- Stations
  - At Grade
  - Tunnel
  - Elevated
  - M&SF Lead Line
  - Highway
  - Primary Road
  - Secondary Road



Note: Highways, primary, and secondary roads by MTA 1997.



In order to maintain connectivity with other transit operators and bus services within the Corridor, it is important that proposed stations interface with existing and proposed bus routes. The proposed transit operating plan for the LRT Build Alternative Option B offers a connection of existing bus lines at each station location (Figure S-4). At three station locations, it is proposed that certain bus lines be considered for rerouting in order to provide improved access to the light rail system. Rerouting considerations will follow the typical MTA bus route changes process, including some type of public review and comment process. The lines considered for rerouting include:

- ◆ MTA Line 530 to 1<sup>st</sup>/Soto Station via Soto and 1<sup>st</sup> Street
- ◆ MTA Line 620 to 1<sup>st</sup>/Utah Station via Utah Street
- ◆ Monterey Park Lines 1, 2 and 5 to Pomona/Atlantic Station via Atlantic Boulevard

The first two route changes (MTA Lines 530 and 620) remain as previously described in Option A. Monterey Park's Spirit Transit system provides community transportation services on five routes within the City of Monterey Park. Three of its lines currently operate in the vicinity of Cesar Chavez Avenue and Atlantic Boulevard. It is proposed to consider extending these three routes (1, 2, and 5) southward along Atlantic to the Pomona/Atlantic Station. The extension of these three routes will provide convenient access to the LRT system from the City of Monterey Park. The three Monterey Park lines will also provide connecting service from the LRT system to the Atlantic Square shopping area as well as to East Los Angeles College.

Table S-7 shows the interface of bus lines at the revised stations along the alignment of the LRT Build Alternative Option B. Stations not included in the table remain the same as under Option A and as shown in Table S-5.

Station	Operator	Line	Destinations
3 <sup>rd</sup> /Indiana	MTA	65	Downtown LA – CSULA
3 <sup>rd</sup> /Ford	N/A	N/A	N/A
Pomona/Atlantic	Montebello	10	East LA College – Pico Rivera
	Monterey Park	1 (reroute)	Monterey Park
		2 (reroute)	Monterey Park
		5 (reroute)	Monterey Park – CSULA
	MTA	260	Altadena – Compton

Source: 1999-2000 MTA, Montebello, Monterey Park, Los Angeles County, and Commerce bus timetables; Parsons Brinckerhoff.

### LRT Build Alternative Option B Alignment

The alignment (Figure S-5) begins at Union Station and crosses over US 101 on an aerial structure (approximately 1,000 feet in length) and then gradually becomes an at-grade segment near where it intersects with Alameda Street. The alignment continues south along the east side of Alameda Street and then turns east to the center of 1<sup>st</sup> Street where it continues at grade to Clarence Street in Boyle Heights and then becomes a subway segment. The subway segment traverses underneath or adjacent to 1<sup>st</sup> Street for about 1.8 miles east to just west of Lorena Street in Boyle Heights.

For Option B, the alignment continues as an at-grade segment traversing 1<sup>st</sup> Street east from Lorena Street to Indiana Street where it turns south and continues along the eastern side of Indiana Street in an off-street at-grade alignment to 3<sup>rd</sup> Street. At 3<sup>rd</sup> Street, the alignment turns eastward to Hicks Avenue. From Hicks



Avenue, the alignment travels east on 3<sup>rd</sup> Street at grade to Pomona Boulevard and stops at a point just west of Atlantic Boulevard.

For the at-grade sections, the LRT would operate mostly on existing arterial streets and would generally require removal of one general purpose travel lane in each direction. The center sections of all the designated arterial streets would require major reconstruction in order to implement the LRT system. This design configuration would allow for the retaining of a majority of the on-street parking on the arterial streets that are used. MTA will provide replacement parking for those areas where parking utilization is high.

#### LRT Service Characteristics

The LRT operating plan and service characteristics for the LRT Build Alternative Option B is the same described for Option A above. Table S-6 shows the travel time between each proposed station and the total travel time from each station to Union Station.

#### Passenger Stations

As discussed in the bus service section, the LRT Build Alternative Option B consists of eight new stations and one station modification: Union Station (station modification), 1<sup>st</sup>/Alameda, 1<sup>st</sup>/Utah, 1<sup>st</sup>/Boyle, 1<sup>st</sup>/Soto, 3<sup>rd</sup>/Indiana, 3<sup>rd</sup>/Ford, 3<sup>rd</sup>/Mednik, and Pomona/Atlantic. All stations are at grade with the exception of 1<sup>st</sup>/Boyle and 1<sup>st</sup>/Soto. The LRT at-grade station stops would entail constructing a 270-foot long platform (allows for a maximum of three-car trains) along with pedestrian walkways to allow for safe passage to crosswalks for arriving and departing passengers. The LRT underground stations will include 270-foot platforms. The subway stations are projected to have center platforms, a bridge-like mezzanine and single entrances located in plazas adjacent to 1<sup>st</sup> Street. The at-grade stations will be similar to the Long Beach and Pasadena Blue line stations.

#### Park-and-Ride Facilities (Including Bus Interface at Pomona/Atlantic)

Two areas for park-and-ride facilities are associated with this alternative. The first is the existing lot at Union Station, which is the western terminus of the Los Angeles Eastside Corridor LRT line. The project does not involve any expansion or improvements to that lot. The second is near the Pomona/Atlantic Station at the eastern terminus of the line. Park-and-ride surface parking for a total of about 200 vehicles would be provided on land adjacent to the former Kaiser facility on the northwest corner of Pomona/Atlantic.

#### Vehicle Fleet

The vehicle fleet description is the same as Option A.

#### Maintenance and Storage Facility – Red Line Yard

The maintenance and storage facility description is the same as Option A.



#### **S.4 SUMMARY OF ENVIRONMENTAL IMPACTS AND PROPOSED MITIGATIONS**

Table S-8 summarizes by subject area the potential environmental impacts for the LRT Build Alternative along with its two options (Option A and Option B). The mitigation measures are summarized in the table, and levels of significance for the potential environmental impacts under the California Environmental Quality Act (CEQA) are identified for both before and after the application of these mitigation measures. A detailed discussion of these impacts, mitigation measures, and levels of significance under CEQA can be found in Chapters 3 and 4 of the Final SEIS/SEIR.

**TABLE S-8  
SUMMARY OF IMPACTS**

Alternative <sup>1</sup>	Potential Environmental Impacts	CEQA Determination of Significance	Mitigation Measures	CEQA Significance After Mitigation <sup>2</sup>
<b>TRANSPORTATION</b>				
<b>Transit</b>				
No-Build	Transit service performance expected to decrease due to increased traffic congestion because no significant improvements to transit service would be made.	N/A	N/A	N/A
LRT Build Option A	◆ Ridership will increase in the corridor. 2020 Eastside LRT daily transit boardings = 16,020.	Beneficial	None required.	N/A
Option B	◆ Ridership will increase in the corridor. 2020 Eastside LRT daily transit boardings = 16,330.	Beneficial	None required.	N/A
Both options	◆ A premium transit service would be introduced that is regionally serving and provides improved service reliability and reduced transit travel times.	Beneficial	None required.	N/A
Both options	◆ Greater access to regional transit opportunities and improved regional transit connectivity will be provided.	Beneficial	None required.	N/A
Both options	◆ Some bus routes will be rerouted to provide improved access to LRT.	Not significant	None required.	N/A
Both options	◆ 3 Monterey Park routes (1, 2, and 5) will be extended south on Atlantic to the Beverly/Atlantic Station (Option A) or Pomona/Atlantic Station (Option B) to provide convenient access to Monterey Park, Atlantic Square Shopping Center, and East LA College.	Beneficial	None required.	N/A
Both options	◆ Some bus stops may be relocated to provide better interface with the LRT stations.	Potentially significant	◆ Replacement bus stops will be designated within 1/8 mile of original stop.	Less than significant
<b>Traffic</b>				
No-Build	No impacts anticipated.	N/A	N/A	N/A
LRT Build	54 traffic intersections in study area were evaluated to determine 2020 levels of service (LOS). The results are:			
Option A	◆ 34 intersections would not be adversely affected.	Not significant	◆ None required.	N/A
Option A	◆ 20 intersections would be adversely affected.	Significant	◆ Mitigation consists of one or more of the following measures: restripe approaches; prohibit left-turns; incorporate into ATSAC system; signalize unsignalized intersections; use of phased signalization; or impose peak hour parking restrictions.	8 intersections- Less than significant 12 intersections- Significant
Option B	◆ 34 intersections would not be adversely affected.	Not significant	◆ None required.	N/A

**TABLE S-8  
SUMMARY OF IMPACTS**

Alternative <sup>1</sup>	Potential Environmental Impacts	CEQA Determination of Significance	Mitigation Measures	CEQA Significance After Mitigation <sup>2</sup>
Option B	♦ 20 intersections would be adversely affected.	Significant	♦ Mitigation same as for Option A.	10 intersections- Less than significant 10 intersections- Significant
<b>Parking</b>				
No-Build	No impacts anticipated.	N/A	N/A	N/A
LRT Build Option A	♦ 126 spaces removed in AM peak, 188 spaces removed off-peak, and 139 spaces removed in PM peak.	Potentially significant	MTA will provide replacement parking where utilization is high. Replacement parking will be provided at the following locations:	Less than significant
Option B	♦ 49 spaces removed in AM peak, 111 spaces removed off-peak, and 62 spaces removed in PM peak.	Potentially significant	♦ MTA will contribute parking replacement fee to the City Housing Authority to develop parking at the Pico Aliso redevelopment project for 24 spaces lost along 1 <sup>st</sup> St. between Anderson and Utah Sts. (Both options).	
Both options	♦ An additional 97 spaces removed on Ducommun St. to accommodate the yard lead tracks.	Potentially significant	♦ Develop MTA-owned land at 1 <sup>st</sup> /Lorena for parking (Both options). ♦ Acquire land along Indiana St. north of Ramona HS (Option A only). ♦ Acquire land at northwest and northeast corners of Ducommun/Garey Sts. Use remaining land for parking that is being acquired at Commercial/Alameda. (Both options).	
<b>Other Modes</b>				
No-Build	No impacts on bicycle or pedestrian facilities anticipated.	N/A	N/A	N/A
LRT Build Both options	♦ Possibility of conflicts between trains and pedestrians at the 2 tunnel portals if pedestrians attempt to enter tunnel. Also potential conflicts if pedestrians or cyclists make unsafe street and track crossings at unsignalized locations.	Potentially significant	♦ Use signalized crossings, pedestrian crosswalks, well-defined pedestrian paths, signage, and barriers where appropriate to discourage unsafe pedestrian crossings.	Less than significant
Both options	♦ The proposed Commuter Bikeway on 1 <sup>st</sup> Street may not be classified as such because of the increased curb lane traffic volumes.	Significant	♦ Develop MTA-funded Community Linkage Study/Program to provide pedestrian and bicyclists' linkages from	

**TABLE S-8  
SUMMARY OF IMPACTS**

Alternative <sup>1</sup>	Potential Environmental Impacts	CEQA Determination of Significance	Mitigation Measures	CEQA Significance After Mitigation <sup>2</sup>
Both options Option A Option A	<ul style="list-style-type: none"> <li>◆ Bicyclists must cross 1<sup>st</sup> St. LRT tracks at an angle at Lorena St. Traffic lanes are reduced to 2 for 1 block.</li> <li>◆ Sidewalks narrowed at 1<sup>st</sup>/Lorena Station; narrowed 2 feet on west side of Indiana St.</li> <li>◆ Bicyclists on Indiana affected by the removal of curb parking and the narrowing of traffic lanes.</li> </ul>	Significant  Potentially significant Less than significant	neighborhoods to LRT stations. <ul style="list-style-type: none"> <li>◆ Provide rail safety programs and crossing guards to the schools where needed. Use of crossing guards will follow all City and County requirements.</li> <li>◆ Provide watch patrols, CCTV, distinctive signs or lights, or install garage-style doors that open and close automatically near tunnel portals.</li> <li>◆ Remove designation of 1<sup>st</sup> Street as a bikeway between Alameda and Indiana. Designate a parallel street such as Chavez Avenue as a bikeway facility. To be investigated during Community Linkage Study/Program.</li> </ul>	
<b>LAND USE AND DEVELOPMENT</b>				
No-Build	No land use changes would occur in the study area. This alternative would maintain the status quo and, therefore, would not address the stated goals and objectives for the communities within the study area.	N/A	N/A	N/A
LRT Build Both options	<ul style="list-style-type: none"> <li>◆ Generally compatible with local and regional plans and land use policies.</li> </ul>	Beneficial	N/A	N/A
Both options	<ul style="list-style-type: none"> <li>◆ Provides improved access and mobility in support of redevelopment and revitalization areas in the corridor.</li> </ul>	Beneficial	N/A	N/A
Both options	<ul style="list-style-type: none"> <li>◆ Transit-oriented development districts will likely be spurred by the project.</li> </ul>	Beneficial	N/A	N/A
Both options	<ul style="list-style-type: none"> <li>◆ Displacements of homes near 1<sup>st</sup>/Boyle, 1<sup>st</sup>/Soto, and along Indiana Street would challenge the Boyle Heights Community Plan policy that requires conservation and improvement to existing sound housing especially for low- and moderate-income families.</li> </ul>	Potentially significant	<ul style="list-style-type: none"> <li>◆ The remaining space on acquired parcels would be reconfigured and made available for neighborhood commercial and medium-density residential uses similar to designations in the plan.</li> </ul>	Less than significant
Option B	<ul style="list-style-type: none"> <li>◆ Displacement or reconstruction of Ramona HS and all of the land uses on the east side of Indiana Street would challenge the East Los Angeles Community Plan and Policy because it would disrupt a community.</li> </ul>	Potentially significant	<ul style="list-style-type: none"> <li>◆ The remaining parcels will be reconfigured and available for rezoning and reuse in conformity with LA County Regional Planning Dept. requirements. If the school is reconstructed, MTA will design the LRT alignment and station to allow access and</li> </ul>	Less than significant

**TABLE S-8  
SUMMARY OF IMPACTS**

Alternative <sup>1</sup>	Potential Environmental Impacts	CEQA Determination of Significance	Mitigation Measures	CEQA Significance After Mitigation <sup>2</sup>
Option B	<ul style="list-style-type: none"> <li>◆ If Ramona HS were reconstructed at the existing site, the 3<sup>rd</sup>/Indiana Station would provide an alternative means of access to the school.</li> </ul>	Beneficial	N/A	N/A
<b>ECONOMIC AND FISCAL IMPACTS</b>				
No-Build	Does not stimulate employment, generate fiscal impacts, or create need for additional government services.	N/A	N/A	N/A
LRT Build Both options	<ul style="list-style-type: none"> <li>◆ Generates 1,078 direct and indirect jobs over 1<sup>st</sup> 14 years.</li> <li>◆ Property acquisitions will result in loss of property taxes but losses would be minimal compared to total tax revenues collected by City and County. Long term development and revitalization due to LRT operation is expected to ultimately increase overall tax revenues.</li> <li>◆ Will not require additional fire or police staff or services.</li> </ul>	Beneficial Not significant	None required. However, MTA will implement a local employment policy for both construction-related and long-term job opportunities that will include resources for job development and training.	N/A
<b>LAND ACQUISITION/DISPLACEMENT AND RELOCATION</b>				
No-Build	No impact anticipated.	N/A	N/A	N/A
LRT Build Option A	<ul style="list-style-type: none"> <li>◆ Acquisition of 10 multi-family and 8 single-family units displacing 72 persons; 20 businesses displacing 111 employees; 1 former medical clinic displacing no employees; 1 vacant building; DWP frontage; 2 vacant lots; part-take 1 vacant lot; portions of an impound lot and 6 parking lots displacing 59 spaces. Subsurface easement to be obtained between 1<sup>st</sup>/Gless and 1<sup>st</sup>/Lorena.</li> </ul>	Significant	<ul style="list-style-type: none"> <li>◆ Relocation assistance under the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and California Relocation Act (Both options).</li> <li>◆ Implement MTA's Housing Replenishment Program targeted to assist with affordable housing rehabilitation in the community through establishment of a revolving loan fund (Both options).</li> </ul>	Less than significant
Option B	<ul style="list-style-type: none"> <li>◆ Acquisition of 10 multi-family and 8 single-family units displacing 72 persons; 20 businesses displacing 124 employees; 1 former medical clinic displacing no employees; 1 vacant building; DWP frontage; 7 vacant lots; part-take 1 vacant lot; and portions of an impound lot and 6 parking lots displacing 59 spaces. Subsurface easement to be obtained between 1<sup>st</sup>/Gless and 1<sup>st</sup>/Lorena. Also Ramona HS will be relocated or reconstructed on existing property.</li> </ul>	Significant	<ul style="list-style-type: none"> <li>◆ MTA will institute a local employment policy to include resources for job development and training for persons unable to find a job as a result of business relocations (Both options).</li> <li>◆ MTA will provide funds to purchase a new school site (whether a new or existing building) or reconstruct it at the present location. (Option B only)</li> </ul>	Less than significant
Both options	<ul style="list-style-type: none"> <li>◆ Corridor's high housing demand and low vacancy rate may limit availability of comparable replacement homes and businesses</li> </ul>	Potentially significant	<ul style="list-style-type: none"> <li>◆ Implement MTA's Housing Replenishment Program</li> </ul>	Potentially significant



**TABLE S-8  
SUMMARY OF IMPACTS**

Alternative <sup>1</sup>	Potential Environmental Impacts	CEQA Determination of Significance	Mitigation Measures	CEQA Significance After Mitigation <sup>2</sup>
	availability of comparable replacement homes and businesses resulting in the need to relocate outside the study area.		Program.	
<b>COMMUNITIES/NEIGHBORHOODS</b>				
No-Build	No adverse or beneficial impacts anticipated.	N/A	N/A	N/A
LRT Build	<ul style="list-style-type: none"> <li>◆ Provides new transit connections and increased mobility.</li> <li>◆ Acquisition and displacement of residences as discussed in Land Acquisition/Displacements section.</li> <li>◆ Loss of parking spaces as discussed in Transportation section.</li> <li>◆ Pedestrians and bicycles affected as discussed in Transportation section.</li> <li>◆ 20 traffic intersections would be adversely affected.</li> <li>◆ Moderate noise impacts as discussed in Noise and Vibration section.</li> <li>◆ Severe noise impacts at 13 buildings due to locations of special trackwork as discussed in Noise and Vibration section.</li> <li>◆ Ground-borne noise and vibration impacts as discussed in Noise and Vibration section.</li> </ul>	<p>Beneficial Significant</p> <p>Potentially significant Significant and potentially significant Significant</p> <p>Not significant</p> <p>Significant</p> <p>Significant</p>	<p>See mitigation measures described in the Land Acquisition/Displacements, Transportation, and Noise and Vibration sections.</p>	<p>Acquisitions and displacements, parking, pedestrian and bicycle, most noise and vibration, and 8 (Option A) and 10 (Option B) intersection impacts would be less than significant.</p> <p>12 (Option A) and 10 (Option B) of 20 intersections impacts would be significant.</p> <p>Buildings that are sound-insulated due to severe noise impacts would still have exterior noise level impacts that would be significant.</p>
<b>EQUITY AND ENVIRONMENTAL JUSTICE CONSIDERATIONS</b>				
No-Build	Does not provide equity, mobility, regional connectivity, and economic benefits to the community.	N/A	N/A	N/A
LRT Build	◆ Benefits include equity, mobility, regional connectivity, and	Beneficial	None required.	N/A

**TABLE S-8  
SUMMARY OF IMPACTS**

Alternative <sup>1</sup>	Potential Environmental Impacts	CEQA Determination of Significance	Mitigation Measures	CEQA Significance After Mitigation <sup>2</sup>
	<p>economic benefits to the community.</p> <ul style="list-style-type: none"> <li>◆ Adverse impacts include acquisitions and displacements; loss of curb parking; localized vibration, traffic, and circulation impacts; and temporary impacts during construction.</li> </ul>	Potentially significant	See Noise and Vibration, Land Acquisition/Displacement, Transportation, and Construction Impacts discussions.	See Communities/Neighborhoods discussions during construction and operations.
<b>VISUAL AND AESTHETICS</b>				
No-Build	No impacts anticipated.	N/A	N/A	N/A
LRT Build				
Both options	<ul style="list-style-type: none"> <li>◆ Catenary wires and supports would add to visual clutter already experienced in the vicinity of the 1<sup>st</sup> St. Bridge, but does not affect historic nature of bridge since the bridge previously carried an electrically powered rail system with overhead catenary wires.</li> </ul>	Significant	<ul style="list-style-type: none"> <li>◆ No measures are available to fully mitigate the visual urban clutter.</li> </ul>	Significant
Both options	<ul style="list-style-type: none"> <li>◆ Some of the openings in the 1<sup>st</sup> Street bridge bents will require infilling to meet current Caltrans seismic loading criteria.</li> <li>◆ Ornamental streetlights will be removed in the Mariachi Plaza area.</li> </ul>	Significant Significant	<ul style="list-style-type: none"> <li>◆ Infill concrete will be tinted to match color of infill previously done by City in 1996.</li> <li>◆ Electroliers will be re-used or replaced with similar fixtures. If not re-used, they will be returned to LA Bureau of Street Lighting.</li> </ul>	Less than significant Less than significant
Both options	<ul style="list-style-type: none"> <li>◆ LRT vehicles traveling west on 3<sup>rd</sup> St. and then turning north on Indiana St. would shine their headlamps into adjacent residential areas.</li> </ul>	Significant	<ul style="list-style-type: none"> <li>◆ Glare impacts on Indiana St. can be mitigated by landscaping or planting other screening material in the path of LRT vehicle headlamps.</li> </ul>	Less than significant
Both options	<ul style="list-style-type: none"> <li>◆ Removal of buildings for 1<sup>st</sup>/Soto Station and traction power substation would change the dense, urban environment to an open plaza set well back from the street.</li> </ul>	Significant	<ul style="list-style-type: none"> <li>◆ The linear sidewalk element along 1<sup>st</sup> St. near Soto St. will be recreated.</li> </ul>	Less than significant
Both options	<ul style="list-style-type: none"> <li>◆ Some landscaping may be removed especially along Alameda St. and along 1<sup>st</sup> St. from Alameda to Vignes Sts.</li> </ul>	Potentially significant	<ul style="list-style-type: none"> <li>◆ MTA will replace streetscape features in the same or similar locations and will work with the City and County so as not to preclude streetscape features except for median treatments and to incorporate streetscape features into project plans, as applicable.</li> </ul>	Less than significant
Both options	<ul style="list-style-type: none"> <li>◆ New lighting will be added in vicinity of stations. However, overall lighting levels would not change.</li> </ul>	Less than significant	<ul style="list-style-type: none"> <li>◆ Lighting system designs will comply with LA standards and the <i>Land Use/Transportation Policy</i> (City/MTA).</li> </ul>	Less than significant

**TABLE S-8  
SUMMARY OF IMPACTS**

Alternative <sup>1</sup>	Potential Environmental Impacts	CEQA Determination of Significance	Mitigation Measures	CEQA Significance After Mitigation <sup>2</sup>
Both options	◆ Surfaces that are introduced as part of the LRT project could potentially be subjected to graffiti.	Potentially significant	◆ Several techniques as described in Section 4.6.4 will be implemented to prevent graffiti impacts.	Less than significant
Option B	◆ The first row of structures along the east side of Indiana St. would be removed partially exposing yards from the remaining residences to view from passing motorists, transit riders, and properties on the east side of Indiana St.	Significant	◆ Station design and other design elements will comply with the Metro Art Program. ◆ Impacts on Indiana St. can be mitigated by landscaping the excess property to provide a linear plaza/park-like setting. Use of trees, vines, or other landscaping will screen backyards and rear facades of adjacent residences from view from Indiana St.	Beneficial  Less than significant
Option B	◆ Ramona HS will be reconstructed as a multi-story structure at the present location if it is not relocated.	Potentially significant	◆ If requested by LAUSD, MTA will coordinate the reconstructed school's design with the 3 <sup>rd</sup> /Indiana Station and landscaping providing a transition between the multi-story high school and the mostly single-story surrounding development.	Less than significant
<b>AIR QUALITY</b>				
No-Build	Carbon monoxide (CO) and Reactive Organic Gases (ROG) emissions in 2020 would be higher than under the LRT Build Alternative.	N/A	N/A	N/A
LRT Build	◆ CO and ROG emissions would be lower than the No-Build Alternative due to fewer Vehicle Miles Traveled (VMT) in 2020. ◆ There would be no CO emission violations at any study area intersections or PM <sub>10</sub> emission violations near any LRT station in 2020.	Beneficial  No impact	None required.	N/A
<b>NOISE AND VIBRATION</b>				
No-Build	No impacts anticipated.	N/A	N/A	N/A
LRT Build Option A	◆ <u>Severe noise impacts</u> anticipated on 11 single-family and 1 multi-family residences and 1 residential/commercial unit totaling 13 receptors due to special trackwork. <u>Moderate noise impacts</u> anticipated on 44 single-family, 3 multi-family, and 1 other building totaling 48 receptors. <u>Ground-borne noise impacts</u> anticipated on 6 single- and two-family residences. <u>Vibration</u>	Severe Noise-Significant  Moderate Noise-Not significant	◆ Buildings that are severely impacted by noise of special trackwork will be sound insulated (Both options).	Less than Significant-interior noise levels, but Significant-exterior noise

**TABLE S-8  
SUMMARY OF IMPACTS**

Alternative <sup>1</sup>	Potential Environmental Impacts	CEQA Determination of Significance	Mitigation Measures	CEQA Significance After Mitigation <sup>2</sup>
Option B	<p><u>impacts</u> anticipated on 33 single- and two-family residences, 1 multi-family, and 1 other unit totaling 35 receptors. <u>Wheel squeal</u> may possibly severely impact 11 residential buildings and 2 planned developments.</p> <ul style="list-style-type: none"> <li>◆ <u>Severe noise impacts</u> anticipated on 11 single-family and 1 multi-family residences and 1 residential/commercial unit totaling 13 receptors due to special trackwork. <u>Moderate noise impacts</u> anticipated on 35 single-family, 3 multi-family, and 2 other buildings totaling 40 receptors. <u>Ground-borne noise impacts</u> anticipated on 6 single- and two-family residences. <u>Vibration impacts</u> anticipated on 24 single- and two-family residences, 1 multi-family, and 2 other units totaling 27 receptors. <u>Wheel squeal</u> may possibly severely impact 11 residential buildings and 2 planned developments.</li> </ul>	<p>Ground-borne noise and vibration-Significant</p> <p>Wheel squeal noise-Potentially significant</p>	<ul style="list-style-type: none"> <li>◆ No feasible or reasonable mitigation available for wayside moderate noise impacts (Both options).</li> <li>◆ Ground-borne noise and vibration impacts will be mitigated by elastomeric trackwork isolation mats for the at-grade sections and high resilience (soft) direct fixation fasteners for the tunnel section (Both options).</li> <li>◆ For wheel squeal impacts, apply dry-stick friction modifiers or lubrication. If not effective, then sound-insulate buildings.</li> </ul>	<p>levels</p> <p>N/A</p> <p>Less than significant</p> <p>Less than significant unless sound insulation is required, then exterior noise levels would be significant</p>
<b>GEOLOGIC/SEISMIC CONDITIONS</b>				
No-Build	No impacts anticipated.	N/A	N/A	N/A
LRT Build	<ul style="list-style-type: none"> <li>◆ Subsurface materials are predominantly corrosive to severely corrosive to metals and moderately deleterious to concrete.</li> <li>◆ Shallow and perched groundwater may be encountered above design tunnel and station elevations.</li> <li>◆ Project would be subject to significant ground motions during an earthquake. However, its relation to known active or potentially active faults indicates that the alignment is not exposed to a greater seismic risk than other sites in southern California.</li> <li>◆ The Coyote Pass Escarpment is immediately adjacent to and parallels alignment in the vicinity of 1<sup>st</sup>/Soto.</li> </ul>	<p>Potentially significant</p> <p>Potentially significant</p> <p>Potentially significant</p> <p>Potentially significant</p>	<ul style="list-style-type: none"> <li>◆ Use concrete resistant to moderate sulfate exposure and corrosion protection for metals where needed.</li> <li>◆ Design tunnel liners and station walls and floors below groundwater for hydrostatic pressure.</li> <li>◆ Structural elements will be designed to resist appropriate site-specific ground motions and to conform to MTA Design Standards.</li> <li>◆ Design will comply with MTA Design Criteria and Standards and accommodate the estimated ground deformation due to the MDE event.</li> </ul>	<p>Less than significant</p> <p>Less than significant</p> <p>Less than significant</p> <p>Less than significant</p>
<b>HAZARDOUS MATERIALS</b>				
No-Build	No impacts anticipated.	N/A	N/A	N/A
LRT Build	Minor quantities of methane and hydrogen sulfide may be	Potentially	Use of gas barriers, continuous monitoring, and	Less than

**TABLE S-8  
SUMMARY OF IMPACTS**

Alternative <sup>1</sup>	Potential Environmental Impacts	CEQA Determination of Significance	Mitigation Measures	CEQA Significance After Mitigation <sup>2</sup>
	encountered along the tunnel section and in underground stations, which may migrate into the tunnel and stations during operation.	significant	auxiliary ventilation similar to that in operation for the Metro Red Line will be implemented.	significant
<b>WATER RESOURCES</b>				
No-Build	No impacts anticipated.	N/A	N/A	N/A
LRT Build	<ul style="list-style-type: none"> <li>◆ <u>Surface water</u>-Impervious surfaces of stations and maintenance areas would increase runoff and associated contaminants such as oil and grease. Most runoff would be collected by the existing storm sewer system in the streets.</li> <li>◆ <u>Floodplain</u>-No above or underground facilities would be located within the 100-year floodplain.</li> <li>◆ <u>Ground water</u>-Dewatering activities and subsequent discharge may occur during operations.</li> </ul>	<p>Potentially significant</p> <p>No impact</p> <p>Potentially significant</p>	<ul style="list-style-type: none"> <li>◆ Any water entering tunnel structures and surface runoff from impervious areas will be treated before being discharged into the drainage system. Treatment methods will include oil/water separators with siltation basins. The appropriate permits will be acquired as needed.</li> <li>◆ Any leaks into the tunnel would be pumped with a sump pump. The appropriate permits would be obtained as required.</li> </ul>	<p>Less than significant</p> <p>Less than significant</p>
<b>NATURAL RESOURCES AND ECOSYSTEMS</b>				
No-Build	No impacts anticipated.	N/A	N/A	N/A
LRT Build	No impacts anticipated.	No impact	None required.	N/A
<b>ENERGY</b>				
No-Build	2020 annual energy consumption=172,096,668 barrels of oil	Not significant	None required.	N/A
LRT Build	2020 annual energy consumption=172,124,128 barrels of oil	Not significant	None required. However, measures will be incorporated into the design of the LRT system, including high-energy efficient fixtures for public lighting improvements, to conserve energy.	N/A
<b>SAFETY AND SECURITY</b>				
No-Build	No impacts anticipated.	N/A	N/A	N/A
LRT Build	<ul style="list-style-type: none"> <li>◆ There is a potential for collisions between LRT vehicles and automobiles and pedestrians.</li> </ul>	Significant	<ul style="list-style-type: none"> <li>◆ MTA will work with the City and County traffic control depts. and also LAUSD and CHP to develop measures to minimize risks. A wide range of measures is discussed in the Safety and Security section (4.14) of the Final SEIS/SEIR. Measures will conform to MTA Fire/Life Safety Criteria, FHWA, PUC, and</li> </ul>	Less than significant



**TABLE S-8  
SUMMARY OF IMPACTS**

Alternative <sup>1</sup>	Potential Environmental Impacts	CEQA Determination of Significance	Mitigation Measures	CEQA Significance After Mitigation <sup>2</sup>
	<ul style="list-style-type: none"> <li>◆ Patron safety could be an issue in the LRT vehicles and stations especially in the subway segment.</li>   <li>◆ Car thefts, robberies, vandalism, loitering, and other crimes have the potential to occur around stations and parking facilities and in the LRT vehicles.</li>   <li>◆ Emergency vehicles may be delayed responding to an emergency not involving the LRT system.</li> </ul>	<p>Potentially significant</p> <p>Potentially significant</p> <p>Potentially significant</p>	<p>California Highway Design Manual standards and criteria.</p> <ul style="list-style-type: none"> <li>◆ The LRT is in a tunnel in streets with the narrowest right-of-ways in the corridor; therefore, no effect is anticipated in those areas.</li> <li>◆ Underground stations will include fire alarm protection; minimum of 2 fire emergency routes; emergency ventilation and lighting; communications system between adjoining fire agencies; fire separations in public occupancy areas; and methane detection system for each station.</li> <li>◆ MTA will involve LAPD and the County Sheriff in the planning and design of stations and parking facilities to improve station area security. Increased policing, installation of cameras, well-placed lighting and clear visibility of the station area from the street and sidewalk will minimize potential criminal activity. Also, possibly procure one agency for on-board security along the entire alignment. MTA will provide funds needed for law enforcement and security.</li> <li>◆ MTA will work with all public safety agencies to ensure their requirements are met on planned changes in street or vehicle access.</li> <li>◆ The facility will be designed with appropriate operating equipment, hardware, procedures and software subsystems to provide for protection of life and property.</li> <li>◆ The Fire Life Safety Committee, which includes a fire chief from the City and County fire departments, will review and</li> </ul>	<p>N/A</p> <p>Less than significant</p> <p>Less than significant</p> <p>Less than significant</p> <p>Less than significant</p> <p>Less than</p>

**TABLE S-8  
SUMMARY OF IMPACTS**

Alternative <sup>1</sup>	Potential Environmental Impacts	CEQA Determination of Significance	Mitigation Measures	CEQA Significance After Mitigation <sup>2</sup>
			<p>approve project design elements to ensure that the project meets all applicable City and County Codes.</p> <ul style="list-style-type: none"> <li>◆ If Ramona HS is reconstructed at the present location, MTA, in concert with LAPD and the County Sheriff, will provide increased security in the area of the high school (Option B only).</li> </ul>	<p>significant</p> <p>Less than significant</p>
<b>HISTORIC/ARCHAEOLOGICAL/PALEONTOLOGICAL RESOURCES</b>				
No-Build	No impacts anticipated.	N/A	N/A	N/A
LRT Build	◆ Ground disturbance during construction has an unknown effect on 4 known archaeological sites and 10 areas of high archaeological sensitivity.	Potentially significant	◆ If archaeological sites are encountered, the site will be evaluated to determine if potentially eligible for National Register listing. If project plans cannot be altered to avoid site, a Memorandum of Agreement (MOA) with the State Historic Preservation Office (SHPO) will be implemented to resolve the adverse effect.	Less than significant
Both options	◆ Supplemental seismic retrofit work to that already done by the City in 1996 on the 1 <sup>st</sup> Street Bridge will require reinforced concrete infill of some of the openings of some of the bents. Additional concrete cast-in-drilled-hole piles will be constructed behind the original concrete abutments. The work will result in an adverse effect on the viaduct's integrity of design.	Significant	◆ Alteration of the 1 <sup>st</sup> Street Bridge will require a MOA with SHPO because it is eligible for the National Register. Recordation of the site will be undertaken, and concrete will be tinted to match the color of the existing infill walls. Interpretive opportunities for the bridge will be provided.	Less than significant
Both options	◆ Paleontological resources could be disturbed in the tunnel portions of the alignment and also in the aerial segment near US 101. There is a lesser potential for encountering resources in the at-grade segments, but the potential still exists.	Potentially significant	◆ A variety of measures will be taken to recover fossil remains and associated data as stated in Section 4.15. However, some of the fossils may still be inadvertently destroyed during tunneling or pile driving for the aerial segment.	Potentially significant
Option A	◆ More fossil-bearing strata may be encountered than under Option B because of the cut-and-cover excavation needed for the 1 <sup>st</sup> /Lorena Station box. Under Option B, there is an at-grade station instead at 3 <sup>rd</sup> /Indiana.	Potentially significant	◆ Recovery of important fossil remains would make them available for future study.	Beneficial

**TABLE S-8  
SUMMARY OF IMPACTS**

Alternative <sup>1</sup>	Potential Environmental Impacts	CEQA Determination of Significance	Mitigation Measures	CEQA Significance After Mitigation <sup>2</sup>
<b>COMMUNITY FACILITIES/PARKLANDS</b>				
No-Build	No adverse or beneficial impacts anticipated.	N/A	N/A	N/A
LRT Build				
Both options	◆ Increased access to nearby community facilities/parklands	Beneficial	None required.	N/A
Both options	◆ Potential noise and vibration impacts due to vent shaft and emergency ventilation fans near Mariachi Plaza will be attenuated through proper design.	Not significant	None required.	N/A
Both options	◆ Parking losses near Pecan Park and Aliso Pico Multipurpose Center. Excess parking capacity exists along other streets surrounding both locations.	Not significant	None required	N/A
Option A	◆ Curb parking will be eliminated along Indiana Street near Ramona HS.	Significant	Replacement parking will be provided on 3 parcels of land north of the school.	Less than significant
Both options	◆ Vibration impacts anticipated on LA Music and Art School due to location of special trackwork.	Significant	See Noise and Vibration discussion.	Less than significant
Both options	◆ Students crossing LRT alignment to get to and from nearby schools have a potential for safety concerns.	Potentially Significant	◆ Provide a crossing guard at nearby schools if requested by school administrators ◆ Work with LAUSD and private institutions along alignment to implement mutually agreed upon safety measures. See Sections 4.14.4, <i>Safety and Security</i> and 4.16.4, <i>Community Facilities/Parklands</i> for mitigation measures.	Less than significant Less than significant
Both options	◆ A strip of land will be acquired from the Homba Hongwanji Buddhist Temple parking lot removing about 7 spaces. However excess parking capacity exists in the vicinity of the temple.	Not significant	◆ None required.	N/A
Option B	◆ Ramona HS will either be relocated or reconstructed. If reconstructed at the current location, then potential safety and security issues from the nearby light rail station and students crossing the alignment may be an issue.	Potentially significant	◆ MTA will provide funds to either purchase a new school site (whether with a new or existing building) acceptable to LAUSD or to reconstruct the school at its present location. See <i>Safety and Security</i> and <i>Community Facilities/Parklands</i> discussions for safety mitigation measures at Ramona HS.	Less than significant
Option B	◆ The Kaiser Clinic is anticipated to experience vibration impacts.	Significant	◆ See Noise and Vibration discussion.	Less than significant
<b>CONSTRUCTION IMPACTS</b>				
No-Build	No adverse impacts. However, no short-term jobs during construction	N/A	N/A	N/A

**TABLE S-8  
SUMMARY OF IMPACTS**

Alternative <sup>1</sup>	Potential Environmental Impacts	CEQA Determination of Significance	Mitigation Measures	CEQA Significance After Mitigation <sup>2</sup>
	would be created.			
<b>Transportation-Construction Impacts</b>				
<b>LRT Build</b>	<ul style="list-style-type: none"> <li>◆ Curb parking may be prohibited at times when traffic lanes are closed. Sidewalk construction on 1<sup>st</sup> St. would also necessitate prohibition of parking. Indiana St. would have temporary parking prohibitions.</li>   <li>◆ Temporary traffic lane closures during the day may affect normal traffic flow and bus travel times. Night closures of entire street blocks may require some buses to be temporarily re-routed. Some bus stops may also be temporarily relocated. General construction traffic may affect traffic patterns.</li>   <li>◆ Portions of sidewalks at subway station locations may be temporarily closed for decking construction. Night sidewalks closures may be necessary in some locations. Some existing crosswalks may be temporarily closed. Lane and street closures could inhibit bicycle traffic flow.</li> </ul>	<p>Significant</p> <p>Significant</p> <p>Significant</p>	<ul style="list-style-type: none"> <li>◆ A parking mitigation plan will be developed to the standards of the City and County. Construction impacts will be sequenced to the extent possible to avoid removal of multiple blocks of parking at the same time. MTA will develop the MTA-owned parcel at 1<sup>st</sup>/Lorena and park-and-ride site near Pomona/Atlantic early to replace temporary parking losses in those areas. The contractor will lease lots for construction employees' vehicles, if necessary.</li>   <li>◆ MTA will work with the City, County, and affected transit operators to develop a plan to minimize impacts on transit service and with LADOT, County DPW, and City of Monterey Park to develop Worksite Traffic Control Plans to their standards to accommodate traffic and pedestrian movements and minimize impacts on neighborhoods.</li>   <li>◆ Handrails, fences, and walkways will be provided as needed where construction would impact sidewalk areas.</li>   <li>◆ All underground stations will have covered wood sidewalks or MTA-approved equal on both sides of the street. Covered sidewalks will be of new material and meet appropriate strength requirement.</li>   <li>◆ If a crosswalk is closed, pedestrians will be directed to use nearby ones. Several adjacent crosswalks will not be closed simultaneously.</li>   <li>◆ Signage will be provided, as needed, to</li> </ul>	<p>Potentially significant</p> <p>Potentially significant</p> <p>Potentially significant</p>

**TABLE S-8  
SUMMARY OF IMPACTS**

Alternative <sup>1</sup>	Potential Environmental Impacts	CEQA Determination of Significance	Mitigation Measures	CEQA Significance After Mitigation <sup>2</sup>
			warn bicyclists to ride cautiously in streets and on sidewalks or to choose other routes.	
<b>Land Use and Development-Construction Impacts</b>				
LRT Build	Short term air quality, noise, and traffic impacts and congestion around construction staging areas could temporarily interfere with plans and policies intended to attract new businesses and residents to the area. However, long term benefits of LRT operations would further local goals and policies.	Less than significant	The project would be built in stages thereby diminishing the overall impact of construction activity. MTA will coordinate with local businesses and residents to provide advanced notification of traffic detours and delays and potential utility disruptions.	Less than significant
<b>Air Quality-Construction Impacts</b>				
LRT Build	Air quality impacts are anticipated due to demolition of existing structures, excavation activities, welding related to continuously welded rail operations, mobile emissions related to construction vehicles, and stationary emissions from on-site construction equipment.	Potentially Significant	Mitigation measures to meet MTA's Systems Design Criteria and Standards will be included in the construction contract. A variety of mitigation measures are presented in Section 4.19.2.6 of the Final SEIS/SEIR.	Less than significant with the exception of PM <sub>10</sub> and NO <sub>x</sub> emissions. Impacts from those emissions would be significant.
<b>Noise and Vibration-Construction Impacts</b>				
LRT Build	Noise impacts likely in the at-grade segments. Vibration impacts possible at both the at-grade and subway segments.	Significant	<ul style="list-style-type: none"> <li>◆ Mitigation will be required to meet City of Los Angeles and MTA construction noise and vibration criteria.</li> <li>◆ Contractor will be required to prepare and implement a Noise and Vibration Control and Monitoring Plan.</li> <li>◆ Contractor will construct MTA-approved noise reduction barriers at all muck out sites to meet applicable federal, state, and local noise regulations.</li> <li>◆ MTA will coordinate with LAUSD and individual school administrators to determine and implement strategies to maintain acceptable interior classroom noise levels.</li> <li>◆ Contractor will be responsible for</li> </ul>	Potentially significant

**TABLE S-8  
SUMMARY OF IMPACTS**

Alternative <sup>1</sup>	Potential Environmental Impacts	CEQA Determination of Significance	Mitigation Measures	CEQA Significance After Mitigation <sup>2</sup>
			protection of vibration-sensitive historic buildings or cultural resource structures within 200 feet of construction activity. ♦ Refer to Section 4.19.2.7 for other mitigation measures to minimize impacts.	
<b>Visual and Aesthetics-Construction Impacts</b>				
LRT Build	♦ Mariachi Plaza may become temporarily unusable for musical performances.	Significant	♦ The demolition and construction areas will be screened and construction accelerated as much as possible. If required, a temporary alternative site will be provided nearby.	Less than significant
Both options	♦ The 1 <sup>st</sup> /Gless portal excavation site could affect use of adjacent Pecan Park.	Significant	♦ Solid, tamper-proof screening materials will be installed around park perimeter.	Less than significant
Both options	♦ Chavez/Soto construction staging area may be visible to the nearby sensitive uses.	Significant	♦ Views into the construction site will be screened from view. It may not be feasible to screen some of the site from view of nearby tall multi-story structures. ♦ MTA Metro Art will provide a construction art program during construction.	Potentially significant
Option B	♦ The scale of the activities involved in removing buildings on the east side of Indiana St. would create visual impacts during demolition.	Significant	♦ The demolition will be screened from view from adjacent areas; site will be kept clean as possible; and the site will be landscaped as soon as possible after demolition. A public education program will be conducted.	Less than significant
<b>Economic Activity-Construction Impacts</b>				
LRT Build	♦ Generates 46,862 direct and indirect short-term jobs.	Beneficial	None required. However, MTA will formulate a local employment policy for job opportunities that includes resources for job development and training. MTA will provide support to businesses most affected by construction activity by implementing promotions for their businesses.	N/A



**TABLE S-8  
SUMMARY OF IMPACTS**

Alternative <sup>1</sup>	Potential Environmental Impacts	CEQA Determination of Significance	Mitigation Measures	CEQA Significance After Mitigation <sup>2</sup>
<b>Neighborhoods/Community Facilities/Parklands-Construction Impacts</b>				
LRT Build	<ul style="list-style-type: none"> <li>◆ Temporary traffic, access, circulation, visual, noise and vibration, and air quality impacts.</li>   <li>◆ Similar impacts as described above are possible at some of the nearby schools along the alignment.</li> </ul>	Potentially significant	<ul style="list-style-type: none"> <li>◆ See Transportation, Visual, Noise and Vibration, and Air Quality Construction Impacts discussions.</li> <li>◆ One or more Metro Field Offices will be opened and staffed with personnel to provide information and handle complaints during construction.</li> <li>◆ Refer to Section 4.19.2.11 for the variety of measures to be taken to minimize impacts at the schools.</li> </ul>	<p>Potentially significant</p> <p>Potentially significant</p>
<b>Geologic and Seismic Conditions-Construction Impacts</b>				
LRT Build	<ul style="list-style-type: none"> <li>◆ Tunnel stability is of concern due to running sand and potential for ground surface settlement.</li>   <li>◆ For the cut-and-cover excavations for station sites and tunnel sites adjacent to portals, vertically cut walls of excavation can slough and cave in alluvial soils, particularly when excessively wet or dry.</li> <li>◆ Shallow and perched ground water may be encountered above design tunnel and station elevations.</li> </ul>	<p>Potentially significant</p> <p>Potentially significant</p> <p>Potentially significant</p>	<ul style="list-style-type: none"> <li>◆ Use tunnel construction technologies, such as a pressure-face tunnel boring machine or soil grouting where tunnel depth and soil conditions could produce unacceptable settlements.</li> <li>◆ Stabilize excavation walls, if needed, with specialized shoring and/or chemical grouting and dewatering.</li> <li>◆ Use dewatering systems for station construction extending below groundwater. Pressure-face tunnel boring machines may also be used in the tunnel segment.</li> </ul>	<p>Less than significant</p> <p>Less than significant</p> <p>Less than significant</p>
<b>Hazardous Materials-Construction Impacts</b>				
LRT Build	<ul style="list-style-type: none"> <li>◆ Minor quantities of subsurface gases such as methane and hydrogen sulfide may be encountered during tunnel and station excavations.</li>   <li>◆ The alignment traverses 2 known oil fields and numerous properties with known or potential contamination. Ground water</li> </ul>	<p>Potentially significant</p> <p>Potentially significant</p>	<ul style="list-style-type: none"> <li>◆ Use pressure-face tunnel boring machines (TBM) and bolted, gasketed tunnel liners, as needed. At station sites, impermeable liners will reduce gas infiltration. Continuous gas monitoring will be undertaken, as needed, and additional ventilation provided if concentrations exceed action levels.</li> <li>◆ Treat contaminated ground water on-site to local and state criteria and discharge into</li> </ul>	<p>Less than significant</p> <p>Less than significant</p>

**TABLE S-8  
SUMMARY OF IMPACTS**

Alternative <sup>1</sup>	Potential Environmental Impacts	CEQA Determination of Significance	Mitigation Measures	CEQA Significance After Mitigation <sup>2</sup>
	or soil could be contaminated.		the sanitary sewer or storm water system. If on-site remediation is not feasible, contaminated ground water will be disposed by recycling in a permitted facility. ♦ Remove and dispose, treat and recycle at a permitted facility, or remediate contaminated soil offsite for disposal as clean fill in a landfill.	Less than significant
<b>Water Resources-Construction Impacts</b>				
LRT Build	♦ <u>Surface water</u> -Runoff and sedimentation possible from excavation activities and installation of impervious surfaces (paving) at some facilities. Also, dewatering activities for the tunneling and cut-and-cover station construction would be limited to the immediate excavation area, thus avoiding potential adverse impacts of a lowered water table.  ♦ <u>Surface water</u> -Seismic retrofit work to strengthen the 1 <sup>st</sup> St. Bridge columns will require equipment and vehicles to work directly in the Los Angeles River bed.  ♦ <u>Floodplains</u> -LRT will use the 1 <sup>st</sup> St. Bridge to cross Los Angeles River. Seismic retrofit work will not affect the floodplain.  ♦ <u>Ground water</u> -Shallow and perched ground water may be present in the tunnels or underground station construction requiring dewatering activities. Contaminated groundwater may be encountered.	Not significant   Potentially significant   No impact   Potentially significant	♦ An NPDES permit will be obtained that will address storm water runoff and include a monitoring program to ensure that measures taken are effective. Large paved areas and construction sites may require installation of oil/water separators or siltation basins and trash filters. ♦ Spoil from tunneling activities will be stored in the tunnel staging area (not anywhere near water drainage facilities) and hauled to appropriate sites to minimize sedimentation. ♦ Coordination with COE, CDFG, and LA Flood Control District will be undertaken. The project will comply with Sections 401 and 404 of the Clean Water Act and Section 1600 of CA Fish and Game Code, as applicable. ♦ Mitigation not required. However, crossing of the Los Angeles River will require consultation with the County and COE. ♦ Use dewatering systems as discussed in the geologic/seismic conditions section. ♦ Employ remedial options for contaminated ground water in conformance with local, state, and federal regulations.	Less than significant   Less than significant   N/A   Less than significant Less than significant  Less than

**TABLE S-8  
SUMMARY OF IMPACTS**

Alternative <sup>1</sup>	Potential Environmental Impacts	CEQA Determination of Significance	Mitigation Measures	CEQA Significance After Mitigation <sup>2</sup>
			♦ Prior to excavation and construction, CA Dept of Water Resources and Water Replenishment Dist of Southern CA will be contacted regarding water rights and pumping assessment to prevent potential impacts due to over-withdrawing groundwater.	significant
<b>Natural Resources and Ecosystems-Construction Impacts</b>				
LRT Build	Seismic retrofit of 1 <sup>st</sup> St. Bridge may result in temporary impacts on biological resources downriver due to effects on surface water quality. There are no sensitive plant or animal species in the Eastside Corridor.	Potentially significant	Construction will be limited to the dry season and will comply with Sections 401 and 404 of the Clean Water Act and Section 1600 of CA Fish and Game Code as applicable.	Less than significant
<b>Utilities-Construction Impacts</b>				
LRT Build	Some utilities may need to be relocated or abandoned and there could be temporary disruptions of service or loss of access.	Potentially significant	A variety of measures are available to minimize adverse impacts and are discussed in Section 4.19.2.17 of the Final SEIS/SEIR.	Less than significant
<b>Energy-Construction Impacts</b>				
LRT Build	Energy required for construction activities; however, no adverse effect anticipated on the availability of fossil fuels or electricity in region.	Not significant	None required. However, standard construction practices and techniques will ensure that energy sources are not used in a wasteful manner. MTA will work with solid waste vendors to investigate methods of minimizing construction and demolition waste, including recycling options. MTA will comply with all federal, state, and local requirements for separation of differing standards of waste materials. MTA will comply with RCRA Section 6002 (EPA's Buy-Recycled Program) where technically feasible and appropriate.	N/A
<b>Safety and Security-Construction Impacts</b>				
LRT Build Both options	♦ Construction activity at several locations including the following could affect public safety: in the streets and stations for the at-grade segments; staging and storage areas for construction equipment and materials; locations where construction equipment is moving; excavation sites at the portals and other areas where some of the underground construction is being	Significant and Potentially significant	♦ MTA will work with LADOT, LA Co. DPW, and LAUSD to develop plans to incorporate appropriate safety features into the construction project. Numerous measures are discussed in Section 4.19.2.19, <i>Safety and Security</i> of the Final	Less than significant

**TABLE S-8  
SUMMARY OF IMPACTS**

Alternative <sup>1</sup>	Potential Environmental Impacts	CEQA Determination of Significance	Mitigation Measures	CEQA Significance After Mitigation <sup>2</sup>
Both options Option B	<p>conducted at street level; and locations where haul trucks are transporting debris from tunnel excavations.</p> <ul style="list-style-type: none"> <li>◆ Detours, street closures, traffic congestion, and staging activities could affect emergency response.</li> <li>◆ If Ramona HS were reconstructed at the present site, the LRT track and 3<sup>rd</sup>/Indiana Station would be closer to the school, thus potentially affecting safety and security issues.</li> </ul>	<p>Significant</p> <p>Significant</p>	<p>SEIS/SEIR. A focus of this effort will be to ensure that the construction sites are not attractive to children.</p> <ul style="list-style-type: none"> <li>◆ Each station site will be fenced. All at-grade station construction sites will be enclosed in new chain link fence. The fence will have horizontal top pipe above, below, and in the middle of chain link mesh. All chain link fence to be wrapped in new green plastic glare reduction plastic commonly used on tennis courts or MTA-approved equal.</li> <li>◆ All underground station perimeter fence designs are to include MTA-approved gates with locks.</li> <li>◆ All construction sites will have an MTA-approved program of night watch personnel during non-revenue hours. Program to include MTA-approved on-site guards at major sites and vehicle patrols along extended sites like at-grade track installation.</li> <li>◆ A variety of measures will be implemented as discussed in Section 4.19.2.19.</li> <li>◆ Either fencing or other suitable barriers will be placed around the LRT off-street construction site near the school or a security patrol will provide security services during normal school hours.</li> <li>◆ A MTA or construction contractor representative will act as liaison to address safety and security issues as well as other issues that may arise at the school during construction.</li> </ul>	<p>Less than significant</p> <p>Less than significant</p> <p>Less than significant</p> <p>Less than significant</p> <p>Less than significant</p> <p>Less than significant</p>

**TABLE S-8  
SUMMARY OF IMPACTS**

Alternative <sup>1</sup>	Potential Environmental Impacts	CEQA Determination of Significance	Mitigation Measures	CEQA Significance After Mitigation <sup>2</sup>
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<sup>1</sup>For discussion of LRT Build Alternative, impacts of Options A and B are similar unless specifically stated. Option A=Option 1 including Modifications to Alameda and 1<sup>st</sup> Streets; Option B=Option A including Modifications to the Indiana Street Transition and Eastern Terminus.

<sup>2</sup>N/A = not applicable.

## **S.5 FINANCIAL ANALYSIS AND EVALUATION**

### **S.5.1 Financial Analysis**

The cost of a transportation investment falls into two categories: capital costs, and operating and maintenance (O&M) costs. Capital costs are the start-up costs for the project, including the costs of guideway construction, vehicles, and any system facilities necessary before the project can begin operation. Operating and maintenance costs are the costs associated with the regular running of a new transportation facility. Costs such as labor, vehicle maintenance, and overall facility maintenance all fall into this category.

This section discusses both types of costs, presents the proposed capital financing plan, and then analyzes the Los Angeles County Metropolitan Transportation Authority (MTA's) ability to afford the alternatives under consideration.

#### **S.5.1.1 Capital Cost Estimates for the LRT Build Alternative**

This section summarizes the capital cost estimates for the Light Rail Transit (LRT) Build Alternative, Option A and Option B. The No-Build Alternative does not have any associated capital costs for comparative purposes as they are considered in the overall financial capability of the MTA with the LRT Build Alternative.

The capital cost estimating approach is based on the Preliminary Engineering level cost estimates done by MTA for Options A and B. The capital cost estimates were prepared with all costs expressed in 2001 dollars. Cost estimates are developed by identifying quantities on preliminary engineering drawings and applying standardized rates. For guideways and/or alignment lengths, typical cross sections and engineering studies provided a basis for identifying costs on a linear foot basis. The alignment plans and station concepts are included in Appendices E and F for Options A and B. In addition, capital costs for additional buses (for the expanded bus services) and the LRT vehicles as well as the costs for improving the existing Red Line Yard as the maintenance and storage facility (M&SF) for the Eastside LRT Build Alternative have been included.

The total capital cost includes allowances for Owner Controlled Insurance Program (OCIP), professional services (final design, design services during construction, agency costs, construction management, specialty subconsultants), yard leads, bridge retrofits, right-of-way, testing and pre-revenue operations, environmental mitigation, urban design, and artwork. Additionally, a project contingency has been included.

In addition, an implementation schedule was needed in order to conduct the financial analyses as required by the Federal Transit Administration (FTA). Revenue service is expected in March 2008, the capital costs are also presented in year-of expenditure dollars. Year of expenditure dollars are important because they take into account inflation over the time of project development. The year of expenditure estimate is an estimate of the actual cost of the project options.

Table S-9 presents the total capital costs (in millions of dollars) for Option A and Option B in both 2001 dollars and in year of expenditure dollars. The year of expenditure capital costs vary between \$822 million (LRT Option A) and \$826 million (LRT Option B). The difference in capital costs between the two options relates to the treatment of the Indiana Street transition as described in Chapter 2. There are additions to the right-of-way costs but reductions in the cost of the special conditions identified in Indiana



Street and the movement of the 1<sup>st</sup>/Lorena station to 3<sup>rd</sup>/Indiana balance out the difference between the options. Both Option A and Option B are consistent with the current financial plan of MTA and have funding available for either option.

**TABLE S-9  
CAPITAL COST ESTIMATES (2001 \$ AND YEAR OF EXPENDITURE \$)**

	2001 Dollars in Millions		Year of Expenditure Dollars in Millions	
	LRT Option A	LRT Option B	LRT Option A	LRT Option B
<b>Construction and Procurement</b>				
Guideways	\$195.2	\$190.2	\$216.2	\$210.9
Yards and Shops	\$5.5	\$5.5	\$6.3	\$6.3
Systems	\$65.8	\$64.4	\$75.7	\$74.1
Stations	\$85.5	\$85.6	\$97.1	\$97.2
LRT vehicles and buses	\$100.6	\$100.6	\$113.3	\$113.3
Special Conditions	\$68.5	\$60.9	\$76.5	\$68.0
Right-of-Way	\$19.0	\$35.2	\$20.2	\$37.9
Subtotal	\$540.1	\$542.4	\$605.3	\$607.7
<b>Professional Services</b>	\$144.2	\$144.2	\$156.3	\$156.3
<b>Project Contingency</b>	\$54.5	\$56.2	\$60.7	\$62.3
<b>Total Cost</b>	<b>\$738.8</b>	<b>\$742.8</b>	<b>\$822.3</b>	<b>\$826.3</b>

### S.5.1.2 Operating and Maintenance Cost Estimates

This section summarizes the Operating and Maintenance (O&M) cost estimate for the LRT Build Alternative, Option A and Option B. The O&M costs were determined using the MTA's O&M cost model. This cost model was developed to estimate O&M costs for MTA's bus, Blue Line, Green Line, and Red Line operating modes, as well as support department costs related to operations.

The MTA O&M cost model estimates staffing requirements, labor costs, and non-labor expenses by transit mode (i.e., Motor Bus, Blue Line, Green Line, Red Line) and department within each mode. The model is calibrated to MTA's latest fiscal year (FY) 2000-2001 Adopted Budget. Overhead costs are allocated to the transit modes based on the allocations made for MTA's Adopted Budget. The model uses operating characteristics (e.g., peak vehicles, number of stations, passengers) to determine future costs. As future operating plans change (e.g., new rail lines are constructed), costs change accordingly.

For the No-Build and Eastside LRT Build Alternative, O&M costs were calculated for the entire MTA system of bus, Red Line, Green Line and Blue Line service.

The costs were first estimated for the MTA's No-Build Alternative. The costs for the LRT Build Alternative were then estimated for the year 2020 in 2001 dollars. The LRT Build Alternative includes not only the operation and maintenance cost of the LRT service, but includes the cost of the enhanced bus system.

The increase in annual operating and maintenance cost for the LRT Alternatives Options A and B over the No-Build Alternative is approximately \$23.5 million in the year 2020 in 2001-dollar equivalents. Of the \$23.5 million additional cost required for the Eastside Corridor project, approximately \$11.5 million would be spent on the LRT service and \$12 million would be spent on supporting the increased bus services.

### S.5.1.3 The Project Finance Plan

The Eastside LRT project became a reality in July 2000 when the Governor and the California State Legislature approved the Traffic Congestion Relief Program (TCRP). This program provided \$236 million in State funds for the Eastside LRT project. At the same time the MTA developed a comprehensive financial program that would demonstrate that MTA could construct and operate the Eastside Corridor project as well as fixed guideway projects in the San Fernando Valley and Mid-City/Wilshire corridors. The financial program is described in more detail in the following section. The Eastside LRT project has a capital budget of between \$822 and \$826 million as described above in year of expenditure dollars. Table S-10 lists the anticipated source of capital funds and the expected amount. Less than 60% Section 5309 New Starts federal funding is proposed in accordance with current FTA policies and the balance coming from other formula or State and Local funded programs.

Source	Option A		Option B	
	Amount (\$ millions)	Amount (\$ millions)	Amount (\$ millions)	Amount (\$ millions)
<b>Federal</b>		<b>\$532.7</b>		<b>\$532.7</b>
FTA Section 5309 New Starts	\$490.7		\$490.7	
FTA Section 5309 Fixed Guideway Modernization	\$38.9		\$38.9	
Congestion Relief and Air Quality (CMAQ)	\$3.1		\$3.1	
<b>State/Local</b>		<b>\$289.6</b>		<b>\$293.6</b>
State Traffic Congestion Relief Program	\$236.0		\$236.0	
State Regional Improvement Funds (AB 1012)	\$5.2		\$5.2	
Proposition A 35%	\$48.4		\$52.4	
<b>TOTAL</b>	<b>\$822.3</b>	<b>\$822.3</b>	<b>\$826.3</b>	<b>\$826.3</b>

### S.5.1.4 Financial Capability to Build and Operate

MTA has used its financial forecasting model for Los Angeles County to assess the financial feasibility of the Eastside Corridor alternative. This financial model is the tool used to project all capital and operating costs and revenues for all transportation modes in Los Angeles County from FY 2000 through FY 2025.

In a document submitted to the FTA (Section 5309 submittal, August 2001), the MTA provided detailed analysis from the financial forecasting model to establish the ability to fund projects in the Mid-City/Westside, San Fernando Valley, and Eastside corridors of Los Angeles County. The No-Build scenario was modeled to provide a baseline for the build alternatives.

The model includes revenues from the State Traffic Congestion Relief Plan (AB 2928) and FTA 5309 New Starts funds, which are expected to provide 75% of the capital funding, needed for the capital costs of the corridors. The balance of the capital funding plan for these projects will come from committed flexible federal funds (Congestion Relief and Air Quality - CMAQ and Regional Surface Transportation Program - RSTP) and local half-cent sales tax funds. The funding plan for the projects is stable and reliable given the commitments of funding recently realized. The financial analysis indicates that funding is available to complete the Eastside LRT Alternative Option A or Option B so that operations can begin as soon as March 2008.

The twenty-year cash flows indicate that MTA has the financial capacity to build and operate the Eastside LRT project, Option A or Option B, including the supporting bus operations while continuing the operation and maintenance of the entire regional transit system. Selection of an Eastside LRT Alternative, which requires funding beyond the financial analysis outlined in the Section 5309 submittal, would need to be integrated into the MTA's Long Range Plan, since it would commit funds that could otherwise be considered for other projects.

## S.5.2 Evaluation

This section provides a variety of measures to evaluate and compare the LRT Build Alternative, Option A and Option B to the No-Build Alternative. These measures are consistent with the FTA guidelines for assessing major investments. Enactment of the Transportation Equity Act for the 21st Century (TEA-21) in 1998 requires that FTA evaluate and rate candidate New Starts projects as the basis for approving projects for federal funding. Table S-11 summarizes the indices included in this section.

<b>TABLE S-11 COMPARATIVE ANALYSIS OF ALTERNATIVES - MEASURES</b>	
Analysis Category	Measures
Effectiveness in Improving Mobility	Corridor Goals and Objectives
	Ridership
	Travel Time Comparison
	Travel Time Savings
Cost-Effectiveness	Annualized Cost per New Daily Transit Trip
Operating Efficiencies	Operating Cost per Passenger Mile
Equity	Discussion of Demographic Factors

This section ends with a discussion of the trade-offs between the No-Build Alternative and the LRT Build Alternative Option A and the LRT Build Alternative Option B.

### S.5.2.1 Effectiveness in Improving Mobility

Various elements serve as indicators of improved mobility including responsiveness to goals and objectives. Ridership describes the amount of people using the proposed project, as estimated through a transportation demand model. A travel time comparison provides an understanding of how the proposed project performs during an average transit trip between two points. Travel time savings assess the annual hours of time saved for both transit and automobile users as a result of the proposed project.

#### *Corridor Goals and Objectives*

In addition to the evaluation factors discussed below, the LRT Build Alternative, Option A and Option B, relate directly to the goals and objectives presented in Section S.2.4. Throughout the planning development process these goals have been at the forefront of the alternatives development, analysis, and selection. The six goals are listed below:

- ◆ Improve access and mobility for residents, employees, and visitors to the Eastside Corridor.
- ◆ Support land use and development goals as stated in the City of Los Angeles and County of Los Angeles community plans and regional plans.
- ◆ Achieve local consensus by ensuring that the process is responsive to the community and policy-makers.
- ◆ Provide a transportation project that is compatible with and enhances the physical environment wherever possible.

- ◆ Provide a transportation project that minimizes adverse impacts to the community.
- ◆ Provide a transportation project that is reasonably within budget constraints for both capital and operating expenses.

The LRT Build Alternative, Option A and Option B, have been developed to respond to the above goals of the Eastside Corridor community and policy-makers.

### **Ridership**

For all proposed projects, ridership is a function of travel time and cost. All else being equal, the faster technologies attract more riders. The speed is usually a function of both the technology and the physical conditions in which it has to operate. Longer segments have higher ridership because they service a larger area, incorporate more stations, and potentially reduce transfers.

Ridership has been estimated for the proposed project LRT Build Alternative through the MTA's travel simulation model, based on the forecast year 2020. Model runs were performed for the No-Build Alternative, LRT Build Alternative Option A, and the LRT Build Alternative Option B.

The implementation of the LRT Build Alternative Option A, which includes the additional bus system improvements, would increase transit trips in the region by about 25,000 per day compared to the No-Build Alternative. Option B would increase transit trips by about 28,000 per day compared to the No-Build Alternative. The estimated daily ridership in the forecast year 2020 on the Eastside segment of the light rail line from Union Station to Atlantic Boulevard, for both options, is over 16,000 per day. With the combination of the Eastside segment and the Pasadena Blue Line, the estimated daily ridership in the forecast year of 2020 is over 45,000 for the 20-mile line.

### **Travel Time Comparisons**

In order to compare the LRT Build Alternative, Options A and B, to the No-Build Alternative related to showing mobility improvements related to reducing travel times, two points along the proposed LRT line were compared to four different destination points in the Los Angeles area. The four destination points included downtown Hollywood (Hollywood/Highland); Wilshire and Fairfax; Downtown Los Angeles (1<sup>st</sup>/Hill); and Pasadena Downtown (Fair Oaks/Colorado). 1<sup>st</sup>/Soto and 3<sup>rd</sup>/Mednik were used as the beginning points for the transit trip comparisons. Based on the station areas selected, Options A and B would have the same travel times. Table S-12 presents these comparisons.

Trip Origin	Hollywood/Highland			Wilshire/ Fairfax			1 <sup>st</sup> /Hill			Fair Oaks/Colorado		
	No- Build	Option A	Option B	No- Build	Option A	Option B	No- Build	Option A	Option B	No- Build	Option A	Option B
1st/Soto	62	53	53	70	60	60	26	25	25	67	55	55
3 <sup>rd</sup> /Mednik	67	60	60	75	67	67	39	32	32	47	45	45

All of the comparisons show improvement over the No-Build Alternative.



### Travel Time Savings

This measure is defined as the total travel time savings that are expected to result from the LRT Build Alternative, Options A and B, in the forecast year (2020), compared to the No-Build Alternative. This aggregate value includes travel time savings for people making trips on transit (both new and existing transit riders) as well as savings that accrue to people using competitive modes (automobile users). This measure is calculated using reported values from the MTA's transportation simulation model. It is expected that the LRT Build Alternative, Option A or Option B, will save users over 400,000 hours in travel time in the forecast year (2020) over the No-Build Alternative.

#### S.5.2.2 Efficiency (Cost-Effectiveness)

Cost-effectiveness is a measure used to evaluate how the costs of a transit project (for both construction and operation) compare to the expected benefits (increased transit ridership).

The FTA's cost effectiveness criterion is measured by the incremental cost per incremental passenger in the forecast year. This measure is based on the annualized total capital investment and annual operating and maintenance (O&M) costs, divided by the change in annual transit system ridership, expressed as the following equation:

$$\text{Cost Effectiveness Index} = \frac{\Delta \text{Capital Cost} + \Delta \text{O\&M Cost}}{\Delta \text{Linked Transit Trips}}$$

The smaller the index, the more cost-effective the project alternative. To calculate the change in capital cost, project costs discussed above were aggregated according to their assumed useful life and annualized accordingly, using FTA annualization factors shown in Table S-13:

Project Element	Useful Life	Annualization Factor
Right-of-way	100 years	0.070
Structures, trackwork, signals, electrification	30 years	0.081
Rail vehicles	25 years	0.086
Buses	12 years	0.126

Source: Technical Guidance on Section 5309 New Starts Criteria, FTA, July 2000.

Annual operating and maintenance costs were calculated using the approach described above. The change in transit trips for the forecast year 2020 was determined using the MTA travel forecasting model.

Table S-14 summarizes the data used in the calculation of the cost-effectiveness index for Options A and B of the LRT Build Alternative, and the resulting incremental cost per incremental passenger is shown in Table S-15.

**TABLE S-14  
COST-EFFECTIVENESS CALCULATION: INCREMENTAL VALUES  
OVER NO-BUILD**

LRT Build Alternative/Options	Annualized Capital Cost (millions)	Annual O&M Cost (millions)	Annual Linked Trips (millions)
LRT Build Alternative – Option A	\$61.06	\$23.5	7.864
LRT Build Alternative – Option B	\$61.39	\$23.5	8.844

**TABLE S-15  
COST-EFFECTIVENESS OF LRT BUILD ALTERNATIVE: ANNUALIZED COST PER  
NEW DAILY TRANSIT TRIP**

LRT Build Alternative/Options	Over No-Build Alternative
LRT Build Alternative – Option A	\$10.76
LRT Build Alternative – Option B	\$9.60

Based on cost-effectiveness, LRT Build Alternative Option B is slightly most cost-effective, but not significantly when compared to the No-Build Alternative.

The ridership projections are based on the 1998 adopted demographic projections by the regional metropolitan planning organization, the Southern California Association of Governments (SCAG). As such they are the official future demographic projections. However, they are believed to understate project ridership, since the 1998 adopted demographic projections assume most of the future growth in Los Angeles County will occur on the outer edges of the county.

### S.5.2.3 Operating Efficiency

The FTA uses a single measure for the Operating Efficiencies criterion, which is the change in operating cost per passenger mile for the entire regional transit system. The basic calculation involves dividing the system annual operating cost for transit service by the system annual passenger-miles projected for the year 2020. Calculation of the total transit operating costs is discussed above. System annual passenger-miles are produced from the MTA transportation model. The No-Build Alternative has an operating cost per passenger mile of \$0.36. The LRT Build Alternative, Options A and B, with the increases in service and usage produced the same overall system operating cost per passenger mile of \$0.36. Therefore the LRT Build Alternative compared to the No-Build Alternative for this FTA measure shows no change.

### S.5.2.4 Equity Considerations

Equity considerations generally fall into three interrelated classes: (1) the extent to which the transportation investments improve transportation service to various population segments (i.e., the extent to which transit improvements benefit the transit dependent); (2) the distribution of project costs across the population through the funding mechanisms used for the local contribution for construction and operation; and (3) the incidence of significant environmental impacts. In addition, Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, requires that federal agencies consider and address disproportionately high adverse environmental effects of proposed federal projects on the health and environment of minority and low-income populations to the greatest extent practicable by law. Section 4.5 of the Final SEIS/SEIR discusses in detail the equity and environmental justice considerations for the Eastside Corridor and for



the LRT Build Alternative, Options A and B. It discusses the study area demographics, the historic major issues of the Eastside Communities related to major infrastructure projects, and the extent of the public involvement program conducted as part of this planning process.

The No-Build Alternative would not offer the study area residents and businesses the enhanced mobility, regional connectivity, and accessibility provided by the LRT Build Alternative as stated in Goals and Objectives for the Eastside Corridor.

The LRT Build Alternative provides many benefits related to equity, mobility improvements, economic revitalization, employment opportunities, federal and state funds for construction, and additional local funds for the operating and maintenance costs of the LRT and expanded bus services, as discussed below. There are some potential impacts as identified in Table S-8, but the benefits by far outweigh the impacts.

### ***Equity***

Indicators of transit dependence, such as low-income households and zero-auto households, are nearly three times higher than for Los Angeles County as a whole. The need for and reliance on transit has not been balanced by regional public transportation investments that would benefit this transit dependent community. For example, MTA rail services extend to Western Avenue and to North Hollywood, to Norwalk and El Segundo, to Long Beach and ultimately to Pasadena. Metrolink serves suburban destinations in all directions. Yet, no major investment in transit service, either bus or rail, has been made in the Eastside Corridor. A concerted effort to extend the Metro Red Line to the Corridor was suspended in 1998. In addition, the Corridor has borne the disproportionate effects of a regional freeway system that has cut through its neighborhoods to reach suburban destinations. Implementing LRT service in the Corridor would help restore the balance of regional capital transportation expenditures as well as compensate for the adverse impacts that previous transportation planning decisions have caused.

### ***Mobility/Transit Travel Times/Regional Connectivity***

The LRT Build Alternative is expected to increase the number of daily transit trips compared with the current bus service offered by the No-Build Alternative and reduce travel times. Travel times between the Corridor and major travel destinations, such as Hollywood, Wilshire Boulevard, Downtown Los Angeles, and Pasadena, would decrease with the LRT Build Alternative. This increase indicates the value of quality transit service in attracting riders. It also indicates that light rail service offers improved access for area residents to local destinations as well as to the regional rail and bus system and, therefore, to regional destinations. The LRT Build Alternative also would serve many educational and community centers in the Corridor, enhancing mobility for young adults and school age children.

### ***Economic Revitalization***

The LRT Build Alternative includes eight new stations as well as a station at Union Station. With proper incentives and with favorable market conditions, developers may consider the merits of constructing housing and commercial developments that are oriented to the light rail stations and that take advantage of the new light rail service. Station areas that have vacant land resulting from right-of-way acquisition for the suspended Metro Red Line project or for the construction of the LRT Build Alternative can be developed, in accordance with City and County of Los Angeles planning and redevelopment policies and Community Plans, to benefit the surrounding neighborhoods. In a Corridor that has an extremely low vacancy rate and a great demand for affordable housing, such development could provide needed housing and space for retail and social service uses. The new development could offer larger units for families with children, helping to meet a dire need in the community. In addition, landscape treatments along the

light rail line could enhance the urban design of the community, making opportunities for development more attractive.

### ***Employment Opportunities***

The LRT Build Alternative is anticipated to generate approximately 47,000 (Options A and B) new construction jobs and, within the first 14 years of operation, over 1,000 permanent jobs to operate and maintain the LRT line and additional bus service. In addition, MTA will be formulating a local hiring policy that will be reviewed by the Eastside Corridor Review Advisory Committee. Such a program will include resources for job development and training. MTA also currently offers a series of programs designed to encourage small and disadvantaged business enterprises to participate in the construction and operation of new transportation projects.

### ***Project Funding***

As discussed in Section S.5.1.3, almost \$830 million in Federal and State/Local funding has been anticipated for the LRT Build Alternative. The estimated \$23.5 million in additional annual operating and maintenance funds will be provided from local MTA sales tax dedicated to transit uses.

### **S.5.2.5 Trade-Offs Between Alternatives**

The following observations highlight key financial differences and the tradeoffs between the No-Build Alternative and the LRT Build Alternative, Options A and B, relative to cost, performance, mobility, and impacts.

The tradeoff between the No-Build Alternative and the LRT Build Alternative is that the No-Build Alternative would involve fewer environmental impacts, but would not provide an enhanced level of mobility and accessibility to this lower-income, transit-dependent and principally Hispanic community. The LRT Build Alternative would, on the other hand, provide improved access to a broader range of employment, shopping, educational, and cultural opportunities, consistent with the goals and objectives for the Eastside Corridor. The LRT Build Alternative and its two options will also provide improvements in air quality. The LRT Build Alternative will have some impacts and disruptions during construction but that is a consideration in the tradeoff between the No-Build Alternative and the LRT Build Alternative and its two options.

The tradeoffs between the LRT Build Alternative, Options A and B, involve funding availability to build each option, the relative cost-effectiveness, and the possible impacts.

From a mobility standpoint, the LRT Build Alternative, Options A and B provide a comparable level of improved mobility to the Eastside Corridor. The capital costs, operating costs, and cost-effectiveness are similar. Both Options A and B are within the funding capability of MTA with the assistance of FTA and State funds.

Related to equity, Options A and B both provide additional investment and job opportunities to the Eastside Corridor while providing increased mobility and economic revitalization potential.

The transportation and environmental consequences are discussed in detail in Chapters 3 and 4 of the Final SEIS/SEIR and Section S.4 above. Relative to traffic and parking, both options impact traffic operations at a number of intersections but Option B has less impacted intersections especially related to the reduction of traffic impacts on Indiana Street. Related to parking, Option A has the most number of on-street parking spaces removed compared to LRT Build Alternative Option B.

One of the most significant tradeoffs between the LRT Build Alternative options is relative to the amount of land acquisition/displacement and relocations required. As shown in Table S-8, LRT Build Alternative Option A would acquire 10 multi-family and 8 single-family units (displacing about 72 persons) and 20 businesses (displacing approximately 111 employees). LRT Build Alternative Option B would require the acquisition of 10 multi-family and 8 single-family units (displacing about 72 persons), 20 businesses (displacing approximately 124 employees), and the relocation or reconstruction of Ramona High School. The MTA established a \$2.6 million Affordable Housing Revolving Loan Fund Program to replenish the housing units MTA acquired for the previous Metro Red Line Eastside Extension project. The MTA will incorporate elements of the revolving loan fund program into a new Housing Replenishment Program that will apply to all residents that are acquired as a result of the Eastside Corridor LRT Build Alternative. The fund will set aside \$26,000 per acquired unit for affordable housing development and rehabilitation. Section 4.3.4 provides additional information about the program. This a critical tradeoff category because of the area's high housing demand and its low vacancy rate that may limit the availability of comparable replacement homes in the immediate area.

## **S.6 ISSUES TO BE RESOLVED/AREAS OF CONTROVERSY**

The preparation of this Final SEIS/SEIR, together with the required circulation, public hearings, and review of the Draft SEIS/SEIR, ensures that all significant transportation and environmental impacts have been assessed, and that public participation and comments have been solicited to help guide the decision-making process.

The identification, examination, and assessment of all reasonable and feasible alternatives (*Re-Evaluation/MIS* and the *Draft SEIS/SEIR*) are necessary to meet the requirements of the National Environmental Policy Act (NEPA), as well as the California Environmental Quality Act (CEQA). CEQA requires similar environmental analysis in Environmental Impact Reports (EIRs) and public review for projects that will have significant effects on the environment. The State of California encourages joint preparation of EIRs and EISs and has produced guidelines to facilitate preparation of joint documents.

The purpose of this Final SEIS/SEIR is to evaluate the LRT Build Alternative along with its two options (Option A and Option B) and the No-Build Alternative and for the MTA Board of Directors to select the most appropriate project for the Eastside Corridor while ensuring that potentially significant environmental consequences are considered as part of this process. This Final SEIS/SEIR document will be circulated and made available as required by NEPA and CEQA to interested and concerned parties, including private citizens, community groups, the business community, elected officials, and public agencies.

This Final SEIS/SEIR will also be used by federal, state, regional, and local agencies to make discretionary decisions regarding this project.

## **S.7 LOCALLY PREFERRED ALTERNATIVE AS IDENTIFIED BY THE MTA STAFF**

Section S.3.5 describes the modifications made to the Locally Preferred Alternative (LPA) since the circulation of the Draft SEIS/SEIR and the MTA Board of Directors (Board) action on May 24, 2001. The modifications described in LRT Build Alternative Options A and B responds to the direction of the Board. LRT Build Alternative Option A considers the changes related to the Alameda and 1<sup>st</sup> Streets concerns while keeping the balance of the original LPA in the same context adopted by the Board and as stated in the Draft SEIS/SEIR (Option 1). With the introduction of LRT Build Alternative Option B in

this document, it not only includes the modifications to the Alameda and 1<sup>st</sup> Streets concerns but addresses the other concerns of the Board and the public: (1) the transition at Indiana Street; and (2) the impacts related to the station location at Beverly and Atlantic Boulevards.

Based on the comments received, the preliminary engineering activities, and the other technical studies conducted, as well as the extensive community outreach program, the MTA staff has concluded that the option which best responds to the direction of the Board and the comments received is LRT Build Alternative Option B. Accordingly, LRT Build Alternative Option B is the MTA staff recommendation for consideration by the Board as the Locally Preferred Alternative.

LRT Build Alternative Option A includes the following modification to the Board approved LPA:

- ◆ **Alameda Street Alignment and 1<sup>st</sup>/Alameda Station** - the 1<sup>st</sup> St./Alameda Station has been moved from the middle of the 1<sup>st</sup> Street to a short distance on the east side of Alameda St. necessitating some additional partial acquisitions and full acquisition of a gas station along the east side of that street from Commercial Street to 1<sup>st</sup> Street. The off-street alignment will provide higher traffic capacity on Alameda Street and address other LADOT concerns. The movement of the station responds to Little Tokyo businesses' concerns to provide a more convenient location. On 1<sup>st</sup> Street from Alameda to Vignes Street, two lanes of traffic in each direction will be provided instead of one traffic lane in each direction to provide higher traffic capacity.

LRT Build Alternative Option B includes Option A, plus the following additional modifications:

- ◆ **Indiana Street Transition** – The LRT track alignment is moved to an off-street at-grade alignment between 1<sup>st</sup> and 3<sup>rd</sup> Streets (on the eastern side of Indiana Street outside the current street right-of-way), and Ramona High School (located at the northeast corner of 3<sup>rd</sup> Street/Indiana Street) will either be relocated to another site acceptable to the LAUSD and MTA or reconstructed on the existing site.
- ◆ **Modified Station Locations** - The 1<sup>st</sup>/Lorena, 3<sup>rd</sup>/Rowan, and Beverly/Atlantic Stations would be moved to 3<sup>rd</sup>/Indiana (off-street location on the Ramona High School property), 3<sup>rd</sup>/Ford, and Pomona/Atlantic (west of Atlantic), respectively.